



Mileage-Based Road User Charge

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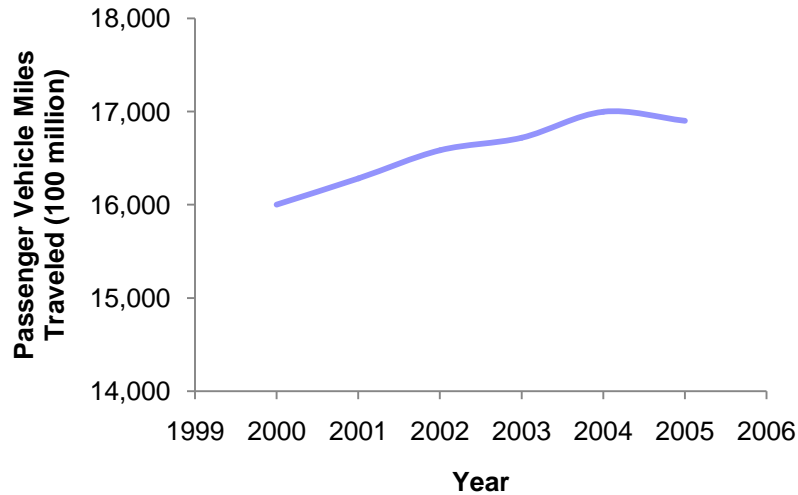
Director, Transportation Policy Research

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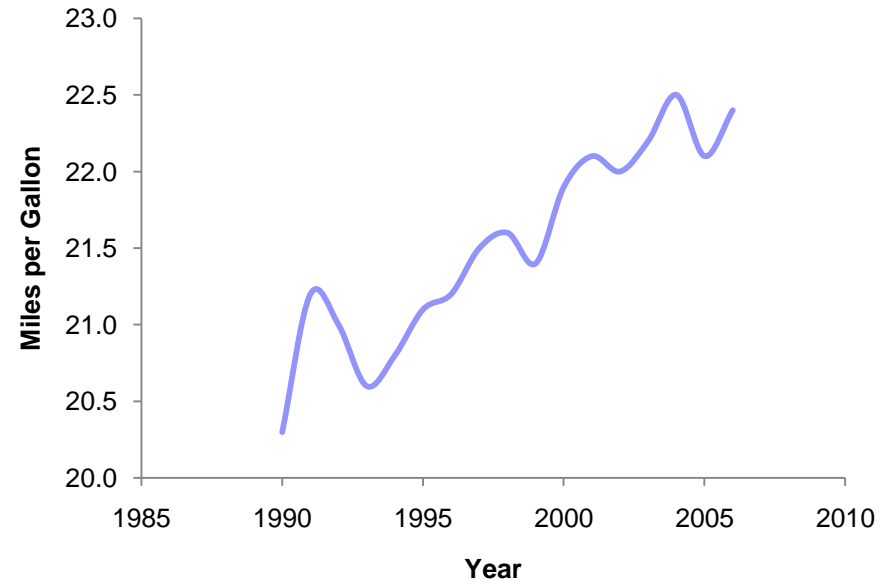
University of Iowa

National Trends

Passenger Vehicle Miles Traveled



Passenger Vehicle Fleet Average Fuel Efficiency



National Trends

Short-run

0.034% to 0.077% decrease for each 1% increase in fuel prices

Fuel Price

	Regular	Premium
June 3rd	3.95	4.34
last week	3.82	4.20
last year	3.21	3.40

% change in fuel

0.23 0.28

% reduction in consumption

0.78 0.94

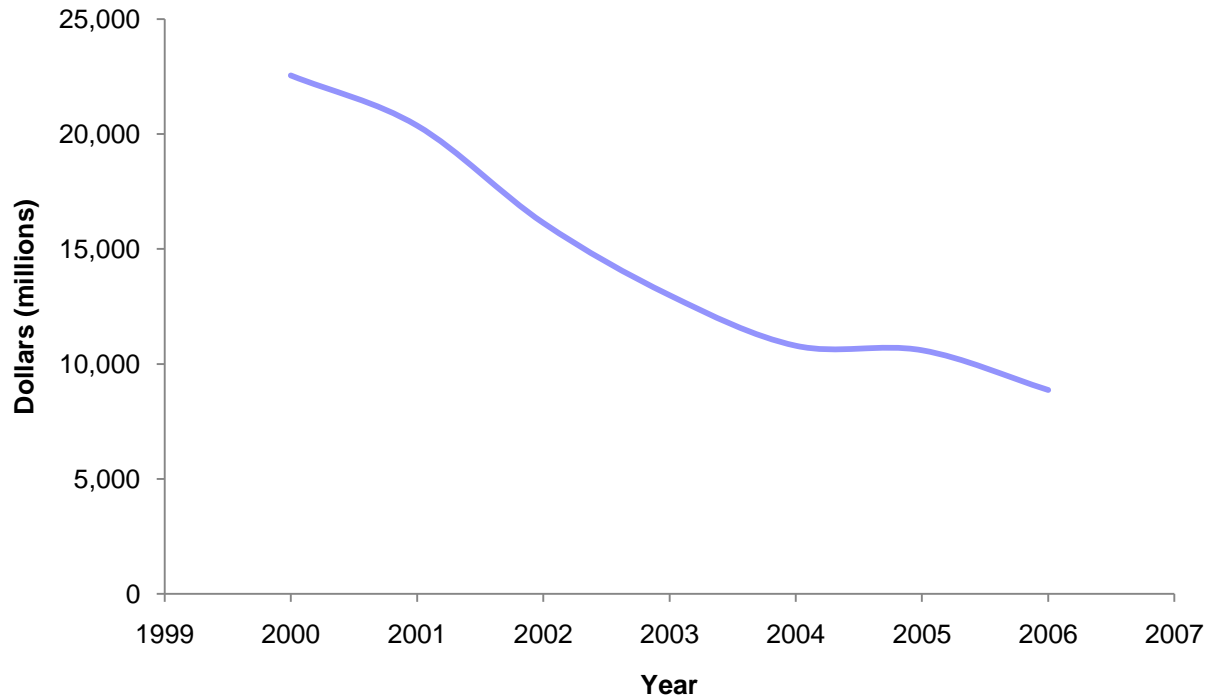
1.78 2.13

Long-run (assuming similar structural changes as in 1970s and 1980s)

could be double

National Trend

Highway Trust Fund
(highway account)



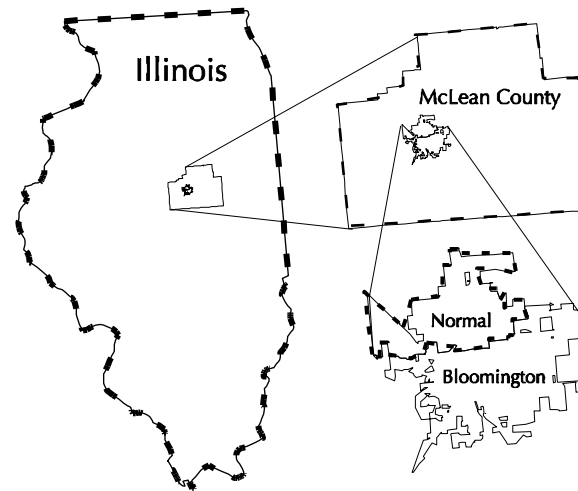
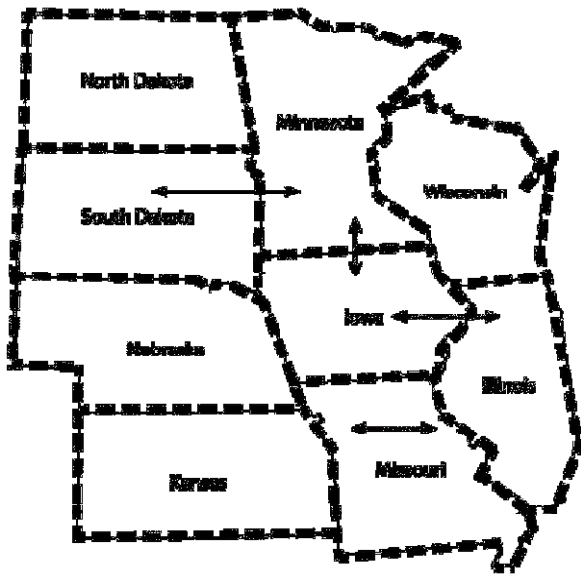


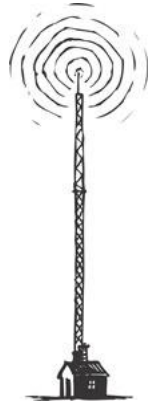
Policy issues being addressed

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

Basic Approach

- Area-wide pricing based on miles traveled within jurisdictions

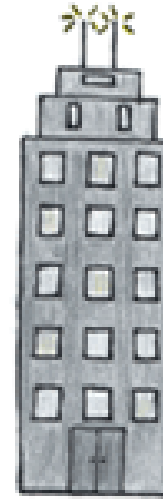




Network
Operation
Center



Vehicle w/ OBC

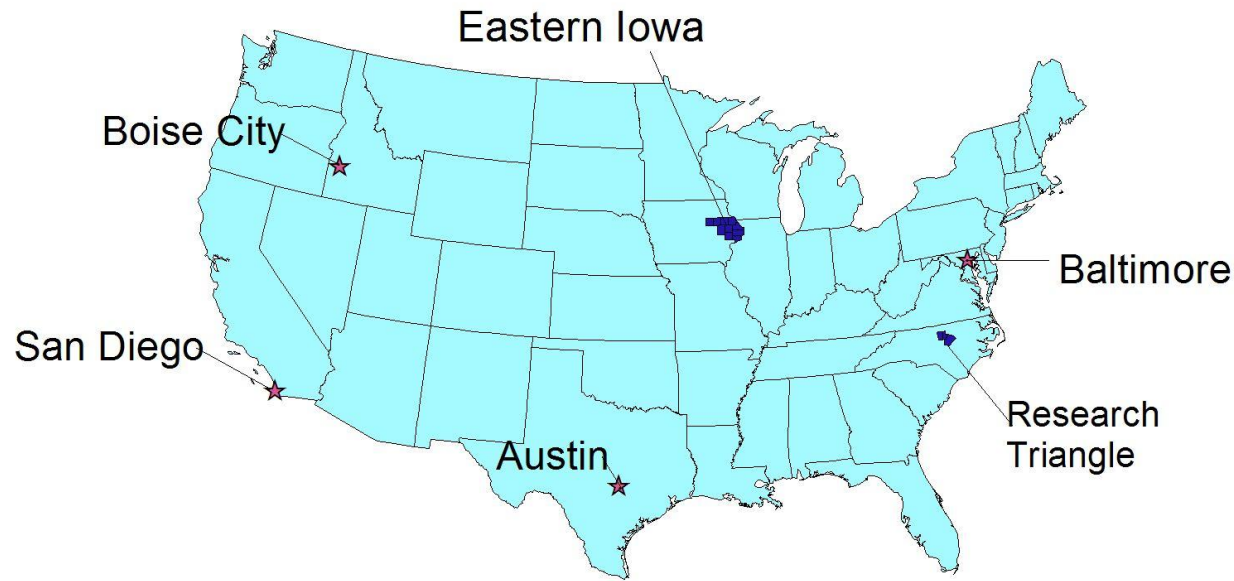


Billing &
Dispersal Center



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



Questions being addressed

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



Study Parameters

- Mileage rates

- Revenue neutral with current fuel tax
 - Varying based on fuel efficiency



Study Parameters

- Data upload
 - Wireless transfer
 - No user involvement



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 LCD 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?

- On-board computer
 - ☑ Design of OBC
 - ☑ Beta-testing in 6 sites
 - ☑ Pilot test in Johnson County, IA
- Network Operations Center
 - ☑ Installation of servers
 - ☑ Customize software

Where are we now?

■ Billing & Dispersal Center

- ☑ Designed and tested invoicing system
- ☑ Created a national call center

■ Participants

- ☑ Created ad campaigns (TV, Radio, Papers, BB)
- ☑ Created training video
- ☑ Refined training manuals
- ☑ Held focus groups

Where are we now?

■ Review & Approvals

- ☑ Institutional Review Board, University of Iowa
 - ☑ Human subjects review
- ☑ National Institute of Health
 - ☑ Certificate of Confidentiality
- ☑ Bureau of Transportation Statistics
 - ☑ Participant selection process
 - ☑ Participant questionnaires

Where are we now?

■ Review & Approval

- Federal Highway Administration

 - Study plan & design

- Office of Information Technology, USDOT

 - IT Security Plan (submitted December, 2006)

- Office of Budget and Management