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National Evaluation of a Mileage- Based Road User Charge

Public Policy Center
University of Iowa

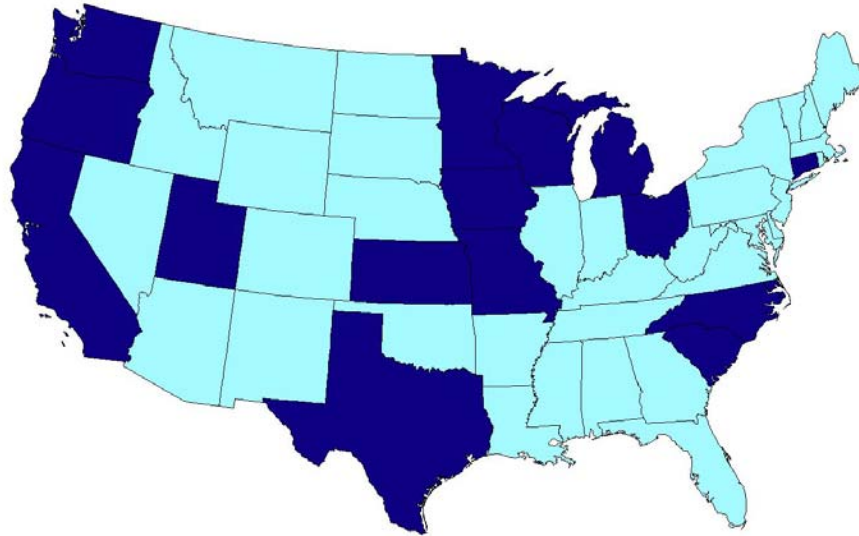


Policy issues being addressed

- Fair and stable revenue source
- Price road use to reflect actual costs

Origins of the current study

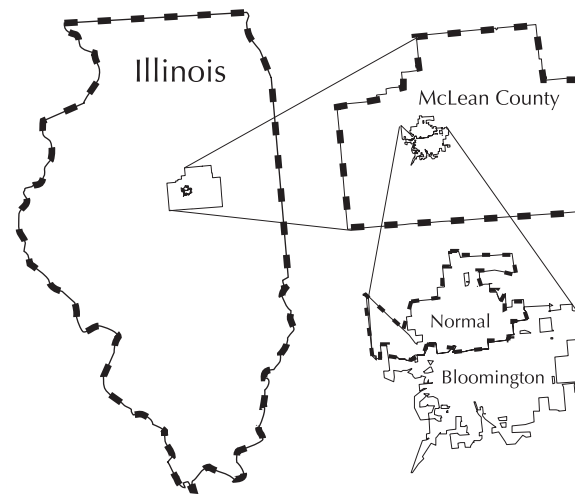
- 3-year study ended in 2002
- Funded by the FHWA and 15 state DOTs



- Developed conceptual framework for a mileage-based road use charge

Basic Approach

- Area-wide pricing based on miles traveled within jurisdictions



Participants

- Six Locations



- Two-year field test with 240 participants per year per site
- Total 2,880 participants



Participant Profile

■ Demographics

- Age
- Gender
- Education Level

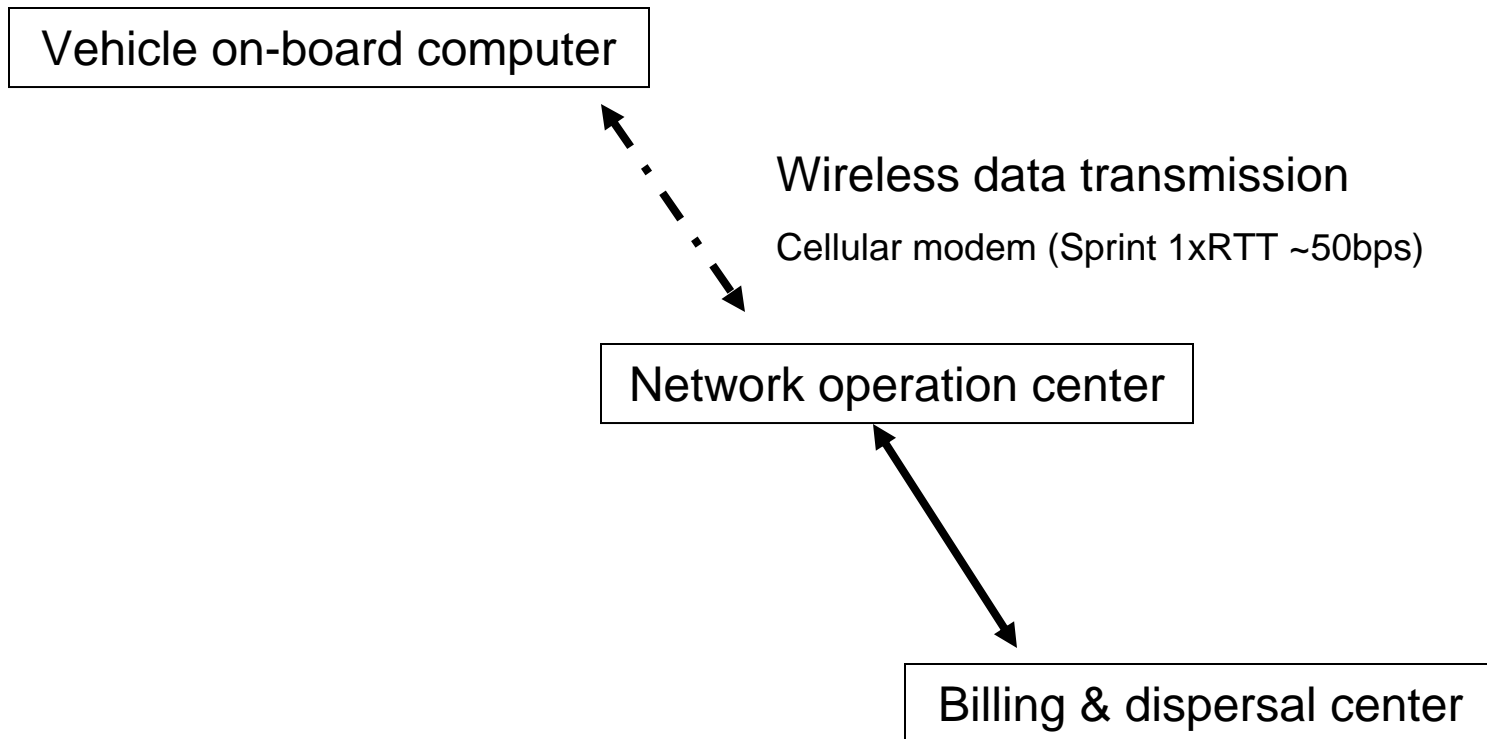
■ Driving Behavior

- Annual miles driven
- Commute length
- Vehicle Type

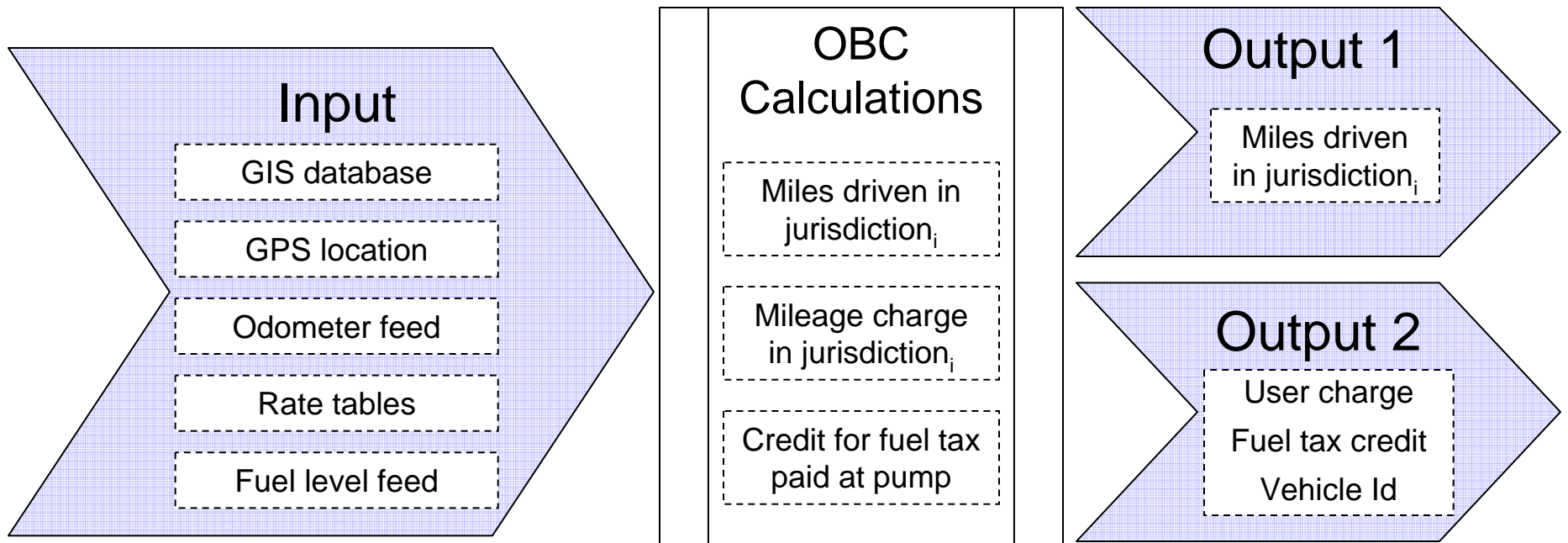
■ Attitudes

- Confidence in government
- Importance of personal privacy
- Level of road finance

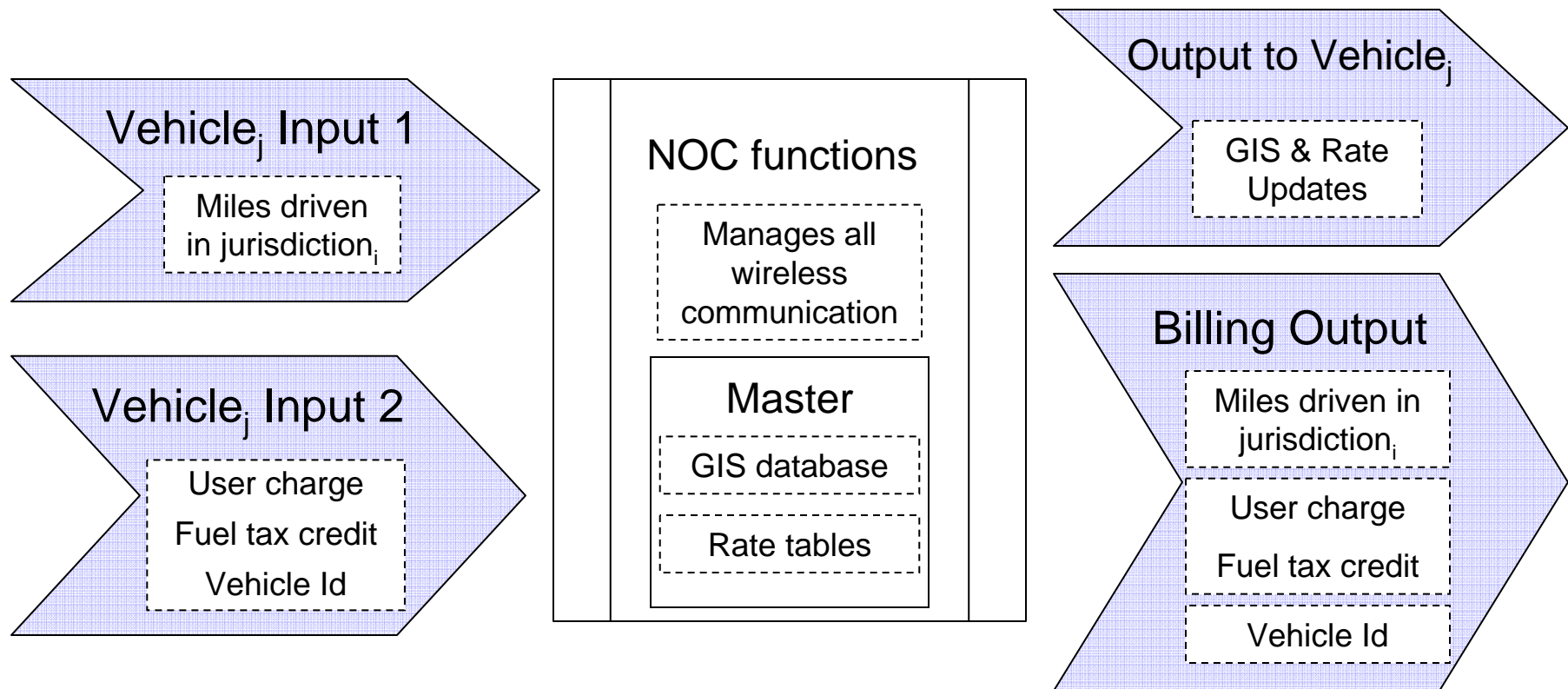
System Overview



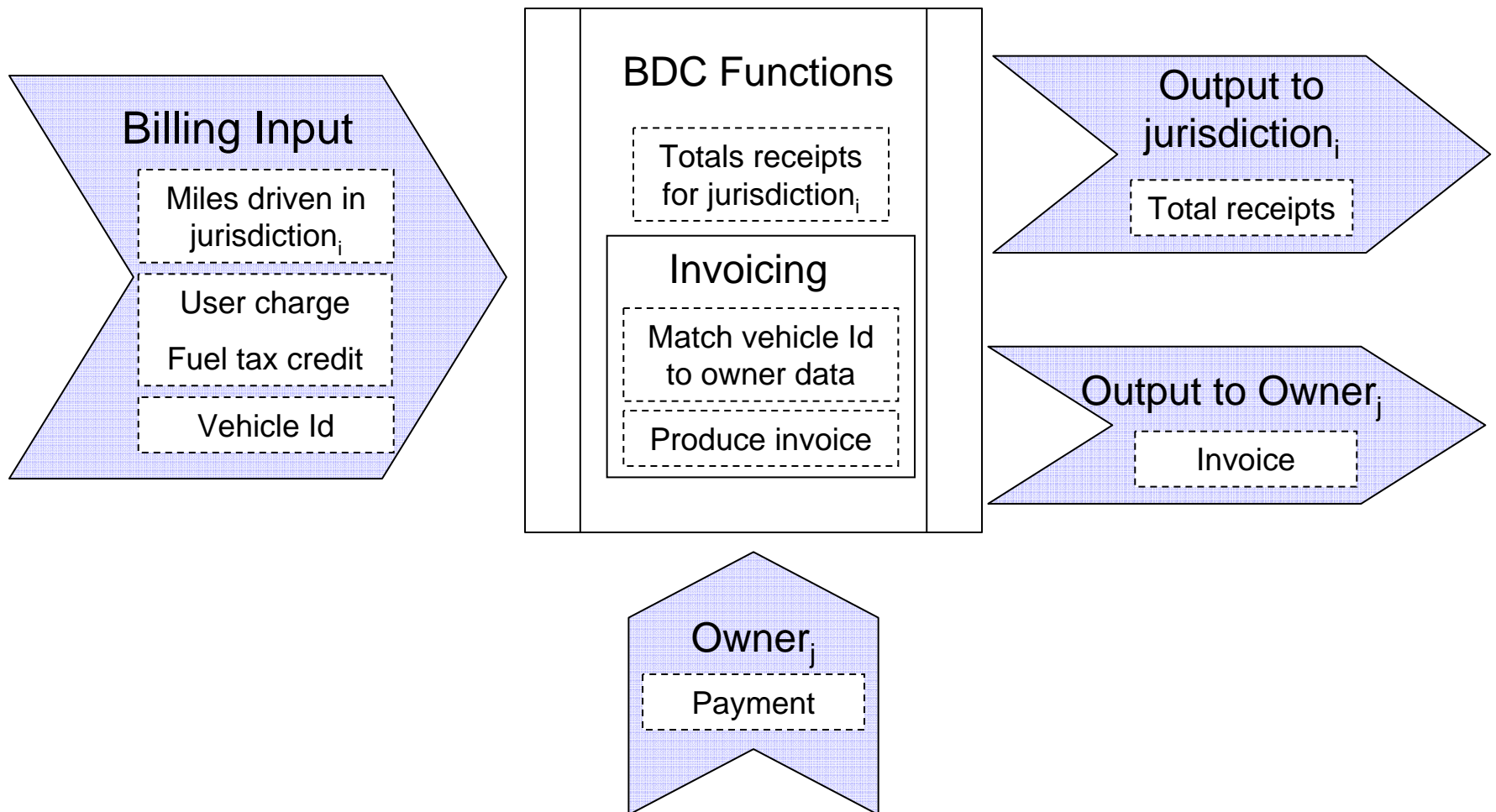
Vehicle on-board computer



Network operation center



Billing and disbursal center





Questions being addressed

- Appropriateness of the technology
 - Cost-effective, reliable, user friendly, flexible, and secure
- User Acceptability
 - Maximize convenience



Study Parameters

- Mileage rates

- Revenue neutral with current fuel tax
 - Varying based on fuel efficiency
 - 10 vehicle classes based on EPA



Study Parameters

- Data upload method
 - Wireless transfer
 - No user involvement
 - Smart card transfer
 - User manual initiates transfer using a card reader



Study Parameters

- Data transfer frequency
 - Frequency of wireless transfer
 - Vehicle initiated (data push)
 - NOC initiated (data pull)



Study Parameters

- System updates

- Penetration time for rate table and jurisdiction boundary updates

- Time versus degree of penetration



Study Parameters

- Level of in-vehicle information
 - In-vehicle text display
 - Amount and duration of information presented to driver



Study Parameters

- Level of detail on invoice

- Maximum personal privacy

- Only total charge and total mileage
 - Minimum audit-ability

- Maximum audit-ability

- Charge and mileage by trip (engine start/stop)
 - Minimum personal privacy



Where are we now?

- Five months into study
 - Technology team
 - Finalizing the selection of vendors
 - On-board computer and communications
 - Study data server and billing center
 - Participant team
 - Identified study area and participant screening criteria
 - Evaluating responses to our RFP for recruitment firms