



The Distance between Speed Humps and Pedestrian Crossings; Does it Matter?

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CJ 2008



Aim

- To explore how different distances between speed humps and pedestrian crossings affect safety of pedestrians and bicyclists

- Especially children and elderly

...also when installing other types of physical measures to reduce the vehicle speed

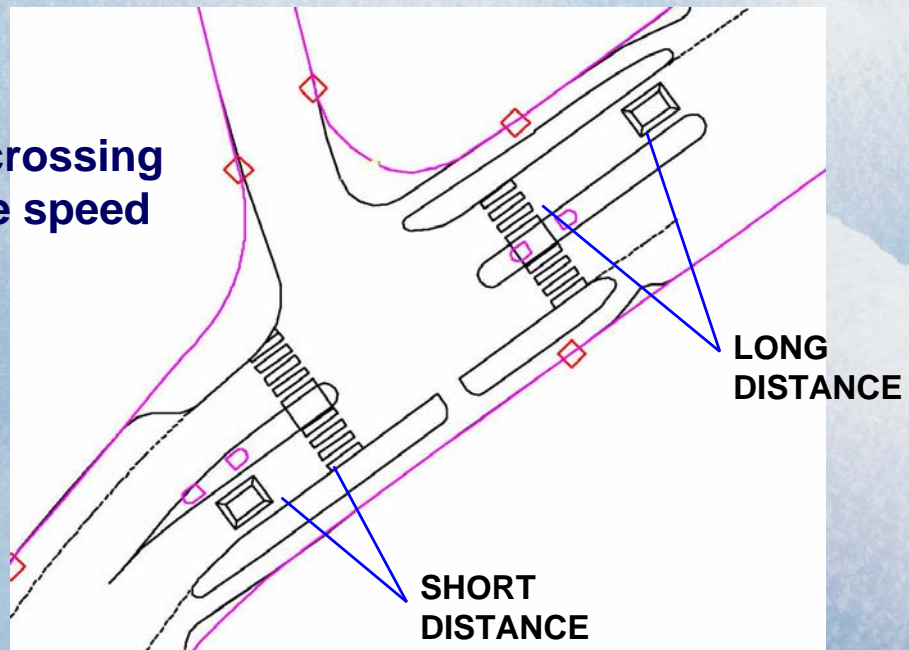
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The Study

- Distance between speed hump and pedestrian crossing expressed as short and long

- Pedestrian crossing closest to the speed hump



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Method

Vehicle speeds measured with laser and radar

Free vehicles:

- At the pedestrian crossing, theoretical point of collision
- 12 m before the pedestrian crossing; where the vehicle driver is expected to start decreasing the speed

Video filming and coding of road user behaviours

Manually coded parameters to describe:

- pedestrian or bicyclist and their behaviour
- description of the vehicle and the behaviour of the driver
- The interaction between them

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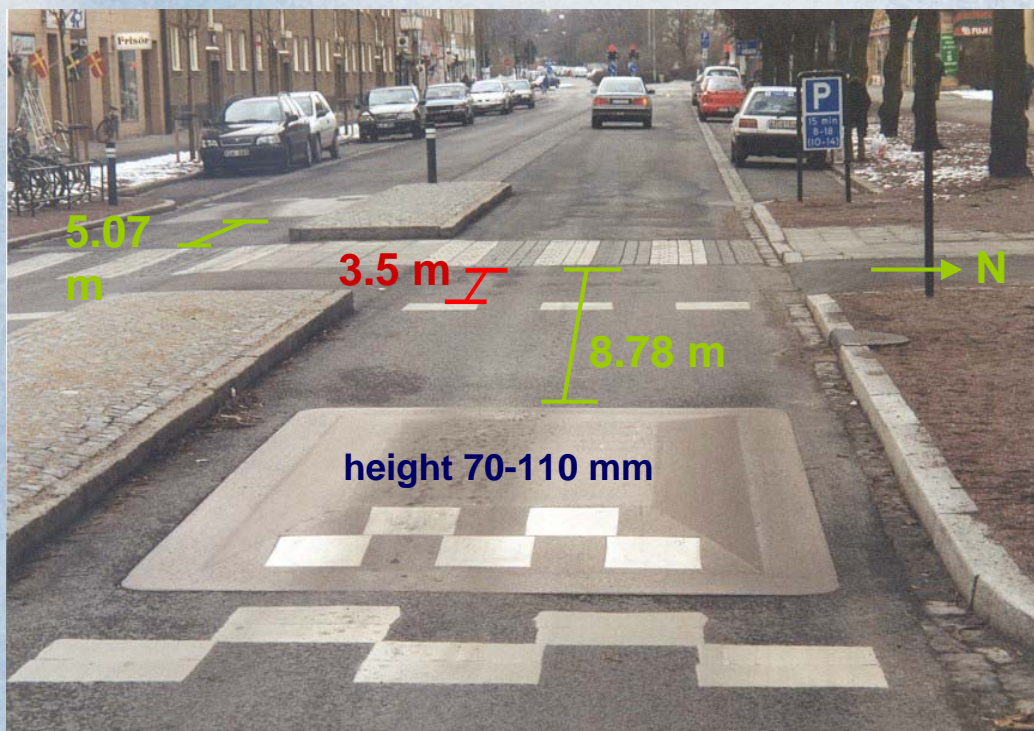
Studied sites and collected data

	year	No. of hours	No. of observations
Regementsgatan/Dragonstigen Malmö	2001- 2006	36	818
Tessins väg/ Henrik Wranérs gata Malmö	2006	9,5	437
Hultagatan Borås	2000 - 2002	16,5	717
Totally		62	1972

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Regementsgatan, Malmö, 50/30 km/h- street



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Tessins väg, Malmö, 30 km/h, 7-17 week days



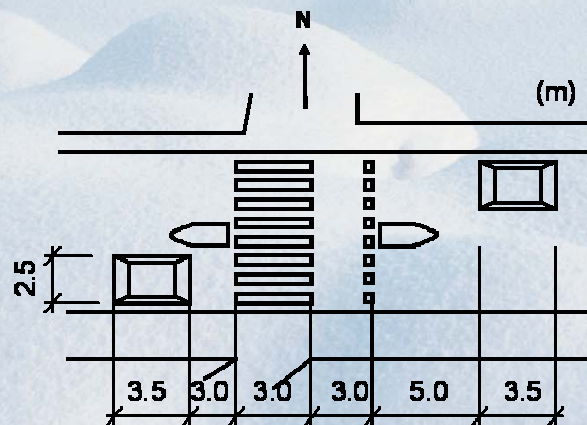
height 60-70 mm

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Hultagatan, Borås

50/30 km/h- street



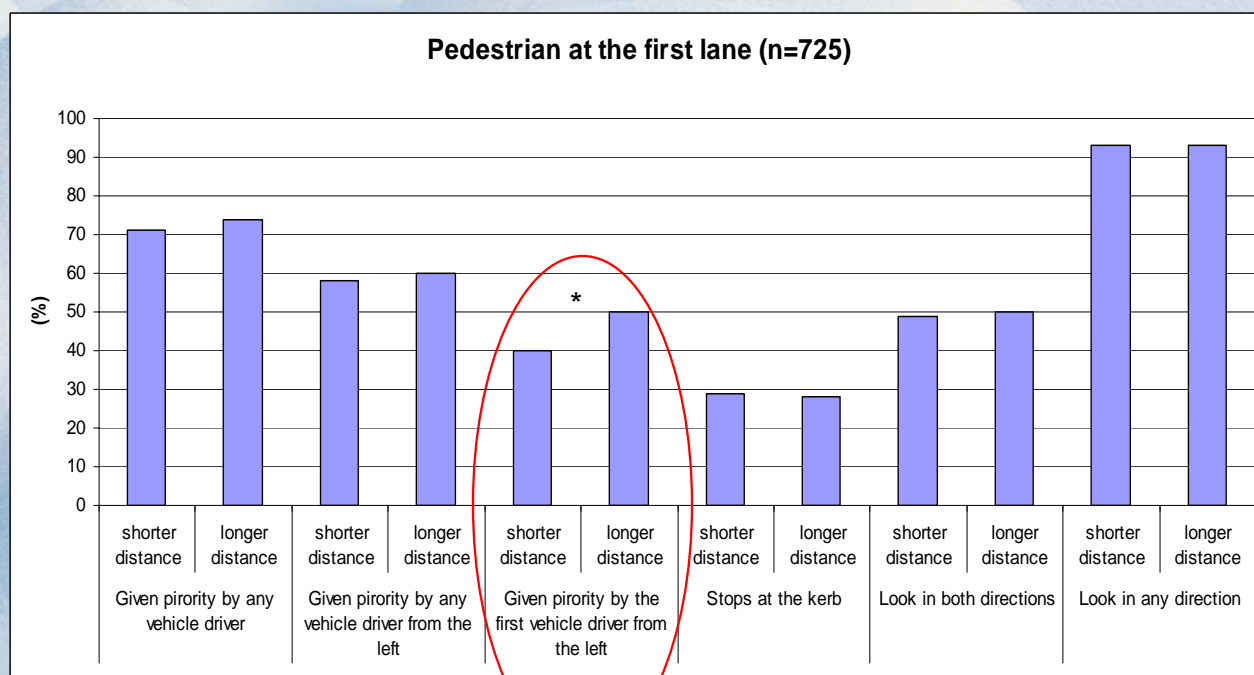
height 55 mm

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Vehicle speeds (km/h) before and on pedestrian crossing

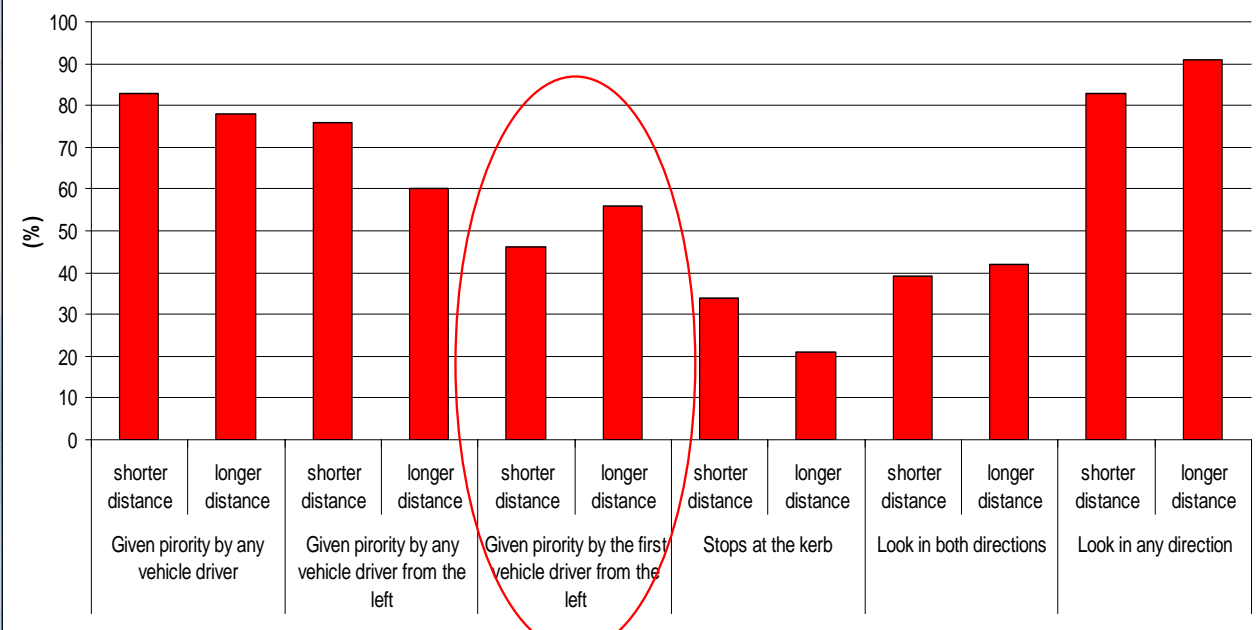
		Shorter distance		Longer distance	
		12 m before	on	12 m before	on
Regementsgatan	average	24,2	23,1	17,0	22,1
	90-perc	34	30	23	27
	n	37	34	52	53
Tessins väg	average	23,6	23,9	23,8	22,5
	90-perc	29	30	30	28
	n	39	45	117	132
Independent of distance, on pedestrian crossing					
Hultagatan	average	32,4			
	90-perc	41			
	n	22			



Pedestrian at the second lane (n=688)

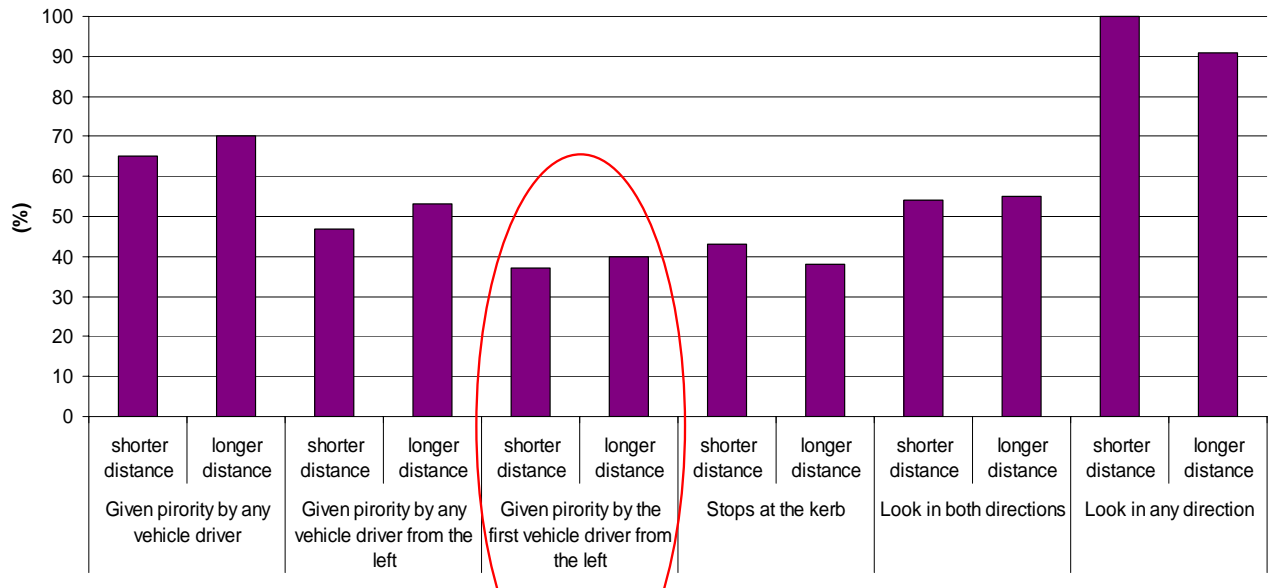


CHILD pedestrians at first lane (n=197)





OLDER pedestrians at the first lane (n=143)



Bicyclists at the first lane (n=340)



* Statistical significant difference



L

Conclusion

The vehicle speeds were low on the marked pedestrian crossing independent of the distance between the speed cushion and the crossing

Some significant differences that suggests a longer distance to the marked pedestrian crossing or marked bicycle crossing:

L

Conclusions...

All pedestrians were significantly more often given priority by the first vehicle from the left, when the distance was longer

All bicyclists were significantly more often given priority by vehicles in general, and the first vehicle from the left, when the distance was longer



BUT: A longer distance to the pedestrian crossing can be a shorter distance to the bicycle crossing

