

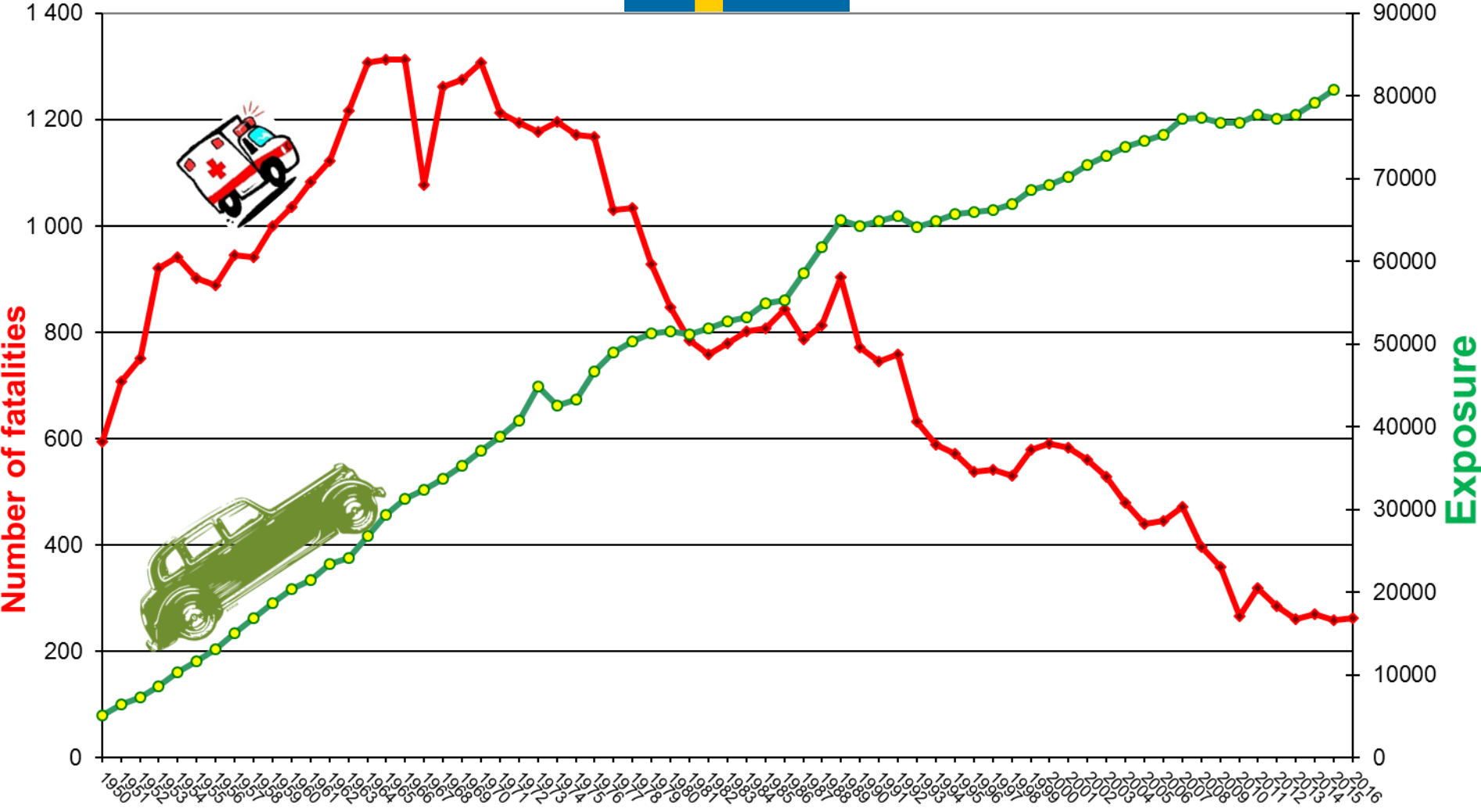
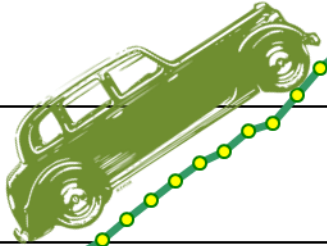
# Vision Zero

Lars Ekman



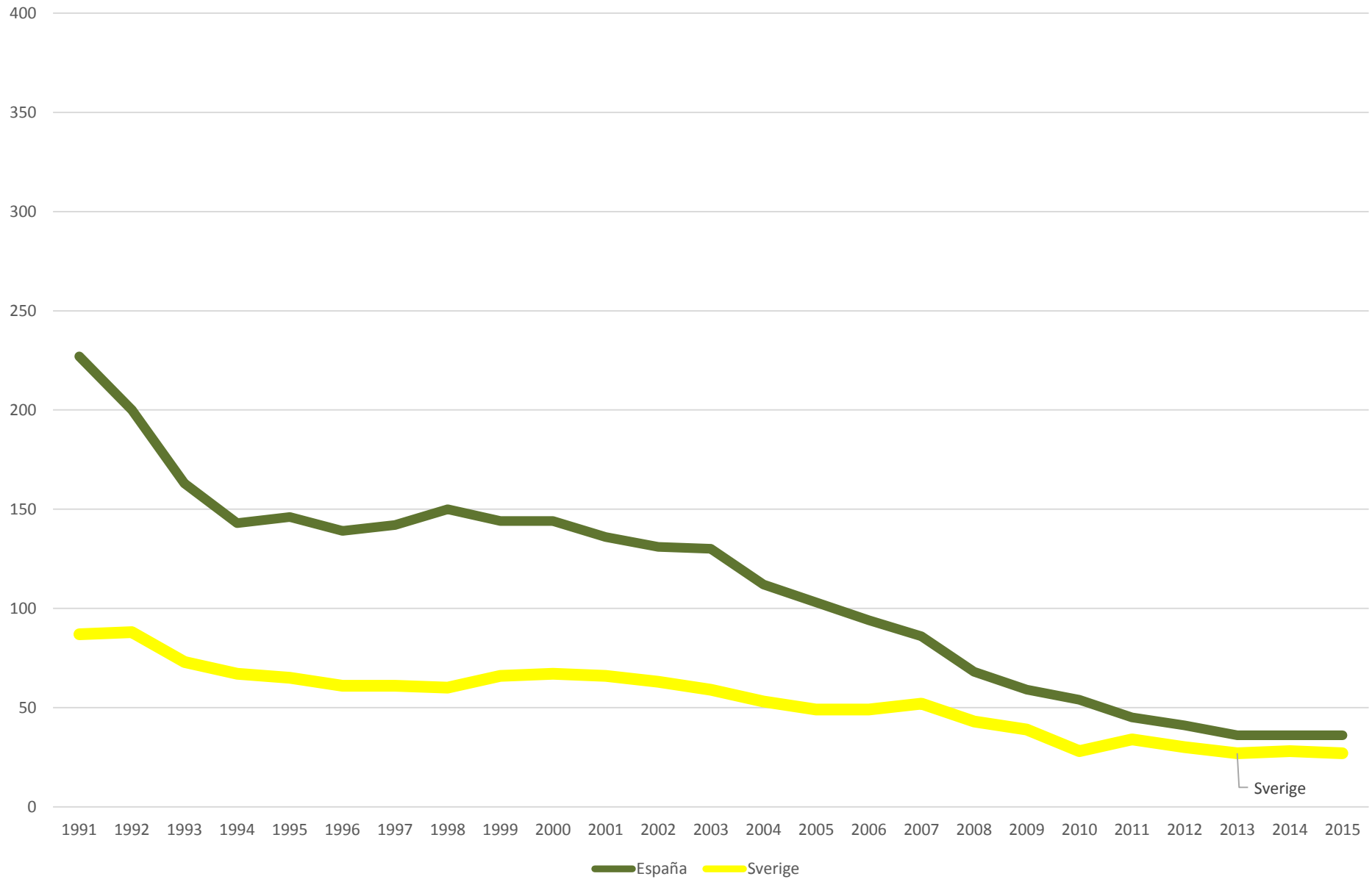
**TRAFIKVERKET**  
SWEDISH TRANSPORT ADMINISTRATION

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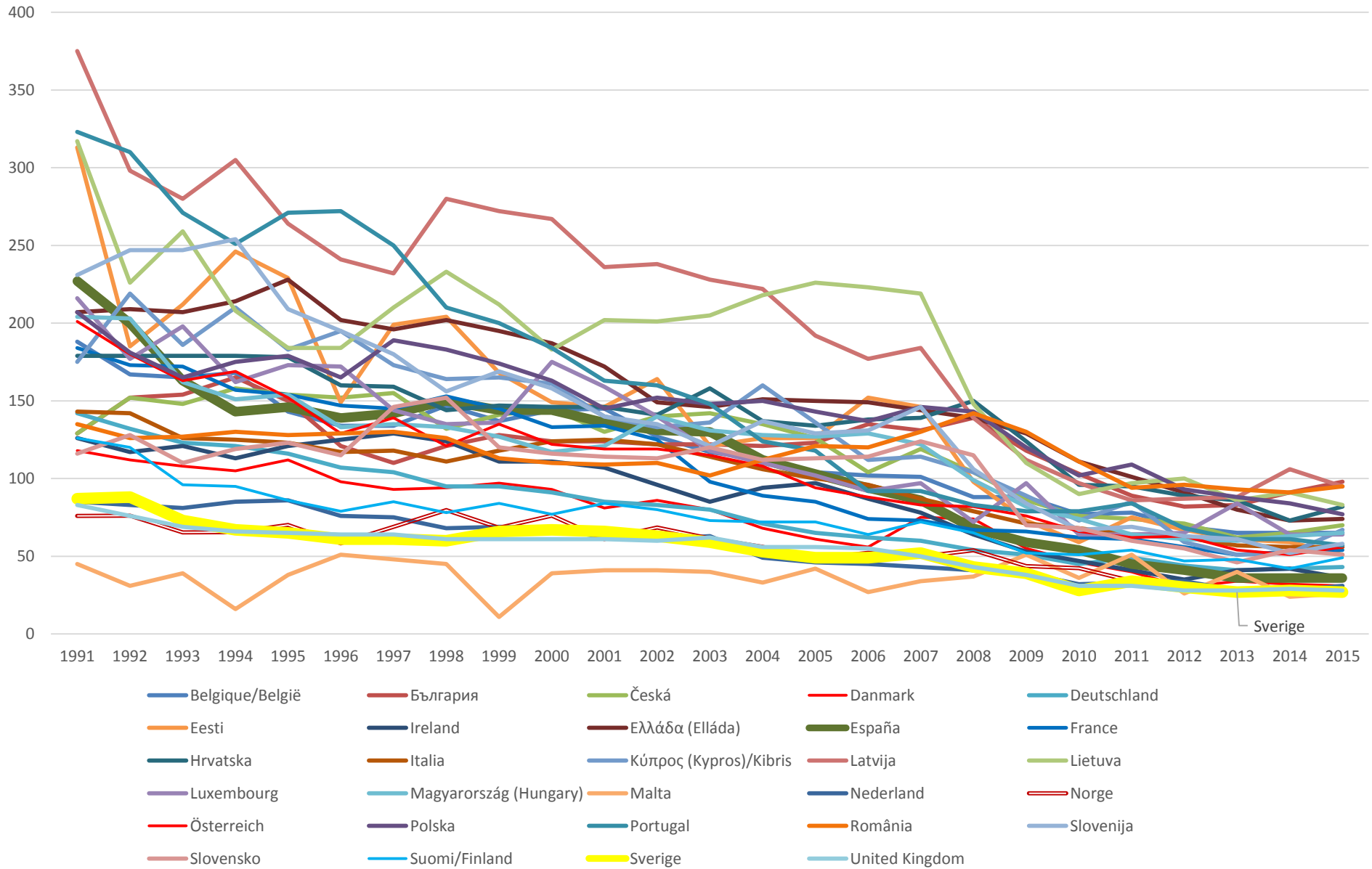


● Road fatalities ● Exposure

# Death per inhabitants



# Death per inhabitants

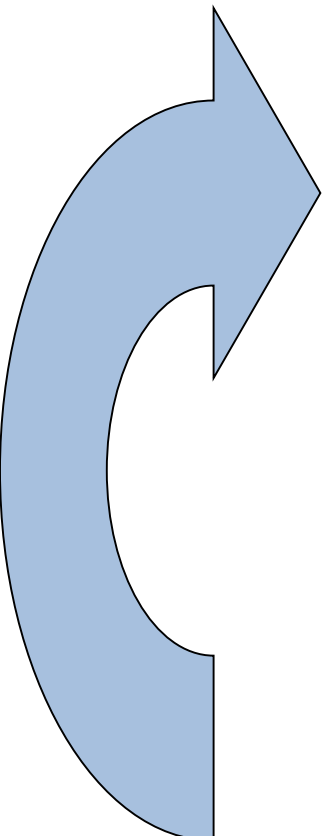




**1997**

**“No one shall be killed or seriously injured within the road traffic system.”**

# Shared responsibility



**System designers** are responsible for the design, operation and the use of the road transport system and are thereby responsible for the level of safety within the entire system.

**Road users** are responsible for following the rules for using the road transport system set by the system designers.

**If the users fail to comply** with these rules due to a lack of knowledge, acceptance or ability, the system designers are required to take the necessary further steps to counteract people being killed or injured.



# Vision Zero's 5 main components

- Vision for many stakeholder
- Ethical platform
- Shared responsibility
- Driving forces for change
- Safety philosophy



# Shared Vision

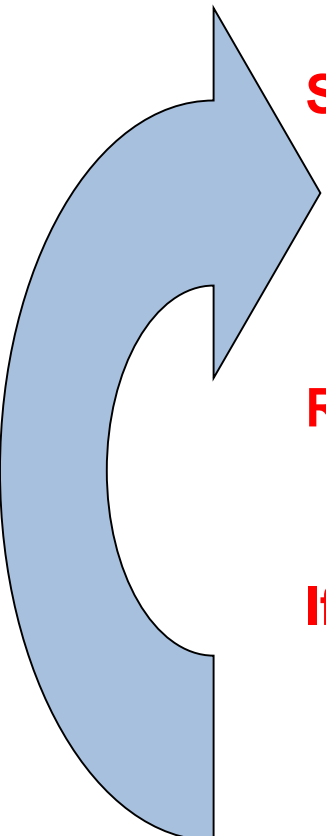
1. After ten years, more or less all stakeholders share the vision
2. The private sector and NGO adopted the vision early
3. Ratified by the Swedish Parliament in 1997

**The most far reaching approach, so far,  
has been set by Volvo Cars – in 2020  
no one will be killed or seriously in or by  
Volvo**





# Shared responsibility



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# Vision Zero a road safety policy innovation

<b>Traditional approach</b>	<b>Vision Zero approach</b>
Accidents	Serious injuries
Individual road user behavior	The system is not designed according to human capability and human tolerance against external violence – in other words what the human body can stand.
Road users have primary responsibility	System designers have primary responsibility
People don't want safety	People demand safety
Change individual road user behavior	Change the environment (road environment, vehicles, support good social norms)
Risk reduction	Eliminate fatalities and serious injuries

**Vision Zero – a road safety policy innovation DOI:10.1080/17457300.2011.635213**

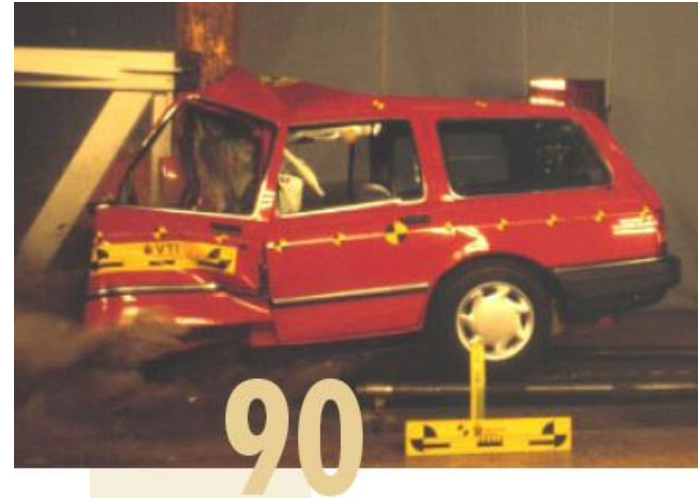
**Matts-Åke Belin, Per Tillgren & Evert Vedung**

**Available online: 14 Dec 2011 <http://www.tandfonline.com/doi/abs/10.1080/17457300.2011.635213>**



# Speed limit, road design and car design goes hand in hand!

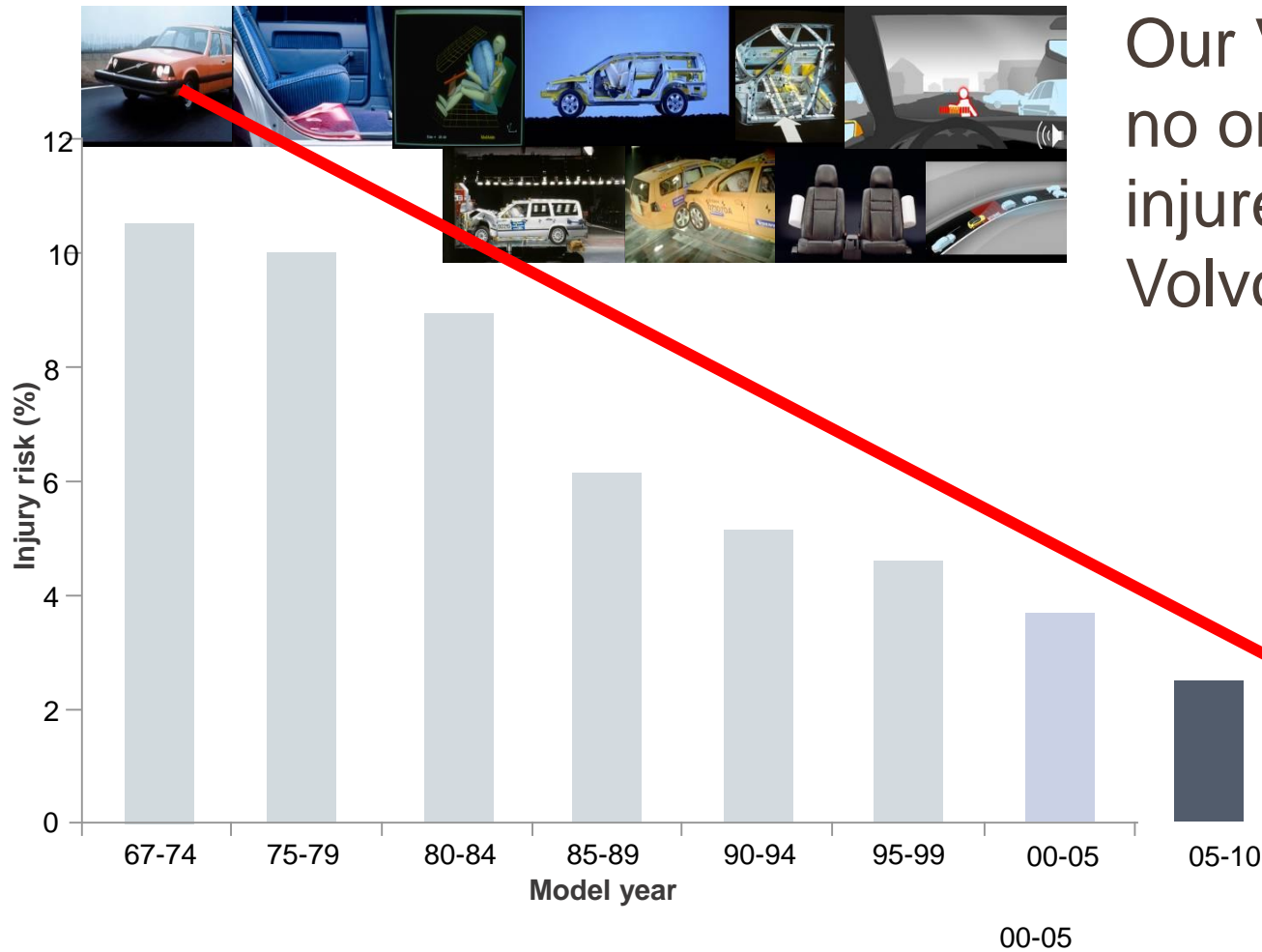
- Crash test 90km/h into tree



- Crash test 90km/h into guard rail



# The Target - Volvo Vision 2020



Our Vision is that no one is killed or injured in a new Volvo by 2020

*Active safety technologies*

**0!**

# The vehicle of the future - Just like the farmer's horse:

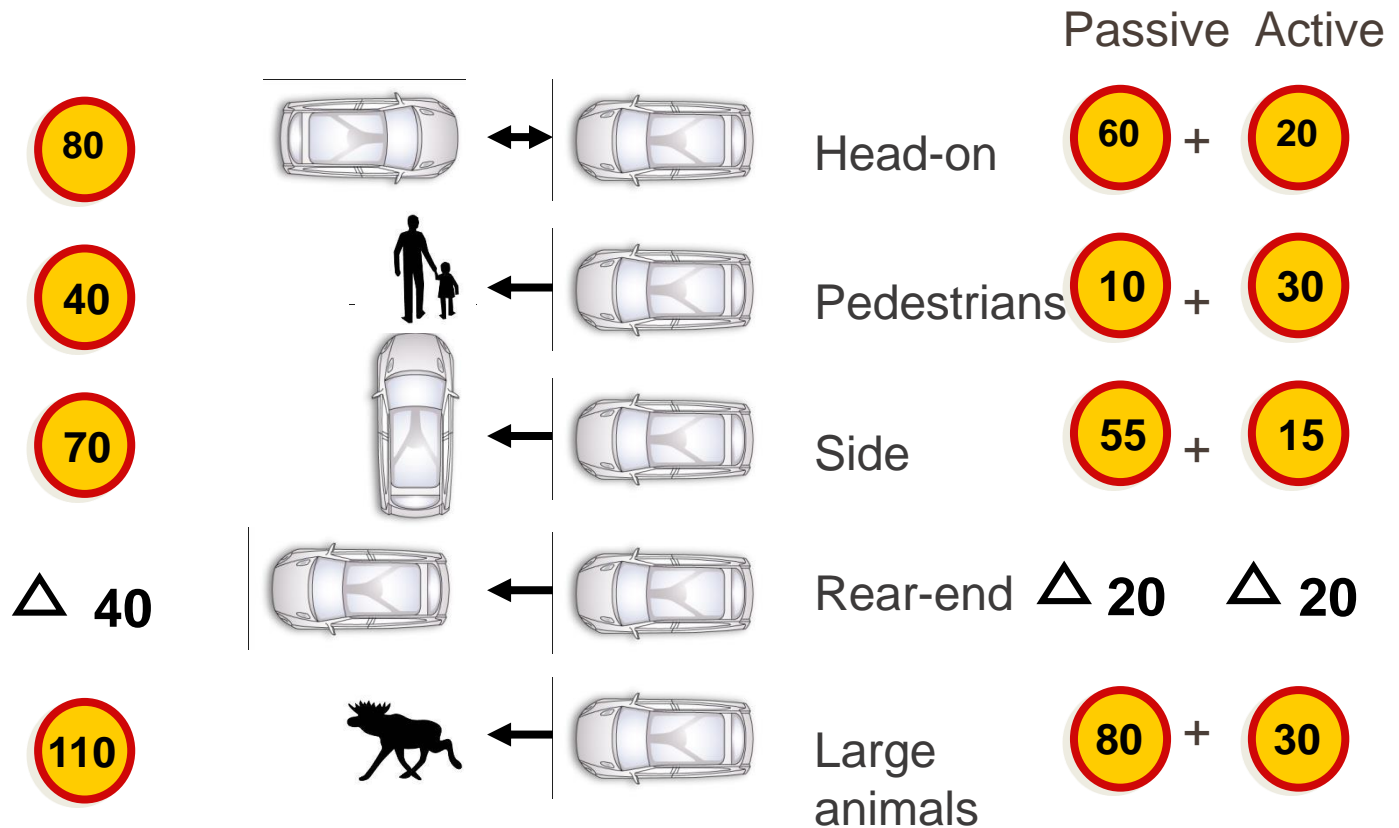
- Can be steered actively and in full control by the farmer *but*
- It can handle a situation where the farmer falls asleep and still find its way home *and*
- It will not accept being steered into a tree or off a cliff



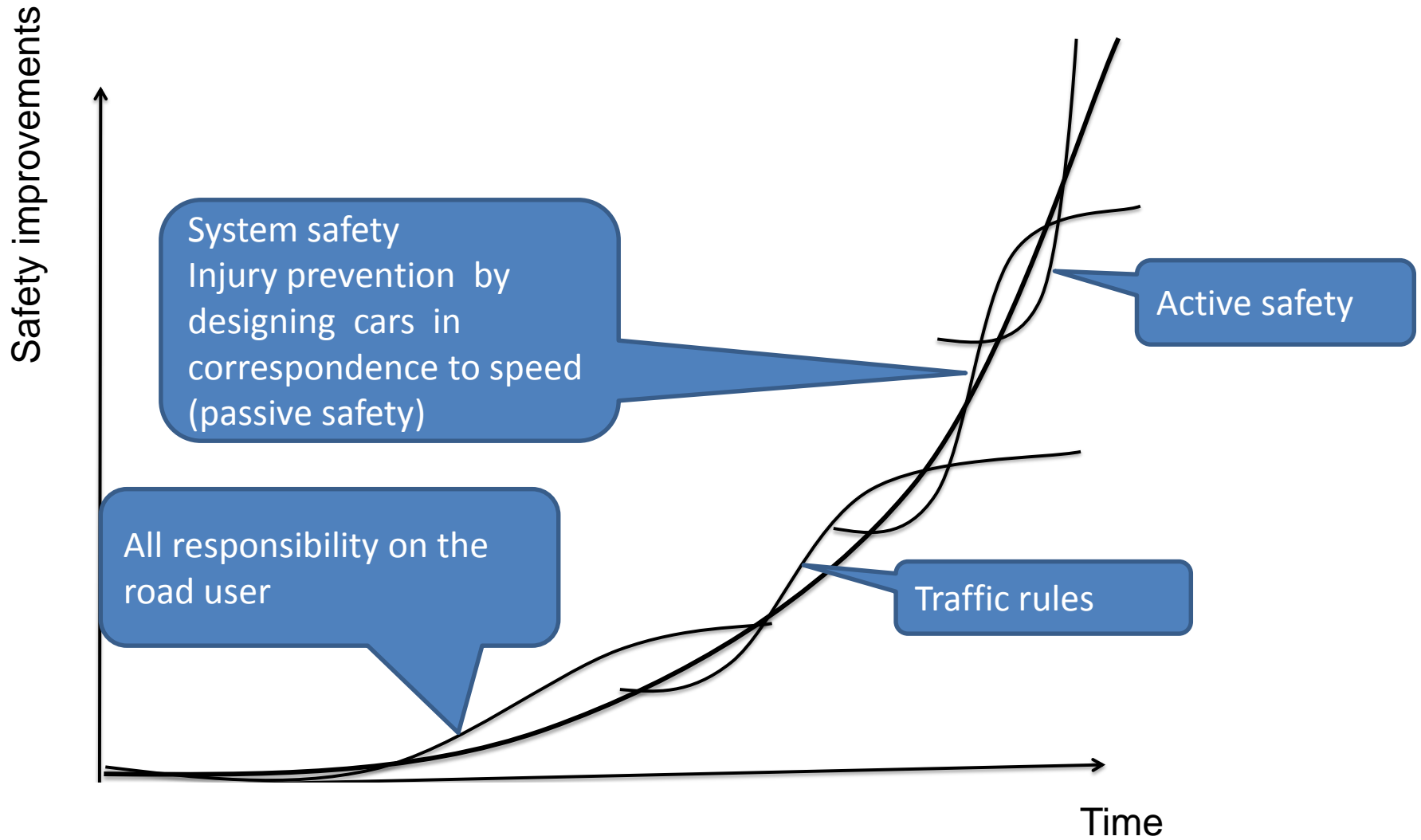
# Division of Responsibilities

Example of common view on the division of responsibilities.

Below this speed:  
vehicle responsible.  
Above this speed:  
infrastructure responsible.



# Safe Vehicle

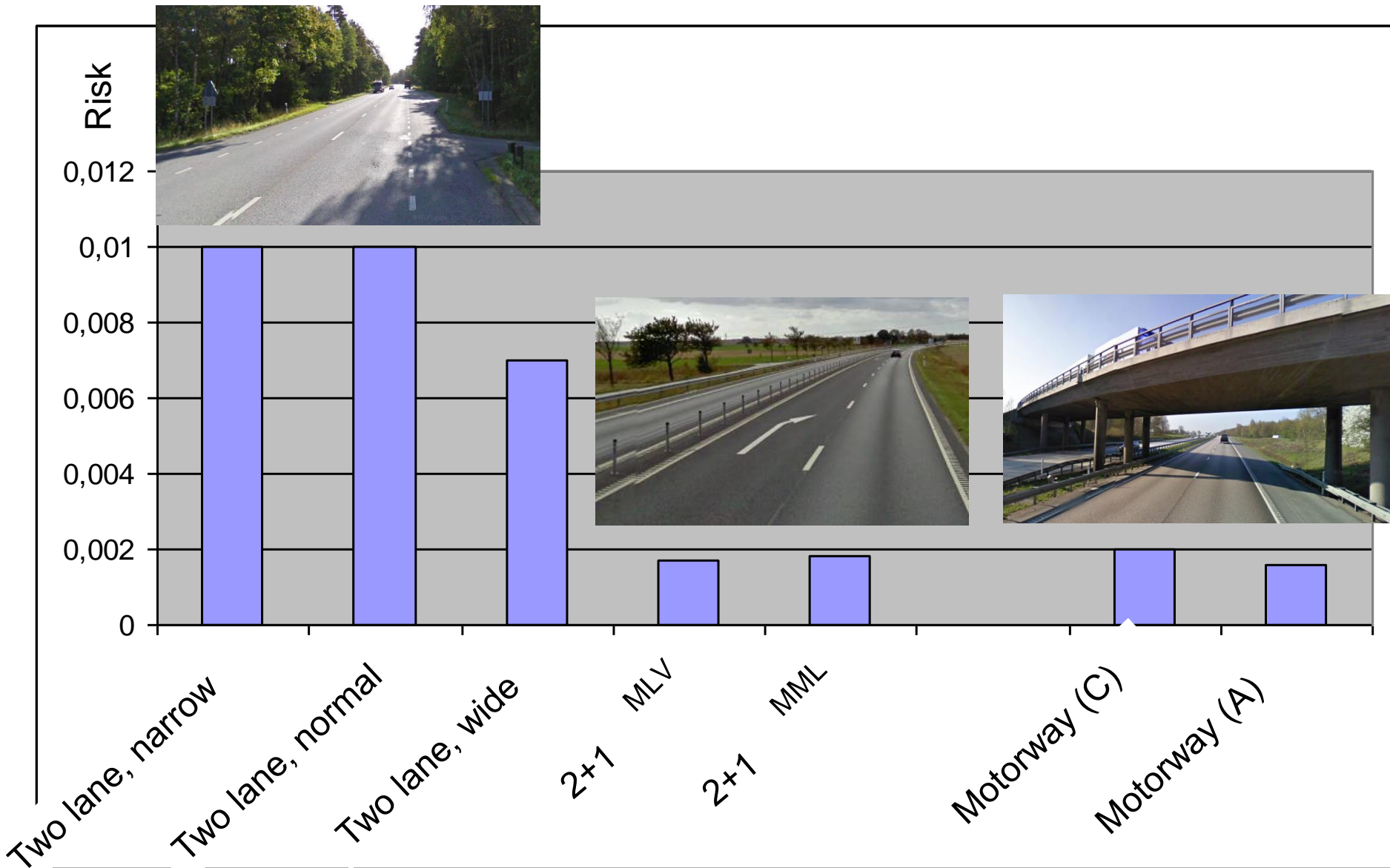


Kindly contributed by Roger Johansson



Antal av Olycksid	Ålder																																					
År		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
2003			1	1			2	1	2		1			1	1	1	3	3	9	12	15	10	8	8	10	5	5	8	5	5	5	2	1	7	5	7	3	3
2004		2	1		1	1		2			1				1		4	1	1	11	9	8	10	7	9	3	3	9	2	6	3	5	2	5	3	3	5	1
2005		1					1						1	1	1	2		6	7	9	8	6	8	5	6	5	7	6	3	3	5	5	5	3	5	2	3	
2006			1	1		1	1		1	1				1	2	6	6	6	9	12	5	8	13	4	8	4	3	5	4	3	6	2	2	5	3	4		
2007							1				1			1	1		7	9	13	13	13	5	6	2	4	5	4	1	4	3	6	3	5	3	6			
2008		1	1												2	8	7	12	7	11	10	1	3	6	3	6		5	3	3	2	2	1	3	5			
2009				1						2				1	3	14	8	13	8	7	5	3	3	1	4	3	1	3	3	2	2	2	3	2				
2010			1		1	1	1	1						1	1		2	4	5	6	4	6	2	7	2	2	3	3	2	4	1	2	1	1	2	1	1	
2011		1											1		1			4	7	7	5	8	3	4	2	1	2	3	1	1	1	2	1		2	1	1	
2012			1								2			1		1	2		3	6	2	4	4	2	4	3	2	2	4	3	2	2	3	2	1	4	1	
2013								2						1	3	3	5	2	9	1	5	1	1	8	1		3			1				2		1		2
2014		1										1			1		1	5	5	2		2	1	2	2		3	3	2	1		1	3	2	2			
2015			1											1	2	4	6	7	1	4	3	2		5	7	3	2	2	3	3					4	3		
2016				1										2	1	2	4	6		5	3		2	5	4	3	1		3	4	2	2	3	3				
<b>Totalsumma</b>		<b>6</b>	<b>3</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>8</b>	<b>2</b>	<b>8</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>14</b>	<b>25</b>	<b>58</b>	<b>83</b>	<b>115</b>	<b>97</b>	<b>90</b>	<b>78</b>	<b>72</b>	<b>42</b>	<b>41</b>	<b>66</b>	<b>50</b>	<b>40</b>	<b>41</b>	<b>33</b>	<b>37</b>	<b>41</b>	<b>27</b>	<b>39</b>	<b>38</b>	<b>33</b>	





# Safety performance Indicators

Indicator	Start 2007	Result 2016	~ effect	Target for 2020
Fatalities	440	265		220
Seriously injured	5400	4500		4100
1. Speed compliance, state roads	43 %	44 %	~ 88 lives	80 %
2. Speed compliance, municipal streets	64 %	67 %	~ 29 lives	80 %
3. Sober traffic	99,71 %	99,76 %	~ 30 lives	99,90 %
4. Seat belt use	96 %	98 %	~ 40 lives	99 %
5. Helmet use				
- Bicycle helmet	25 %	36 %	~ 10 lives	70 %
- Moped helmet	96 % (2012)	95 %		99 %
6. Safe passenger cars	20%	67 %	~ 90 lives	80 %
7. Motorcyclist compliance	-	-		New indicator
8. Safe state roads	50 %	75 %	~ 62 lives	75 % - 90 %
9. Safe pedestrian passages across streets	19 %	26 %	~ 10 lives	35 %
10. Maintenance of bicycle lanes	18 % (2013)	40 % (2015)		70%
11. Systematic road safety work	-	-		New indicator



# Intersections to roundabouts



# Speed as the regulator for interactions in urban areas

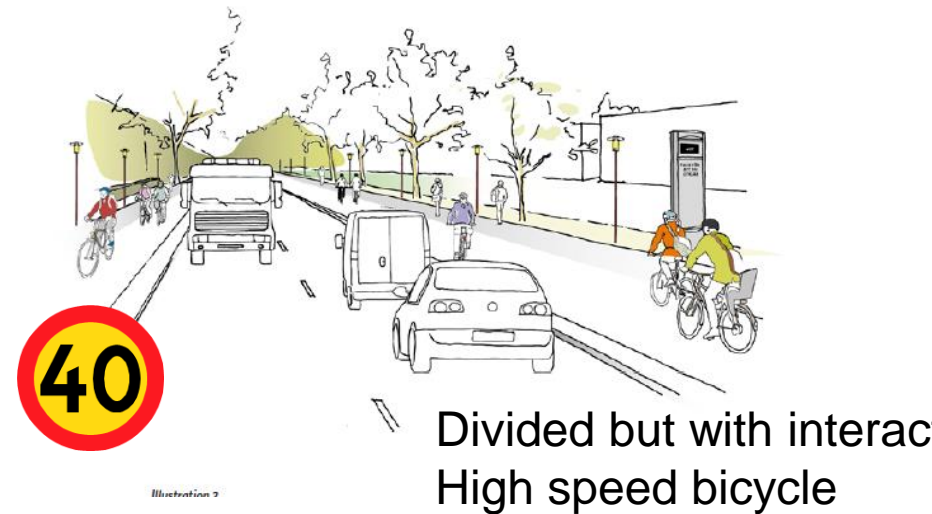


Illustration 2



# Identify the safe system



*Thanks*

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