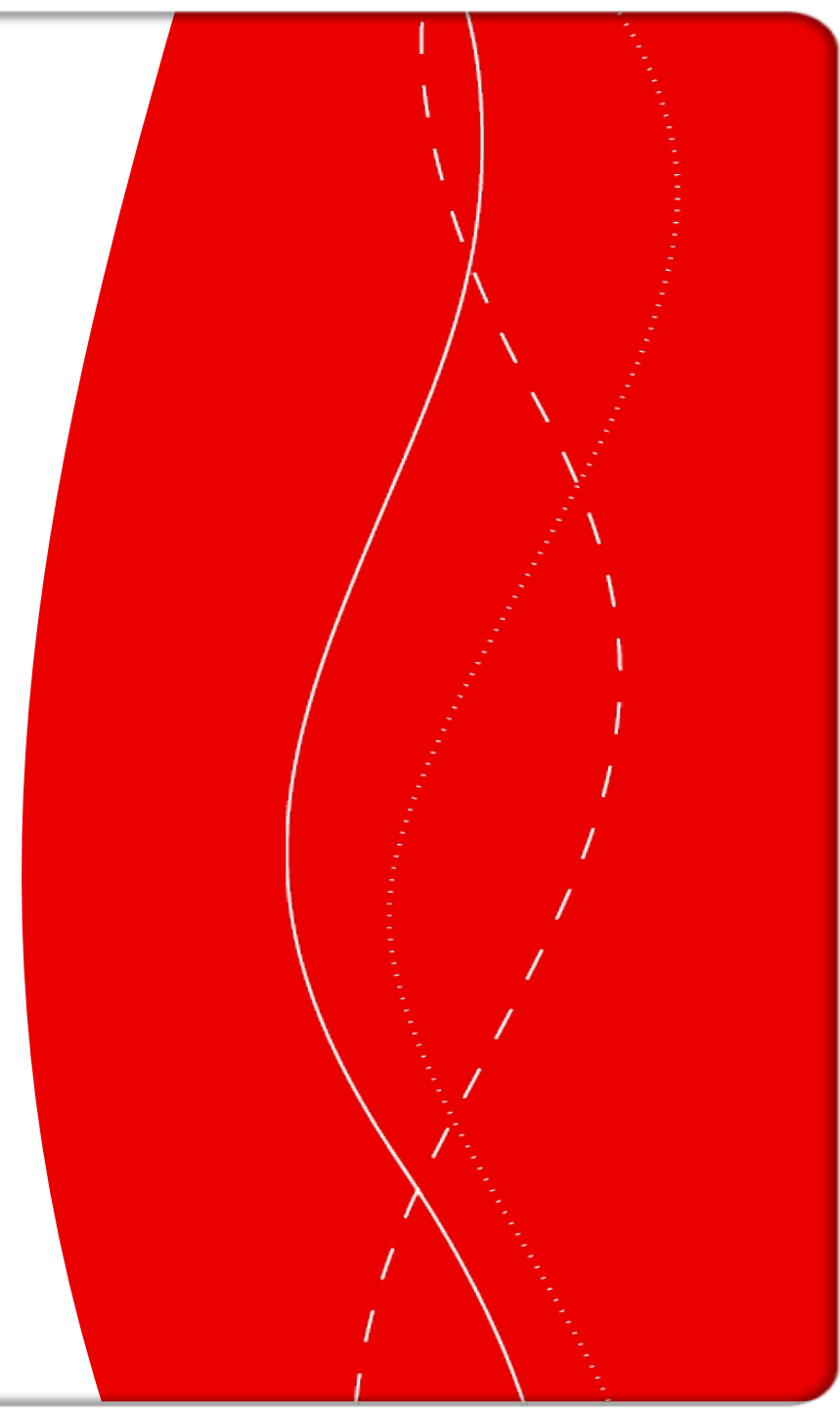




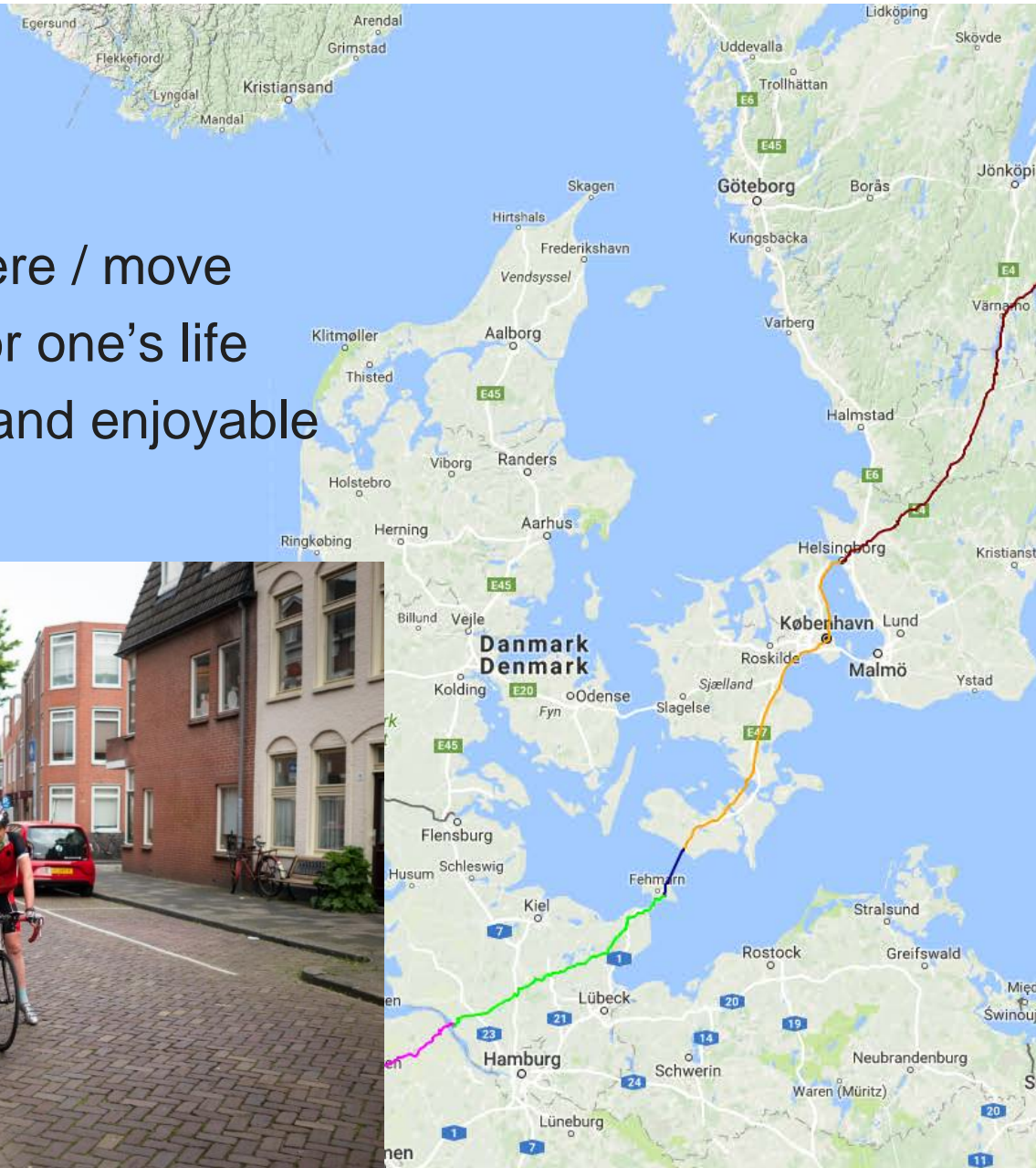
Setting the scene – cycling in Europe

Katja Kircher



Cycle to move

- get somewhere / move
- not fearing for one's life
- comfortable and enjoyable



System perspective

The traffic system is made for cars, maybe trucks – can we ever reach a good interaction on equal terms if the environment intrinsically favours one group?



Cyclist "type"



Cyclist type – research

typically through observations

Personal observation and reflection:
For what purpose do people
cycle and why?

Grouping into “no way no how”,
“Strong and fit”,
“interested but not committed”,
“fairweather utilitarians”,
“dedicated cyclist”,
“not a cyclist”

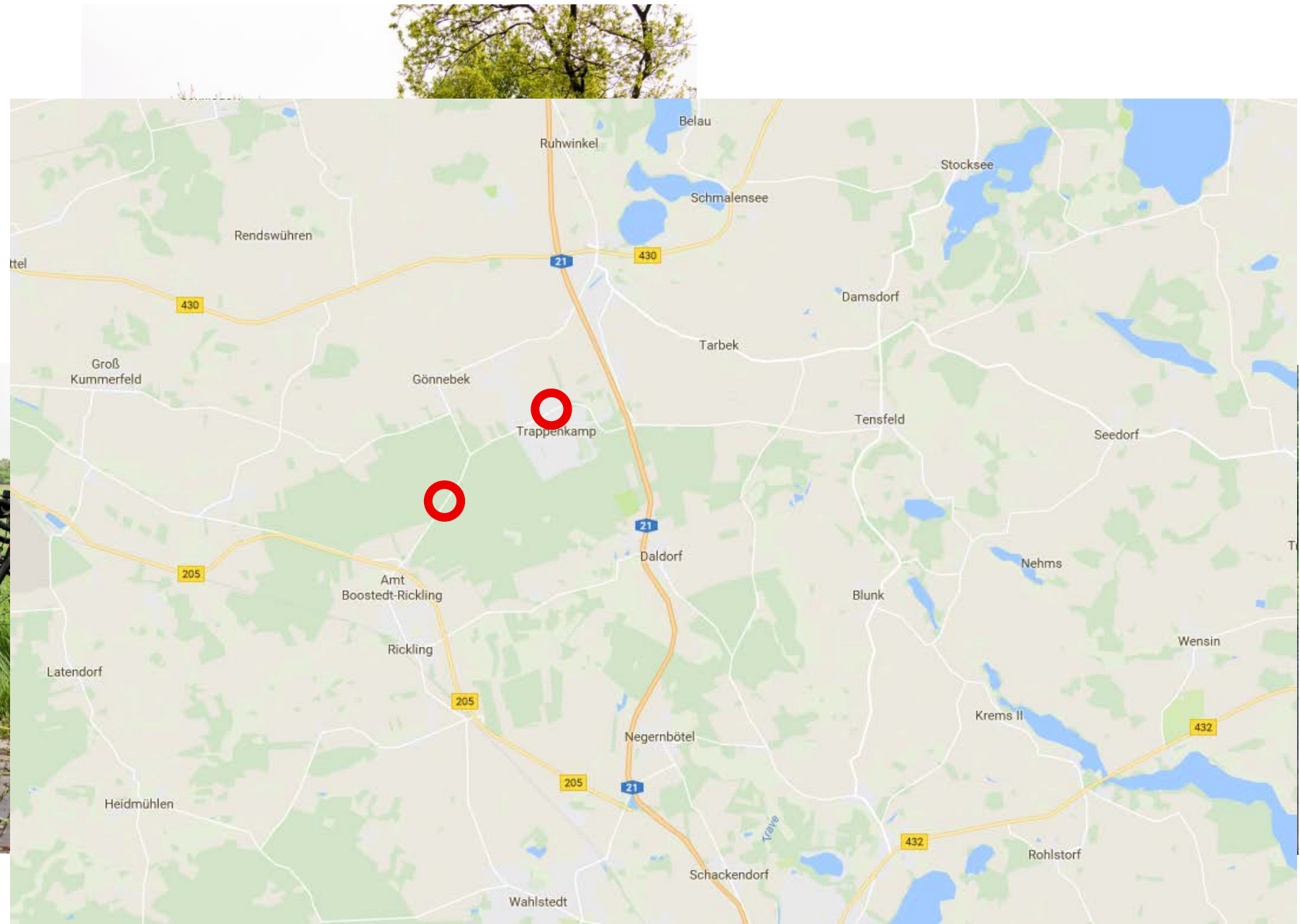
Questionnaire, factor analysis:
Grouping into “responsible”, “lifestyle”,
“commuter”, “hippy-go-lucky”

Questionnaire:
Grouping into “winter cyclist”, “summer-only cyclist”,
“frequent cyclist”, “never cyclist”.

Self-report (own research, as basis for behavioural study):
Grouping into “fast cyclist”, “normal cyclist”,
“comfort cyclist”, “e-biker”.

Orientation

- long distance
- through towns
- through intersections

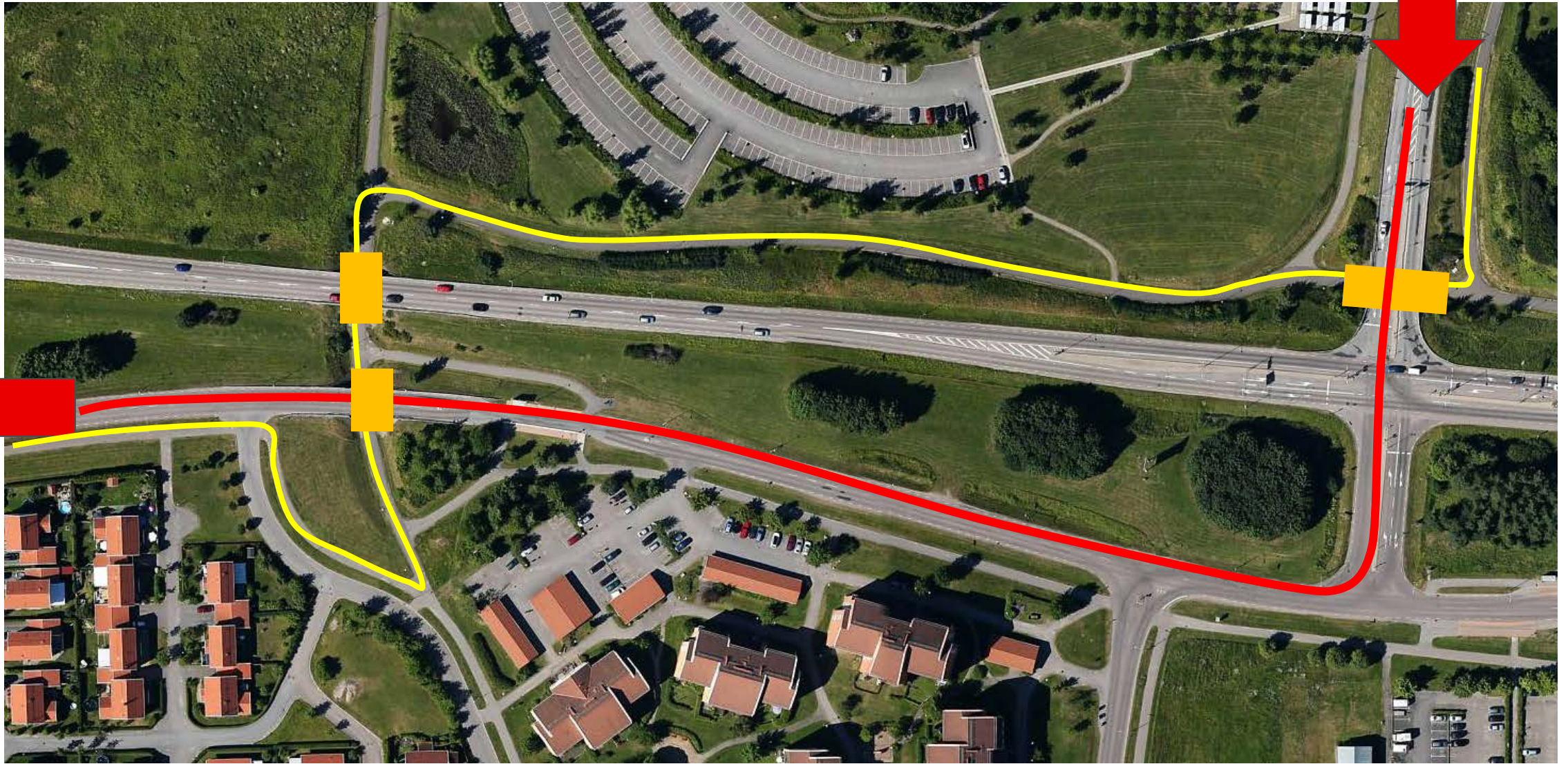


Orientation

several studies identify the need for better signage for bicyclists



Orientation: Local navigation



Interaction with other road users

rural areas

- positive: drafting on truck tailwind
 - scary closeness dictated by the overtaking vehicles
 - role of the infrastructure
- ➔ mainly: driver sees cyclist and makes a decision whether and how to overtake



urban areas

- more different types of interactions
- if cycle paths exist: often related to intersections and crossing paths



Rural road, overtaking behaviour – research findings

- “too close” or < 0.5 m in 0.5 % (USA) to 2 % (UK) of the overtakings
- closer gap when cyclist located more to the centre of the road
- buses and heavy-goods vehicles overtake more closely
- closer to men than to women
- oncoming traffic leads to closer overtaking



What does this really mean?

2200 vehicles/day

= 92 vehicles/hour

0.5 - 2 % “too close”

➔ 1-4 too close overtakings per 1 hour

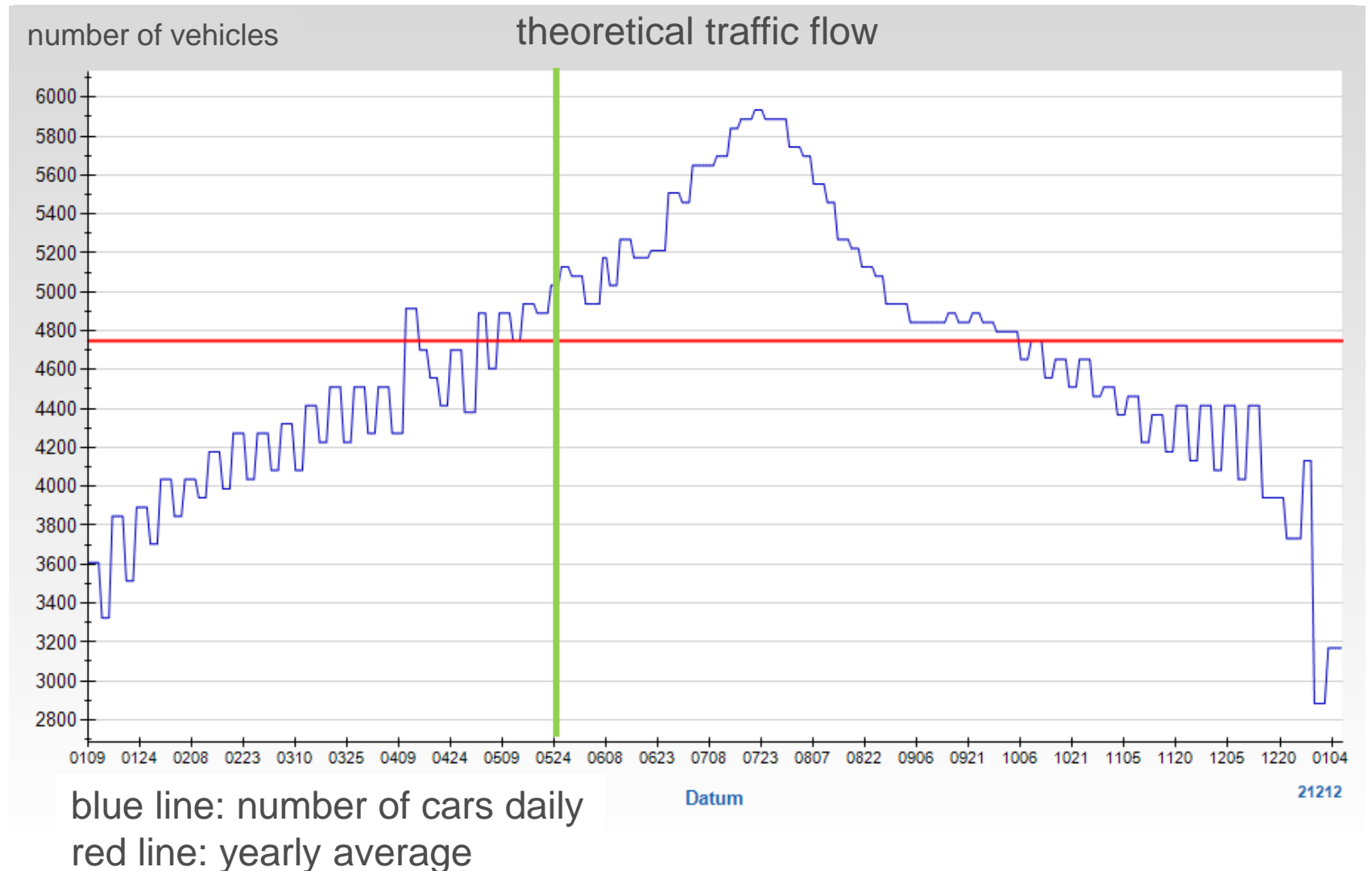
A scarier road:

5200 vehicles/day

= 217 vehicles/hour

0.5 - 2 % “too close”

➔ 3-9 too close overtakings per hour



Overtaking behaviour – unscientific self-studies

self-studies: lane position on this road

unreliable impressions, or dependent on road markings?

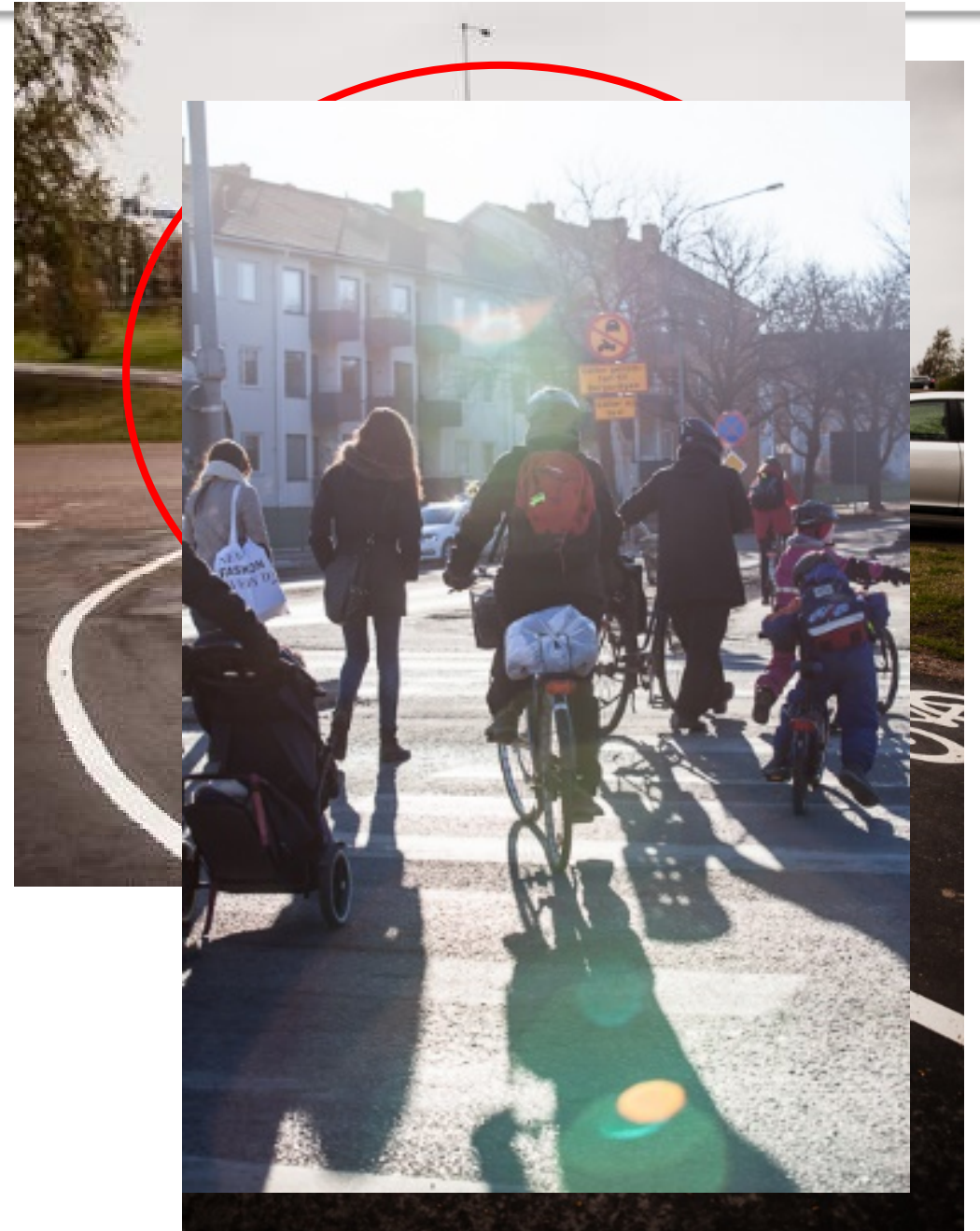


Interaction with other road users

Is the infrastructure asking for trouble?

Research shows: Drivers attend to places where they expect cars.

Cyclists, pedestrians etc. are often treated as one big homogeneous disturbing factor.



Interaction with other road users

What if the infrastructure makes drivers expect bikes?



Or should we trust technology?

Safety
Green light which is a safety zone to normal flow or when Cyclists are going to a narrow section.

Be careful
Yellow light which is a safety zone to normal flow or when Cyclists are going to a narrow section.

Warning
Red light which is a safety zone to normal flow or when Cyclists are going to a narrow section.

LIGHTING
By using an LED technology, it has good energy efficiency, low maintenance and reduced energy of light.

ZONE SIGNS
By having clear identification for the road signs, it allows cyclists, drivers, emergency services and other road users to be aware of the road conditions.

CYCLIST
Click here for more information about Cycling safety

infrastructure systems

in-vehicle systems

SIXTH SENSE JAGUAR

LAND ROVER

Research example

- green wave for cyclists
 - truck detects cyclists and informs/warns drivers
 - augmented with help from infrastructure
 - infrastructure informs turning cars about cyclists
 - infrastructure informs cyclists about turning cars
-
- other EU projects and further research ongoing



Live and let live



Thank you very much for your attention!

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