

**VISION  
ZERO**

ACADEMY

STRIVING

FOR EXCELLENCE IN

**TRANSPORT**

**SAFETY**

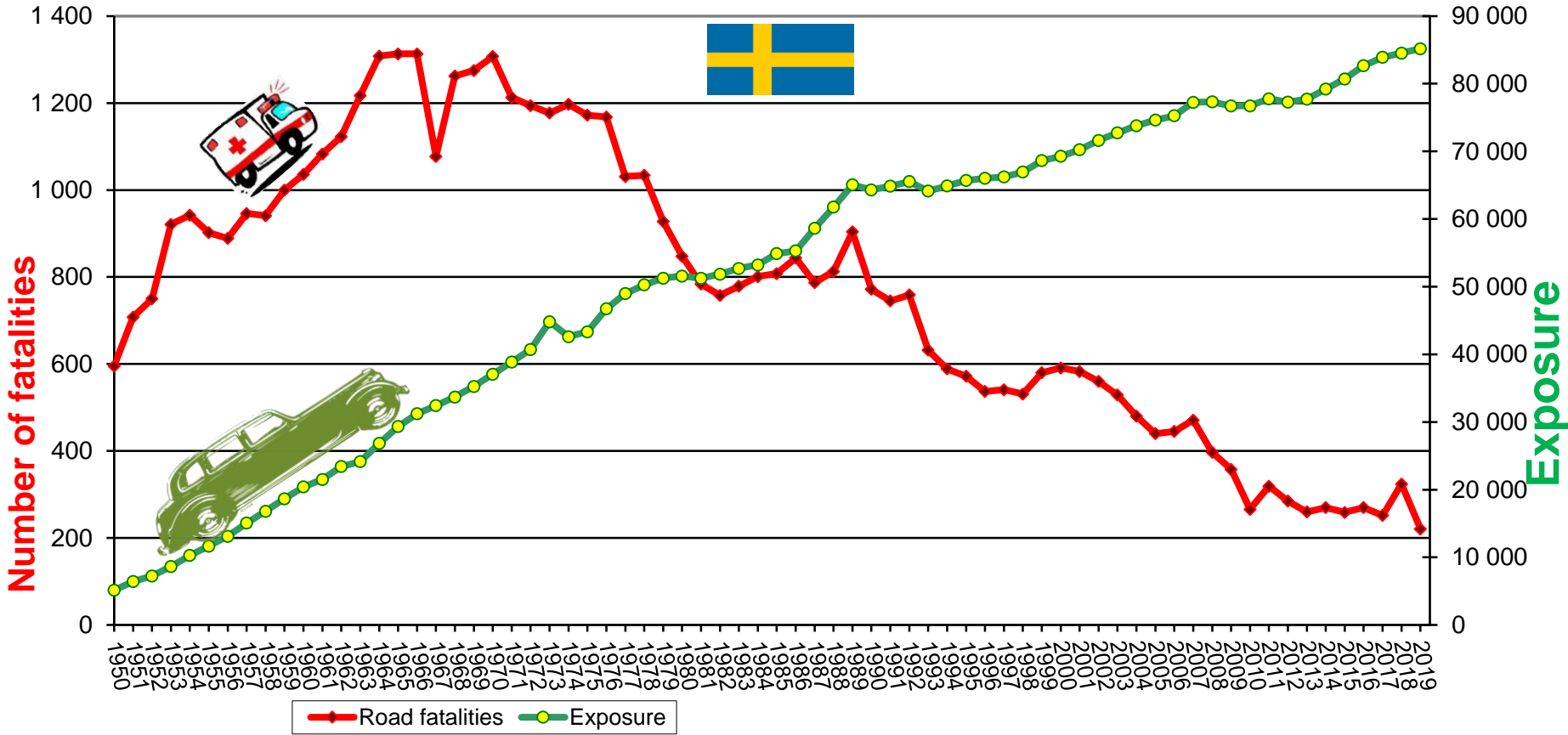


The Implementation of  
Vision Zero

# The Implementation of Vision Zero Next Step – Implementation within an Organization on a Concrete Level

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# Fatalities in car

## Age

Fatalities in car

Skadegrad D  
 Vårdhållare (A  
 Trafikantkategori Pe onbil

Antal av Olycksid K

	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	37	38	39	40	41	42	43	44	45	46	
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	2	7	3	3	5	2	8	6	7	4	
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	5	4	4	7	2	3	6	6	1	2	
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	2	4	6	1	6	5	2	3	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	1	1	5	6	7	3	3	4	4	4	
2007							1			1					1	1		7	9	13	13	13	5	6	2	4	5	1	4	3	6	3	5	3	6	3	4	3	5	2	2	3	2	5	2			
2008																2	8	7	12	7	11	10	1	3	6	2	6		5	3	3	2	2	1	3	5	1	2	1	3	3	5	3	4	1	3		
2009								2								1	3	14	8	13	8	7	5	3	3	1	4	3	1	3	3	2	2	2	3	2		4	3	1	1	2	3	4	3	1	3	
2010							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	1	3	3	2	2	1	3	1	2	3
2011												1			1			4	7	7	5	8	3	4	2	1	2	3	1	1	1	2	1		2	1	1	3	1	2	4	1	2		5	2	4	
2012									2						1		2		3	6	2	4	4	2	4	3	2	2	4	3	2	2	3	2	1	4	1	1	2	3	3		2	1	3	7	4	
2013								2							1	3	3	5	2	9	1	5	1	1	8	1		3		2		1		2		3	2	3	2		1	1	3	2	2	1	1	2
2014										1					1		1	5	5	2		2	1	2	2		3	3	2	1		1	3	2	2	1		1	1	3	2	1	3	2	2	2		
2015															1	2	4	6	7	1	4	3	2		5	7	3	2	2	3	3		4	3	1	1	1		4	3	1	1	1		3		3	
2016																2	1	2	4	6		5	3		2	5	4	3	1		3	4	2	2	3	3		1	2	1		1	1	2	1	2	1	1
2017							1								1				4	4	6	3	3	5	2	5		5	2	1	5	3	1	2	1	1	2	2	1	2	4	2		1		2	2	
2018								1								1	2	2	5	7	1	3	3	3	3	1	1	2	3	2	1		1	1	2	3	1	2	1	3	1	2	2	5	2	1	2	
2019														1		1	2	1	1	2	3	3	2	1	3		3	1	1	1	1	1	1	1	1	1		1	1	3	3	1		2	3		1	
Totalsumma		6	3	5	3	2	3	8	2	9	2	5	1	3	6	6	15	28	62	93	127	106	99	87	82	48	50	67	60	46	45	40	41	44	31	43	43	36	33	38	46	47	38	35	48	48	40	41

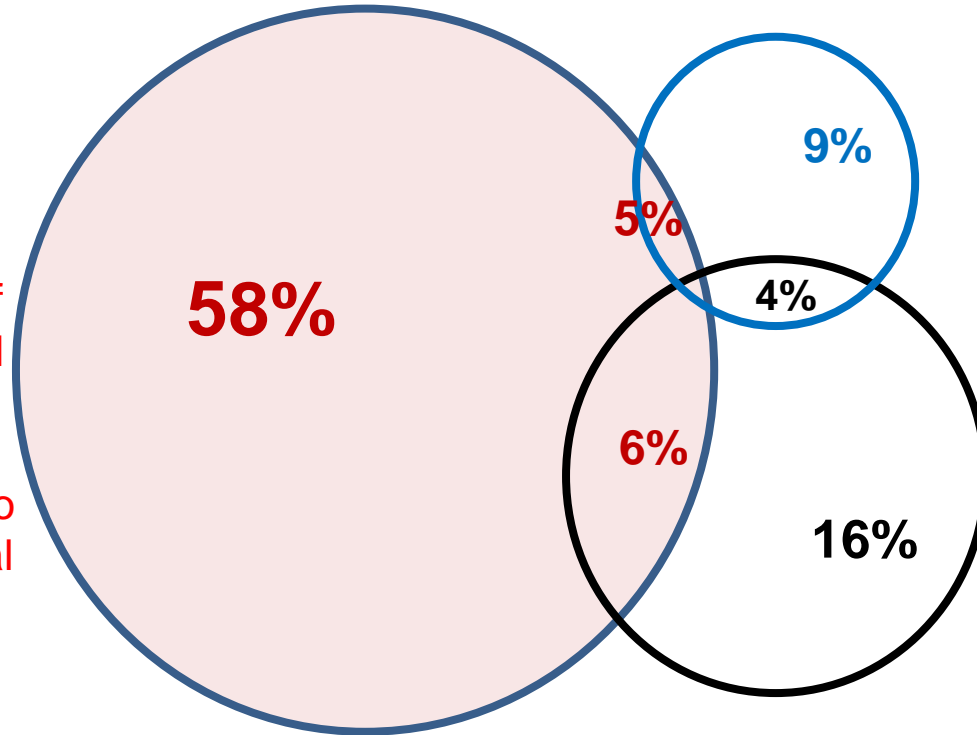


# In depth studies of fatal crashes 2016 - 2018

## System failure

The combination of road design, speed and vehicle protection system was not sufficient to protect against fatal crash violence

190



## Outside the system

One or many deliberate error that influence the outcome

50

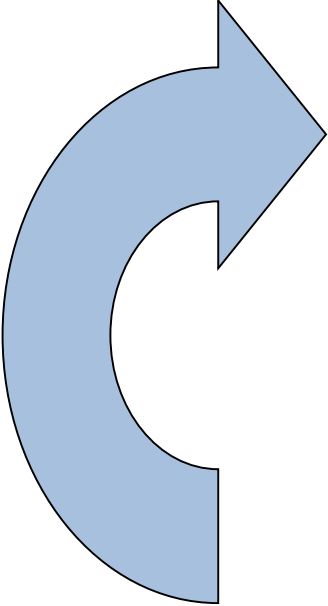
Failure to use the protection system  
70

# Single accident on a rural road 80 km/h



Collision against a tree close to the road.

# Shared responsibility



**System designers** are responsible for the design, operation and the use of the 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 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.



<https://maps/RGHV4>









# Identify the safe system





or





# Intersections to roundabouts

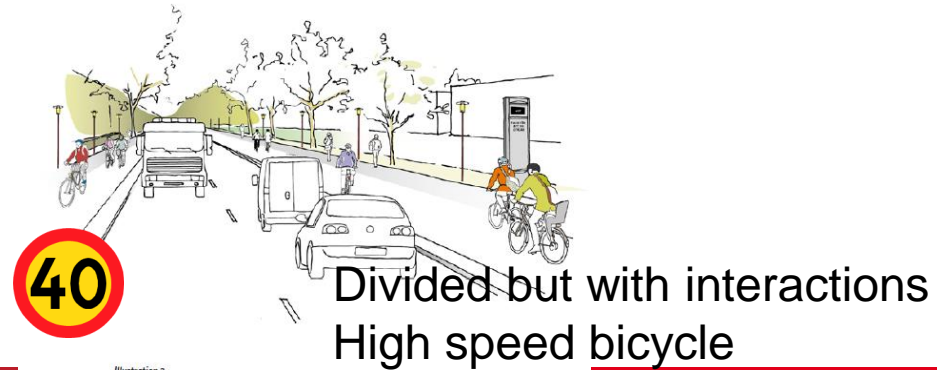


# the safe system

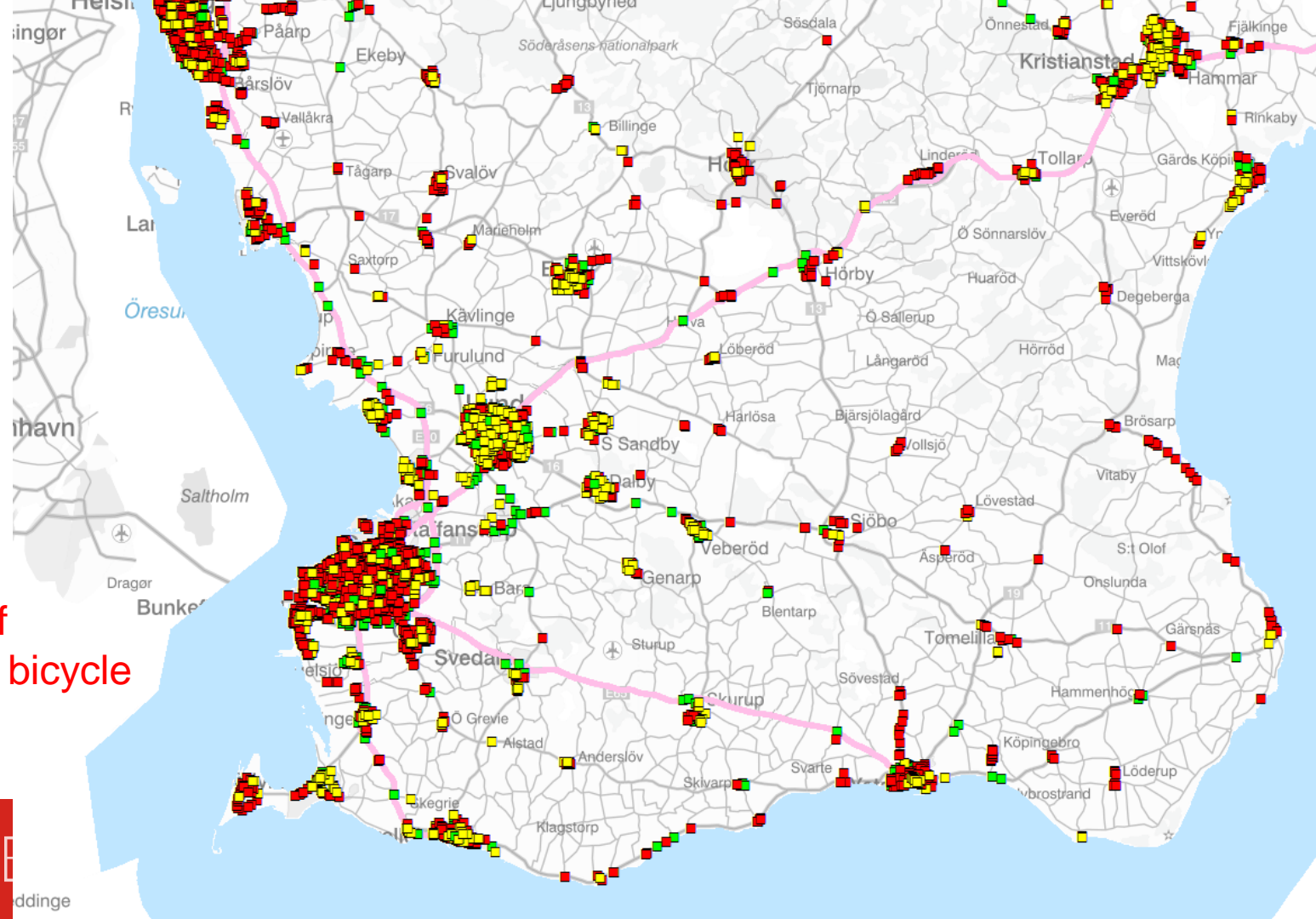


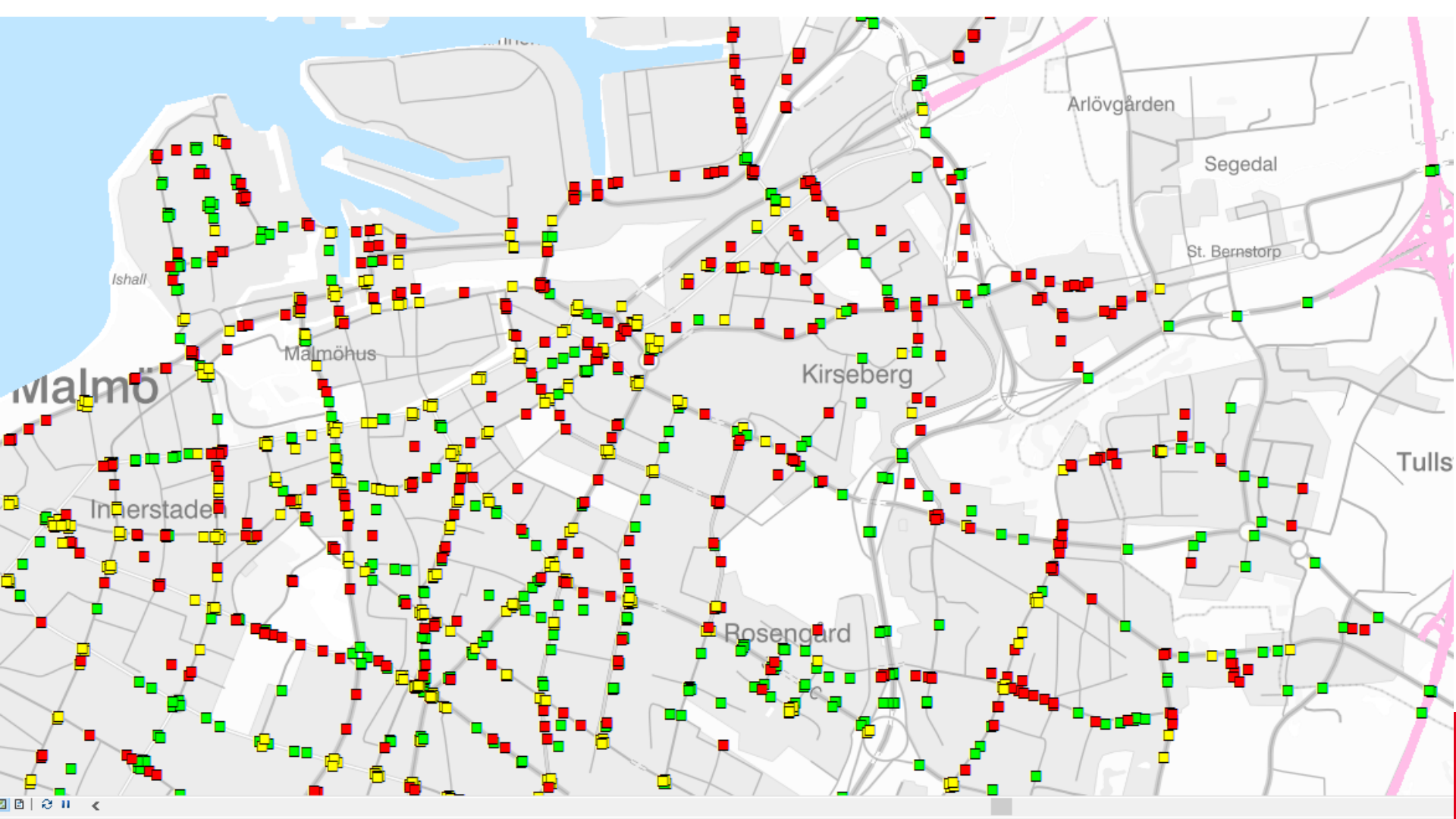


# Speed as the regulator for interactions in urban areas



# Classification of Pedestrian and bicycle Crossings

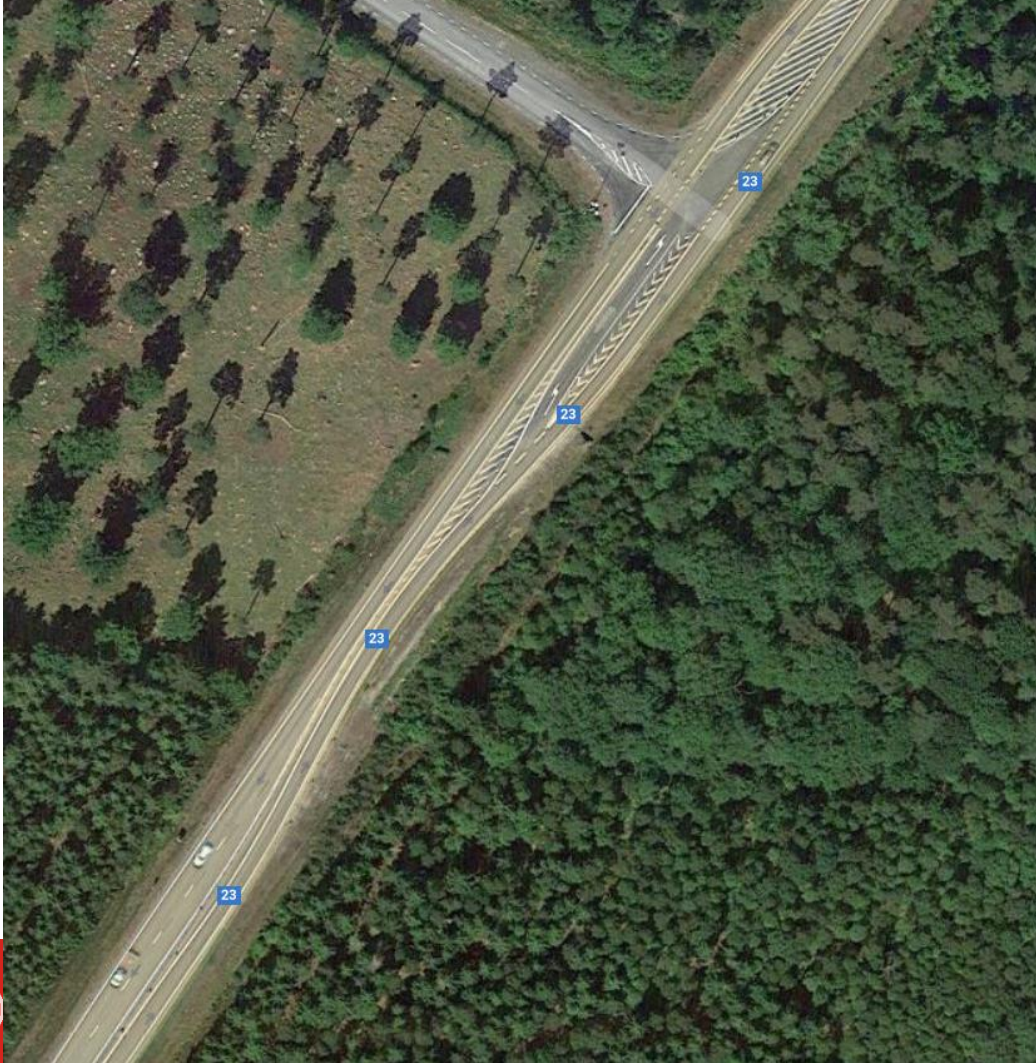




















	50	60	70	80	90	100	110	120	
	4	3	97	85	62	208	360	37	856
	14	27	56	70	29	72	46	11	325
	1	4							5
A	10	8	27	49	16	1			111
B	25	22	65	64	93	47	4		320
C	3	2	8		1				14
A	4	5	28	17	10	2			66
B	10	3	19	29	46	159	14		280
C	1	2	14	1	2				20
	72	76	314	315	259	489	424	48	1997



## Material

- Police reported injury crashes 2011–2016, n=7,490
- Road design and road use parameters
- Case/control cars matched by car model and equipment (Electronic Stability Control and Seat Belt Reminder)
- ESC in 39% of the cars

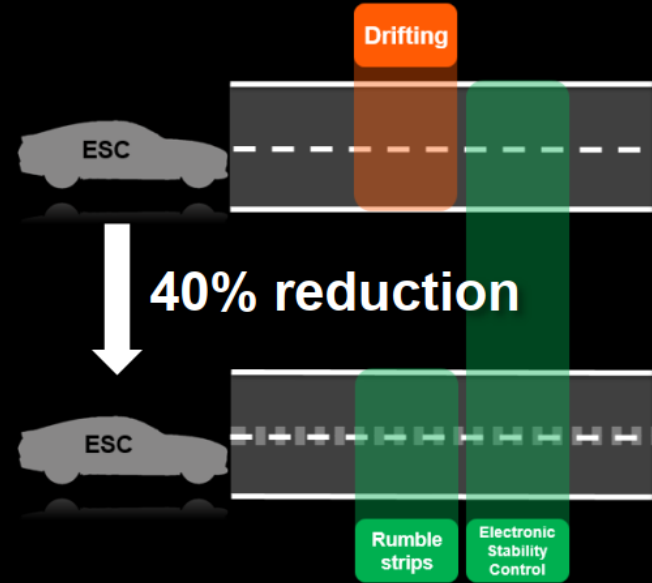
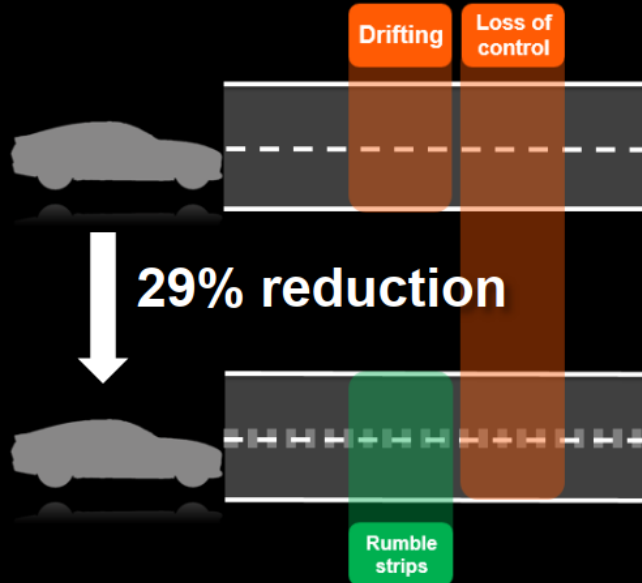
## Induced exposure

### Sensitive crashes:

- Lane drifting head-on
- Lane drifting single, left

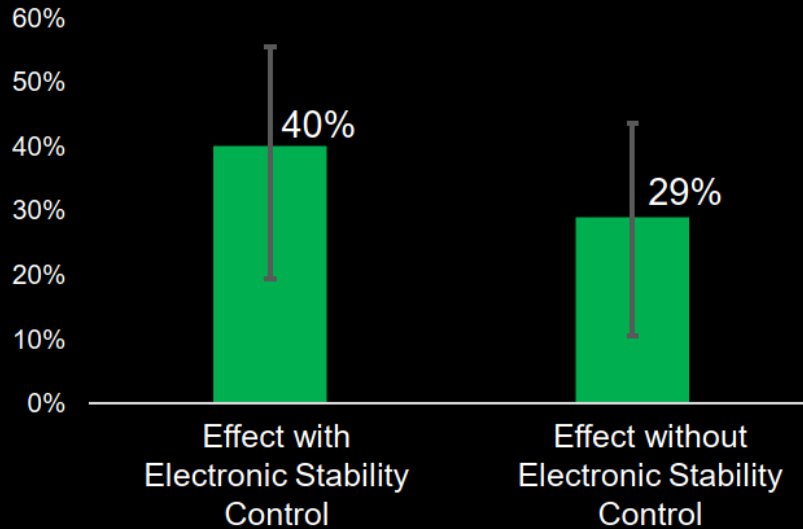
### Non-sensitive crashes:

- Rear-end, etc.



# Effectiveness of centerline rumble strips

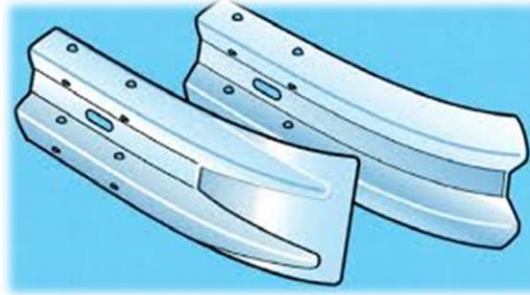
80 and 90 km/h roads



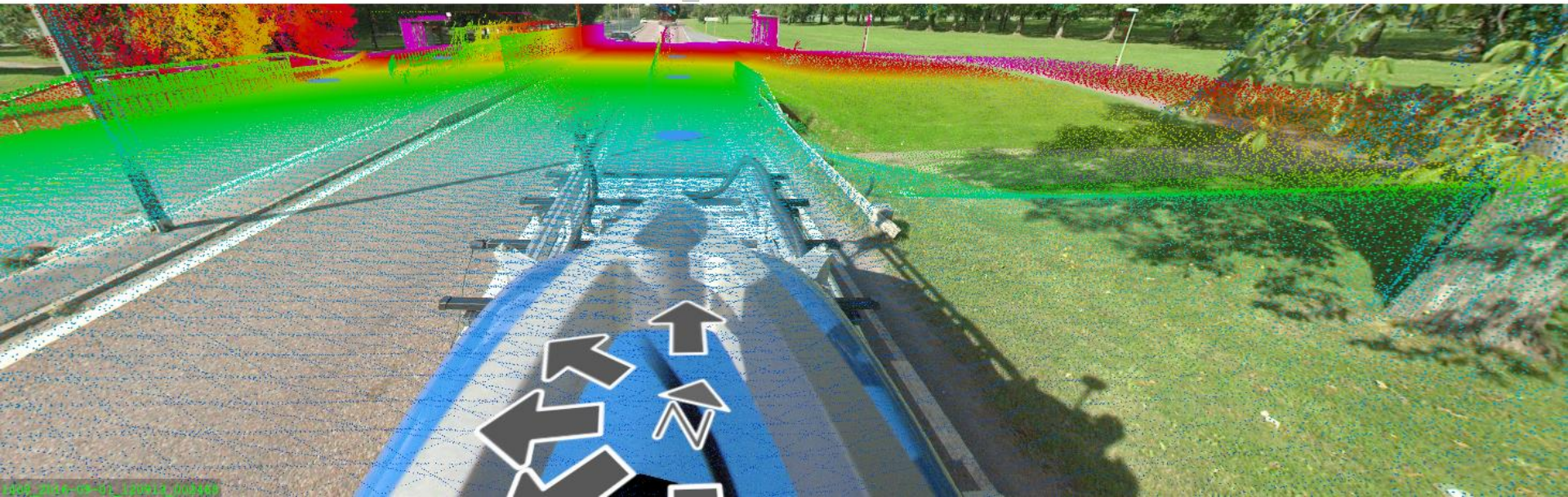


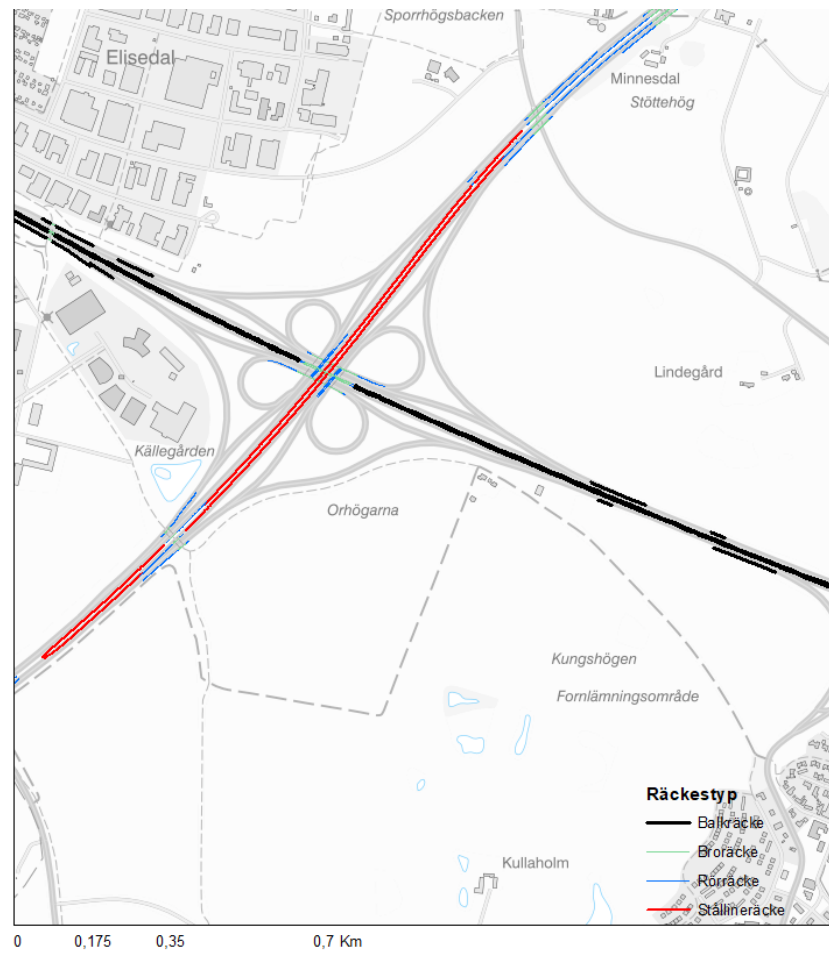
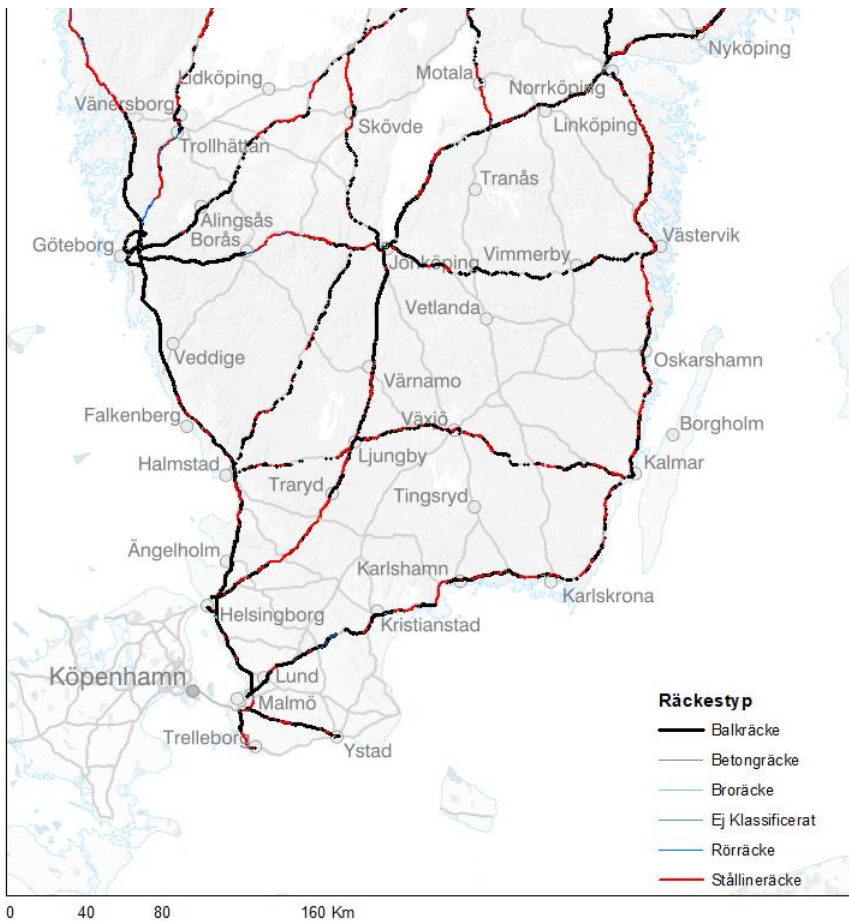


# How to eradicate dangerous guardrails ?



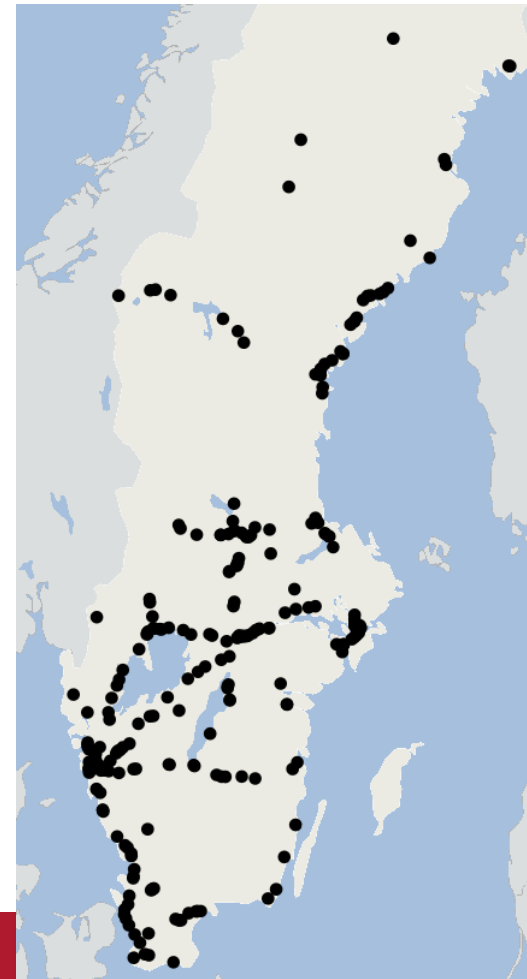






# Dangerous ends on our main roads

- 572 st instead of "many"







VISION  
ZERO

<https://goo.gl/maps/1P1vPM6FZYvCKciG7>

ADMINISTRATION











VISION ZERO  
TOGETHER WE  
SAVE LIVES

*Thanks*

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