City of Helsinki

Helsinki West Harbour Data and Interfaces

Feasibility Study

NSB CoRe: North Sea Baltic Connector of Regions

Interreg Baltic Sea Region

EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND

North Sea Baltic Connector of Regions
Interreg Baltic Sea Region programme 2014–2020

Content

1. Abstract

The Helsinki West Harbour area and its surroundings is an international transport hub and corridor as well as long-time development site of transport-related R&D and home of real-life mobility challenges. Intensive development of the area and growth in transport are challenging the transport system and services to enable smooth and efficient mobility of people and goods. The area is essential related to the NSB CoRe WP3 activities, describing ITS (intelligent transport systems and services) relevant to provide real time mobility services in the city of Helsinki.

Availability of data and APIs is crucial for any mobility services. Development of any real-time mobility services, e.g. Mobility as a Service concepts, needs reliable data sources and structures to enable valuable services for people on the move.

The City of Helsinki, one of the partners of the NSB CoRe, decided to support the development of new mobility services by an inventory study to collect, describe and report the existing situation of transport related data and APIs. Additionally, an ideal vision as a target for data and API development was described. Also, planned development needs identified were reported and set as a future roadmap for development. Inventory was made based on needs analysed to support development of real-time traffic situation snapshot, mobility services (incl. MaaS – Mobility as a Service) and harbour functionalities.

"Availability of data and APIs is crucial for any mobility services"

Project results are documented and are to be used in forthcoming piloting of mobility services in Helsinki and especially dedicated for passengers and freights using Helsinki West Harbour. The catalogue of available data and APIs is provided as a separate appendix document – meant to be updated whenever needed.

Helsinki West Harbour's Data and Interfaces project is part of the Interreg Baltic Sea Region Programme financed NSB CoRe – North Sea Baltic Con-

nector of Regions project. The project is being carried out in close collaboration with FinEst Smart Mobility project

Project steering group consists of:

- Mikko Lehtonen (Chair), City of Helsinki
- Jonas Kurtto, City of Helsinki
- Tanja Lahti, City of Helsinki
- Roope Ritvos, Forum Virium Helsinki
- Kalle Toivonen, City of Helsinki

Project is made by:

- Arto Luoma (PM), Infotripla Oy
- Kimmo Ylisiurunen, Infotripla Oy
- Aleksi Vesanto, Infotripla Oy.

2. Introduction

2.1 Background

The Interreg Baltic Sea Region Programme financed NSB CoRe project aims to improve the sustainable accessibility of the Eastern Baltic Sea Region to freight and passenger transport. City of Helsinki, one of the partners of the NSB CoRe, decided to boost development of various transport related data and application interfaces to be used in piloting new intelligent mobility solutions. The first step to support development was to launch an inventory study to collect, describe and report the existing situation of transport related data and APIs. In addition to existing situation within data and APIs inventory study includes an ideal vision as a target for data and API development. Also, planned development needs were described as a future roadmap for development.

Availability of data and APIs is crucial for any mobility services. Development of any real-time mobility services, e.g. Mobility as a Service concepts, needs reliable data sources and structures to enable valuable services for people on the move. Availability of data and APIs supports also the ideal goal of service modularity in transport service ecosystem.

2.1.1 Helsinki West Harbour as an international transport hub

The Helsinki West Harbour area and its surroundings is an international transport hub and corridor as well as long-time development site of transport-related R&D and home of real-life mobility challenges.

The harbour and its surroundings are under very intensive development including construction of new residential area for 18 000 people which means challenges and less space for truck waiting area and parking. Harbour has new terminal in use to serve more passengers and logistics. Local public transport connections to and from harbour are good, but harbour location causes difficulties for overall accessibility, both for passengers and for logistics.

The area is essential related to the NSB CoRe WP3 (see 2.2) activities of the City of Helsinki. Work package 3 describes ITS (intelligent transport systems and services) relevant to provide real time mobility services.

2.1.2 Piloting to be made in FinEst Smart Mobility project

The inventory study is done in close collaboration with other EU projects, especially with the FinEst Smart Mobility (see 2.2). FinEst Smart Mobility project is ideal for the piloting of new mobility services and solutions supported by NSB CoRe WP3 inventory study reported in this document.

2.1.3 Data and APIs

The data and APIs analysed are both static and dynamic. Static data such as road network, timetables etc. are provided by road authorities and operators. Dynamic data such as real time locations of bus, ferry etc., incidents, video feeds are provided by various organizations – public and private. The ideal situation is to have all these transport system-related data and APIs available as an open data, and maintained by some responsible actor or actors and supported by up-to-date use materials and processes.

Brand-new transport code of Finland will support opening and delivering of any kind of transports system data (see: https://www.lvm.fi/liikennekaari).

2.2 Project Framework

Helsinki West Harbour's Data and Interfaces project is part of the Interreg Baltic Sea Region Programme financed NSB CoRe – North Sea Baltic Connector of Regions project. The project is being carried out in close collaboration with FinEst Smart Mobility project, because the results will also be used in several FinEst Smart Mobility pilots. NSB CoRe and FinEst Smart Mobility projects are both improving freight and passenger transport between Helsinki and Tallinn. At the same time, the Port of Helsinki and the Port of Tallinn are developing their port operations in the EU-funded TwinPort project.

2.2.1 NSB CoRe – North Sea Baltic Connector of Regions

The NSB CoRe project aims to improve the sustainable accessibility of the Eastern Baltic Sea Region to freight and passenger transport. The project contributes to the EU TEN-T Transport Infrastructure Policy, which connects the continent between East and West, North and South, by taking its implementation to the regional and local level connecting the TEN-T core network corridor of North Sea Baltic to its catchment area and access routes in the Eastern Baltic Sea Region. Project activities consist of logistics, long distance commuter services, transnational community building and transport branding.

"NSB CoRe enhances regional development in the north-eastern Baltic Sea Region by improving the internal and external accessibility of the region along the North Sea Baltic TEN-T corridor."

The City of Helsinki is responsible of NSB CoRe work packages three (WP3) and four (WP4). Helsinki West Harbour's Data and Interfaces project is part of the work package three (WP3).

Project facts

Priority area: Transport
Specific objective: Interoperability
Duration: 2016–2019
Lead Partner: Helsinki-Uusimaa Regional Council, Finland
Project budget: 3,3 M EUR
Financing source: Interreg Baltic Sea Region Programme

More info

http://www.uudenmaanliitto.fi/nsbcore

2.2.2 Finest Smart Mobility

FinEst Smart Mobility project aims to solve cross-border and inter-city traffic problems with piloting and planning ICT-driven solutions. The project consists of five pilots, which are described below. Project has started with a one-year planning stage done together by all partners.

Pilots

- PILOT A: Just-in-time logistics for Heavy Good Vehicles, based on truck parking at the ring-roads and mobile application that directs them
- PILOT B: Smart management for outgoing traffic, with dynamic mobility management.
- PILOT C: Smart Park&Ride for ferry passengers with private cars to increase the use of public transport for the port entry/exit.
- PILOT D: Smart traffic solution for transport chain from Estonia to Helsinki Airport with ferry connection.
- PILOT E: Feasibility study with a pilot on Tallinn ring road

"Ferry connection between Helsinki and Tallinn has over 8 million annual passengers. The connection between Helsinki West Harbor and Tallinn Old City Harbor is one of the busiest in the world."

Project facts

Duration: 2016–2019
Partners: The City of Helsinki, City Tallinn, The City of Vantaa, Estonian Road Administration, Forum Virium Helsinki, ICT Demo Centre
Project budget: 1,8 M EUR
Financing source: Interreg Central Baltic Programme

More info

http://www.finestsmartmobility.com

2.2.3 Twinport

As part of the EU's TEN-T programme, the Port of Helsinki and the Port of Tallinn are developing port operations with the joint Twin-Port project, the primary emphasis of which is on cargo traffic. The Twin-Port project focuses on the development and harmonisation of operations at the West Harbour in Helsinki and the Old City Harbour in Tallinn.

In Helsinki, the capacity of the West Harbour port area will be increased through the reformation of harbour operations, traffic systems and road connections. The development of automation and the application of new technologies has already reached the pilot phase. The goal is to create a harbour that is suitable for various kinds of traffic, the operation of which is efficient and environmentally sustainable.

"Helsinki's West Harbour and Tallinn's Old City Harbour form a functionally connected twin port."

Project facts

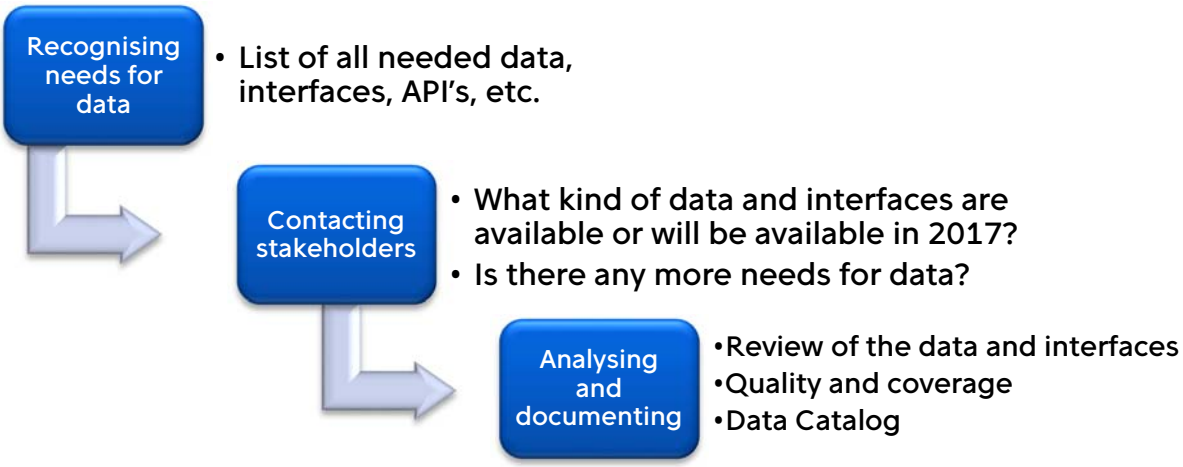
Partners: The Port of Helsinki, the City of Helsinki Public Works Department, the City of Helsinki City Planning Department and AS Tallinn Sadam
Financing source: EU

More info

http://www.portofhelsinki.fi/en/making-new/developing-west-harbour/twin-port

3. Method

Project started with need based data analysis. Typical data and interface needs for developing multimodal mobility services and real-time traffic situation snapshot were listed. Recognized data needs were expanded by steering groups expertise and also plans for FinEst Smart Mobility pilots were examined.



In the second phase, stakeholders were contacted to expand the list of data needs and to cover existing situation of available interfaces and data. Contacted project stakeholders included various group of contacts such as city authorities, open data specialists, ferry companies, MaaS operators and transport service providers etc. Overall, 28 project stakeholders were contacted in the second phase.

In the third phase, results were analysed and documented. During the analysis, attention was paid to digital gaps and questions were raised with stakeholders, steering group and FinEst Smart Mobility interest groups.

Finally, the results were documented as a data catalogue and conclusions has been made about the overall situation of the available data with steering group.

4. Results

4.1 Future Target and Current State for Data and Interfaces

Future target and current availability for data and interfaces are described in following six sections. These sections are background data, cycling and walking, public transport, road and street traffic, ferry traffic, booking and digital tickets.

Current state is marked as follows:

- **Available:** Data is currently open and available via interface or similar
- **Partly available:** Data/interface is not completely available such as data is not open or quality is not good enough to use or data is only available on a web site without open interface
- **Not available:** Data is not currently available

All *available* marked data are described in detail in appendix document.

4.1.1 Background Information

Data or interface	Current state
Address data	Available
Points of Interest, POI	Available
Road and street network geometry	Available
Street network traffic statistic	Available
Public transport routes statistic	Available
Ferry traffic statistics	Available
Cycling and walking statistics	Available
Air quality	Partly available

Current state for background data is generally quite good. Typically, there are many sources for this kind of data and service developers can choose the right sources for their needs. Present state is achieved because multiple services are already using this kind of data and lack of data or poor quality would affect for all services.

For professional use cases, there is still need for improvement. Statistical information from car traffic, cycling and walking could be available from larger area and all data should be updated real-time so that data could be used for different purposes.

At the moment, air quality data is only available on a web site http://www.ilmanlaatu.fi/. During the year 2017 Finnish Meteorological Institute will take control of air quality information and they will also open interfaces for the data.

4.1.2 Cycling and Walking

Data or interface	Current state
Bike paths' geometrics	Available
Bike-share stations' locations	Available
Bike-sharing availability	Available
Bike paths' maintenance information	Partly available

Bike paths' geometrics are available from the City of Helsinki and from third party services such as Open Street Map. Bike-share stations' locations and number of free bikes data are available from Helsinki Citybike system.

The City of Helsinki's prioritised winter maintenance network for pedestrians and cyclists in can be used together with Stara's (the City of Helsinki's own construction service) snowplough tracking information to create real-time maintenance information. At the moment, Stara's information does not cover all maintenance works in Helsinki, so maintenance information is only partly available.

4.1.3 Public Transport

Data or interface	Current state
Public transport stops	Available
Public transport routes	Available
Public transport timetable data	Available
Public transport service changes and alerts	Available
Public transport real-time location data	Available
Route planner API	Available

Public transport information, such as routes, timetables, service changes, alerts, real-time location data and API for route planning, are all available via open interfaces from HSL (Helsinki Region Transport).

4.1.4 Road and Street Traffic

Data or interface	Current state
Parking facilities - location and number of places	Partly available
Number of available places in parking facilities	Not available
Parking areas - location and number of places	Available
Number of free available places in parking areas	Available
Park and ride locations and number of places	Available
Number of available park and ride places	Partly available
Taxi stations' locations	Partly available
Car-sharing locations	Partly available
Car-sharing availability and booking information	Partly available
Electric car charging stations locations and number of places	Partly available
Electric car charging stations number of free places	Not available
Street network weather and road conditions information	Partly available
Street network incident/alert information (road works, accidents, etc.)	Partly available
Street network traffic amount and speed information	Not available

Street network traffic flow information	Not available
Street network maintenance information	Available
Road network traffic amount and speed information	Available
Traffic light state information	Not available
Truck parking information	Not available

Park and ride location information is available from HSL's interfaces. Interfaces also include information about number of free places, but usually that data is not available from the current park and ride services.

Information about the City of Helsinki's parking areas and number of free available places will be available during the summer 2017.

Taxi stations locations, car sharing locations/availability and information about electric car charging stations can be found from the web, but there are not open interfaces available.

Street network weather and road conditions information is partly available from FMI's (Finnish Meterological Institute) and FTA's (Finnish Transport Agency) open interfaces.

Street network incident/alert information such as accidents and road works are only partly available from the street network. Some information is available from the City of Helsinki, Public Works Department's building and land use permits interface. Information about events can also be used to as a background data. Event information is available from the City of Helsinki's "Linked Events" interface.

At the moment, real-time information about traffic amounts and traffic flow is not available. Traffic amount information could be available from traffic light system, but interfaces are not yet available for use. From the FTA's road network traffic amounts are available via Digitraffic service.

Information about truck parking is not available from public open interfaces.

4.1.5 Ferry Traffic

Data or interface	Current state
Schedule and timetable information	Available
Port traffic real-time arrival / departure information (incl. forecast)	Partly available
Ships' location information	Available
Vehicle (passenger traffic) queues	Not available
Heavy traffic queues	Not available
Number of arrival/departure passengers	Not available

Number of arrival/departure vehicles	Not available
Passengers queue length / waiting time in terminal	Not available
Marine traffic alerts and incidents	Partly available

Ferry schedules are available from the Portnet service (port traffic declaration service). Schedules are based on information from ferry operators. For routing purposes this kind of data should be available in GTFS -format.

Ferry operators can update arrival and departure information to Portnet if ferries are not on schedule, but usually actual arrival and departure times are only updated afterwards.

Ships location information is available from the Portnet service. Location data comes from Automatic Identification System AIS.

Marine traffic alert and incident information is also available, but the data is not suitable for informing passengers.

4.1.6 Booking and Digital Tickets

Data or interface	Current state
Public transport booking and digital tickets	Partly available
Car-sharing reservation and digital tickets	Partly available
Bike-share reservation and digital tickets	Not available
Parking reservation and digital tickets	Not available
Taxi booking and digital tickets	Partly available
Ferry trip reservation and digital tickets	Not available
MaaS -routing, booking and digital tickets	Partly available

For MaaS service developers' interfaces for booking, paying and getting digital tickets are the most needed and asked type of information. Current state of open interfaces for this kind of purposes is not very good, but usually there is some readiness for opening interfaces by agreement.

Helsinki Region Transport (HSL) has announced that they have basic contract template for opening digital tickets for MaaS operators. Also, car-sharing operators have interface solutions for MaaS operators, but opening interfaces needs always negotiations and contracts.

The Finnish Taxi Owners Federation have already opened interfaces for booking taxis in several pilots. Now, they are working for more detailed interface specification that easily integrates to existing taxi brokers systems.

MaaS operators have also plans to open their services via interfaces, so that their services could be integrated to other mobility services such as ferry operators' services.

4.2 Available Data and Interfaces – Data Catalogue

Identified data and interfaces available are described in detail in appendix 1. Appendix document is meant to be updated whenever needed due to updates in available content. Data catalogue includes all relevant information needed to take available data or interfaces in to use.

5. Conclusions

Following the inventory study of transport related data and interfaces several conclusions were made to guideline following development steps towards more valuable digital environment for future mobility services. Firstly, recognised development needs are summarized and, secondly, priority list of actions needed are provided. List of actions are prioritized based on the importance and readiness of actions needed.

5.1 Recognised Development Needs

One of the main targets of this project was to identify needed real-time data to create a traffic situation snapshot for Helsinki. From this point of view, the main development needs focus on street traffic data. Actions has already been taken to open parking and traffic light data to fill the largest digital gaps, but there will be still some challenges with data coverage especially in the Helsinki West Harbour's area.

"Actions has already been taken to open parking and traffic light data to fill the largest digital gaps"

To create fluent mobility chains from and to Helsinki West Harbour, Mobility as Service operators' data needs must be covered. Generally, MaaS operators are satisfied with current situation of background and traffic data, but lack of booking and digital ticket interfaces makes easy integration of all transport services hard to achieve. The ongoing political process and the transport code attempt to solve these problems, but harmonization of API's and opening all transport services will be a challenging process.

Helsinki West Harbours' area is in ongoing development process. Residential construction takes waiting areas from truck traffic, and traffic amounts from and to the harbour are continuously increasing. To handle these problems, traffic planning and new intelligent truck traffic solutions need more real-time data from current traffic situation. Without the data, right decision cannot be made and the end users of the intelligent traffic services cannot be informed.

5.2 Priority Actions Needed to Achieve the Target State

To achieve the target state of the data and interfaces, several decisions and actions must be made. In generally, status of data needs and the list of available data and interfaces should be maintained as an ongoing process. To close fatal digital gaps the responsible actors must be recognised and actions must be prioritized.

1.

List of the data needs and status of the available data and interfaces as an ongoing process

Responsible actor: FinEst Smart Mobility project; the City of Helsinki and Forum Virium Helsinki

2.

Closing fatal digital gaps to create a real-time traffic situation of Helsinki

Responsible actor: NSB CoRe project; the City of Helsinki and Forum Virium Helsinki

a. Opening traffic light data
b. Monitoring Harbours' in/out traffic (trucks, cars etc.)
c. Street network incident/alert information
d. Street network traffic amount and speed information
e. Street network traffic flow information

3.

Supporting needs for FinEst Smart Mobility pilots

Responsible actors: FinEst Smart Mobility project; The City of Helsinki and Forum Virium Helsinki

a. Supporting actions to create real-time traffic situation by developing experimental data sources
b. Ferry timetables in GTFS format to be used in trip planners and MaaS services

NSB CoRe

4.

Supporting MaaS - Mobility as a Service development

Responsible actors: Public and private sector; Helsinki Region Transport, Ferry companies, MaaS operators, etc.

a. Transport Code process - Agile reacting and development
b. Public transport booking and digital tickets
c. Car-sharing reservation and digital tickets
d. Bike-share reservation and digital tickets
e. Parking reservation and digital tickets
f. Taxi booking and digital tickets
g. Ferry trip reservation and digital tickets
h. MaaS -routing, booking and digital tickets

5.

Estonian data and interfaces – follow up and support for interoperable data catalogue

Responsible actor: NSB Core project, City of Tallinn and MKM

Appendix 1. Available Data and Interfaces – Data Catalogue

Content

1. Background information

Street Address data - Helsinki metropolitan area Address Catalogue

Description of the content

This dataset provides the regional address book of the Helsinki metropolitan area.

Basic Information

Data format: WMS & WFS
Standard: Open Geospatial Consortium Web Feature Service & Web Map Service
Update frequency: Last update 17/11/2015
Availability: Available now
Provider: The City of Helsinki
Licence: Creative Commons 4.0 International

Data scope and quality

Helsinki Metropolitan Area (Helsinki, Espoo, Vantaa, Kauniainen)

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.
License details: https://creativecommons.org/licenses/by/4.0/deed.fi

API access

URL: http://kartta.hel.fi/ws/geoserver/avoindata/wms
http://kartta.hel.fi/ws/geoserver/avoindata/wfs

More information

Link (URL): http://www.hri.fi/fi/dataset/seudullinen-osoiteluettelo
Detailed description in Finnish: http://ptp.hel.fi/avoindata/aineistot/2015-01-Paakaupunkiseudun_osoiteluettelo_kuvaus.pdf
Contact person / helpdesk: paikkatieto.kmo@hel.fi
Organisation: The City of Helsinki Real Estate Department

Street Address data – Digitransit Geocoding API

Description of the content
Geocoding API provides a way to do address searches and address lookups.

Basic Information

Data format: GraphQL / JSON
Standard: N/A
Update frequency: N/A
Availability: Available now
Provider: Helsinki Region Transport and Finnish Transport Agency
Licence: Creative Commons 4.0 International

Data scope and quality

Finland
Multiple data sources: OpenAddresses (https://openaddresses.io/), OpenStreetmap (https://www.openstreetmap.org/) and National Land Survey directory (places)

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.
License details: https://creativecommons.org/licenses/by/4.0/deed.fi

API access

URL: https://api.digitransit.fi/geocoding/v1/reverse
https://api.digitransit.fi/geocoding/v1/search

More information

Link to documentation: https://digitransit.fi/en/developers/services-and-apis/2-geocoding-api/
Contact details
Contact person / helpdesk: http://facebook.com/HSLdevcom
Organisation: Helsinki Region Transport

Points of Interest, POI - Helsinki metropolitan area Service Map REST-API

Description of the content

Rest-API for the Service Map. The Service Map is an open information channel on the service points and services offered by the cities of Helsinki, Espoo, Vantaa and Kauniainen. The Service Map helps the inhabitants of the municipality find current information on services offered by the city, as well as on the accessibility of the services.

Service Map UI: https://palvelukartta.hel.fi/

Basic Information

Data format: REST / JSON and downloadable KML
Standard: N/A
Update frequency: "continuous"
Availability: Available now
Provider: The City of Helsinki
Licence: Creative Commons 4.0 International

Data scope and quality

Helsinki, Espoo, Vantaa, Kauniainen

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.
License details: https://creativecommons.org/licenses/by/4.0/deed.fi

API access

URL: http://www.hel.fi/palvelukarttaws/rest/ver4_en.html#_example_urls

More information

Link to documentation:
http://www.hel.fi/palvelukarttaws/rest/ver4_en.html
Contact details
Contact person / helpdesk: taske.titek@hel.fi
Organisation: The City of Helsinki

Road and street network geometry - City of Helsinki Roadways

Description of the content

The City of Helsinki Roadways datasets include the street network, cycle paths, footpaths etc.

Basic Information

Data format: KML XML (WGS 84) and Esri Shape (ETRS-GK25)
Standard: Open Geospatial Consortium KML
Update frequency: Once a year
Availability: Available now
Provider: City of Helsinki, Real Estate Department
Licence: Creative Commons 4.0 International

Data scope and quality

Helsinki

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.
License details: https://creativecommons.org/licenses/by/4.0/deed.fi

API access

URL:
http://ptp.hel.fi/avoindata/aineistot/Helsinki_liikennevaylat_avoin_data.zip

More information

Link to documentation: http://ptp.hel.fi/avoindata/aineistot/2015-01-Helsingin_liikennevaylat_(keskilinja)_avoin_data_kuvaus.pdf
Contact details
Contact person / helpdesk: paikkatieto.kmo@hel.fi
Organisation: The City of Helsinki, Real Estate Department

Road and street network geometry – National Road and Street Database – Digiroad

Description of the content

Digiroad is a national database that contains the geometry of the Finnish road and street network featured with the most important road attribute data.

Available data objects:

- Road link
- Manoeuvre
- Public transport stop
- Traffic light
- Pedestrian crossing
- Directional traffic sign
- Railway level crossing
- Barrier
- Speed limit
- Maximum allowed - restrictions
- Lit road
- Paved road
- Traffic volume
- Road affected by thawing
- Width
- Vehicle specific restriction
- Vehicle with hazardous load (VAK)
- Bus lane
- E-road number
- Exit number
- Speed limit during winter
- Service
- Bus stops

Basic Information

Data format: ESRI shape format
Standard: ESRI Shapefile
Update frequency: 4-6 months
Availability: Available now
Provider: Finnish Transport Agency (FTA), The National Land Survey of Finland and municipalities
Licence: Creative Commons 4.0 International

Data scope and quality

Finland

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.

API access

URL: https://extranet.liikennevirasto.fi/extranet/web/public/latauspalvelu

More information

Link to documentation: http://www.liikennevirasto.fi/web/en/open-data/digiroad/documents

Contact details
Link (URL): http://www.liikennevirasto.fi/web/en/open-data/digiroad
Contact person / helpdesk:

- info@digiroad.fi
- phone +358 40 507 2301 (9 a.m. to 4 p.m. EET)

Organisation: Finnish Transport Agency (FTA)

Street network traffic statistic - Traffic Volumes in Helsinki

Description of the content

Data contains traffic volumes (cars, vans, trucks, buses, motorcycles) from several measuring points. Data is collected every year in September and October.

Basic Information

Data format: CSV
Standard: N/A
Update frequency: year
Availability: Available now
Provider: The City of Helsinki
Licence: Creative Commons 4.0 International

Data scope and quality

Helsinki

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.

API access

URL:
http://www.hel.fi/hel2/tietokeskus/data/helsinki/ksv/hki_liikennemaarat.csv

More information

Link to documentation: http://www.hri.fi/fi/dataset/liikennemaarat-helsingissa
Contact details
Contact person / helpdesk: kaupunkisuunnittelu@hel.fi

Organisation: The City of Helsinki – City Planning Department

Street network traffic statistic - Traffic Accidents in Helsinki

Description of the content

This dataset provides statistics on traffic accidents in Helsinki.

Basic Information

Data format: CSV
Standard: N/A
Update frequency: year
Availability: Available now
Provider: The City of Helsinki
Licence: Creative Commons 4.0 International

Data scope and quality

Helsinki
Dataset is mainly focused for death cases.

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.

API access

URL:
http://www.hel.fi/hel2/tietokeskus/data/helsinki/ksv/hki_liikenneonnettomuudet.csv

More information

Link to documentation:
http://www.hri.fi/fi/dataset/liikenneonnettomuudet-helsingissa
Contact details
Contact person / helpdesk: kaupunkisuunnittelu@hel.fi
Organisation: The City of Helsinki – City Planning Department

Public transport routes statistic - Helsinki Region Transport passengers by station

Description of the content

This dataset provides statistics on passenger amounts in buses, trams, and subway.

Basic Information

Data format: CSV, KML-format, ESRI Shapefile, GeoJSON, GeoService
Standard: KML, ESRI Shapefile, GeoJSON
Update frequency: N/A
Availability: Available now
Provider: Helsinki Region Transport HSL
Licence: Creative Commons 4.0 International

Data scope and quality

Helsinki, Espoo, Vantaa, Kauniainen, Kerava, Kirkkonummi, Sipoo
Data is only available from the year 2015.

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.

API access

- http://data.hslhrt.opendata.arcgis.com/datasets/ea17e59eb0a34bc5bad2ab749cc6ef04_0.zip
- http://data.hslhrt.opendata.arcgis.com/datasets/ea17e59eb0a34bc5bad2ab749cc6ef04_0.kml
- http://data.hslhrt.opendata.arcgis.com/datasets/ea17e59eb0a34bc5bad2ab749cc6ef04_0.csv
- http://data.hslhrt.opendata.arcgis.com/datasets/ea17e59eb0a34bc5bad2ab749cc6ef04_0.geojson
- https://services1.arcgis.com/sswNXkUiRoWtrx0t/arcgis/rest/services/nousijamaarat/FeatureServer/0/query?outFields=*&where=1%3D1

More information

Link to documentation: http://www.hri.fi/fi/dataset/hsl-n-nousijamaarat-pysakeittain
Contact details
Link: http://data.hslhrt.opendata.arcgis.com/
Contact person / helpdesk: paikkatieto@hsl.fi
Organisation: Helsinki Region Transport HSL

Ferry traffic statistics – Digitraffic/Portnet Port Calls

Description of the content

Data contains Portnet Port Call information such as time of arrival and departure, ship name and name of the agent. API can deliver real-time information and history starting from the year 2005.

Basic Information

Data format: Rest/JSON
Standard: N/A
Update frequency: almost real-time
Availability: Available now
Provider: Finnish Transport Agency FTA
Licence: Creative Commons 4.0 International

Data scope and quality

Finland

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.

API access

URL: https://meri.digitraffic.fi/api/v1/port-calls

More information

Link to documentation:
https://meri.digitraffic.fi/api/v1/metadata/documentation/swagger-ui.html#!/port-call-controller/
Contact details
Contact person / helpdesk:
https://groups.google.com/forum/#!forum/meridigitrafficfi
Organisation: Finnish Transport Agency FTA

Cycling and walking statistics - Number of cyclists in Helsinki

Description of the content

Data contains statistics on the number of cyclists in Helsinki, starting from the year 2014. Data is collected from 16 measuring points.

Basic Information

Data format: CSV
Standard: N/A
Update frequency: 6 months
Availability: Available now
Provider: The City of Helsinki
Licence: Creative Commons 4.0 International

Data scope and quality

Helsinki

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.

API access

URL:
http://www.hel.fi/hel2/tietokeskus/data/helsinki/ksv/Helsingin_pyorailijamaarat.csv

More information

Link to documentation: http://www.hri.fi/fi/dataset/helsingin-pyorailijamaarat
Contact details
Contact person / helpdesk: kaupunkisuunnittelu@hel.fi
Organisation: The City of Helsinki – City Planning Department

2. Cycling and Walking

Bike paths' geometrics – City of Helsinki Roadways

Description of the content

The City of Helsinki Roadways datasets include the street network, cycle paths, footpaths, etc.

Basic Information

Data format: KML XML (WGS 84) and Esri Shape (ETRS-GK25)
Standard: Open Geospatial Consortium KML
Update frequency: Once a year
Availability: Available now
Provider: The City of Helsinki, Real Estate Department
Licence: Creative Commons 4.0 International

Data scope and quality

Helsinki

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.
License details: https://creativecommons.org/licenses/by/4.0/deed.fi

API access

URL:
http://ptp.hel.fi/avoindata/aineistot/Helsinki_liikennevaylat_avoin_data.zip

More information

Link to documentation: http://ptp.hel.fi/avoindata/aineistot/2015-01-Helsingin_liikennevaylat_(keskilinja)_avoin_data_kuvaus.pdf
Contact details
Contact person / helpdesk: paikkatieto.kmo@hel.fi
Organisation: The City of Helsinki, Real Estate Department

Bike-share stations' locations and availability – Digitransit Bicycling API

Description of the content

Digitransit Bicycling API provides a way to do cycling route, citybike station locations, and availability searches.

Basic Information

Data format: XML /GraphQL / JSON
Standard: N/A
Update frequency: real-time
Availability: Available now
Provider: Helsinki Region Transport and Finnish Transport Agency
Licence: Creative Commons 4.0 International

Data scope and quality

Helsinki Citybikes

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.
License details: https://creativecommons.org/licenses/by/4.0/deed.fi

API access

See the Digitransit "Getting started" page for examples:
https://digitransit.fi/en/developers/services-and-apis/1-routing-api/1-getting-started/

XML interface for Citybike stations and availability:
https://api.digitransit.fi/routing/v1/routers/hsl/bike_rental

More information

Link to documentation: https://digitransit.fi/en/developers/services-and-apis/1-routing-api/bicycling/ and http://dev.hsl.fi/
Contact details
Contact person / helpdesk: http://facebook.com/HSLdevcom
Organisation: Helsinki Region Transport

3. Public Transport

Public transport stops – Digitransit Stops API

Description of the content

Stops API provides a way to do public transport stop searches (ID, name, location, etc.)

Basic Information

Data format: GraphQL / JSON
Standard: N/A
Update frequency: weekly
Availability: Available now
Provider: Helsinki Region Transport and the Finnish Transport Agency
Licence: Creative Commons 4.0 International

Data scope and quality

HSL region (Helsinki, Espoo, Vantaa, Kauniainen, Kerava, Kirkkonummi, Sipoo), Waltti cities (Hämeenlinna, Joensuu, Jyväskylä, Kajaani, Kouvola, Kotka, Kuopio, Lahti, Lappeenranta, Mikkeli, Oulu, Vaasa), Finland (partly)

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.
License details: https://creativecommons.org/licenses/by/4.0/deed.fi

API access

See the Digitransit "Getting started" page for examples: https://digitransit.fi/en/developers/services-and-apis/1-routing-api/1-getting-started/

More information

Link to documentation: https://digitransit.fi/en/developers/services-and-apis/1-routing-api/stops/
Contact details
Contact person / helpdesk: http://facebook.com/HSLdevcom
Organisation: Helsinki Region Transport

Public transport routes – Digitransit Routes API

Description of the content

Routes API provides a way to do public transport route searches (route name, stop names for route etc.)

Basic Information

Data format: GraphQL / JSON
Standard: N/A
Update frequency: weekly
Availability: Available now
Provider: Helsinki Region Transport and Finnish Transport Agency
Licence: Creative Commons 4.0 International

Data scope and quality

HSL region (Helsinki, Espoo, Vantaa, Kauniainen, Kerava, Kirkkonummi, Sipoo), Waltti cities (Hämeenlinna, Joensuu, Jyväskylä, Kajaani, Kouvola, Kotka, Kuopio, Lahti, Lappeenranta, Mikkeli, Oulu, Vaasa), Finland (partly)

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.
License details: https://creativecommons.org/licenses/by/4.0/deed.fi

API access

See the Digitransit "Getting started" page for examples: https://digitransit.fi/en/developers/services-and-apis/1-routing-api/1-getting-started/

More information

Link to documentation: https://digitransit.fi/en/developers/services-and-apis/1-routing-api/routes/
Contact details
Contact person / helpdesk: http://facebook.com/HSLdevcom
Organisation: Helsinki Region Transport

Public transport timetable data – Digitransit Routing Data

Description of the content

Digitransit Routing Data container provides a way to download timetable data of HSL region, Waltti cities, and all of Finland.

Basic Information

Data format: GTFS / Zip
Standard: General Transit Feed Specification (GTFS)
Update frequency: weekly
Availability: Available now
Provider: Helsinki Region Transport and Finnish Transport Agency
Licence: Creative Commons 4.0 International

Data scope and quality

HSL region (Helsinki, Espoo, Vantaa, Kauniainen, Kerava, Kirkkonummi, Sipoo), Waltti cities (Hämeenlinna, Joensuu, Jyväskylä, Kajaani, Kouvola, Kotka, Kuopio, Lahti, Lappeenranta, Mikkeli, Oulu, Vaasa), Finland (partly)

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.
License details: https://creativecommons.org/licenses/by/4.0/deed.fi

API access

URL: https://api.digitransit.fi/routing-data/v1/router-hsl.zip
https://api.digitransit.fi/routing-data/v1/router-finland.zip
https://api.digitransit.fi/routing-data/v1/ router-waltti.zip

More information

Link to documentation: https://digitransit.fi/en/developers/services-and-apis/6-data-containers/routing-data/
Contact details
Contact person / helpdesk: http://facebook.com/HSLdevcom
Organisation: Helsinki Region Transport

Public transport service changes and alerts – Digitransit Service Alerts

Description of the content

Digitransit Service Alerts provides GTFS-RT service alerts and trip updates.

Basic Information

Data format: REST / JSON
Standard: GTFS RT
Update frequency: -
Availability: Available now
Provider: Helsinki Region Transport and Finnish Transport Agency
Licence: Creative Commons 4.0 International

Data scope and quality

HSL region (Helsinki, Espoo, Vantaa, Kauniainen, Kerava, Kirkkonummi, Sipoo)

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.
License details: https://creativecommons.org/licenses/by/4.0/deed.fi

API access

URL: http://api.digitransit.fi/realtime/service-alerts/v1/

More information

Link to documentation: https://digitransit.fi/en/developers/services-and-apis/4-realtime-api/service-alerts/
Contact details
Contact person / helpdesk: http://facebook.com/HSLdevcom
Organisation: Helsinki Region Transport

Public transport real-time location data – Digitransit Vehicle Positions API

Description of the content

Vehicle Positions API provides snapshot of current real-time vehicle location data.

Basic Information

Data format: SIRI / JSON
Standard: SIRI - Service Interface for Real Time Information
Update frequency: typically 0-5 min
Availability: Available now
Provider: Helsinki Region Transport and Finnish Transport Agency
Licence: Creative Commons 4.0 International

Data scope and quality

HSL region (Helsinki, Espoo, Vantaa, Kauniainen, Kerava, Kirkkonummi, Sipoo)

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.
License details: https://creativecommons.org/licenses/by/4.0/deed.fi

API access

URL: http://api.digitransit.fi/realtime/vehicle-positions/v1/

More information

Link to documentation: https://digitransit.fi/en/developers/services-and-apis/4-realtime-api/vehicle-positions/
Contact details
Contact person / helpdesk: http://facebook.com/HSLdevcom
Organisation: Helsinki Region Transport

Route planner API – Digitransit Itinerary Planning API

Description of the content

Itinerary Planning APi provides a way to search routes from origin to destination by using different transportation modes such as walk, bus, tram, train etc.

Basic Information

Data format: GraphQL / JSON
Standard: N/A
Update frequency: -
Availability: Available now
Provider: Helsinki Region Transport and Finnish Transport Agency
Licence: Creative Commons 4.0 International

Data scope and quality

HSL region (Helsinki, Espoo, Vantaa, Kauniainen, Kerava, Kirkkonummi, Sipoo), Waltti cities (Hämeenlinna, Joensuu, Jyväskylä, Kajaani, Kouvola, Kotka, Kuopio, Lahti, Lappeenranta, Mikkeli, Oulu, Vaasa), Finland (partly)

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.
License details: https://creativecommons.org/licenses/by/4.0/deed.fi

API access

See the Digitransit "Getting started" page for examples:
https://digitransit.fi/en/developers/services-and-apis/1-routing-api/1-getting-started/

More information

Link to documentation: https://digitransit.fi/en/developers/services-and-apis/1-routing-api/itinerary-planning/
Contact details
Contact person / helpdesk: http://facebook.com/HSLdevcom
Organisation: Helsinki Region Transport

4. Road and Street Traffic

Parking areas - location and number of places – ParkingHub API

Description of the content

ParkingHub API provides a way to search parking area location and capacity information.

Basic Information

Data format: REST / JSON
Standard: -
Update frequency: -
Availability: Available in 2017 (summer)
Provider: The City of Helsinki.
Licence: -

Data scope and quality

The City of Helsinki's paid parking areas.

Access constraints

None at the moment.

API access

URL: https://api.parkkiopas.fi/public/v1/parking_area/?format=json

More information

Link to documentation: Not available at the moment, but will be published in Helsinki Region Infoshare http://www.hri.fi/
Contact details
Contact person / helpdesk: Lauri.Uski@hel.fi
Organisation: The City of Helsinki

Number of free available places in parking areas - ParkingHub API

Description of the content

ParkingHub API provides a way to search current parking statistics of paid parking areas.

Basic Information

Data format: REST / JSON
Standard: -
Update frequency: -
Availability: Available in 2017 (summer)
Provider: The City of Helsinki.
Licence: -

Data scope and quality

The City of Helsinki's paid parking areas.

Access constraints

None at the moment

API access

URL:
https://api.parkkiopas.fi/public/v1/parking_area_statistics/?format=json

More information

Link to documentation: Not available at the moment, but will be published in Helsinki Region Infoshare http://www.hri.fi/
Contact details
Contact person / helpdesk: Lauri.Uski@hel.fi
Organisation: The City of Helsinki

Park and ride locations, number of places and availability – HSL Park and Ride API

Description of the content

HSL Park and Ride API can deliver a wide range of different types of information about Park and Ride -places.

Basic Information

Data format: JSON, GeoJSON
Standard: -
Update frequency: -
Availability: Available now
Provider: Helsinki Region Transport
Licence: Creative Commons 4.0 International

Data scope and quality

Helsinki Metropolitan Area
API can deliver many kind of information, but all information, such as number of free places, is not available from every Park and Ride -area.

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.

API access

URL: https://p.hsl.fi/api/v1/facilities.json
See documentation for more links to interfaces.

More information

Link to documentation: https://p.hsl.fi/docs/index.html
Contact details
Contact person / helpdesk: http://facebook.com/HSLdevcom
Organisation: Helsinki Region Transport - HSL

Street network maintenance information – Stara Snowplow API

Description of the content

The snowplough API allows querying the locations of snowploughs in the Helsinki area.

Basic Information

Data format: REST / JSON
Standard: -
Update frequency: Continuous with 5 min delay
Availability: Available now (mainly in winter)
Provider: Stara (City of Helsinki)
Licence: Creative Commons 4.0 International

Data scope and quality

Helsinki
API delivers Stara's own snowplough location information, so all snowploughs in Helsinki are not covered.

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.

API access

URL: http://dev.stadilumi.fi/api/v1/snowplow/

More information

Link to documentation: https://github.com/City-of-Helsinki/aura/wiki/API
Contact details
Link (URL): https://www.hel.fi/stara/en
Contact person / helpdesk: stara@hel.fi
Organisation: Stara (City of Helsinki)

Road network traffic amount and speed information – Digitraffic Current data of TMS Stations

Description of the content

Digitraffic provides current data of TMS Stations. The data contains all sensor data available, for each TMS station, including traffic volume in both directions and average speed in both directions.

Basic Information

Data format: REST / JSON
Standard: -
Update frequency: 1 min
Availability: Available
Provider: FTA – Finnish Transport Agency
Licence: Creative Commons 4.0 International

Data scope and quality

Main roads of Finland
The nearest TMS station from/to Helsinki West Harbour is at 51 Hanasaarentie road

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.

API access

URL: http://tie.digitraffic.fi/api/v1/data/tms-data

More information

Link to documentation:
https://github.com/finnishtransportagency/digitraffic/wiki/Data-APIs#current-data-of-tms-stations-traffic-measurement-system--lam and https://tie.digitraffic.fi/api/v1/data/documentation/swagger-ui.html#!/data/tmsDataUsingGET
Contact details
Contact person / helpdesk:
https://groups.google.com/forum/#!forum/roaddigitrafficfi
Organisation: FTA – Finnish Transport Agency

5. Ferry Traffic

Schedule and timetable information - Digitraffic/Portnet Port Calls

Description of the content

Data contains Portnet Port Call information such as time of arrival and departure, ship name and name of the agent. API can deliver real-time information and future schedules.

Basic Information

Data format: Rest/JSON
Standard: N/A
Update frequency: almost real-time
Availability: Available now
Provider: Finnish Transport Agency FTA
Licence: Creative Commons 4.0 International

Data scope and quality

Finland

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.

API access

URL: https://meri.digitraffic.fi/api/v1/port-calls

More information

Link to documentation:
https://meri.digitraffic.fi/api/v1/metadata/documentation/swagger-ui.html#!/port-call-controller/
Contact details
Contact person / helpdesk:
https://groups.google.com/forum/#!forum/meridigitrafficfi
Organisation: Finnish Transport Agency FTA

Ships' location information – Digitraffic Vessel Location API

Description of the content

API contains data from the automatic identification system (AIS) such as unique vessel identification, position, course, and speed.

Basic Information

Data format: Rest/JSON
Standard: N/A
Update frequency: real-time
Availability: Available now
Provider: Finnish Transport Agency FTA
Licence: Creative Commons 4.0 International

Data scope and quality

Finland and nearby sea areas

Access constraints

Use is free of charge.
Distribution and re-use of the data is allowed.

API access

URL: https://meri.digitraffic.fi/api/v1/locations/latest

More information

Link to documentation:
https://meri.digitraffic.fi/api/v1/metadata/documentation/swagger-ui.html#/vessel-location-controller
Contact details
Contact person / helpdesk:
https://groups.google.com/forum/#!forum/meridigitrafficfi
Organisation: Finnish Transport Agency FTA

Helsinki West Harbour Data and Interfaces

Helsingin kaupunkisuunnitteluviraston liikennesuunnitteluosaston selvityksiä 2017:3

Publisher
Helsinki City Planning Department
European Union, Interreg, North Sea Baltic Connector of Regions

Text
Arto Luoma, Infotripla Oy

ISBN 978-952-331-308-8
ISSN 0787-9067

Interreg Baltic Sea Region
EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND

North Sea Baltic Connector of Regions
Interreg Baltic Sea Region programme 2014–2020