ITS: Future infrastructure and modal integration

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Infrastructure operators and policy

- Safety
- Efficiency
- Mobility
- Environment
- Economy

- Asset management
- Service levels
- Communications
- Maintenance

- Stakeholders!
Intelligent Transport Systems

- Safer
- Surer
- Smoother
- Smarter

- Support Policy
- Enabled by technology
- Capture benefits
- Realise potential

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ITS for all modes
Capture once use many
ITS Operational Concepts
Data Collection
Processing and exchange
### Results from the Netherlands

<table>
<thead>
<tr>
<th>Measure</th>
<th>Capacity gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak hour lane management</td>
<td>36 %</td>
</tr>
<tr>
<td>Dedicated lane for freight</td>
<td>16 %</td>
</tr>
<tr>
<td>Constant speeds</td>
<td>1 %</td>
</tr>
<tr>
<td>Freight overtaking prohibited</td>
<td>4 %</td>
</tr>
<tr>
<td>Text VMS</td>
<td>5 %</td>
</tr>
<tr>
<td>Ramp metering</td>
<td>4 %</td>
</tr>
</tbody>
</table>
Results from Japan

- Blind curve on the Expressway accidents reduced by 79%
- Distributed Processing based on roadside sensor
- Transmission of incidents - congestion and accidents
- 10% with in-vehicle units 90% of drivers responded
- Just 50% of drivers responded to the road-side signs
Smart Logistics
Behaviour and experience
Intermodal operations

- Procter & Gamble, switching goods from road to rail. From 10% rail to 30% by 2015 (saving 70,000 tons of CO2 a year).
- Port of Rotterdam: In 2011 intermodal terminal opens - containers from trucks onto barges. Reducing trucks on A15 Motorway by 10%
- London Olympics 2012: 240,000 people an hour by trains
- Twitter in India, heavy rain in Mumbai (July 09)
- Facebook travel support networks during volcanic ash flight restrictions (2010)

- Need cooperation not competition
Extended Floating Car Data

- Message management, transmission
- Event x
- Event y
- Winding roads, intersection, parking, refueling...

SSI Sensor Interface

- Crash
- Light
- Navigation data
- Braking
- Friction
- Acceleration
- Fog light
- Airbag
- ABS ASC DSC
- Road-category
- Steering angle
- Doors
- Temperature
- Gear
- Speed
- Hazard lights
- Wiper
- Indicator
Summary

- ITS support policy objectives
- Late adopters can skip generations
- Can help us break the link between economy and transport
- Transport issues of safety, congestion, environment do not respect administrative borders
- Biggest challenge is organizational
- Joined up thinking joined up benefits
- Leadership is the key requirement
- CVHS the driver
Thank you

Richard Harris