

MINNESOTA

<https://dbf.dot.state.mn.us/pilot>

Pilot Description

Pilot 1: MnDOT and FHWA co-sponsored a pay-as-you-drive (PAYD) demonstration and public opinion study to explore the impacts of PAYD insurance and a distance-based fee and changes in driving behavior. 130 households participated in the demonstration, and over 500 respondents participated in a survey.

Pilot 2: The pilot consisted of 500 participants, equipped with an in-vehicle system, primarily a smartphone using an application capable of tracking participant vehicle trips. The goals of the pilot were to examine the implementation and operation of a mileage-based user fee program and assess the feasibility of using consumer devices for implementing connected vehicle and RUC applications.

Pilot 3: The pilot tested the feasibility of assessing a user-based fee on Shared Mobility (SM) vehicle fleets. The demonstration intended to confirm that distance-based user fees can be efficiently and effectively collected using vehicle technology already embedded in shared mobility fleet vehicles. This pilot also included testing RUC data collection and lane differentiation capabilities from a connected/automated vehicle.

Pilot 4: This pilot will test the scalability of using embedded telematics systems directly sourced from automobile manufacturers for the purposes of computing distance-based fees. The goal is to do this at the individual vehicle level.



PILOT DATE

Pilot 1: 2004-2006

Pilot 2: Sep. 2011-Oct. 2012

Pilot 3: Apr. 2020-Mar. 2021

Pilot 4: TBD

PILOT SIZE

Pilot 1: 130 participants

Pilot 2: 500 participants

Pilot 3: 64 SM fleet vehicles,
1 connected/automated
vehicle

Pilot 4: TBD



Technology Explored or Demonstrated

- GPS-equipped smartphone to collect travel data and assess the reliability of a road use fee
- Real-time traffic alerts, accident notifications, and road hazards to enhance driver safety
- Telematics, Fleet-based shared mobility services with 2 providers
- Aftermarket connected/automated vehicle technology



Account Manager(s)

Private third-party account managers for data collection, processing, invoicing, and customer service



Next Steps

Test the scalability of using embedded telematics systems directly sourced from automobile manufacturers for the purposes of computing distance-based fees

Additional Program Information

Commercial Vehicles: NA

Electric Vehicles: EVs included among other vehicle types in pilot

Consultant/Vendor Support: WSP, Battelle Transportation, VSI, Zipcar, HOURCAR, Dieringer Research Group, Inc., Cambridge Systematics, GeoStats, MarketLine Research. University of Minnesota also partnered with MnDOT on these efforts.

Lessons Learned:

- Efficient communication about a program to the public and stakeholders is needed for successful implementation
- Development and implementation of a RUC program will be challenging without involvement from neighboring states
- Fleet-based approaches to SM RUC may reduce administrative costs and improve compliance while reducing enforcement costs
- A RUC on SM providers' vehicle fleet is a cost-effective model that would likely have lower administrative costs than a traditional RUC reliant on aftermarket device

Phasing and Highlights

