SWEDEN 2005

POPULAT. 9.0 MILJ
MOTORVEH. 4.7 MILJ
DRIVING LIC. 5.7 MILJ
FATALITIES ~ 440
Persons killed in road traffic and cars in use in Sweden 1935-2003

Killed

Cars in use (1000)

0 500 1 000 1 500 2 000 2 500 3 000 3 500 4 000 4 500 5 000


Killed

Cars in use at end of year
### Disability adjusted life years lost

<table>
<thead>
<tr>
<th>1998 Disease or Injury</th>
<th>2020 Disease or Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lower respiratory infections</td>
<td>1. Ischaemic heart disease</td>
</tr>
<tr>
<td>2. HIV/AIDS</td>
<td>2. Unipolar major depression</td>
</tr>
<tr>
<td>3. Perinatal conditions</td>
<td>3. Road traffic injuries</td>
</tr>
<tr>
<td>4. Diarrhoeal diseases</td>
<td>4. Cerebrovascular disease</td>
</tr>
<tr>
<td>5. Unipolar major depression</td>
<td>5. Chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>6. Ischaemic heart disease</td>
<td>6. Lower respiratory infections</td>
</tr>
<tr>
<td>7. Cerebrovascular disease</td>
<td>7. Tuberculosis</td>
</tr>
<tr>
<td>8. Malaria</td>
<td>8. War</td>
</tr>
<tr>
<td>9. Road traffic injuries</td>
<td>9. Diarrhoeal diseases</td>
</tr>
<tr>
<td>10. Chronic obstructive pulmonary diseases</td>
<td>10. HIV/AIDS</td>
</tr>
</tbody>
</table>
Probability of Pedestrian Fatality by Impact Speed

Derived from the Interdisciplinary Working Group for Accident Mechanics (1986) and Walz, Hoefliger and Fehlmann (1983)
Is Vision Zero expensive?

• yes, to modify or compensate earlier mistakes is expensive
• no, to do things right from the beginning is not expensive
# Typical costs
- if made right from the beginning

<table>
<thead>
<tr>
<th></th>
<th>Current costs in EURO</th>
<th>Costs for highest safety</th>
<th>Increase</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>1500</td>
<td>1,515 (barriers)</td>
<td>1%</td>
<td>90%</td>
</tr>
<tr>
<td>Vehicle</td>
<td>20,000</td>
<td>20,002 (SBR)</td>
<td>0.01%</td>
<td>20%</td>
</tr>
<tr>
<td>Vehicle</td>
<td>20,000</td>
<td>20,020 (alcohol)</td>
<td>0.1%</td>
<td>20%</td>
</tr>
<tr>
<td>Vehicle</td>
<td>20,000</td>
<td>20,200 (speed)</td>
<td>1%</td>
<td>20%</td>
</tr>
</tbody>
</table>
Summary

• A vision is helpful in guiding a modern society and an open system
• A vision for safety in the road transport system will challenge the professional view on ethics and responsibility
• A vision will turn the citizen into a subject that will put pressure on the professional society
• A vision can reduce costs and divide the responsibilities of the professional society and the citizen in a structured way
1998
First 2+1 with cable barrier opened

2004
1000 km (400 km semi-motorway) opened

2007
1800 km opened
Road design

The cross-section 2+1 on 13 m
Road design

- Permanent emergency openings every 3 km
Driver attitudes

Do you feel safer?

Don’t know  No  Neither yes nor no  Yes

% 0 20 40 60 80 100

1 11 16 72
Driver attitudes

Afraid of barrier crash?

- Don’t know: 0%
- No: 76%
- Neither yes nor no: 9%
- Yes: 14%
Maintenance costs

Work zone area safety is a major concern.
Motorcycles?

As yet 16 accidents:
- 2 fatalities
- 9 severe injuries
- 7 slight injuries

Median cable barrier involved in 7:
- 1 fatality
- 5 severe injuries
- 2 slight injuries

No proof that the barrier caused an accident or made consequences worse
Summary

• Level of service better than expected. Full hour maximum value is 1500-1550 v/h.

• Traffic safety better than expected. Ten fatalities and an estimated effect of about 40 – 60 % for severe injuries.

• Maintenance costs are increased.

• Work zone safety at cable repairs is a major problem.
Roadside area

Before

After
Speed cameras
Interesting?

Find out more on:

www.vv.se

or contact:

patrick.magnusson@vv.se