

MOBIDATALAB

Labs for prototyping future mobility data sharing solutions in the cloud

| Data Access Services D.4.6

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mobidatalab.eu



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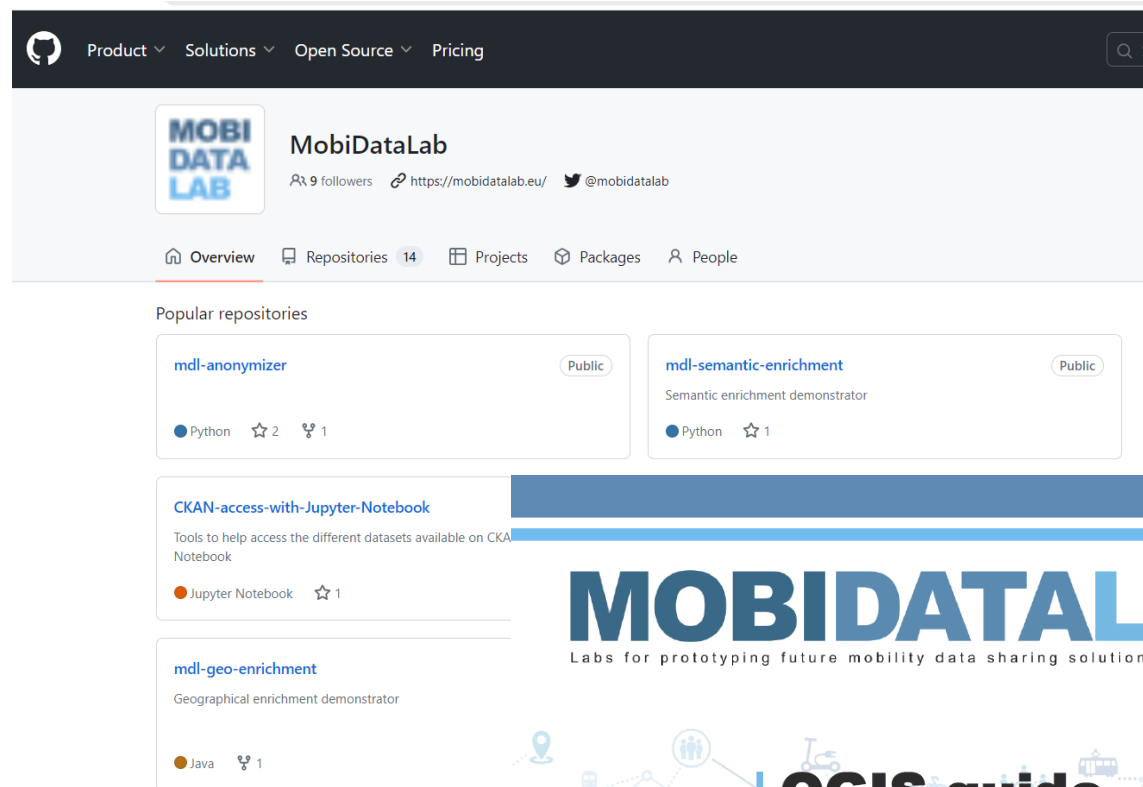
| Access via QGIS

Access mobility data and learn about available basic tools.



| GitHub:

<https://github.com/MobiDataLab>



- QGIS guide

- Guide to access mobility data and learn about available basic tools on QGIS. It provides information about how to access the CKAN and the GeoNetwork catalogues of MobiDataLab.

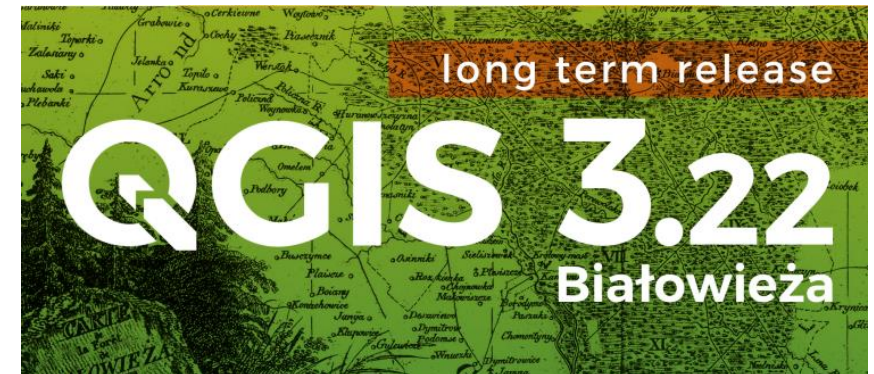
| QGIS



QGIS is a user-friendly Open Source Geographic Information System (GIS) that runs on Linux, Unix, Mac OSX, and Windows. QGIS supports vector, raster, and database formats. QGIS is licensed under the GNU General Public License. QGIS lets you browse and create map data on your computer. It supports many common spatial data formats (e.g. ESRI ShapeFile, GeoTIFF). QGIS supports plugins to do things like display tracks from your GPS. QGIS is free of cost.

| QGIS Installation

1. Download QGIS
(it is recommended to select the long-term release : currently 3.28 LTR)
2. Follow the installation instructions
3. Launch the program
QGIS DESKTOP 3.28



Catalogue Services for the Web (CSW) & GeoNetwork access



| MetaSearch



MetaSearch is a QGIS plugin to interact with metadata catalogue services, supporting the OGC Catalogue Service for the Web (CSW) standard. MetaSearch provides an easy and intuitive approach and user-friendly interface to searching metadata catalogues within QGIS.

Qgis built-in tool for MetaSearch

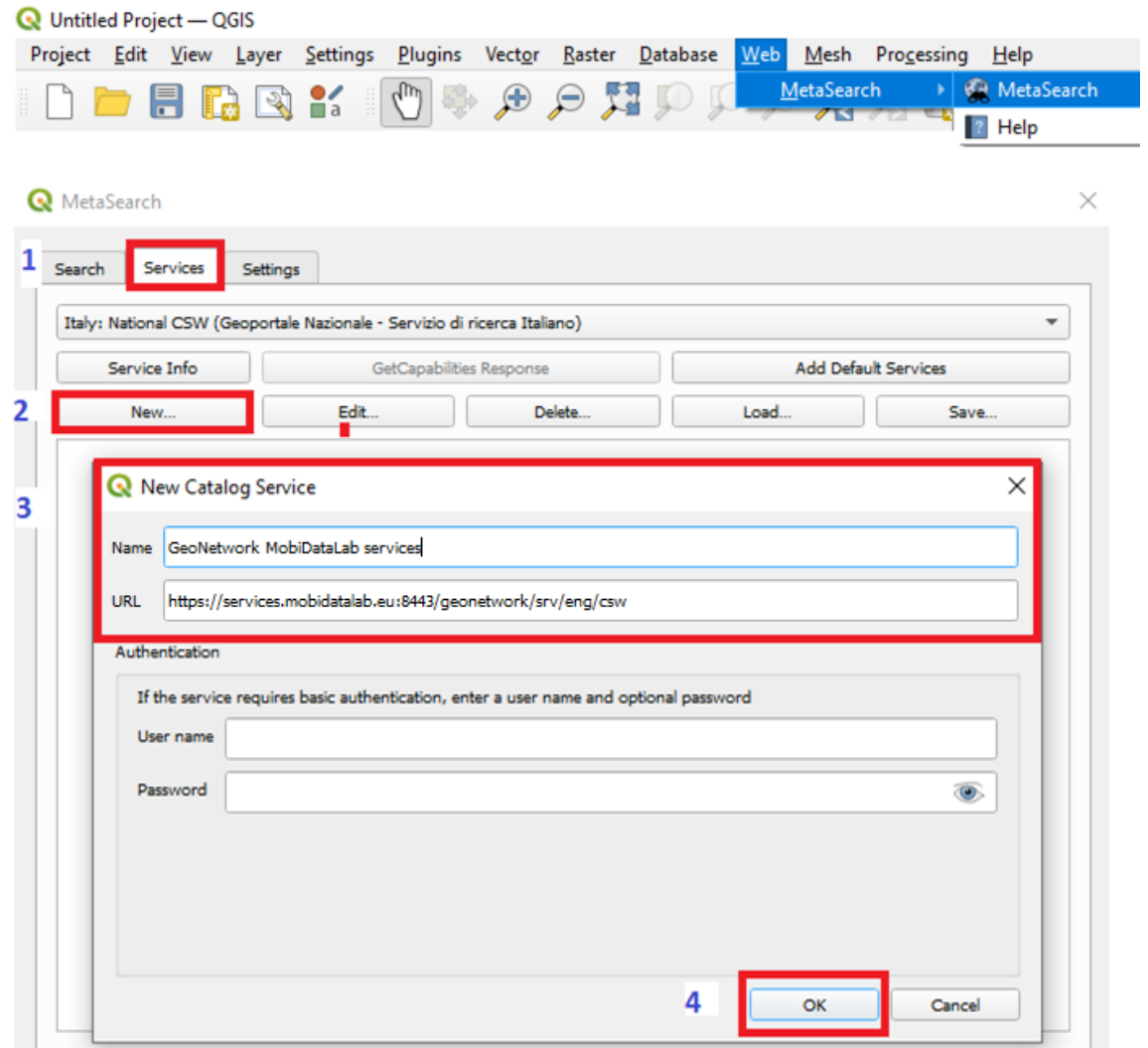


Launch the MetaSearch tool

1. Consult the “Web Menu” (on top of the Qgis menu) and select MetaSearch and then MetaSearch again.

Add the Catalog Web Service (CWS)

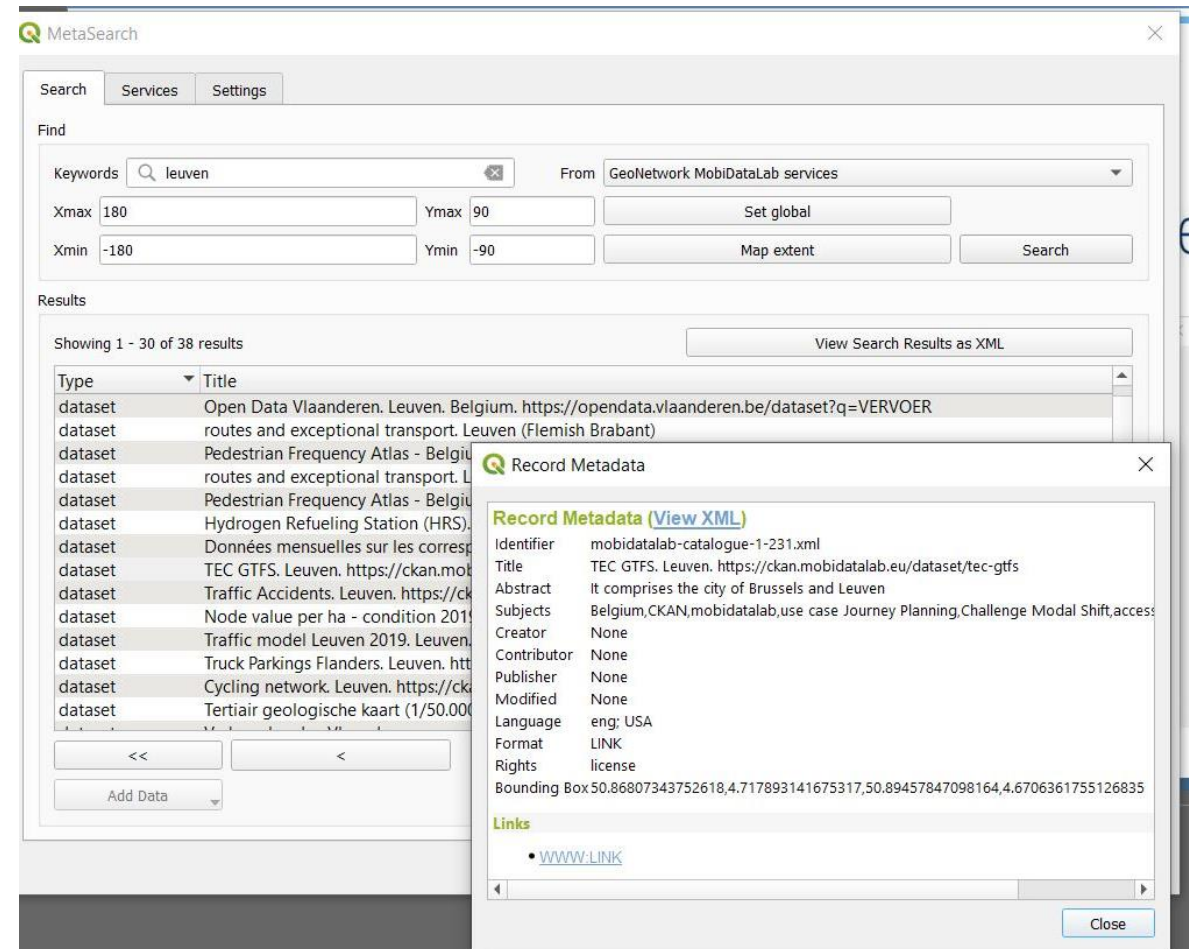
1. Click on the “Services” tab
2. Click on “New”
3. Add the CWS URL
(<https://geonetwork.mobidatalab.eu/GeoNetwork-4.0.5-0/srv/eng>) on the “Service” tab, assign a name to the portal and save it.
4. Click on “OK”



Search for Metadata



- To search for specific keywords (type them on the search bar and click on search) or to see all the available datasets on the portal (leave the search bar empty and click on search).
- To filter your data on a particular area of the world, change the map coverage according to the area on which your QGIS project is focused with the button “map extent” or access the metadata all over the world by using the “set global” button.
- It is possible to download the results as XML.
- When selecting a service or a dataset, it is possible to get the metadata record, which provides the link to access the source of the data.
- If the service or the dataset is in the right format to be read by QGIS, it will be possible to load the data.




Example TEC dataset

TEC GTFS

Followers
1

Organization



TEC

As public transport operator in the Walloon Region, TEC – which stands for “Transport En Commun” – is one of the key players in mobility and in economic, social and sustainable...

read more

Social

Twitter

Facebook

License

Creative Commons CCZero
[Open data](#)

Dataset Groups Activity Stream

TEC GTFS

Data and Resources

GTFS data

It comprises the city of Brussels and Leuven

Explore

Bus Tram **TEC GTFS**

Additional Info

Field	Value
Last Updated	August 23, 2023, 2:35 PM (UTC+02:00)
Created	May 10, 2023, 11:54 PM (UTC+02:00)
encoding	utf8
harvest_object_id	20188637-d37a-4cd9-877a-f9406bb339fd
harvest_source_id	d896ec9d-3bcd-415f-a554-07eb7c2bc1af
harvest_source_title	NAP ITS Belgium
municipality	Brussels-Capital Region, Leuven

← → ↺ 🏠 🔒 opendata.tec-wl.be/Current%20GTFS/

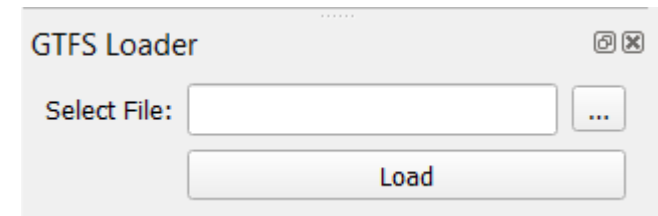
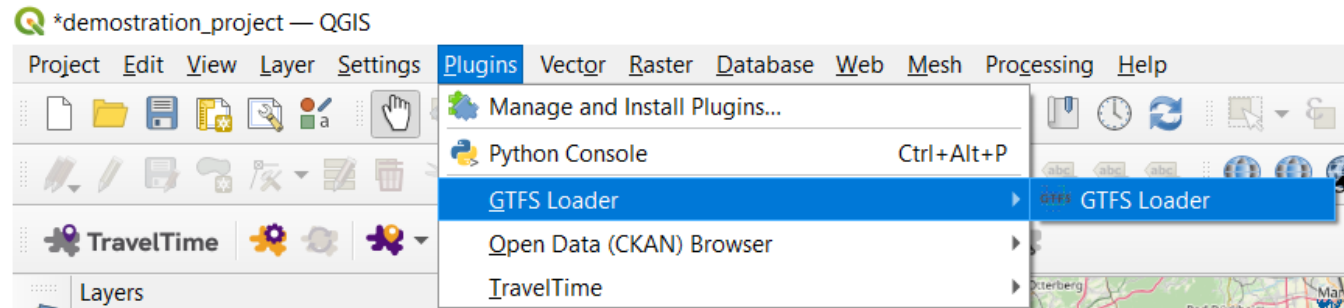
opendata.tec-wl.be - /Current GTFS/

[\[To Parent Directory.\]](#)

11/8/2023 8:45 PM 102135296 [TEC-GTFS.zip](#)

| GTFS Loader plugin

1. Via the “Plugins” Menu, install the GTFS Loader plugin
2. Open the plugin by going to the plugins Menu
3. Search for the folder containing a GTFS file
4. Load the file





- ✓ GTFS import (TEC-GTFS(1))
- ✓ stops
- ✓ shapes
- trips
- routes
- ✓ transfer
- ✓ time management
 - stop_times
 - calendar_dates
 - calendar
- ✓ service info
 - feed_info
 - agency
- ✓ OSM Standard



MetaSearch

Search

Services

Settings

Find

Keywords

From

Xmax

Ymax

Set global

Xmin

Ymin

Map extent

Search

Results

Showing 1 - 30 of 38 results

View Search Results as XML

Type	Title
dataset	Open Data Vlaanderen. Leuven. Belgium. https://opendata.vlaanderen.be/dataset?q=VERVOER
dataset	routes and exceptional transport. Leuven (Flemish Brabant)
dataset	Pedestrian Frequency Atlas - Belgium
dataset	routes and exceptional transport. Leuven
dataset	Pedestrian Frequency Atlas - Belgium
dataset	Hydrogen Refueling Station (HRS).
dataset	Données mensuelles sur les correspondances
dataset	TEC GTFS. Leuven. https://ckan.mobidatalab.eu/dataset/tec-gtfs
dataset	Traffic Accidents. Leuven. https://ckan.mobidatalab.eu/dataset/traffic-accidents
dataset	Node value per ha - condition 2019
dataset	Traffic model Leuven 2019. Leuven
dataset	Truck Parkings Flanders. Leuven. https://ckan.mobidatalab.eu/dataset/truck-parkings
dataset	Cycling network. Leuven. https://ckan.mobidatalab.eu/dataset/cycling-network
dataset	Tertiair geologische kaart (1/50.000)

<<

<

Add Data

Record Metadata

Record Metadata (View XML)

Identifier

mobidatalab-catalogue-1-231.xml

Title

TEC GTFS. Leuven. <https://ckan.mobidatalab.eu/dataset/tec-gtfs>

Abstract

It comprises the city of Brussels and Leuven

Subjects

Belgium,CKAN,mobidatalab,use case Journey Planning,Challenge Modal Shift,access

Creator

None

Contributor

None

Publisher

None

Modified

None

Language

eng: USA

Format

LINK

Rights

license

Bounding Box

50.86807343752618,4.717893141675317,50.89457847098164,4.6706361755126835

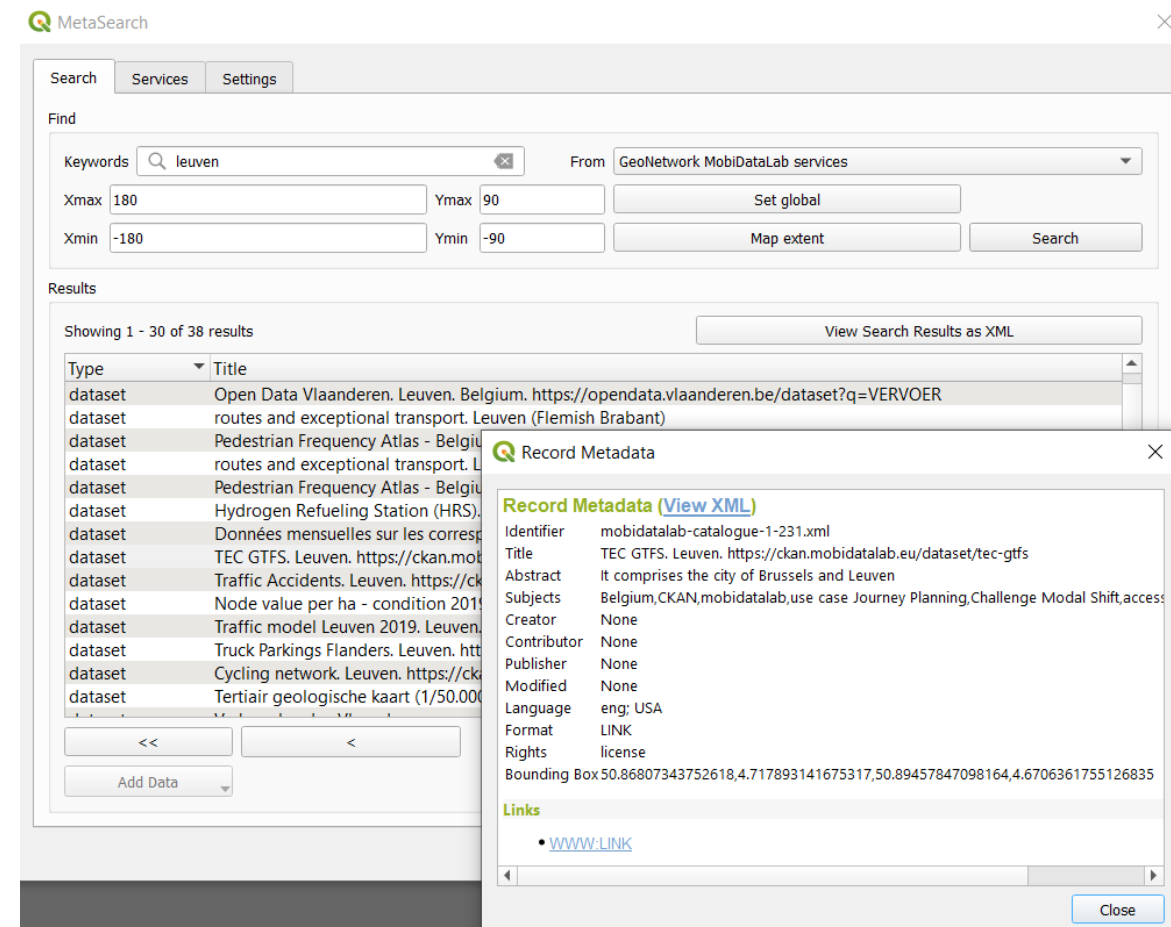
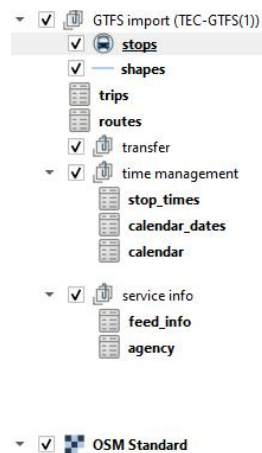
Links

WWW-LINK

Close



The Search tab allows the user to query Catalog Services for data and services, set various search parameters and view results.



Add a WMS/WMTS via the Metasearch

1. Open the Metadata search
2. Select the desired CSW
3. Search for a keyword
4. Select a dataset in WMS/WMTS format
5. Add data
6. On the layer from WMTS Server
7. Connect
8. Save it (optional)
9. Select it
10. Add it

The screenshot illustrates the steps to add a WMS/WMTS layer via the Metasearch tool in QGIS. The process is divided into two main windows: 'MetaSearch' and 'Add Layer(s) from a WM(T)S Server'.

MetaSearch Window:

- 1. Open the Metadata search:** The 'MetaSearch' window is open.
- 2. Select the desired CSW:** The 'From' dropdown is set to 'GeoNetwork_MobiDataLab'.
- 3. Search for a keyword:** The 'Keywords' field contains 'leuven'.
- 4. Select a dataset in WMS/WMTS format:** The search results show a list of datasets. The dataset 'Verkeersborden.Vlaanderen' is selected.
- 5. Add data:** The 'Add Data' button is clicked, and the 'Add WMS/WMTS' option is selected from the dropdown menu.

Add Layer(s) from a WM(T)S Server Window:

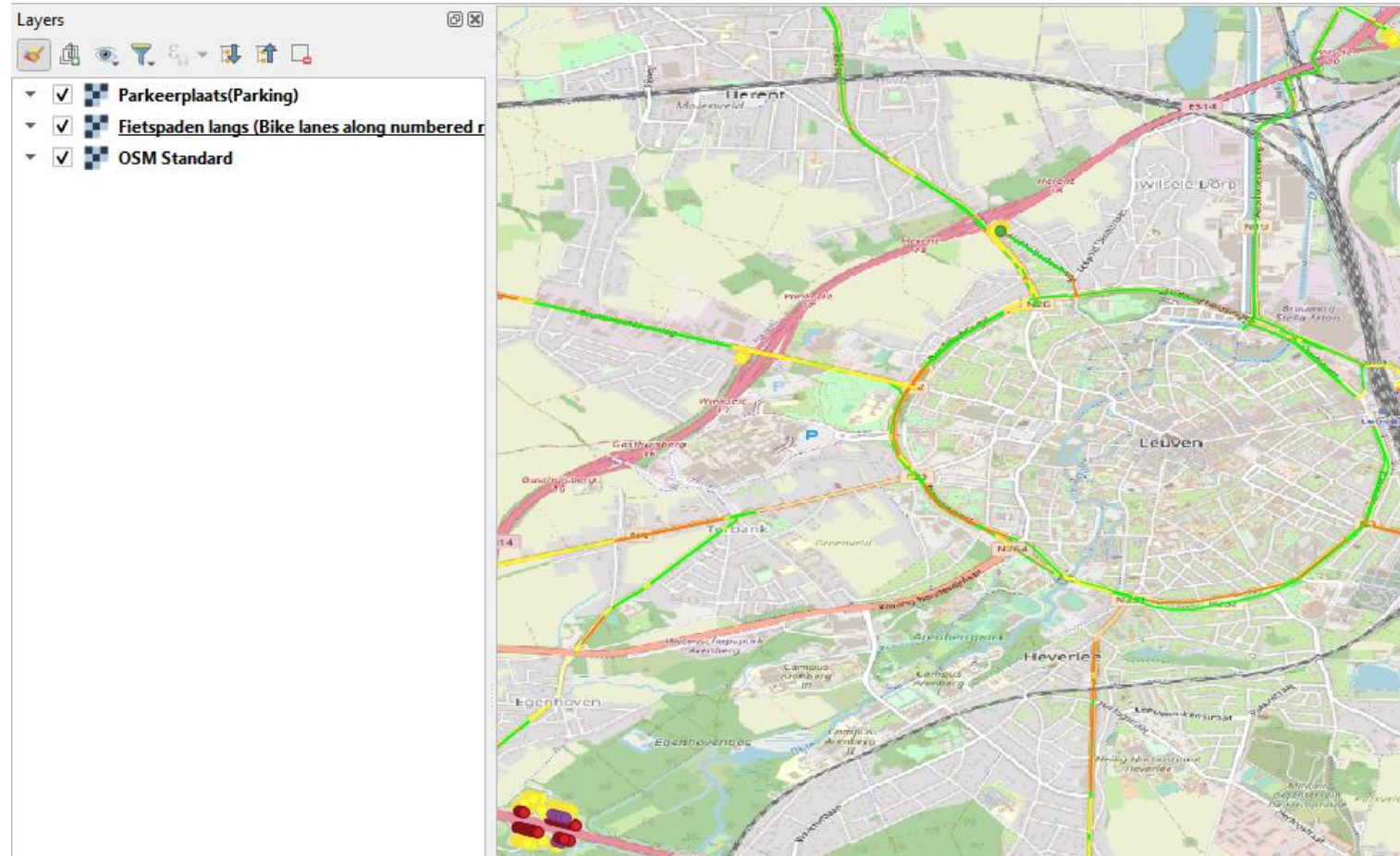
- 6. On the layer from WMTS Server:** The 'Add Layer(s) from a WM(T)S Server' window is open.
- 7. Connect:** The 'Connect' button is clicked.
- 8. Save it (optional):** The 'Save' button is clicked.
- 9. Select it:** The layer 'Verkeersborden.Vlaanderen' is selected in the list.
- 10. Add it:** The 'Add' button is clicked.

The 'Add Layer(s) from a WM(T)S Server' window displays a table of layers with the following columns: ID, Name, Title, and Abstract. The selected layer is 'Verkeersborden.Vlaanderen' with ID 89.

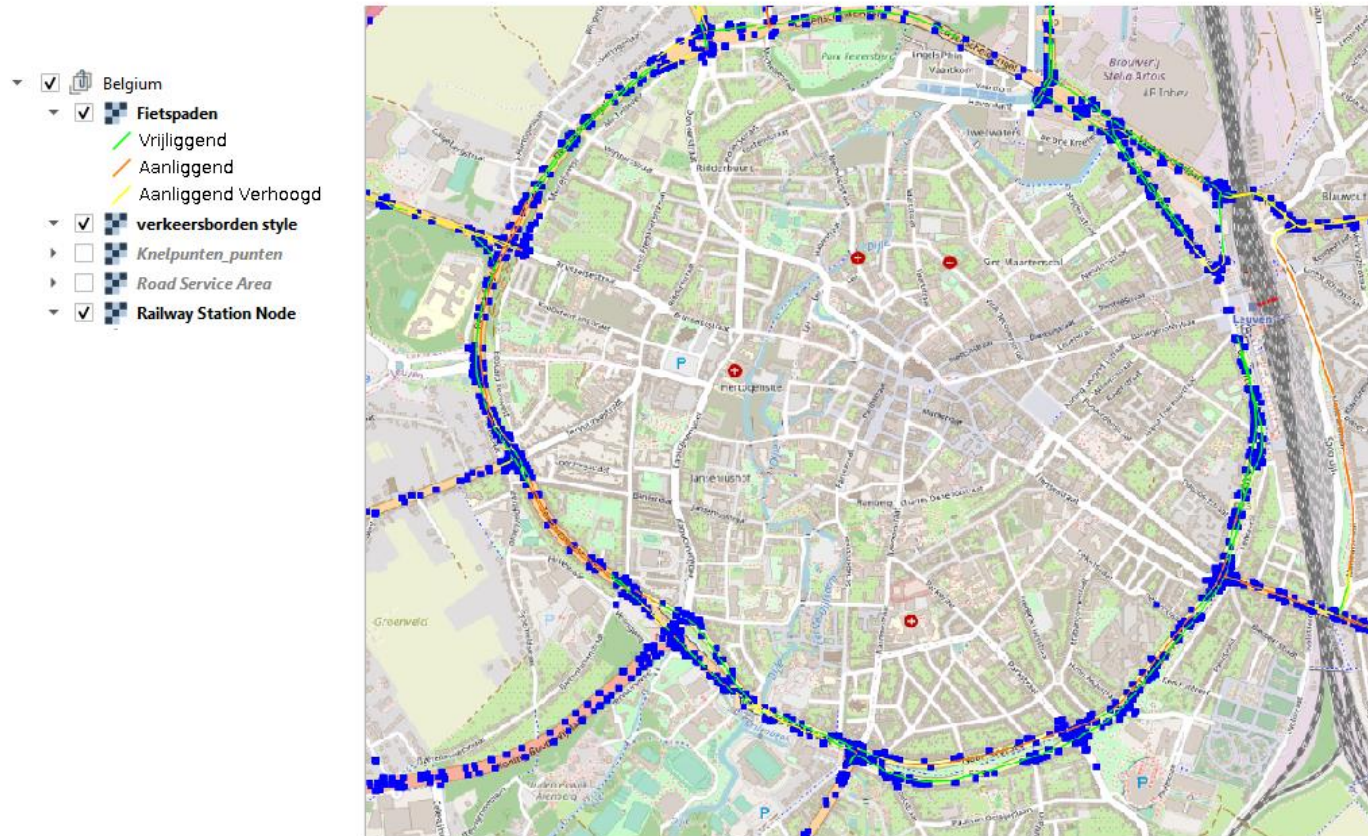
ID	Name	Title	Abstract
0		WMS Agentschap Wegen en Verkeer	WMS-ser...
1	afgeleide_data	Afgeleide data Vlaanderen	
27	dienstkaarten	Dienstkaarten	
44	eventdata	Eventdata obv de genummerde wegen	
70	reiswegennetwerk	Reiswegennetwerk	
87	verkeersborden	Verkeersborden.Vlaanderen	Alle data
88	Verkeersborden.Vlaanderen_Voorstelli...	Verkeersborden.Vlaanderen - Voorstelling	Grafische
89	default-style-verkeersborden	verkeersborden style	Default st
90			
91	Verkeersborden.Vlaanderen_Opstellin...	Verkeersborden.Vlaanderen - Opstellingen ...	Puntenla
94	Verkeersborden.Vlaanderen_Borden	Verkeersborden.Vlaanderen - Borden	Puntenla
97	default-style-verkeersborden	verkeersborden style	Default st
98	zichtbare_infrastructuur	Zichtbare infrastructuur	Zichtbare
99	Afschermende_constructies	Afschermende constructies langs de genu...	Lintvorm
102	Bomen	Bomen langs de genummerde wegen in be...	Bomen zi
105	Fietspaden	Fietspaden langs genummerde wegen in b...	Fietspade
106	default-style-zichtbare_infrastructuur	zichtbare_infrastructuur style	Default st
107	Fietspaden	Fietspaden	Fietspade
108	Fietsuggestiestroken	Fietsuggestiestrook - genummerde wegen...	Fietsugg

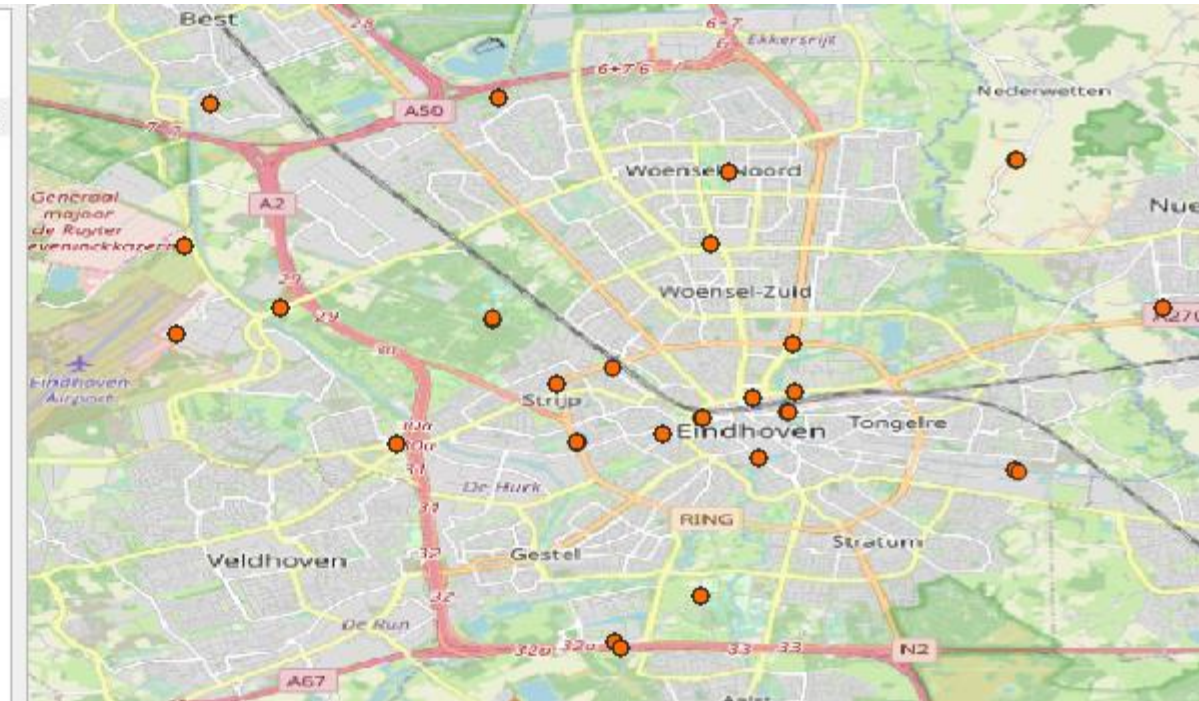
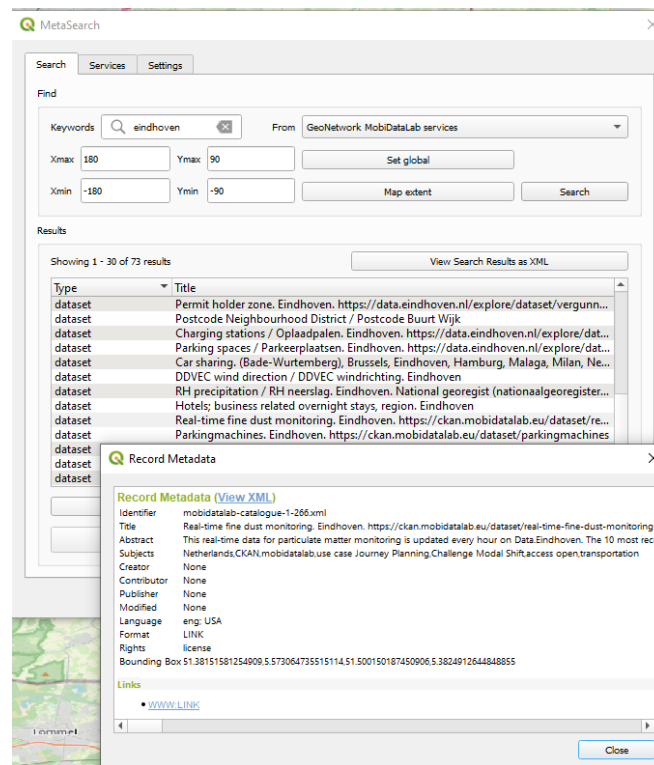
The 'Add Layer(s) from a WM(T)S Server' window also includes options for Image Encoding (PNG, PNG8, JPEG, GIF, TIFF, SVG) and Options (Tile size, Request step size, Maximum number of GetFeatureInfo results, Coordinate Reference System, and Use contextual WMS Legend).

WMS of bike lanes around and parking around Leuven



WMS of bike paths, road signs and railway nodes around Leuven





Access CKAN metadata catalogue

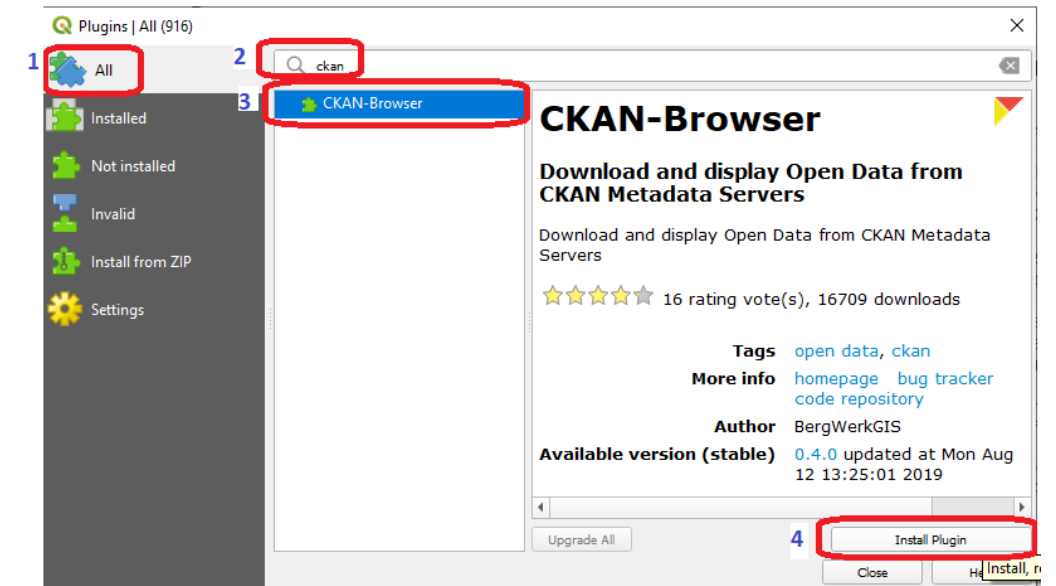
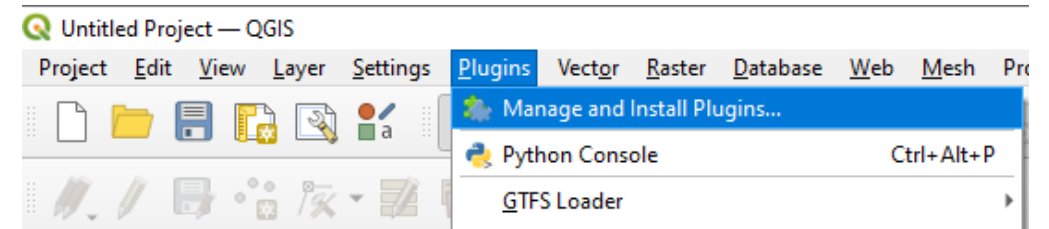
CKAN plugin



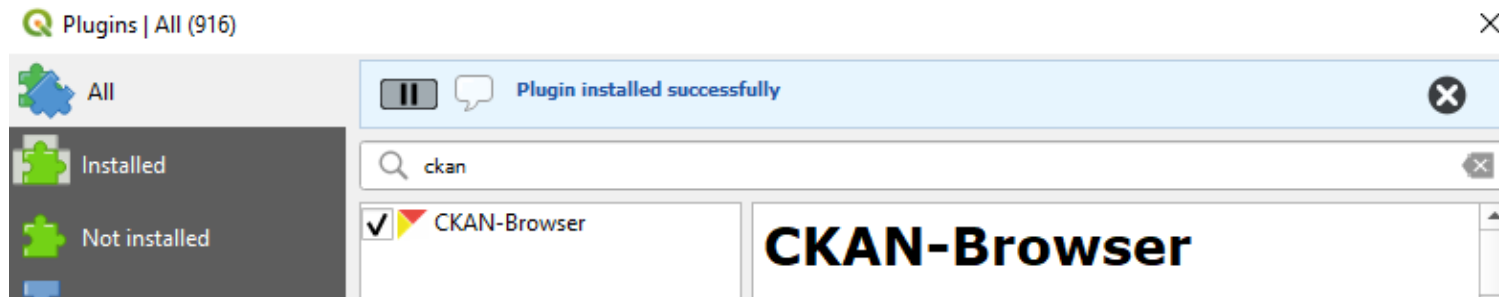
| CKAN browser plugin installation



1. Do a left click on the “Plugins” menu (on the QGIS menu bar)
2. Select “Manage and Install Plugins”
3. Search for the CKAN-Browser
4. Install the plugin



| Ckan browser plugin installation



Find and access available metadata on CKAN

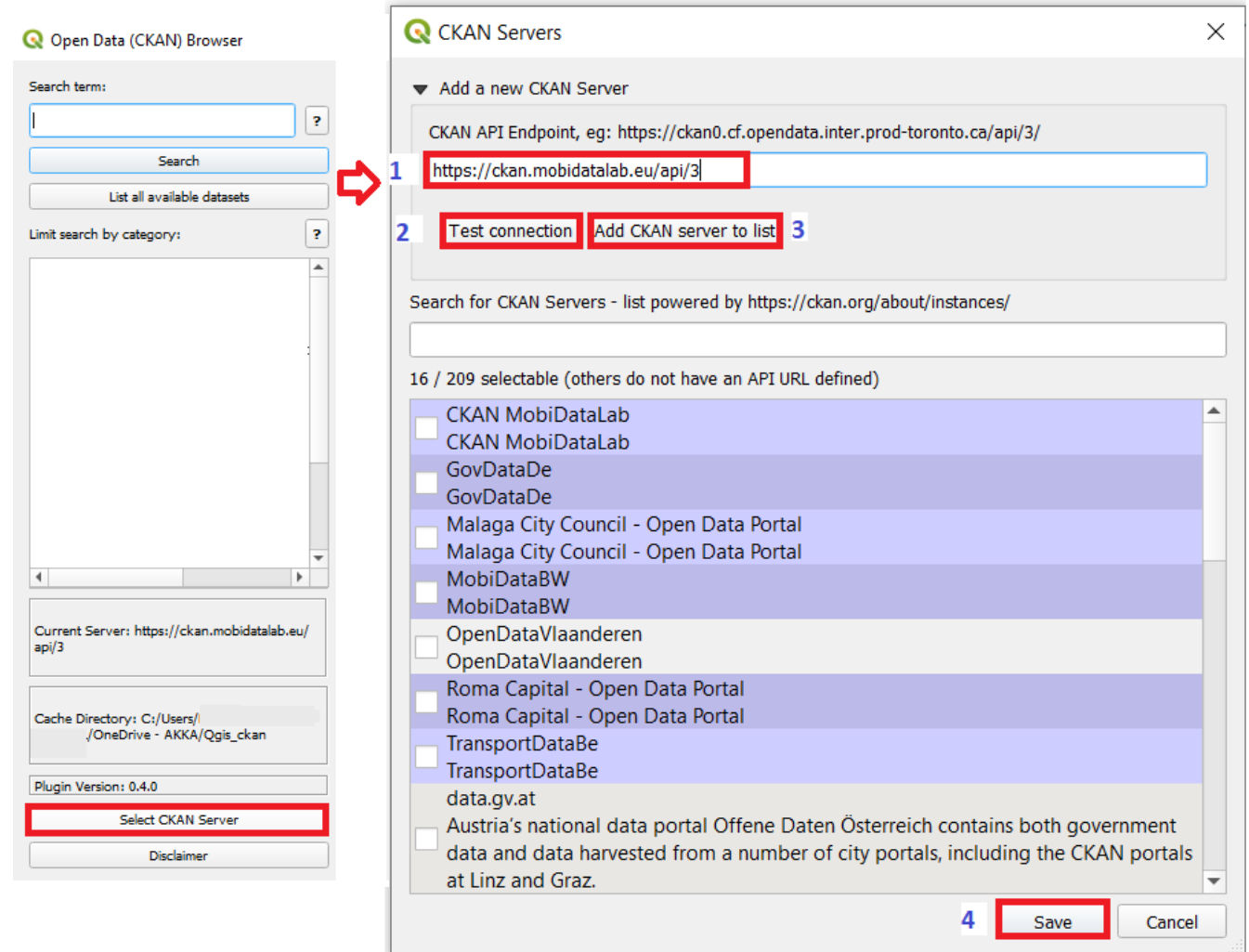
Launch the CKAN Browser

1. Clicking on the CKAN icon (on the QGIS toolbar)



Select “CKAN Server”

1. Enter the URL of the CKAN instance (in this case <https://ckan.mobidatalab.eu/api/3/>).
2. Test the connection, to make sure that the right URL was used
3. If the connection was successful, add it to the CKAN server list. Otherwise verify the URL entered before.
4. Save the link to the server on the list.



Download and display Open Data



- Search for a particular term or for all the datasets available on CKAN.
- The categories assigned on CKAN can be found here as well, to filter the datasets according to the CKAN group categories. When selecting a particular dataset, the description and the format will be showed on the right boxes.
- When the datasets are in a format that can be read directly by QGIS, it will be possible to select them and load them. Otherwise, there is often the possibility to download the data to consult it by other means.

Open Data (CKAN) Browser

Search term:

bike

Search

List all available datasets

Limit search by category:

OPTIONAL

- ☐ Accesibility
- ☐ Addresses
- ☐ Administrative units
- ☐ Amenities
- ☐ Atmospheric Conditions and meteo
- ☐ Atmospheric conditions
- ☐ Buildings
- ☐ Cadastral parcels
- ☐ Coordinate reference systems
- ☐ Culture
- ☐ Geographical grid systems
- ☐ Geographical names
- ☐ Geography & Environment
- ☐ Meteorological geographical featur
- ☐ Mobility & Transport
- ☐ Other

Search Result: 409 Datasets

Description:

This information was provided by the Municipality of Eindhoven for the x-thons of MobiDataLab.

None

None

None

Found Data:

Choose dataset for download.

- ☐ cpg: Bicycle lanes Eindhoven (cgp)
- ☐ QGIS: Bicycle lanes Eindhoven (shp)
- ☐ : Bicycle lanes Eindhoven (fld)
- ☐ : Bicycle lanes Eindhoven (prj)
- ☐ QGIS: Bicycle lanes Eindhoven (shx)
- ☐ : Bicycle lanes Eindhoven (dbf)

Resource URL:

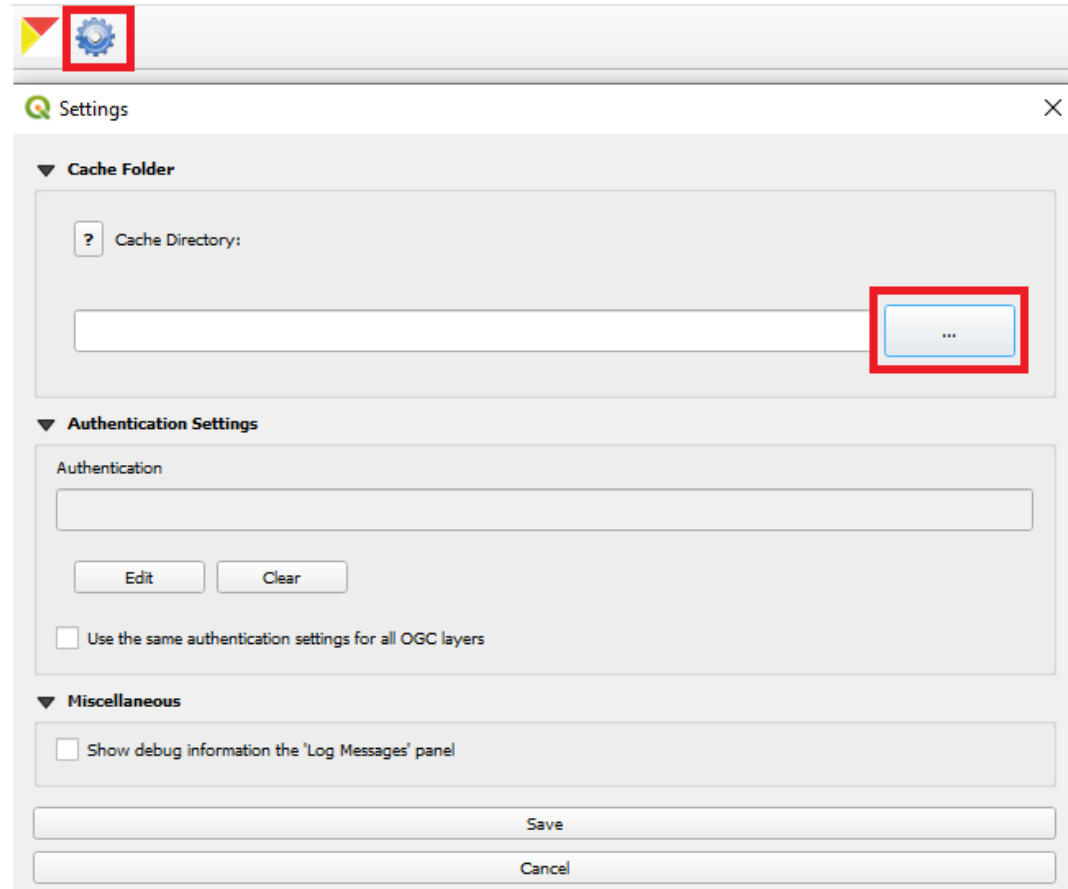
Load Data

Close

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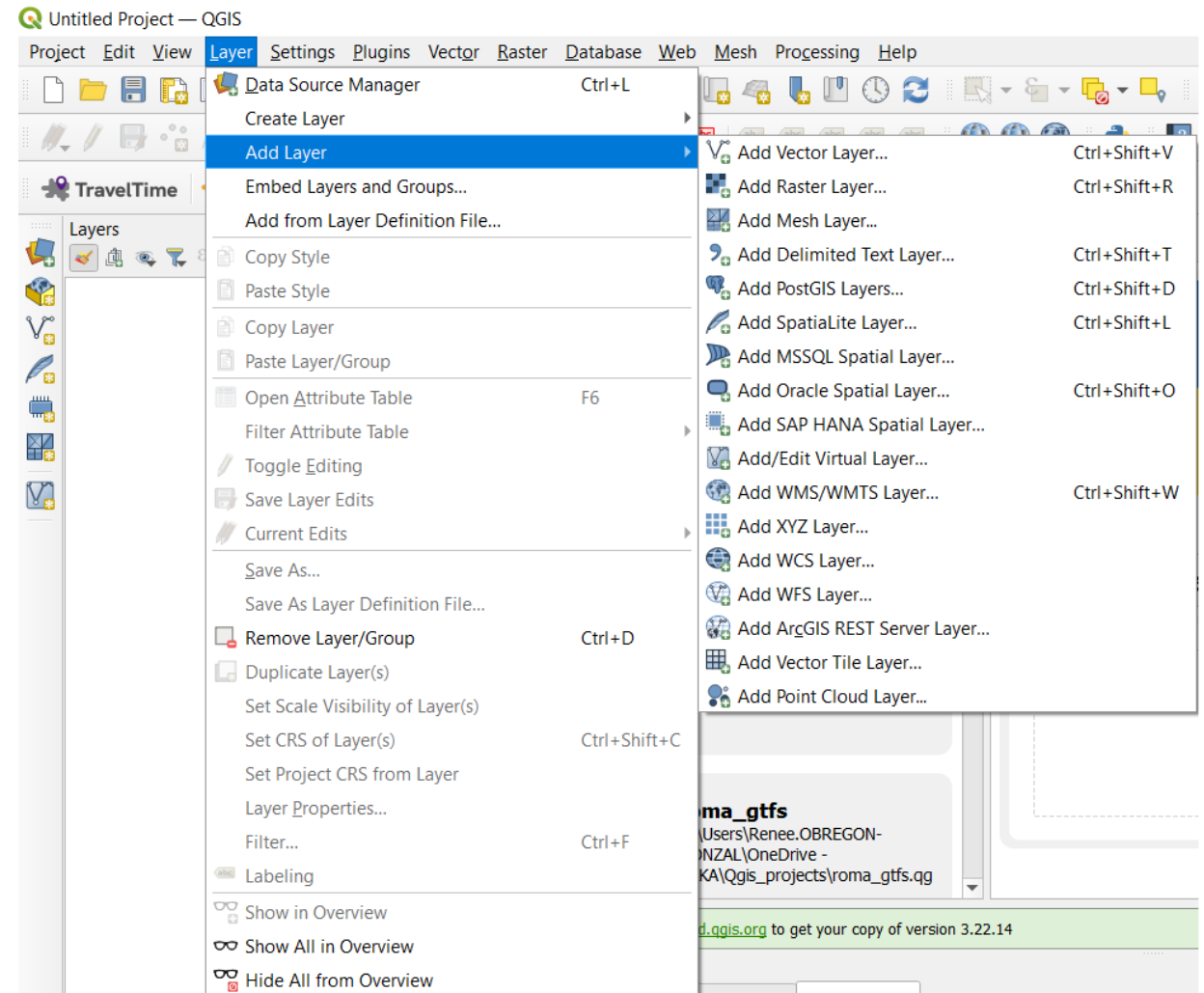
| Save the downloaded datasets

1. Go to the CKAN plugin settings
2. Create or select a folder “cache directory” where the downloaded data will be stored.
3. Save

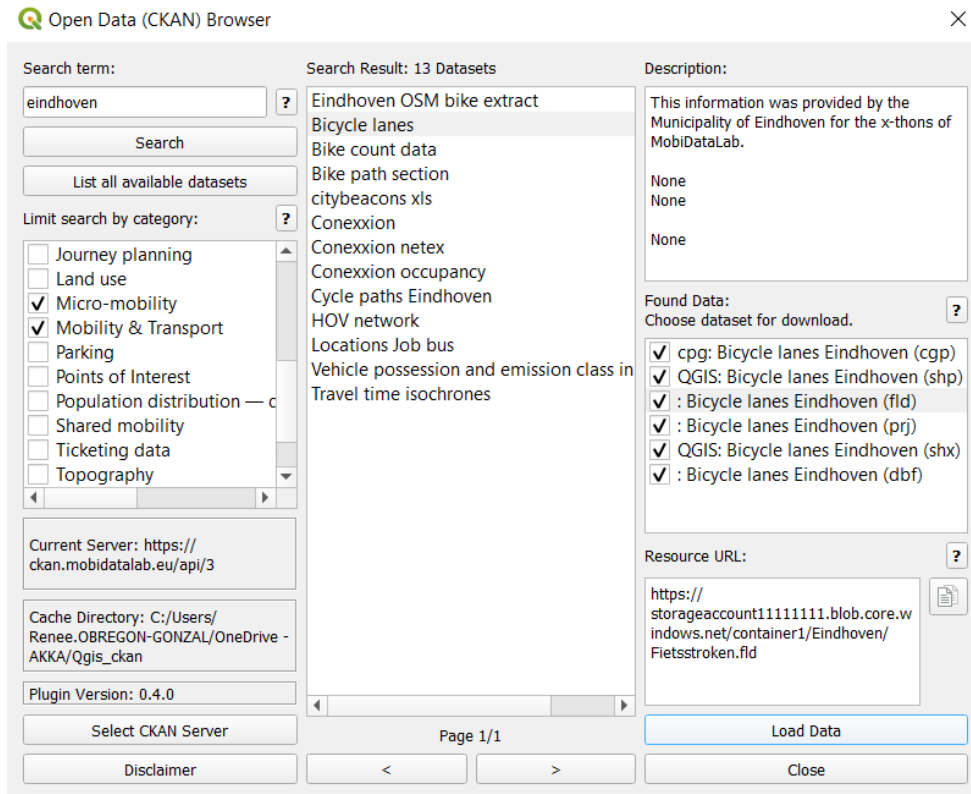
A screenshot of the CKAN Settings dialog box. The dialog has a title bar with a yellow and red flag icon and a gear icon. The main content area is divided into three sections: "Cache Folder", "Authentication Settings", and "Miscellaneous". In the "Cache Folder" section, there is a "Cache Directory:" label, a text input field, and a button with three dots (the "Browse" button) which is highlighted with a red rectangle. The "Authentication Settings" section has an "Authentication" label, a text input field, and "Edit" and "Clear" buttons. The "Miscellaneous" section has a checkbox labeled "Show debug information the 'Log Messages' panel". At the bottom of the dialog are "Save" and "Cancel" buttons.

Add a layer to QGIS or connect to a web service

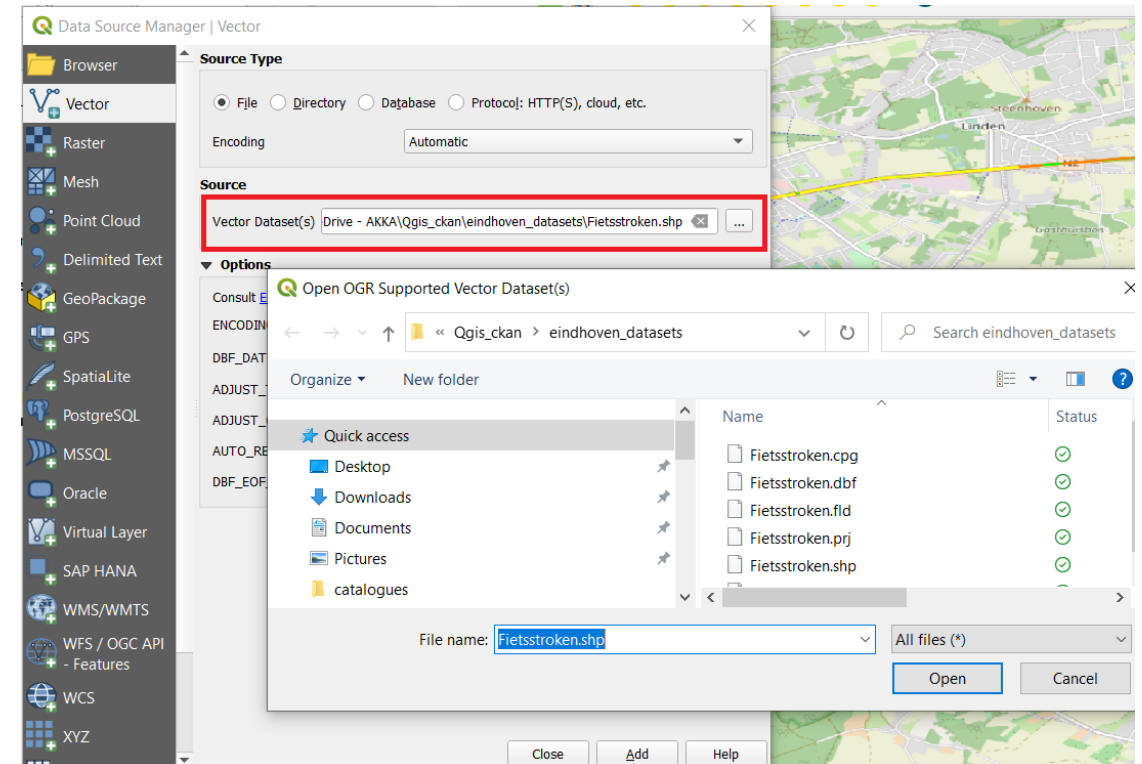
To add or access a web service layer on QGIS manually, it is possible to connect to it via the “Layer” Menu ➔ “Add Layer”.



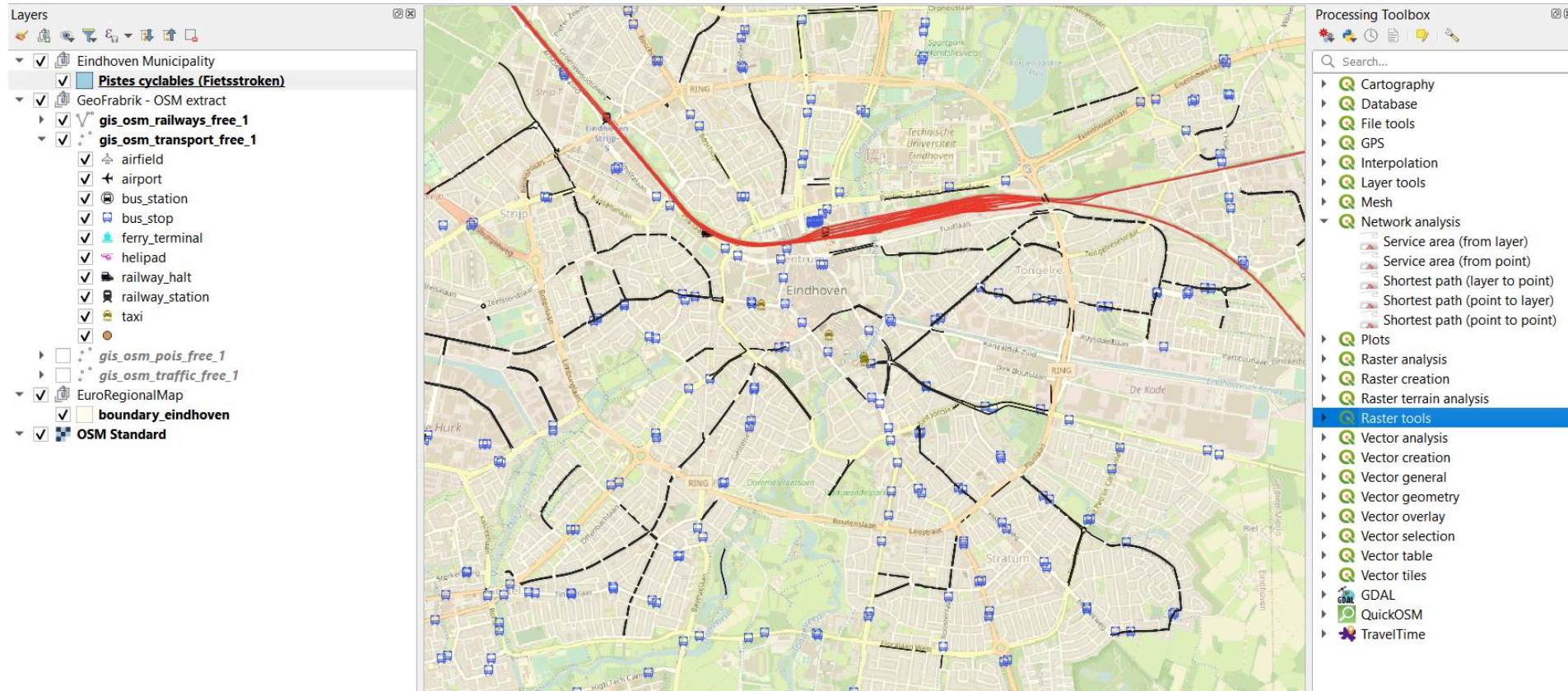
Load data from the CKAN browser



1. Load the data from the CKAN browser
2. If you downloaded the data, slide it into the Qgis project or add the layer via the “Layer” menu, select “Add Vector Layer” and search on the cache directory the downloaded shape file



Processing Toolbox

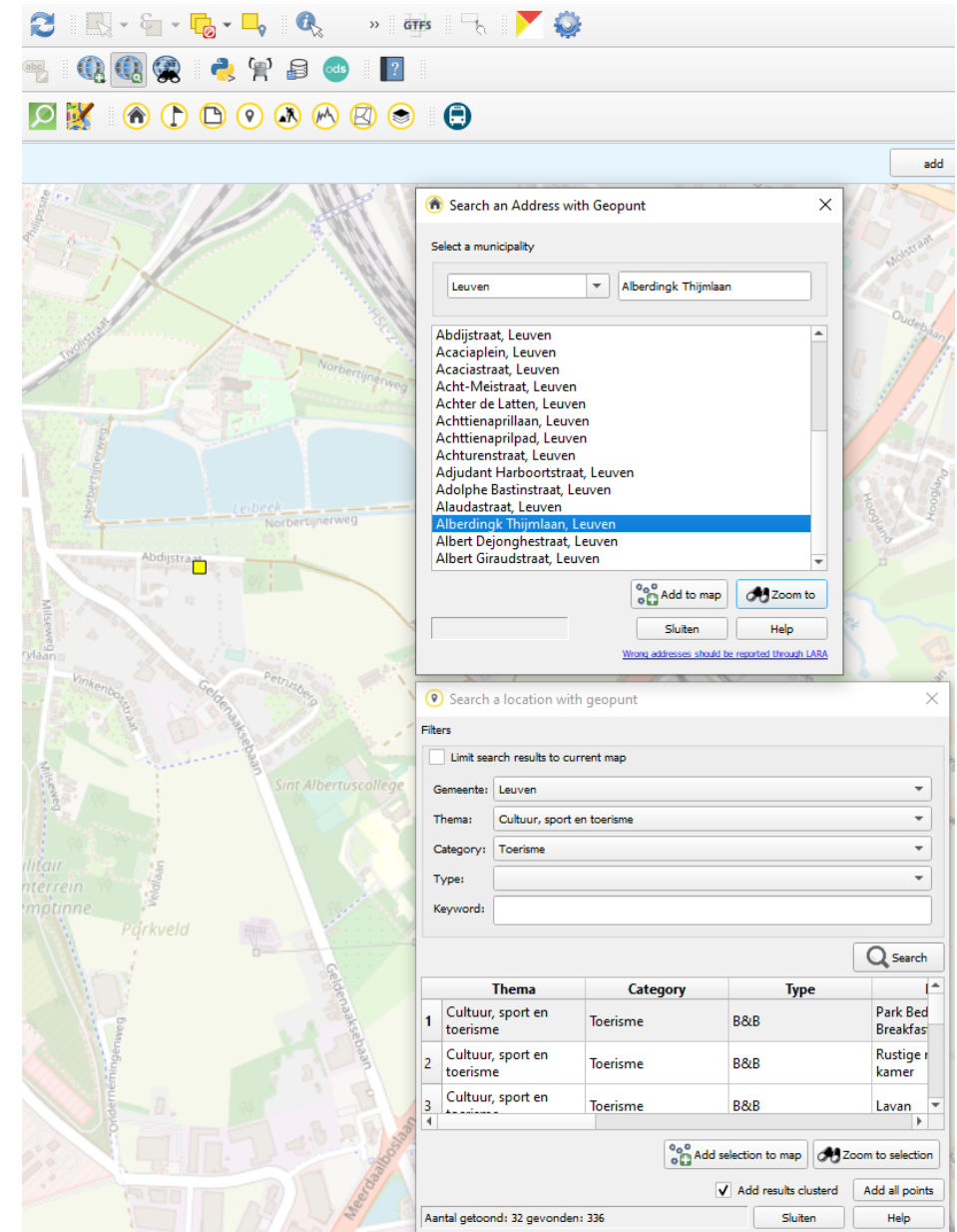


Plugins and other portals



Flemish geoportal : geopunt4Qgis

- Geopunt for QGIS is a plugin for the QGIS open source desktop GIS, which opens the web services of the Flemish geoportal Geopunt users. The Flemish Geoportal Geopunt offers several geographic services (web services) that may be used by third parties such as other governments and companies.
 - Geocoding [regular, batch and reverse] based on the address registry of Flanders
 - Search for POI in geopunt
 - Search for traffic obstructions in GIPOD
 - Draw elevation profiles
 - Search for Parcels
 - Search for layers in the geopunt catalog



| **GeoPortal.rlp Metadata Search**

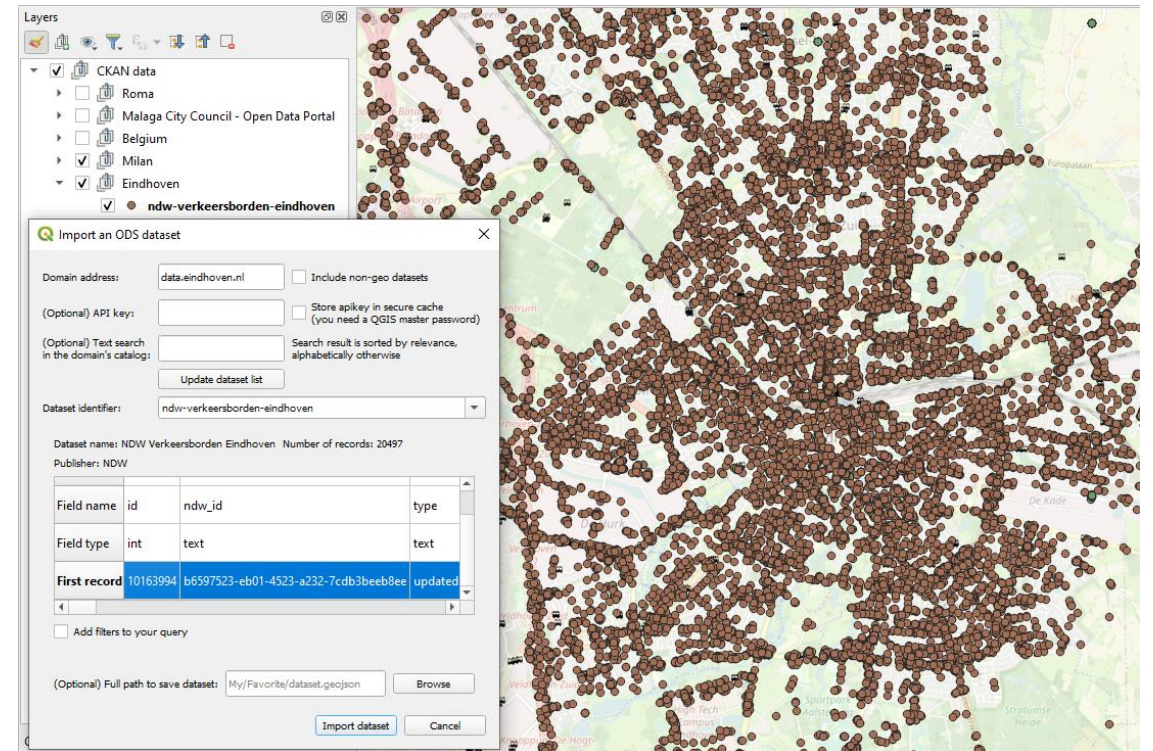
- This plugin uses the REST search interface of GeoPortal.rlp for searching spatial datasets and services. It has also an option to search in remote CSW-based catalogues (e.g. in the INSPIRE Geoportal Catalogue and the German Geodatenkatalog.DE). WMS/WFS and OGC API Features interfaces can directly be loaded into the QGIS Browser.
- All technical data can be found on Github :
<https://www.vlaanderen.be/geopunt/plugin-ins/qgis-plugin>

Opendatasoft plugin

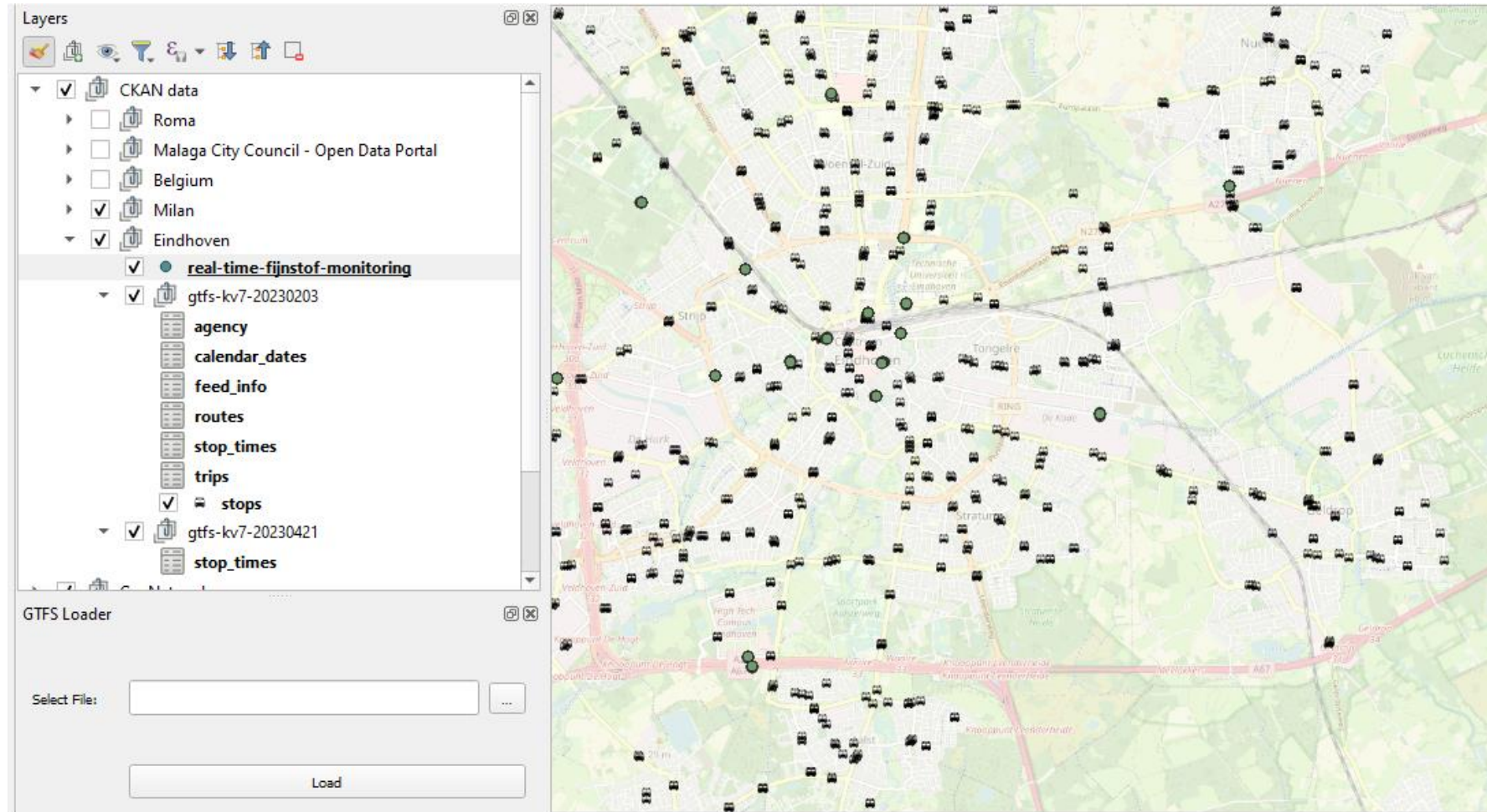
Download datasets from Opendatasoft-powered data catalogues.

- This plugin allows one to directly import, in the GeoJSON format, any dataset from a private or public Opendatasoft portal. It uses the web Explore API v2 to fetch the data, thus you will find this plugin in the web menu.

NDW transport information of Eindhoven



| GTFS of transports in Eindhoven



| Here Route API Plugin

- Hqgis ➡ Routing, Geocoding, POI search, Isochrones with the HERE API.
- Impact toolbox ➡ This plugin automates access to the ANYWAYS API by :
 - Taking a set of Points of Interest (POIs) and returning routings between all of them based on a given routing profile
 - Taking two sets of POIs as Origins and Destinations and returning routings from all origins to all Destinations based on a given routing profile

Other plugins to explore

- Travel Time
- Mobility Areas
- PosiView
- GBFS-NOW
- QGIS Cloud Plugin
- Networks
- OpenTripPlanner
- Tempus
- MapTiler
- QuickOSM
- OSMDowloader
- Pelias Geocoding
- Valhalla
- OSM place search
- QBan(o)
- AdressesFr
- Google Maps geocoder
- OS search for addresses
- OS Translator II
- GeoPortal.rlp Metadata Search
- Qweather
- XYZ Hub Connector : Connect QGIS to your personal space on HERE Data Hub and to your Interactive Map Layer inside the HERE Platform.
- Greek Data

Thank you for listening

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AKKODIS

AETHON
ENGINEERING



F&S

here



hove

KU LEUVEN

POLIS

UNIVERSITAT ROVIRA I VIRGILI