Public Transport
Information Coordination

EU Standards Development

June 2023

Operating raw data and statistics exchange Project

In the Public Transport sector, particularly for Public Transport Operators and Public Transport Authorities , the necessity to develop a data strategy has been identified, based on the cost and value, and focusing on the strategic benefits of data. It is crucial that mobility stakeholders are not only able to compete against potential new market entrants, but also need a suitable environment to develop new business models and services. Public transport is becoming a data-enabled or datadriven business and has to answer different local conditions.

This led to the need to standardize data analysis in Public Transport to understand formally how information can be created as an added value and how indicator calculation can facilitate to move from a qualitative analysis of the PT service towards a quantitative one.

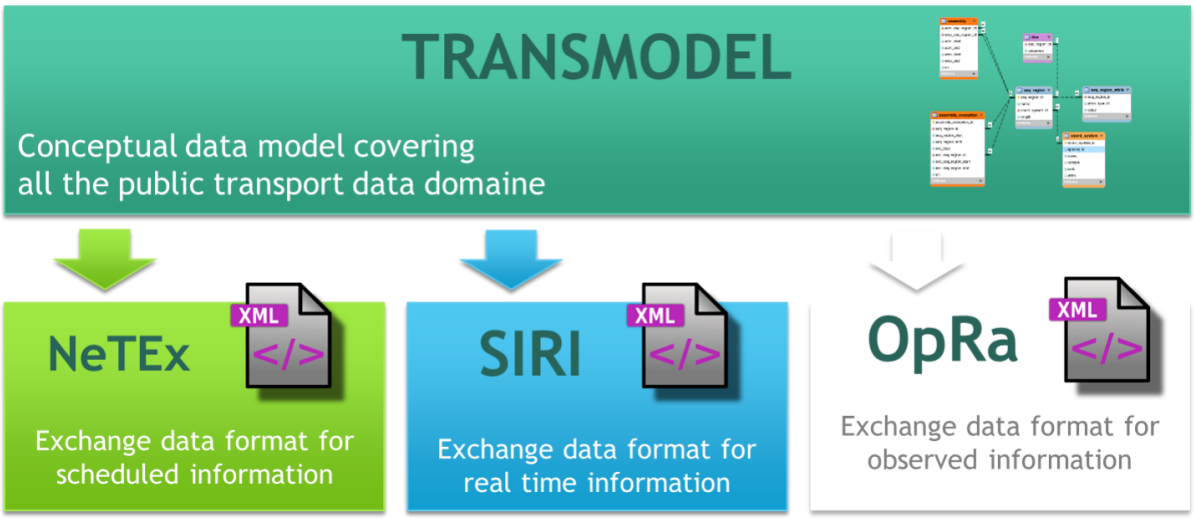
Currently, OpRa (Operating raw data and statistics exchange) defined a minimum set of Public Transport raw data needed as PT quantitative analysis enabling factor, documented in Technical Report CEN/TR 17370:2019 that describes the approach to be followed to achieve this goal and the results. The Pre-normative work documented in the TR covers the following topics:

1. Assessment.
2. Use Cases definition and classification.
3. Indicators definition.
4. Raw data identification.

This project proposal addresses:

- the development of a data exchange format, based on Transmodel (EN12896) and NeTEx (CEN/TS 16614), focused on a minimum set of Public Transport raw data needed for quantitative analysis in public transport services. For instance, the elaboration of standardized operational data (e.g., observed run times, passenger load) collected during service operations is an input for strategic planning (e.g., how and when to amend the schedules), tactical planning (e.g., when to undertake a certain control action), quality follow-up, etc.
- the development of a glossary for public transport aiming at assigning to each concept used in Public Transport, a unique “standard” term.

Data strategy and related KPI monitoring is one of the most important objectives for Public Transport Authorities in the frame of digitalisation development. The Transmodel-based data exchange standards like SIRI and NeTEx have paved the way to get access to harmonised operational data. OpRa aims to develop additional data exchange standards to complete such series offering a full data set to PTAs.



Raw data identification and description will be compliant with Transmodel (EN 12896), with particular emphasis on Data Dictionary description and Part 8 Management Information Statistics.

The elaboration of standardized operational data (e.g., observed run times, passenger load) collected during service operations is an input for:

- strategic planning (e.g., how and when to amend the schedules),
- tactical planning (e.g., when to undertake a certain control action),
- quality follow-up, etc.

Related EU standards (Transmodel, NeTEx, OJP) will be updated accordingly with new concepts.

OpRa will also develop a Public Transport unified glossary to harmonised terms and definitions from existing data dictionaries.

The project will be starting following the procurement of experts, which is underway, in September and is expected to take between 12 and 18 months to achieve a published standard with a further year to update the other standards.

On vehicle

Both ITxPT and VDV (in Germany) are working on requirements for operational data from vehicles. This includes data about performance, range, faults etc.

This will provide vehicle operational data in real time on vehicle and not in a manufacturer back office.

This work is progressing well and approval has been obtained to update the existing standards TS 13149 to reflect the work of ITxPT and VDV. This will take about 6 months to complete to the point where the formalisation process can start which will take at least an additional 6 months.

Open Journey Planner (OJP)

OJP is the Open Journey Planer for the exchange of trip planning information based on Transmodel V6 (EN12986) and using NeTEx and SIRI data to fulfill its objectives.

A project has started to an overhaul of OJP to modernize some aspects, harmonising it with recent developments in Transmodel, NeTEx and Siri.

- OJP will be realigned with the latest Transmodel version and NeTEx issues, where appropriate (e.g. New Modes)
- The integration of new modes especially the conceptual equivalency to major multi-modal standards shall be studied and if necessary, adaptions to OJP occur. The idea is to study OSDM, TOMP, TRIAS and GBFS/GOFS. The interactions should be smooth. Interaction between OJP and distribution features will be settled.
- All work prepared under the heading OJP 1.1 will be finalised.
- EPIAP (Accessibility) minimal profile will be used to verify, that the trip planning can make use of it.

OpenAPI

The project will explore the possibilities to create a JSON version (OpenAPI) from the XSD in an automatic or semiautomatic fashion. As XSD are more complex and can reflect restrictions better, the master will certainly the XSD. However, it might be useful to have a JSON version and perhaps a JSON2XML PoC open source adapter.