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SYMPOSIUM ON MILEAGE-BASED USER FEES

JUNE 13-14 - BRECKENRIDGE, COLORADO

2011 Symposium on Mileage-Based User Fees

Conference Summary

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Editor

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2011 Symposium on Mileage-Based User Fees

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SESSION 1

Implementation Pathways

Moderator: Paul Sorensen, RAND Corporation

Speakers: Paul Sorensen, RAND Corporation

[James Whitty](#), Oregon Department of Transportation

Dick Mudge, Delcan Corporation

[Bruce Schaller](#), New York City DOT

The theme of the symposium was explored in the opening panel session on alternative transition pathways to MBUF implementation.

Paul Sorensen – Conceptual Frameworks for System Trials

The key questions that were generated during the discussion were:

- How do we move from talking about MBUF to working toward implementation?
- How do we approach political feasibility?
- What is the sequence toward getting a nationwide system that is applicable to all drivers?
- How many participants should be involved in a system trial?
- Should different vehicle classes start with MBUF first or should all drivers be incorporated?
- Should mandatory or voluntary adoption be done?
- Should an effort toward MBUF start at the State or Federal level?

Many states are looking at mileage-based user fee system trials from widely divergent viewpoints.

The three frameworks for analysis for approaching MBUF implementation are:

- Federal: A top-down approach dictating policy and direction
- State: Experimentation can be readily done
- Market: Engage and encourage the private sector to provide additional services for drivers

James Whitty – Oregon MBUF Electric Vehicle Implementation

A vision for implementing MBUF should include:

- Motorists should have the ability to choose the methods and technologies for reporting their mileage.
- Users should have options to wirelessly report undifferentiated mileage from the odometer and differentiated mileage using technologies with vehicle location capability.
- An open system for data collection is preferred that can allow technologies to evolve with motorist preference.
- Allow the public to choose through market forces either a government or private sector provision of on-vehicle technologies, data collection and payment services.

The most recent experience from Oregon demonstrated the difficulty in implementing mileage-based user fees on the State level.

- The public will not accept the placement of government-owned boxes in personal vehicles.
- The public fears that a large, new bureaucracy will be required to administer an MBUF system.

- Users want to be able to use their own GPS devices and to have the ability to choose between public and private sector technologies for providing service and collecting fees.
- Fairness was a significant principle in advancing mileage-based user fees. The fact that electric vehicle users do not directly pay a fuel tax is a salient point for implementing MBUF for electric vehicles.
- A bill to adopt an MBUF vehicle mileage fee on electric vehicles in Oregon failed to get past the House Ways and Means Committee, but the bill was believed to have enough votes to pass the full State House of Representatives.
- The perspectives from the attempt to pass the Oregon MBUF vehicle mileage bill were the following:
 - The political players who cared about transportation were already on the transportation committee.
 - Rural constituencies have difficulty in changing their mode of transportation due to lack of travel mode options and longer driving distances.
 - Some lawmakers were opposed to any new taxes or an increase in taxes.
 - A task force that was composed of 14-key individuals was instrumental toward getting bipartisan support.
 - The local AAA chapter had supported the bill on a principle of equity – electric vehicles do not pay a fuel tax to use a road.
 - No intense objections were raised to the bill from any constituent or political group or lawmaker.
 - Getting automakers to accept mileage-based charges for electric vehicles will be difficult because an additional burden would be placed on a technical system that has not been widely adopted.

Dick Mudge – Principles of Mileage-Based User Fee Implementation

The focus for an implementation trial should:

- Be able to raise revenue;
- Improve the status quo;
- Be simple to understand;
- Incorporate real money from participants;
- Be scalable to bridge the gap between pilot and implementation;
- Be controlled for costs;
- And provide tangible benefits for participation in the study.

Bruce Schaller – Voluntary Adoption Approach

The conversation with the public about financing a transportation system has to begin with a discussion on the value proposition for drivers, not led with a proposal for pricing. A good approach would be to talk about the issues that users directly experience. Pricing should illustrate the benefits of a new program, how credibly it will address the problem, and should only be used as a last resort.

How transportation professionals see the problem is different from how the public sees the problem.

- How transportation professional view the problem:
 - Complex, aging infrastructure
 - Current funding inadequate
 - Infrastructure and traffic are key policy concerns

- Public needs to be educated
- How the public sees the problem
 - Government has all the money
 - Don't trust the government to spend the money
 - Taxes and fees are the last resort
 - It's the economy (and gas prices), stupid

The New York City DOT has recently posted a Request for Expressions of Interest (RFEI) regarding the DriveSmart Program. The program concept for the Drive Smart Program is to provide money-saving and time-saving benefits for drivers through in-vehicle and communications technologies. The DriveSmart program will be a multi-jurisdictional, public-private program that will seek to integrate different components from the transportation system into integrated tools for users.

SESSION 2

Public and Political Acceptance

Moderator: Lee Munnich, Humphrey School of Public Affairs, University of Minnesota

Speakers: Alex Hergott, US Senate Minority, Environment and Public Works Committee
JayEtta Hecker, Bipartisan Policy Center
Karen White, Federal Highway Administration, Office of Policy
Nick Farber, National Conference of State Legislatures
[Paul Hanley](#), Public Policy Center, University of Iowa

This session featured a moderated discussion representing federal and state political perspectives and new federal research on mileage-based user fees.

Alex Hergott – Congressional Perspectives

The path toward adoption of vehicle-mileage fees is made difficult due to the process for gaining political acceptance.

- The political environment is hostile and toxic to any increase or change in the taxation structure.
- Degradation in public dialogue on the issue is hampering any progress.
- No real leadership is apparent with solving the transportation finance problem.
- Explaining transportation finance is a tremendous education and communication issue.
- Research studies on vehicle mileage fees are not being reviewed by political leaders.
- The process for getting a transportation reauthorization bill passed is difficult.
 - Would the next reauthorization bill be for two or six years?
 - A complete transportation reauthorization of the highway trust fund is not likely in the near future.
 - An office to study MBUF on the federal level was proposed in a draft version of the bill that was leaked to the press
 - The Federal government was considering pilot studies to be done through the Office of the Secretary for Transportation
 - The pilot studies should be large in scale and cross numerous jurisdictional boundaries
 - Proposal was immediately scuttled after an extremely negative response by the Administration and the Secretary of Transportation

Differences in political equity across state boundaries are apparent under the current fuel tax. For example, Vermont residents have an average fuel efficiency of 24.58 mpg and an average monthly gas tax of \$78 per month. Wyoming residents have an average efficiency of 13.69 mpg and an average gas tax payment of \$134 per month, due to a greater share of older and higher powered vehicles.

JayEtta Hecker – Emerging Policy Issues

The Equity with the current gas tax system need to be better explained to the public and political stakeholders.

- The public does not realize they are currently paying a regressive tax.

- Getting the public to accept the facts is difficult because data on the issue is suspect.
- Equity needs to be emphasized if transitioning to a new revenue collection system.
- The case has to be made to the public for why an MBUF system should be adopted.
- The gas tax should not be maligned because it is currently effective, but in the future it will not be as successful in meeting financial demands.
- Public support can be gained through conducting trials.

Nick Farber – State Legislative Perspectives

Other States have been considering mileage-based user fees as a revenue collection system.

- Movement with mileage-based user fees will likely be on the State-level due to the failure to progress with the Federal government.
- So far, only five states have introduced legislation to implement mileage-based user fees.
- In Texas, Rep. Linda Harper-Brown sponsored a bill in 2011 to implement an MBUF pilot.
- A blue-ribbon study done in Colorado looked at 39 different studies in 2008.
- Connecticut studied MBUF and found that it was too politically challenging to change the fee structure.
- A study done in Florida found MBUF to be politically difficult and recommended a land-based user fee to be implemented in local communities instead.
- The State of Massachusetts considered raising registration fees for all users and is currently looking to fund a mileage-based user fee study.

Karen White – USDOT Technology Scan

The Federal Highway Administration is currently conducting a technology scan of mileage-based user fee applications.

- The technology scan will look at how policy objectives will feed into technology.
- The system objectives for implementing MBUF should include revenue generation and demand management.
- Users should be able to understand that costs for supporting a highway system continue to incur after a highway was originally built.
- Any future system cannot be subject to tampering.
- More studies and research need to be conducted to understand the capabilities of technology.
- Large-scale pilots are extremely expensive, as noted with the University of Iowa study that had a per participant cost of \$5,000.

Paul Hanley – Public Opinion and Policy Research

From the University of Iowa Study, a National Evaluation of a New Approach to Assessing Road User Charges:

- The initial perception of mileage-based user fees within the participant group before the study was conducted was 42% favorable versus 17% negative. The final perception, after 10 months of participation in the pilot, was 70% favorable of mileage-based user fees versus 19% negative.
- As vehicle mileage increased within the participant sample group, the positive perception decreased. No significant difference between rural and urban populations was discovered.
- Over 70% of the participants thought the system was fair, reliable, and accurate.
- Participants with less than a high school education had a more positive viewpoint.
- Users did not want a great deal of information on personal driving behavior; however, they did want the capability to audit the charge.

- Individuals who were the most insensitive to privacy tended to be older and lacked understanding on how the government worked.
- About 60% of the participants in the study believed the government will track their travel.

The public can start to gain trust in mileage-based user fees if they have the chance to try and test a pilot system that is currently in operation.

SESSION 3

Policy Issues

Moderator: Ken Buckeye, Minnesota Department of Transportation

Speakers: Adrian Moore, Reason Foundation

[Mark Muriello](#), Port Authority of New York and New Jersey

[Mark Burris](#), Texas A&M University

[Terri Binder](#), Club 20

This session focused on the significant challenges related to MBUF implementation, including the fundamental purpose of mileage-based fees; complex multi-jurisdictional charging issues; and geographic, income and rural equity concerns.

Adrian Moore – Mileage Fees as a Revenue Replacement versus a Supplemental Revenue Source

High-level political leaders who champion MBUF run into extreme opposition and risk the possibility of losing their elective office. In response to questioning about the source of transportation finance, many senior-level congressional staffers did not comprehend that driving more equated to paying more in gas taxes.

Public Acceptance is a critical toward the implementation of mileage-based user fees.

- Trying to gain public acceptance by first asking, “How do you educate the public?” will likely lead to failure
- The public is skeptical about why and how government plans to use revenue.
 - The gas tax is not perceived as a user fee at all.
 - Government agencies are not seen as being efficient with finances
 - The public will only vote to increase transportation-based taxes and fees when they see what the funding will support.
 - Any change to the current taxation structure is believed by the public to be a tax increase.
 - The public is confused about how much they pay into the transportation system.

Mark Muriello – Multi-Jurisdictional Charging, from the I-95 Corridor Coalition

Mileage-based user fees have numerous issues from a fee collection administrative standpoint:

- Data processing
 - Data and administrative requirements will differ substantially based on system functionality.
 - The scale of the data management challenge must be recognized.
 - Re-engineering of processes and systems will be required for registration, payment collection and reconciliation.
 - Calculating and reconciling state and facility mileage (and distributing accurate revenues) will be key new functions.
- Customer relations

- Enhancements will need to be done to customer contact portals, such as call centers and web sites.
- The interface to the user will be one of the most important and costly system components.
- New enforcement processes will be required to ensure that vehicle mileage charges are paid and collected.
- Institutional
 - It is essential that State motor agencies interact, engage, and coordinate among themselves.
 - Enrollment under a mileage fee system is a critical requirement that may be integrated with state vehicle registration processes.
 - The potential institutional models for mileage fee implementation range from the department of motor vehicles, the E-Z Pass interagency group, to other new potential public and private sector roles.
 - The arrangement of having sole government institutions operate a mileage fee system is unlikely without private sector involvement.
 - The collection of Federal mileage charges may be done through the states where vehicle registration information is collected.
- Administrative cost
 - Actual experience with vehicle mileage fee collection costs are limited, however, bids from the Netherlands provide the best estimate.
 - The key factors of administering a mileage fee system include: the system functionality and the extent to which existing registration and fee collection systems can be built upon.
 - Currently, the administrative costs associated with various revenue collection systems are:
 - Motor vehicle fuel tax = \$1.20 per vehicle (0.82% of revenue)
 - Motor vehicle registration = \$13 per vehicle (11% of revenue)
 - VMT-based charges = \$30 to \$40 per vehicle (6 to 20% of revenue)
- Legal issues
 - There are no major legal or constitutional issues associated with the implementation of vehicle mileage fees.
 - Mileage-based charges would benefit from authorizing legislation that would address:
 - The characterization of mileage-based charges and use of mileage-based revenues, and whether the charge will be viewed as fee or a tax
 - What administrative entity has the authority to issue charges?
 - The rates for using the system and the use of revenues
 - Provisions for enforcement
 - Mechanisms to processes adjudication
 - Privacy protections for users

Mark Burris – Geographic and Income Equity

An equity evaluation on mileage-based user fees was done on potential users within the State of Texas. An assessment was made in replacing the fuel tax with a mileage-based fee using national household travel survey data, weighted to reflect all households in Texas. The principal conclusions from the evaluation were:

- Small differences were found in vertical equity (in terms of household income, proportion of income spent on transportation fees and taxes) for the mileage fee scenarios versus the current State gas tax.
- Some negative horizontal equities were discovered (in terms of geographic household location, rural or urban) for rural households under most fee scenarios, but most mileage-based fee systems were more equitable than the current State gas tax.
- A scenario favoring fuel efficient vehicles was the least equitable with regard to proportion of household income, but the most progressive in promoting geographic equity.

Terri Binder – Rural Issues

Rural users from Colorado had the following perspective on a transition to a mileage-based system:

- Drivers from rural populations are believed to drive more than drivers from urban centers. For example, a citation was made to a statement that rural users travel 44 miles per day as opposed to urban drivers traveling 11 miles per day.
- Incomes from rural households are generally lower than incomes from urban households, and rural populations are believed to spend more on transportation-related purposes than urban areas.
- Rural residents have no access to transit and other alternatives
- Taxes and fees generated from using transportation services goes to purposes not directly related to transportation.
- Problems will only get solved when the users are forced to directly face the issue. In other words, an initiative will be created when there is “A problem in your driveway.”

SESSION 4

State of the Practice: Demonstration Projects

Moderator: Alauddin Khan, Nevada Department of Transportation

Speakers: [Ben Pierce](#), Battelle Memorial Institute (Minnesota DOT Technology Demonstration)

[Alauddin Khan](#), Nevada Department of Transportation

[John Sabala](#), Texas Department of Transportation

Several state DOTs are pursuing demonstration projects to test MBUF and integrating activities related to public policy, political and user acceptance, and technology applications. Panel members representing leading states covered concepts for existing and proposed demonstration projects.

Ben Pierce – Minnesota Department of Transportation Technology Demonstration

The State of Minnesota is about to begin a demonstration project on August 1 that will test a mileage fee discounting system for 500 vehicles over a one-year observation period.

- An off-the-shelf hardware device, a Samsung Galaxy phone, was the principal in-vehicle computational device, or thick client unit. The calling capabilities of the phone were deactivated and the device was primarily used as a computer.
- The other system components of the road use monitoring system were an OBD-II diagnostic tool, that connected the vehicle to the vehicle operating system, and mounting hardware and cables that physically held the device in place.
- Participation in the demonstration is completely voluntary and users had the capability to turn the device off at any time.
- Extensive software development was required to build the software application
- Cloud computing will be used as the back office solution and users will be granted access to observed mileage and assessed fees through a web portal.

The primary components of the fee charging calculation process will be:

- A flat fee will be assessed for all the miles that will be traveled based on vehicle odometer readings before and after the observation period
- The discounting process will only be effective when the user turns on the monitoring device.
- The difference between the mileage recorded on the monitoring device and the odometer reading will be charged as a flat fee.
- The rate of discounting will vary based on:
 - Country (inside and outside the United States);
 - State (inside and outside Minnesota);
 - Large geographic areas (metro and non-metro);
 - Roadway classification (Interstate and non-Interstate);
 - Time of day;
 - Day of week;
 - Direction of travel ;
 - Type of vehicle.

The primary components of the fee assessment will be:

- Real money will be exchanged from the users, who will be given a monetary incentive at the beginning of the study, and miles traveled will be deducted from the amount of the incentive.
- The first two months of participation is fee, with charges being assessed during the third month, and users will never have to pay more than the initial incentive.
- Mileage data will be aggregated in 24-hour intervals by distinct fee categories (e.g. geographic area, time of day, roadway classification) and the total miles per category will be sent to the back office as the main parameter in the fee assessment. Therefore, no detailed trip data will need to be collected by the Samsung Galaxy Phone.
- Monthly invoices will be generated that will show the fee charged based upon the aggregated miles in distinct fee categories.

Alauddin Kahn – MBUF Demonstration Trials in Nevada

The Nevada State Department of Transportation is currently conducting research into the area of vehicle mileage fees.

- The objective of the Nevada VMT Fee Study was to research mileage fees as a potential replacement for current fuel taxes and to create a sustainable and equitable transportation funding source.
- The growth in alternative fuels and the impact of increased CAFE standards is expected to lead to a total loss of 13% in State revenues by 2016.
- An emphasis must be placed on public education.
- A small field test on potential vehicle mileage fee systems is estimated to be completed by October 2011.

The scope of the study is to assess the workability of various VMT charging systems including:

- Pay at the pump;
- A one-time annual payment;
- Estimated monthly or quarterly payments with a final annual reconciliation;
- And payments through a private vendor in return for additional services, which may include more refined VMT payments and potentially lower insurance rates.

The fee assessment is based primarily on odometer readings without considering:

- Vehicle weight, type or classification;
- Local jurisdictional boundaries;
- And time period of travel.

Evaluation parameters include measures of:

- Customer satisfaction;
- Administrative costs;
- Privacy;
- And equity.

The goal of a mileage fee system would be to require no additional information beyond what is currently be required for vehicle registration and air quality compliance programs. Privacy would be protected by not storing any detailed trip information.

Other policy considerations that should be considered for a mileage fee system should assess:

- Public and political awareness;
- Transition between user fee systems (gas tax to a mileage fee);
- Interoperability with other states;
- And the role of the private sector.

John Sabala – Mileage-Based User Fee Research in Texas

The Texas Department of Transportation considered vehicle mileage fees in an exploratory study.

- A study was conducted to set up a policy foundation for vehicle mileage fees and to assess whether the State of Texas is currently ready for MBUF.
- The public lacks an understanding of transportation finance and the needs to support the system.
- Opposition is rooted primarily in issues related to privacy, cost, bureaucracy, and enforcement

The basic structure of the exploratory vehicle mileage fee study:

- Focus groups assessed public perceptions about mileage fees in five different geographic areas that varied in terms of location and population, which included:
 - Yoakum;
 - Abilene;
 - Laredo;
 - Corpus Christi;
 - And Dallas.
- Stakeholder interviews were conducted of major business groups, private organizations, and governmental agencies.
- A technology panel considered various options, implementation issues, value-added services, and the potential for public concerns to be addressed through policy and technology.
- A State DOT Peer Group was established to look at the administrative issues affecting other state agencies.

The major finding was that Texas is not ready for MBUF, at least for now. This conclusion was based on the response of study participants that:

- The current system should be fixed first,
- The belief that nothing is wrong with the system,
- A belief that MBUF cannot work,
- And a public distrust of government.

Principal recommendations from the study were:

- Public concerns can be addressed through implementing a mileage fee pilot on electric vehicles.
- Mileage fees should be implemented as a supplement to the gas tax.
- A baseline of costs should be established for supporting MBUF administratively.
- Enforcement should be addressed and specifically how to collect fees from out-of-state drivers.

A bill to consider adopting a mileage fee pilot in the Dallas-Fort Worth was left pending in committee in the Texas House of Representatives. The pilot would have tested the first 1,000 electric vehicles during a study period from January to July 2012.

SESSION 5

User Perspectives

Moderator: Ferrol Robinson, Humphrey School of Public Affairs

Speakers: [Ken Buckeye](#), Minnesota Department of Transportation
[Darrin Roth](#), American Trucking Associations
[Jill Ingrassia](#), American Automobile Association
Dave Huber, GMAC Insurance

Transportation system users represent diverse interests and perspectives on mileage-based user fees. This session focused on commercial vehicle interests as well as others who have a stake in the financial and operational health of the surface transportation system.

Ken Buckeye – State DOT Perspective of Mileage Fee Reaction from Trucking Firms

The Minnesota Department of Transportation conducted a study on distance-based truck fees

- The Minnesota Trucking Association approached Mn/DOT a year ago and asked whether a mileage fee system would benefit truckers.
- Most trucking firms believed that under a mileage fee system, they would have to pay more overall.
- Transportation costs account for approximately 40% of all freight logistics costs.
- A study is currently assessing whether mileage based pricing will help the trucking industry in the face of the user pays principle – that heavy trucks pay the direct proportional costs of the burden for damage to the system.
- Studies have shown that most categories of trucks pay less than their cost responsibility

The following industry objections were noted from the Minnesota study:

- Truckers believe they already pay too much into the system.
- The statement: “We have already paid for the Interstate and other highways.”
- The trucking industry supports a user fee system such as the fuel tax, but they do not support a weight-distance tax.
- Trucking firms believe that only passenger vehicles can adapt to fuel efficiency and vehicle improvements.
- The belief that fuel taxes work well and are more efficient to collect and administer.
- A distance-based charge would be too costly to implement, operate, and enforce.
- Privacy is a concern with monitoring vehicles and usage.

Darrin Roth – Trucking Association Perspective

The American Trucking Associations offered a highly skeptical view of vehicle mileage fees.

Trucking associations still need to be convinced that the fuel tax needs to be replaced. The following policy areas need consideration with respect to mileage fees:

- Political viability
 - The political opposition does not distinguish between vehicle mileage fees and fuel taxes.
 - Current bipartisan opposition exists from both major political parties.

- Cost effectiveness is an issue for carriers and governmental agencies.
 - A revenue neutral approach to adopting vehicle mileage fees will likely require a rate increase due to a higher share of administrative costs.
 - Carriers may be burdened by having to consider multiple charging accounts that may not be uniform in structure or be similar to other states and political jurisdictions.
- Enforcement is a concern and privacy has to be addressed.
 - Enforcement costs are estimated to be high as compared to the current fuel tax.
 - The current fuel tax has roughly 1,000 taxpayers versus a mileage system may have to process activity for 248 million registered vehicles, a number that is higher than the amount of tax returns filed in 2009.
 - Belief that technology can be defeated.
- Geographic equity has to be ensured without abuse from local jurisdictions. For example, a small municipality may have the ability to unfairly target trucks with a higher fee on certain roads. Trucks typically cross many multi-jurisdictional boundaries in a trip, and one barrier imposed by a small municipality has the potential to affect the entire trip.
- The purpose of vehicle mileage fees have to be clearly stated and understandable.

The penetration of electric vehicles and hybrids into the market will be a lot slower than estimated.

- Some studies do not project that more than 20% of total automobile share will be electric powered by 2020.
- Commercial vehicles are expected to have a slower conversion to alternative fuels, and fleets that are non-local will have an especially longer conversion time.

The fuel tax is a viable funding source for the medium term.

- In a long term view, the fuel tax will eventually have to be replaced at some point.
- The current tax rate can be increased to address more immediate uncertainties.

Jill Ingrassia – Automobile User Perspective

The American Automobile Association offered a perspective that was favorable to vehicle mileage fees, particularly on the grounds that drivers of electric vehicles do not pay a fuel tax. Various industry groups have typically supported a gas tax increase during a short-term period and want to consider a different fee system for the long-term future. AAA believes that a new vision is needed for the transportation system and is disappointed by the fact that little progress has been made.

A motorist bill of rights was adopted by AAA, where policy principles in regard to transportation finance were outlined for the implementation of any new revenue collection system.

- The level of funding should be determined only after reforms and priorities are identified. Alternatives to the gas tax should be evaluated in the ability to be efficiently implemented, accepted by the public, allocated fairly, fully dedicated to transportation needs, and be resistant to fraud and evasion.

However, there is a significant challenge in getting the public to understand the transportation funding system, which includes:

- A general mistrust with government agencies;
- The public needs to be convinced to get them to understand why a new fee system is needed
- Communication is critical to public acceptance and the associated policy goals needs to be clearly articulated. An Oregon-style pilot is a good method to let the public view the fee system

before a larger adoption is implemented. Any new system has to have the capability where users can see measurable results.

Dave Huber – User Perspective from an Insurance Provider

A representative from the automotive insurance industry offered a viewpoint that vehicle mileage fees have to have a wide appeal and be generally understood by the users of the system.

- The automotive insurance industry is primarily concerned about segmentation and pricing.
- Insurers attempt to determine who is likely to crash based on forms filled out by drivers that characterize risk.
- If insurers understand how individuals drive through the use of additional data, policies may be more aptly priced based on risk potential. However, a repository of data is not needed, only enough to make the risk model statistically significant.
- Recently, GMAC gave low mileage discounts to vehicles that are equipped with the OnStar vehicle technology package.

A framework for a usage-based system from an insurance perspective may include:

- An OBD to assess vehicle speed;
- The use of GPS data to look at detailed driving information, however, businesses may want to shy away from looking like “big brother” and scaring consumers.
- Low administrative costs that will not threaten the thin profit margins.

To an insurer, usage-based fees have to have wide appeal and be applicable to most vehicles. Both the consumer and the insurance provider must benefit under a mileage fee system.

- Vehicles of age 1996 or earlier (those without OBD-II ports) represent about 20% of all vehicles in North America
- Insurers, as businesses, do not want to surprise their customers with major changes in policies and rates.
- Insurers believe that travel information should not be shared with third-parties.
- It tough to mandate a mileage-based system, so a voluntary adoption pathway is seen as the preferred approach.
- The insurer profits when a customer chooses to have a monitoring device, has less crashes, and returns back to the company.
- Consumers are attracted to mileage-based products because it allows them to prove they deserve a lower rate due to traveling less and driving during less risky time periods.

SESSION 6

Roles of the Public and Private Sector

Moderator: Ed Regan, Wilbur Smith Associates

Speakers: Ed Regan, Wilbur Smith Associates
[Jack Opiola](#), D'Artagnan Consulting LLP
[Bern Grush](#), Bern Grush Associates

Panelists responded to a number of questions on the roles of the public and private sector in the implementation of mileage-based fees: How can private sector involvement reduce administrative costs? What can the private sector add to public sector administration? What are value-added services and is there a market for them?

Ed Regan – Mileage-Based User Fee National Toll Interoperability

The North American toll industry, through IBTTA, has set a goal for national toll interoperability by 2016.

- The goal is to have one account per user that can work everywhere in North America.
- Both electronic and video toll collection systems will be expected to work together seamlessly.

A national toll pricing system is expected to become a precursor to national road pricing.

- The expansion of tolling and pricing applications has been occurring rapidly.
- New managed lane networks have been proposed in major metropolitan areas.

Interstate tolling is being pursued as an option to bridge the transportation funding gap. Some states are pushing for the ability to toll their own highways due to decreasing support from the Federal government. In other words, the federal government paid 90% of the cost to build the Interstate system, but the States have the responsibility to rebuild and maintain the system.

Jack Opiola – Next Generation Technologies and the New Zealand User Fee System

Technology from mobile phones can enable the private sector to provide value-added services as a complement to road user charging.

- Mobile payments are already used in applications for retail stores, restaurants, parking, sporting events, and airports.
- A forecast from Frost & Sullivan predicts that by 2015, near-field communication technology will be the most used method for conducting mobile financial transactions.

New Zealand has administered a national road user charging system since 1977.

- Components of the fee assessment are:
 - The fee assessment system charges all diesel vehicles based on weight-mass and distance. Odometer readings are used in the assessment of fees for light diesel vehicles.
 - Users are able to purchase mileage in 1,000-mile blocks before travel is conducted.
 - Refunds are given for off-road use and driving on private land.
- Components of the fee computation process are:

- An on-board thick-client unit equipped with GPS and DSRC capabilities determines the location and extent of use and communicates travel data back to a central server for processing.
- Third parties were permitted to provide on-board units to users beginning in 2005, and currently, 80% of all active units are privately-made – as opposed to government-made boxes.
- Enforcement of the mileage fee is administered through a single police team of ten units that are responsible for monitoring 10,700 kilometers of highway. Four weight stations check the weight-mass attribute of the charge and the government is authorized to audit company travel records.
- Operation costs are only 3% of total gross revenue.
- A few key lessons learned from the New Zealand vehicle mileage fee system:
 - The system was able to fit user needs and requirements.
 - Tangible value was provided to the user.
 - Choices were given to the user by permitting different service plans.
 - A familiar business model was provided to the user.

Bern Grush – The Roles of the Public and Private Sectors

The public sector role under a mileage fee system:

- Government agencies are more capable of supporting “seed” money to support sustainable programs.
- Government can ensure auditing practices, standard, interoperability guidelines, protect privacy, provide equity, and grant access.

The private sector role under a mileage fee system:

- Thousands of services can be provided by the private sector.
- Customer satisfaction can be emphasized.
- The profitability of system administration processes can be maximized.

SESSION 7

Perspectives from Taxation and Revenue Agencies

Moderator: Trey Baker, Texas Transportation Institute

Speakers: Rich Prisinzano, US Department of the Treasury

Mark Muriello, Port Authority of New York and New Jersey

Panelists from tax and revenue agencies gave a brief introduction about their roles and responsibilities and responded to questions on factors to consider in designing a mileage-based fee system.

The Perspective From a Taxation Agency – Rich Prisinzano

- The process for collecting the federal gas tax used to be at the retailer level, but it moved to the refineries directly due to incidents of evasions from individual retailers.
- It is recommended to consider how the current taxation system incentivizes behavior when adopting new taxation rules. At times, the intent and goals of a proposed system may counter the existing structure. For example, alternatively fueled vehicles currently have a federal tax credit, but these vehicles would be taxed under a mileage fee system.
- Taxation policies need to be consistent.
- Finances to support fuel tax rebates are supported by the General Fund, not the Highway Trust Fund. A farmer who pays for fuel to use a tractor off-road is an example of when a tax rebate would be granted.
- An increase to the gas tax is seen as an interim solution. However, the consumer response to change in price is mostly elastic.

The Perspective from the Tolling Industry – Mark Muriello

- The leadership from the tolling industry leadership has not been keen about the concept of vehicle mileage fees.
- The toll industry should provide insight on the role of the federal government by helping to answer critical questions.
 - What should be the standards to certify technology applications?
 - What are the mechanisms to settle financial transactions across state and political boundaries?
- Price transparency is a major obstacle toward gaining public acceptance; however, road user fees have the capability to be much more transparent, with regard to explaining transportation finance, to the user.
- The public has a misunderstanding about how taxes and fees finance the transportation system by insisting a viewpoint that all roads and highways are free.
- More research needs to be conducted on equity to identify the winners and losers under a vehicle mileage fee system.
- A mileage fee solution that can allow for market choice is essential to the implementation process. For example, electronic tolling was successful because consumers chose to have transponders. Many users were incentivized to make that choice because value-added services such as reduced waiting time at toll booths and electronic tolling were incorporated.

SESSION 8

Interactive Discussion

Moderator: Ginger Goodin, Texas Transportation Institute

The interactive discussion in “conversation circle” format finished two days of panel and small group discussion. The session focused on three critical questions related to the implementation pathways that emerged from the event, with a goal of drawing conclusions and identifying the next steps forward.

At the beginning of the session, all of the participants from the conference were presented with 13 questions that addressed the issues confronting an implementation of a mileage-based user fee, if it were decided to be the right solution to finance the transportation system. The conference participants were given the ability to influence the direction of the interactive discussion by paring the original 13 questions down to three that were believed to be the most critical.

A voting instrument was used as the tool for selection process. All of the 13 questions were printed on a large poster that was placed on the wall of the conference room and each participant was given five adhesive dots to affix near the question. Each dot represented one vote and the participants were given the freedom to vote for a single question numerous times, if they pleased. After the conclusion of the sixth session, all of the votes were tallied and the questions with the three top accumulated scores were presented as discussion topics in the session.

The original 13 questions and the results from the voting tally were as follows:

Rank	Question	Votes
1	What is the most effective way to increase public acceptance?	49
2	How can development be advanced in the face of the lack of public trust in government and public ownership in the problem?	48
3	How should research, development and implementation activities at the state level be coordinated?	33
4	What is the likely implementation pathway? (National framework, state led, voluntary opt-in, etc.)	29
5	How can national, state, and local political leadership be developed?	29
6	What are the most compelling reasons to pursue? What is the problem being addressed by implementing MBUF?	24
7	Who has a stake in the development and how should stakeholders be engaged?	18
8	Where will funding come for research, testing and implementation?	14
9	Who should lead the development of privacy standards?	12
10	What will be required to produce a coherent vision?	10
11	Given the amount of research and testing that has occurred over the past decade, what is the next logical step? Are we at the point of	6

	where only large-scale implementation or trials will answer the crucial questions that remain?	
12	Who should lead the development of privacy standards?	5
13	Is it possible to develop a dual infrastructure system to implement a limited, voluntary opt-in MBUF system?	4

After a review of the voting results, the two questions with the most interest were combined into a single question due to having a similar public acceptance theme. The three topics with the highest interest were presented as the theme for the session. A discussion circle format was used as the main tool for administering the interactive discussion. Each question had an allotted time of roughly 20 minutes, whereby participants had the choice to enter a circle of chairs that were assembled in the conference room to speak on issues pertaining to a specific question. Attendees who were not sitting in the circle had to sit on the outside and were not allowed to speak. Speakers directed their response toward the moderator and could not engage in side discussions during the session. Each response had a one-minute time limit and had to pertain to the question. The participants also rotated in and out of the circle in a process to encourage involvement from all of the conference attendees.

The responses to the three main questions were as follows:

- 1) What is the most likely implementation pathway (national framework, state-led, voluntary opt-in, etc.)?
 - Congress will not consider vehicle mileage fees to finance the transportation system. Any level of involvement from the national level is not in favor at this time, and mileage fee trials are currently happening at the state level.
 - The federal government will only get involved once vehicle mileage fees are implemented in about 12 states.
 - Application of a vehicle mileage fee will not happen anytime soon, and if it does happen, it will first occur on the state level. The adoption of a mileage fee system will likely be voluntary based on a flat fee to cover 25,000 or 30,000 miles, or some other estimated mileage. Recorded vehicle mileage from a voluntary device will discount the flat fee. The fuel tax will not go away and the co-existence between the fuel tax and vehicle mileage fees will exist. Traditional gasoline-powered vehicles will not be assessed a mileage fee anytime soon.
 - The fact that the gas tax is unsustainable is an issue of national significance. The states will ultimately decide transportation finance issues. From a driver perspective, no user wants to consider at 50 different systems. A national framework is needed that will allow for a single set of accounts that can process federal, state, and local fees.
 - The states need to get money to establish a framework that can work across other jurisdictions.
 - The states will only be successful if they can engage the urban areas. The congestion pricing plan only failed in New York City because politicians in Albany vetoed the plan.
 - The Federal government will be involved to set the rules for mileage pricing. Local choice in implementing mileage fees is a possibility where a region could charge a

different rate for a different share of services. Mileage fees will not gain any traction if they are still being considered as a gas tax replacement.

- Let the states develop a framework for implementation, because the federal government does not have the magic key for implementation.
- It may be okay for the states to lead the mileage fee effort because grassroots-level involvement may be possible.
- Mileage fees will happen at the state level, but coordination needs to occur at the metropolitan or regional level.

2) How should research, development, and implementation at the state level be coordinated?

- There is a need for research to be better structured and coordinated. Projects do not necessarily answer the same questions even though they are testing similar systems.
- The implementation of mileage fees are reminiscent of the trials from when congestion pricing was originally implemented in urban areas. Many local entities will want to see research that is specific to their localities. Research projects will overlap, but that is not bad overall.
- Each state should be allowed to do what they feel is necessary. It is too early to have true coordination at the national level, but coordination is needed and would come about as the result of field trials.
- The role of the federal government is to fund research and development and to share knowledge.
- State legislators are interested in what is going on in other states, but they have their own constituencies. They are more concerned about how these issues affect their specific constituencies as opposed to the other states. Research is therefore likely to be repeated from state to state because DOTs have to take direction from their legislature.
- Our State does not have a lot of funding to support vehicle mileage fee system research. Could a pooled fund study be done to investigate wide-ranging issues?
- It will be hard not to duplicate efforts that are being done by other States. The states need to figure out how to leverage their funds to the best of their abilities. Pooled-fund research is one approach to leverage funds from multiple states.

3) What is the most effective way to increase public acceptance, especially in the face of the lack of public trust in government and public ownership in the problem?

- The public needs to be convinced that something wrong with the motor fuel tax. An evolutionary path to public acceptance should be considered. The approach used in Oregon is an example, where electric vehicles were proposed as the first vehicle class to implement a vehicle mileage fee.
- Traditional means of gaining public acceptance is not succeeding with the topic of transportation finance.
- Businesses should become involved as a stakeholder in any discussion about transportation. The business community should hear the message that the process for financing transportation is problematic.
- Elected officials are more concerned with keeping their job. The grassroots should be engaged as a means to gain public acceptance if political leaders find it convenient to

ignore the facts about the problem. The public believes they are overtaxed, but do not realize they are paying a very limited amount toward supporting the transportation system.

- Roughly 80% of transportation financing has been supported from local and state revenue streams. Therefore, those pursuing MBUF should be looking to the success of smaller scale, local initiatives. In these cases, tax increases have been achieved by illustrating what the specific benefits of the tax increase will be. The public is more than willing to support a good transportation system, but they have to know where the money is going and how it will be spent. Discussing taxes and funding with the public will only be successful if it is led with benefits. The public acceptance campaign is not a six-week effort, but rather a continuous campaign.
- Look at the role of trials in influencing public perceptions. Trials may not be the cheapest way to influence public acceptance, but they can be very effective.
- National economic competitiveness is a critical component toward raising awareness about transportation finance.
- This is the first year that mileage fees have become an issue with national political campaigns. Part of the reason why implementation is difficult is because individuals are looking for points of disagreement in a hyper-partisan environment.
- Mileage fees and transportation finance are not emotional issues to the public. People need to listen to the experts and the experts need to have a message and a target.
- When looking to gain acceptance from a state legislature, focus on the committee chairs for transportation and finance issues.
- The most salient prospect in gaining public acceptance – electric vehicles do not pay taxes beyond a registration fee.
- All politics is local and we need to focus on placing the priorities of local people first. Local officials are the ones that the public will go to with questions about this topic, not university researchers and consultants.
- Experts in the field of transportation need to develop an action plan before the grassroots-level organizations reach the politicians.
- Implementing MBUF will be hard work and it will take a long time.