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SYMPOSIUM ON MILEAGE-BASED USER FEES: TECHNOLOGY WORKSHOP

Session 4: Path Forward: Interactive Discussion and Wrap-Up

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As in previous years, the 2013 Symposium on Mileage-Based User Fees concluded with an interactive discussion circle involving symposium participants. At the start of the Symposium, participants were given three questions to consider throughout the day:

- What are the most promising technology platforms/enabling systems for delivery of mileage-based fees?
- What are the research, development and testing needs for advancing direct road use charging?
- What is the role of the ITS community in supporting the development of road use fee systems?

The following sections summarize symposium participants' responses to these discussion questions. In one instance an additional question was posed by the moderator in response to a specific comment by a participant.

What are the most promising technology platforms/enabling systems for delivery of mileage-based fees?

- The most promising technology is that which will break through the barrier of public acceptance and be the most readily adopted by the public.
- The most promising technology platform is most certainly the vehicle telematics and the "Internet of Everything" to connect everything together as discussed earlier. We could not have predicted how the Internet would disrupt traditional journalism, bypassing traditional media with technologies such as Reddit and Twitter. In the same way, we cannot predict how the Internet of Everything will disrupt how we think we will accomplish MBUFs or the funding of roads in general. The technologies we are discussing now (e.g. OBD II ports and cell phones) are really for the short term, because we don't have any idea what will be developed over time. In 20-30 years we will not even have privacy concerns.
- MBUF will not be the application that breaks through these barriers and utilizes connected vehicle technology and the IoE for significant public benefit. Applications like parking location seem to be a better fit for providing utility to drivers. Whatever that application is, it will break through the wall of unknowns that currently exist and MBUFs will then follow, along with many other technologies that have not even been predicted yet.

What is the process for mandating a system?

- We need more and more pilots.

- Leverage the experience of connected vehicles, in which an industry-government alliance defines the data to be conveyed, and a governing body (NHTSA in the case of CV systems) mandates the technology according to the standards.
- Oregon’s approach of offering customer choice, allowing control in the hands of the user is maybe not the best approach, because they saw problems with technology in cell phones. Perhaps it is best to mandate a technology, similar to NHTSA considering mandate for connected vehicles technology.
- Telematics is the way things are going. The Oregon pilot did not mandate technologies, but rather worked to define data that needed to be exchanged between the car and the back office systems. More research is needed to clarify what data is needed for MBUF implementation, and then we should let the market develop the technologies to supply the solutions. The technology will evolve over time.
- Over time, people will be willing to provide information to the system, but not initially. The industry must move methodically and incrementally so that people will gradually adjust and the process will not burden existing systems such as the DMV.
- Implementation must occur gradually alongside the fuel tax. The electric car market will continue to grow but it will do so slowly. The basic MBUF architecture must be set up so that it can grow with time; that is, implementation should start with urban areas and should not include pricing options initially.
- Some policy makers oppose studying MBUF, and MBUFA has done a great job of advancing the idea, but funding could be shut down for studying at any time, so advancement on this topic should occur carefully and slowly.
- The transportation industry needs to define the MBUF specific issues very clearly in concert with the developing needs of DMVs, the insurance industry and the tolling industry in order to solve all of these issues together. Develop open standards and facilitate a business climate where technology can develop. This is not what happened in the tolling industry. In that case, vendors had specific, proprietary products that stopped development for many years.
- Local officials are going to be focused on long term planning and may tend to be agnostic about technology. They will need help in developing a vision of where transportation technologies are headed, but the transportation and technology industries have not yet come together to decide what that advancement looks like.
- MBUF is not an immediate fix to the transportation funding problem. Fuel taxes can be raised or other short-term mechanisms can be used but those decisions need to be left to the policy makers. When the transportation industry starts promoting MBUF as an immediate solution it hurts the cause. Long range plans have to be fiscally constrained, and federal authorities will not agree that MBUF is a fiscally constrained solution. Locals will have to come up with their solutions that will work as temporary solutions.
- Oregon’s experience was to engage industry and let them offer solutions. This is the only approach that will succeed in the long run. Two presentations today are indicators of the exploding market activity: Cisco’s monetizing of data and GM’s vehicle technologies.

- Look at the experience of how local area networks (LANs) developed. At first, LANs were proprietary and protocols and standards were not established. The market and developers came up with one standard and proprietary networks disappeared. We need to allow the market to better develop the needed protocols quicker and faster.
- There may not be enough time for the slow, methodical approach to implementation over 10-15 years. The impending crisis of the Highway Trust Fund will require other solutions much faster than that. Crisis spurs innovation.
- It's all about the political will in your state, and may not take that long to initiate implementation that could develop into more over time.
- From a county and rural agency perspective, rural counties are grinding up paved roads and returning them to gravel. It's an indicator of how bad things are. Perhaps a simple odometer reading mechanism could be introduced just to get the situation addressed, and more advanced technologies could develop over time. We need something sooner rather than later.
- MBUF systems need technology options that are transparent and require no work on the part of the driver.
- There should be no mandate for standards on how to get the data out of the car. Let the market compete for that. Standards are needed for the back end, how the agency gets the data and the money from the technology providers.
- Slow doesn't have to mean 10 years. Slow means getting people comfortable with the concept of VMT. If people can accept it in two years, we can implement faster. But we cannot force it on the people. Possibly the availability of all this rapidly developing technology in connected and automated vehicles will speed up acceptance.

What are the research, development and testing needs for advancing direct road use charging?

- There is a need to develop policy regarding what MBUF revenue is to be spent on, so that any new revenues would go only for uses related to transportation.
- People don't like change, and there is a need to address the psychological aspects of MBUF.
- MBUF will break through by attaching to some other technology, but we don't know what that is. To better understand this, we should do research on user expectations to find out how people are going to use the technologies that are currently being developed.
- States need funding; the federal government does not have the large amounts we need; a little money from many different sources at the state and local level can add up to a significant amount.
- More pilots are needed, particularly pilots in new states and demonstrations that showcase the concept on a broad, multi-state scale. Until a large functional model is shown to the public and policy makers, they will not understand the value of MBUF. Until a federal program of studies can be developed, states have to do it on their own.
- MBUFA website is striving to be a place where you can see everything that's going on around the nation.
- Focus groups are needed. Polling is too blunt for this complicated issue.

- Regarding privacy, some people want to say that the public is already being tracked on their cell phones, so they will be accepting of MBUF tracking. But there is a major difference between voluntary participation in tracking by a private company where you have recourse in the law and tracking done by the government, where the public cannot control their participation and have no access to the information and no recourse.
- There is a need for a pilot proving how interstate miles can be charged.
- More research should be done on charging according to engine runtime. This method might encourage better trip planning.
- The fuel tax, which is now a true emissions fee, will likely never be replaced. In spite of its issues in handling cars that use little or no fuel, it is still a very effective revenue source.
- If a national MBUF system is implemented then DMVs should be central to administering it as they have an existing one-to-one relationship with vehicle owners. DMV systems such as vehicle registration fees or state inspections could be modified to include assessing and collecting an MBUF.
- There is a need for more research to better understand what connection MBUF has to people's broader life decisions and land use decisions. Suggest partnering in the future for this meeting with Urban Land Institute or AMBO.

What is the role of the ITS community in supporting the development of road use fee systems?

- ITS America has published a position statement; they want to continue to be involved.
- A major issue will be dealing with opposition from the automobile industry and from drivers of high-mileage vehicles. We should seek productive interactions with auto makers since telematics is so important to this discussion.
- There needs to be a TRB ITS subcommittee on MBUF.
- Japan does not have MBUF, they use tolled highways throughout Japan to pay for infrastructure development, but local governments are responsible for maintenance fees. ITS Japan members are here to see how MBUF might help with system maintenance in Japan.
- When we have MBUF in the future, we need a two-way exchange of information so that the driver can receive information on the road pricing on every part of the network in order to make informed route decisions,