



Lessons learned from the collecting of
data on mobility with the mobile app, from
automatic traffic sensors data and from **data**
obtained from the MNOs for tourism and / or
transport statistics purposes

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Due to COVID-19 pandemic ...

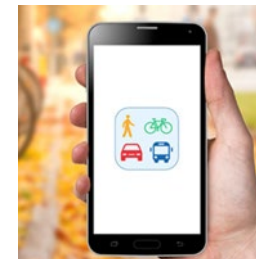
- **Additional push:**
 - to **faster** respond to data user's needs,
 - to **supplement or eventually substitute** traditional data collection(s),
 - for e-collection of data (**without physical contact with the respondents**),
 - **to use already available data sources** (not yet used) or **solutions**.

New sources with big potential

- **Mobile app »My ways«**
- **MNO's data on roaming**
- **Data from automatic traffic sensors**



Mobile app »My ways«



- Pilot application developed in 2018
- Anonymous recording of data (sex of the user, year of birth)
- Results compared with the traditional survey – results very promising!
- Rather easily re-usable for ad-hoc data collection.





Advantages of data collection with an app

- **Data capture**
 - providing accurate spatial and time data
 - "real-time" continuous measurement
 - time efficiency – a faster data collection process
- **Improved data quality**
 - "objective" rather than subjective measurement
 - less recall errors (esp. for short trips)
 - less data entry errors
- **Reduction of burden on respondents**
- **Cost-effectiveness – reducing research costs**
 - faster, less expensive data collection on a large number of units



Challenges of data collection with app



- **Choice of respondents**
 - sampling bias – Who owns the device or uses technology?
 - actual willingness to participate – How to motivate/encourage people to participate?
- **Consent, informing, compliance**
 - application installation – caution with access authorization
 - informing with General rules and Instructions for users
 - systematic bias – user can turn off the tracking
- **Problems with the measurement and technical capabilities of mobile phone**
 - missing data (technical errors, non-compliance)
 - quality (reliability) of measurement – accuracy of GPS
 - the consumption of a cell phone battery depending on the desired accuracy



Challenges of data collection with app



- **Analysis of data**
 - trust in the collected data
 - raw data are not directly usable
 - methodological challenges - finding appropriate observations in a large amount of data
- **User privacy, disclosure risk**
 - confidence of users in the privacy of data collection



MNOs data on roaming



- **Cooperation** of the Statistical Office and the Bank of Slovenia.
- **4 Slovene MNOs provide pre-processed and partly aggregated monthly data on roaming based on pre-defined methodology** to the Agency for Communication Networks and Services of the Republic of Slovenia ⇒ BS, NSI.
- **Methodology:** different categories of visitors (foreign in Slovenia, Slovene visitors abroad) defined based on the duration of the mobile data transfer sessions when in roaming mode:
 - ⇒ transit traveller: the user had the mobile data switched on during two consecutive days up to 6 hours;
 - ⇒ same-day visitor 1: from 6 to 12 hours;
 - ⇒ same-day visitor 2: from 12 to 18 hours;
 - ⇒ tourist: from 18 to 48 hours;
- **Data** are aggregated by month, by the type of visitor, by the country of mobile network operator of the subscriber, time series January 2019–July 2020.

VALUABLE DATA FOR UNDERSTANDING THE VOLUMES OF PASSENGER FLOWS FROM AND TO ABROAD (THE INFO ON THE MODE OF TRAVELLING NOT AVAILABLE).



Lessons learned

- **Difficult to get access to new sources** on ad-hoc basis.
- Due to **digitalisation there are more new data sources** with hidden potentials (smart meters, sensors ...).
- Necessity to explore the **potentials of already available sources** at the NSI.
- The myth of '**experimental**' statistics debunked.
- **Openness to more non-traditional** data collections.



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