

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)

1980 - 2006

CC on the agenda of planners and politicians

Jan 2006 – July 2006

Full-scale CC- experiment

Sept 2006

Referendum on Permanent Adoption

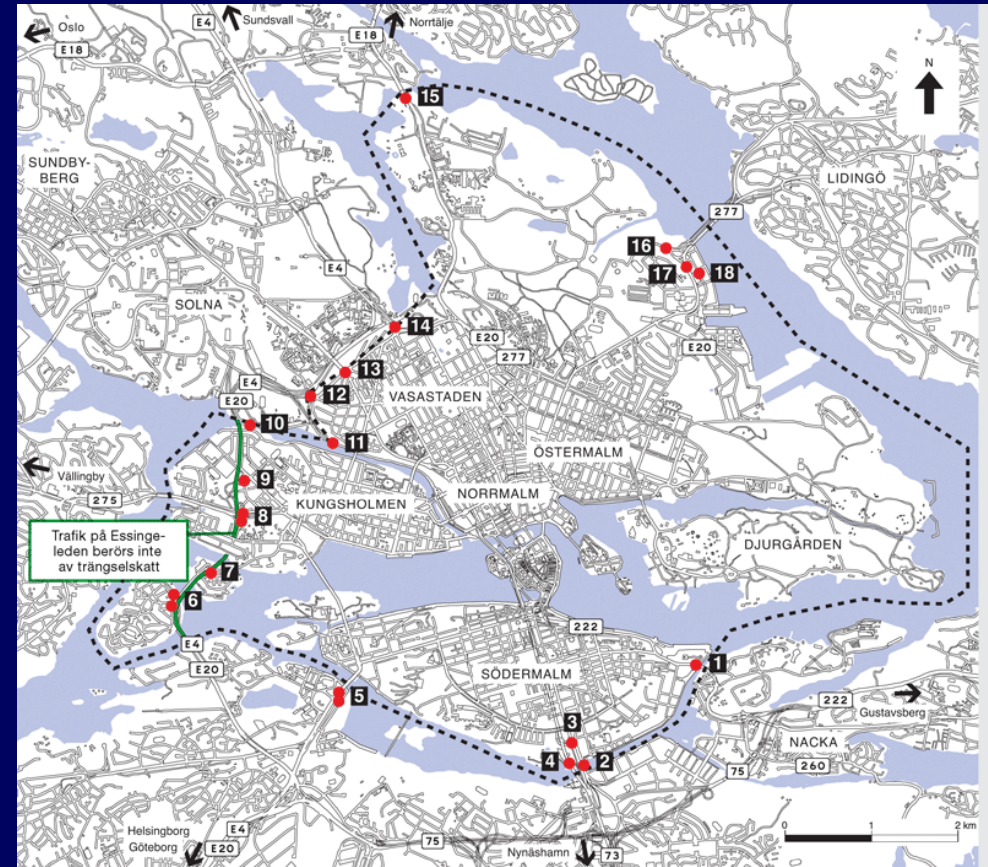
52 percent **yes**

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

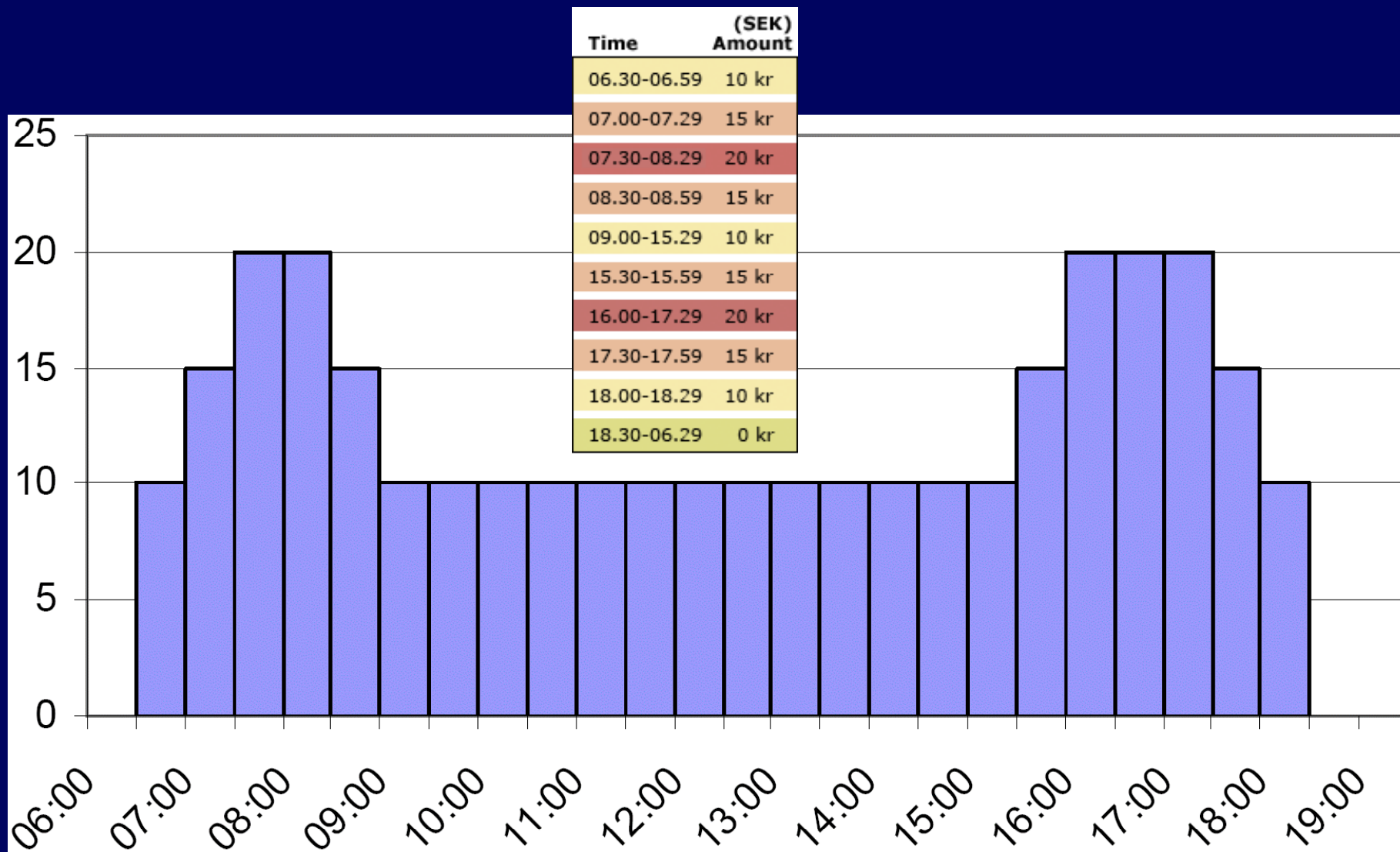
The Stockholm charges



- 10-20 SEK (1-2 €) per cordon crossing, depending on time of day
- No charge evenings or weekends

- Alternative-fuel cars exempt
- Max 60 SEK/day

The Stockholm charges

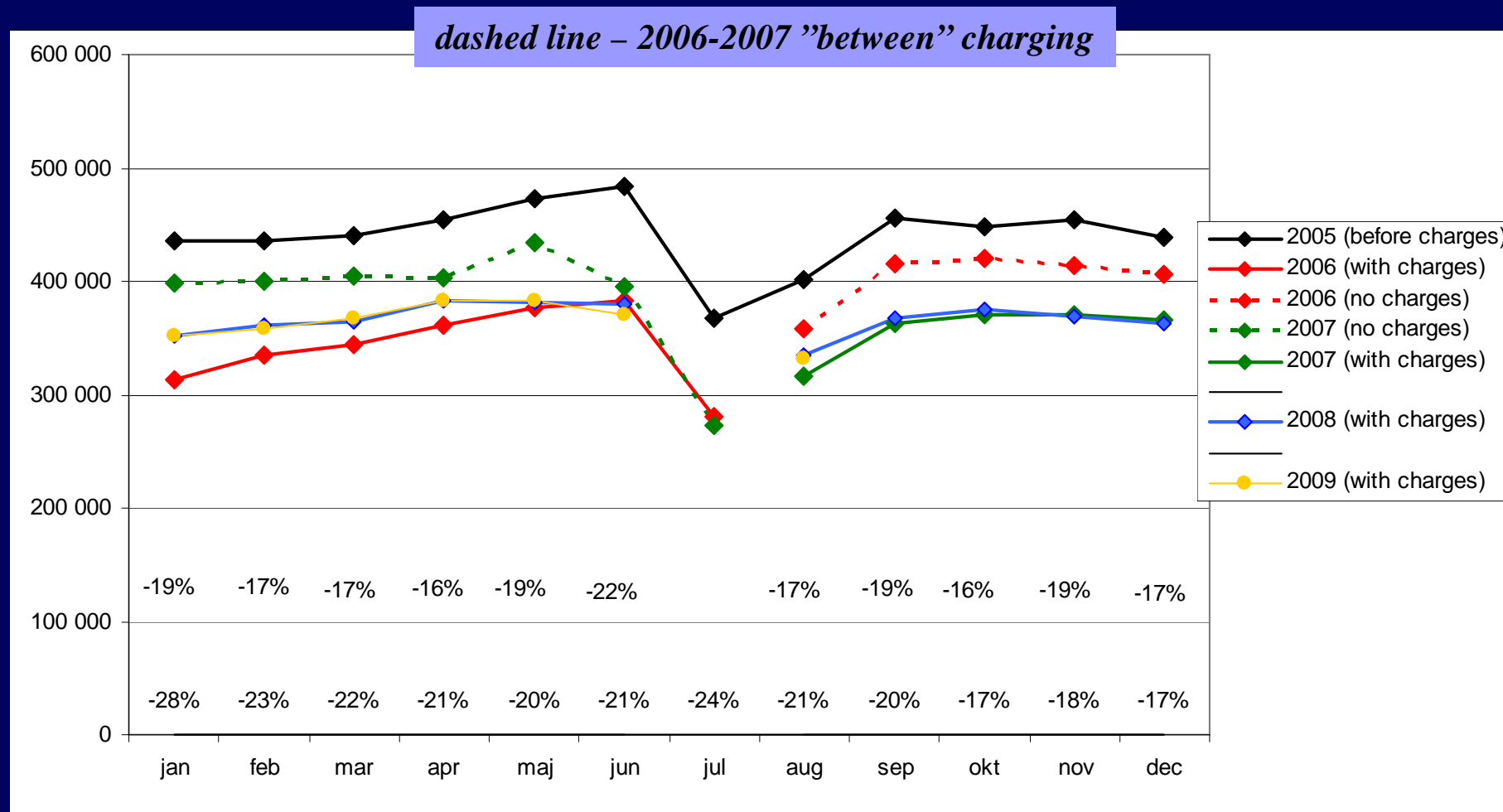


Technology based on plate recognition

- No driver "action" necessary
- Invoice each month – can pay either manually or automatically
- Automatic number plate recognition very effective



Persistent decrease ($\approx 20\%$ across cordon)



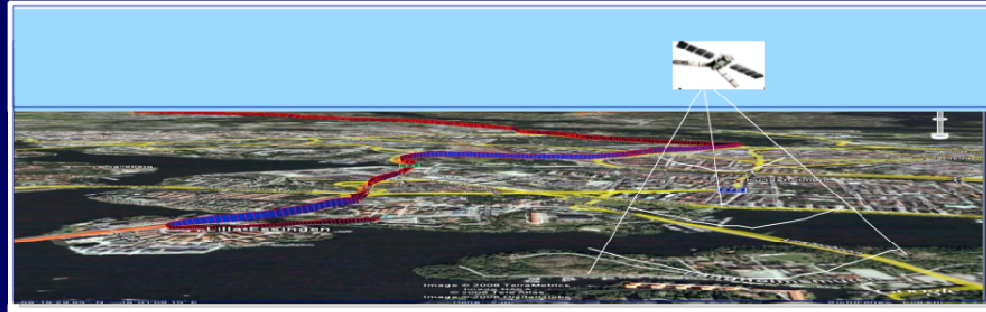
Traffic management

- 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

Sensor networks

Data Collection Infrastructure



Lab

Computing Infrastructure:
Data Stream Handling, Databases

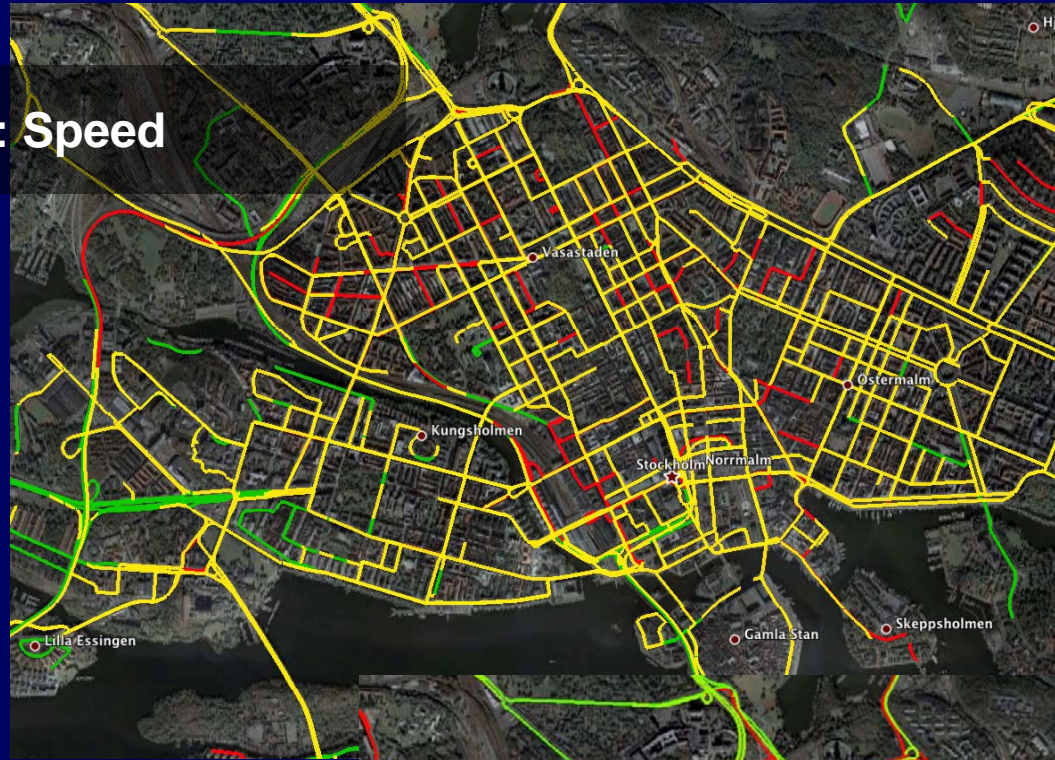
Information Infrastructure:
Models, Simulations, Algorithms → Decisions

Applications/Services

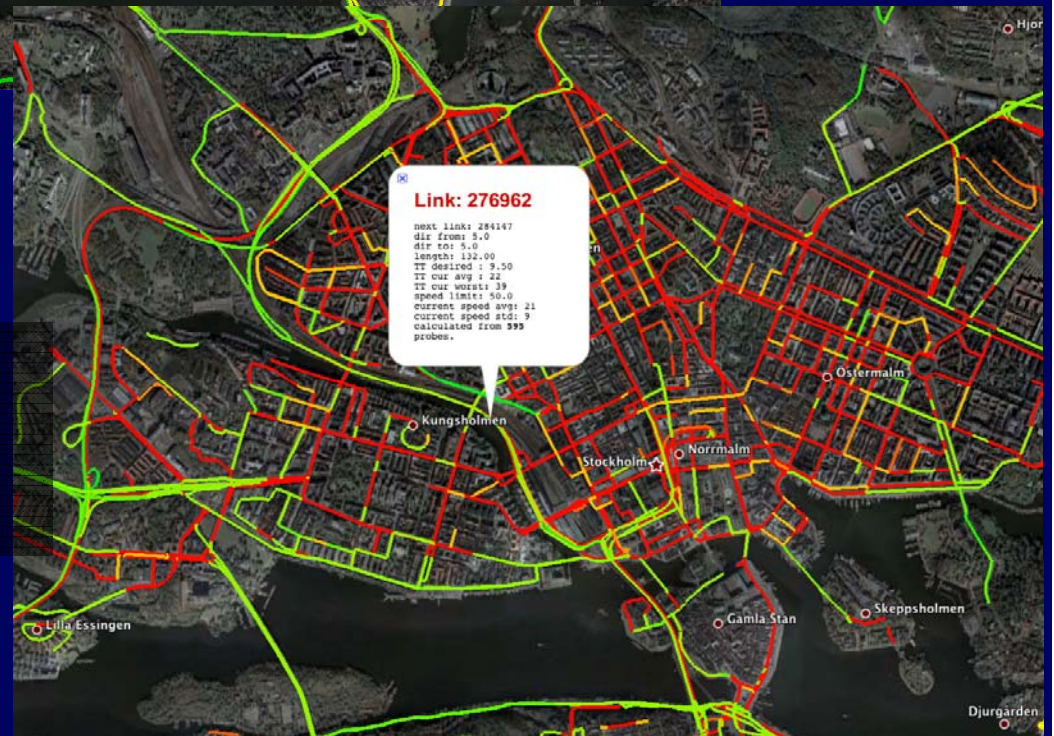
- information on demand
- traffic monitoring & control
- fleet management

- mobility management
- multimodal trip planning
- Incident/emergency response

Example: Speed



Example: Speed Variability



Traffic management

- International collaborators
 - ~ IBM
 - ~ University of California Berkeley