

## An Assessment of the Vehicle Miles Tax

by Robert C. Pitcher



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In this report, Pitcher examines the vehicle miles tax from the perspective of tax administration, which he says seems to be missing from most discussions of the tax. He says questions regarding administration must be considered before implementing the tax.

The soundness of the U.S. transportation system — particularly that of its highways<sup>1</sup> — affects the economy, businesses' prosperity, citizens' well-being, and the nation's competitiveness abroad.<sup>2</sup> The highway system's health in turn depends on the soundness of its funding. For decades, road maintenance and improvements have depended substantially, although by no means wholly, on motor fuel taxes.<sup>3</sup>

The perception has increased that the transportation funding structure may be inadequate for the future. As a result, many are examining existing and alternative transportation funding sources, particularly highway funding. This article examines the pros and cons of one potential revenue source, the vehicle miles tax (VMT), from several aspects but primarily from the angle of tax administration, which is missing from most discussions.

<sup>1</sup>See U.S. Department of Transportation Bureau of Transportation Statistics (BTS), "National Transportation Statistics," Table 3-3 (2013).

<sup>2</sup>According to the BTS, transportation-related spending in 2011 accounted for 10.2 percent of U.S. GDP. By that measure, transportation ranked third among the components of the American economy, behind housing and healthcare. See BTS, "Pocket Guide to Transportation 2013," Table 4-1.

<sup>3</sup>The highway account of the federal Highway Trust Fund derives approximately 83 percent of its funding from federal excises on gasoline and special fuels. Overall, however, only about 41 percent of total U.S. expenditures on highways in 2011 at the federal, state, and local levels were derived from taxes on fuel. See Federal Highway Administration (FHWA), "Highway Statistics 2012," Table FE-9, and "Highway Statistics 2011," tables HF-10 and SF-21. The latter table indicates what proportion of each state's highway funding was derived from its taxes on fuel.

VMT stands primarily for a *concept*, that of imposing a highway tax on a motor vehicle operator on the distance the motor vehicle travels, as opposed to a tax on the fuel used by the vehicle, a tax (such as a registration fee) on the privilege of using the vehicle, or a sales tax on the purchase of the vehicle. A VMT is also sometimes denominated a vehicle miles traveled tax or fee (still abbreviated VMT) or a mileage-based user fee. Whatever the terminology, it is still in large part only a concept.<sup>4</sup> To our knowledge, no government in the world levies a broad-based VMT on passenger vehicles. Still, there is a clear need to assess this concept as it might be implemented in the United States.

This report will examine:

- **The soundness of pro-VMT arguments.** Fairly impressive theoretical arguments for the VMT can be made, but the typical argument promoting a VMT is remarkably shallow and illogical.
- **American experience with weight-distance taxes and tolls.** Compared with the fuel tax and vehicle registration fees, which are efficient and easily administered, the considerable U.S. experience with VMTs on heavy vehicles (commonly denominated weight-distance taxes) has shown them to be highly problematic and largely unsuccessful. Tolls, which are analogous to VMTs in some respects, will also be examined in this connection.
- **Administrative problems likely to arise with a VMT.** A tax's success in raising revenue depends largely on how it can be administered and collected. Considering its nature, what potential problems will arise in the administration and collection of a VMT, and can those be successfully addressed?

Although government should not necessarily rule out a VMT to fund transportation, proven alternatives appear far more promising for the protection and enhancement of the nation's vital transportation system. Although this report focuses on what a VMT at the state level might do for — or to — a state's highway funding, much of what is said applies to a potential federal VMT as well.

<sup>4</sup>And whatever the terminology it is also still a tax.

## I. Do Arguments for a VMT Hold Water?

The typical pro-VMT argument goes something like this<sup>5</sup>:

Although the fuel tax has funded highways for decades, it is obsolescent. Fuel tax revenues aren't keeping up with inflation, and, as motor vehicles become more fuel-efficient and as alternative fuels are used to a greater extent, the fuel tax will become increasingly obsolete and revenues from this source increasingly inadequate. A VMT, because it subjects to tax every mile driven by a motor vehicle, is both a simple and theoretically a fair tax, and should replace the fuel tax.

Many of those assertions break down under examination. While the argument for a VMT implies that the fuel tax has been the sole source of highway funding, no state relies entirely on the fuel tax for its road money.<sup>6</sup> Vehicle registration fees contribute in every state, and many use other revenue sources, such as dedicated sales taxes or regular contributions from the general fund. Most roads and streets are local, and much local road money is derived from property taxes. Revisions to the nation's transportation funding system should examine all potential revenue sources, not just the fuel tax. VMT proponents, however, avoid mentioning alternatives and insist only that the fuel tax is failing and that VMT must be adopted to save the highway system.

### A. Fuel Tax Not Obsolete

Although fuel tax revenue has not kept up with inflation, that is a largely political issue and not attributable to the tax itself. Fuel tax revenue did keep up in the 1980s — when inflation was far higher and as state fuel taxes rose steadily every year by nearly a penny a gallon.<sup>7</sup> Even though vehicle miles traveled in the United States has flattened somewhat since the late 1990s, fuel tax revenue has also flattened primarily because of the reluctance of Congress and some state legislatures to raise tax rates to meet the needs. Conventional wisdom holds that raising taxes is political suicide, but that seems to be untrue — or at least exaggerated.

Since January 1, 2008, the gas tax rate has risen in 24 states and the District of Columbia. Fifteen of the increases

<sup>5</sup>The following are samples of that approach, picked more or less at random from the results of a Google search on “vehicle miles traveled tax”: George E. Hoffer, “Should Virginia Replace the Motor Vehicle Fuels Tax With a Vehicle Miles Traveled Tax?” University of Virginia Weldon Cooper Center for Public Service, *The Virginia News Letter* 87:1 (Feb. 2011); Environmental & Energy Study Institute, “Would a Vehicle-Miles Traveled Tax Be Better Than Current Gas Tax?” (2009); Paul Steinberg, “Moving Toward Vehicle Miles of Travel Fees to Replace Fuel Taxes,” Rand Corp. Research Brief (2011).

<sup>6</sup>FHWA, *supra* note 3, Table SF-21.

<sup>7</sup>According to FHWA, the average state gasoline tax rate in 1990 was 8.24 cents per gallon. By 1990, it was 15.47 cents, and by 1995 it was 18.5 cents. FHWA, “Highway Statistics Summary to 1995,” Table MF-205.

were by direct legislation, and the other 10 occurred because motor fuel is subject to either a sales tax or an indexed fuel tax.<sup>8</sup> (It is reasonable to include those states as well, since lawmakers have a choice whether to allow those mechanisms to raise the tax; some have chosen not to.) If half the states have found the political will to raise fuel taxes in economic hard times such as the last six years, the fuel tax is not so near its political obsolescence as VMT proponents would have us believe.<sup>9</sup>

While there are more electric and hybrid alternative-fuel cars on the road than before, they are a minuscule fraction of all vehicles — particularly outside California.<sup>10</sup> Moreover, to the extent those vehicles still use fuel, either liquid or gaseous, that use is amenable to taxation under the fuel tax, and most states do tax them that way.<sup>11</sup> Electric vehicles do not use a taxable fuel, but they can be subject to increased registration fees or to sales tax. There's no need to impose a new tax such as a VMT, which creates new problems.

There may be enough electric cars and light vehicles on the road in a decade or two to significantly affect fuel tax revenue, but there is no prospect of that happening with heavy commercial trucks powered by diesel or natural gas. For the foreseeable future, electricity will not supply the power those vehicles need to carry heavier loads in over-the-road applications. If there is one category for which replacing the fuel tax is less urgent, it is heavy commercial vehicles, such as larger trucks and buses.

There seems to be nothing in the fuel tax to prevent it from raising the revenue to meet transportation needs and to set the nation on a stable course for at least a decade or two. The politics will not be easy, but the politics surrounding the introduction and administration of a VMT would be no easier.

<sup>8</sup>The states that raised their rates via legislation during that time were Connecticut, the District of Columbia, Iowa, Kansas, Maryland, Massachusetts, Minnesota, North Carolina, Oregon, Pennsylvania, Rhode Island, Vermont, Virginia, Washington, and Wyoming. The states whose indexed fuel tax rates increased in those years were Kentucky, Maine, Nebraska, and North Carolina; and those with a sales tax on fuel (for this purpose a tax based on fuel price) were California, Connecticut, Florida, Georgia, Hawaii, Illinois, Indiana, Michigan, New York, and West Virginia. The reader will note some overlap among those categories.

<sup>9</sup>It's true that some of the fuel tax increases listed here were small and might not by themselves have fully met state needs, but states have often called on other sources for highway funding as well, and a large proportion of the fuel tax increases are designed to meet the needs of large-scale, multiyear transportation programs. *See, e.g.*, the 2013 enactments in Maryland (HB 1515) and Virginia (Subst. HB 2313).

<sup>10</sup>The Census Bureau puts the total number of highway vehicles registered in the United States at around 250 million, while the federal Energy Information Administration says that among those registered, there are some 2 million that use alternative fuels and another 2 million that are powered by electricity or are fuel-electric hybrids.

<sup>11</sup>*See* “Tax Rates” on the International Fuel Tax Association website.

A VMT would seem to share some of the difficulties that VMT proponents claim for the fuel tax. For instance, unless a VMT is indexed for inflation, it will require continual rate increases by legislative action, just as a fuel tax does. While not politically impossible, it would certainly be inconvenient. And if indexing will solve that problem for a VMT, why not for the fuel tax as well?

### B. A Logical Chasm

Given that a VMT is inequitable and anything but simple to administer, it's illogical to cite the fuel tax's weaknesses and argue that a VMT should replace it. There is very little, either in the history of VMTs or in any intrinsic merit of the VMT concept to make that leap in logic plausible. On closer examination, a VMT isn't simple to administer and is liable to prove inequitable in practice. Nevertheless, that jump in logic is a consistent feature of VMT promotion, and a pro-VMT bias, to the exclusion of what seem more credible revenue sources, infects even the larger-scale state studies of alternative transportation revenue sources.<sup>12</sup>

Let's consider the U.S. experience with both VMTs — for which there is considerable experience at the state level — and tolls. Tolls are often in effect structured as small-scale VMTs, and to that extent they may also indicate what success a larger-scale VMT might have.

## II. Weight-Distance Taxes and Tolls: Previews of a VMT?

In judging VMTs' success in the form of weight-distance taxes in the United States, it may be useful first to refer more generally to the various criteria by which a particular tax may be evaluated, and what factors render a levy satisfactory as a revenue source.

### A. How Should a Tax Be Evaluated?

Taxes are typically evaluated according to criteria such as:

- efficiency, or the relative cost of administering the tax;
- effectiveness, or the ability of the tax to raise the needed revenue;
- equity, or the tax's fairness;
- enforceability, or the degree to which the tax can be collected from those who are supposed to pay it;
- competitiveness, or the degree to which a tax — particularly one on business — affects the ability of taxpayers in the jurisdiction levying the tax to compete with those in other jurisdictions;
- neutrality, or the extent to which the tax affects business decisions; and

<sup>12</sup>See, e.g., Minnesota Department of Transportation, "Connected Vehicles for Safety, Mobility, and User Fees: Evaluation of the Minnesota Road Fee Test" (2013); and Oregon Department of Transportation, "Road Usage Charge Pilot Program: Preliminary Findings" (2013).

- intrusiveness, or the degree to which administration of the tax affects proprietary information, privacy, and the like.

Clearly, none of those criteria are independent of the others, and some are more relevant to evaluating some taxes rather than others. Moreover, the criteria apply not only to the theory of a given tax, but also to its structure and how it is administered. The very theory behind some taxes could, in effect, cause them to fail at least some of the criteria; they may be inherently unfair or ineffective, for example. In other cases, theory may appear sound, but the tax based on it cannot be structured in a way to be efficient or non-intrusive. Finally, a tax may be sound in theory and structured to allow it to succeed, but administered in a way that renders it inefficient or inequitable.<sup>13</sup>

Theory, structure, and administration overlap, but a tax's theoretical merit is insufficient. A tax must also be amenable to being structured in a way that allows it to succeed. The evaluative criteria above apply to how a tax is administered and structured, as well as to the theory behind it. The inconsistency of pro-VMT arguments might imply some difficulty with the tax in theory, but the harder issues involve more the probable structure and administration of a VMT. Those aspects of the tax are commonly given short shrift by those promoting it, if they even perceive them, but they are certainly no less important to a tax's success than is its theoretical foundation.<sup>14</sup>

The fuel tax is a good example of a well-structured levy. The tax is not only imposed on an easily measurable substance but is collected at a level high enough in the distribution chain that its few payers are mostly large businesses. That is, the tax on fuel is prepaid and withheld at a point well above that of the actual highway user.<sup>15</sup> The small number of actual taxpayers are relatively easy for government to locate, collect from, and audit. That structure, coupled with competent fuel tax administration, helps ensure that the tax is paid.<sup>16</sup> That structure contrasts with that of a tax collected from ultimate users of the commodity

<sup>13</sup>The history of state fuel use taxes before the advent of the International Fuel Tax Agreement might be cited as an example of the third type of situation.

<sup>14</sup>In this article, no thorough analysis of a VMT vis-à-vis each evaluative criterion will be attempted. After all, a VMT is still largely conceptual, and the structure and administration of an actual VMT must still to an extent be speculative.

<sup>15</sup>The federal and state fuel taxes on gasoline are collected at the terminal rack, as are the federal and nearly all state taxes on highway diesel fuel. Entities farther down in the chain of fuel distribution pass the tax on to their customers. See Federation of Tax Administrators compilation of state motor fuel tax administrative issues (Sept. 2013). Many motorists seem unaware of that feature of the fuel tax.

<sup>16</sup>This is not to say that fuel tax evasion is impossible or unheard of, or that fuel tax administrators don't have to pay attention to the possibility of it. See Mark Weimar and Patrick Balducci, "Quantifying State Motor Fuel Tax Evasion," presentation to FTA Motor Fuel Tax Section (Sept. 22, 2008).

subject to the tax, especially when there are many users, and when not one of them is likely to generate a really significant tax liability.

Like the fuel tax, other taxes relied on by governments in this country also involve a withholding mechanism. The personal income tax could probably not be levied at all without withholding on wages, for instance, and the rate of compliance on income that is neither withheld on nor reported to the IRS (or to a state) is quite low.<sup>17</sup> Imposition of a sales tax, in which vendors withhold and remit the tax from purchasers, is less efficient thanks in part to the large number of retailers, most of them small entities. Yet the sales tax is extremely effective compared with its complement, the use tax, which states have just about given up trying to collect.<sup>18</sup> A final example, which employs a different mechanism than withholding, is the vehicle registration fee. That fee is paid upfront at the beginning of the registration year and vehicles can't be operated without displaying a license plate with valid registration.<sup>19</sup>

State tax administrators have had decades of experience with the fuel tax, sales tax, personal income tax, and vehicle registration fees. Those levies are imposed by most or all of the states, and there has been much experimentation with their administration. There is also a general consensus among tax administrators as to what works and what doesn't.

It is more difficult to enforce and collect a tax that includes no withholding mechanism, or which is to be collected from many (especially smaller) taxpayers, when the measure of the tax is difficult to ascertain, or when the tax is largely self-assessed by the taxpayer. A tax structured in such a manner is also comparatively more costly to administer and to comply with. Government is obliged to deal with a relatively larger number of taxpayers, and incurs additional expense in areas such as taxpayer education, returns and payment processing, audit, and collection.

In particular, a tax that is more open to evasion requires effort to enforce it. Those efforts commonly also render compliance with the tax more burdensome and expensive for complying taxpayers and raise the incentive for evasion.

<sup>17</sup>“Overall, compliance is highest when there is third-party information reporting or withholding. For example, most wages and salaries are reported by employers to the IRS on Forms W-2 and are subject to withholding. As a result, a net of only 1 percent of wage and salary income was misreported. But amounts subject to little or no information reporting had a 56 percent net misreporting rate in 2006.” See IR-2012-4.

<sup>18</sup>The considerable time and resources states have put into the Streamlined Sales and Use Tax Agreement over the last few decades is a strong indication of the futility of trying to collect a use tax on most types of transactions on which it might be owed.

<sup>19</sup>However, the vehicle registration system may work much better if the fees associated with the issuance of a license plate are relatively small. When issuance is tied to the payment of another tax, a personal property tax being the most common example, the incentive for evasion — and thus evasion itself — appears to increase significantly.

Taxes that are burdensome to comply with likewise tend to be more complex, as some taxpayers find a greater incentive to seek statutory or regulatory relief from tax requirements they find unpleasant. The more complicated a tax, the more expensive it is to administer. Last, a complicated tax involving significant enforcement may not only become intrusive, but it also may sway business decisions that would otherwise be unaffected by tax considerations.<sup>20</sup>

A VMT extending to cars has not been attempted except in very small-scale tests. Necessarily, therefore, the criteria for the evaluation of a broadly applied VMT must be applied to the *concept* of a VMT. Yet the concept, as outlined by VMT proponents and as implemented in pilot projects, seems to involve several features that make up an unsuccessful tax. That is, a broad-based VMT would be imposed — without a withholding mechanism — on a vast number of taxpayers, each of whom would owe a relatively small amount. Nor is the community to be taxed — miles traveled — that easy to determine in practice.

A carefully structured VMT might avoid some of those problems, but probably cannot avoid them all, assuming the tax adheres closely to the VMT concept. Prepayment of the tax might be possible, though administration and enforcement would be cumbersome. It seems unavoidable that a VMT, except in the very smallest states, would be collected from millions of individual taxpayers. And measurement of the tax — on millions of vehicles, as well as those from outside a given state but traveling on that state's roads — is certainly problematic, especially if the administration of a VMT essentially leaves the assessment and payment of the tax up to the taxpayers themselves.<sup>21</sup>

## B. U.S. Experience With VMTs Not Encouraging

Proponents rarely reference experience with VMTs in the United States, but there have in fact been decades' worth in the form of weight-distance taxes on trucks. And the consensus is that those taxes haven't worked very well. Nearly half the states have tried weight-distance, ton-mile, axle-mile, or simple mileage taxes on trucks (all essentially the same), and more than 20 states have repealed them. Only four such taxes remain in effect.<sup>22</sup>

A weight-distance tax is levied on operators of heavier commercial vehicles according to their weight and the distance traveled. In effect, they are VMTs with a weight

<sup>20</sup>Government can avoid much of that expense by failing to take any extraordinary enforcement measures at all and just cashing the checks that come in. That saves money, no doubt, and improves the efficiency of the tax, strictly defined, but at the loss of any pretense that a levy so administered is a fair one.

<sup>21</sup>On those and similar points, see Section III, *infra*. A federal or regional VMT, as opposed to one levied by a single state, will share many of those problems, but they will be magnified.

<sup>22</sup>Information compiled by the author. The four states that still impose a weight-distance tax on heavier commercial vehicles are Kentucky, New Mexico, New York, and Oregon.

component. Those VMTs, however, are easily evaded and complex, not to mention expensive to comply with, collect, and administer. Those are the flaws one would expect from the structure of a weight-distance tax, which features the collection of tax directly from many entities, mostly small ones.<sup>23</sup>

Unlike more successful highway taxes, weight-distance taxes are largely self-assessed by taxpayers rather than collected from a smaller number of entities that can pass the tax along to their customers. That alone leaves those taxes more open to evasion — and nearly every state that has tried them has concluded that they have been widely evaded.<sup>24</sup> A widely evaded tax is not a fair tax, whatever the apparent conceptual equity.

Administrative mechanisms to enforce collection of those taxes are one of the main causes of their complexity, expense, and unfairness. Those have included ports of entry for trucks and special vehicle indicia, which provide evidence that the vehicle's operator has registered for the tax, but which cannot prove that a company has paid the proper amount. Only a thorough program of audits can do that, and those are costly for a complex tax. The government's expense for those enforcement mechanisms drives up the tax rate, which also raises the incentive to evade it.<sup>25</sup>

Compliant taxpayers have to pay not only their share of a weight-distance tax but also the share of their noncompliant competitors. And compliant taxpayers incur their own expenses to comply with the elaborate mechanisms — mostly unsuccessful — put in place to ensure the tax's collection. No wonder weight-distance taxes — VMTs in practice — are universally hated by the trucking industry. Nor is it any wonder that weight-distance taxes have been repealed in state after state.

<sup>23</sup>There is vast literature on the theory of weight-distance taxation. Although the fight has abated over the last decade or so, U.S. railroads and motor carriers spent much of the 20th century engaged in the issue of what must be one of the more impressive industrial polemics in American history.

<sup>24</sup>Among the states that have repealed weight-distance taxes, Arizona's weight-distance tax evasion was estimated at 35 percent (Sydec Inc., "Final Report to the Arizona Dept. of Transportation" (1993)); Colorado's ton-mile tax evasion was estimated at 31 percent (Report of the State Auditor (1981)); Ohio's evasion of the axle-mile tax was estimated at 45 percent (Urban Center, Cleveland State University, "Report to the Ohio Department of Taxation" (1982)); and Wyoming's ton-mile tax evasion was found to be 30 percent (Wilbur Smith & Associates (1979)).

In New York, which still levies a weight-distance tax, evasion has been estimated at just over 50 percent. In New Mexico, a 2013 study by a legislative agency found evasion of somewhere between 27 and 43 percent. American Transportation Research Institute, "New York State Ton-Mile Tax Analysis: Estimation of Untaxed Commercial Vehicle Miles Travelled" (Feb. 2008).

<sup>25</sup>Oregon, which has imposed its weight-distance tax for nearly a century, is still adding expensive contrivances to stem evasion. See Oregon Trucking Associations, "ODOT Tracking Trucks With Cameras Along Hwy. 99," *The OTA Weekly Express*, Jan. 13-17, 2014, at 3.

Finally, weight-distance tax laws have been widely amended in favor of specially situated taxpayers, most often local industries that have managed to obtain tax breaks or outright exemptions.<sup>26</sup> That also lessens whatever conceptual fairness a weight-distance tax might have and increases the disparate effects on the competitiveness of the businesses required to pay it.

It is sometimes argued that modern technology can overcome a weight-distance tax's flaws. After all, a VMT, as a *concept*, is little more than a truck mileage tax extended to cars — with a black box thrown in. Considering the history, that appears unlikely. At best the assertion is unproven, and technology would surely add complexity and expense to the already burdensome administration of the tax. That would be particularly problematic if the tax were imposed not on business entities such as trucking firms but on the far more numerous and diverse population of car drivers.

### C. Toll Roads Analogous to a VMT

A road toll is similar to a VMT, although a toll in common parlance is specific to the use of a particular facility. If the facility is a highway, the toll rate is commonly per mile traveled; if it's a bridge or tunnel, the toll is per transit. A toll is typically collected during travel from each vehicle operator. Neither withholding nor prepayment up a chain of distribution, which assist in fuel and income tax collection, seems feasible with a toll.<sup>27</sup> Those similarities are underlined by toll facilities attempting to improve their operations with technology.

At least in part because they have to be collected from every motorist, road tolls are expensive to collect and administer. Approximately a third of toll collections go to administrative costs.<sup>28</sup> By contrast, the more efficient gasoline tax costs perhaps 1 percent of collections to administer.<sup>29</sup> As a corollary to their expensive administration, toll facilities have a tendency to foster sizable bureaucracies.<sup>30</sup>

Advanced technologies such as transponders and license plate readers may enable toll administrators to cut costs, but

<sup>26</sup>See, e.g., the special provisions in Oregon statutes for those hauling natural resources (Ore. Rev. Stat. section 825.480); and the overall rate structure of New York's weight-distance tax, which appears to favor some local operations (N.Y. Tax Law, section 503).

<sup>27</sup>Frequent users may establish what amounts to a debit account with a toll authority and prepay tolls in that fashion. Operators of fleets of vehicles may arrange for consolidated billing, but those features are optional and differ in concept and effect from a withholding or prepayment mechanism that is a part of the tax structure itself.

<sup>28</sup>See Transportation Research Board, National Cooperative Highway Research Program, "Cost of Alternative Revenue-Generating Systems" (2011), at 72-74.

<sup>29</sup>*Id.* at 62.

<sup>30</sup>See Tom Breckinridge, "Ohio Turnpike Limiting Pay and Benefits to Save \$4 Million Yearly," *The Plain Dealer*, May 21, 2012; and Mike Frassinelli, "Audit of N.J. Turnpike Authority Finds \$43 Million in Waste During Tough Economy," *The Star-Ledger*, Oct. 19, 2010.

the issue seems unsettled.<sup>31</sup> The new system of truck tolls established on the German Autobahns, while it employs a good deal of technology, is also expensive, partly because the technology used is costly and provision must be made in the toll rates for its eventual replacement.<sup>32</sup> States that have dropped traditional toll collection methods in favor of electronic toll bypass and the like have been reluctant to enforce toll collection from scofflaw motorists.<sup>33</sup> The ratio of collections to administration — one measure of a tax's efficiency — can often be improved by skimping on enforcement.

Even if the toll comparison fits, however, it might be too much to claim that a VMT would share those shortcomings. In some respects, a VMT would be unlike any toll arrangement. Most notably, apart from some bridges and tunnels in a practical sense, the use of existing toll facilities is optional. A motorist can usually escape tolls by taking a parallel route. That would not be true of a VMT, at least to the extent a motorist chose to keep driving.

The proponents of VMTs clearly believe that the use of advanced technologies can overcome the challenges of administering and collecting a tax. However, they have spent far less effort in distinguishing how a VMT differs significantly from weight-distance taxes and tolls, which seem to have the most in common with a VMT. The experience with weight-distance taxes in the United States is uniformly bad, and while tolls have their place in transportation funding, toll roads remain unpopular and expensive. In other words, can advanced technology really save a poorly designed tax?

### III. Unanswered Questions About VMT Administration

It's unfortunate that VMT proponents spend so little time discussing practical tax administration questions. State VMT studies rarely include tax administrators on their oversight committees, and their reports regularly ignore considerations that are second nature to those experienced in collecting and processing taxes.

As noted, the nature of a tax dictates the degree of difficulty regarding collection, and the manner of imple-

mentation will often have similar consequences. VMT discussions typically stop far short of those issues, even though the promotion of an entirely new type of tax — at least as far as private vehicles go — would seem to demand much fuller treatment. That omission may be attributable to the fact that public sector VMT proponents generally come from the areas of government that spend tax revenue rather than collect taxes.<sup>34</sup>

This section examines some aspects of the VMT that should be more closely examined from a tax administrative point of view.

#### A. Problems With the VMT Base

Many VMT supporters seem to assume that using a mile traveled as a base for a highway tax is no more problematic than the use of a gallon of fuel. Even setting enforcement difficulties aside, that is not the case. The distance traveled is to be measured by odometers, including engine odometers, which are not built for accuracy — and in fact, because of manufacturer liability, are only designed with a tolerance of up to 4 percent.<sup>35</sup>

Can a tax really be imposed when the measure of the taxpayer's liability is only 96 percent certain? For that reason, it would seem that a VMT must rely on vehicle tracking, which creates other problems. Vehicle tracking implies the need for documentation of trips over a significant period — not only the period represented by a single tax payment or report, but also the time that liability remains open for audit or other adjustment by the state or by the taxpayer. Considering the millions of vehicles traveling on state highways, that would be an enormous amount of data to store, protect, and access as necessary. Storage would be costly.

A counterpoint may be that motor carriers already keep trip records for vehicle registration fees collected through the International Registration Plan and, for fuel use, tax collected under the International Fuel Tax Agreement. Many interstate motor carriers must also keep those records for the four state weight-distance taxes that remain in effect. That is true, but the creation and maintenance of those records — which are not always complete or reliable — is burdensome and expensive. Moreover, while motor carriers are business entities that maintain business records, car drivers fall into a different category.

How would a VMT account for off-road travel within a state? And how would it account for interstate travel, whether by residents of the taxing state traveling to other jurisdictions for work or pleasure, or by tourists and other travelers who visit or drive through the state with a VMT? Would all their trips have to be tracked and documented, or

<sup>31</sup>The circumstances of several large recent toll increases seems to argue against it, in fact. See, e.g., the allegations of shenanigans in response to toll increases on the bridge crossings in the New York City area.

<sup>32</sup>An agency of the European Union put those costs at 23 percent of the revenue collected. See European Conference of Ministers of Transport, Conference on Road Charging Systems, "Technology Choice and Cost-Effectiveness, Summary and Conclusions" (June 1, 2006), at 8.

<sup>33</sup>See Lori Aritani, "Dulles Toll Cheats Rarely Have to Pay," *The Washington Post*, Feb. 8, 2013; Karen Rouse, "Toll Cheats Costing State Millions in Revenue," *The Record*, Sept. 28, 2009. The Texas Department of Transportation has posted the names of the 25 top toll violators in Texas. The list went up in October 2013, but after nearly six months, several of the top accounts do not seem to have been resolved.

<sup>34</sup>Indeed, one suspects that given the political problems of the fuel tax in those days, some promoters of a VMT have turned to it out of sheer desperation.

<sup>35</sup>See the discussion in *Lopez v. Nissan North America Inc.*, 201 Cal. App. 4th 572 (Cal. App. 2d Dist. 2011).

would the fuel tax be retained for at least the out-of-state traveler? Disparate treatment could raise equity and administration problems that might prompt legal challenges to the tax.<sup>36</sup>

## B. Tax Rates

If a VMT is to replace the fuel tax as a state's major transportation revenue raiser, the tax rates will — even initially — have to be higher than the fuel tax rates to make up for the backlog of road-funding needs.<sup>37</sup> The rate will also have to consider the costs of tax administration, including the additional costs of the VMT's initial implementation. The administrative costs associated with the fuel tax are minimal, but the costs of administering a VMT will be greater — to say the least.<sup>38</sup> As people adjust their habits to the new tax, the higher tax rate will inevitably lead to a decrease in miles traveled.<sup>39</sup> The rate will also have to go up to compensate. Even without that effect, however, the VMT rate will have to be adjusted periodically because highway costs continue to increase. It would be better if the VMT rate was indexed and then adhered to as the tax rises.

Another issue is a state's temptation to abandon a simpler, single-rate VMT for a more elaborate rate structure that attempts, for instance, to manage congestion or reduce vehicle emissions. In particular, it seems almost inevitable that the VMT rate on heavier commercial vehicles will take account of a truck's weight and the distance traveled. In *theory*, more elaborate rate structures can be effective in achieving non-revenue goals, but implementation will make administration of a VMT more complex and costly. That tax would have to involve more specific vehicle-tracking than a

simpler, single-rate tax. It would also bring up equity issues that are minimal with a fuel tax imposed only to raise highway revenue.<sup>40</sup>

Another issue is whether local governments will be permitted to piggyback their VMT on a state's VMT, as is permitted with the fuel tax in some states. That would also complicate the administration of a VMT, particularly if the localities are permitted to collect their own taxes, rather than relying on the state to do it for them. The potential complications for commercial or private long-distance drivers — who may pass through hundreds of local jurisdictions — are formidable. The likelihood of discriminatory road pricing favoring local residents or local interests would also increase under that kind of system.

## C. Technology

VMT proponents seem to assume that the tax will depend on the implementation of advanced technology, and they accept that technology will be needed to collect it. Yet technology is among the most unsettled and problematic areas connected with a VMT.

Based on state pilot studies, no technology has been shown to work so far. In 2007, Oregon tested a vehicle-mounted device that could be read by a fuel pump to determine mileage since the last fill-up. Although Oregon now claims that the technology worked well, the original report of the test does not back that up.<sup>41</sup> More recently, Minnesota tested GPS tracking for a VMT pilot through smartphones, but the state's claim of success seemed misplaced because the phones failed to account for half the trips run in the test.<sup>42</sup>

Suppose future pilot studies demonstrate that technology can administer a VMT. The next questions will concern not merely the cost of individual vehicle devices, but also the hardware and software to back them up. Will the vehicle devices be provided to drivers by the state, by a third party, or through the open market? Remember, *millions* of devices may be required just to tax the state's own drivers, let alone tourists. What will the cost of a device — buying, installing, operating, maintaining, and replacing it as necessary — be for the driver and for the state? Will the technology be easy for a driver to use? Will its tax application require special training? Will the device be reliable, or will it be susceptible

<sup>36</sup>Experimentation with various types of road funding are proceeding in the European Union and have aroused fears of discrimination against foreign operators. See "Make the Foreigners Pay," *The Economist*, Nov. 23, 2013, at 70. Although the levies here are a form of toll, the danger — or temptation — of discrimination would be much the same with a state or local — or even federal — VMT.

<sup>37</sup>The Congressional Budget Office in February 2014 estimated that the federal Highway Trust Fund will be nearly \$130 billion in deficit a decade from now. Even filling that large hole would not leave enough for highway improvements, only a continuation of the system in the condition it's in today. State and local governments have their own backlogs of highway infrastructure funding to deal with.

<sup>38</sup>*Supra* note 28.

<sup>39</sup>One of the most interesting results of Oregon's initial test of the VMT concept was that the test-subject motorists, even though they were insulated from the mileage tax being tested and were actually paid by the state for their trouble, reduced their miles traveled by 12 percent. See James M. Whitty, "Oregon's Mileage Fee Concept and Road User Fee Pilot Program — Final Report," Oregon Department of Transportation (Nov. 2007), at 43. This brings to mind the remark attributed to Milton Friedman: "If you tax it, you get less of it." See also Minnesota Department of Transportation, *supra* note 12, at 145-152.

<sup>40</sup>Wikipedia has a summary of the theory and practical problems associated with congestion pricing ([en.wikipedia.org/wiki/Congestion\\_pricing](http://en.wikipedia.org/wiki/Congestion_pricing)). Pricing for disparate levels of vehicle emissions, noise, and the like might be managed through systems of graduated rates, but that too would likely prove problematic for both practical and equitable reasons.

<sup>41</sup>Oregon Department of Transportation, *supra* note 39, at 34.

<sup>42</sup>Minnesota Department of Transportation, *supra* note 12, at 74-76. Cf. Charles Dickens, *The Pickwick Papers*, end of ch. 1.

to downtime depending on factors such as location and time of day? Will it have to be replaced periodically? At whose cost? How will the travel of a vehicle be taxed when the device isn't working? If more than one state implements a VMT, would their technologies be compatible?

There are no answers to those questions, and the scope of at least some of the problems seems daunting.<sup>43</sup>

#### D. Privacy

Supporters of the VMT have minimized the importance of privacy concerns raised by vehicle tracking. Some counterarguments amount to no more than “people will get used to it” or “it’s no worse a threat than your cell phone is.”<sup>44</sup> However, Oregon, one of the foremost proselytizers of VMT adoption, now allows that “you can’t mandate GPS and get this done.”<sup>45</sup> Oregon’s scheme for introducing the tax to its citizens provides some statutory guidelines to address privacy concerns, but alternatives to tracking, as noted, almost certainly involve trade-offs with the tax’s enforceability.<sup>46</sup> Moreover, travel records for an untracked vehicle are unlikely to be available for a taxpayer contesting a tax assessment.<sup>47</sup>

Privacy concerns constitute one of the highest hurdles to VMT implementation. Not only is the public already dubious of government vehicle tracking, but its views may have hardened considerably following the NSA and IRS scandals, not to mention the widespread hacking of customer financial data stored by commercial enterprises.

#### E. Tax Payment and Processing

The first step in complying with a VMT would be to establish a tax account with the state when registering the vehicle. That would let the state know to expect tax payments from the driver, who in turn would need VMT technology. Registration for the tax could be displayed with a vehicle sticker, although federal law restricts the credentials states may require vehicles of an interstate motor carrier to

display.<sup>48</sup> Stickers would also be vulnerable to counterfeiting. And as noted, there are potential difficulties in registering motorists traveling occasionally or incidentally in the taxing state.

The next step would be for the taxpayer to report his travel to the state or — if that is accomplished automatically through vehicle tracking — for the state to assess tax. How that is done would largely depend on what technology was chosen to implement the VMT. The tax payment’s frequency is another issue, because the revenue flow would have to be balanced against the burden on taxpayers required to pay more frequently. Several state VMT pilots have relied on monthly invoices, but when extrapolated to millions of taxpayers, that could be cost prohibitive, especially considering that most monthly VMT liabilities would be less than \$100 — and in many cases under \$10. A prepayment mechanism could reduce inconvenience on both sides, but administering that process has its own problems and may not be appropriate for some taxpayer categories.

Processing tax reports and tax payments, particularly in the quantity a statewide VMT would require, and then following up on discrepancies and incomplete or erroneous data, would be a large task for the state. The state agency tasked with the administration of a VMT would likely be obliged to provide taxpayers with legal and practical guidance in the assessment, reporting, and payment of the tax.

It is probably also worth emphasizing that there are more than 200 million licensed drivers in the United States, comprising roughly 60 to 80 percent of each state’s residents.<sup>49</sup> And there are evidently some 35 million more registered vehicles in the country than there are licensed drivers.

Implementing a state VMT would bring residents significantly closer to the government regarding taxation. As noted, most taxes are withheld above the level of the ultimate taxpayer — whether from a retailer, employer, or fuel supplier. Taxpayers may notice the sales tax when they make a purchase, for example, but they are not paying directly to the state. For this reason, a VMT would perhaps be most noticeable in a state such as Florida or Texas, neither of which has an individual income tax.

A state VMT is also likely to be among the largest and costliest state tax programs, comparable to the sales and use tax in terms of volume and complexity — though almost

<sup>43</sup>In a recent interview, representatives of the Texas Transportation Institute, a prominent booster of VMTs nationally, seemed to admit that those kinds of difficulties may well be too much for government to deal with and that the administration of a VMT may have to be farmed out to the private sector. Billy Hamilton, “A Tax Designed to Fail: How Do You Solve a Problem Like the Gas Tax?” *State Tax Notes*, Mar. 3, 2014, p. 537.

<sup>44</sup>*Id.*

<sup>45</sup>Jim Whitty, quoted in Tanya Snyder, “10 Questions (and Answers) About Oregon’s New VMT Charge,” *StreetsBlog USA*, Sept. 24, 2013.

<sup>46</sup>See Ore. Rev. Stat. sections 319.883-319.945. Although this law is often referred to as the first VMT in the United States, that is a considerable exaggeration, because it seeks only to establish a pilot project of a very modest size. Practically all administrative details of the project are left to the discretion of the state’s department of transportation.

<sup>47</sup>See in this connection, University of Iowa Public Policy Center, “National Evaluation of a Mileage-Based Road User Charge: Final Report” (Dec. 2010), at 8.

<sup>48</sup>See 49 U.S.C. section 14506.

<sup>49</sup>FHWA, “Highway Statistics 2011,” Chart DV 1-C. Moreover, it’s estimated that more than one in 40 drivers are unlicensed. Those people — more than 5 million — will generate special problems in tax administration. See AAA Foundation for Highway Safety, “Unlicensed to Kill” (Nov. 2011), at 2.

certainly not in revenue. Employment at the agency administering a VMT would be expected to grow significantly.<sup>50</sup> Likewise, it might be anticipated that anything less than high standards of customer service at that agency would render the tax unpopular with the public.

### F. Collections, Audits, and Enforcement

A state collects fuel tax revenue from 1,000 taxpayers at most, though the number is probably significantly less.<sup>51</sup> Each state knows the location of all those entities — mostly large corporations — and is familiar with their filing and payment history. Collection problems are almost certainly minimal.

When Minnesota ran its VMT pilot, however, it sent out monthly VMT invoices, payable in 14 days, to its 500 volunteer participants (who incidentally were *paid* to participate). For at least the first few months of the six-month test, 40 percent of the participants paid late. Most paid by check, mailed in to the state.<sup>52</sup> Thus, even with paid volunteers, the periodic collection of small amounts of money in a timely fashion proved difficult. Collection from millions of taxpayers, even if the amounts are automatically calculated and assessed, is liable to be an enormous and costly job.

While audit and enforcement follow collections, auditing small taxpayers for small sums would be impractical and politically unrewarding — meaning the state is likely to do very little of it. An exception may be the case of a VMT — that is, a weight-distance tax — on heavy commercial vehicles. But weight-distance tax audits are complex and expensive for both parties, and a state's auditors would have to travel all over the country to perform them. Enforcement of a VMT against private parties is also problematic, as the experience of several states with toll scofflaws tends to show.

What acceptable, effective enforcement tools will a state really have? A utility whose charges are not paid will turn off the lights or the water. Suspending driver's licenses for failure to pay a VMT is likely to lead only to more unlicensed drivers. As noted, states have often been reluctant to suspend driver's licenses or vehicles' registration for unpaid tolls.

### G. Tax Evasion

Most VMT proponents underestimate the time, energy, and ingenuity that some people will expend to evade a tax. Some taxes, by their very structure, are more enforceable than others. On one hand, the fuel tax is hard to evade

because it is in effect withheld by government from a few large entities well before the ultimate taxable event — the fueling of a highway vehicle — takes place. On the other hand, a weight-distance tax, the closest tax to a VMT with which this country has any experience, is easy to evade. It is in effect self-assessed and paid after the taxable event — travel — based on records in the taxpayer's own control, assuming he keeps any at all. It has proven in many respects to be a voluntary tax.

Some claim that a VMT could easily be implemented on heavy commercial vehicles because “trucking companies already keep track of their miles and trips.” And it has been proposed that advanced technologies could make existing weight-distance taxes easier to collect. Many motor carriers do use global positioning to track their fleets.<sup>53</sup>

Although GPS records are not universally accepted, there is considerable evidence that a motor carrier's use of a GPS can in fact consistently produce more accurate tax records. That *compliant* taxpayers can successfully track the taxable miles their vehicles travel is, however, beside the point. Once a tax is tied to miles traveled, the dishonest will find ways to cheat whatever technology is required to record their travel. GPS can easily be jammed or blocked. Odometers can be and regularly are tampered with, although it is a federal felony to do so.<sup>54</sup> Tax records and credentials can be falsified or not maintained.

A VMT could be widely evaded, inadequately enforced, and expensive to administer — with high rates and generally low individual liabilities to boot. An unenforced tax becomes increasingly a voluntary tax, and it may not be overly pessimistic to see a spiral of higher rates and lower compliance forming around that kind of a levy. A state cannot afford to rely on voluntary funding for its highways.

### H. Summing Up

A VMT for automobiles is a concept, and how it would be implemented is speculative. Any government that attempts to put a VMT in place would have to address many, if not all, of the questions raised in this special report — and potentially others. A tax's structure — often dictated by its concept — has a great deal to do with its success. So does the way in which even a properly structured, theoretically sound tax is administered in practice.

VMT supporters have clearly underestimated the problems that would arise from applying the tax to all vehicles. They have also ignored the history of weight-distance taxes

<sup>50</sup>A federal VMT would almost certainly fall to the IRS to administer. It may be worth noting that despite the IRS's enormous new responsibilities connected with healthcare, Congress has cut the agency's budget.

<sup>51</sup>California appears to have fewer than 150 licensed fuel distributors, most of which do not actually have transactions to report in any given month. See State Board of Equalization, “Motor Vehicle Fuel Distributions Report” (Oct. 2013).

<sup>52</sup>Minnesota Department of Transportation, *supra* note 12, at 100-102, 225.

<sup>53</sup>However, the trucking companies that have adopted GPS (most trucking companies do not yet have it) did so largely for operational reasons and not primarily to produce tax records.

<sup>54</sup>A Google search on “GPS jammer” produced many advertisements for the devices, as well as a reminder from the federal government that the use of those devices is a felony. Similarly, a search on “odometer rollbacks” produces many news stories of how prevalent the practice is, although it too is a federal felony.

on motor carriers, perhaps in the mistaken belief that advanced technology can somehow cure the defects of a tax whose very concept entails significant administrative difficulties. Above all, VMT proponents consistently fail to recognize the effects that a tax that is unenforceable or unenforced would inevitably have on the highway funding system of a state and ultimately the nation.

#### **IV. State Transportation Funding Options**

State policymakers should consider the following — individually or collectively — to relieve current or projected highway funding shortfalls:

- retain and when necessary increase the fuel tax;
- subject vehicles powered by novel energy sources to the fuel tax at rates that correspond to those on traditional fuels;

- assess additional registration fees on alternative-fuel vehicles such as electric cars and hybrids, for which the fuel tax is an inadequate levy;
- assess an additional motor vehicle sales tax on alternative fuel vehicles whose power source is unsuited for the fuel tax; and
- in the longer term, study all state transportation funding options.

This paper has noted some failings of state VMT studies and pilot programs. In particular, states should not ignore their tax agencies' tax administration experience, but rather use it to inform and even to direct future transportation funding studies. Fortunately, given the continued viability of the fuel tax and other elements of highway funding, states probably have more than a decade to ponder and experiment carefully with alternatives. ☆