

Demonstration Projects

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Panel: **PAUL HANLEY**, *University of Iowa*

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BERN GRUSH, *Skymeter Corp.*

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[University of Iowa National Evaluation of a Mileage-Based Road User Charge](#)

Paul Hanley: I am going to discuss the preliminary findings of the first year of the University of Iowa's National Evaluation of a Mileage-based Road User Charge Project. The basic approach was to have area-wide pricing based on miles travelled within jurisdictions. The on-board unit was the Prism III. The on-board unit would calculate total miles and would send that information to a billing and dispersal center which then sends invoices to participants. The participant cities were selected based on demographics and exposure to electronic tolling. The cities in the trial were San Diego, Boise, Austin, Eastern Iowa, Research Triangle, and Baltimore. 1,207 participants enrolled and 1,152 completed the study.

A general finding from the study was that people switched their perspectives on MBUF in both directions after participating in the study. The study gauged privacy versus audit ability by varying the information provided on the invoice. Participants generally preferred audit ability. People switching preferences in the extreme indicate that during implementation folks will need to be given the opportunity to change their preferences after initial enrollment.

The study is now in its second phase with new participant areas (Billings, Albuquerque, Wichita, Chicago, Portland, ME, and Miami)

Audience Questions

Could you explain how you designed the privacy/audit ability tradeoff experiment?

Hanley- We had a series of questions in our questionnaire addressing the topic.

Would it be useful to talk to telephone companies who are experienced in providing numerous payment and billing options?

Hanley – We have encountered a lot of variety in the data that people want to have access to. We need to have options available for users.

Enabling Near-Term Nationwide Implementation of Distance Based Road User Fees

Max Donath: I am going to talk about technology rather than policy. GPS does not mean “tracking” however this has been confused by the public and media.

Since 1996 all passenger car models have been equipped with an OBD-II data link connector. Devices can be connected to the OBD-II data link connector. We have come up with the idea of using an inexpensive cellular modem. Every cellular base station has a unique ID that can be used to determine zones. Almost every cellular modem can pick up multiple cell towers simultaneously. This device could work in “Urban Canyons”. The device has a low resolution which from a privacy standpoint means that you cannot capture exact location.

Audience Questions

Does your device have to be professionally installed?

Donath- Yes. It would be professionally installed because whoever installs it should take a reading of the odometer so as to compare with the “virtual” odometer in the onboard unit. This could be done by any number of providers that are accredited by the state or policy enforcing agency.

Satellite Metering for Roads, Parking and Insurance

Bern Grush: I want to make some comments about costs before speaking about a trial. I am not in favor of more trials. Pilots have been very expensive: approximately \$6,350 per participant. We need to be doing policy trials on the back of private enterprise. We need government to spend money not on volunteers but rather on providers like Cisco, Alcatel, Lucent and IBM to build the networks and systems that will allow for market corrections.

I have some remarks on the Winnipeg system: Permission was granted by the Winnipeg government to put the system in vehicles so long as the revenue was remitted appropriately. There were “enormous” benefits to both the municipality as well as system users.

VMT pilot studies: What should drive them?

Scott Wilson: We are talking about a platform for accomplishing many things, namely having integrated infrastructure with intelligent vehicles. The key issues are:

- Objectives and goals must be clear – you have to know what you are trying to do
- End to end system design and business rules
- Open Architecture

Policies can conflict, but if you know the core objective you can move beyond these conflicts. Customer service is something that implementing agencies can get hung up on and get wrong but it is a critical aspect of the system. If you don't have a robust enforcement that is viewed as fair then the system will “fall over.”

Audience Questions

How do you think demonstrations fit into the implementation process?

Hanley – It is important to have an educational outreach effort. We have tested our participants on their knowledge of the fuel tax and financing and nobody knew anything about it. There also needs to be education on technology but a lot of this boils down to distrust of government and not liking taxes.

Grush – Let the market do the education. If we put the technology out there some people will eventually see value in it.

What is in it for commercial carriers from adoption of such a system?

Wilson – Elimination of diesel tax was one of the motivations behind supporting one of the systems I worked on. Another was to allow for heavier vehicles to be allowed to get onto more routes, which decreased compliance costs. It also allows for agencies to show that revenues are being directed to projects that benefit users of the system.

You gave lots of compelling examples but what is the market incentive that will bring people into the system other than charging less which will, in turn, reduce revenue?

Grush – You need a basket of incentives to offset the pain of paying a MBUF. PAYD could be one.

Would there be requirements with regards to these systems for MBUF to be included or supported as part of the deployment?

Grush – Protections for the vendor would eventually need to be removed allowing the system to operate within a free market, but getting the units in the vehicle provides a platform for the US government to build a larger pricing system.

If I understand Bern correctly there will always be people who will not opt into the system and we should not agonize over them. That issue will take care of itself.

Grush– Things are not going to look as they do now in a few years. Do you really think that we will be driving autos fueled by gasoline in 400 years?