

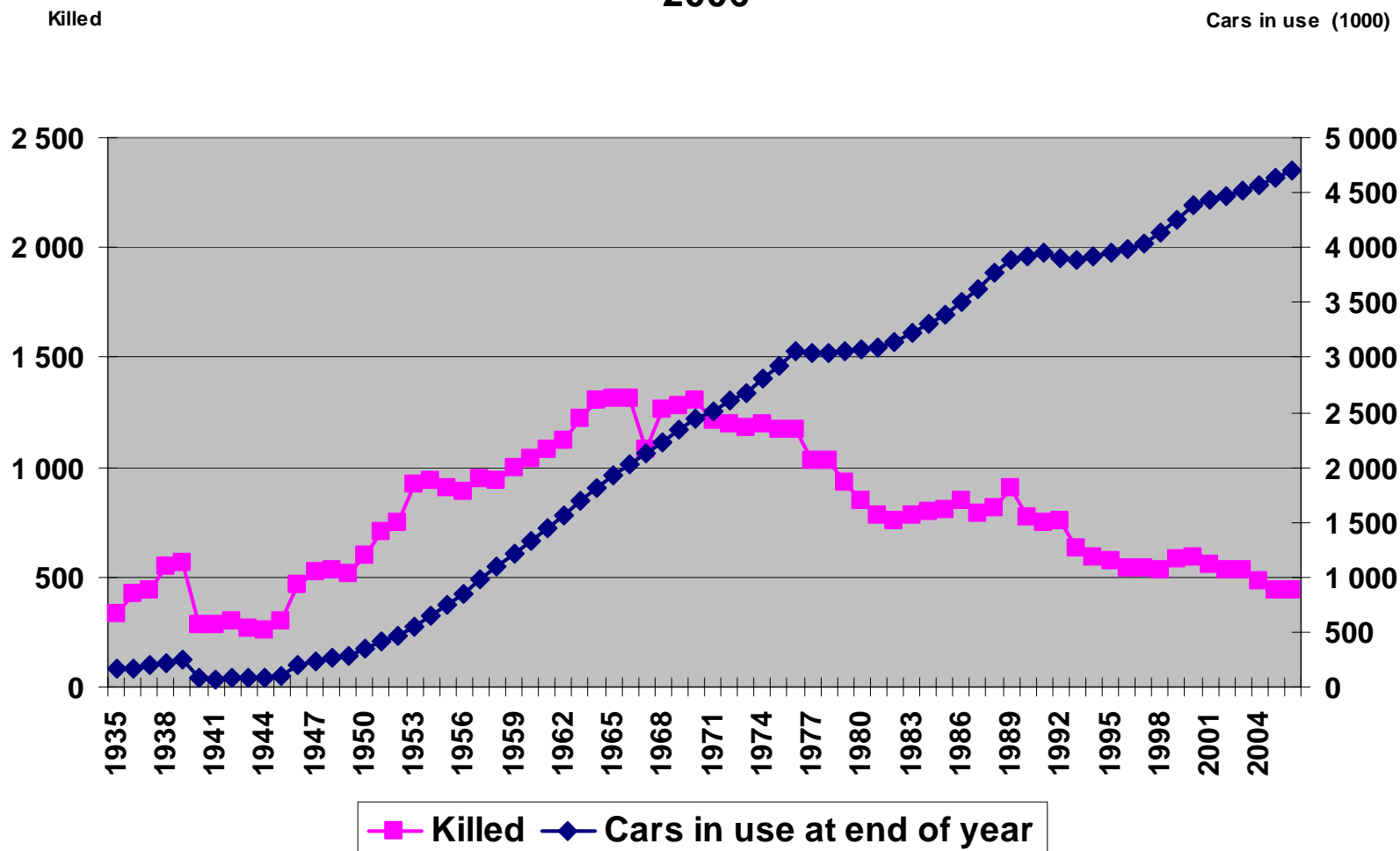
# Vision Zero: Basic principles and the use of ITS to improve safety

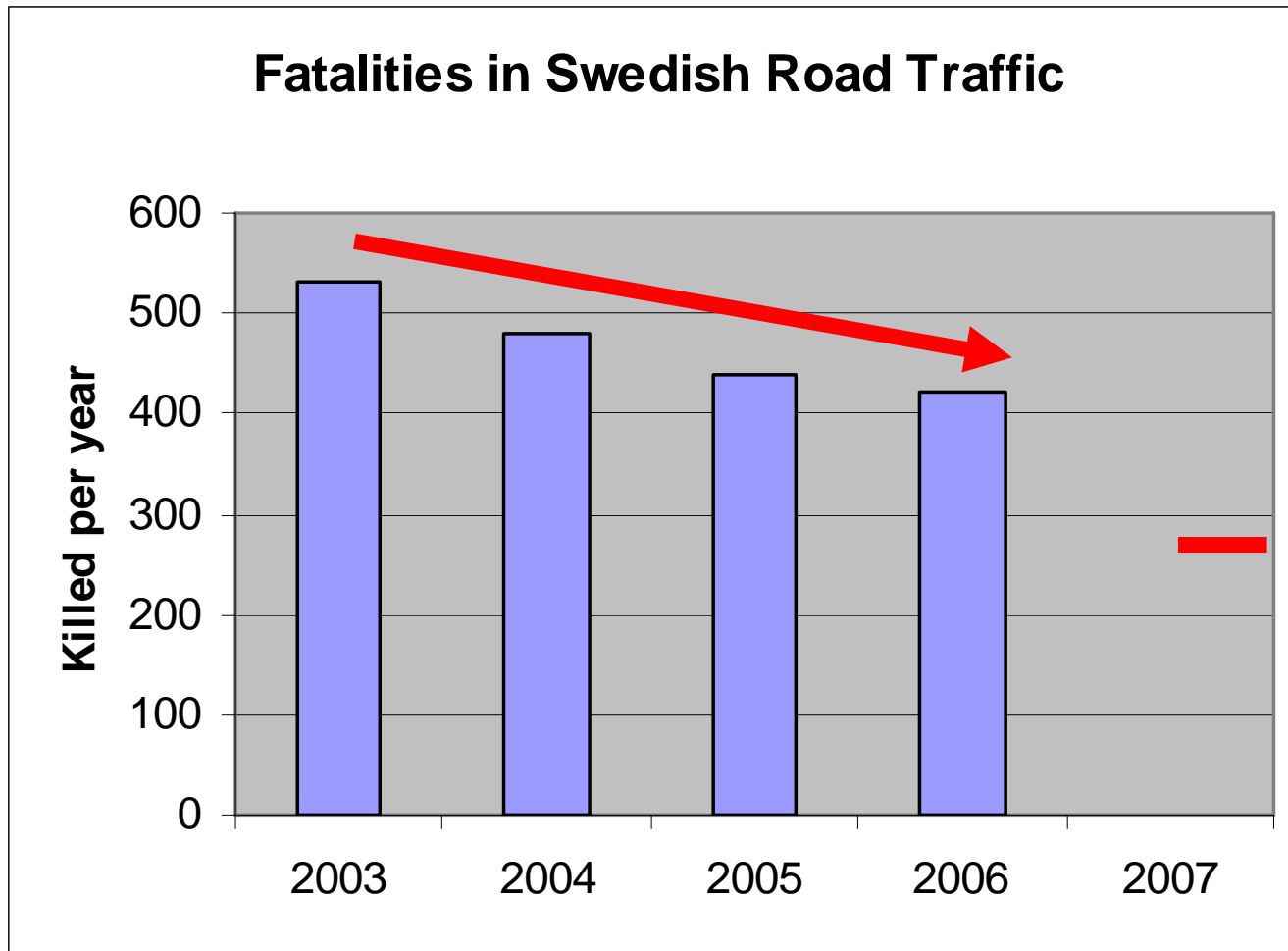


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# Fatalities in Swedish road traffic 1935-2006

Persons killed in road traffic and cars in use in Sweden 1935-2006





# VISION ZERO : A concept for safe traffic

## History

- On October 9<sup>th</sup> 1997, the Road Traffic Safety Bill founded on "Vision Zero" was passed by a large majority in the Swedish Parliament. This represented an entirely new way of thinking with respect to road traffic safety.

## Goal

- The long term goal is that no-one shall be killed or seriously injured within the Swedish road transport system.

# Vision Zero for many stakeholders

- Traffic safety is a shared responsibility for many stakeholders
- A joint vision is a powerful tool to focus the work
- A vision sets out a future desired situation – not a step by step action with no definition of its end point



# Vision zero

- Fatalities and serious injuries
- Human tolerance of mechanical force
- System designers responsibility
- People want safety
- Market forces
- Eliminate risks



# Traffic Safety and ITS in Sweden— Priorities

- Intelligent Speed Adaption
- Alcohol Ignition Interlocks
- Seat Belt Reminders
  
- Trials with variable speed limits
- Speed Surveillance with cameras
- Traffic Management Systems on roads with heavy traffic
- In Vehicle Safety Systems (IVSS)
- eCall
- Improved Traffic Information Services



# Speed

”...speed at the time of collision is the key determinant of the kinetic energy the human body sustains in a crash, it is the single most important factor in determining the outcome of a collision and the single most important factor to keep under control.”

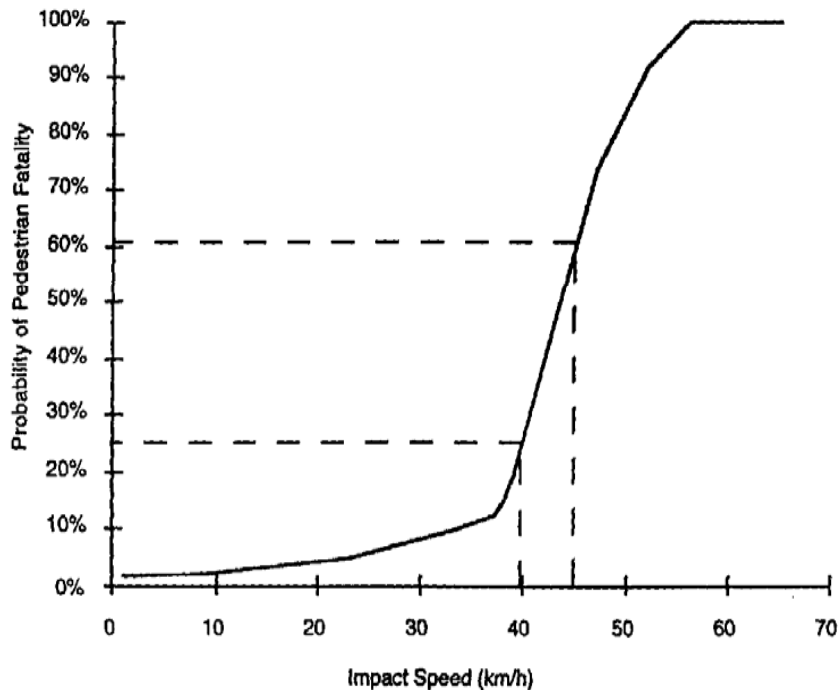
WHO: Preventing road traffic injuries –  
A public health perspective for Europe



# Probability of Pedestrian Fatality by Impact Speed

Figure 2: Probability of Pedestrian Fatality by Impact Speed.

Derived from the Interdisciplinary Working Group for Accident Mechanics (1986) and Watz, Hoefliger and Fehlmann (1983)



# Use of Speed Alert Systems

- 200 SRA vehicles
- 50 organisations – 1500 systems
- Both rural and urban network digitalized
- System with warning signal



# Traffic Safety Cameras

- 700 road safety cameras
- Will save 20-30 lives per year
- All the cameras are clearly conspicuous and well marked
- All the cameras are equipped with radar
- Only those exceeding the speed limit is photographed
- All the cameras are connected directly to the police
- The cameras are in use around the clock throughout the entire year





## Reduces speeding and saves lives



### Facts

- 700 road safety cameras save 20-30 lives/year.
- All the cameras are clearly conspicuous and well marked.
- All the road safety cameras are equipped with radar.
- Only those exceeding the speed limit are photographed.
- All the cameras are connected directly to the police.
- The cameras are functionable around the clock throughout the entire year.

We do not want anyone to be caught for speeding. What we do want is to do everything possible to prevent people from being killed or seriously injured in traffic.

More information about Sweden's new life-saver is available at [www.vv.se](http://www.vv.se).

VÄGVERKET/BEETIM/050203



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SE-102 26 Stockholm  
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# Use of Alcohol Ignition Interlocks

***In Europe it is estimated that 25% of the severe crashes are related to alcohol.***

***In Sweden about one out of three road traffic fatalities is related to alcohol***

- For repeat offenders
- Transport service - already 15 000 vehicles in use
- Mass market – SAAB and Volvo close to breakthrough with next generation systems



# Variable Speed Limits

- Trial 2003-2007
- 20 road sections depending on:
  - risk for slippery road
  - risk for queue building or other dense traffic situations
  - Risk for accidents in intersections
  - Children on their way to school bus
- 30 to 120 km/h in stages of 10 km/h.
- Outcome
  - Greater acceptance among road users
  - Increased traffic safety



# Moving towards Co-operative systems

*System that allows communication between vehicles and with infrastructure to improve the systems and services available to drivers and other road users.*

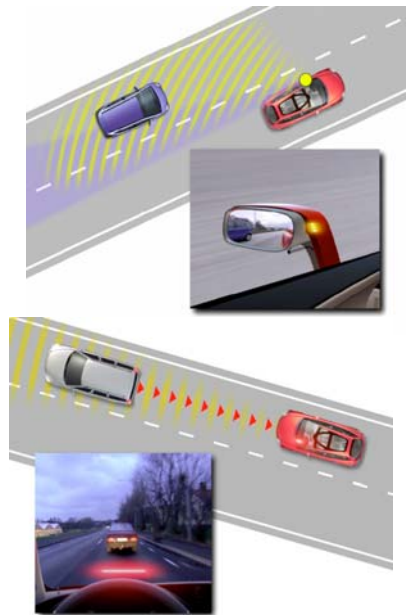
They will provide for significant improvements:

Greater transport **efficiency**

- Making better use of the capacity of the available infrastructure
- Managing varying demands

Increased **safety and comfort**

- Improving the quality and reliability of information used by advanced driver assistance systems
- Allowing the implementation of advanced safety applications



# More stakeholders must co-operate

- *Research*
- *Industry*
- *Public authorities/road operators*
- *Drivers*
- *The public*
- *Politicians*
  
- *National and international*





# Summary and conclusions

- Vision Zero has changed the way of thinking with respect to road traffic safety in Sweden.
- People want safety
- ITS and support systems has great potential to improve traffic safety
  
- More use of Speed Alert and Alcohol Ignition Interlocks
- Dynamic speed limits from 2008
- More traffic safety cameras
- Development and demonstration of In Vehicle Safety Systems (IVSS) in cooperation with the car industry
- eCall
- Traffic Management on roads with heavy traffic
- Sweden test site for innovative ITS applications

# Thank you for your attention!

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