Policies and technologies for sustainable mobility and transport decarbonization

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Imagine

Measure
the Belgian artist Jan Fabre’s work «The man who measures the clouds» focuses on the mankind’s aptitude for measuring reality in the order to describe and understand it at the same time the work shows the drive to measure the impossible, imagine the unattainable, plan the uncertainty.
Researchers in mobility always imagine reality by modelling it.
But, it’s not so easy.....

..... measure and model people’s lives
Anyway, we try!

FS Research Centre: the FS Italiane’s Group in-house research centre
Find out more in our website
Measure: dealing with data and Big Data
Main mobility data sources

**Traditional**
- Surveys
- Travel diaries
- Tickets
- Counts

**Big Data / IOT Data**
- Mobile Network Data
- Floating car data
- GPS (app) data
- Wi-fi field data
- Computer vision data
- Transportation Industry data
- Social Networks Data
- Smart card & detectors
- GTFS & supply data
Experiencing Mobile Network Data management: highlights

- A not-ready-to-use solution
- Need for developing an in-depth **know-how** by means of close interactions between **data analytics** experts, **mobile phone operators** and transportation **scientists**
- Tips and improvement needs
  - Develop better algorithms per identifying **transport modes**
  - Overcome data limitation in **urban areas** due to **spatial low resolution**
  - Be able to manage **live data**
Experiencing Mobile Network Data management: opportunities

* Data that are cheaper if compared to traditional surveys with equivalent information stock, i.e. without causal information

* Need for setting up guidelines

* Opportunity for easily developing data visualization tools for insight sharing and dissemination
L’esperienza sui Mobile Network Data: strumenti interattivi
Imagine: mathematical modelling
Some models developed by FS Research Centre

- Regional Origin-Destination estimates
- Post-Covid regional mobility modelling
- Mobile Network Data Framework
- National Long Haul Mobility Model
- National Short Haul Mobility Model
- Mobile Network Data Upgrade
- Climate Change Risk Modelling
- Economic Impact Assessment Model
- External Costs of Transport Model
- Wider Mobility Impacts

Source: FS Research Centre
And now we’ve got a national mobility model for Italy!

How many trips?
Where will the trips go?
What modes will they use?
What routes will they take?

Source: FS Research Centre, Strategic Information Management System (SIMS)
Thanks for your attention

Questions?

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