

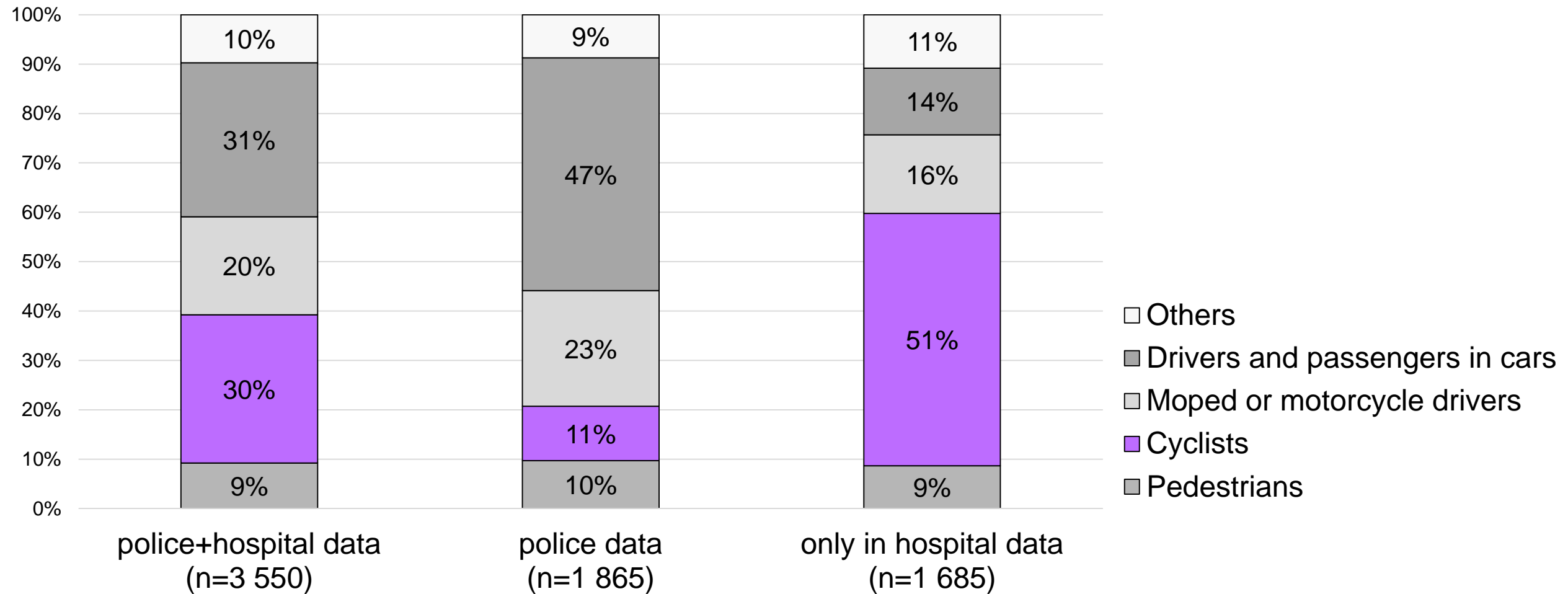
Single bicycle accidents in Finland

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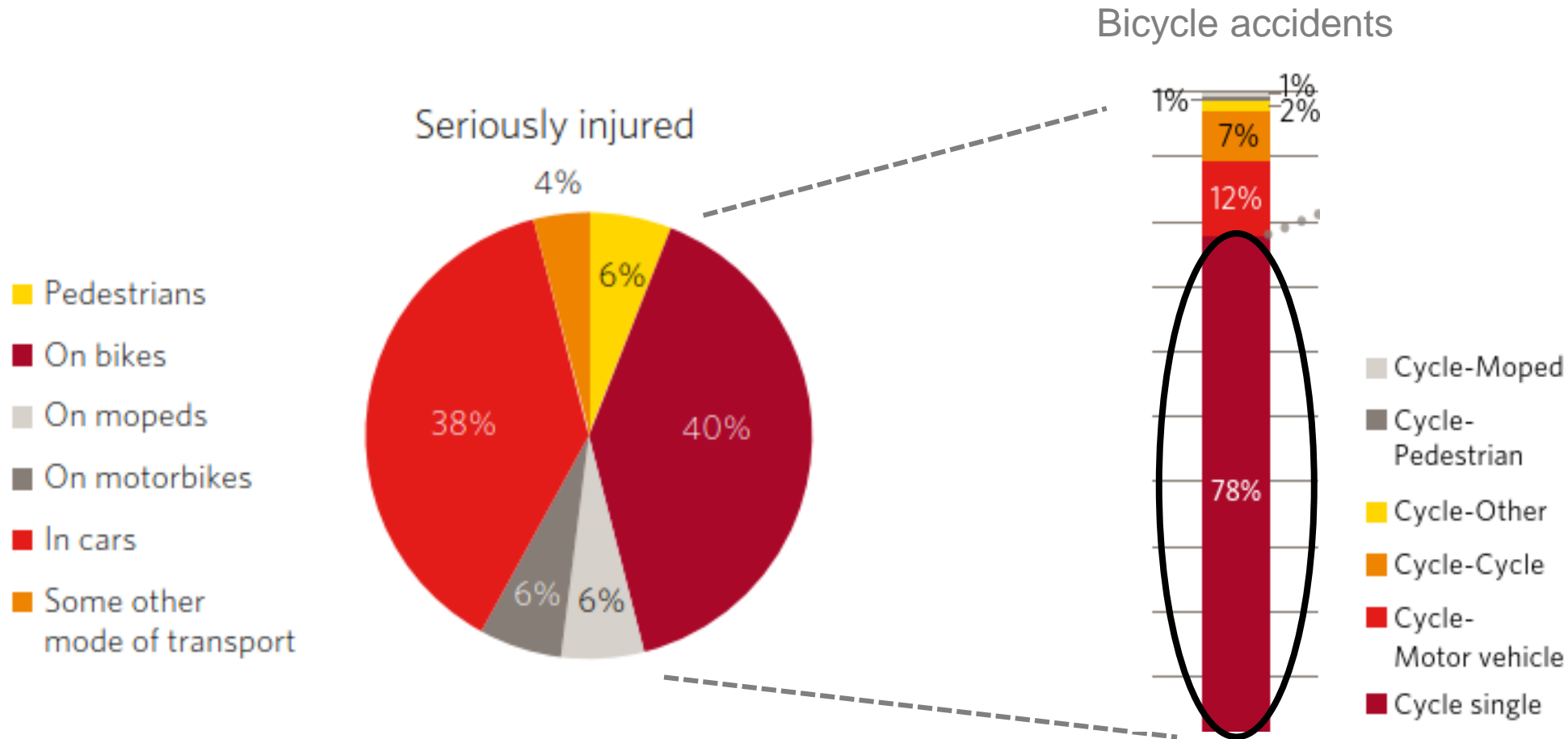
Nordisk trafiksikkerhedsforum 2019 - Lillehammer

Why (single) bicycle accidents?

The proportion of road user groups in seriously injured (MAIS3+) in 2014-2017



Why single bicycle accidents? - Example from Sweden



Single bicycle accidents in Finland

- Data on commuters' bicycle accidents in 2016-2017 is used (Finnish Workers' Compensation Center)
- Accident descriptions (n=3 449) were analysed to find the reason of the accident

Methods

- A categorization system of SBAs was developed based on the reference studies from Sweden (Niska & Eriksson 2013) and the Netherlands (Schepers & Klein Wolt 2012)
- 5 main groups, 19 subgroups with 22 descriptive factors

1. Infrastructure

1a. Skidding due to slippery road surface

- Ice/snow
- Gravel etc.

1b. Colliding with an object, e.g. a bollard

....

1f. Driven against rail

2. Cyclist related accidents

2a. Braking mistakes

...

2i. Attack of illness

3. Bicycle malfunction

3a. Bicycle malfunction

4. Interaction with other road user

4a. Avoidance of other road user

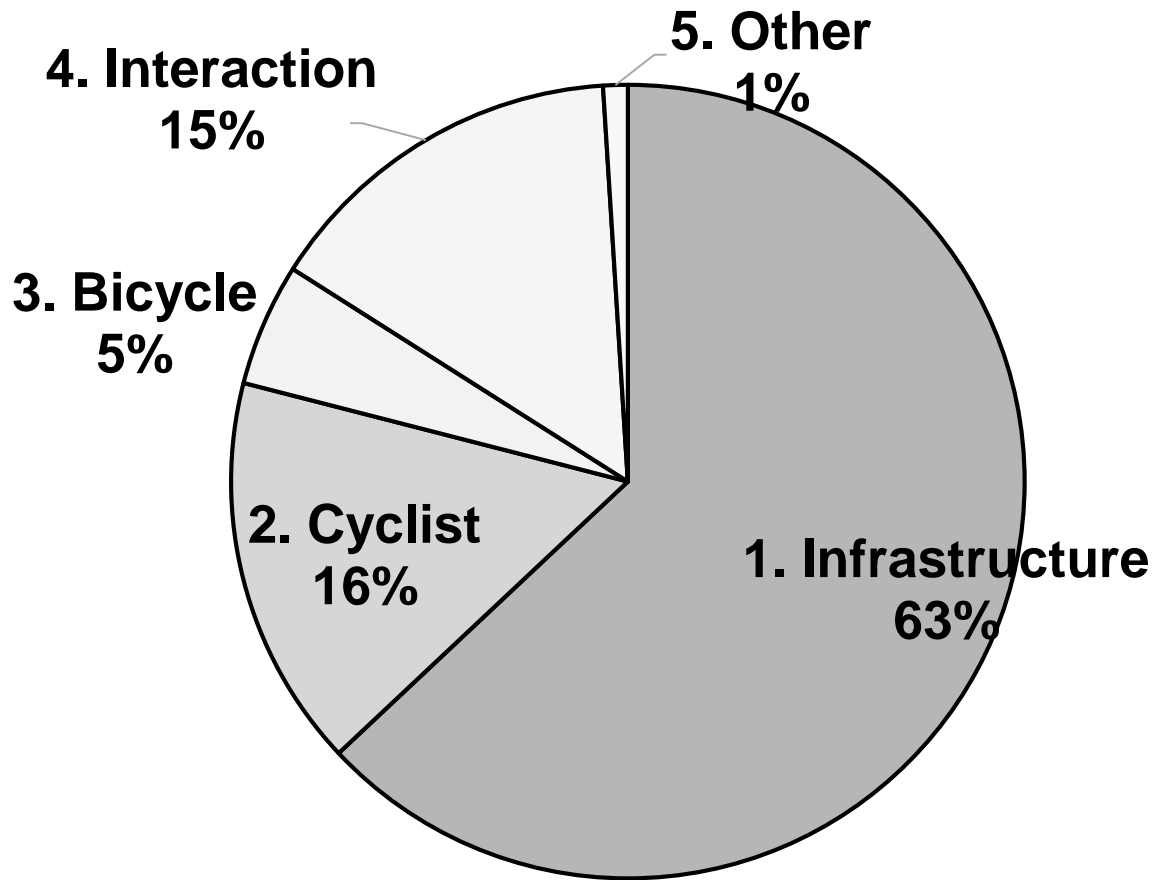
4b. Avoidance of animal

5. Other

Examples

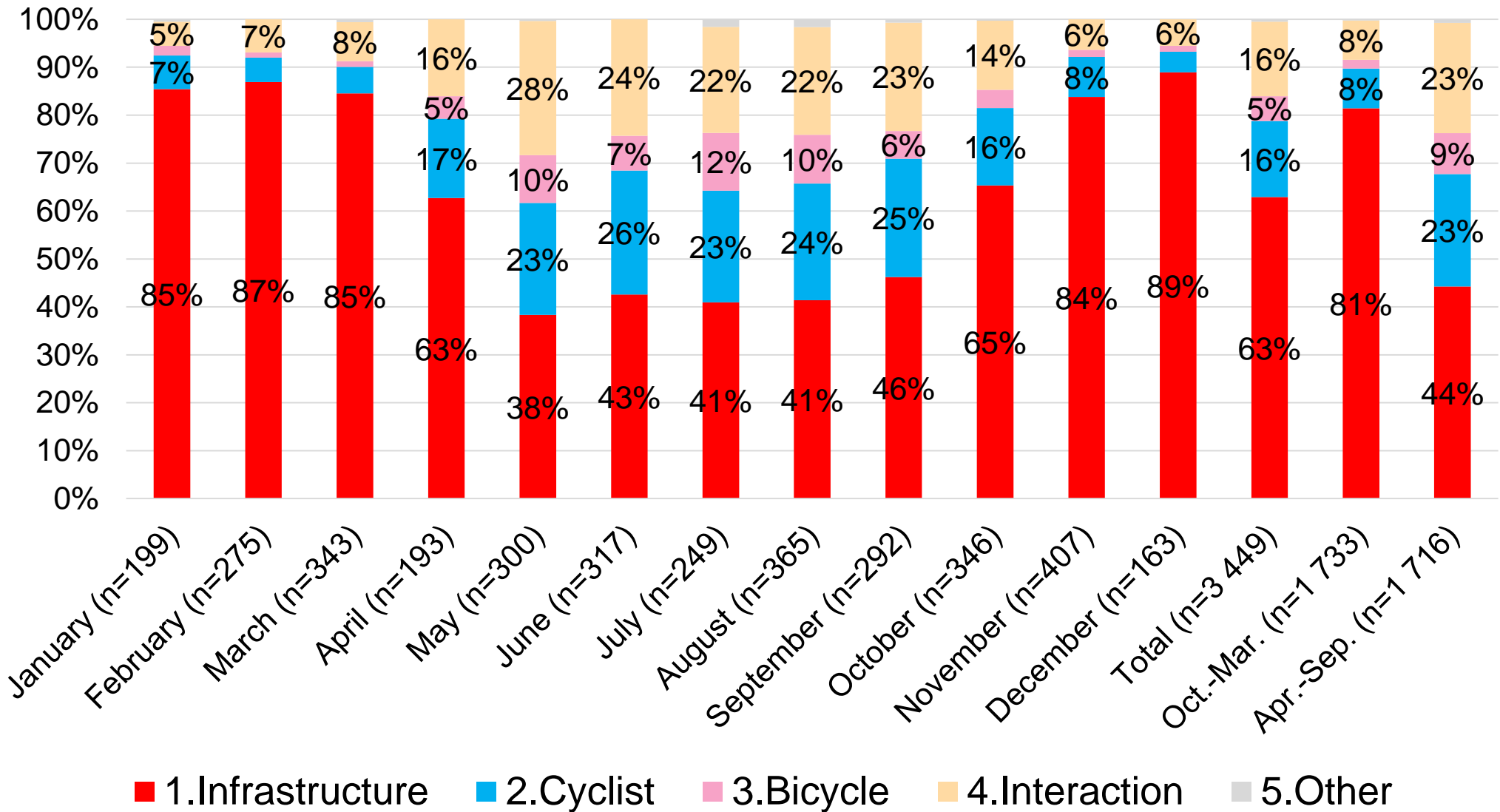
Accident description	Subgroup and descriptive factor
A cyclist skidded, as the surface of a cycle path was icy. The cycle path was not gritted.	1a. Skidding due to a slippery road surface (ice/snow)
A cyclist dismounted from the bicycle and a foot slipped from a pedal. The cyclist fell.	2d. (Dis)mounting
An oncoming passenger car turned in front of a cyclist to go to a parking area. The cyclist braked to avoid a collision and fell over the handlebars.	4a. Avoidance of other road user (a motor vehicle)

Causes of SBAs



<u>1. Infrastructure (63%)</u>
1a. Skidding due to slippery road surface (47%)
-Ice/snow (30%)
1b. Colliding with an object, e.g. a bollard (4%)
1c. Colliding with a kerb (4%)
1e. Loss of control due to an uneven road surface, e.g. a pothole (4%)
<u>2. Cyclist related accidents (16%)</u>
2a. Braking mistakes (5%)
<u>3. Bicycle malfunction (5%)</u>
-Chain broke or came off (2%)
<u>4. Interaction with other road user (15%)</u>
4a. Avoidance of other road user (14%)
-Motor vehicle, e.g. a car (6%)
-Cyclist (4%)
-Pedestrian (4%)
<u>5. Other (1%)</u>
Total (n=3 449, 100%)

SBAAs by the month



Conclusions on single bicycle accidents

- Lack of the data restricts the investigation of the SBAs
- Almost two thirds of the SBAs are caused by the infrastructure-related reasons!
- Accidents due to avoidance of other road user (without a collision) could "easily" lead to the collisions
 - These should be studied further
- The amount of accidents is the same in summer and winter months, but the main causes are dissimilar between the seasons
- Measures related to winter maintenance, cycling infrastructure, anticipatory behaviour of the cyclists and other road users, and the structure of bicycles