Title	Dataset / API	Format	Coverage	Updating frequency
Semantic city information model	Dataset, also available as 3D Tiles from server	CityGML 2.0 offered for download	Citywide	In regular maintenance, textures for new buildings only in conjuction with city aerial surveys (approx. bi-annually)
Reality mesh model	Dataset, also available as 3D Tiles from server	OBJ offered for download	Citywide	Not maintained, new mesh is produced in conjuction with city aerial surveys (approx. bi-annually)
Airborne laser scanning point cloud	Dataset, available as tiles from kartta.hel.fi download service	LAZ files according to tile division	Citywide	Surveyed approx every two years. Current version from summer 2021
Register of public areas in the city of Helsinki	Dataset, available from WFS Interface	2D GIS Polygon, can be requested in JSON format from WFS API	Citywide	In regular maintenance

Land usage permission system for public areas in the city of Helsinki	Dataset, available from WFS Interface	2D GIS Polygon, can be requested in JSON format from WFS API	Citywide	In regular maintenance
Data from vehicle counters	API	REST / JSON	Citywide	Real-time updates
Traffic light intersection detector API	API	REST / JSON	Covers approx. 130 intersections with multiple detectors per intersection	Real-time updates
Radar Geocoordinate data	API	WebSocket / JSON	Test installation, single radar in API	Real-time updates, approx. 10Hz
Helsinki Incidents and roadworks D2Light (West Harbour Open Data)	API	REST / JSON, with some GML	Test installation, only available from Helsinki west harbour	Real-time updates
Route Suggestions out from harbour	API	REST / JSON, with some GML	Test installation, only available from Helsinki west harbour	Real-time updates

Port Vehicle Data	API	REST / JSON, with some GML	Test installation, only available from Helsinki west harbour	Real-time updates

Owner	Description
City of Helsinki (kaupunginkanslia, tietotekniikka- ja viestintäosasto)	The city information model includes a terrain model and buildings. Buildings are presented in two formats: flat-roofed (LoD1) and with differentiated roof structures (LoD2). The LoD2 buildings are also available textured. The buildings are all semantic CityGML objects. Each building has its own identifier (GMLID, RATU and VTJ-PRT) in the database, allowing data streams to be combined. The model uses the ETRS-GK25 plane coordinate system and the N2000 height system. The accuracy of the city information model corresponds to the accuracy of the city plan base map, meaning that buildings are located exactly where they are in the city plan's base map.
City of Helsinki (kaupunginkanslia, tietotekniikka- ja viestintäosasto)	The reality mesh model is a photorealistic city model that, according to its name, it is a visually high-quality and geometrically accurate model based on aerial photographs. The model has the advantage of being realistic: the model includes all the items that were stationary at the time of photography, such as small structures, trees and parked cars. These city-wide mesh models have been produced aerial photographs taken at summer 2017 and 2015. The 2017 model has been produced with over 42,000 aerial photographs with a ground sample distance of about 7.5 cm / pixel. You can download the model in OBJ format, which contains each level of detail, and the LoD type is adaptive tree.
City of Helsinki (Kaupunkiympäristön toimiala, Palvelut ja luvat, Kaupunkimittauspalvelut)	Helsinki airborne laser scanning point clouds, in ETRS-GK25 coordinate system (EPSG:3879), N2000 elevations. Two data sets available, one containing all point classes and one only the point classified as ground.
City of Helsinki (kaupunkiympäristön toimiala / Rakennetun omaisuuden hallinta)	This dataset provides the register of public areas in the City of Helsinki. The register is maintained by the City of Helsinki Public Works Department. It includes information about streets and green space areas. The register is primarily used by the Public Works Department and therefore might not cover areas controlled by other departments of the City of Helsinki.

City of Helsinki (kaupunkiympäristön toimiala / Asukas- ja yrityspalvelut)	This dataset provides the land usage permission system for public areas in the City of Helsinki. The Public Works Department of the City of Helsinki controls the public areas and decides on their usage by issuing permits (for example construction, events, rentals, terraces, etc.).
Combined API providing data from the City of Helsinki and Fintraffic	Data containing traffic data from automatic counters in Helsinki and nearby. Counters detect volume, speed and type of vehicle. Data in open API, which updates every 5 minutes. No identification needed.
Swarco Oy	This API provides vehicle counting data as obtained by vehicle detectors in traffic light intersections. It can be used to retrieve vehicle counts per detector.
Conveqs Oy	This data includes location measurements from Smart Micro radars. The radar tracks moving objects appearing in it's beam covering up to eight lanes of traffic up to 150 meters from radar location, a typical set up can be seen in Figure 1. In addition to location, radar measures the speed and length of the object. Measurement is updated 10 times per second, and each object is tracked by assigning a uniquer id numbber for it. In addition to location and speed vectors, accuracy information, vehicle type and lane id are provided with the data.
Infotripla	Helsinki D2Light service: the used source are the traffic announcements published by professional users using a dedicated web-portal for that purpose. This information is collected and published as a dedicated Helsinki D2Light Service which provides published D2Light messages by request.
Infotripla	Real time and forecasted route suggestions out from the harbour area. The data includes information for car and heavy traffic. Route suggestions are based on data sources available which may cause some unreliability due to data sources available.

Infotripla	Measured amount of outbound traffic from the Helsinki West Harbour exits (2 exits; heavy vehicles and other vehicles). Due to the infrastructure developments in the harbour area, temporary exit routes for outbound traffic may occasionally be used causing lack of measuring data.

Role in project	Link	Licence	Notes
City digital twin	https://hri.fi/data/en_GB/dataset/helsingin-3d-kaupunkimalli	Creative Commons Attribution 4.0	
City digital twin	https://hri.fi/data/en_GB/dataset/helsingin-3d-kaupunkimalli	Creative Commons Attribution 4.0	
3D Geospatial dataset	https://hri.fi/data/en_GB/dataset/helsingin-laserkeilausaineistot	Creative Commons Attribution 4.0	
Description of road network	https://hri.fi/data/en_GB/dataset/helsingin-kaupungin-yleisten-alueiden-rekisteri	Creative Commons Attribution 4.0	Multiple layers available from the same WFS API. Road surfaces are included in "YLRE_Katuosat_alue" -layer!
Description of street furniture, such as garbage bins			Street & park furniture described in two point layers "YLRE_Katuosat_piste" and "YLRE_Viherosat_piste"

Anomalies in road network and other public areas	https://hri.fi/data/en_GB/dataset/helsingin-kaupungin-yleisten-alueiden-tapahtuma-ja-maankayttolupajarjestelma	Creative Commons Attribution 4.1	Multiple layers available from the same WFS API.
Real time traffic data	https://hri.fi/data/en_GB/dataset/liikennemaarat-helsingissa/resource/6e2b7158-5146-4dce-ac2b-14096877fbe1	Creative Commons Attribution 4.0	Traffic data may include flaws or shortages. Constructions sites, errors in counters or other reasons can cause shortages. In addition to shortages, flaws due to technical errors may appear usually in the form of massive volumes, which can be detected as high spikes in the data.
Real time traffic data	https://aineisto.swarco.fi/?p=74	Not specified	API does not provide intersection locations, which are given in: https://hri.fi/data/fi/dataset/helsingin-liikenne-ja-varoitusvaloliittymat but the locations have to be solved by correlating IDs across datasets. API does not provide intersections specific traffic count!
Real time traffic data, Radar data	https://www.convegs.fi/jatkasaari-open-data-catalog	Not specified	Installation being modified, additional radars are expected to become available during 2022. API subject to change.
Real time traffic data	https://helsinki.liikennenyt.fi/opendata/	Not specified	
Real time traffic data	https://helsinki.liikennenyt.fi/opendata/	Not specified	

Real time traffic data	https://helsinki.liikennenyt.fi/opendata/	Not specified	