Prospects for Mileage-Based User Fee Systems to Replace Fuel Taxes for Passenger Vehicles

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Project Overview

- Studying the data flows needed and available to further enable deployment of mileage-based fees in PA and other states
  - Data Analytics
  - Economics
  - Policy Analysis

- Summarizing two papers submitted to 2021 TRB Conference

- Partners – CompuSpections, DataDrivenIM, Azuga, MBUFA

Introduction

- Gas taxes have been primary funding source for transportation at the federal and state levels since beginning
  - Federal funds augment state funds
  - But federal gas tax rate hasn't increased since 1990s
  - Inflation has eroded value of federal share, caused states to have to increase rates
  - Hybrid/electric/high fuel economy vehicles pay far less

- Transition from "pay by gallon" to "pay by mile"

Existing Transportation Funding Issues

- State ‘transportation’ expenditures complex
  - Funds construction, maintenance, administration, police, etc.
  - Mix of state and federal funds, including gas taxes

- Replacing all gas tax revenues with MBUFs would still not be enough to pay for all expenses
  - But this complexity is often overlooked
  - And would lead to insufficient funding coverage

What are Mileage-Based User Fees (a.k.a. Road User Charges)?

- A direct way of charging vehicles for use of transportation
- Requires: technology to track mileage (and maybe location), account for gas taxes paid, and a pre-set per-mile fee structure
- Various states have done MBUF/RUC pilot programs
  - Technology is here and can work to assess and collect fees
  - “Double charging” gas taxes is key financial challenge
  - Several states have moved from pilot to program

Findings about Fee Structures

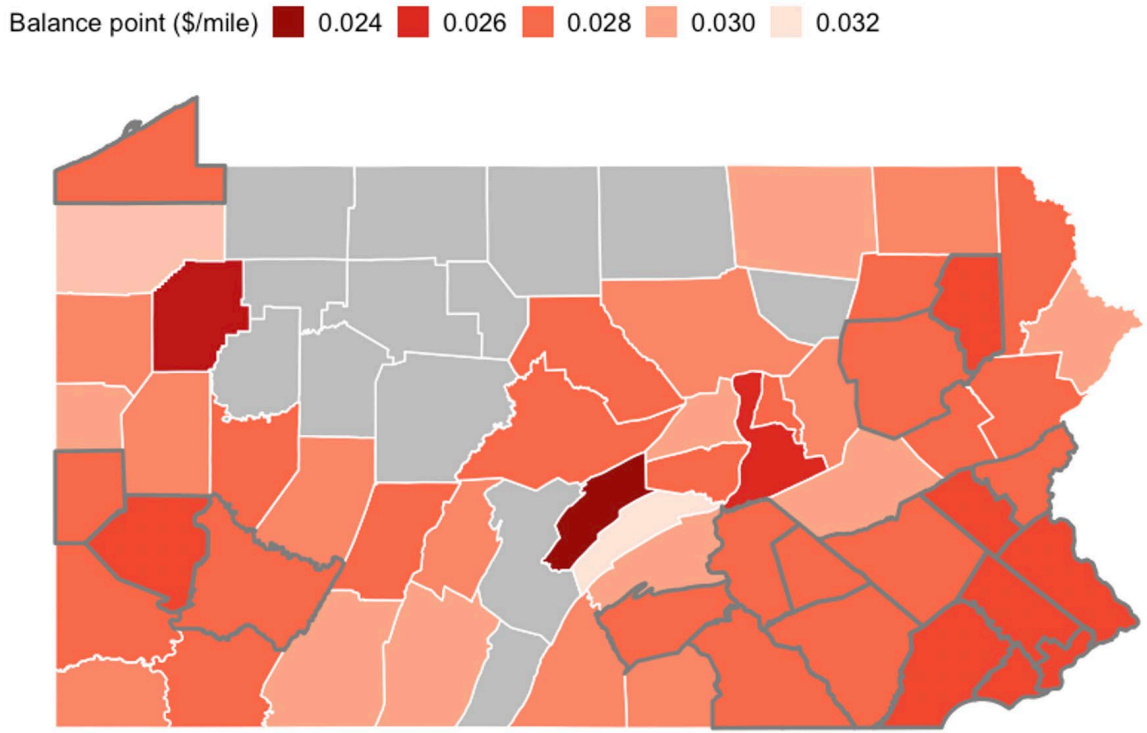
- Setting fee rates appears straightforward, is complicated by diversions of disbursements to other areas (e.g., police)
  - Seems likely states would *undercollect* fees

- Federal data collected appears inconsistent and not helpful

- Fee structures *could* be intentionally complex
  - Example: rates could differ by fuel type, weight, road, ..
  - But existing data flows on highway use might not be sufficient to predict total fees collected (vs. gas tax rate)

Pennsylvania Examples Using Inspection Records and Algorithms

- Direct conversion of gas tax to MBUF should be ~ 2.5-3 cents/mile



But federal DOT data suggests that PA spends 7-10 cents per mile traveled!

Expected Continuing Outcomes

- Further Data analysis, report, spreadsheet model
- Will demonstrate technical feasibility of existing data flows to enable mileage-based fees in PA and other states
- Interested in finding deployment partner(s) for a pilot to apply our findings in PA or elsewhere!