

U.S. Deployment Approaches

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Panel: **JIM WHITTY**, *Oregon Department of Transportation*
DICK MUDGE, *Delcan Corporation*
RAY STARR, *Minnesota Department of Transportation*
ALLEN GREENBERG, *Federal Highway Administration*

[Deployment of Mileage Charging Systems in the United States](#)

Jim Whitty: Instead of once again talking about the history of the Oregon program I would instead like to answer my own questions related to policy and structural issues surrounding a national mileage-based charging system.

I am a “big tent guy” when it comes to the purpose of a MBUF system. MBUF should not only serve as a revenue source but also be used to manage congestion and encourage the operation of fuel efficient vehicles. Neglecting environmental policy goals could remove political support. The system should cover all motorists and all public roads and mileage. Driver privacy should be protected based on motorist choice. The system should have a local option with states, counties, and cities being able to opt into the system. The rate structure should not be flat and should accommodate the move to fuel efficient vehicles. The system should be operated as a public-private partnership.

There are many public concerns regarding a move to MBUF. Focus groups from different states have confirmed the same basic concerns. The public is concerned with system efficiency and fairness. This can be addressed through the operation of an efficient, fair, cost-efficient public private partnership. Privacy and fear of technology is another area of public concern. This can be addressed through giving motorists choice in the level of privacy and type of on-vehicle device used to record mileage. Contrary to what some believe, I do not believe that the default should be manual reporting.

There are several structural issues that also need to be addressed. Concern over the ease of motorist use can be alleviated through choice of on-vehicle technology and invoice and payment method. Crediting the gas tax can be done through a precise credit or estimated credit. Other administrative issues can be mitigated through the operation of a public private partnership.

There are several things still left to learn. I believe that GPS and cellular can operate together, but what needs to be researched is whether it would be wise to allow both to operate in the same system. Effective enforcement is the critical research area in this area. Currently we do not know how to enforce a mileage-based system. In Europe they use a lot of monitoring devices. However this assumes that there is a mandate for all motorists to have a device in their vehicle. In the U.S. we are likely to have a partial application. Will the choice of an on-vehicle device placate motorist’s fears? I believe that it will. The private sector role, interoperability standards, costs, and the nature of early deployments are additional areas that need to be further investigated.

Here is a brief overview of the Oregon weight-distance tax: The trucking industry keeps records on truck combination, number of axles, and odometer readings. They are obligated to complete a mileage report,

calculate their payment, and then send payment. A comparison of data from ODOT and Qualcomm showed that GPS coordinates were matched very closely with the biggest deviation being 0.05%.

Audience Questions

Is there going to be a flat rate for electric vehicles and what technology will be required in those vehicles?

Whitty-All of that is unknown. A road user fee task force will work on these questions.

U.S. Deployment Approaches: Truck Fees

Dick Mudge: The financial system is badly broken which is good news for the VMT industry. I am concerned that we are trying to do too much with VMT fees and that if we get too carried away it will be something that only academics talk about and will not be implemented. There is a need to keep things simple which is why I have focused on trucks.

Many trucks already have the technology necessary and privacy is not as significant of an issue as owners have the right to know where their trucks are located. Delcan's New York VMT study is not like European systems. European systems have high collection costs. Delcan is working with a small number of companies for added depth.

The proposed fee structure was an average fee for all miles and variable fees for thruways. There is no substitute for tolls, limited access roads, primary roads, local, and an off-peak discount. Private sector folks love the idea of charging differential rates by class of road. However, the trucking industry wants simplicity and is resistant.

Phase II could potentially use real money. This would focus participant companies on how they would actually change their operations.

Truckers are wondering why a system would be revenue neutral, as the case has been made that we need more money. I can imagine a system that is not revenue neutral but a portion of excess money is spent on areas that have specific truck related issues.

Audience Questions

We talk about trucks being part of this system, but I wonder if anything is being studied in terms of buses. What are the benefits of truck pricing versus bus pricing?

Mudge-The reason to focus on trucks is that a lot of the mid to large companies already have the equipment which drives down capital costs. There is also less of a privacy issue.

Switzerland and New Zealand charge buses. It is actually quite easy. I have a comment on the German system: I've studied it and the administrative cost is about 6% of revenue, so initially it was quite expensive but in the long term costs have been a lot lower.

Mudge-I got my numbers (11%) from someone at a conference. I think you need to keep costs here in the US at around 1- 3%.

IntelliDrive (sm) for Safety, Mobility and User Fees

Ray Starr: I am going to discuss a pilot project in the works for Minnesota to demonstrate technologies that will allow for the future replacement of the gas tax with a fuel-neutral mileage charge. What is unique about the study is that we are basing it on consumer-based devices that consumers can go out and purchase. The project will have manual odometer readings because during a transition you are going to have a lot of vehicles that are not equipped.

The pilot plans to use 500 vehicles. The vendor will determine how miles are measured. I anticipate using a "congestion zone" in the metropolitan area. Only categorized miles are transmitted due to privacy concerns but detail is kept at the discretion of the driver. Billing will be done monthly with options to pay by cash, check, or credit card. The current rate should be displayed so drivers know what they are paying to drive on a road. The vendor has proposed using a TomTom unit which will provide the GPS. A cellular device would be the communication method.

Some general comments regarding transportation finance: I believe it is unthinkable to eliminate the gas tax. Not taxing gas would be like not taxing tobacco. Furthermore, the gas tax favors those with fuel efficient vehicles. Furthermore, the gas tax is easy and inexpensive to collect.

Audience Questions

Are you able to say what the program participant cost will be?

Starr- We are still working that out. It depends on what you include in the costs. We were given \$5 million and that's about what it will cost.

Why is pay at the pump your preferred method?

Starr-Lots of folks have trouble paying bills and I think it would be less of a burden on payees if they were to pay at the pump.

Pay-as-you-drive insurance (PAYD) Alleen Greenberg: I want to make four main points:

1. Pay—as-you-drive (PAYD) insurance is important in its own right and should be promoted outside of MBUF.
2. If all of the objectives of PAYD and MBUF are considered carefully then I think a system should be designed to accommodate both.
3. We had discussions yesterday with insurance industry experts and I want to share their input.
4. And I want to discuss what this portends going forward.

Brookings has released a study on PAYD insurance and has concluded that VMT would be reduced by 8% and most drivers would see savings. Reductions in driving come from the presence of an option to pay less by driving less. Environmental groups have come out in favor of PAYD insurance. Tax credits have been endorsed as a means of moving this forward.

On the technical front, Cambridge Systematics looked at a suite of technology options for having the transportation sector help meet carbon reduction targets. The study concluded that if PAYD insurance was included with a bundle of other measures, carbon emissions would be reduced by an additional 44%. Benefits are high and costs are low and this needs to be considered outside of MBUF discussions.

A system that does not gather a lot of data would not be of any value to insurance companies. However, having detailed data enables more applications. Companies want the raw data, and the more raw it is the more useful it is.

The level of interest in partnerships varies but those who are less advanced on this topic are more interested. There was a concern about doing pilots because they would only be getting a small amount of data. More developed companies in this area were concerned about integration with their current data systems. In terms of partnerships, there was a concern that it would be difficult to design products if they were only going to get data for a period of time from temporary pilots. The insurance industry also noted that they are a low margin business. There was an interest in getting data pertaining to mileage, time of day, and type of roads travelled.

In discussing pathways forward, the view was expressed that if we had an opt in system that allowed for insurance companies to take a leadership role, some felt that because insurance offers some savings it would be more desirable than a system developed to solve a problem that most people don't know exists. Even though there was some reluctance, the presence of goals and open ended data for meeting those goals generated a lot of enthusiasm.

Audience Questions

There was a concern about VMT fees replacing or supplementing the fuel tax. Can you comment on the benefits of supplementing versus replacing?

Whitty- In Oregon it is easier to replace due to public acceptance. But there is also an environmental perspective so rates would need to be structured for the MBUF to do something similar. I think it boils down to what you can sell politically.

Mudge- I agree with Whitty's comments and think that tacking this on the ton tax in NY would not have generated much support.

Starr –There are shortfalls in the highway trust fund and the gas tax could compliment a mileage-based user fee.

There was a quote from a Minnesota legislator who said they would never vote for a MBUF system because they did not want to see mileage data in divorce court. My question is what you researchers are doing to protect the privacy of your participants and how are you insuring that revenue goals are not overriding privacy?

Whitty- There are a lot of privacy protection measures. The unit employed in Oregon did all calculations on-board and transmitted only charges. Motorist's choice of the device is the key to gaining acceptance. Some motorists do want more detail for auditing purposes.

Greenberg- If data is subpoenaed it has to be provided. It is not frequent but it does happen.

Mudge- The data is very valuable and I know there are ways to protect it. I don't think the data should go directly to the government. In our project we are getting very detailed data but only summary data will go into the reports.

I have been involved in international applications of this and they all failed because there was no clear objective as to what to do with the money. I agree that revenue neutrality is not practical. Would you agree with the principle that money generated under MBUF go to the owner of the road?

Mudge – I think revenues should go for transportation services, but I am not sure about revenue going to the “owner” of the road. In NY it may amount to subsidies. Revenues should stay in the mode with flexibility for spending within that mode.

Starr -Revenues would go into the existing pot and then formulas would be used to determine where it goes from there.

In looking at large demonstration projects for the replacement of the fuel tax would states need enabling legislation?

Whitty and Greenberg-Yes.

Whitty- We are seeing positive developments nationally for these discussions. Legislators are finally talking about the issue.

Have there been discussions on the legal side about doing things in terms of policy that would put people at ease in terms of data privacy?

Whitty- There could be some sort of standards for privacy, but no steps have been taken.

Frank Douma (Assistant Director of the State and Local Policy Program and Attorney):-I have been looking at privacy from a legal perspective. The data is created and from there an issue arises. The policy question is different from the legal question. If data can be kept anonymous there is not a problem. If the data is not anonymous then you need to have an opt-in system and people need to be aware of the implications of opting-in. Opt-in will probably alleviate a lot of these concerns.