

UNECE Transport Statistics: Transport measurement innovation

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Presentation to ITF Statistics Meeting, 19-20 September 2022

Background on Censuses 1



Background on Censuses 2

- E-Road and E-Rail censuses visualize traffic volumes on UNECE infrastructure networks.
 - <https://unece.org/traffic-census-map> (Road)
 - <https://unece.org/traffic-census-map-0> (Rail)
- What can we do when countries don't provide data? And inland waterways??
- Let's use existing data and open-source software to produce census-like outputs.
- Why? Mapping volumes shows value of infrastructure and modal shift opportunities

Additional Data Sources

- E-Rail Census Data (current visualization is only straight lines)
- Eurostat origin-destination data at NUTS2 level (e.g. *iww_go_atygofl* dataset for inland waterways)
 - (Also allows visualisation of specific goods)
- Shapefiles of infrastructure networks (e.g. UNECE AGN network for inland water, TEN-T network for rail)

Straight Line Maps: Relatively Easy

Inland Water

Less useful



Flows > 220kt. Somewhat useful (but hard to quantify the Rhine)

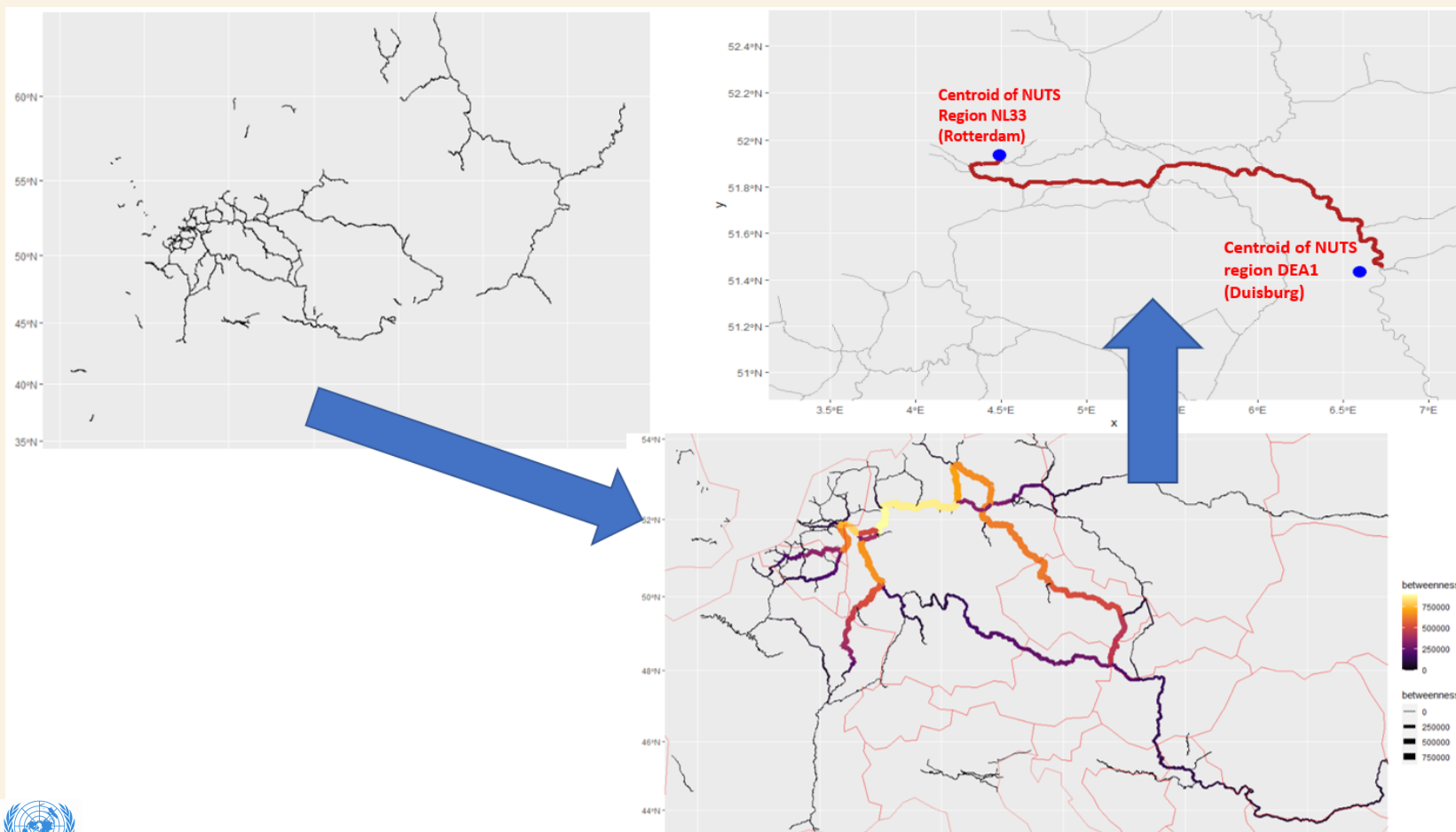
Rail (passengers)



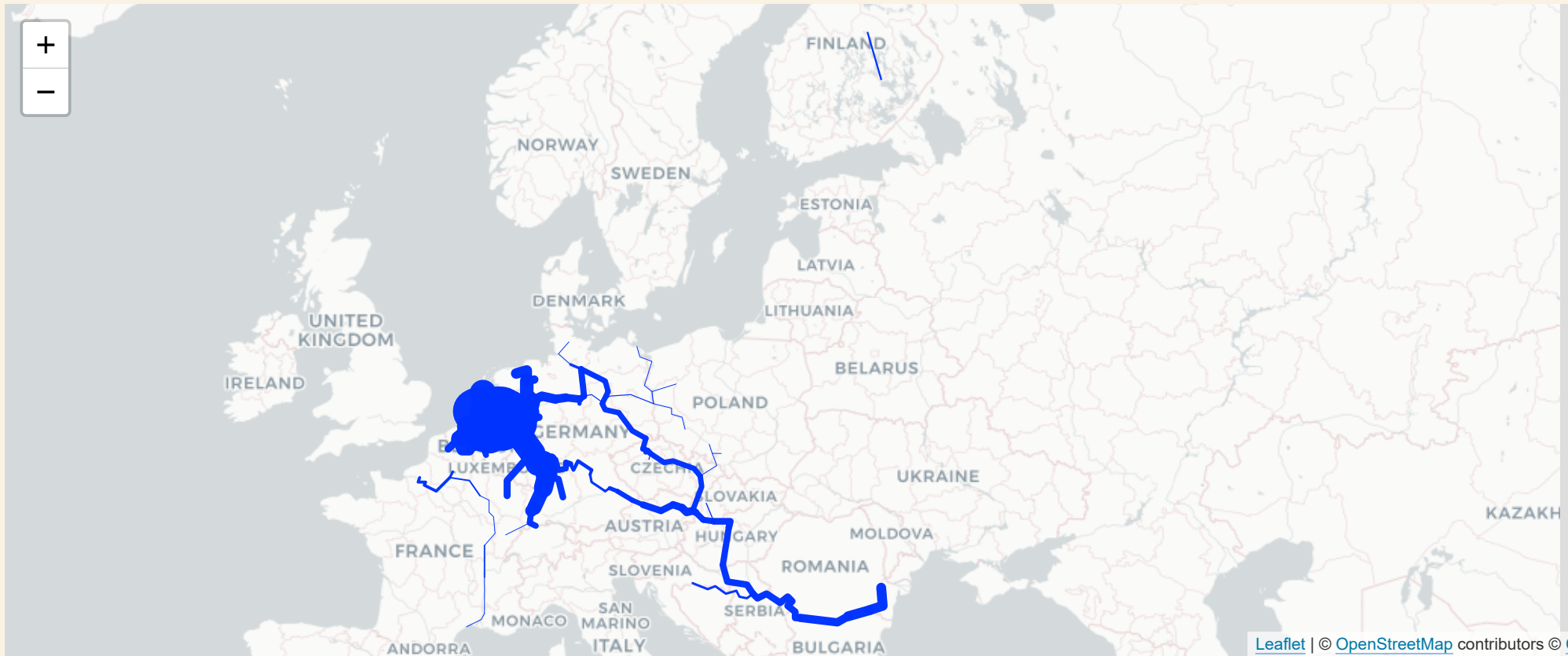
Somewhat Useful

Translating onto the Network and Summing Up

- See r-spatial.org/r/2019/09/26/spatial-networks.html for method to go from Shapefile to Network (which has nodes and edges)
- Use of `stPlanR::overline()` to sum up multiple transport flows on each segment

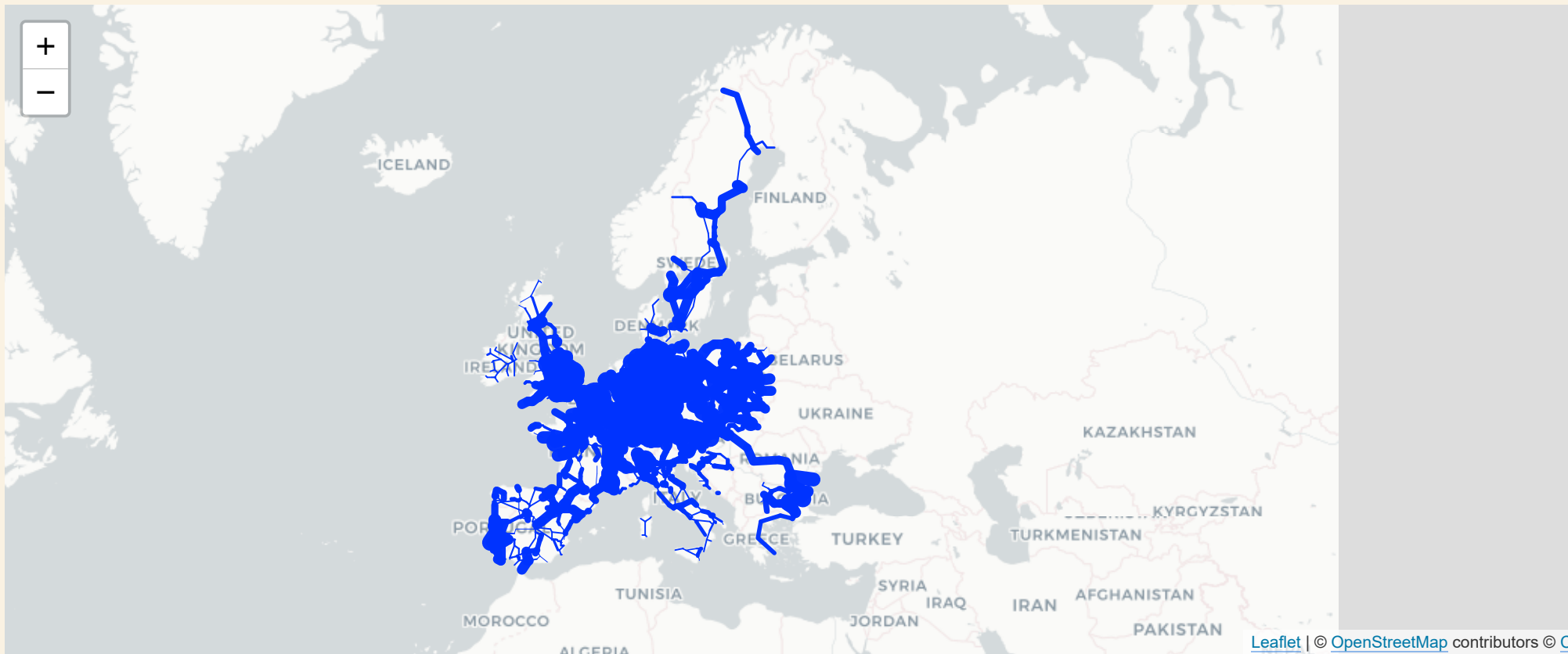


Inland Waterway Interactive Tonnage Map



E-Rail Census

Improved in the same way

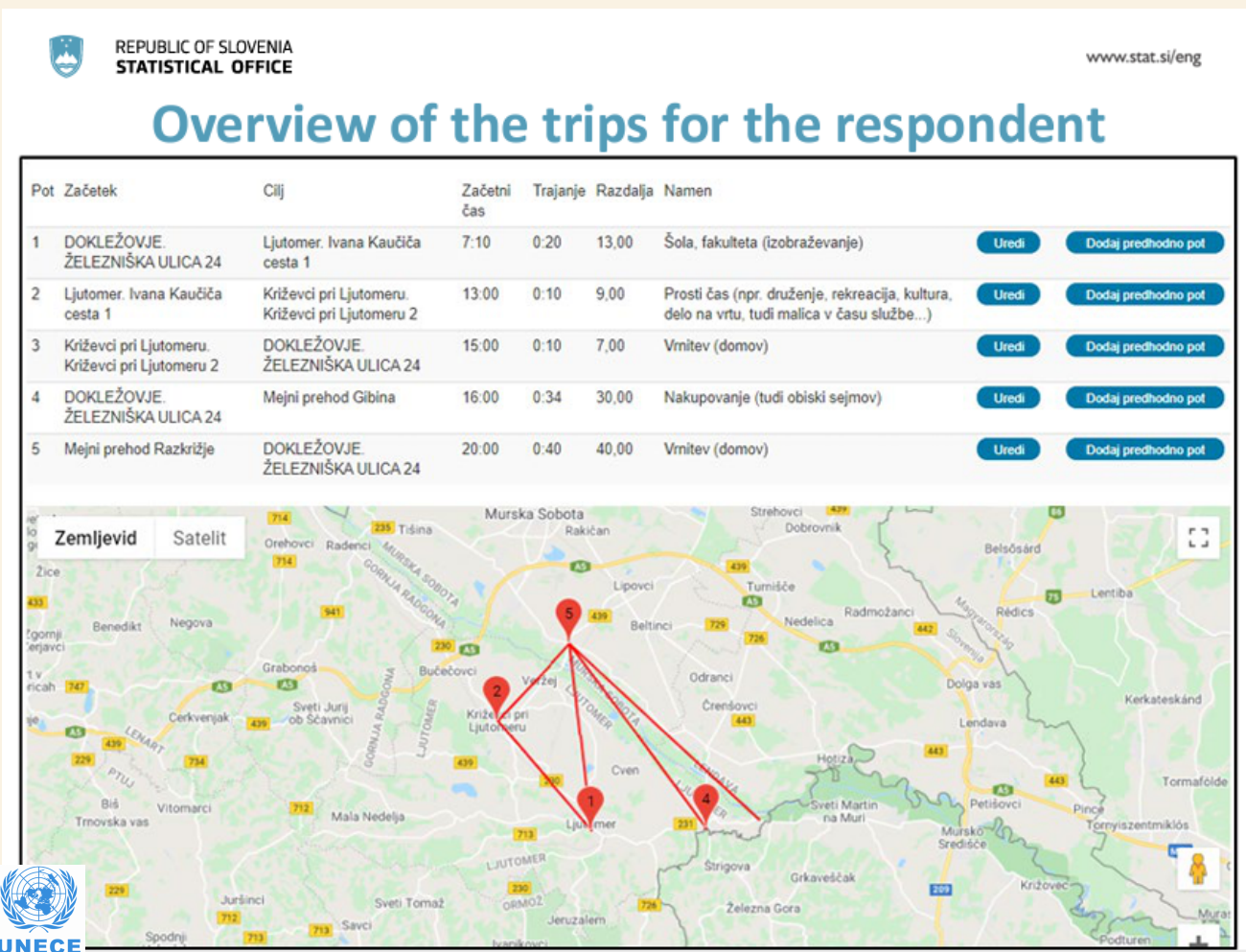


Issues and Future improvements

- Dealing with Region X>Region X flows (solution: geospatial jittering?)
- No account of canal width/navigability/speed/“real world”
- No sea connections
- Are similar data available for non-Eurostat countries?
- What's next?
 - Analyse specific corridors across modes
 - Look into specific goods (energy? food?)
 - Combine with other data sources (industrial output?)

Travel Surveys

- Surveys tell us **why** people travel and **who**: (gender, age, income)
- Strong country interest in WP.6 session, including from non-EU countries on ways to use best practices. Future capacity building project? Travel survey repository?



Transport Sustainable Development Goals

- Transport indicators in the SDG global indicator list:
 - Road safety (3.6)
 - Passenger and freight volumes (9.1.2)
 - Distance to an all-season road (9.1.1)
 - Distance to a bus stop. (11.2.1)
- Are these indicators sufficient to monitor sustainable transport? What about the climate? Or cycling? Or freight efficiency? Little stocktaking on indicators since 2015.
- Which indicators does **your** country use to measure sustainable transport?
- WP.6 planning a deep-dive in 2023.

Road safety data story



ROAD SAFETY IN THE UNECE REGION

WHAT DO THE DATA SAY?
EXPLORE THE REGION'S
PROGRESS TOWARDS THE
SDG 3.6 TARGET

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1 July 2022

Concluding remarks

- UNECE is trying to modernise our statistical dissemination with new projects. What is your country doing in this space?
- Code is available for mapping volumes. Happy to collaborate on similar projects! BlackburnA@un.org