

Minnesota Distance Based Fee Technical Advisory Committee (TAC) Meeting

1:30- 3:00 pm

09/03/2020

Zoom

Convene: 1:37 pm

Adjourn: 3:08 pm

List of attendees:

TAC Members:

Nick Thompson, Met Council
Margaret Donahue, Transportation Alliance
Paul Weinberger, MNIT
Bill Dossett, Shared Mobility
Emily Murray, Assoc. of MN Counties
Scott Peterson, TAC Chair, MnDOT
Shawn Kremer, (for Elizabeth Connor) MMB
Tony Anderson, DPS
Russ Stark, City of St. Paul
Kathleen Mayell, City of Minneapolis
Glen Kleven

Core Team Members:

MnDOT

Ken Buckeye
Chris Berrens
Serge Phillips
Jeanne Aamodt
Erik Rudeen
Tim Sexton
Lynda Chao

University of Minnesota

Lee Munnich
Frank Douma
Meredith Benesh
Joe Loveland
Jerry Zhao
Adeel Lari

Raihana Zeerak

WSP

Mike Warren

Markell Moffett

David Ungemah

Carrie Pourvahidi

Jim McCarthy, FHWA

Welcome- Scott Peterson

- Thank you for your participation, being on the TAC, and your contributions and willingness to help us make progress on this interesting, but so far difficult policy. Thanks to the Humphrey School for hosting the meeting.
- If you have any changes or corrections you would like to make to the minutes, please send them to Ken, otherwise, we consider them approved.

Zoom Meeting Guidelines, Lee Munnich

Agenda Review and Project Update– Ken Buckeye

- Our new DBF website is ready for launch, an announcement will be out shortly
- The first meeting provided high-level information, in this meeting we will drill down to more policy areas and expose some challenging questions that have come up
- We are in the 6th month of the demonstration and it is going well despite the COVID-19 challenges
- This project was built on assumptions such as uncertainty and disruptions in transportation, the conversions of C/AVs and shared mobility will accelerate, future vehicles will come factory equipped with technology, MFT must remain in place for the foreseeable future
- Two major components of this project:
 - Technical feasibility- we are partnering with SM and C/AV providers
 - Policy framework that supports the DBF program
- Purpose of this project: to test and confirm that DBFs can be efficiently and effectively collected using embedded telematics on SM fleets and AVs. The project intends to validate or invalidate the ability of DBFs dimensions such as equity, privacy, ease of payment, collection costs, and reduction of emissions and scalability.
- Charge to TAC: provide advice to the project team, be an informed constituency, and help ensure the project contributes to state and national research efforts

Scope- Chris Berrens

- At the core of this pilot project is testing DBFs with SM and C/AVs.

- There are numerous considerations that need to be evaluated. The UMN has developed policy memos on some of these issues
- Out of scope: vehicle registration fees, sales tax, other transportation revenue pieces.
 - We are focusing our discussion around comparison with MFT
 - Congestion pricing is out of scope for now
- How DBFs could function over time: In the near term, incentives or policy considerations (social, environmental) could be provided to get DBFs off the ground
 - Near term policy needs: one of the goals is to increase the use of EVs to address climate change
 - We also have medium and long term solvency issues with the highway trust fund
- Any type of mechanism that would look to increase revenue in the medium or long term, it would ensure that an applicable additional levy was provided to the gas tax
- Question from Nick Thompson: Are you saying you are addressing the solvency with either the gas tax or the DBF?
 - The gas tax is highly efficient and should not be necessarily removed, so where a DBF can serve where a gas tax might come short- and one of the areas we considered is shared fleets as a natural starting point- taking an incremental approach to look where a DBF makes sense and apply it there and where gas tax works well and continue to use it there- they both can function in a transportation environment

Demonstration Update- Mike Warren

- We have just wrapped up stage one of the demo. These stages are crawl, walk and run
 - The crawl stage: providers collect data, WSP creates reports, and submit to MnDOT and DOR
 - Walk: providers create their own reports, WSP evaluates and sends to state
 - Run: providers create reports and submit to the state directly- we will be working with DOR to audit
- After phase 3, the WSP team will develop a final report, analyze results, lessons learned, policy considerations, technical considerations, evaluation criteria, and submit to the state
- We have assessed over 180K VMT, over 6K total fuel purchase, average MPG over 30.
 - Working with two SM providers- one local to Twin Cities and the other is a national provider
 - Total 61 vehicles have participated with 55 active vehicles on average over this period
- Gross DBF (assuming a revenue-neutral rate) would be close to \$5K, crediting state and federal gas taxes to avoid double charging, total net DBF would be a little over \$2K
 - All are theoretical and based on hypothetical rates- no real exchange of money is happening
- We are doing six tests with C/AV provider- state border crossing, lane differentiation, occupancy detection, and congestion. Two more tests to be determined
 - State border crossing test already happened- we are evaluating the data at this point

- Simulated revenue report- WSP created this and sent to DOR- in the next stage providers are creating this on their own, WSP will do the quality check and submit to the state
 - This is submitted on a monthly basis- then we are working with DOR to conduct a mock audit based on this data and trace it back to the collection point
- SM providers are about to start creating their own reports. These will be sent to the state after WSP reviews them.
 - A mock audit will be conducted to ensure data integrity
- Demonstration will be completed by the end of March 2021, a final report will be produced

Taxation Principles- Jerry Zhao

- Different aspects about tax: types, level of government, base and rationale (revenue generation, offsetting costs, and regulating behavior)
 - We are not talking about replacing the federal MFT
 - We are not talking about local transportation-related taxes either
 - Our focus is on transportation tax on usage
- Tax evaluation framework: the set of criteria typically used in evaluating a governmental revenue
 - Efficiency: the extent to which a tax may affect the economy (hopefully not harmful)
 - Equity: fairness of the tax- two principles: benefit-received and ability to pay
 - Adequacy: revenue-raising capacity and sustainability
 - Feasibility: political and administrative feasibility
- Efficiency: taxes that lead to less behavior change are more efficient, high taxes may be harmful to the economy
 - Excess behavior also may be costly to society
 - Demand and supply-side: current MFT might be efficient as they are considered to be charged for the use of the road, but research shows that the price level is not sufficient costing both in road damage and societal costs
- Equity: fairness
 - Benefit-received principle: commonly applied to user fees, taxes directly related to usage- applicable to MFT and DBFs
 - MFT's fairness is limited; and MFT is increasingly below the actual rate of road usage
 - Ability to pay: tying contribution to income- whether a tax is progressive or regressive- most taxes are regressive, MFT and DBF are regressive, but MFT is becoming increasingly regressive as high-income earners are more likely to have new cars with higher fuel efficiency.
- Adequacy: revenue-raising capacity has to do more with the tax base and rate
 - MFT tax base used to be large and stable, but is shrinking and is no longer stable
 - Sustainability: sales tax has the capacity to catch up with income, but MFT does not have that capacity as it is fixed by the volume unless it is indexed to inflation

- The other aspect is that people are moving away from this tax base- in the future the rate of mobility relying on fuel will be much lower
- Feasibility: political and administrative
 - Political feasibility: sensitivity to political agenda and public opinion
 - MFT's political feasibility is not that high, it is very hard to raise the rate, however the feasibility is slightly lower
 - Administrative feasibility: cost and burden of collection to DOR and DOT, compliance costs for the public
 - MFT has been easy for the government as well as the public
- Summary:
 - MFT is moderate in terms of efficiency, but it is going down
 - MFT is moderate in terms of equity as well, but the gap is becoming wider and becoming increasingly regressive
 - MFT is moderate in terms of adequacy at its current rate, but in the long-run it is really weak
 - MFT's political feasibility is weak, but administrative feasibility is really strong
 - The DBFs have the potential to be highly efficient, to be equitable in terms of actual usage, but will be regressive. Additional considerations (such as credits, discounts) could be taken to adjust that. In terms of adequacy, it has better potential, in the long-run, to catch up with increased transportation and environmental demand. Political and administrative feasibility are two key questions about DBF that we are trying to learn from the demo and other examples. DBF's biggest weakness is currently its administrative feasibility.
 - Question from Nick Thompson: Can you explain why you think DBF is strong in the benefit received principle?
 - Answer: MFT used to do quite well for paying for road usage, but not anymore. A DBF would be directly connected to road usage, so it has a better connection than MFT
 - Follow-up from Nick Thompson: How about from an income standpoint? If lower-income people have to travel more?
 - Answer: This has to do with the ability to pay principle. In the design, equity adjustments could be incorporated to address this, which is a policy discussion. There are certainly ways to adjust that
 - Nick Thompson: probably a better way than with the MFT, which doesn't have such adjustments

Policy Considerations in developing a rate-setting framework- Frank Douma

- Rate setting involves implicit policy choices that result in some people paying more while others paying less, but data will be needed to understand that
- Since that data is not available to help set a rate that reflects those policy choices, so we are hoping to engage the TAC in these discussions
- Five different lenses- over the coming TAC meetings each will be discussed- and then have a more holistic discussion
 - Modal equity will be discussed today

- Other lenses for future discussion: social equity, collection methods and administrative costs, privacy, urban and rural distinctions

Modal Equity Policy Brief Discussion- Meredith Benesh

- Costs imposed by different modes of transportation system (both direct and indirect) vs. contributions (MFT and registration fees for EVs) made by each mode to cover these costs
 - A lot of research explore costs and contributions, but not much research compare them to assess the net outcome
- Individual mobility: Research finds that heavier vehicles impose higher costs, however whether they contribute correspondingly is unclear
 - there are other factors also that affect the costs they impose on the system
- EVs:
 - Evs and ICE impose comparable road damage costs, but EVs impose lower environmental costs compared to ICE- however, that also depends on the method used to generate electricity
 - The cost of production, disposal, etc should also be considered
 - EVs contribute less than ICE in terms of MFT
- Transit: transit vehicles impose higher costs, but lower on a per passenger basis
 - Transit underpays for the costs it imposes due to exemption from MFT payment in most states and being heavily subsidized (due to their potential to reduce indirect costs)
 - Question from Nick Thompson: Transit is not paying MFT, but riders are paying fare.
 - Answer: we will discuss this later in the discussion section
 - Per passenger costs and contributions: the graph is a visual representation, does not represent actual quantities
 - EVs and sedans impose relatively comparable road costs, but EVs impose lower environmental costs
 - Diesel buses, lower road costs and environmental costs
 - Heavier vehicles produce high road and environmental costs
 - Diesel buses make the lowest contributions per passenger, EVs contribute less than ICE
- SM: ridesourcing services and car-sharing
 - Ridesourcing services: increase VMT and GHG emissions
 - Car-sharing services: Unclear impact on VMT (but depends on type of car-sharing)- and decrease GHG emissions
 - C/AV: unclear impact on road damage and decrease GHG emissions

Discussion Questions- Jerry Zhao

- Is the current registration fee of \$75 on EVs appropriate to cover the costs they impose on the roadway system?

- Should all vehicles pay the same for the use of our roadway system regardless of their powertrain?
- Should EVs pay a discounted fee due to their environmental benefits?
- Should ICE vehicles pay an additional surcharge for their environmental costs?
- How to account for different vehicle categories and the road damage they impose on the transportation system?
- How should we think about funding the roadway system considering a future with autonomous and connected vehicles?

Open Discussion

- Frank Douma: Tim Sexton and Russ Stark contributed some comments in the chat addition to Nick's initial question
- Chris Berrens: I think these are really good points about the moving baseline - as we think about this as medium and long term revenue strategy, we should also think about medium and long term shifts in environmental footprint
- Ken Buckeye: Question from Tim, "Do you also include lifecycle of ICE vehicles?"
 - Answer: According to the literature the manufacturing impact of battery electric vehicles (BEVs) is higher with respect to that of ICE vehicles due to the high contribution from the production of battery and electric motor as well as other powertrain components which present a high content of aluminum. EVs appear to involve higher life cycle impacts than ICEs for acidification, human toxicity, particulate matter, photochemical ozone formation and resource depletion. This greater load in the production of BEV is largely compensated by the lower use stage impact, which leads to a 36 percent reduction of total life cycle impact with respect to ICEs. The reason for this is the absence of exhaust emissions during operations as well as the lower environmental burdens involved in the production of electricity compared to the fuel supply chain.
BEVs have the potential to reduce the impact on climate change in comparison with ICEs, but this is true only if the electricity consumed by car is produced from non-fossil energy sources. On the contrary the use of fossil energy carriers for electricity production can strongly reduce the environmental benefit of BEVs and even lead to an increase in GHG emissions.
- Bill Dossett: as we are talking about the need in some cases to make equity adjustments, that is a good thing to make equity adjustments, that should be a plus, not a bad thing.
 - Ken Buckeye: that is good advice and we are taking that into consideration when developing a rate setting framework, but there is more the story that will be discussed in future meetings
 - Chris Berrens: the UMN team are laying out the process for a detailed discussion here and the first of these policy briefings was shared- each will be discussed in isolation and then together
- Margaret Donahoe brought about two points: First, on the weight comparison, people shouldn't have to worry about the weight difference between a van and a sedan because the difference is marginal. Your chart doesn't seem to capture the difference between

really heavy trucks and all passenger vehicles. Second, the EV fee, the discussion in the legislature was never about whether the fee would equal the amount of damage they impose on the system. The conversation has been more about how to replace MFT with DBF because they are not paying MFT.

- Ken Buckeye: thank you for that, some states are moving towards replacing that surcharge with a DBF
- 2nd TAC survey link out today
- Send questions and comments to Ken
- TAC can also submit comments and questions in the survey and can request that we get back to them
- The next meeting will be in December

Questions from the chat box:

- From Russ Stark, St. Paul: I would add that maintaining a gas tax is good climate policy in that it functions, in small part, as a carbon tax.
- From Margaret Donahoe: There are plenty of polls showing that MBUF is less popular than fuel tax increases. All of the judgements of these principles depend on exactly how a MBUF is implemented and what the rate of the tax is. Any of the drawbacks can be mitigated with any tax or fee. A rebate for lower-income people can be implemented with both a MBUF and the fuel tax.
- From Tim Sexton (MN): Do you also include lifecycle of ICE vehicles?
- From Tim Sexton (MN): Or future tailpipe EV emissions given formal plans from MN utilities to reduce coal and increase low carbon electricity production (renewables/nuclear)? EVs will continue to get cleaner as utilities decarbonize.
- From Russ Stark, St. Paul: Xcel's fuel mix is currently about 50% carbon free, will be 80% carbon free in 2030. Recent estimates suggest that true carbon emissions of the use of a gallon of gas are 30-40% higher than previously estimated because of leaks and losses in the supply chain and the energy required for extraction.
- From Russ Stark, St. Paul: My comment was about powertrains and who pays/who benefits, but can wait until next time.

Adjourn