



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]

Quantity	Description	Unit Price	Quantity	Unit Price	Total
1	Hardware Coat...	30.00	30.00	Tax	
1	Hardware Coat...	1.00	6.00	Tax	
1	Wood Coat...	120.00	120.00	Tax	
1	Wood Coat...	72.00	144.00	Tax	
1	Hardware S. Co...	38.00	76.00	Tax	
12345	Coupon Discou...	-37.60	-37.60	Tax	
Shipping	Ground Parcel Shipping	10.00	10.00	Non	
				Tax	23.30
				Total	368.70

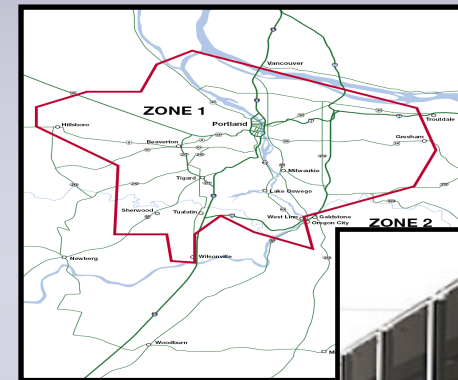




Elements for an Evolutionary System

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



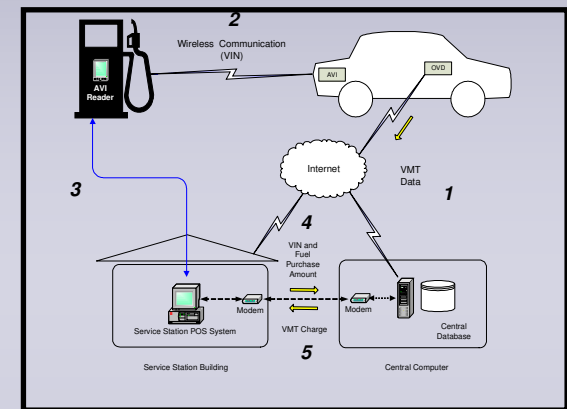
Central Billing

- + Covers all vehicles
- High operational & enforcement costs



Piggybacking (Pay-at-the-pump)

- + Inexpensive operations
- No electric vehicles

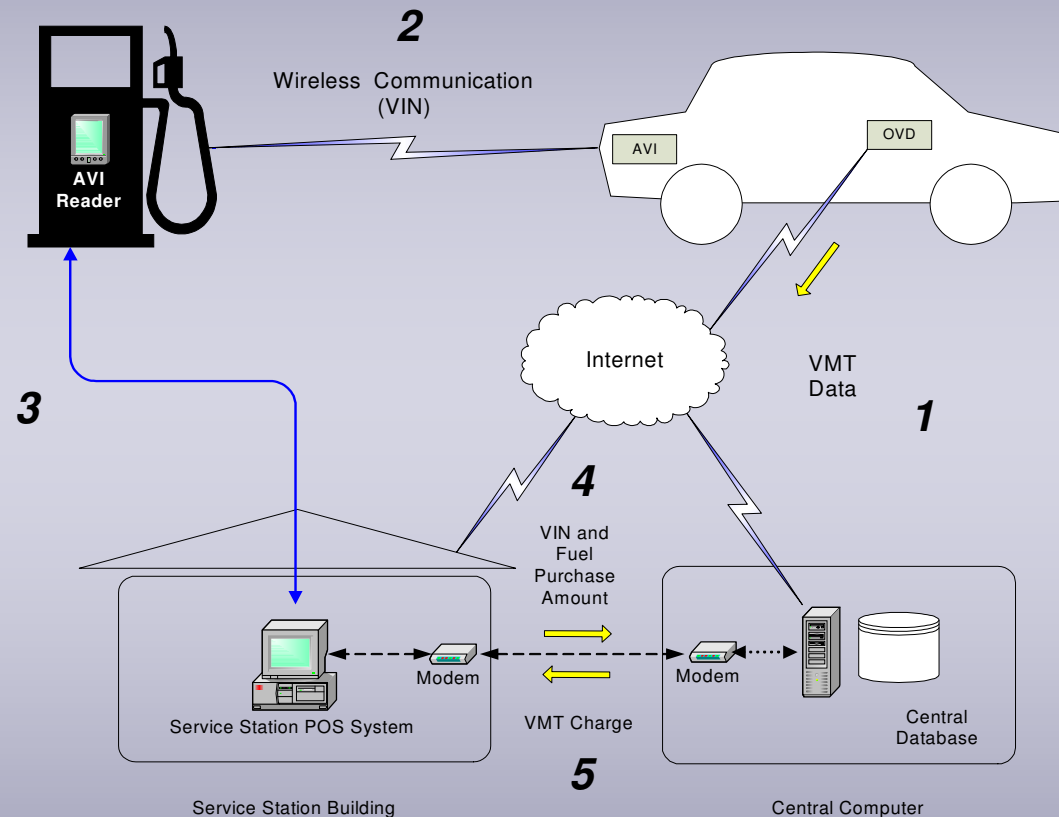


Integrated approach

- + Does it all?
- + Evolves over time



Integrate Pay-at-the-Pump Model With Central Billing



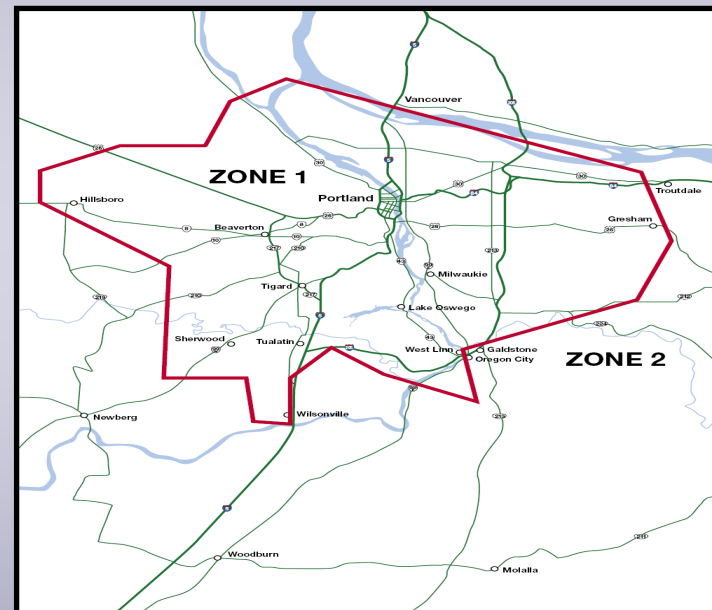
- Open system technologies
- Attractive on-vehicle devices
- Options for data transfer and payment
- Alternative privacy protection measures



Designer Congestion Pricing Systems



Pricing specific roadways

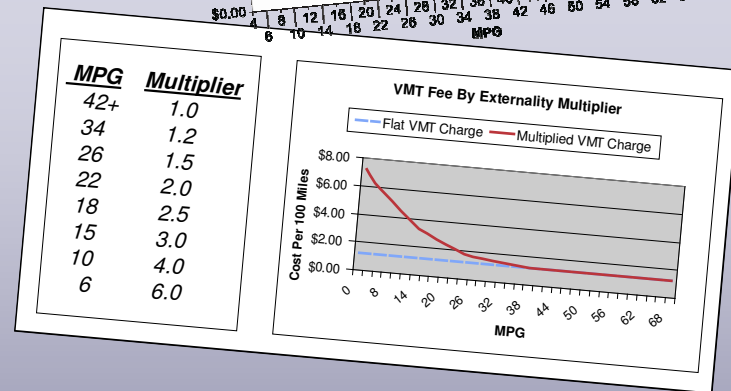
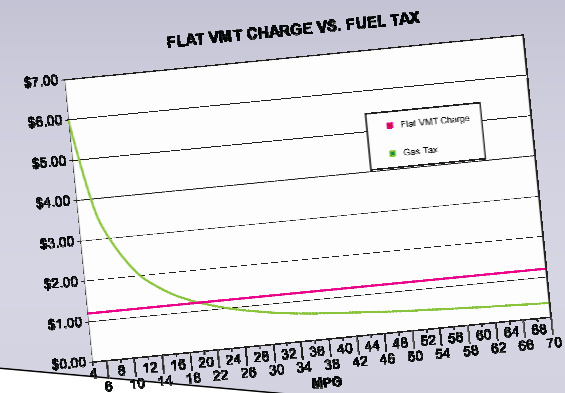


Area pricing



Evolutionary Rate Structuring Ability

- Vehicle databases
- Computing
- Mathematical formulas
- Congestion pricing
- Environmental pricing

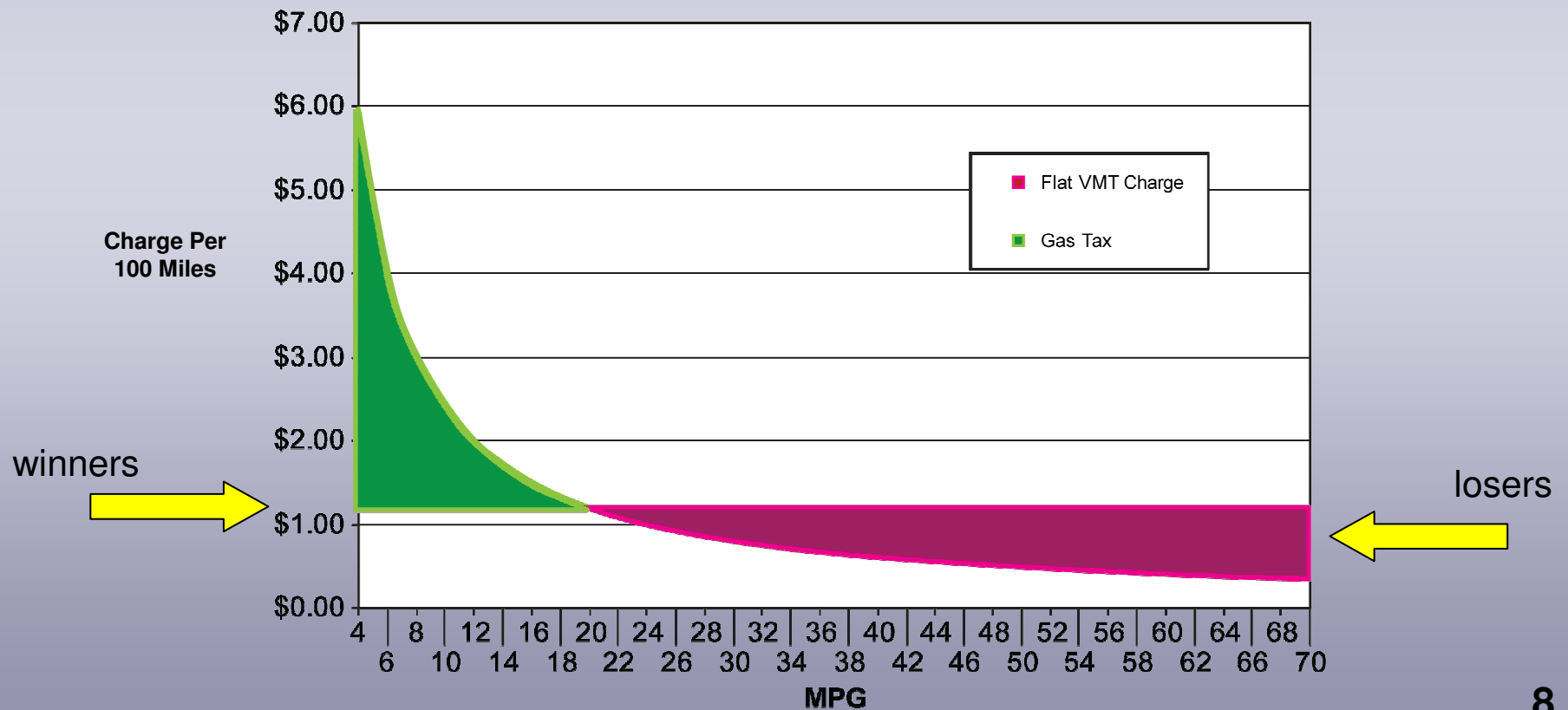




Mileage Charge Rate Structure

Consequences of a Flat Rate

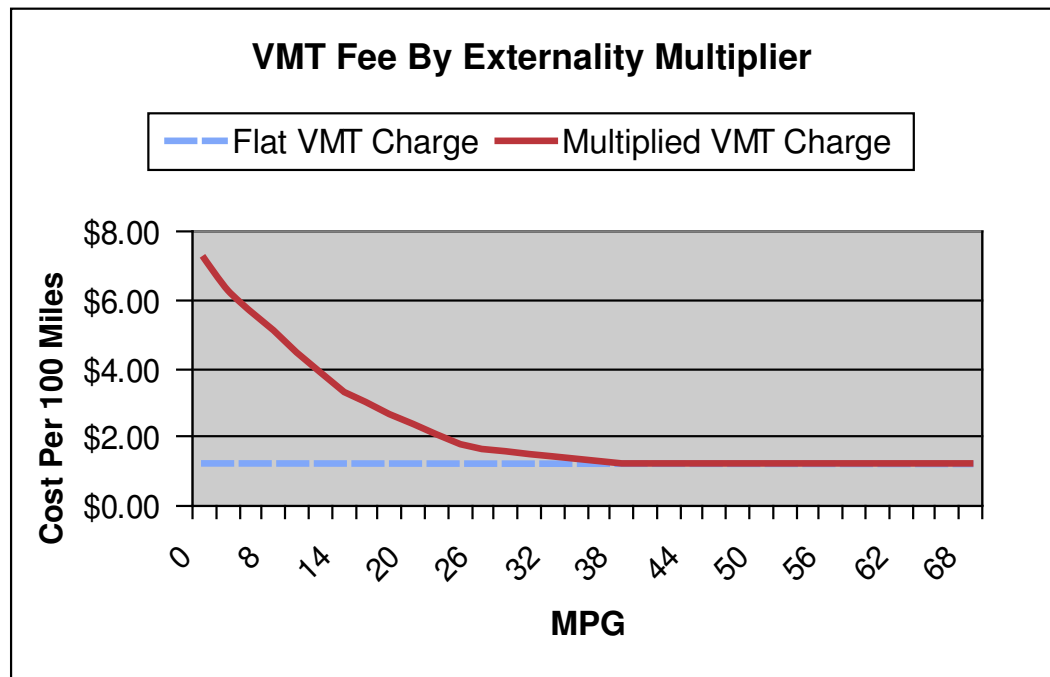
FLAT VMT CHARGE VS. FUEL TAX





Externality Multiplier

<u>MPG</u>	<u>Multiplier</u>
42+	1.0
34	1.2
26	1.5
22	2.0
18	2.5
15	3.0
10	4.0
6	6.0





Photographs of Oregon

