

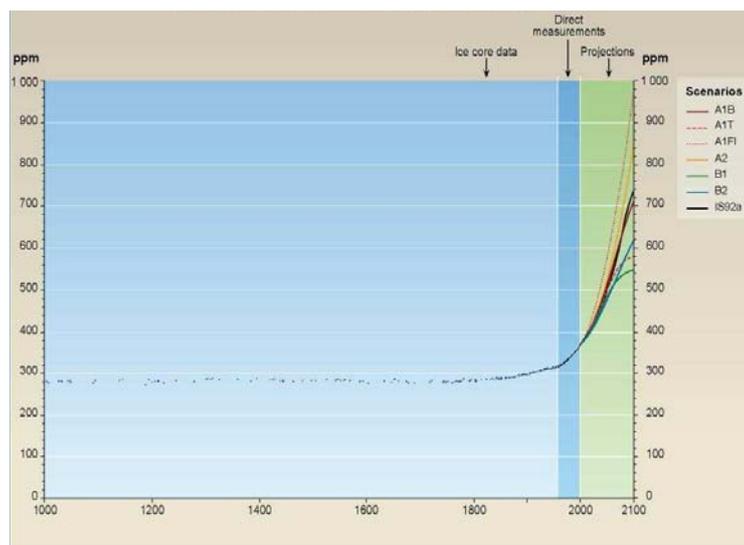
Climate change in Stockholm



- Background on climate change
- Action plan for climate protection
- District heating
- Sustainable transport
- Congestion charging
- Results

Gustaf Landahl,
City of Stockholm

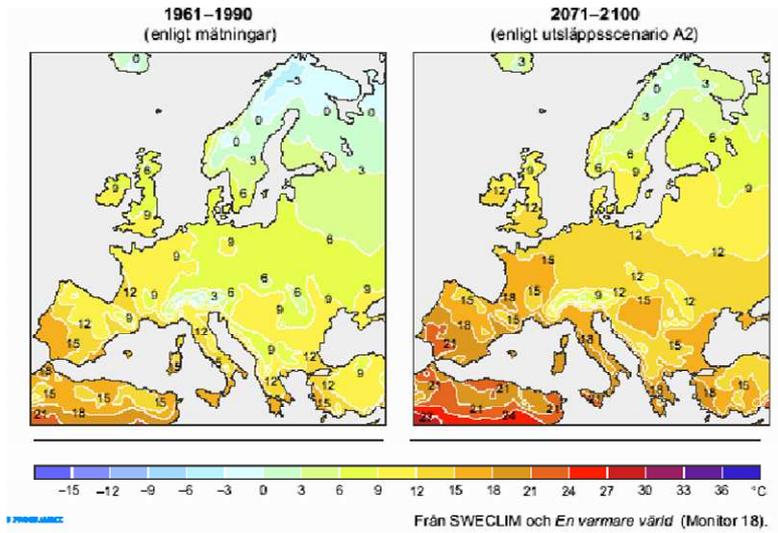
Atmospheric CO₂ -future increases



Source: IPCC

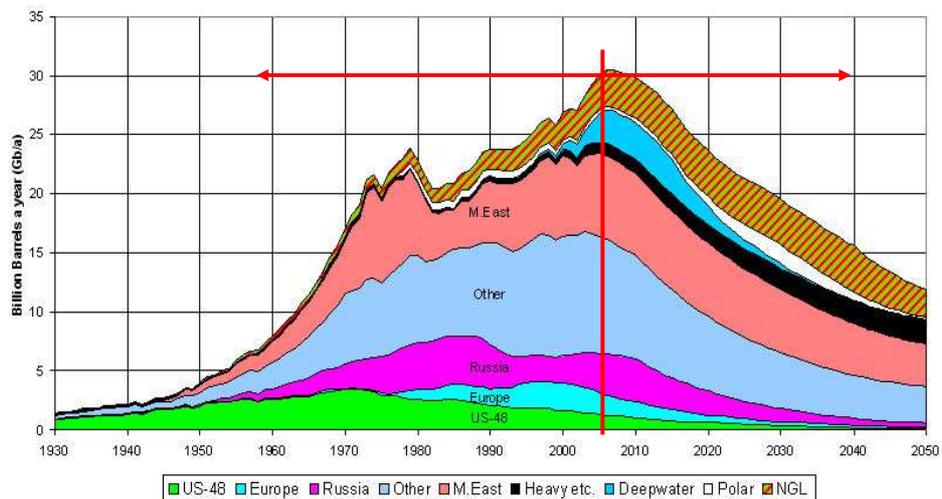
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European average temperatures



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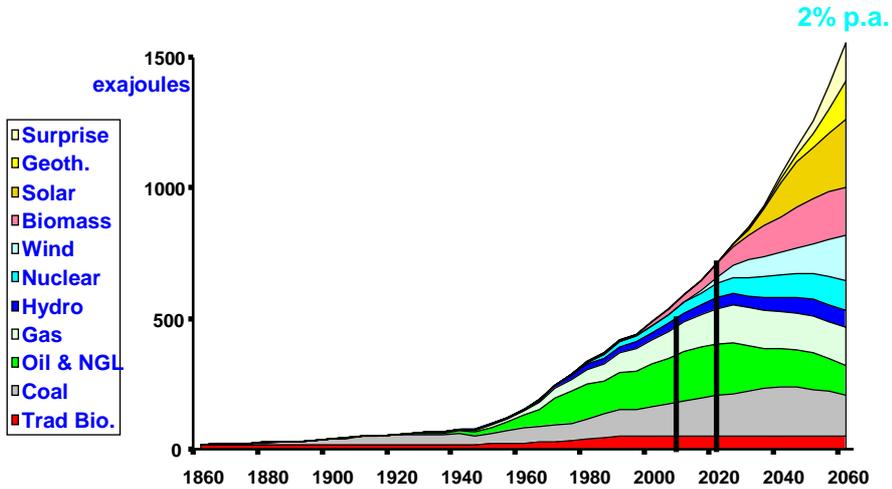
Oil and gas production



Source: Colin Campbell 2004

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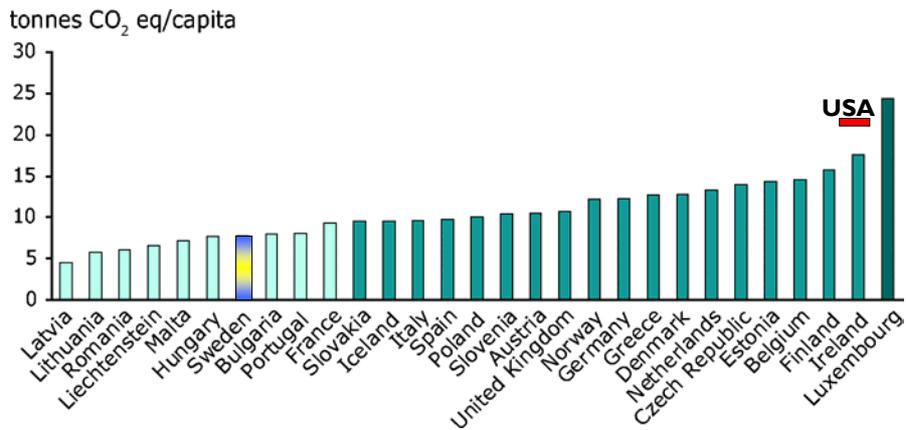
Energy



Copyright- Shell International Petroleum

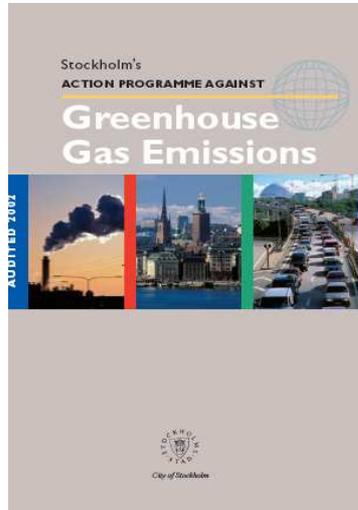
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Emissions of carbon-dioxide



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The Climate Action Plan



Second generation plan 2000-2005

1. Baseline emissions inventory
2. Emission reduction targets
3. The plan
4. Implementation
5. Monitoring and reporting

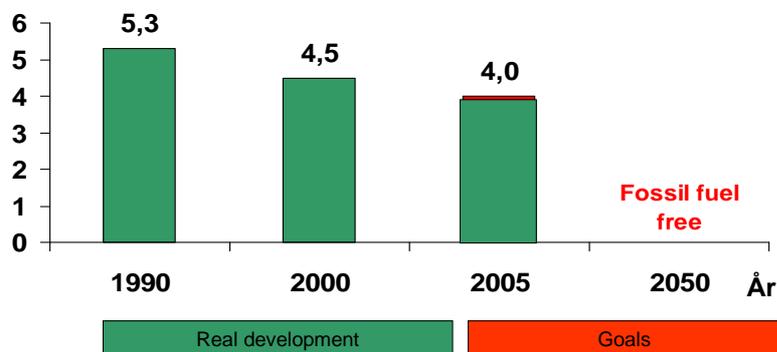


www.stockholm.se/climatechange

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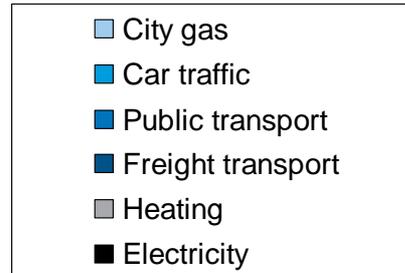
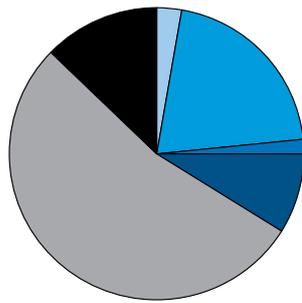
Goals and achievements

Ton CO₂-ekv per inh. & year



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Emissions of carbon dioxide year 2000 in the City of Stockholm



Sum: 3 406 thousand tonnes of CO₂

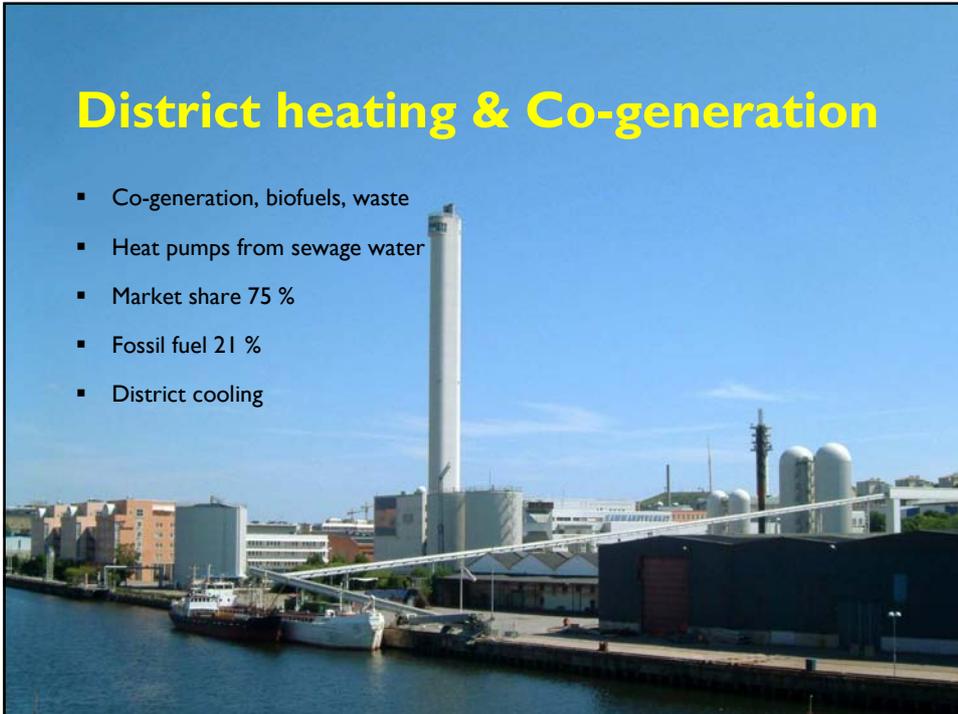


www.stockholm.se/vaxthuseffekten

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District heating & Co-generation

- Co-generation, biofuels, waste
- Heat pumps from sewage water
- Market share 75 %
- Fossil fuel 21 %
- District cooling



Energy efficiency in buildings

Existing buildings:

Educating owners multi-family houses how to preserve energy and how to comply with the environmental code.

www.miljo.stockholm.se

New buildings:

- The city owns 65% of all land within its jurisdiction
- Energy requirements for leaseholds
- For example within district heated buildings a maximum of: 125 kWh/square meter whereof 60 kWh electricity

www.stockholm.se/miljobygg



Sustainable transport by Carrots & Sticks!

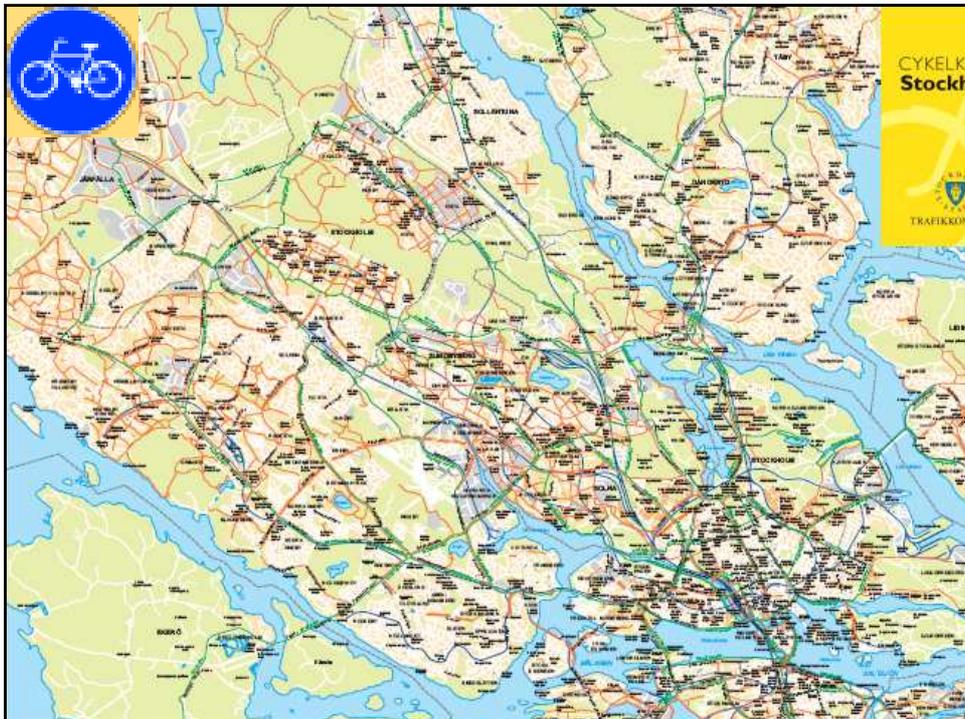
Sticks

- Environmental zones for lorries and busses
- Congestion taxation

Carrots

- Improved cycle lanes
- Increased public transport use
 - smart cards & ticketing
 - travel guarantee
- New ways of transport
 - Car-sharing clubs
 - Better information
 - Adaptive traffic signals
- Goods logistics
- Clean vehicles

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Trip planning

- Real-time information in buses and at bus-stops
- www.trafiken.nu - plan for the best trip

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Attractive public-transport

Marketing

- free tickets for special groups i:e new citizens
- Mobility planning Surveillance
- trip-garantees
- smart-cards

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Goods distribution O-central old town

win-win-win

- Better accessibility
- Better city environment
- Better for the customers



Before

Provider		Customer

After

Provider		Customer

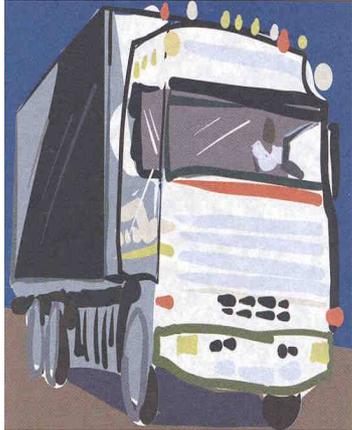
Goods distribution

- Logistic centre building material
 - Less transport, better environment, lower costs
 - require an active partner
 - Can be supported by incentives

THE CIVITAS INITIATIVE IS CO-FINANCED BY THE EUROPEAN COMMISSION

DS-08 20

Environmental zones



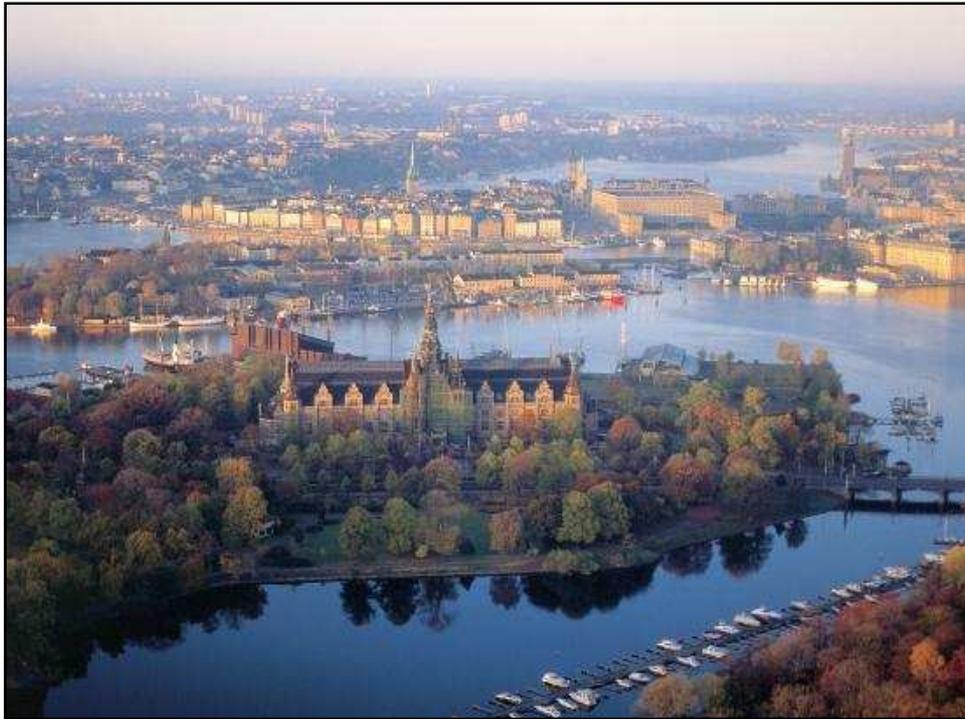
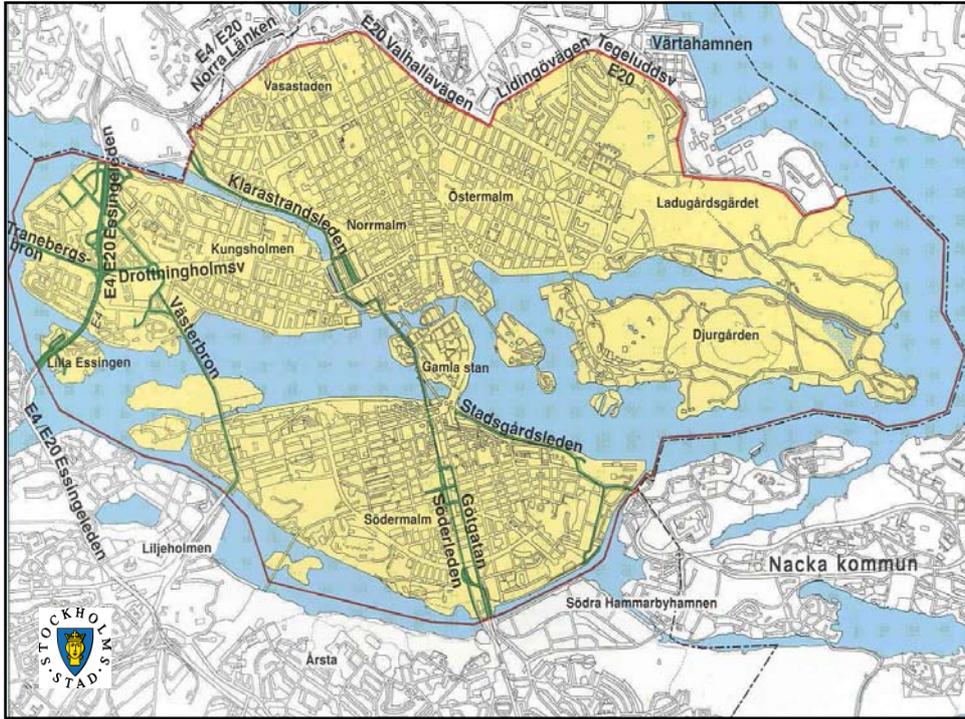
- Diesel powered, heavy trucks and busses weighing more than 3.5 tonnes are
- banned from defined inner city area, unless they
- comply with certain environmental regulations (environmental classes)



Marking vehicles

- Visible sticker on windscreen
- Enforcement by the Police
- Cities are entitled to charge applications





Primary objectives of congestion charging

- Reduced congestion
- Increased accessibility
- Better environment



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Secondary objectives of congestion charging

- To reduce traffic volume by 10-15% on the most-heavily-used routes during morning and afternoon/evening peak periods.
- To improve accessibility for buses and cars in the inner city.
- Revenue back to Stockholm



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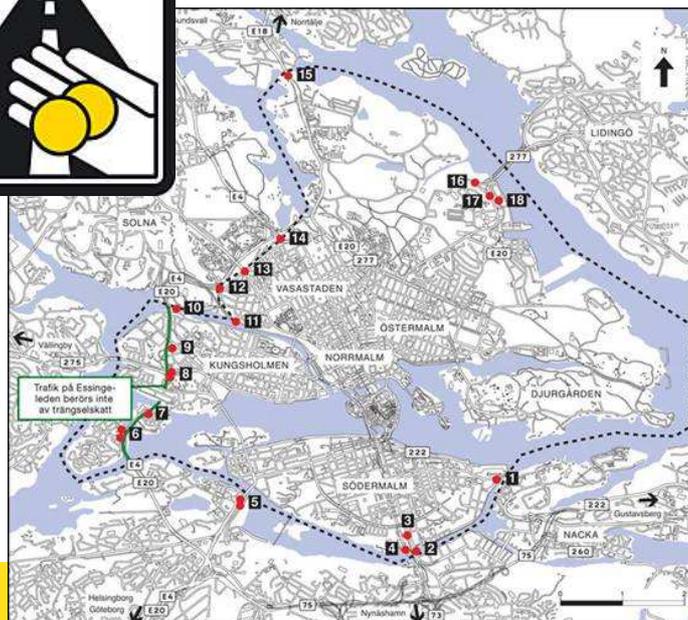
4 Steps

- Improved public transport
22 Aug 2005
- New park-and-ride sites
Autumn 2005
- Congestion charging
3 Jan-31 July 2006
- Referendum 17 Sept 2006



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Congestion-charging zone



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Congestion charges

PEAK PERIODS

7.30-8.30 a.m., 4-5.30 p.m

SEK 20

\$ 3

SEMI PEAK PERIODS

7.-7.30 a.m., 8.30-9 a.m.

3.30-4 p.m., 5.30-6 p.m.

SEK 15

\$ 2

MEDIUM-VOLUME PERIODS

6.30-7 a.m., 9 a.m.-3.30 p.m.

6-6.30 p.m.

SEK 10

\$ 1.5

MAXIMUM CHARGE:

SEK 60/day

\$ 9

Evenings, Saturdays, Sundays, holidays: **NO CHARGE**



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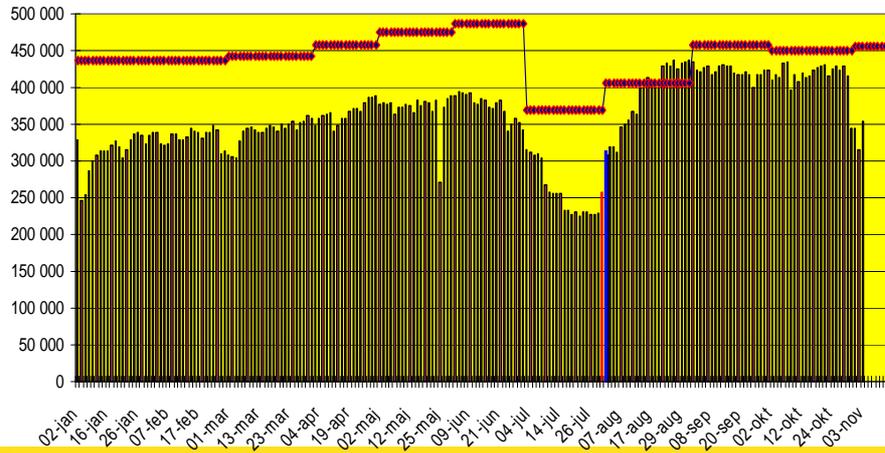
These traffic categories are exempt about 30 % of passages

- Emergency vehicles
- Vehicles with disability permits
- Foreign vehicles
- Transport services for the disabled
- Taxis
- Motorcycles
- Buses over 14 tons
- Vehicles using alternative fuel

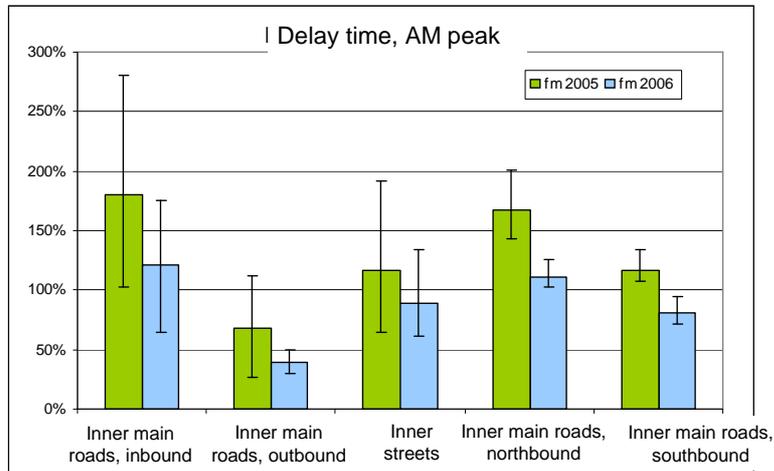


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Passages entering/departing the congestion-charging zone 06:00 – 19:00



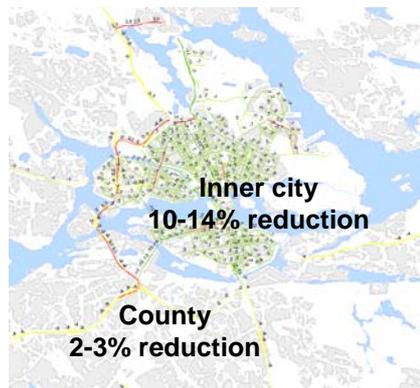
30-50% less time in queues



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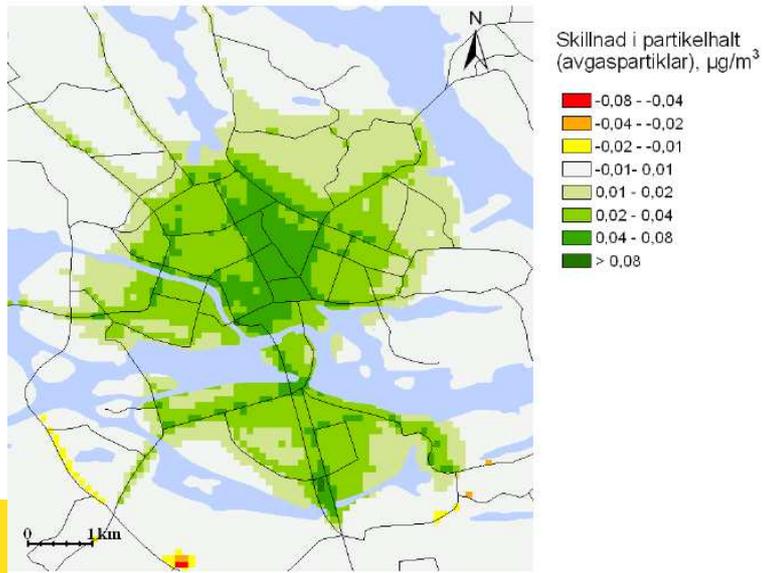
Less emissions improve health

- Emissions are reduced in the "right" area
- According to new findings, as much as 30 premature deaths can be saved (app. 300 living years)
- Climate effects large for a single measure
- One step towards national climate target

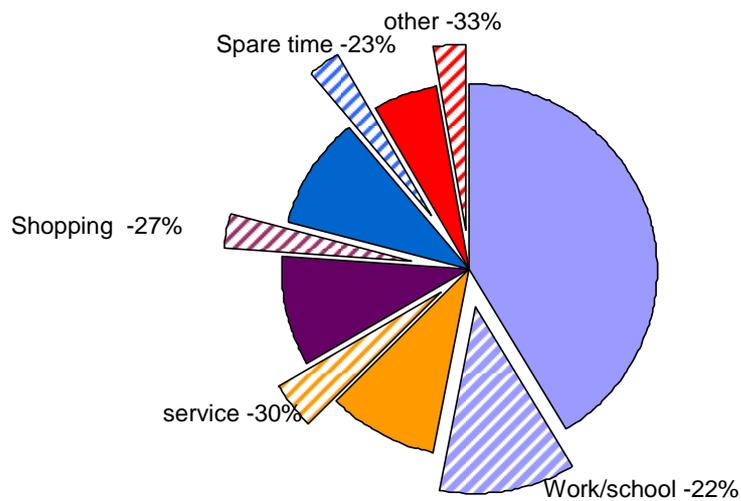


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Reduction in exhaustparticles

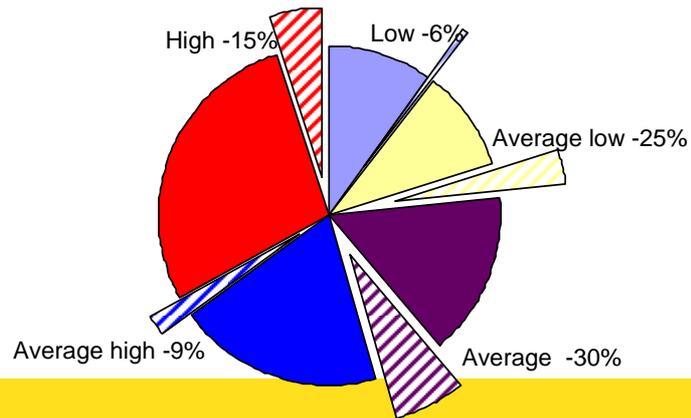


Which cartrips disappeared?



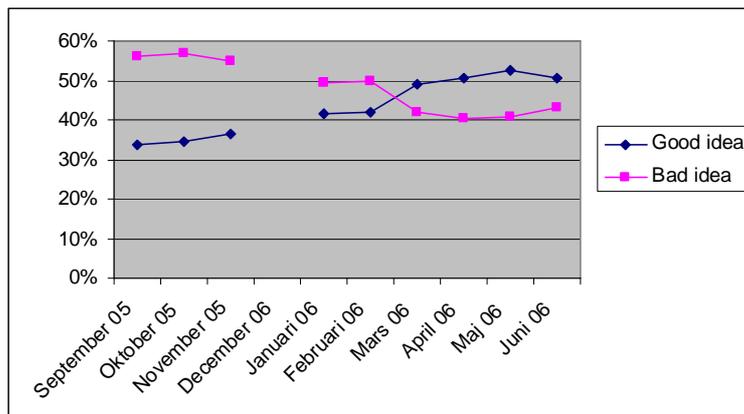
High incomer most affected – middleincomers changed most

Cartrips during congestion tim in and out from the inner city



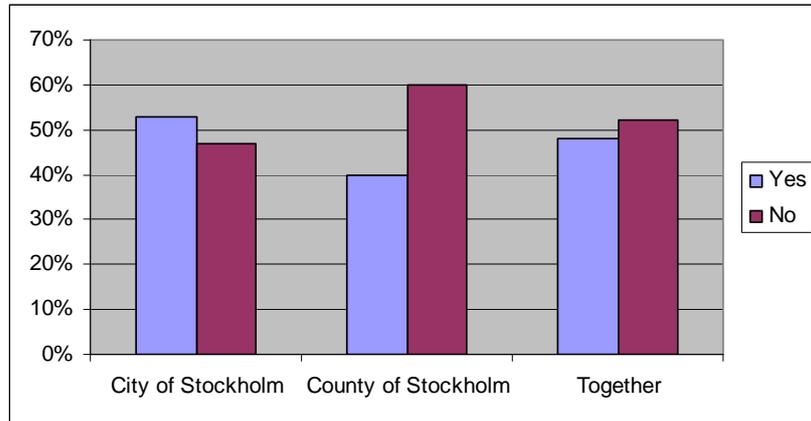
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Is the Stockholm trial a good idea



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The result of the referendum



Why was the trial a success?

- It worked technically very well
- People have known what to do
- The traffic effects have exceeded the expectations
- People have seen the benefits by themselves
- Continuously measuring didn't give room for rumours
- People have been prepared to change their minds



Continuation from 1 July 2007

- No transponders needed
- Improved customer services
- Better reports to business companies
- Better routines when new owner
- Everybody can pay by direct dept
- The car owner does not need to be the one who pay the tax
- July a free month
- In the future 30 days to pay
- The tax will be deductible
- In the long run a local charge instead of a national tax



www.stockholm.se
www.trendsetter-europe.org
www.stockholmsforsoket.se

