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## Intensity and diversity of traffic on bicycle tracks and the implications on safety

### Problem description

In 2022 the share of cyclists of total road fatalities increased to about 40%. In recent years, bicycle tracks are being used not only by ordinary bicycles, but also by different types of vehicles, such as pedelecs, light mopeds, and cargo bikes. These different types of vehicles have sometimes large differences in speeds, mass and demand for space requirements. This phenomena increases the heterogeneity on our bicycle tracks, and considering the sustainable safety principles could have negative implications on road safety. However, evidence-based research in this regard is missing. Therefore, there is a knowledge gap on how this increased heterogeneity affects the interactions between road users of different types of vehicles, and the implications on their safety.

### Assignment

- Review of the state-of-the-art with respect to cycling safety and proximity measures;
- Collecting video data from different cycling tracks that have different intensities and mixture of vehicles;
- Processing the data and extracting vehicles' trajectories to calculate safety related proximity measures;
- Investigating the relationship between traffic intensity, diversity, and safety proximity measures.
- Writing a thesis report (and potentially a scientific paper).

### Research group

Transport & Planning department

Thesis supervisor: Dr.ir. Haneen Farah

Daily supervisor: Dr. ir. Yufei Yuan

### External support

Possible internship at SWOV – Institute for Road Safety Research.

### Information

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