




MOBIS-COVID-19

GPS-based monitoring mobility during the pandemic

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MOBIS-COVID-19: GPS-based Monitoring mobility during the Pandemic

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1 Introduction

In Switzerland, strict measures as a response to the COVID-19 pandemic were imposed on March 16, 2020, before being gradually relaxed from May 11 onwards. We report the impact of these measures on mobility behaviour based on a GPS tracking panel of 1,439 Swiss residents. The participants were also exposed to online questionnaires.

Tracking is ongoing as of May 2021, and there are possible opportunities to work with the data in the context of a Masters' thesis or semester project.

2 Method Overview

- The tracking panel for the MOBIS-COVID-19 study was recruited from those 3,680 participants who completed the MOBIS study.
- Of these participants, around 1,600 volunteered to reactivate the tracking app, Catch-my-Day, developed by Motion-Tag.
- The Catch-my-Day app works similarly to other tracking apps.
- It runs in the background, collecting location data from the phone, with the participant's consent.
- The tracking can be turned on and off at any time. The data is transferred to the server when the phone is connected to a WiFi network.
- The sample is skewed towards car-users in urban areas, due to the sample composition of the original MOBIS study.
- To correct for this, the MOBIS-COVID-19 sample is weighted against the original 22,000 participants which filled out the introductory survey in the MOBIS study.

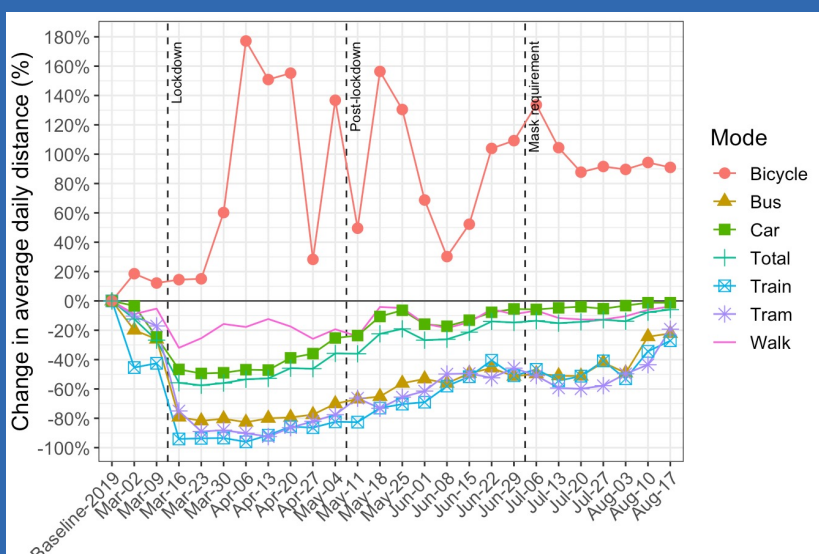


Figure 1: Changes in weekly mode shares

4 Results and Discussion

- Significant changes in modal split were observed
- Particularly towards cycling, where a large increase in the average daily distance travelled was observed
- Drastic improvements in travel speeds were observed during the lockdown
- More congestion after the lockdown, as public transport continued to be avoided
- Widespread implications for transport policy in Switzerland, especially if further increases in congestion are to be avoided, and the observed uptake of cycling to be made habitual

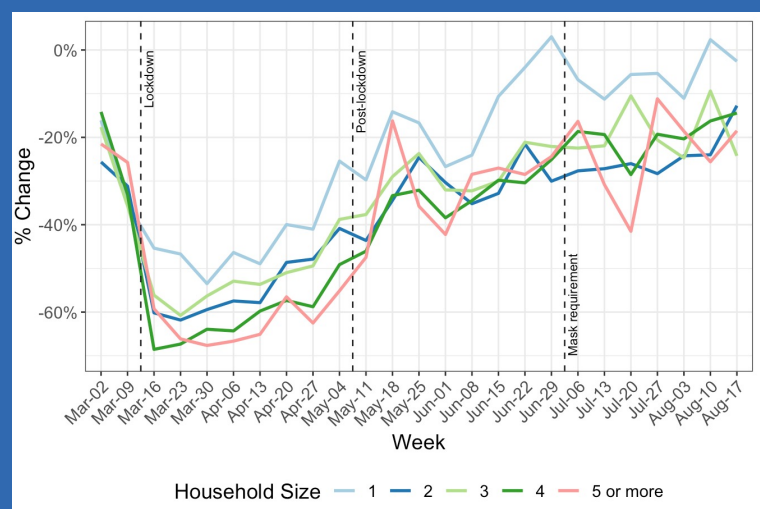


Figure 2: Variations in personal daily travel distance by household size

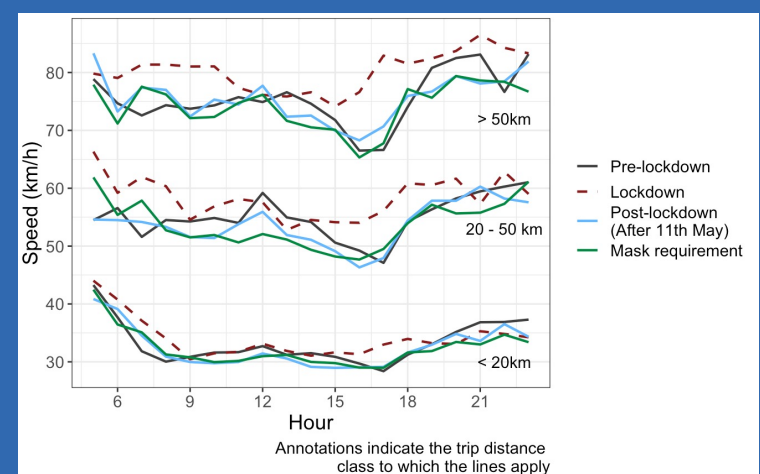


Figure 3: Travel speeds by distance class

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- Molloy, J., T. Schatzmann, B. Schoeman, C. Tchervenkov, B. Hintermann, K. W. Axhausen (2021) Observed impacts of the Covid-19 first wave on travel behaviour in Switzerland based on a large GPS panel, *Transport Policy*, Volume 104, Pages 43-51
- Molloy, J., T. Schatzmann, B. Schoeman, C. Tchervenkov, B. Hintermann, K. W. Axhausen (2021) Observed impacts of the Covid-19 Pandemic on travel behaviour in Switzerland based on a large GPS panel Poster presented at the 100th Annual Meeting of the Transportation Research Board (TRB 2021), online, January 25-29.