Pathway to Implementation of an Evolutionary Mileage Charging System

Presented to

Mileage Based User Fee Symposium

Austin, Texas
April 14, 2009

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Fundamentals of Mileage Charging

Six Things A Mileage Charging System Must Do

1. Calculate miles driven
2. Access mileage data
3. Apply mileage charging rates
4. Provide a billing
5. Collect payment
6. Enforce payment

[300 miles x 1.2 cents = $3.60]
Elements for an Evolutionary System

*That allows rate structures and collection mechanisms to evolve with changing behaviors, technologies and public policies*

- Ability to create geographic and temporal zones and/or identify specific roadways
- A central server/computer
- Connection to other databases containing vehicle information, such as DMV
- An open platform for evolving methods of data generation, data transfer, invoicing and payment
VMT Data and Fee Collection Systems

**Central Billing**
+ Covers all vehicles
- High operational & enforcement costs

**Piggybacking**
(Pay-at-the-pump)
+ Inexpensive operations
- No electric vehicles

**Integrated approach**
+ Does it all?
+ Evolves over time
Integrate Pay-at-the-Pump Model With Central Billing

- Open system technologies
- Attractive on-vehicle devices
- Options for data transfer and payment
- Alternative privacy protection measures
Designer Congestion Pricing Systems

Pricing specific roadways

Area pricing
Evolutionary Rate Structuring Ability

- Vehicle databases
- Computing
- Mathematical formulas
- Congestion pricing
- Environmental pricing
Mileage Charge Rate Structure

Consequences of a Flat Rate

FLAT VMT CHARGE VS. FUEL TAX

Charge Per 100 Miles

MPG

Flat VMT Charge
Gas Tax

winners

losers
### Externality Multiplier

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<th>MPG</th>
<th>Multiplier</th>
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The diagram illustrates the relationship between vehicle miles traveled (VMT) fees and externality multipliers. The fees are calculated as follows:

- **Flat VMT Charge**: $0.00
- **Multiplied VMT Charge**:
  - Carpool
  - All Vehicles

The chart shows the cost per 100 miles for vehicles with different MPG ratings, highlighting how the fees are adjusted based on the externality multiplier.
Photographs of Oregon