EU Data Regulation – Open Multimodal Travel Data in the EU

Transport Ticketing Global 2020
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The ITS Directive  
(2010/40/EU)

ITS = Intelligent Transport Systems

Priority areas:

I. Optimal use of road, traffic and travel data

II. Continuity of traffic and freight management ITS services

III. ITS road safety and security applications

IV. Linking the vehicle with the transport infrastructure
The Directive’s Priority Actions

a) EU-wide multimodal travel information services – EU 2017/1926 (MMTIS)
b) EU-wide real-time traffic information services – EU 2015/962
c) Road safety traffic information – EU 2013/886
d) Interoperable EU-wide eCall – EU 2013/305
e) Information services for safe and secure parking places for trucks and commercial vehicles – EU 2013/885
f) Reservation services for safe and secure parking places for trucks and commercial vehicles – On hold
Delegated Act for Priority Action A

- Specifications in order to facilitate EU-wide multimodal travel information services that are accurate and available across borders to ITS users
- Requires each member state to set up national access points for the data
- The regulation applies to the entire transport network of the Union
  - For the first deadlines only the comprehensive TEN-T network is included (EU 1315/2013)
National Access Points

- Can take various forms
  - Database, data warehouse, data marketplace, repository, register, web portal or similar
  - APIs are included
  - Centralised vs decentralised approach
  - Cooperation between countries is allowed

- Metadata describing the data (EU EIP SPA Coordinated Metadata Catalogue) and discovery services are required

- Possible to use the same NAP as for other priority actions

- The data are intended for use in solutions, not for direct use by travelers
Timetable

• For the TEN-T comprehensive network:
  - Dec 1st, 2019: Level 1
    - Scheduled transport and basic infrastructure data
  - Dec 1st, 2020: Level 2
    - Basic data for all modes
  - Dec 1st, 2021: Level 3
    - Complete data for all modes
• Dec 1st, 2023: Complete data for the entire EU transport network
Some Requirements

• Travel planners shall have open, known criteria for suggesting itineraries and be neutral

• Both public and private actors are required to make their information available
  - Also actors not supplying transport services themselves are included

• Any financial compensation shall be reasonable and proportionate to the legitimate costs incurred of providing and disseminating the relevant travel and traffic data

• Member states are only required to provide data already available in a machine readable format
Modalities Covered by the Regulation

• Scheduled
  - Air, rail including high speed rail, conventional rail, light rail, long-distance coach, maritime including ferry, metro, tram, bus, trolley-bus

• Demand-responsive
  - Shuttle bus, shuttle ferry, taxi, car-sharing, car-pooling, car-hire, bike-sharing, bike-hire

• Personal
  - Car, motorcycle, cycle
Required Data

• Static data, like stop registers, timetables and fares
• Dynamic data, like real time information, available capacity
  - It is voluntary to provide dynamic data but if a country has services for the dynamic data the requirements apply
• Only information is required at this point. Ticketing services are being considered. However, necessary information for ticketing is included.
Static Travel Data (Level 1)

- Address identifiers, topographic places, points of interest, access nodes (including maps)
- Timetables, network topology, connection points, transport operators, operational calendars, stop facilities (incl assistance services, where to purchase tickets, elevators/escalators/ramps, osv), vehicle information, accessibility information
- Road network, cycle network, pedestrian network
Static Travel Data (Level 2)

- Park & ride stops, bike sharing stations, car-sharing stations refueling stations, secure bike parking
- Where and how to buy tickets for scheduled modes, demand responsive modes and car parking
- Basic common standard fares
- Vehicle facilities such as classes of carriage, on-board Wi-Fi.
Static Travel Data (Level 3)

- Detailed common standard and special fare query (all scheduled modes)
  - Including fare products, usage conditions, special fare products, commercial conditions etc.
- Information service (all modes)
  - Where and how to pay for and book services, incl parking, tolls etc.
  - Parameters needed to calculate an environmental factor
  - Parameters such as fuel consumption needed to calculate cost
- Estimated travel times by day type and time-band by transport mode/combination of transport modes
Dynamic Travel Data

- Level 1: Passing times, trip plans and auxiliary information
  - Disruptions (all modes), real time status info, status of access node features
- Level 2: Estimated departure and arrival times of service, current road link travel times and cycling network closures/diversions
  - Availability of publicly available charging stations and refueling points
  - Availability check for car-sharing, bikesharing and parking spaces
- Level 3: Future predicted road link travel times
Required Standards for Static Data

- For road transport: DATEX II (CEN/TS 16157)
- For other modes: NeTEx (CEN/TS 16614), TAP-TSI (EU 454/2011) and IATA SSIM
  - or any machine-readable format fully compatible and interoperable with those standards and technical specifications
- For spatial data: INSPIRE (2007/2/EC)
- Recommended for journey planners: Open API for Journey Planners (OJP) (CEN/TS 17118)
Required Standards for Dynamic Data

- For road transport: DATEX II (CEN/TS 16157)
- For other modes: SIRI (EN 15531) and TAP-TSI
  - or any machine-readable format fully compatible and interoperable with those standards or technical documents
Transmodel (EN 12896)

• Transmodel is a reference data model for public transport
• Transmodel is the basis for several implementations standards
Models and Definitions for New Modes

- CEN/TS 17413
- «Sister standard» for Transmodel
- Covers new modes, like
  - Car- and bikesharing
  - Car- and bike hire
  - park & ride
- The model is designed to work with Transmodel
- Implementations model is planned as an extension to NeTEx
Profiles

• “To ensure the optimal use and full interoperability [...] a common minimum profile that identifies the different key elements [...] should be established and used within national access points”
  - These define a more precise interpretation of how to use the standards

• “Member States' national profiles must be based on a common minimum European profile when it exists”
  - The minimum European profile is NeTEx Part 4 (CEN/TS 16614-4)
Status

- Few countries have reached the first deadline
- The required standards and profile are does not cover all modes
  - Progress for the remaining work indicates that the next deadlines will be difficult to reach
- The EU Commission have CEF PSA 2 pending
Available Documentation for the Standards

- In addition to the standard documents several of the standards have web sites with freely available information and downloadable files
  - SIRI: [http://user47094.vs.easily.co.uk/siri/index.htm](http://user47094.vs.easily.co.uk/siri/index.htm): Whitepapers, XSD
  - OJP: [https://dms.vdv.de/mitglieder/Seiten/ojp.aspx](https://dms.vdv.de/mitglieder/Seiten/ojp.aspx): XSD
  - DATEX II: [https://datex2.eu/](https://datex2.eu/): UML model, XSD
  - INSPIRE: [https://inspire.ec.europa.eu/](https://inspire.ec.europa.eu/)
Further Reading

• EU Action Plan and Directive:  
  https://ec.europa.eu/transport/themes/its/road/action_plan_en

• EU EIP (European ITS Platform):  
  - Direct link:  http://www.cestrin.ro/web2014/nap_eueip/
The Norwegian Approach

• Prefers the centralized approach – better data quality and harmonization

• The NAP is in operation as part of our national data catalogue
  - [https://transportportal.no](https://transportportal.no)

• Uses NeTEx (and SIRI) also internally in Norway due to the information richness of the format

• We are also developing a National platform for interoperable account based ticketing (ID based) that builds on Transmodel, NeTEx and the IFM standard (ISO 24014)
Norwegian Account Based Ticketing

- Three main concepts:
  - Ticket in the cloud
  - Capping/aggregating single journey tickets
  - Pay as you go (CI/BI/BO)
- Interoperable IDs
We don’t know exactly what the transport system of the future will look like,
Thank you.

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