Traffic data ecosystem and mobility platforms



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Topics short list

- 1. Fintraffic in short
- 2. National Transport Code: Implementation and experiences
- 3. Traffic data ecosystem
- 4. National mobility platform
- 5. International cooperation: Benefits and expectations





Digitraffic

Information about open data for application development from Finnish road, railway and marine traffic.





VISION: MISSION:

The safest, smoothest and most environmentally friendly traffic in the world. The world's best traffic management and traffic ecosystem service.

MOBILITY IS CHANGING

- Digitalisation
- Urbanisation
- Ageing population
- Climate change
- Indebtedness
- Sharing economy

OUR GOALS

- Safe and smooth transport and optimised transport system
- Efficient, high-quality traffic management
- Better services for both passengers and logistics
- Growing added value for customers and stakeholders
- Excellent and renewing work community



OUR SPEARHEAD PROJECTS

- 1. Determined improvement of transport safety
- 2. Renewal of our operations
- 3. Creating a world-class transport ecosystem
- 4. Real-time situational picture of traffic, i.e. digital twin
- 5. Expertise, good governance and dynamic corporate culture

WHEN WE SUCCEED. **FINLAND THRIVES**

- + Lower emissions
- + More public transport
- + Cost reductions for everyone
- + Minimising accidents
- + Revenue and export potential in new transport services
- + Transport supports Finland's competitiveness

OUR WAY OF WORKING

Safety; social, financial and environmental responsibility; good governance



2. National Transport Code: Implementation

- New Finnish transport act in 2018 Liberalization and deregulation of transport and mobility sector
 - Sometimes only referred as "Taxi law" in common speak
- Transport market from regulated to free-to-enter
 - Initial boom in taxi market (thousands of new entrepreneurs)
- In the field of traffic and mobility data all service providers (private and public) should open and share their "essential" data sets and operational API's
 - Data f.ex. Stops, routes, timetables, service times, prices...
 - API's f.ex. Realtime locations, booking&payment, capacity
- Most of the data sets mentioned in Finnish Transport Act are also stated on EU regulation concerning MTTIS and RTTI
- Transport Act is a <u>set of framework for open markets</u> where public and private service providers should seek optimum solutions for integrating their services and offer new options for the consumers



National Transport Code: Experiences

- Transport market in Finland is dynamic new services are introduced and cancelled in very short timeframe
 - Covid made loads of previously offered services uneconomic market isn't fully recovered
 - Micromobility boom started during Covid
- Incentives for bundling and connecting multiple services and thus creating added value for the end users?
 - We have the API's and data, then what?
 - Should we make national / EU level protocols how public sector should boost incentives for bundling?
- Booking and payment challenges in transport across the board
 - Public sector as gatekeeper Local and Regional PTA's are vital part of the mobility services
- Lack of integration of service offers between different MSP's (bundling & contracts)



National Transport Code: Experiences

- Data standards in MMTIS
 - Reliance of national legacy standards (still)
 - Also GTFS, GTFS RT, GBFS widespread use in multimodal systems
 - NeTEx / Siri "is the way", but lacks commercial "need and value" to implement faster phase
- Data quality and availability
 - Standards are just a starting point of sharing data
 - Quality of data is always an issue validation service is an essential part of sharing data streams within the traffic ecosystem





3. National traffic and mobility data development in Finland

- Fintraffic has established national traffic data ecosystem for co-operation and co-development data services with companies and public sector organizations
- Key actors in transportation data included
 - 140 organizations in May 2022
- Vision is to boost data sharing and innovative data-use in digital solutions
 - How to share data between operators, coordinating service development and making more data available for 3rd party development
- Scalable traffic and mobility services Finnish and international markets



Roles and responsibilities

- Fintraffic as a coordinator for traffic data ecosystem
- Actual work is divided in subgroups such as
 - Ecosystem rule book
 - Logistics
 - Situational information
 - Mobility data
 - Architecture
- Subgroups are led by participating companies or other organizations
- Fintraffic activates market stimulative development, but leaves the market development for the organizations involved
 - FT's target is also to boost exports of Finnish knowhow
- More info <u>https://www.fintraffic.fi/en/trafficecosystem</u>



Framework for data ecosystem development and scoping items

Transport service ecosystem is based on physical and digital elements. Together these elements will form up and framework which guides to developed and address necessary capabilities and roles.

DIGITAL B2C SERVICES What customers sees and experiences			
CUSTOMER TRIP AND DISPATCH DATA Statistical and up-to-date data from trips and dispatch actions	BOOKING, SALES, ORDER AND DELIVERY Functions needed to purchase trips & services	IDENTIFICATION AND AUTHORIZATION Functionalities for managing customer data (f.ex eligibilities)	PAYMENTS and TRANSACTIONS Functionalities for payments, transactions and clearing
SITUATIONAL DATA AND INFORMATION Real time concerning traffic and infrastructural conditions (road works, speed limits, maintenance status, traffic flows/jams)		ROUTE PLANNING Functionalities for planning trips/journeys (multimodal or not) in connection with transport services and situational data and information	
TRANSPORT SERVICES PTA's, TSP's, Public transport, micro mobility			VALUE ADDING SERVICES POI's, shared data, Insurances
INFRASTRUCTURAL ASSETS Road, rail and water routers; Stops, stations, harbors, terminals and other relevant transport infrastructure points			

Support for the data providers

- Fintraffic is a provider for NAP services in Finland
- Within data ecosystem organizations seeks to improve the ways data is delivered and shared with NAP's or with other B2B practices
- Fintraffic offers support for offering NAP's as platforms for opening the data and gives support for IT-companies and/or mobility service providers for service implementation
- Frequent workshops and panels are arranged by Fintraffic to for the developers
 - How to improve data sharing platforms, data standards, data findability, quality and so on
 - · Issues addressed are included to development roadmap with high priority





4. National mobility platform: Digitransit

- In Finland Fintraffic, HSL (Helsinki metropolitan PTA) and LMJ (inhouse IT-provider for PTA's) are developing Finnish mobility platform from local level to national one.
- Digitransit includes data from local and regional PTA's, train operators, internal flights, ferry connections and approx. 35 private regional and interregional bus operators
- Digitransit offers 17 different route planner services for different regional and/or national users
 - All build up with same microservice infrastructure and UIX design principles
- For routing Digitransit uses open source
 OpenTripPlanner







Microservice architecture



4. National mobility platform: Digitransit

- Offers capabilities for comprehensive mobility info and route searches for whole of Finland
 - Uses GTFS and GTFS RT data feeds
 - NeTEx capable version is in development
- Current lacks data feeds from micro mobility and taxi operators
 - Pilot operations with relevant data starts in late 2022
- Digitransit uses an open code and offers functionalities beyond route planner
 - Transit monitors and iframe support webpages willing to integrate capabilities
- · Payment and booking is not yet supported
 - Initially first use cases are agreed for 2023





5. International cooperation: Benefits and expectations

- Fintraffic actively seeks partnerships and cooperation internationally
- Main focus areas are traffic and mobility data harmonization, validation and interchange practices
 - RTTI, SRTI, MMTIS regulatory framework
 - Also National Access Point development and creating concrete use cases are high in priority list
- Some issues like MaaS bundling and standardized ways of opening mobility API's and creating interchange services should be addressed EU / international approach first!
- On EU level Fintraffic is active f.ex in NAPCORE and NordicWay projects



5. International cooperation: Benefits and expectations

- In NAPCORE Fintraffic participates in the development of a more harmonized NAP service architecture in EU
 - 36 participants from EU + Norway
- Nordic ODIN cooperation emphasis on open mobility data sharing and implementation of common EU mobility standards (NeTEx, Siri)
 - Through ODIN FT sees possibility to codevelop OTP capabilities with multiple organizations with shared roadmaps
 - Topic which we want invest on coming year 2023



More information

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