

How can cycling mitigate the impact of disruptive events on mobility systems?

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BACKGROUND

Designing resilient traffic systems that allow sustainable mobility in the face of disruptive events will be a key task for decision-makers all over the world in the coming years. The SARS-CoV-2 pandemic has shown that external events can massively influence which modes of transportation people use for their daily commutes. For reliable transportation systems, these short-term behavioral changes can present themselves as a major challenge. Can cycling help mitigate this impact and thus contribute to resilient traffic systems?

METHOD

To be able to predict how different events impact the usage of different travel modes we designed an online survey capturing experiences with disruptive events. Acquired via residents' registration offices in various participating municipalities, participants are interviewed about events that have influenced their mobility in the past. 15,000 people will be invited to the survey.

RESULTS

By structuring the reported events and their impact on mode choices, a comprehensive list of disruptive event classes will be compiled. We expect cycling to be one of the more resilient modes of transport regarding most disruptive events.

Disruptive Event \ dɪs'ʌptɪv ɪ'vent \

1. Special, usually sudden event that affects or changes how people travel in everyday life. **2.** Fundamentally changes traffic habits and thus creates a new situation. **3.** Can happen either intentionally or unintentionally. **4.** Can be man-made, natural disasters, and of other origins.

SURVEY

Disruptive Events
What events have you experienced within the last three years that changed how you were mobile in the short or long term?

Multiple selection possible

- Pandemic (Coronavirus)
- Temporary failure of traffic infrastructure (bridge, road, path, rails closed)
- Permanent dismantling of transport infrastructure (dismantling of bridges, train stations, roads, paths, rails, etc.)
- Temporary failure of a private means of transport (damage to car, bicycle, no fuel available, etc.)
- Temporary failure of public transport (strikes, weather-related cessation of rail traffic, etc.)
- Expansion of infrastructure (new bike path, road, etc.)
- Improved public transport options (more frequent bus trips, new car-sharing offer, better public transport departure times, etc.)
- Extreme weather event (flood, heat wave, storm, etc.)
- Negative financial changes (price increases, job loss, etc.)
- Positive personal financial changes (fuel discount, salary increase, etc.)
- Positive financial changes in public transport (9-euro ticket, 49-euro ticket, better tariffs, ...)
- Move to another city
- Job change
- Changes on site (closure of shops, supermarkets, cultural institutions, etc.)
- other

You have indicated that a

Temporary failure of a private mode of transport (damage to car, bicycle, no fuel available, etc.)

had an impact on your everyday mobility. Please answer the following questions related to this event.

Would you like to describe the event that changed your daily mobility in more detail?

How did the event affect your journeys ?

Multiple entries possible

- Trips took longer
- Trips took less time
- Using my usual mode of transport was more unpleasant
- My usual mode of transport was less reliable
- My usual mode of transport was less safe
- My usual mode of transport was not available for a short time
- My usual mode of transport was not available for a long time
- I reduced number of trips
- Other

Did the event result in you switching to another mode of transport for your trips?

yes

no

Please indicate which means of transport you used

before the event

during or shortly after the event

long term after the event

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