Traffic Road Signs Database Plugin

Manual

This document will serve as the manual for the utilization of the traffic road signs database plugin for Qgis developed by the World Bank Team.

Objective

This software component helps with the processing of a database of traffic signs obtained from Mapillary's API.

Methodology Criteria Prioritization for Data Cleaning

1. Signs that don't exist in Brazil
2. Signs that are incorrectly misinterpreted
3. Signs that are not really signs (false positives)
4. There is uncertainty about the sign position regarding its roads
5. There are incompatible signs assigned to the same segment: verify if the segment is one-way, should be a splitting needed to maintain the database consistency

Workflow

1. Connect the plugin to the Qgis module plugin repository.

2. Configure the plugin -
3. Processar - Editar - Transferir

4. Esse último, aquela flechinha que permite ver um ponto ao clicar nele.

5. Os outros 2 comandos fazem toda a sequencia. Configurar pede pela camada de ruas, e pela fronteira da cidade em questão

6. Processar é fazer o download e preparar o layer.

7. Transferir é "Baixar o arquivo", que virá em geopackage no formato apropriado.

8. Q conf do formato é algo que fazemos num outro nivel. Teremos cada plugin apontando para um repositorio diferente, ou melhor, para cada um um release diferente no github, que contém essa diferença (eventual) no dicionário de placas, e nos nomes de campos no geopackage.

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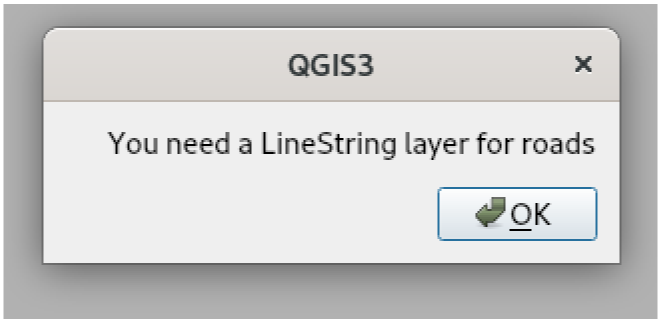
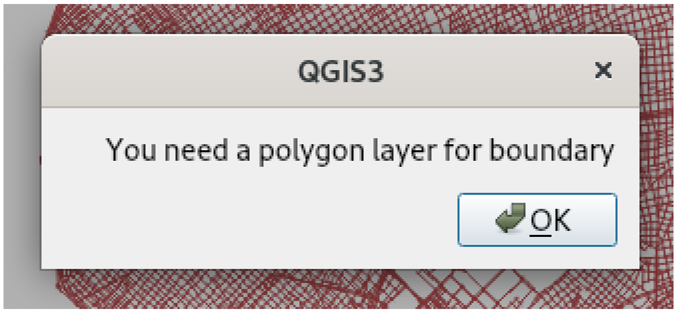
1.1 Configuration

The plugin requires a roads layer for signs geocoding and a boundary layer to define the region covered by the database. These layers must be obtained from local files, in shapefile or geopackage format.
A valid Mapillary API key must be provided as well.


QGIS3

You need a LineString layer for roads


QGIS3

You need a polygon layer for boundary

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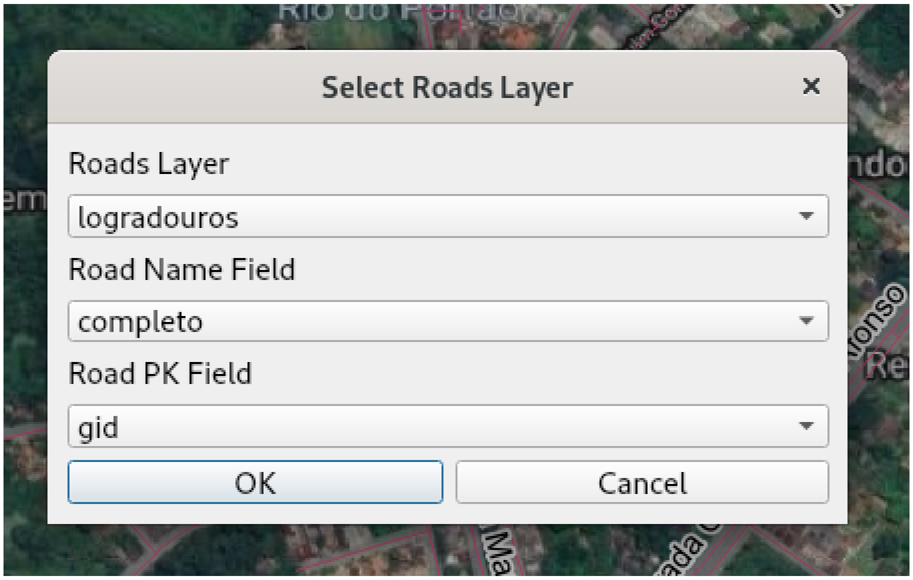
1.2 Download

Once the boundary and the key have been set the data can be downloaded.
The signs layer is created and stored as a point type geospatial layer in QGIS.

1.3 Geocoding

The roads layer definition requires a linestring geospatial layer. The dialog presents the layer, the chosen field for linkage and the road name field:



Select Roads Layer

Roads Layer

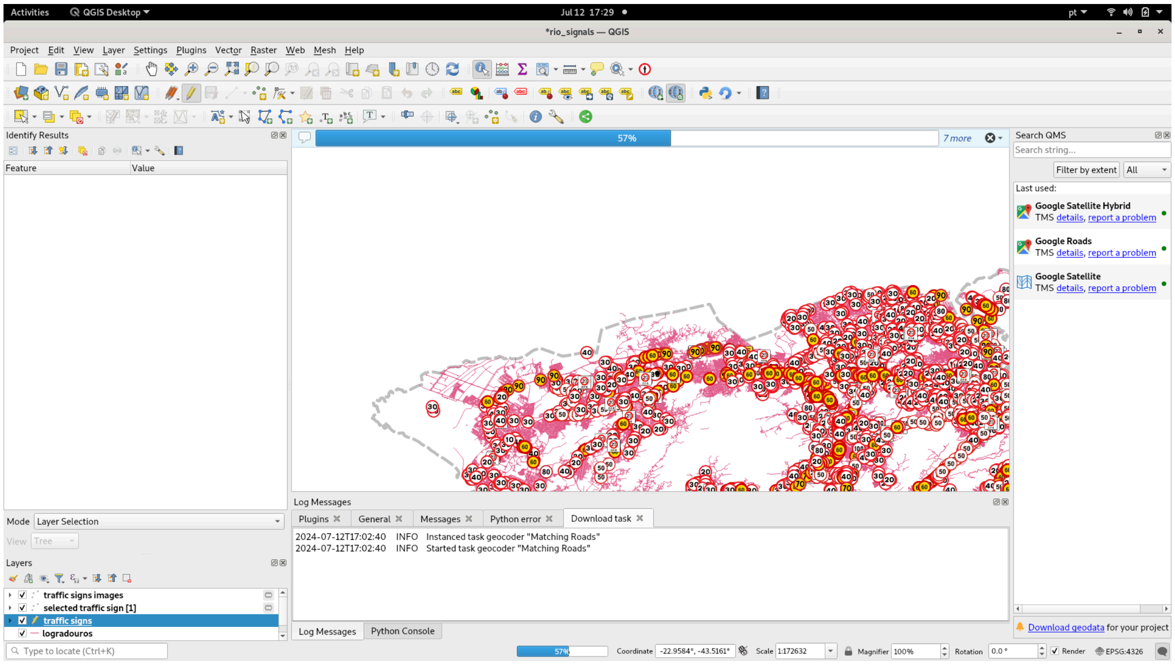
logradouros

Road Name Field

completo

Road PK Field

gid



```
2024-07-12T17:02:40    INFO    Instanced task geocoder "Matching Roads"
2024-07-12T17:02:40    INFO    Started task geocoder "Matching Roads"
```

Coordinate -22.9584°, -43.5161°

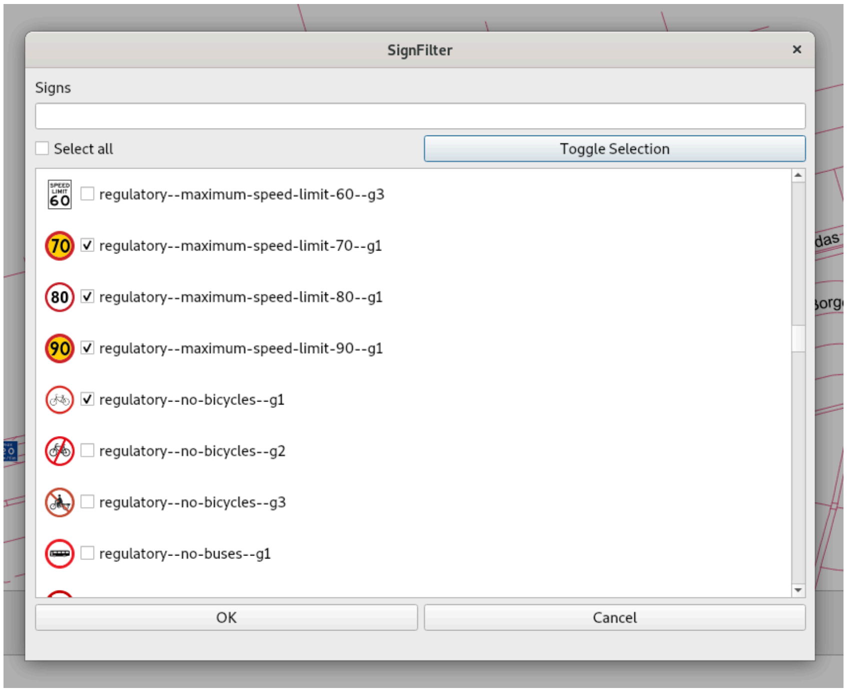
Scale 1:172632

Magnifier 100%

Rotation 0.0 °

Road matching task runs in the background

1.4 Filtering the signs by type



Signs

□ Select all

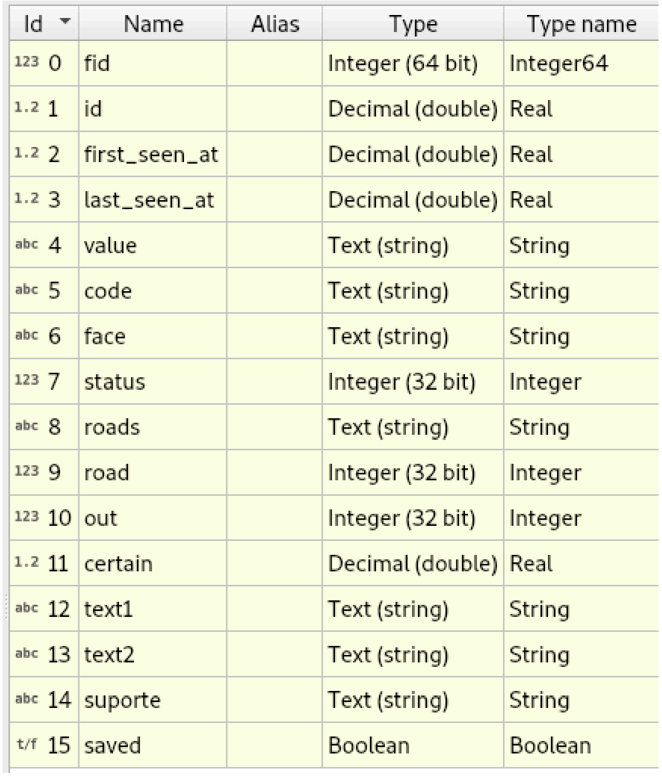
□ regulatory--maximum-speed-limit-60--g3
☑ regulatory--maximum-speed-limit-70--g1
☑ regulatory--maximum-speed-limit-80--g1
☑ regulatory--maximum-speed-limit-90--g1
☑ regulatory--no-bicycles--g1
□ regulatory--no-bicycles--g2
□ regulatory--no-bicycles--g3
□ regulatory--no-buses--g1

The signs can be filtered by their value in mapillary format. The filtering allows the selective processing of the current signs database.

1.5 Running the Task

The signs are presented for validation, and can be corrected if needed.
When the user clicks “Save and Go”, the program saves the registry and loads the next.

This is the diagram of the resulting signs layer:



Id	Name	Alias	Type	Type name
123 0	fid		Integer (64 bit)	Integer64
1.2 1	id		Decimal (double)	Real
1.2 2	first_seen_at		Decimal (double)	Real
1.2 3	last_seen_at		Decimal (double)	Real
abc 4	value		Text (string)	String
abc 5	code		Text (string)	String
abc 6	face		Text (string)	String
123 7	status		Integer (32 bit)	Integer
abc 8	roads		Text (string)	String
123 9	road		Integer (32 bit)	Integer
123 10	out		Integer (32 bit)	Integer
1.2 11	certain		Decimal (double)	Real
abc 12	text1		Text (string)	String
abc 13	text2		Text (string)	String
abc 14	suporte		Text (string)	String
t/f 15	saved		Boolean	Boolean

fid: the unique identifier as attributed by QGIS
Id: Mapillary ID
First_seen_at, last_seen_at: timestamps for the sign detection dates
Value: the type of sign
Code: the resulting code in the destination database
Face: the value for the sign
Status: the processing status of the registry
Road: the id of the segment attributed to the sign
Certain: certainty of road segment attribution
text1 : the additional text on the sign
Text2: other additional text
Suporte: the kind of fixture
Saved: the processed status

The status is numbered as
0: DOWNLOADED
1: SAVED
2: MARKED FOR REVISION
3: CANCELED