

A street scene in a city. In the foreground, a dark grey Mercedes-Benz sedan is driving towards the camera. To its left, a cyclist is riding a bicycle. The street is lined with buildings and trees. A blue and white pedestrian crossing sign is visible on the left side of the road. The license plate of the car is JRT 814.

SHARING DIFFERENT WORLDS

An Attention Perspective on Different Road User Types

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MIXED TRAFFIC

Is the same environment really the same?



driver view



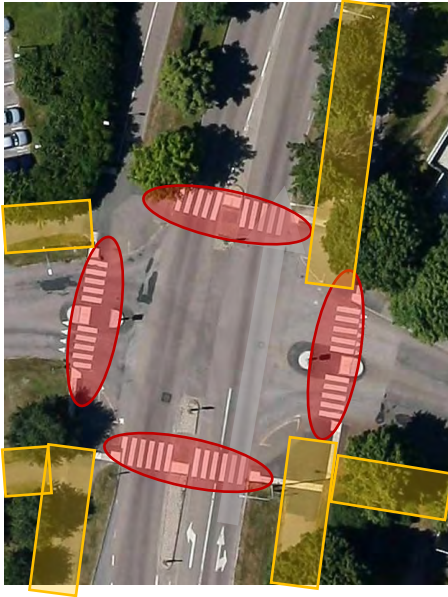
cyclist view





”SEPARATED” TRAFFIC

Are the different road user groups really that separated?



driver view



cyclist view

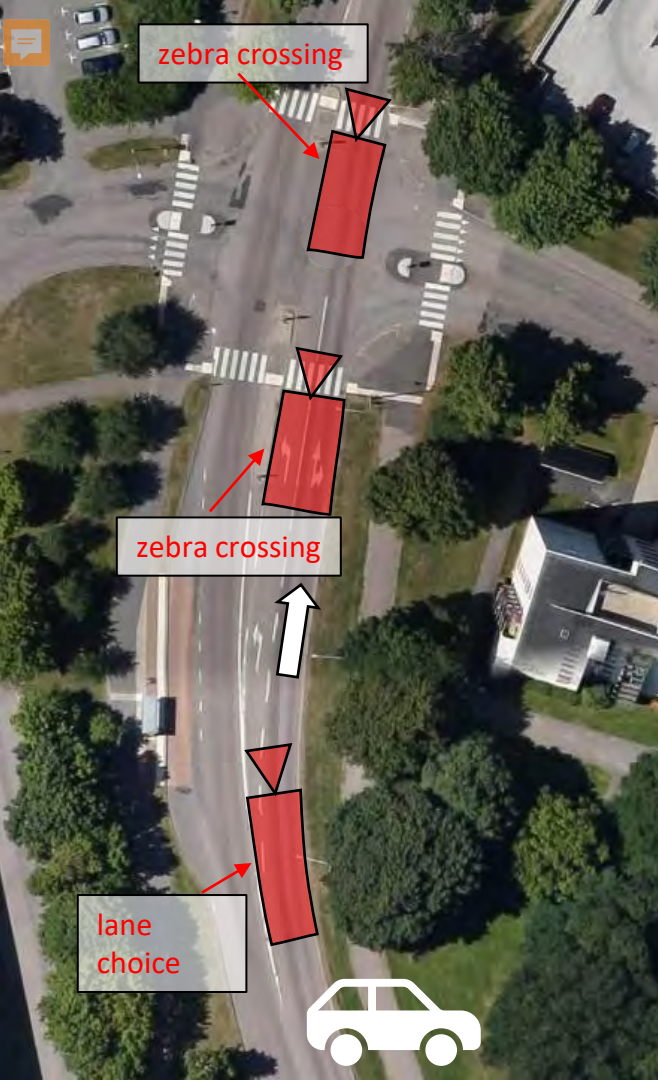




DIFFERENT WORLDS ...

- maintenance
 - surface quality
 - connectedness
 - “straightness”
 - efficiency
 - forgivingness
 - logic
 - ...
- mass
 - normal speed
 - within-group variation
 - ...
-
- and also requirements on attention





(MINIMUM) REQUIREMENTS ON ATTENTION

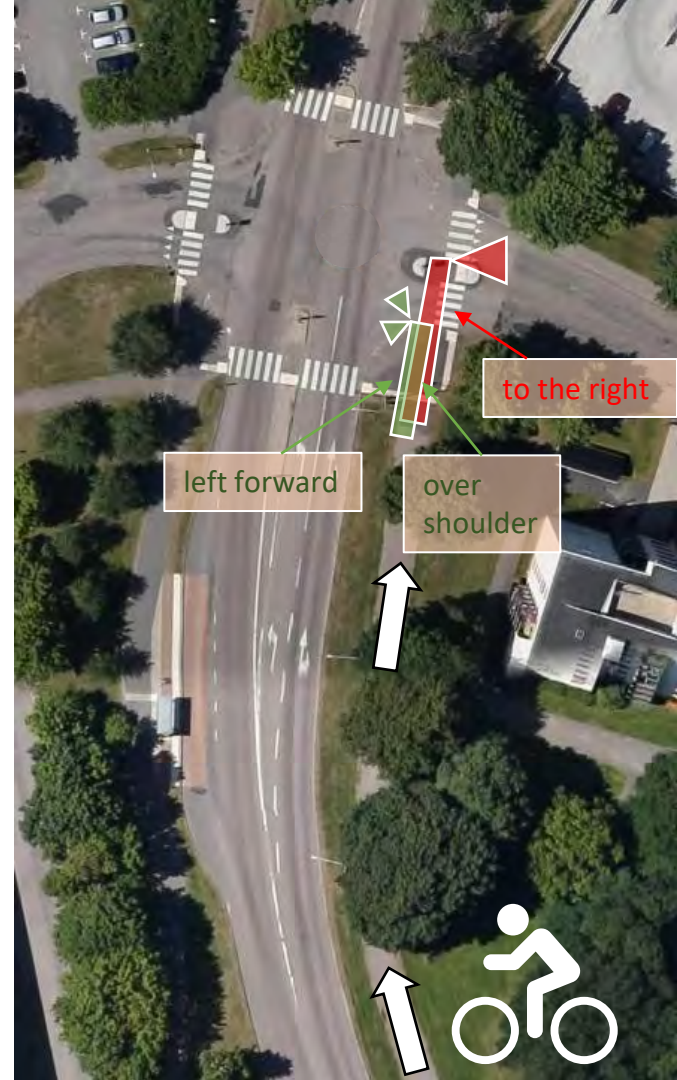
necessary vs. useful

explicit or implicit

size

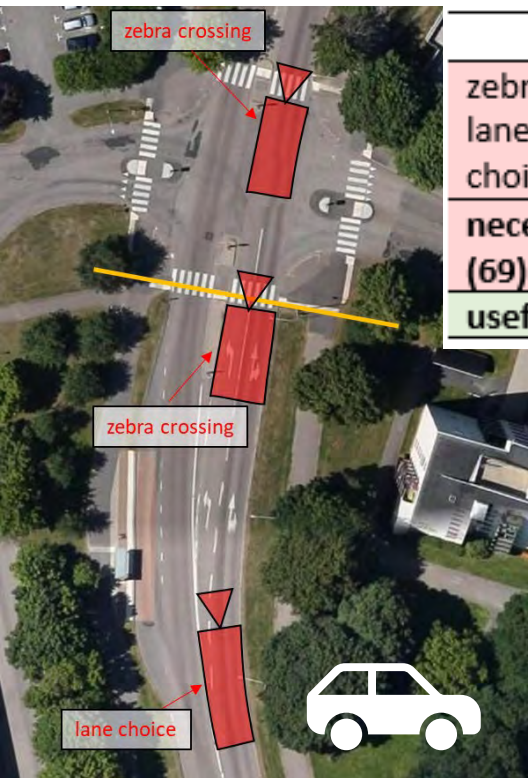
overlapping or not

sampling directions

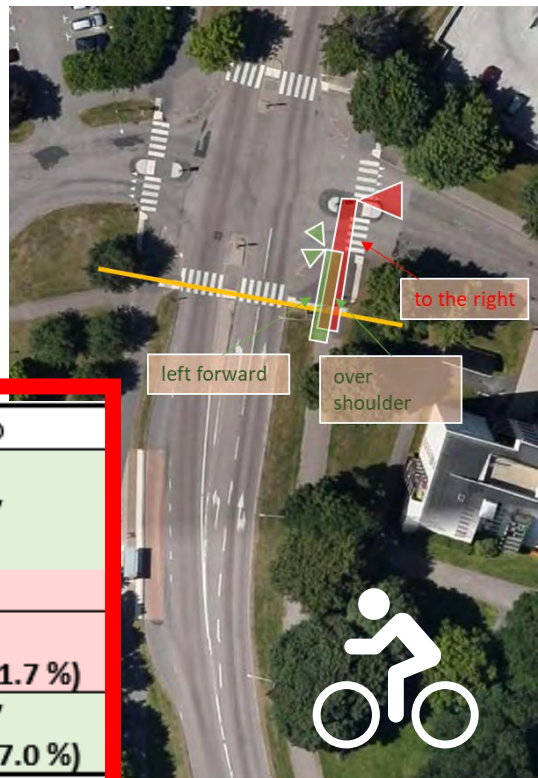




REQUIREMENTS ON ATTENTION



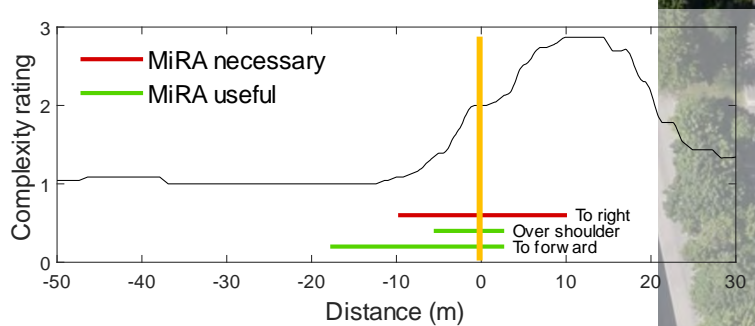
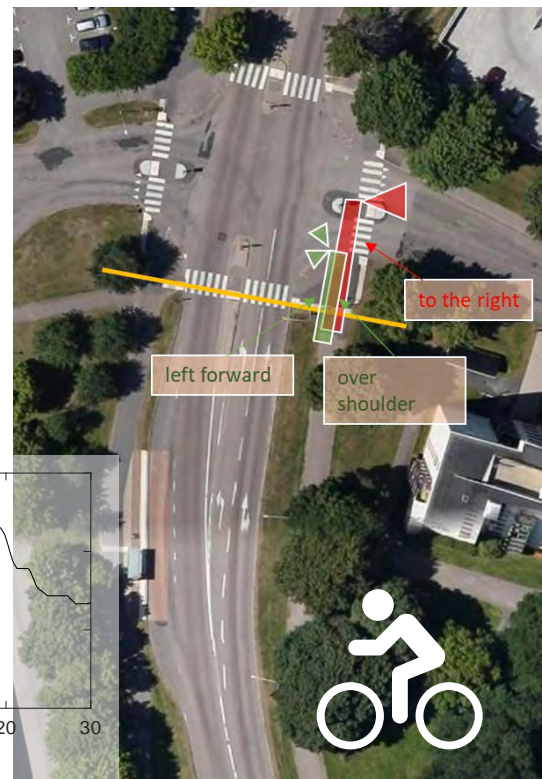
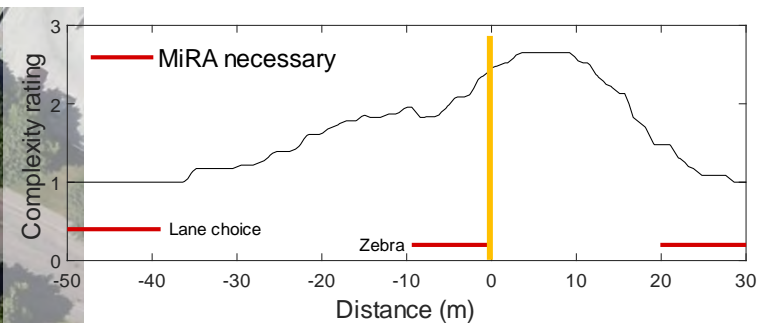
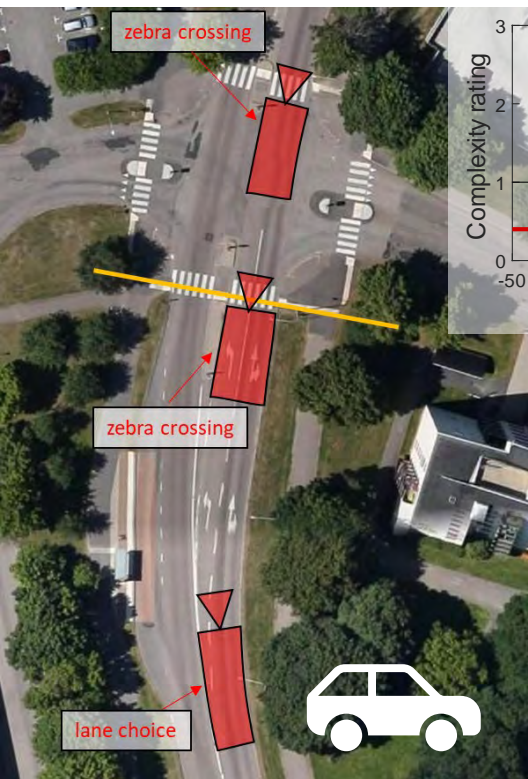
	yes	unclear	no
zebra	14	32	0
lane choice	23	0	0
necessary	37	32	0
(69)	(53.6 %)	(46.4 %)	
useful (0)	0	0	0



	yes	unclear	no
to forward	1	22	0
over shoulder	6	0	17
to right	18	0	5
necessary	18	0	5
(23)	(78.3 %)		(21.7 %)
useful (46)	7	22	17
	(15.2 %)	(47.8 %)	(37.0 %)



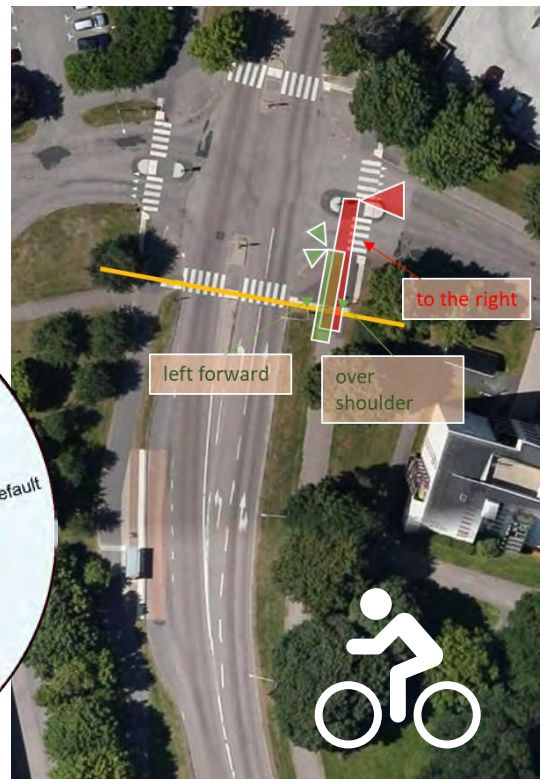
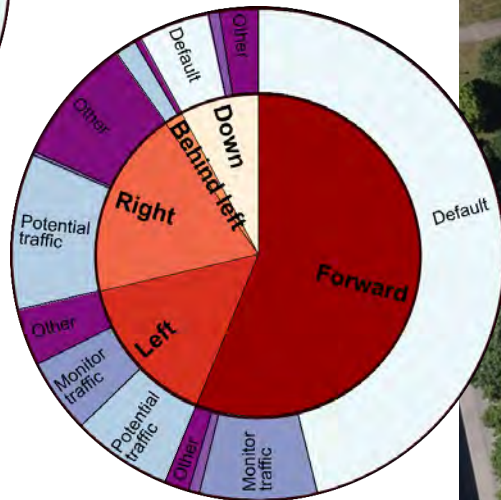
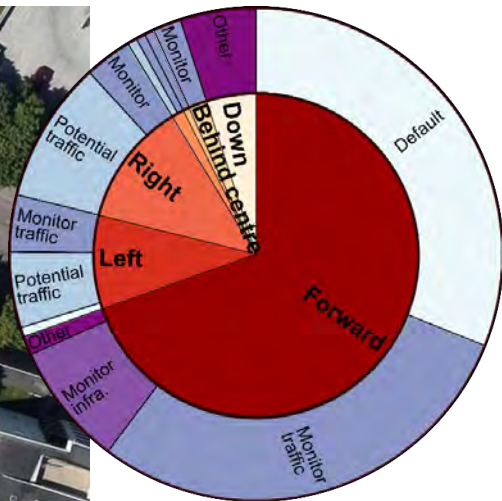
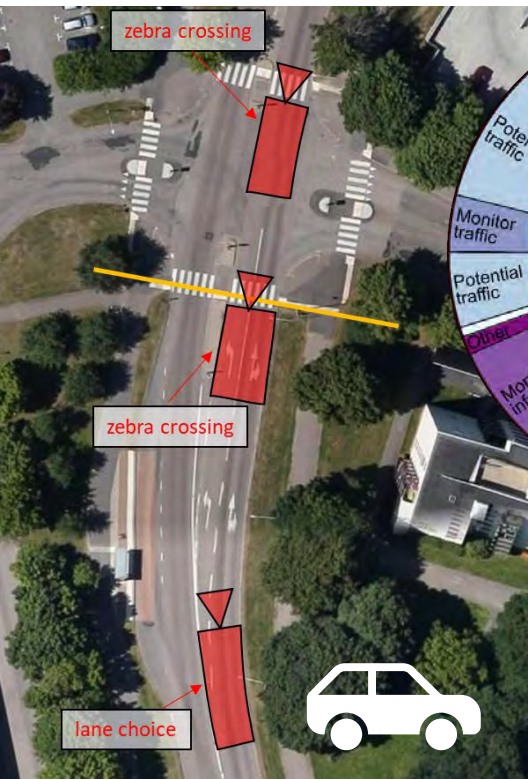
COMPLEXITY





- Forward
- Left
- Right
- Behind left
- Behind right
- Behind centre
- Down
- Default
- Potential traffic
- Monitor traffic
- Monitor infrastructure
- Other

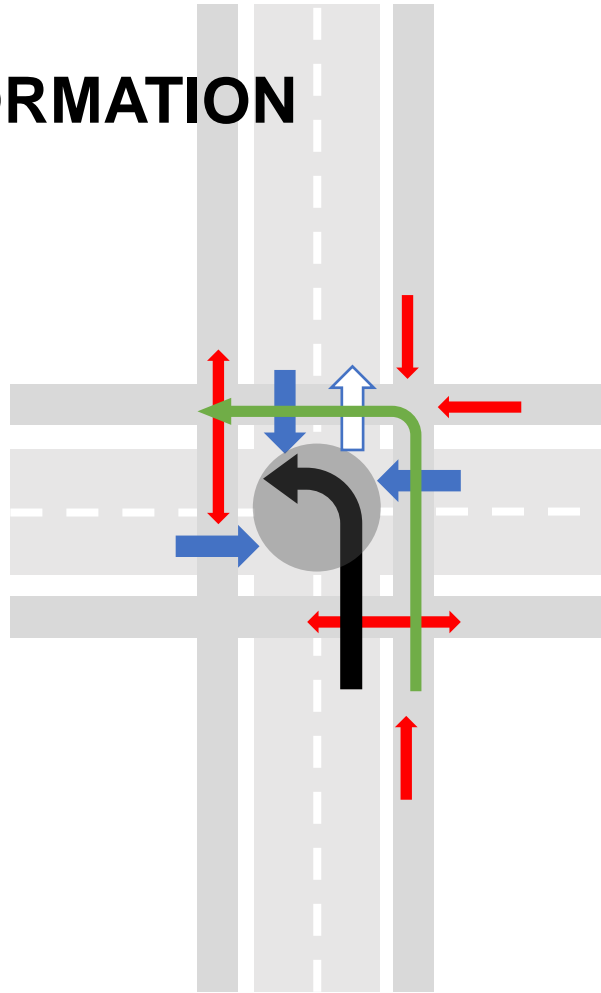
GLANCE DISTRIBUTION





RELEVANT INFORMATION

- requirements on drivers
- requirements on cyclists
- positioning and peripheral vision





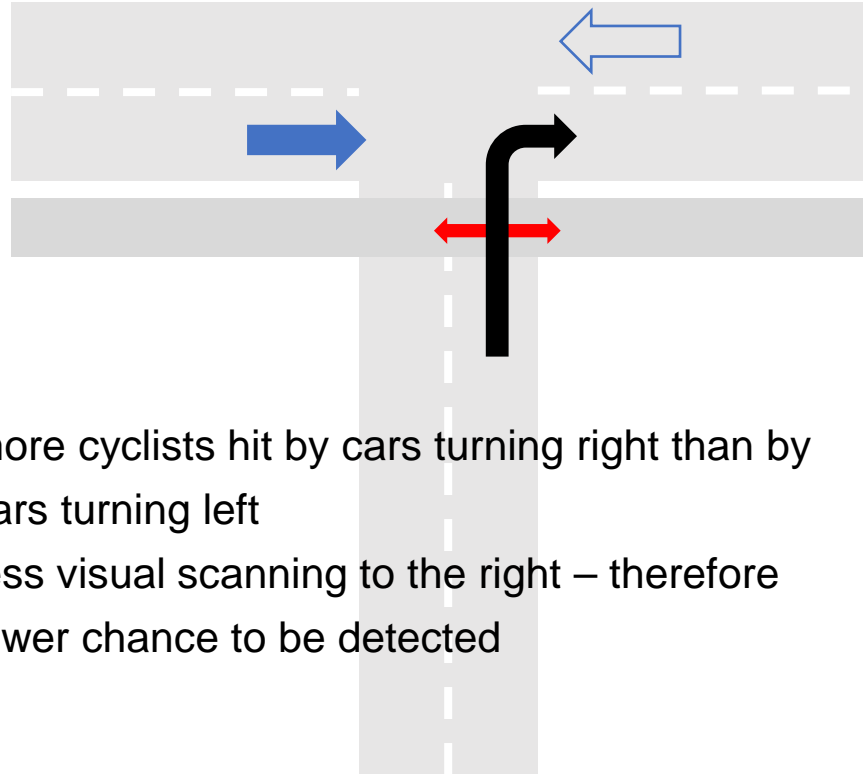
VISIBILITY, CONSPICUITY AND EXPECTATIONS

- **visible and conspicuous = good, but not enough**
- **expectation is at least as important**





DRIVERS' GAZE BEHAVIOUR



- more cyclists hit by cars turning right than by cars turning left
- less visual scanning to the right – therefore lower chance to be detected



HOW TO IMPROVE THE SITUATION?

- Become aware of the issues
- Acknowledge them as actual issues
- Study and understand the issues and develop possible solutions
- Act accordingly



CHILDREN'S ACTIVE TRAVEL

(Project funded by Länsförsäkringars Forskningsfond)

Can we create an environment that is user-centred around children's needs?

- Where do children travel?
- Which attentional demands are put on them?
- How do children of different ages meet those demands when
 - cycling
 - walking



THANK YOU!

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