Linking crash and travel data

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Project MONITOR

- Objectives
  - Monitoring *mobility*
  - Monitoring *road safety*

- Partners
  - Federal public agency for mobility and transport
  - Belgian Road Safety Institute
Project MONITOR

- Monitoring mobility behaviour
  - All road user types (+ train & metro)
  - Conditions & trips taken
- Monitoring road safety
  - Crashes & near crashes

- Method
  - On-line questionnaires
  - Representative panel

- 1. Detailed questionnaire + trip diary
- 2. Quick questionnaire
Detailed Questionnaire with Diary
Travel Survey + Road Safety Information

Planned: N = 10 000
Present state: N = 3 000
Runtime Sep 2016 – Sep 2017
Share of Travel Modes

- Substantial share of trips done by foot, bike or public transport.
Incidents per 100 Moves

- Two-wheelers have the highest share of incidents.
- Cyclists: 3 times more than cars
- Motorcyclists: 4 times more than cars
- Middle-aged cyclists have the highest incident rate.
Cyclists in urban areas have a higher incident rate.
Quick Question
Quick Question

- **Background**
  - Need for continuous data disaggregated in time
  - Cost of full questionnaire + diary
- **Research question**
  - Can we monitor mobility & crashes in a more simple way?
- **Method: quick questions**
  - Did you travel yesterday?
    - Yes/no per mode
    - Number of km for each “yes”
  - Did you have a crash in the last 3 months?
    - Yes/no
    - Number of crashes
    - Mode & severity for each crash
- **Target: 20 000 respondents**
Quick Question (QQ) calibration with trip diary

- QQ delivered in 2 ways
  1. Together with trip diary
     ‣ quick question first, then diary
  2. Independently

- Comparison
  ‣ Diary: Mean distance per person per day is almost double of QQ
  ‣ No difference between two types of QQ.
  ‣ Difference QQ – diary is constant.
Comparison Quick Question and Trip Diary

- Relative share per mode agree between QQ and trip diary.
  - Except for pedestrians

- Absolute numbers (estimated distances & # of trips) are far larger in trip diary.

- Use trip diary to calculate conversion factors for quick question data.
Conclusion

- Trip diary delivers detailed mobility data.
  - Who goes where, when, how, to do what?
- Near crash data link mobility to road safety
  - Which trips have to become safer?
  - Indispensable when promoting “active modes”
- Continuous monitoring of mobility per travel mode is difficult (expensive) to achieve with detailed questionnaire & trip diary
- Quick question can be used intermediary to estimate travel behaviour
  - Calibration with trip diary
  - Calculation of conversion factors
WANT TO KNOW MORE?

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