Effects of COVID-19 on cyclist demand and behaviour

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Research themes

• Demand analyses
• Cycling behaviour
• Pedestrian behaviour
Research theme: Demand

• What is the effect of Covid-19 measures on travel demand?
  – What is the effect of location within the Netherlands?
  – What is the effect on the different modes (car, bicycle, e-bike, public transport)?
  – What is the effect on the daily pattern (e.g., shift of peaks)?

• Contributions:
  – Isolate effect of different measures (packages)
  – Identify which measures might have the biggest effect on increasing bicycle demand in the post-Covid-19 era
Locations of bicycle detector loop open data (NDW)

- ~900 locations with loops
- ~450 have data during 2020
- ~200 have data per 15 minutes

- No data from loops in Amsterdam, Utrecht, Groningen
Locations of bicycle detector loop open data (NDW)

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For now a small selection:
  - Delft
  - Tilburg
Demand over the year
TUD campus

Before COVID-19

First wave

Summer

Autumn

Second wave

2021
Tilburg

Before COVID-19

First wave

Summer

Detected cyclists

Time [h]
Research theme: Cycling behaviour

• To what extent do cyclists maintain the 1.5m rule?
  – What is the effect of Covid-19 measures on cyclist queuing behaviour?
  – What is the effect of Covid-19 measures on lane-formation behaviour in bi-direction cyclist flow?
  – What is the effect of Covid-19 measures on cyclist overtaking behaviour?

• Contributions
  – Design guidelines for cycle paths
  – Traffic light management
Empirical data from TUD campus in February 2021
Distance keeping: cyclists (TUD campus)
Research question: pedestrian behaviour

- To what extent do pedestrians maintain the 1.5m rule?
  - What is the effect of Covid-19 measures on pedestrian waiting behaviour on platforms?
Societal impacts

• Identify which measures have the biggest effect on increasing bicycle demand in the post-Covid-19 era
  – Isolate effect of different measures (packages)

• Infrastructure design guidelines for cyclists
  – Cycle paths
  – Traffic light management

• Infrastructure design guidelines for pedestrians
  – Platforms
Points for discussion

• Data available by the municipality?
• How would you use our findings?
• Your remarks/advice/suggestions