

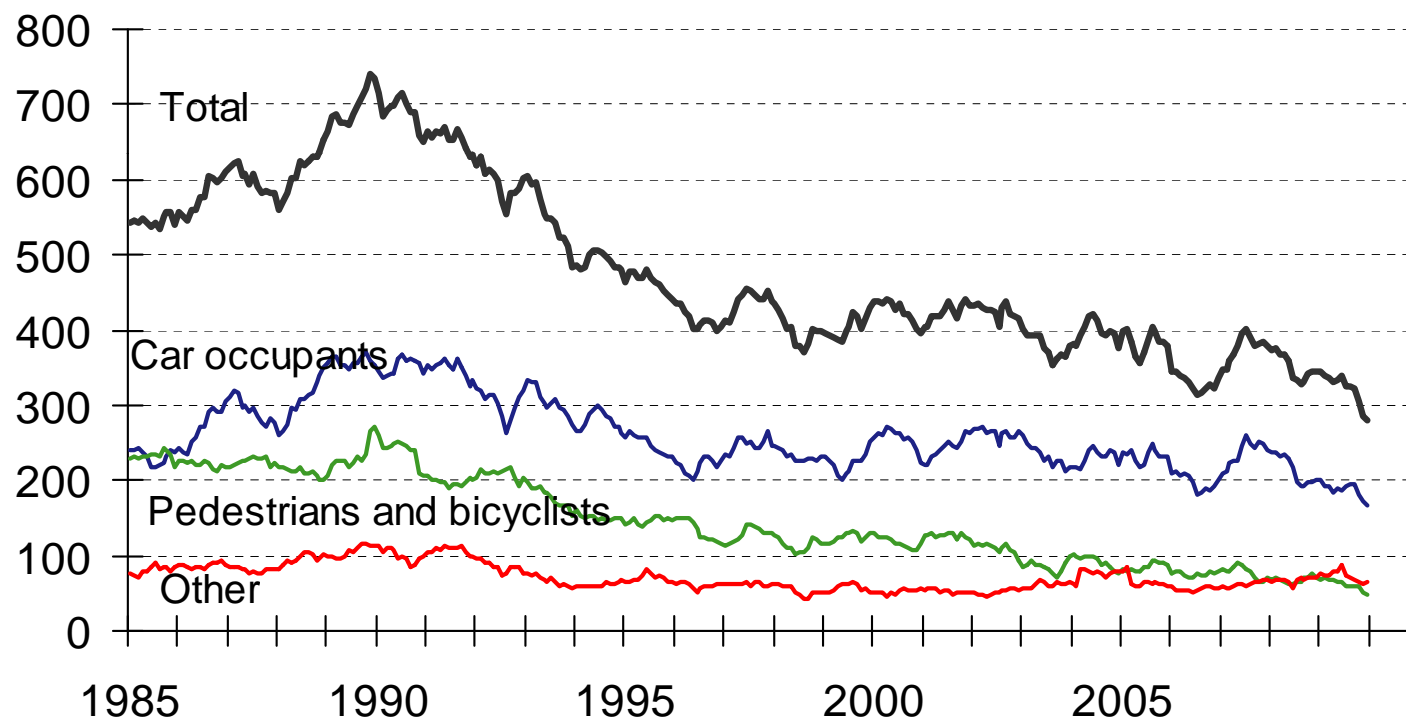
What can Estonia learn from the Finnish Experience and what can Finland learn from Estonia

ETSC Road Safety PIN Talk in Estonia 21.5.2010
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Contents

- Effect of decreasing the threshold of speed enforcement
- Introduction of uniform enforcement threshold - preliminary results
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ROAD ACCIDENT FATALITIES DURING THE LAST 12 MONTHS



Lower enforcement threshold can decrease speeding

- Experiment on a 43 km long section of two-lane rural road 2007 with fixed speed limit of 60, 80 or 100 km/h
- 13 fixed speed camera stations since 2003 → mean speed decreased between 1.5 and 4.4 km/h
- Reduction of enforcement threshold from about 20 km/h to 4 km/h combined with information (from the 1st of September 2007)
- As a result, mean speeds decreased on the spot of the radar by 2.5 km/h, the standard deviation of speed decreased by 1.1 km/h and the proportion of vehicles exceeding speed limit decreased by half
- Speed over distance on a 6.5 km long road section decreased between 3.3 and 3.6 km/h
- The number of processed offences did not increase

Source: Luoma, Rajamäki & Malmivuo. 2010. Effects of reduced threshold of automated speed enforcement on driving speed. Article submitted for publication.

Uniform enforcement threshold can reduce speeding

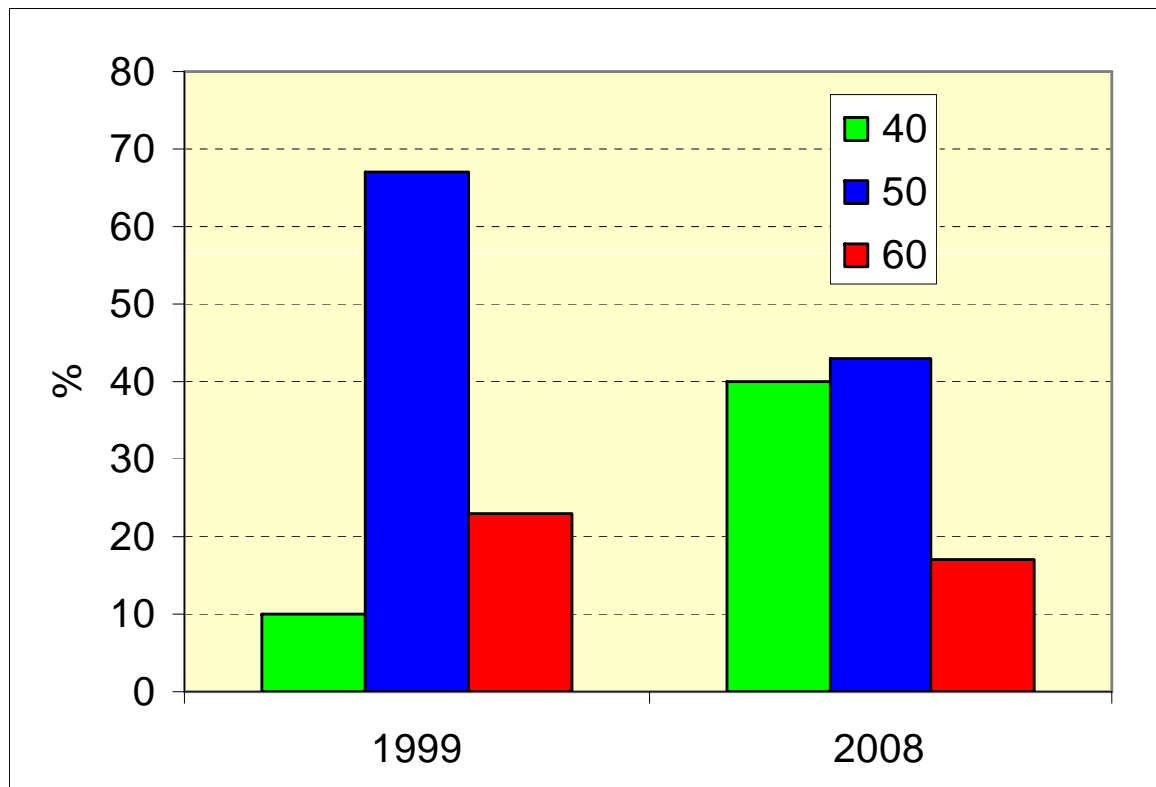
- Typical tolerance in speed enforcement has been 15-20 km/h over the speed limit
- The Finnish police introduced new uniform speed enforcement thresholds in the autumn 2009:
 - Written notices are given for speeding 6-10 km/h over the limit
 - Monetary sanctions are issued for speeding 11 km/h and more over the limit
- Expected to reduce especially 'minor' speeding offences (< 15-20 km/h)
- More sanctions have been issued for 'minor' speeding offences
- Drivers seem to be aware of the new, reduced threshold and some of them take it into account in their speed choice
- Statistically, even a small effect on a large number of 'minor' speeding offences can be as important as a large effect on a small number of major speeding offences

Impact of speed cameras implemented in Finland 1998-2007

- At the end of 2008, fixed speed cameras covered about 3,000 kilometres: 22.5 % of main roads and 30 % of traffic on main roads.
- Mean speed decreased between 1 and 3 km/h, far away from cameras. Even greater decrease near cameras.
- Indications that speeds are reduced also on roads without cameras.
- Safety was improved more on main roads than on other roads.
- On main roads safety was improved more on sections with speed cameras than on other road sections.
- The effect was greatest in winter and when traffic volumes were high.
- Greatest effect on other than single-vehicle, meeting and overtaking accidents.
- Annual effect: 87 injury accidents and 27 fatalities less.

Source: Peltola & Rajamäki.2009. Automaattisen nopeusvalvonnan vaikutusarvio, vuosina 1998–2007 käyttöön otetut valvontajaksot. Tiehallinnon sisäisiä julkaisuja 57/2009.

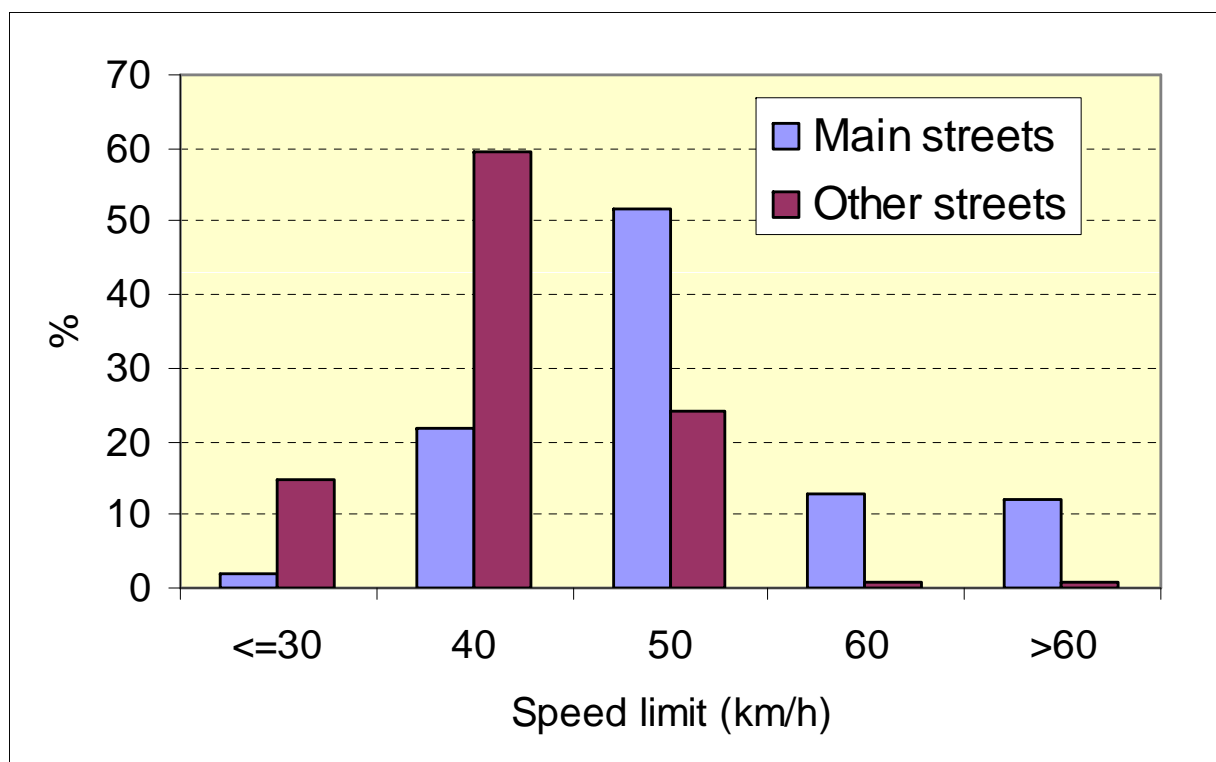
Speed limits on public roads in densely populated areas



Concerns mainly public roads passing through villages

Source: Rajamäki. 2008. Status of urban area speed limit system (in Finnish).
http://alk.tiehallinto.fi/julkaisut/pdf2/3201113-v-taajamien_nopeusraj_jarjest_tila.pdf.

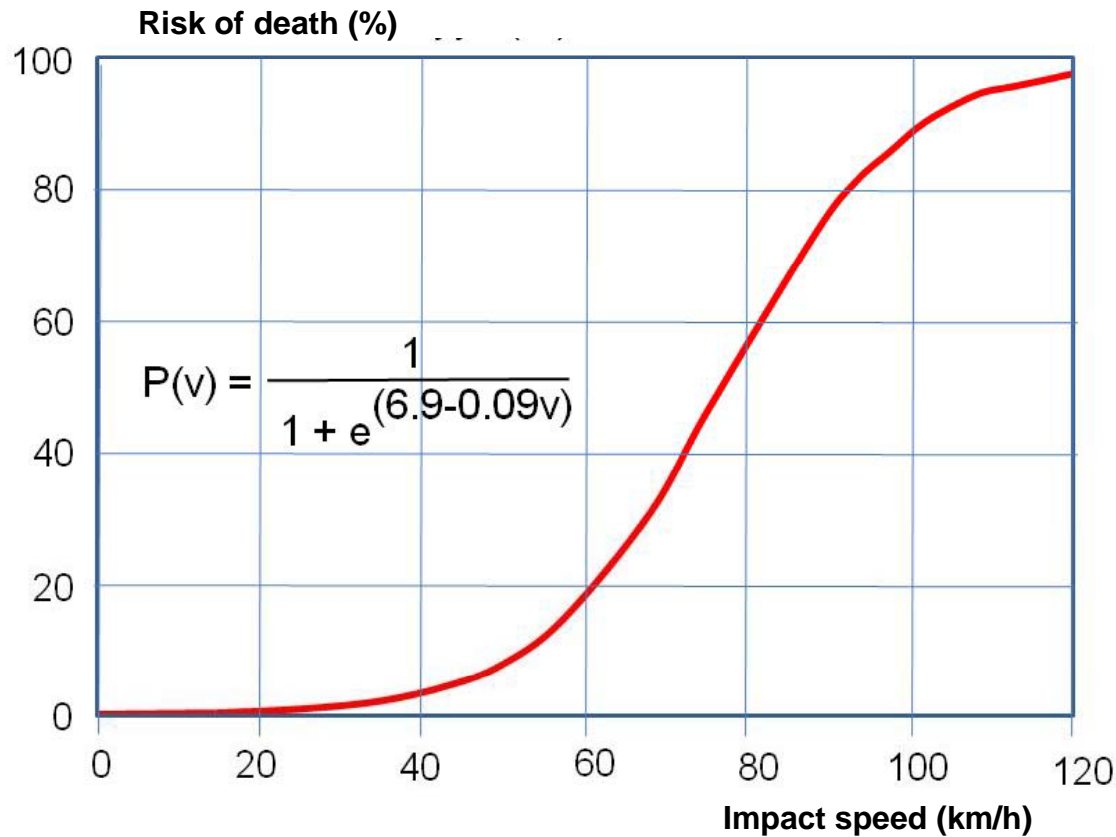
Speed limits on urban streets



Concerns mainly cities and other urban areas

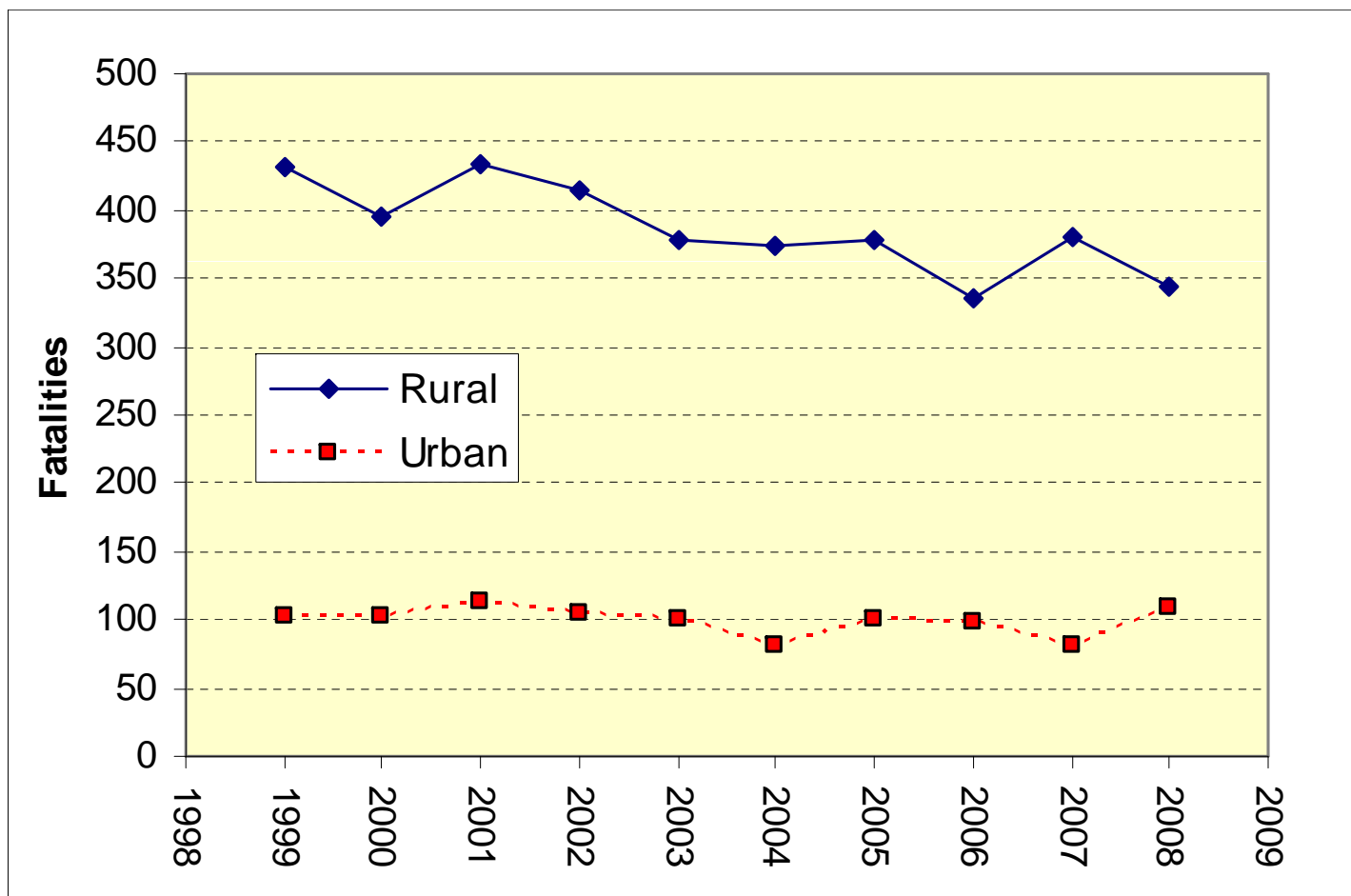
Source: Peltola, Rajamäki & Luoma. 2007. Speed management – present state and possibilities (in Finnish), <http://www.lintu.info/NOPHA.pdf>

Pedestrian fatality risk as a function of impact speed



E. Rosén, U. Sander: Pedestrian fatality risk as a function of car impact speed. Accident Analysis and Prevention 41 (2009) 536–542

Road accident fatalities in rural and urban areas



Conclusions

In Finland:

- Speed cameras prevent annually approximately one death per 100 kilometres of main roads with speed cameras.
- Uniform and low enough enforcement threshold can further improve the effectiveness of speed cameras.
- Urban 40 km/h speed limit is widely applied, but the effect on safety is still largely unknown, even though in theory it has large safety potential.
- The three main killers on Finnish roads still remain: speeding, drink-driving and non-use of safety devices (seat belts & helmets).

What can Estonia and Finland learn from each other?

- There is no simple answer to this question.
- What works in one country does not necessarily work in the other, if differences in infrastructure and society in general are not taken into account.
- Wisdom grows in both countries by maintaining and improving exchange of information about road safety issues.



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