International Transport Forum

Lifting the barriers to data sharing

Big Data and Transport Models

Roundtable 14-16 December 2020

OECD

Background

- "Big and open data" offer new opportunities for transport policy making
- Potential shift in regulatory function of governments
  - Data-driven policy making > monitoring and enforcement of legislation
- Private sector collect much of the "big data"
  - Access to these could improve planning and regulation while *reducing survey costs*
- Need for partnership between public and private sector

Working Group on Big Data and Open Data

- USA (Chair: Patricia Hu, US DOT), Canada, UK, France, Austria, Netherlands, Finland, Italy, Greece, UNECE, SEETO

- Assist member countries in leveraging and curating big data by:
  - Summarising quality standards that could be used to communicate the quality and statistical validity of big and open data
  - Developing a framework to facilitate data sharing between the private and the public sectors

OECD Data Quality Standards and Big Data

Standard	Big Data Benefits	Big Data Challenges
Relevance	Allows the study of new subjects	Can lack information needed to respond to objectives (socio-demographic, metadata…)
Accuracy	More detail, no human error	Evaluation of validity of results have to be modified
Credibility	---	Can lack methods of scientific rigor and objectivity, although work is being done to improve this
Timeliness	More data at faster rates	Data becomes out-of-date faster, requiring new methods of analysis
Accessibility	Collected quickly / instantaneously	Metadata and collection methods can sometimes be confidential and costly to obtain, assuming proper documentation has been recorded.
Interpretability	If accessible, level of detail allow for more precise understanding of population	Can lack info on sample, variables of interest or those needed for extrapolation of findings. Less control over what is collected
Coherence	Potential to compare between countries (Google search etc)	Lacks consistent collection and documentation procedures

Case studies of data sharing

- Canada: Rail and trucking waybill, Fuel consumption survey
- Finland: NordicWay project, Aurora project
- Italy: PLUG-IN project
- France: E-Logistics database, Use of passive data sources to estimate traffic on regional trains, , SNCF route planner, Use of GSM data for th estimation of tourism traffic,
- Netherlands: KiM Mobility Panel
- Greece: Delivering driving analytics to insurance companies

Stakeholder interviews

- A structured interview
  - Experience with existing partnership (type, structure, benefits)
  - Attitudes towards partnership
  - Third party set-up
  - Value proposition
  - Data sets (ownership, data sharing approach, level of detail, conditions, re-sharing, dissemination, open data)

- Austria: ASFINAG
- Canada: Desjardins Insurance
- Greece: Attic Tollway
- Germany: PTV
- Norway: Scania, PostNord Logistics

Observations

- New models of public-private data sharing partnerships considered indispensable
- There are several types of partnerships (large-scale data-dumps as part of surveys, fixed term projects, commercial schemes)…
- with different settings (fixed research projects, business development activities, mandatory data sharing schemes)…
- and mostly temporary (limited duration, pilot projects, data access only for a period of time)
- Data typically only shared between parties involved due to data protection and privacy issues

Recommendations to facilitate data sharing

- Governments should try to make any data received more widely open
- Ensure compliance with privacy protection regulation
  - Before sharing - anonymisation, encryption of data
  - Location, trajectory data most vulnerable – apply the most robust protection methods
- Building trust important
  - Develop and endorse non-disclosure agreements, involve trusted "third party", develop "safe answers approach" (only query results exchanged instead of raw data)
- Apply appropriate partnership model depending on type of data use
  - Offering to produce timely open data in exchange (can help business)
  - Financial compensation (recovers investment costs and addresses free-riding)
  - Mandating (limit to data of public interest, apply purpose specificity and data minimisation principles)

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Thank you

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