VMT pilot studies: What should drive them?

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Minneapolis, Minnesota

Transformational Thinking

"Imagination is more powerful than knowledge. It is key to bringing change into our reality. "

Albert Einstein

Future for Mobility and behavior change? Intelligent Infrastructure

- ***Intelligent design:*** **Infrastructure *'fit for purpose'* and flexibility**

- ***Intelligence from Infrastructure:***
Information collected and collated to optimise use and measure performance/effectiveness

- ***Design in intelligence:*** **Built as *"open systems/standards"* into vehicles and local autonomous systems**

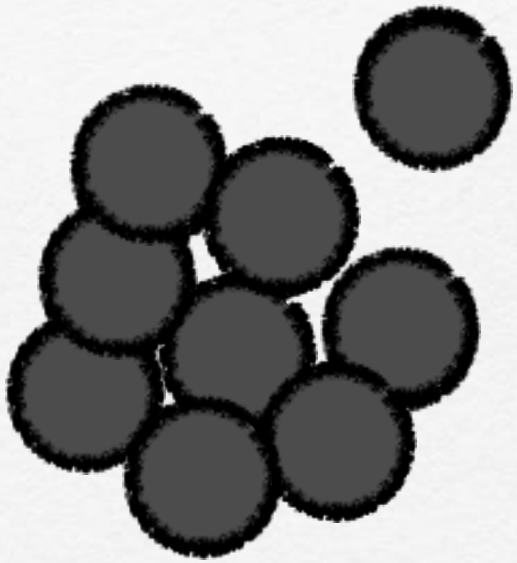
- ***Intelligent use:*** **For people, by people, and Influences behaviour by choice & fitting style**

EXAMPLE: VMT - An alternate to fuel excise tax

- ***Vehicle Miles Travelled (VMT) taxing is:***
  - The most favored road pricing alternative to gas tax
  - Tax on infrastructure usage that does not diminish with increasing fuel efficiency
  - Allows countrywide, national, free flow tolling/pricing
- ***Challenges:***
  - Politically difficult (perhaps easier than raising gas tax)
  - Governance of highways
  - Integration with asset management and capital investment
  - Challenge to integrators
  - Appropriate first steps
  - Enforcement
  - Transition

There are no silver bullets...

but there is platinum buckshot!



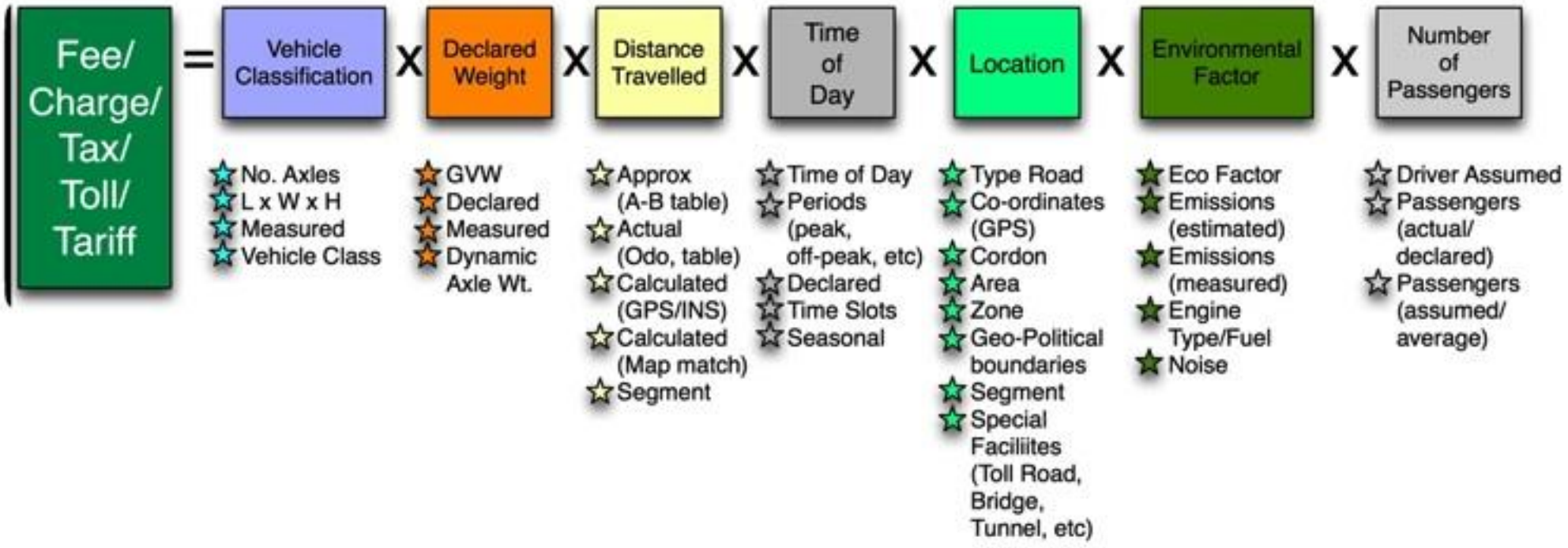
Key Issues – Where should trials be heading?

- Objectives and goals must be clear
- End to end system design and business rules
- Open architecture

There are many possible objectives, but some of those can conflict

- Revenue (where from, on what economic principles, what is it used for);
- Manage congestion (what standards of service, how dynamic);
- Economic efficiency (To reduce infrastructure costs, reduce vehicle operating costs, improve modal neutrality);
- Environment (Reduce noxious emissions? Reduce CO2? Enhance use of alternative fuels?);
- Safety (Use of intelligent transport systems, linkage to PAYD insurance).

RUC Tariff can match Policy Objectives



KISS — Keep It Simple Stupid ...

It isn't just about GPS

- Installation/replacement
- Customer service
- Communications
- Payment options, outlets
- Enforcement
- Map maintenance
- Offsetting other taxes
- Unequipped vehicles

EXAMPLE: Mobile Payment Evolution

Metal token

Coins

Paper ticket

Carnet Tickets

Magnetic ticket

Mylar Magnetic ticket

DSCR RW Transponder

Contact Smart Card

Contactless Smart card

Blink Contactless Credit Cards

Blink Contactless Credit Cards

Smart token

NFC Phone

Limited Use smart ticket

Low Usage (LU) smart ticket

1980 1990 2000 2010

EXAMPLE: V2V & V2I will transform transport

Government

Communicaitons

- Communications

Customers

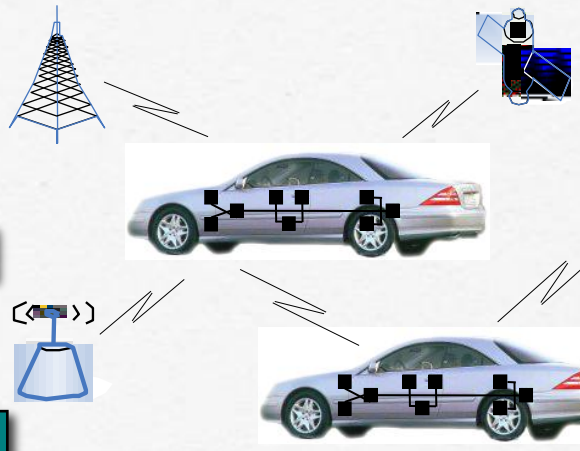
- Improved safety
- Improved mobility
- Commercial and consumer applications

Vehicle Manufacturers

- Potential increased vehicle sales
- Additional service and device revenues
- Real-time vehicle data for improved service and reduced warranty costs
- Direct access to customer; improved Customer Relationship Management

Highway Departments

- Improved traffic management
- Improved safety



Transit Industry

- Improved operations

Freight Industry

- Increased efficiency

Automobile Dealers

- Sales of services and vehicles
- Marketing

Citizen Groups

- Equality

Privacy Groups

- Privacy

Service/Content/Application Providers

- Subscribers
- Service and hardware revenue
- Access to customer base

Hardware Suppliers

- Sales

Insurance Providers

- Improved safety
- Lowered regulation costs
- Better customer data

Carriers

- Air time
- New subscribers
- Data services

Open systems and architecture are the way of the future

- **No clear advantages in proprietary systems in this context;**
- **Interoperability, let diversity of providers and suppliers meet needs of users as customers;**
- **Spread risk of customer service failure;**
- **Output driven procurement so private sector can innovate and manage risk;**
- **Platform of ITS architecture for other voluntary or mandatory applications (e.g. safety);**
- **5.9 GHz provides a stepping stone.**

Transformational Thinking - Policy of Change

"We can't solve problems by using the same kind of thinking we used when we created them. "

Albert Einstein

Thank you!

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