

BEM VINDOS! WELCOME!
¡BIENVENIDOS!



Por favor **diga olá** e se apresente
pelo **chat!**

BEM VINDOS! WELCOME!
¡BIENVENIDOS!



A apresentação de hoje é em inglês
com **tradução simultânea** para
português e espanhol.

BEM VINDOS! WELCOME!
¡BIENVENIDOS!



Faça download da apresentação
em português e espanhol:
Siga o **link** no **chat**

VISION ZERO CHALLENGE

Lidere sua cidade a partir da #VisãoParaAção

**SEMINÁRIOS ONLINE DO DESAFIO VISÃO ZERO:
SEGURANÇA DO VEÍCULO; PROJETO DE ESTRADAS,
MEIO AMBIENTE E SEGURANÇA VIÁRIA**

**VISION ZERO
CHALLENGE**

BEM-VINDAS, CIDADES VISÃO ZERO!

1. Arequipa, Peru
2. Belo Horizonte, Brasil
3. Buenos Aires, Argentina
4. Bogotá, Colômbia
5. Cali, Colômbia
6. Curitiba, Brasil
7. Colima, México
8. Cusco, Peru
9. Fortaleza, Brasil
10. Guadalajara, México
11. Indaiatuba, Brasil
12. La Paz, Bolívia
13. Lima, Peru
14. Medellín, Colômbia
15. Merida, México
16. Montevideu, Uruguai
17. Pachuca, México
18. Rosario, Argentina
19. Salvador, Brasil
20. Santiago, Chile
21. Sao Paulo, Brasil
22. San Jose, Costa Rica
23. San Salvador, El Salvador
24. Santa Cruz, Bolívia

BEM-VINDOS, PARCEIROS DO DESAFIO VISÃO ZERO



WORLD
RESOURCES
INSTITUTE | ROSS
CENTER



FOUNDATION



FUNDACIÓN
GONZALO
RODRÍGUEZ



IDB
Inter-American
Development Bank



**International
Transport Forum**

LATIN NCAP



TOWARDS ZERO FOUNDATION



**VISION ZERO
ACADEMY**



UKaid
from the British people



Global Road Safety Facility



WORLD BANK GROUP

**VISION ZERO
CHALLENGE**

OBRIGADO, PATROCINADORES DO DESAFIO VISÃO ZERO

The logo for 3M, consisting of the letters '3' and 'M' in a bold, red, sans-serif font.The logo for PTV GROUP, featuring the letters 'PTV' in white on a dark grey rectangular background, followed by the word 'GROUP' in white on a red rectangular background. Below the logo, the tagline 'the mind of movement' is written in a grey, lowercase, sans-serif font.

VISION ZERO CHALLENGE

Lidere sua cidade a partir da #VisãoParaAção

APRESENTANDO OS PALESTRANTES DE HOJE

VISION ZERO
CHALLENGE



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Asesor principal, profesor asociado de administración del transporte, Universidad Tecnológica de Chalmers

Conselheiro Sênior, Professor Associado Da Administração De Transportes Da Universidade De Tecnologia De Chalmers





DR. LARS EKMAN

Senior Advisor on Road Safety, Swedish Transport Administration

Asesor sénior en seguridad vial, Administración de transporte sueca

Conselheiro Sênior em Segurança Rodoviária, Administração de Transporte Sueca





Segurança veicular e tecnologias emergentes

Rikard Fredriksson

*Conselheiro Sênior, Professor Associado da
Administração de Transportes da Universidade de
Tecnologia de Chalmers*



Visão Zero



© movingbeyondzero.com

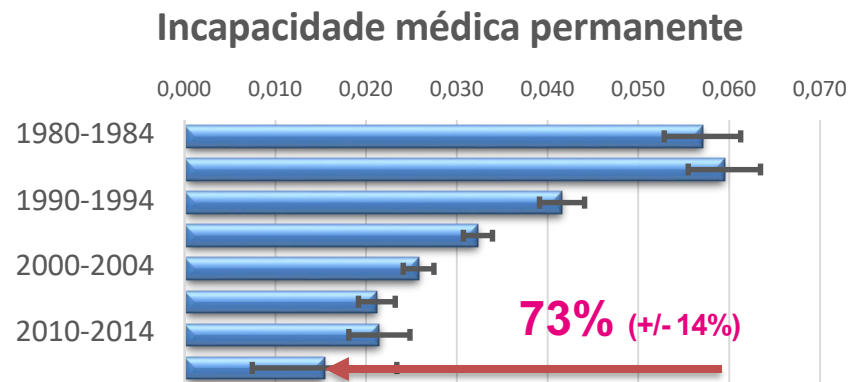
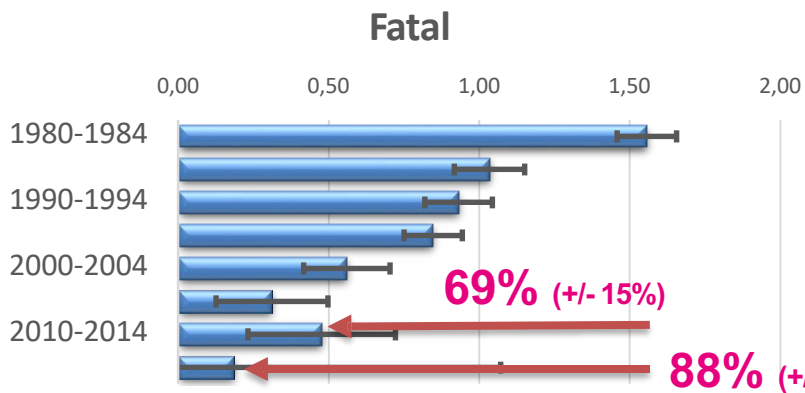
Parceiros da EuroNCAP 2020



Laboratórios de testes

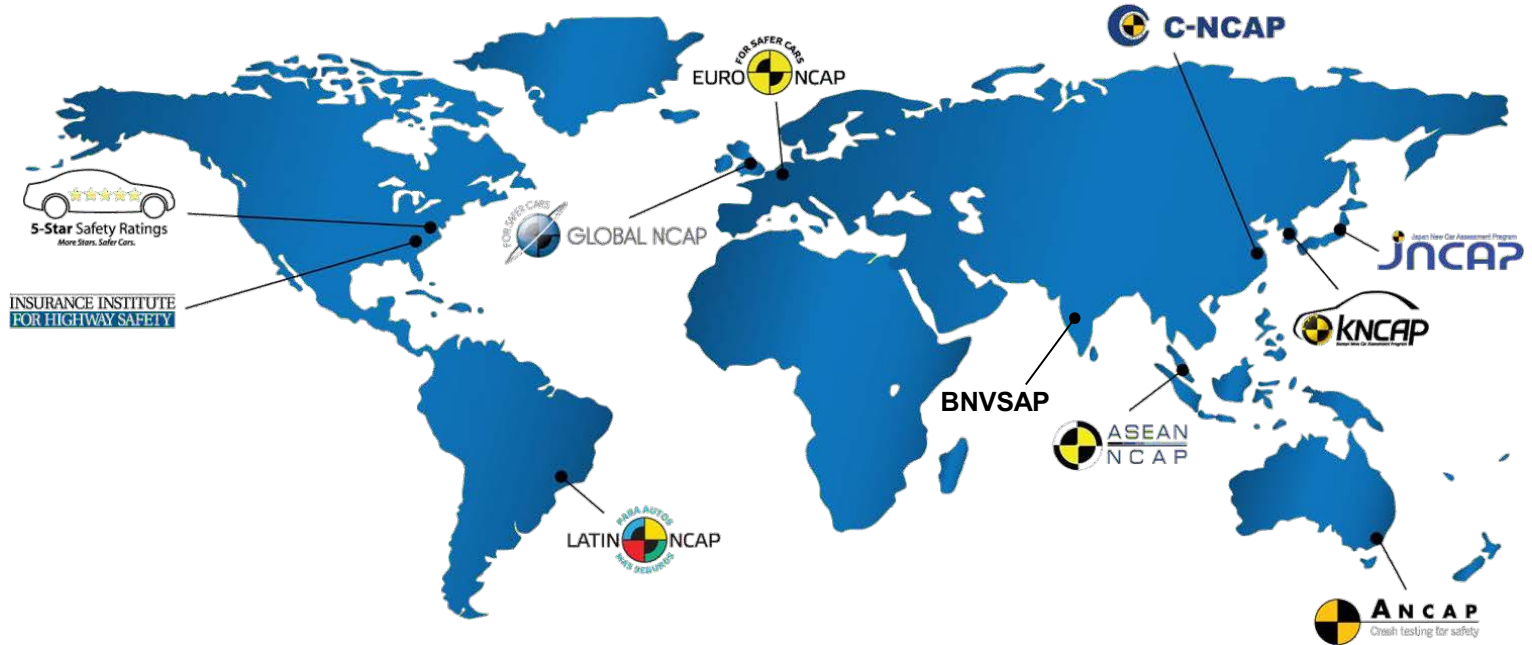


Laboratórios de testes



Kullgren et al 2019

NCAPs no mundo inteiro



Um mercado para a segurança

Inovação em segurança



Consumidor
informações



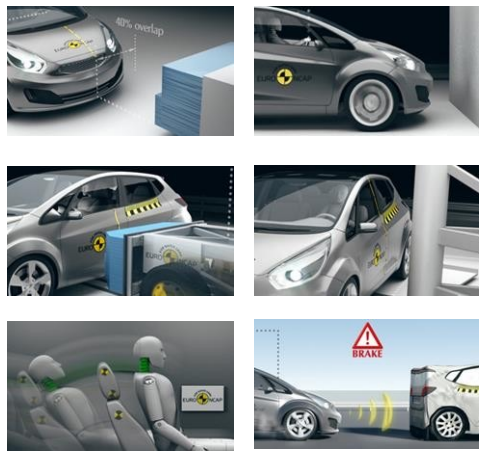
Concorrência
de mercado



Testes e avaliação EuroNCAP



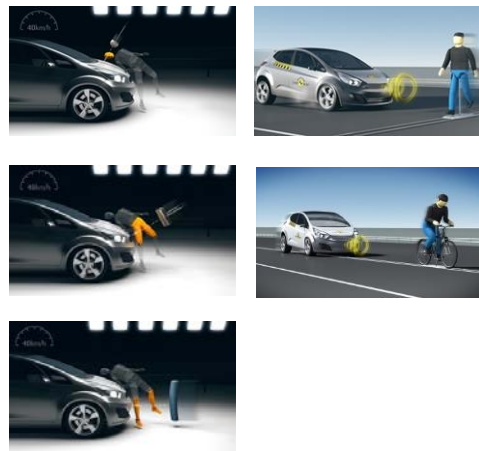
Ocupante adulto



Filho ocupante



Usuário vulnerável da estrada
























Assistência de segurança



EuroNCAP 2019

- 55 carros testados
 - 75% 5 estrelas
 - 16% 4 estrelas
 - 9% 3 estrelas

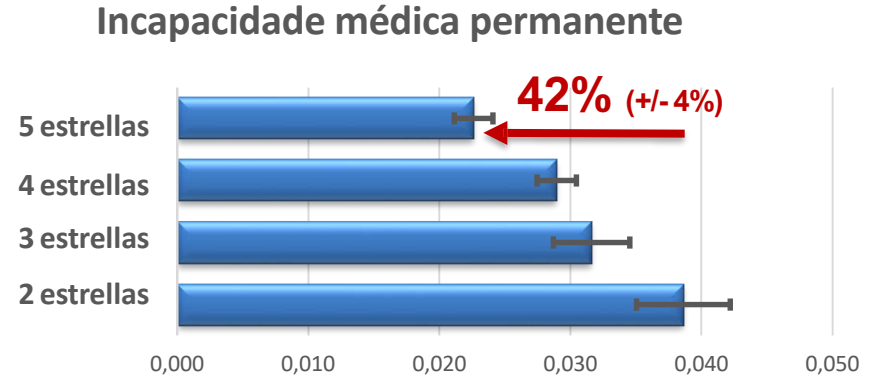
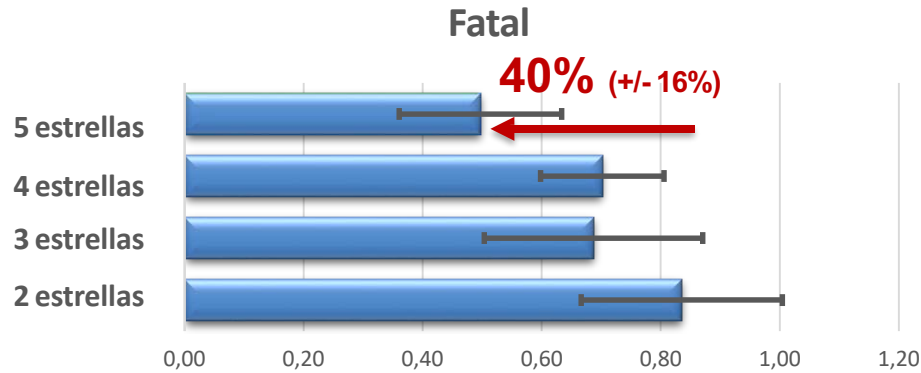
	Teycan	Standard	★★★★★	85%	83%	70%	73%
	Renault Captur	Standard	★★★★★	96%	83%	75%	74%
	SEAT Alhambra	Standard	★★★★☆	89%	78%	59%	62%
	Subaru Forester	Standard	★★★★★	97%	91%	80%	78%
	Tesla Model X	Standard	★★★★★	98%	81%	72%	94%
	Volkswagen Sharan	Standard	★★★★☆	89%	78%	59%	62%
	Skoda Octavia	Standard	★★★★★	92%	88%	72%	79%
	Ford Explorer	Standard	★★★★★	87%	88%	61%	76%
	Mazda CX-30	Standard	★★★★★	99%	88%	80%	77%
	Mercedes-Benz GLB	Standard	★★★★★	92%	88%	78%	74%
	Opel/Vauxhall Corsa	Standard	★★★★☆	84%	88%	66%	69%
	BMW 1 Series	Standard	★★★★★	83%	87%	76%	72%
	BMW 3 Series	Standard	★★★★★	97%	87%	87%	76%
	Jeep Cherokee	Standard	★★★★☆	80%	78%	56%	69%
	Peugeot 208	Standard	★★★★☆	91%	88%	56%	71%
	Audi A1	Standard	★★★★★	95%	85%	73%	80%
	BMW Z4	Standard	★★★★★	97%	87%	91%	76%
	Ford Focus	Standard	★★★★★	96%	87%	72%	75%
	Mercedes-Benz CLA	Standard	★★★★★	96%	91%	91%	75%
	Mercedes-Benz EQC	Standard	★★★★★	96%	90%	75%	75%
	SsangYong	Standard	★★★★★	88%	88%	88%	74%

Cobertura de mercado



Vendas de automóveis de passageiros e SUVs na UE-28, 2018. Total 15,3 milhões de unidades.

Risco de lesão para bandas famosas



Kullgren et al 2019

O que há de novo em 2020?



Proteção contra colisões em locais distantes



Toyota Yaris 2020 con doble airbag central

AEB de carro para carro

Voltar à rota



2020

Pedestres da AEB

fiação





investindo




Folha de Resgate - 2020

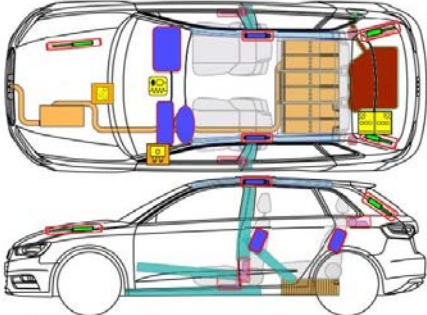
A3 SPORTBACK E-TRON








FROM 2014












1. Identification/recognition

LACK OF ENGINE NOISE DOES NOT MEAN VEHICLE IS OFF. SILENT MOVEMENT OR INSTANT RESTART CAPABILITY EXISTS UNTIL VEHICLE IS FULLY SHUT DOWN. WEAR APPROPRIATE PPE

Characteristic features




The A3 e-tron can be identified by the e-tron logo, the orange cables (e. g. in engine compartment) and the charging socket.

2. Immobilisation / stabilisation / lifting

A) VEHICLE IMMOBILISATION




1. Check the wheels.
2. Set parking brake.
3. Place vehicle into park.

B) STABILISATION/LIFTING POINTS




3. Disable direct hazards / safety regulations

A) SWITCH OFF (LUNDELN) (if on)

Press START-ENGINE-STOP button 1X without depressing brake pedal.


Warning: When pressing the START-ENGINE-STOP button and depressing the brake pedal at the same time, the engine will start!

DISCONNECT OF HIGH VOLTAGE SYSTEM


Alternative 1 - Engine compartment accessible

Localize emergency disconnect (Open safety disconnect)




Alternative 2 - Emergency disconnect fuse in passenger compartment


Localize emergency fuse (Open safety disconnect)

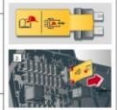





Note - Left hand drive (steering wheel left)



Note in glove compartment (steered wheel steering wheel right)

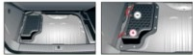





Disconnect 12 V battery

The 12 V battery is located in the luggage compartment below the luggage compartment floor. The cables of both batteries are fed out directly through the parts cover.



the occupants


Energy/liquids/gases/solids



Cut, breach, or touch high voltage components or Doing so could result in serious injury or death.

Fire


USE AMOUNTS OF WATER



water submersion

Transportation / storage

Fixed traction wheels






! DISTANCE FROM OTHER VEHICLES!

Additional information

TECHNICAL SUPPORT CONTACT DETAILS: XXX



















ACTION: **LINK ERG**

Os primeiros nove carros testados 2021

2021 - Betyg → OM 2021 BETYGEN

Tillverkare & modell • Sakerhetsutrustning • Sakerhetsbetyg

Tillverkare & modell	Sakerhetsutrustning	Sakerhetsbetyg	5★	4★	3★	2★	1★
 Citroen C4 Standard 	Standard	76%	83%	57%	63%		
 Genesis G80 Standard 	Standard	91%	87%	77%	91%		
 Genesis GV80 Standard 	Standard	91%	87%	66%	88%		
 Dacia Logan Standard 	Standard	70%	72%	41%	42%		
 Dacia Sandero Stepway Standard 	Standard	70%	72%	41%	42%		
 VW ID.4 Standard 	Standard	93%	89%	76%	85%		
 Škoda ENYAQ iV Standard 	Standard	94%	89%	71%	82%		
 Cupra Formentor Standard 	Standard	93%	88%	68%	80%		
 Polestar 2 Standard 	Standard	93%	89%	80%	86%		

<https://www.euroncap.com/en>



AEB CYCLIST



O que vem a seguir?



Ciclista



Novo pedestre

2023 Pedestrian Leg Impact Tests



Próximos passos da AEB de carro para carro

Tráfego de travessia



2023

De cabeça



2023

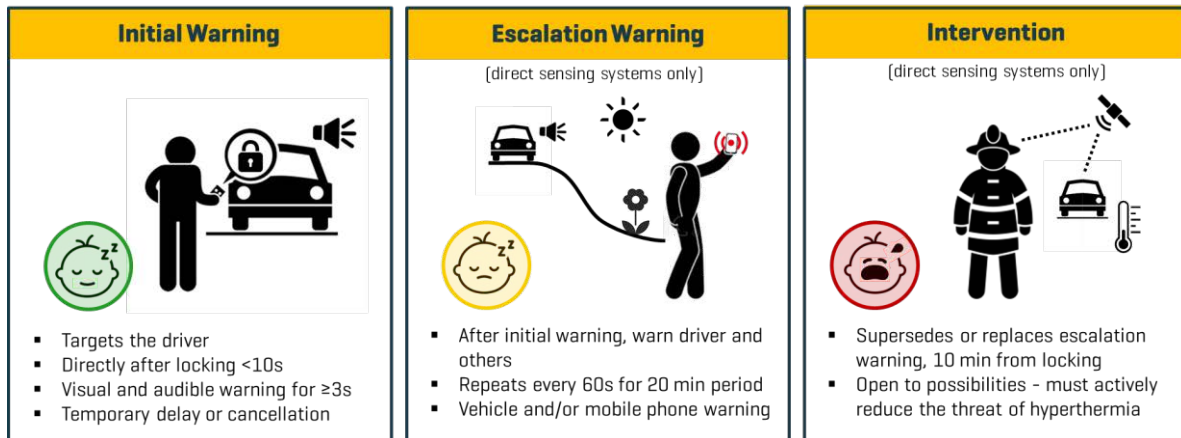
Ciclista AEB

abertura de porta



Detecção da presença de crianças 2023

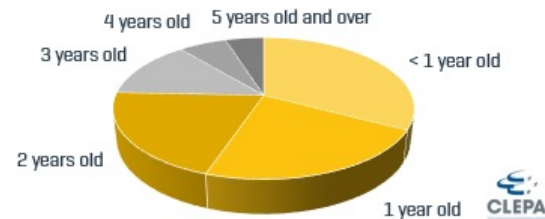
Euro NCAP Child Presence Detection General Requirements



In-Vehicle Heatstroke Fatalities in the US



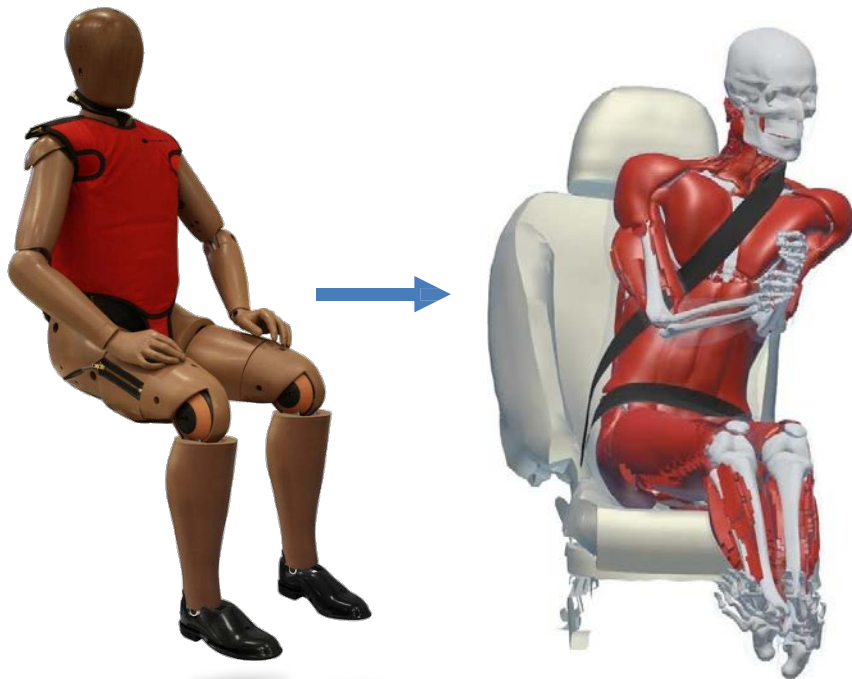
Age of In-Vehicle Heatstroke Victims



Veículo de duas rodas com motor AEB (motocicleta)



Testes virtuais e modelagem humana

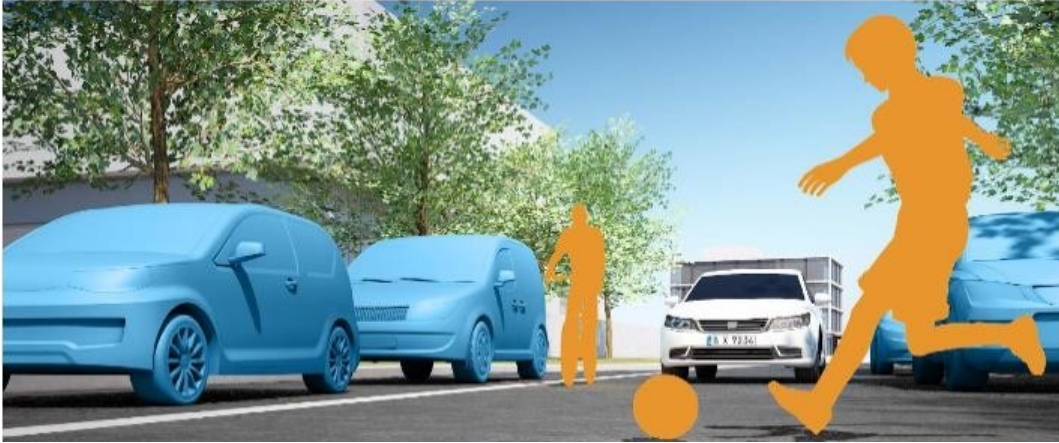


© Elemance

Uma mudança de paradigma ... permite

- um grande número de
 - velocidades de colisão
 - tamanhos dos ocupantes
 - ângulos de impacto
- critérios de lesão "real" (isto é, humana)
 - por exemplo, fratura ou lesão cerebral
 - (em comparação com a aceleração e força no manequim)

Testes virtuais - Evasão



Atenção ao motorista



Verificação do status do ocupante

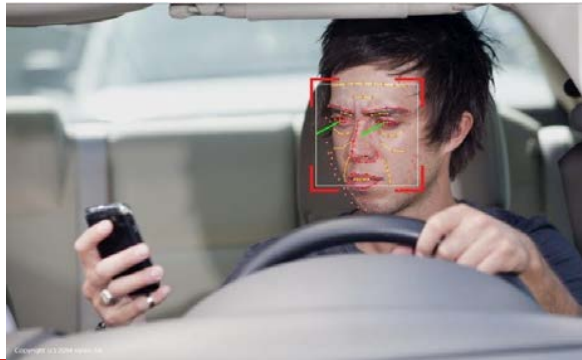
Condução deficiente

Fadiga

Distração

Dirigindo sob a influência

Doença súbita



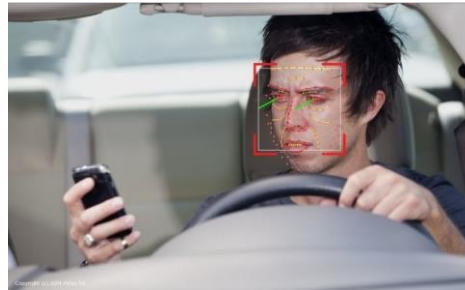
Verificação do status do ocupante

- 2020



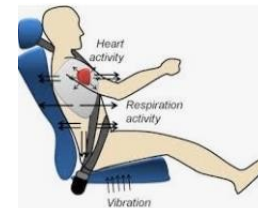
Indireto

- 2023



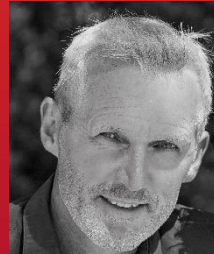
Indireto + Direto

- 2025



Somente direto

Obrigado! Alguma pergunta?



rikard.fredriksson@trafikverket.se

**VISION
ZERO**
ACADEMY
STRIVING
FOR EXCELLENCE IN
TRANSPORT
SAFETY



Projeto de estradas

Dr. Lars Ekman

Lars.Ekman@Trafikverket.se



Identificar o sistema seguro



O Sistema Seguro



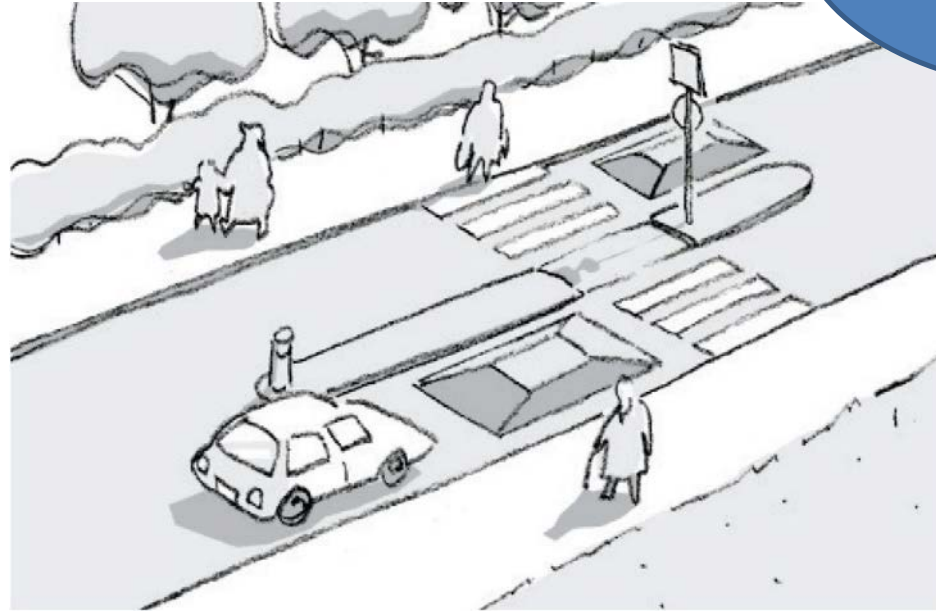
Pedestres que cruzam estradas e ruas



Separação



Suavizante

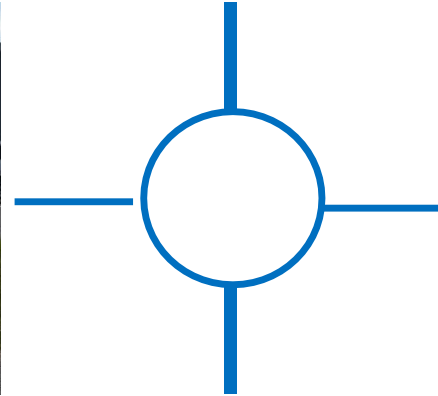
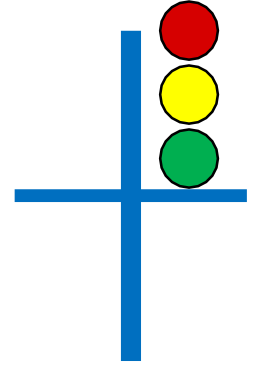








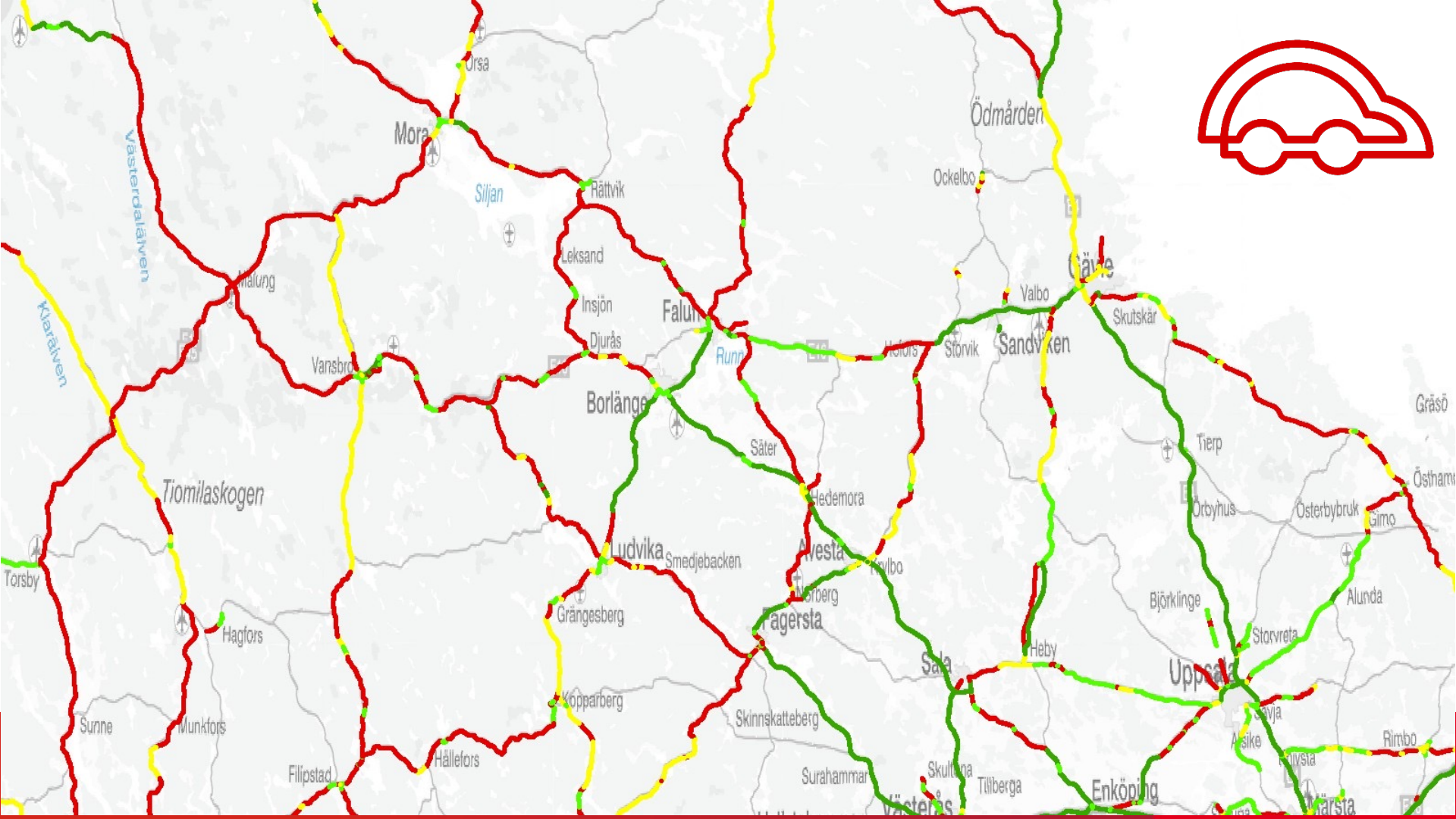


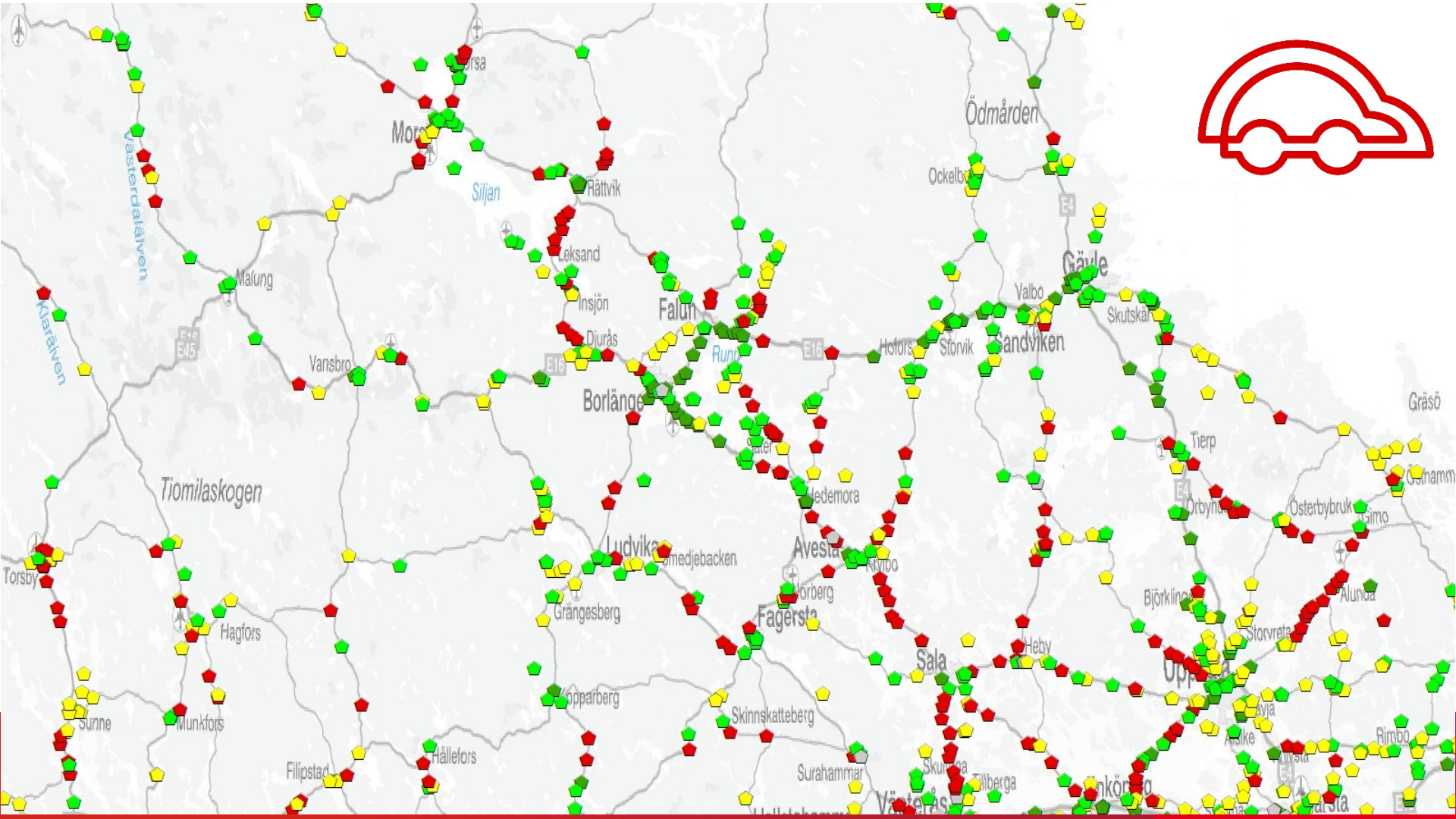











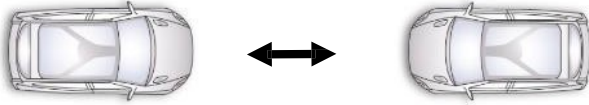



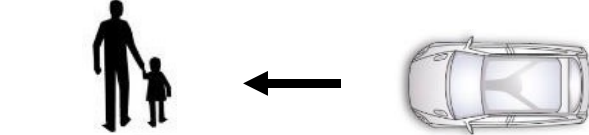



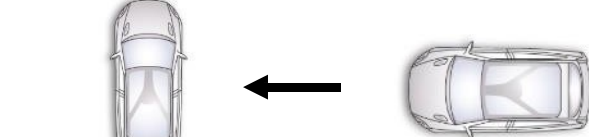



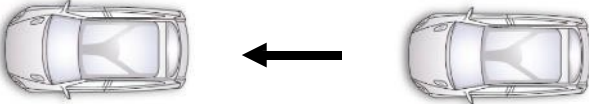



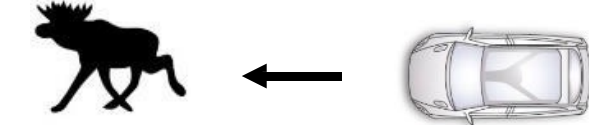






Divisão de responsabilidades / Condições de contorno

Contribuição para
a segurança
passiva

Contribuição
para a
segurança ativa

		Frente		
		Pedestres		
		Lado		
 40		Lado traseiro	 20	 20
		Grandes animais		



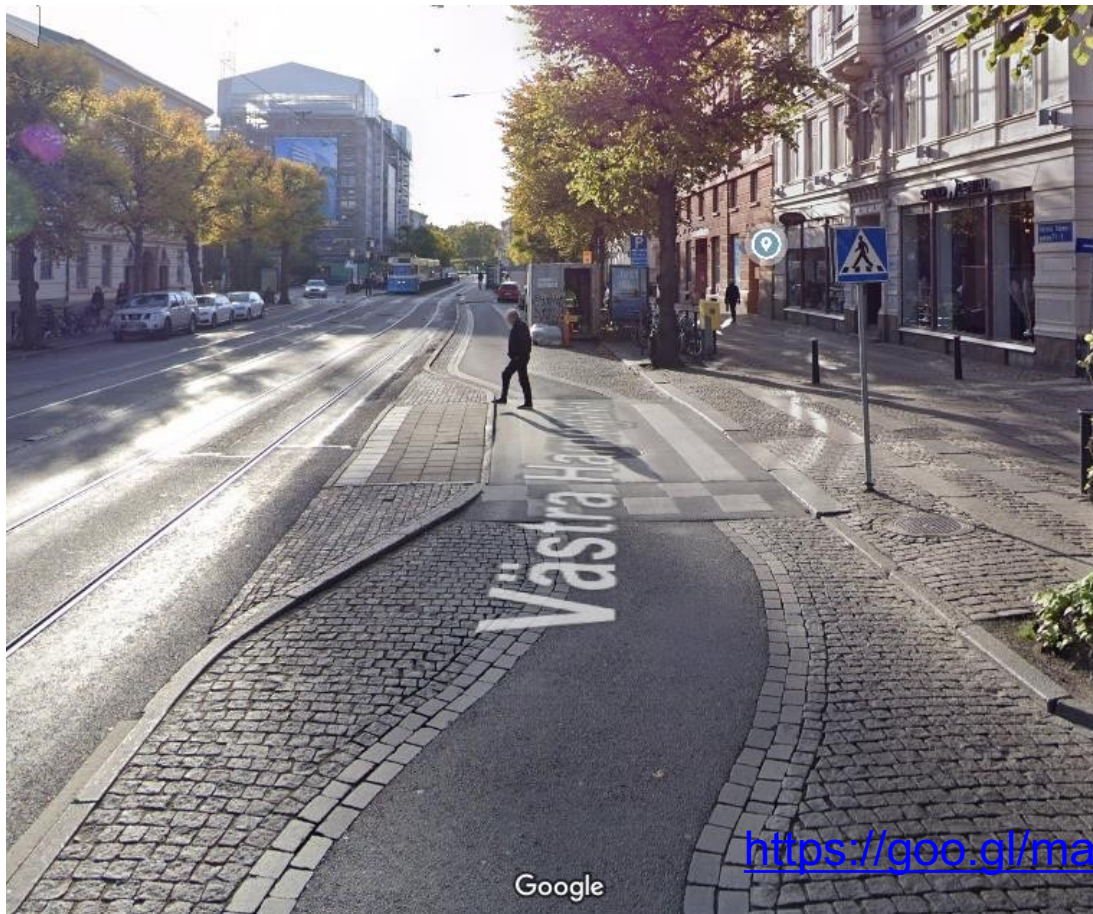
Velocidade como regulador de interações em áreas urbanas



Tráfego misto



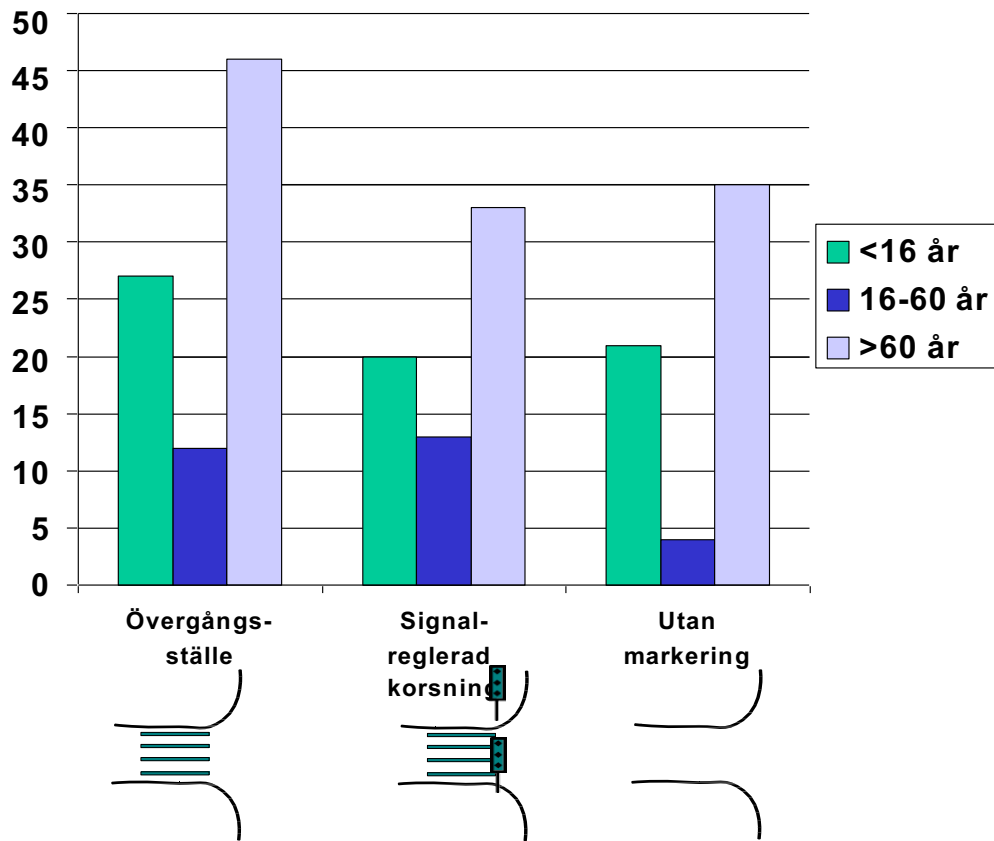
Dividido, mas com interações
Bicicleta de alta velocidade



<https://goo.gl/maps/1ijGRpgVz9Zxuyij7>



Risiko para pedestres





Buffé



[Google](#)





VISION ZERO
TOGETHER WE
SAVE LIVES

Gracias

Dr Lars Ekman

Lars.Ekman@trafikverket.se

