Congestion Pricing Examples

Singapore 1975
Bergen, Oslo, Trondheim 1990
London 2003
Stockholm 2007
Outline

• Strong collaboration between city and KTH in transport projects
• Examples
  ~ Congestion charging (CC)
  ~ Traffic management
• Related international collaborations
## The Stockholm Congestion Charging (CC)

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980 - 2006</td>
<td>CC on the agenda of planners and politicians</td>
</tr>
<tr>
<td>Jan 2006 – Jul 2006</td>
<td>Full-scale CC- experiment</td>
</tr>
<tr>
<td>Sept 2006</td>
<td>Referendum on Permanent Adoption</td>
</tr>
</tbody>
</table>

- 52 percent **yes**
- 48 percent **no**
The politics

- A long process characterized by strong political differences
- The Social Democrats proposed and then killed a toll ring proposal 1991-97
- 2002 the Environmentalists forced the socialist parties to implement a CC-experiment before the 2006 election
- The right-wing tried to stop it and won the 2006 election
- But the citizens of Stockholm voted to keep the charging system
**The Stockholm charges**

- 10-20 SEK (1-2 €) per cordon crossing, depending on time of day
- Alternative-fuel cars exempt
- Max 60 SEK/day
- No charge evenings or weekends
The Stockholm charges

<table>
<thead>
<tr>
<th>Time</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>06.30-06.59</td>
<td>10 kr</td>
</tr>
<tr>
<td>07.00-07.29</td>
<td>15 kr</td>
</tr>
<tr>
<td>07.30-08.29</td>
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</tr>
<tr>
<td>18.00-18.29</td>
<td>10 kr</td>
</tr>
<tr>
<td>18.30-06.29</td>
<td>0 kr</td>
</tr>
</tbody>
</table>
Technology based on plate recognition

- No driver "action" necessary
- Invoice each month – can pay either manually or automatically
- Automatic number plate recognition very effective
Persistent decrease (≈20% across cordon)

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dashed line – 2006-2007 ”between” charging
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Traffic management

• Extensive data collection infrastructure
  ~ Trafik Stockholm

• Swedish Intelligent Transportation Systems (ITS) Lab at KTH
  ~ Repository of traffic and traffic related data in real time
    ■ Radar
    ■ GPS

• Traffic monitoring and management
Swedish ITS Laboratory at KTH
Example: Speed

Example: Speed Variability
Traffic management

- International collaborators
  - IBM
  - University of California Berkeley