The Implications of Urban Road User Charging for the Distribution of Goods by Road

Jo Baker,
CUPID Project Manager
Transport & Travel Research Ltd
www.ttr-ltd.com
The Implications of Urban Road User Charging for the Distribution of Goods by Road

- Background
- How?
- Why?
- Where?
- Implications
- Other Issues
- Conclusions
Background

- PROGRESS will enable demonstrations
- CUPID provides support to PROGRESS
- EUROPRICE II will address political issues
- IMPRINT-EUROPE and MC-ICAM will look at implementation of pricing reform
- DESIRE reviews inter-urban freight issues
How?

- **Charging Strategy**
  - Area-wide
  - Cordon
  - ERP by time/distance
  - HOT lanes

- **Charging Mechanism**
  - Paper
  - Electronic tag
  - Video ANPR
  - GPS/GNSS
## How?

<table>
<thead>
<tr>
<th>Scheme Concept</th>
<th>Road Pricing Technology Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Paper Based</td>
</tr>
<tr>
<td>Area Based</td>
<td>Edinburgh</td>
</tr>
<tr>
<td>Cordon (per trip)</td>
<td></td>
</tr>
<tr>
<td>Zone (per trip)</td>
<td></td>
</tr>
<tr>
<td>Time Based</td>
<td></td>
</tr>
<tr>
<td>Distance Based</td>
<td></td>
</tr>
</tbody>
</table>
Why? EC Policy

- Towards Fair and Efficient Pricing in Transport, 1995
- Fair Payment for Infrastructure Use, 1998
- High level group on Infrastructure Charging
- European Transport Policy for 2010, 2001
Why? Motivation

- Reduce Congestion
- Improve Environment
- Raise Revenues
- Fair & Efficient Pricing?
Why? Economic Argument

External Costs of Transport

External cost of transport in EC = 4.1% GDP

= Greece + Luxembourg + Finland + Portugal

Source: OECD et al: 1994, EUROSTAT
Where?

Also in France, Netherlands and other locations in the UK and Norway

For further information please contact Bristol City Council or view the website www.progress-project.org
What are the Implications?

Operational Issues

- **Singapore**
  - Area licensing from 1975: 50% reduction in AM peak flows with 83% increase in bus patronage (1975 to 1992)
  - ERP from 1998: further 15% reduction in traffic

- **Norway**
  - Toll cordons in Bergen, Oslo, Trondheim: reduction in traffic only 5-7%, main purpose to raise revenues through modest tolls. Trials in Trondheim for CONCERT showed reductions of 10-17% with higher tolls.
What are the Implications?

Legal Issues

• Directive 1999/62/EC on Charging Heavy Load Vehicles: charges limited to infrastructure costs

• Transport Provisions of the EC Treaty: discrimination illegal

• State Aid Provisions: avoid market distortions
What are the Implications?
Technical Issues

- May require transponder or similar in car
- May need to pay in advance for permit for access to urban area
- ERP requires more hardware
- London: purchase permit by phone, WWW or retrospectively
What are the Implications?
Financial Issues

Source: Marginal Surface Transport Costs & Charges DETR 1998
all average figures in pence/veh.km and include inter-urban costs
What are the Implications?
Economic Issues

- Perceived operating costs may rise
- True operating costs may fall
- End-users may be more aware of transport costs
- There may be an eventual change in land-use or logistics
Issues for International Hauliers

• As Eurovignette develops, tolling equipment may be standardised and simplified and adopted in urban areas
• Road Pricing proposals are unlikely to be more complicated than current arrangements of tolls, access regulations etc
• Local load consolidation may become more attractive
• Fair and efficient pricing may encourage shift away from road and from long-distance haulage
Issues for National Hauliers

• Hauliers may initially feel threatened by low-cost operations from other countries: tax harmonisation is required to ensure competitiveness
Issues for Local Deliveries

- Local operators will be particularly affected by toll cordons or ERP.
- Permit schemes will enable multiple access
- Local traffic conditions may be enhanced
- There may be an incentive to change time of day or improve loading factors
- Exemptions may be offered to clean vehicles
Possible Timescale

- 1975-1999: limited non-EC implementation, selected trials in EC
- 2000-2004: selected demonstrations in EC (mainly UK, Italy, Scandinavia)
- 2005-2009: limited full-scale EC implementation?
- 2010 onwards: increasing fiscal harmonisation, and implementation of marginal cost pricing?
Other Issues

- User Acceptance
- Social Equity
- Use of Revenues
- Institutions
- Politics
Conclusions

- Limited transferable experience
- Technical feasibility is largely proven
- Existing fiscal policies may be rationalised
- Fiscal rationalisation will avoid market distortion
- Implementation will be gradual
- Charges are unlikely to reflect full marginal costs
- Haulage market may contract as costs increase towards full marginal cost

www.transport-pricing.net