

# OpenStreetMap

## a resource for the data science

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# Outline



What's OpenStreetMap



How it Works



Success Stories



OSM in Research



Copyright



Data Model

# What's OpenStreetMap



# What is OpenStreetMap?



© OpenStreetMap contributors

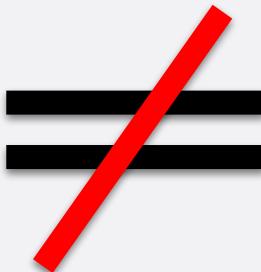
**OpenStreetMap** powers map data on thousands of web sites, mobile apps, and hardware devices

 Local Knowledge    Community Driven    Open Data

**OpenStreetMap** is built by a community of mappers that contribute and maintain data about roads, trails, cafés, railway stations, and much more, all over the world.

<http://www.openstreetmap.org/about>

# OpenStreetMap is NOT an alternative to Google Maps





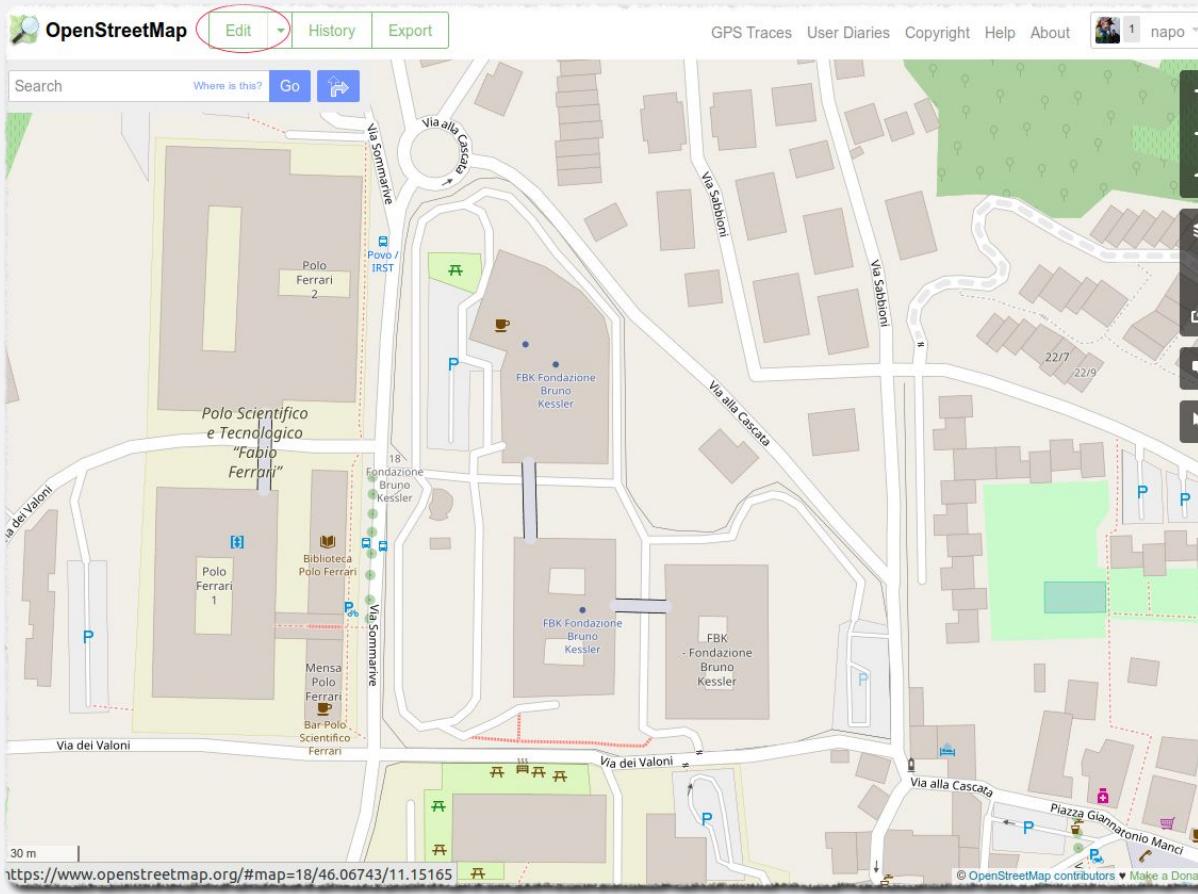
OPEN DATA

IS A COMMONS



# How it works





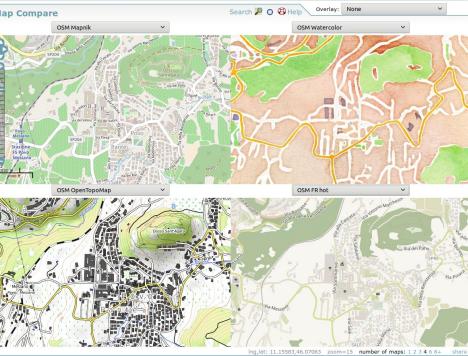
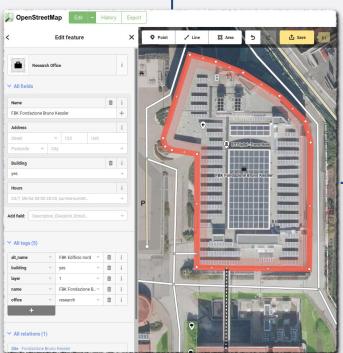
# What's happening now



<http://osmlab.github.io/show-me-the-way/>

Geospatial analysis and representation for data science

Master in Data Science - University of Trento



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**smAnd**  
Maps & Navigation

**MAIN MENU**

- OsmAnd
- Download / First Steps
- Plugins
- Screenshots
- How To + FAQs
- Blog

**RESOURCES**

- Project Site (Google Code)
- Forum (Google Group)
- Source Code (github)
- OsmAnd release builds
- OsmAnd nightly build
- OsmAnd C2Z
- OSM Homepage
- Administrator



116 Users 

**Screenshots**



## Organic Maps: Offline Hike, Bike, Trails and Navigation

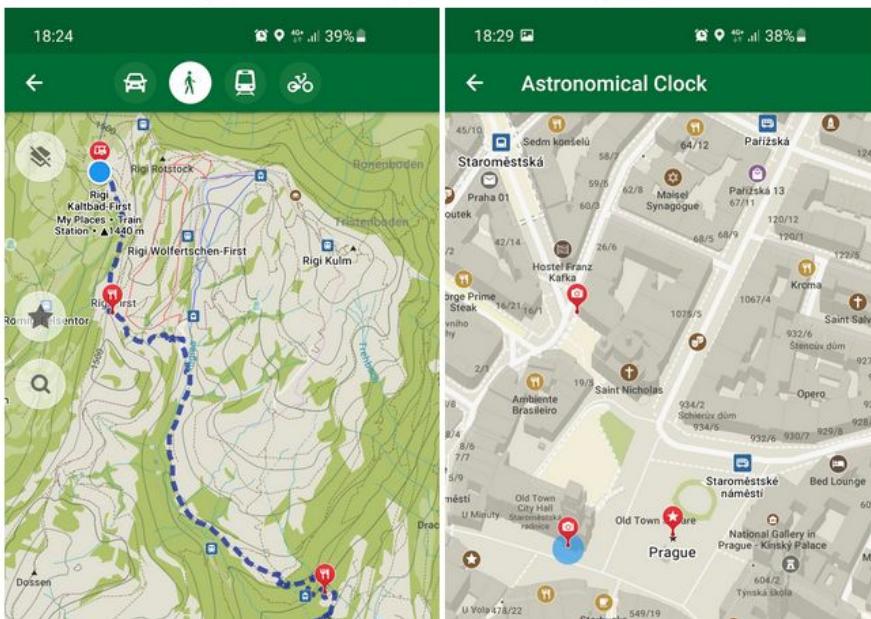
Organic Maps is a free Android & iOS offline maps app for travelers, tourists, hikers, and cyclists based on top of crowd-sourced OpenStreetMap data and curated with love by [MapsWithMe \(Maps.Me\) founders](#).

 Download on the App Store

 GET IT ON Google Play

 GET IT ON F-Droid

 Download on AppGallery

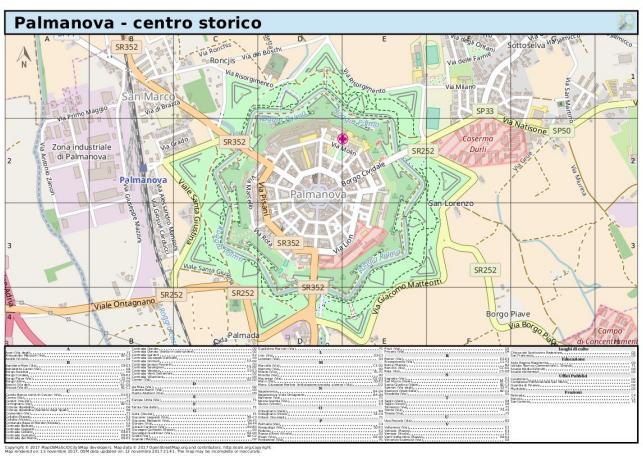


## BATTLEFIELD 4 (BF4) IMAGES

The image shows a screenshot of the Battlefield 4 Battlelog leaderboards for the M416 assault rifle. The interface includes a map of a city street with player icons and a circular selection tool. The main leaderboards are for Uppsala (Top 5%), Uppland (Top 70%), Sweden (Top 25%), and World (Top 5%). The World leaderboard is displayed below:

RANK	PLAYER	SCORE
1	ogabrelsson	16,654
2	ogbystrom	15,558
3	JBRipley	15,330
4	Sodatrukt	15,135
5	Rso	14,657
6	TheBikingViking	14,301
7	Indigowind	13,719
8	DarkLord7854	11,503
9	droh31337	11,334
10	Flug-E	10,964
692	MHELOW	7,643

Below the leaderboards, there are sections for "VIEW SPECIFIC ASSAULT RIFLE" and "BF4 SCREENSHOTS - BATTLELOG LEADERBOARD".



MapOSMatic  
<https://print.get-map.org/new/>

# Orienteering

<http://oobrien.com/oom/>

The screenshot shows the OpenOrienteeringMap interface. At the top, there are buttons for StreetView, StreetView basic, and StreetView 3D. Below them are scale options: 1:4000, 1:5000, 1:7500, 1:10000, 1:12500, 1:15000, and 1:20000. There are also buttons for Save & get PDF map, Show clue sheet, and a 'Tip' for adding controls. The main map area shows Grahame Park with various terrain features and control points marked with pink circles and numbers (e.g., 1, 2, 3, 21, 22, 23, 29, 30). To the right, a control sheet lists 10 controls and their details:

Control	Description
1	Post box number
2	Post box number
3	Colour of do...
4	Colour of do...
5	Fire hydrant...
20	Number of tr...
21	Name of road
22	Gate closes at:
23	No _____ al...
30	Name of chemist

At the bottom, there is a logo for British Orienteering and a note about attribution.

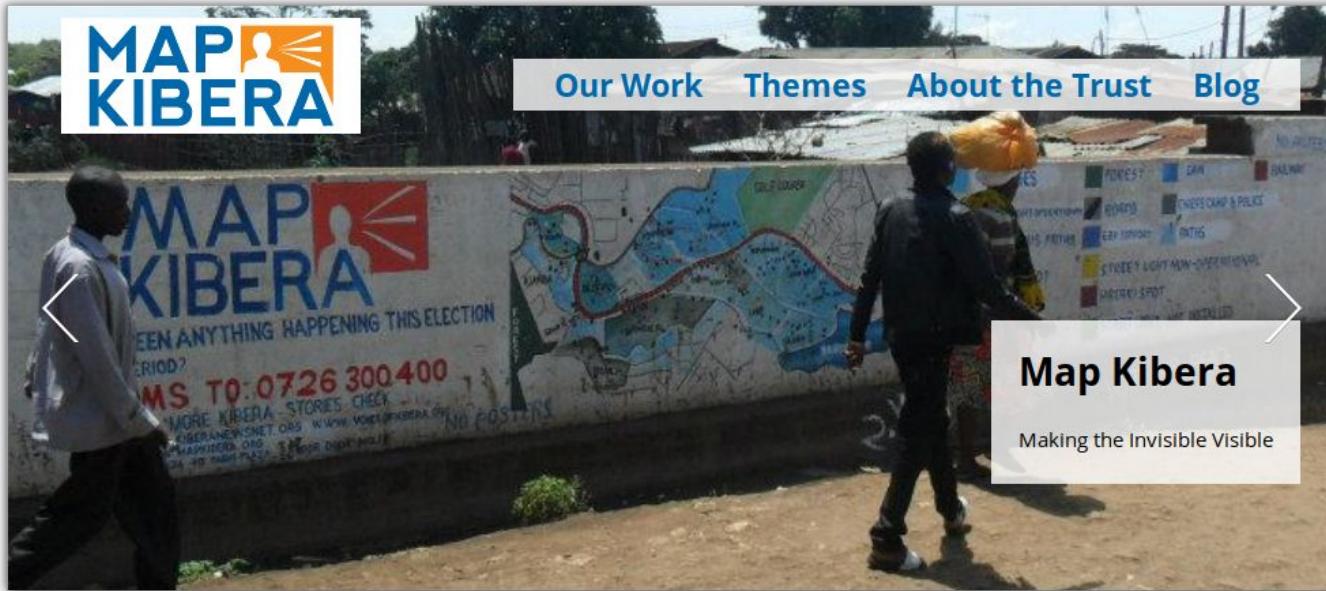


<https://touch-mapper.org/>

# Success Stories

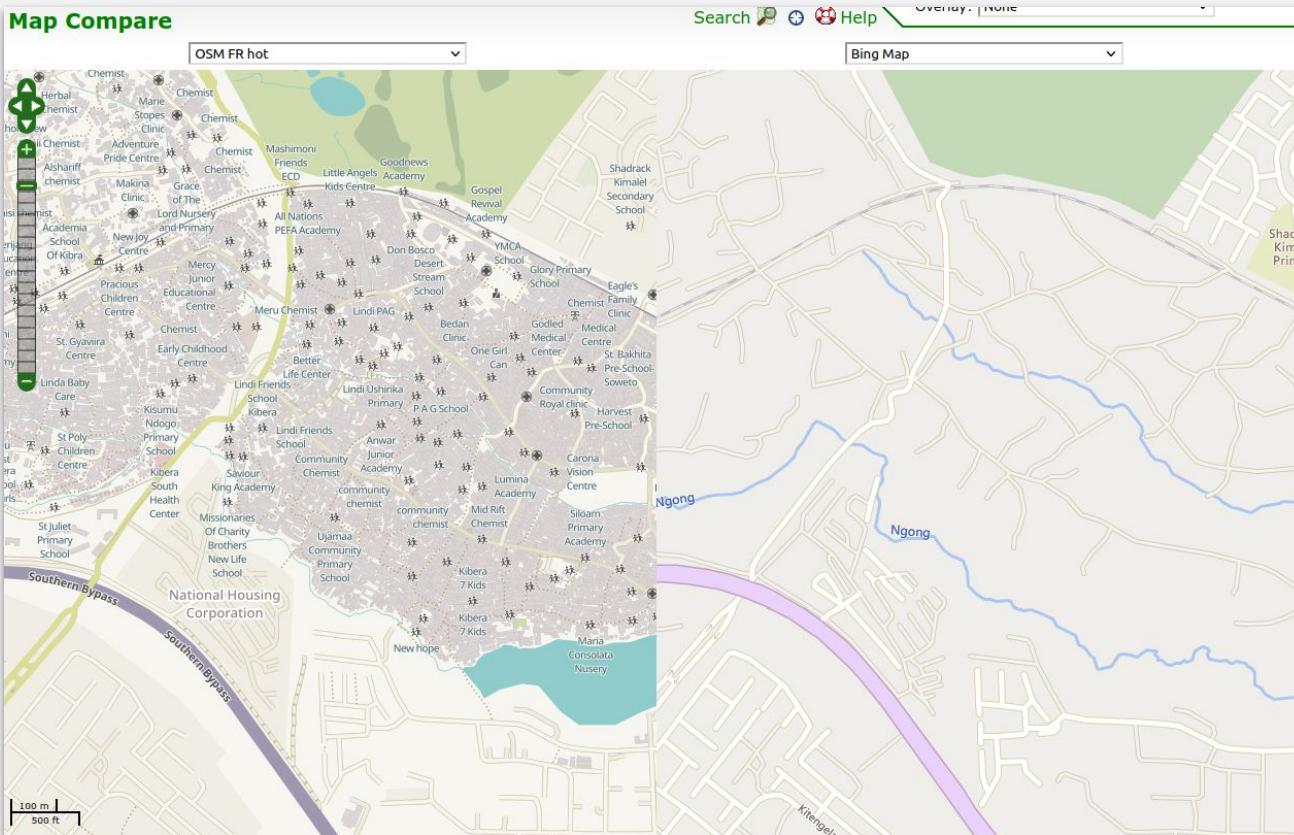


# Making the Invisible Visible



**mapkibera.org**  
<http://tiny.cc/kiberacompare>







**Map Compare**

Search Help Overlay: | None

OSM FR hot

Bing Aerial

The image shows a comparison between two map types of the Kibera slum in Nairobi. The left panel displays a vector-based map from OpenStreetMap (OSM), which includes a legend for different building types and a scale bar indicating 100m/500ft. The right panel shows a high-resolution satellite image from Bing Aerial, providing a visual representation of the same geographic area. Both maps highlight the dense urban sprawl of Kibera, with numerous small houses, larger institutional buildings, and surrounding infrastructure.

 Humanitarian  
OpenStreetMap  
Team

WHAT WE DO OUR WORK TOOLS & DATA NEWS COMMUNITY & ORGANIZATION PARTNER WITH US GET INVOLVED 

HOT is an international team dedicated to humanitarian action and community development through open mapping.

[Learn about what we do](#) > [START MAPPING](#) >  



Mwanza Urban Risks Mapping: Ramani Mwanza  
Tanzania



Integrating OpenStreetMap data into Caribbean disaster risk reduction  
19 Countries

**359,817**  
Community Mappers<sup>(1)</sup>

**151,726,808**  
Total Map Edits<sup>(1)</sup>

**115,559,206**  
Buildings Mapped<sup>(1)</sup>

**2,602,131**  
Roads Mapped (KM)<sup>(1)</sup>

<https://www.hotosm.org/>





## Putting the World's Vulnerable People on the Map

Each year, disasters around the world kill nearly 100,000 and affect or displace 200 million people. Many of the places where these disasters occur are literally 'missing' from any map and first responders lack the information to make valuable decisions regarding relief efforts. Missing Maps is an open, collaborative project in which you can help to map areas where humanitarian organisations are trying to meet the needs of vulnerable people.

**Step 1.**  
Community volunteers add local detail such as neighborhoods, street names, and evacuation centers

**Step 2.**  
Humanitarian organizations use mapped information to plan risk reduction and disaster response activities that save lives

**Step 3.**  
Remote volunteers trace satellite imagery into OpenStreetMap

<http://www.missingmaps.org/>



Fondazione Bruno Kessler

Maurizio | Home | Crea | ? |

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**WELCOME TO FBK**  
[bit.ly/FBKvirtualtour](http://bit.ly/FBKvirtualtour)

**Home** Mi piace Segui Condividi ... Chiama ora

**Post**

Fondazione Bruno Kessler 12 n.

Prosegue il nostro viaggio attraverso le 9 storie favolose di #RACCONTASCIENZA

Il racconto "La lezione dell'acqua", di Albarrà Calepija, dai 6 anni in su, è la seconda tappa

Leggi tutto! <https://buff.ly/38O9whF...> Altro...

Visualizza tutte le statistiche

sessioni 0

Padreviews 0

@napo

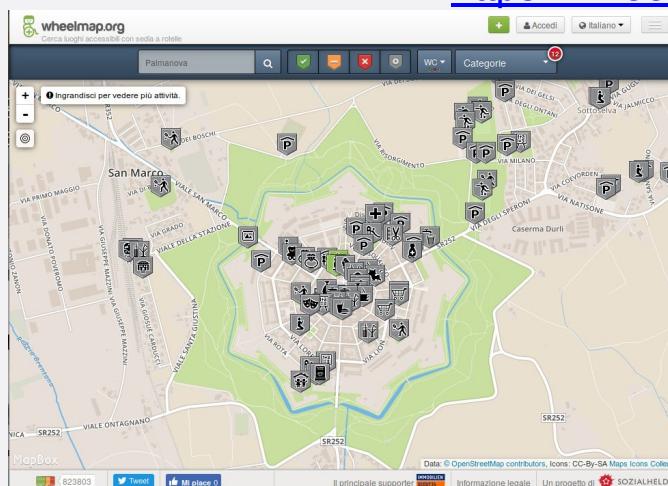




# Be the movement!

Join "MapMyDay" – a global social event for more accessibility! We need your support! Because steps are a daily barrier for millions of people worldwide who are traveling – whether they use a wheelchair, a walking aid or a stroller. The event will kick off on World Tourism Day. Help out with a few clicks and mark places in your neighborhood on the online map [Wheelmap.org](http://Wheelmap.org) as to whether they are wheelchair accessible or not. Let's do this together and gather as many places as possible!

<http://mapmyday.org/en>



<https://wheelmap.org/it/>

# OSM in Research



## Corporate Editors in the Evolving Landscape of OpenStreetMap



Telenav



Kaart



Apple



Facebook



Mapbox & Development Seed



Amazon



Microsoft



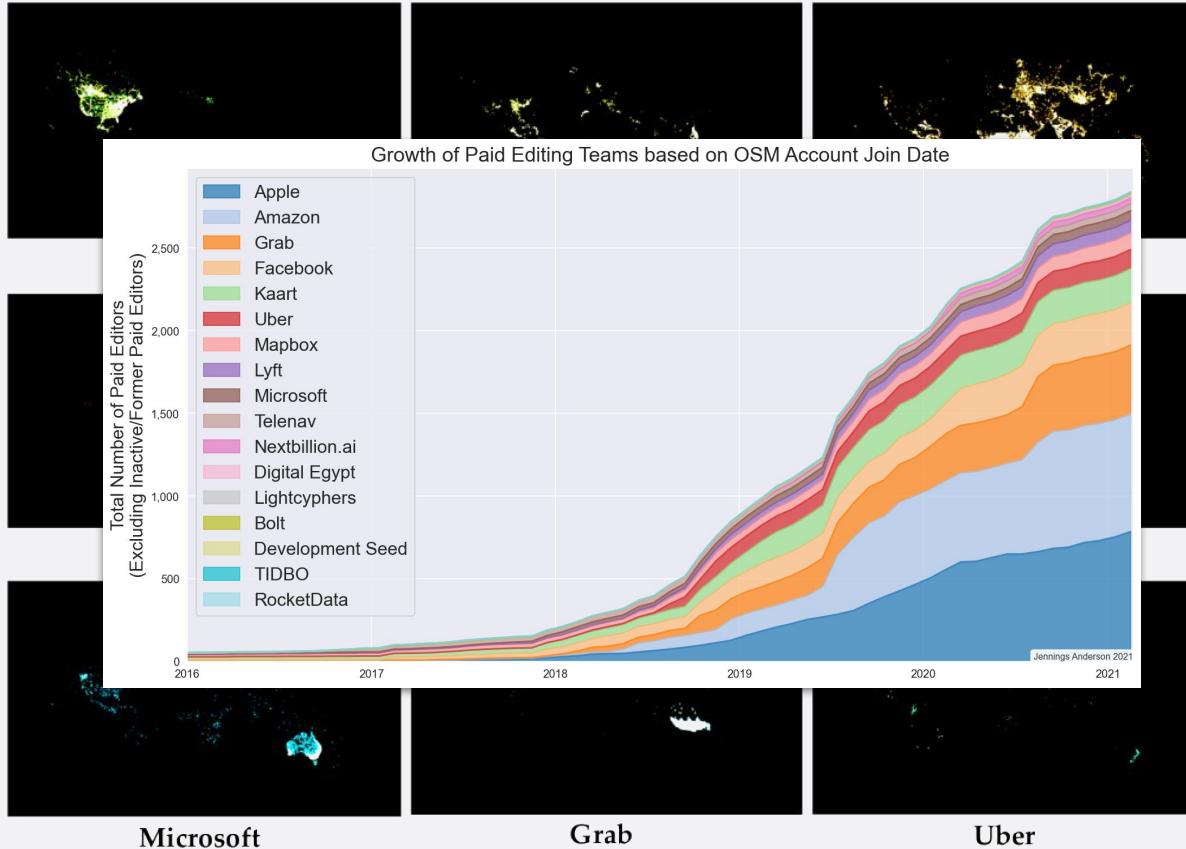
Grab



Uber

<https://www.mdpi.com/2220-9964/8/5/232>

# Corporate Editors in the Evolving Landscape of OpenStreetMap



<https://www.openstreetmap.org/user/Jennings%20Anderson/diary/396271>



## Atlas

build passing

The [Atlas](#) is a way to efficiently represent OpenStreetMap data in memory. A subset of the data is in a "navigable network" form, meaning anything that is assumed to be navigable will be in a form of `Node`s and `Edge`s in a way a routing algorithm could traverse it. It also provides easy to use APIs to access geographical data. On top of it all, it is easy to shard and re-stitch, making it perfect for distributed processing!

Projects using Atlas:

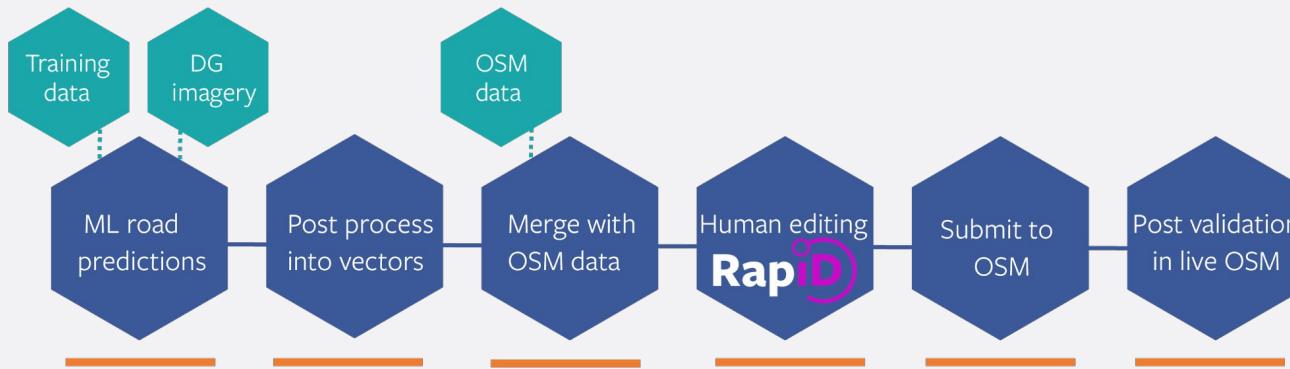
- [atlas-generator](#): A Spark job to distribute Atlas shards generation
- [atlas-checks](#): A suite of tools to check OSM data integrity using Atlas, and Spark.
- [josm-atlas](#): A JOSM plugin to visualize Atlas data.

<https://github.com/osmlab/atlas>

27 lines (21 sloc) | 1.52 KB

```
1 Copyright (c) 2015-2018, Apple Inc. All rights reserved.
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24 WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
25 ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
26 POSSIBILITY OF SUCH DAMAGE.
```





[https://wiki.openstreetmap.org/wiki/AI-Assisted\\_Road\\_Tracing](https://wiki.openstreetmap.org/wiki/AI-Assisted_Road_Tracing)

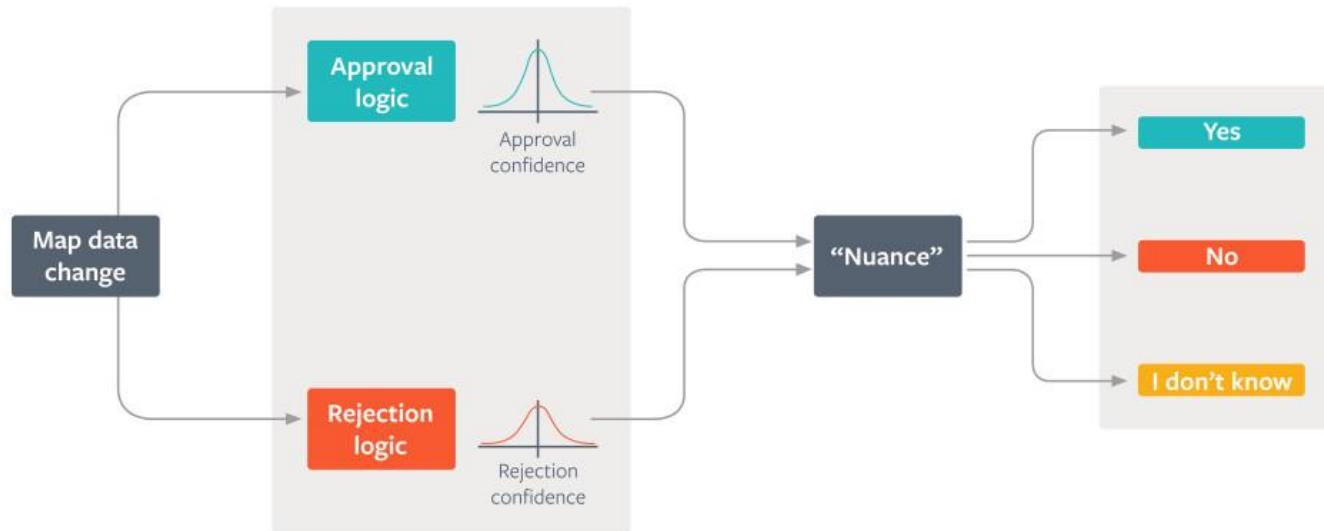
## MaRS - data collection



machine-augmented automatic review system (MaRS).



## MaRS - data checking

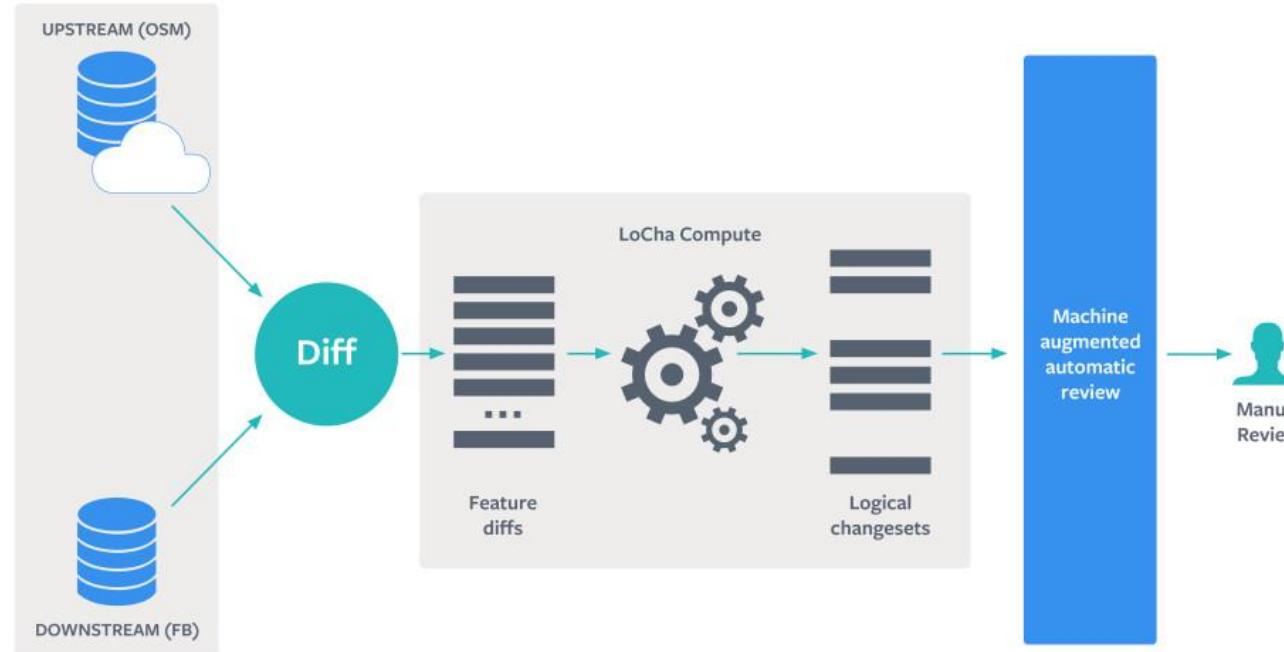


machine-augmented automatic review system (MaRS).





## MaRS - data entry



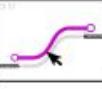
machine-augmented automatic review system (MaRS).

 mapwith.ai

## Using AI to Map the World

In conjunction with OpenStreetMap, we are creating tools that we hope will enable the mapping community to enjoy a faster & more accurate mapping experience. To this end, we used artificial intelligence to predict features on high-resolution satellite imagery; these features are then populated in our RapiD map editing tool. When combined with global-scale humanitarian efforts, we hope RapiD can help realize our vision of a more connected world.



 +  + 

Artificial Intelligence Detected Roads / Mapping the World w/ RapiD Editor / Humanitarian Prioritized Community Task Mapping

ML Roads



≡ Google Scholar OpenStreetMap 

About 63,400 results 0.04 sec

Articles

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Sort by relevance Sort by date

Any type  include patents  include citations

Review articles

Create alert

[BOOK] [OpenStreetMap](#)  
J Bennett - 2010 - books.google.com  
This book introduces the OSM project, its aims and objectives, and its history, then guides you through the process of gathering, editing, and using OpenStreetMap data using a series of real-world examples. This book is the perfect aid for geographic-information professionals ...  
 99 Cited by 166 Related articles

[Openstreetmap: User-generated street maps](#)  
M Haklay, P Weber - IEEE Pervasive computing, 2008 - ieeexplore.ieee.org  
The [OpenStreetMap](#) project is a knowledge collective that provides user-generated street maps. OSM follows the peer production model that created Wikipedia; its aim is to create a set of map data that's free to use, editable, and licensed under new copyright schemes. A ...  
 99 Cited by 2682 Related articles All 13 versions

[Quality assessment of the French OpenStreetMap dataset](#)  
JF Girres, G Touya - Transactions in GIS, 2010 - Wiley Online Library  
Abstract The concept of Volunteered Geographic Information (VGI) has recently emerged from the new Web 2.0 technologies. The [OpenStreetMap](#) project is currently the most significant example of a system based on VGI. It aims at producing free vector geographic ...  
 99 Cited by 711 Related articles All 5 versions

[PDF] [A review of OpenStreetMap data](#)  
P Mooney, M Minghini - 2017 - library.oapen.org  
While there is now a considerable variety of sources of Volunteered Geographic Information (VGI) available, discussion of this domain is often exemplified by and focused around [OpenStreetMap](#) (OSM). In a little over a decade OSM has become the leading example of ...  
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Related searches

openstreetmap street maps openstreetmap data quality  
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**Journal**

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Biology and life sciences (276)

Earth sciences (248)

Social sciences (203)

People and places (172)

Medicine and health sciences (160)

Geography (159)

Ecology and environmental sciences (156)

[Modelling urban vibrancy with mobile phone and OpenStreetMap data](#)  
Federico Botta, Mario Gutiérrez-Roig  
Research Article | published 02 Jun 2021 PLOS ONE  
<https://doi.org/10.1371/journal.pone.0252015>  
Views: 409 • Citations: 1 • Saves: 0 • Shares: 8

[The world's user-generated road map is more than 80% complete](#)  
Christopher Barrington-Leigh, Adam Millard-Ball  
Research Article | published 10 Aug 2017 PLOS ONE  
<https://doi.org/10.1371/journal.pone.0180698>  
Views: 13574 • Citations: 131 • Saves: 167 • Shares: 247

[ISED: Constructing a high-resolution elevation road dataset from massive, low-quality in-situ observations derived from geosocial fitness tracking data](#)  
Grant McKenzie, Krzysztof Janowicz  
Research Article | published 13 Oct 2017 PLOS ONE  
<https://doi.org/10.1371/journal.pone.0186474>  
Views: 3533 • Citations: 2 • Saves: 18 • Shares: 1

[Using OpenStreetMap point-of-interest data to model urban change—A feasibility study](#)  
Liming Zhang, Dieter Pfoser

# Copyright



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For a browsable electronic map, the credit should appear in the corner of the map. For example:



The screenshot shows the OpenStreetMap website's 'Copyright and License' page. At the top, there is a navigation bar with links for 'Edit', 'History', 'Export', 'GPS Traces', 'User Diaries', 'Copyright', 'Help', 'About', 'Log In', and 'Sign Up'. The main title 'Copyright and License' is displayed prominently. Below the title, a note states: 'OpenStreetMap® is open data, licensed under the [Open Data Commons Open Database License \(ODbL\)](#) by the [OpenStreetMap Foundation \(OSMF\)](#)'. A large text box contains the following text:

You are free to copy, distribute, data, you may distribute the res  
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You must also make it clear tha  
Alternatively, and as a requirem  
are not possible (e.g. printed w  
address) and to opendatacomm  
The map tiles in the "standard s  
under the Open Database Licen  
For a browsable electronic map,

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At the bottom left, there is a small thumbnail image of a map showing a road labeled 'B4437' and a location labeled 'Charbury', with the text '© OpenStreetMap contributors' below it.

OpenStreetMap Edit History Export GPS Traces User Diaries Copyright Help About Log In Sign Up

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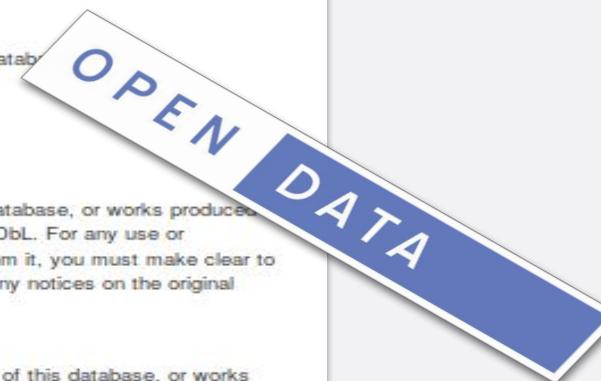
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# The ODbL license by examples

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<?xml version="1.0" encoding="UTF-8"?>
<osm version="0.6" generator="osmcnvrt 0.7N" timestamp="2014-09-29T15:21:09Z">
  <node id="9191867" lat="46.104119" lon="11.0224735" version="1" timestamp="2010-09-01T22:36:26Z" changeset="5658159" uid="330007" user="pikappa79"/>
  <node id="9191982" lat="46.0499659" version="4" timestamp="2011-08-06T16:15:07Z" changeset="8939495" uid="330007" user="pikappa79"/>
  <node id="9192136" lat="46.054435" lon="11.1189966" version="6" timestamp="2012-12-14T22:11:48Z" changeset="14276412" uid="330007" user="pikappa79"/>
  <node id="9192137" lat="46.1140779" lon="11.0871511" version="6" timestamp="2010-09-01T22:36:35Z" changeset="5658159" uid="330007" user="pikappa79"/>
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  <node id="9193824" lat="46.0514795" lon="11.1157438" version="1" timestamp="2012-07-07T11:45:25Z" changeset="5443649" uid="330007" user="pikappa79"/>
  <node id="9193873" lat="46.0869729" lon="11.104303" version="5" timestamp="2010-09-01T22:35:55Z" changeset="5658159" uid="330007" user="pikappa79"/>
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  <node id="9193996" lat="46.0534124" lon="11.1185143" version="9" timestamp="2013-05-21T19:07:54Z" changeset="16228624" uid="330007" user="pikappa79"/>
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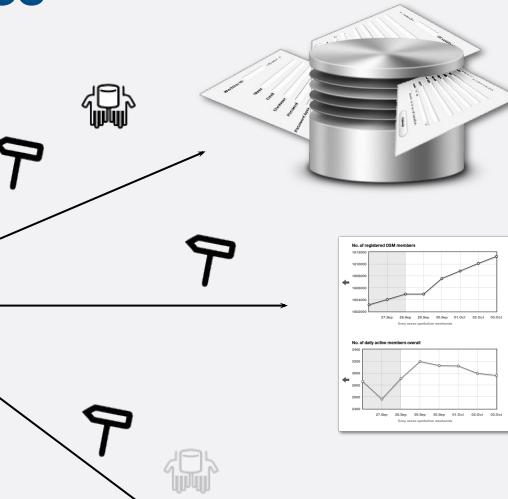


Graphhopper maps

Search results for "Matera, Italy"

Results from OpenStreetMap Nominatim

- City Boundary Matera, MT, BAS, Italy
- Hamlet Matera, AP, MAR, Italy
- Locality La Mella, San Esteban de Gormaz, Province de Soria, Castile and León, Spain
- County Boundary MT, BAS, Italy
- Archaeological Site Matera, P-O, Senele, Southern Zone, Eritrea
- Residential Matera, Vista Filare, Northwood, Irvine, Orange, California, 92620, United States of America



OpenStreetMap

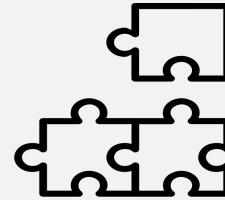
Search Results

Results from OpenStreetMap Nominatim

- City Boundary Matera, MT, BAS, Italy
- Hamlet Matera, AP, MAR, Italy
- Locality La Mella, San Esteban de Gormaz, Province de Soria, Castile and León, Spain
- County Boundary MT, BAS, Italy
- Archaeological Site Matera, P-O, Senele, Southern Zone, Eritrea
- Residential Matera, Vista Filare, Northwood, Irvine, Orange, California, 92620, United States of America

More results

# Data Model



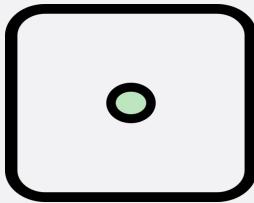
tag

key=value

### Public Transport

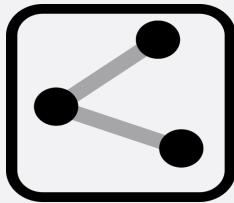
This is used for features related to public transport. For example: railway stations, bus stops and services. See the page titled [Public transport](#) for an introduction on its usage.

Key	Value	Element	Description	Map rendering	Image	Count
public_transport	stop_position		The position on the street or rails where a public transport vehicle stops.			631 228  392  199 
public_transport	platform	  	The place where passengers are waiting for the public transport vehicles.			844 953  203 891  3 646 
public_transport	station	 	A station is an area designed to access public transport.			22 639  9 897  355 
public_transport	stop_area		A relation that contains all elements of a train, subway, monorail, tram, bus, trolleybus, aerialway, or ferry stop.			528  198  180 878 



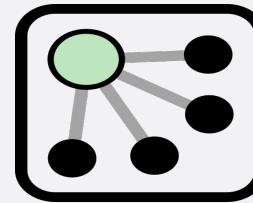
## NODE

A **node** is one of the core elements in the OpenStreetMap data model. It consists of a single point in space defined by its **latitude, longitude** and **node id**.



## WAY

A **way** is an ordered list of nodes which normally also has at least one tag or is included within a Relation. A way can have between 2 and 2,000 nodes, although it's possible that faulty ways with zero or a single node exist. A way can be *open* or *closed*. A *closed way* is one whose last node on the way is also the first on that way. A closed way may be interpreted either as a closed polyline, or an area, or both.



## RELATION

A **relation** is one of the core data elements that consists of one or more tags and also an **ordered list** of one or more nodes, ways and/or relations as **members** which is used to define logical or geographic relationships between other elements. A member of a relation can optionally have a **role** which describes the part that a particular feature plays within a relation.

## Example of relation: line path of the bus number 5

OpenStreetMap Edit History Export

Piazza Fiera - Povo - Oltrecastello (variante z) (1396109)

(no comment)

Edited 3 months ago by gumar  
Version #44 · Changeset #57637620

Tags

colour	#f5c500
from	Piazza Dante
importance	urban
name	Linea 5 - Piazza Dante - Piazza Fiera - Povo - Oltrecastello (variante z)
network	Servizio Urbano Trento
operator	Trentino Trasporti
ref	5
route	bus
state	alternate
to	Oltrecastello
type	route

Members

- Way Piazza Dante (96965212) as forward
- Way Piazza Dante (2306740) as forward
- Way Via Andrea Pozzo (23058004) as forward
- Way Via Torre Vanga (23058904) as forward
- Way Via Torre Vanga (28301098) as forward
- Way Via Torre Vanga (141265570) as forward
- Way Via Torre Vanga (177180085) as forward
- Way Via Prepositura (23794856) as forward
- Way Via Prepositura (141205569) as forward

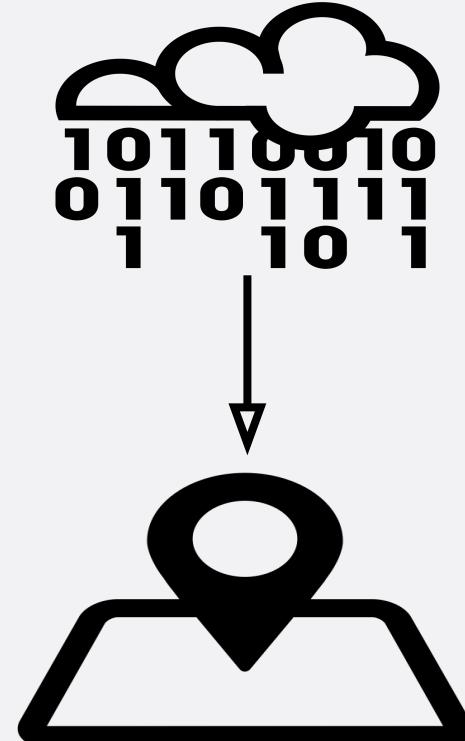


<https://www.openstreetmap.org/relation/1396109#map=15/46.0670/11.1508>

# Import are hard to do

Contents [hide]

- 1 Process
  - 1.1 Step 1 - Prerequisites
  - 1.2 Step 2 - Community Buy-in
  - 1.3 Step 3 - License approval
  - 1.4 Step 4 - Documentation
  - 1.5 Step 5 - Import Review
  - 1.6 Step 6 - Uploading
- 2 Key considerations
  - 2.1 Discuss your proposed import
  - 2.2 Document your import
  - 2.3 Ensure that the data license is OK
  - 2.4 Use a dedicated user account
  - 2.5 Use the right tags
  - 2.6 Don't put data on top of data
  - 2.7 Consider simplifying
  - 2.8 Keep server resources in mind
  - 2.9 Take great care to avoid damaging the database
- 3 See also



<https://wiki.openstreetmap.org/wiki/Import/Guidelines>

# THE CYCLE PATHS OF TRENTINO



- OpenStreetMap
- Azienda Promozione Turistica
- Provincia Autonoma di Trento
- Comune di Trento

# THE CYCLE PATHS OF TRENTINO



OpenStreetMap

Campi

- cycleway
- foot
- footway
- highway
- segregated
- source
- surface
- name
- name:de
- name:it

enda Promozione Turistica  
vincia Autonoma di Trento  
nune di Trento

# THE CYCLE PATHS OF TRENTINO



Legend:

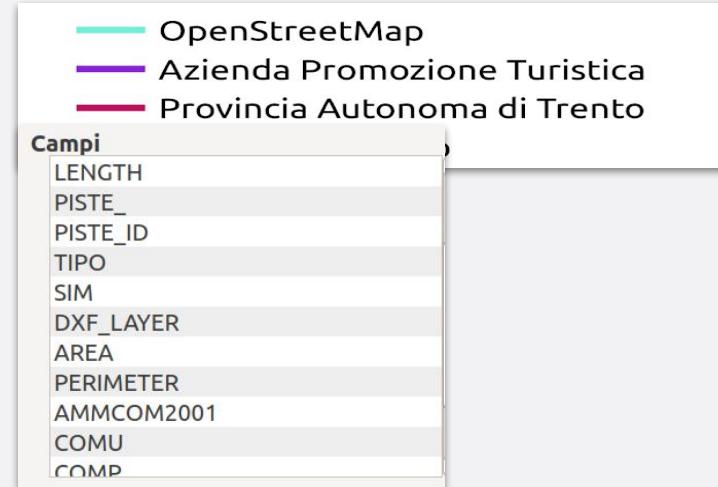
- OpenStreetMap (cyan)
- Azienda Promozione Turistica (purple)

Campi (Fields):

- name
- cmt
- desc
- src
- link1\_href
- link1\_text
- link1\_type
- link2\_href
- link2\_text
- link2\_type

Autonomia di Trento  
Trentino Autonoma di Trento

# THE CYCLE PATHS OF TRENTINO



# THE CYCLE PATHS OF TRENTINO



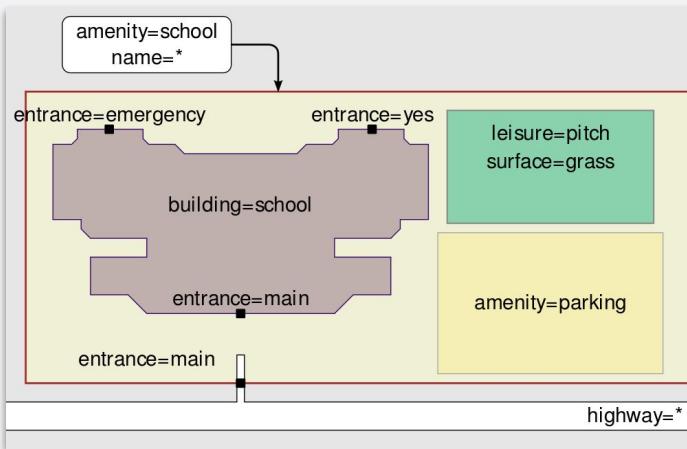
- OpenStreetMap
- Azienda Promozione Turistica
- Provincia Autonoma di Trento
- Comune di Trento

## Campi

tipo  
fumetto  
scala\_1000  
scala\_2000  
descrizion

# EVOLUTION OF THE OBJECTS DURING THE TIME

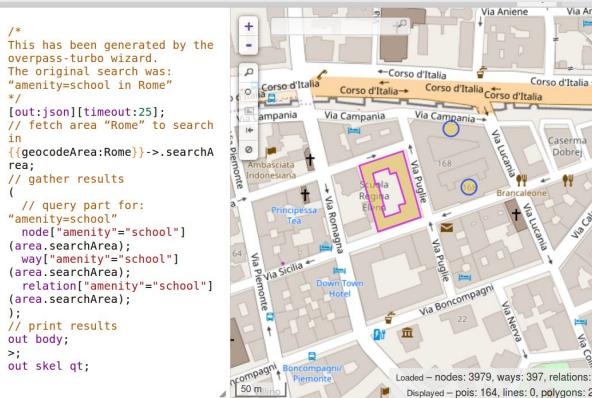
amenity=school		
A primary or secondary school (pupils typically aged 6 to 18)		
Overview	Combinations	Map
<strong>Overview</strong>		
Type	Number of objects	
<input checked="" type="checkbox"/> All	898 117	0.02%
<input type="checkbox"/> Node	415 180	0.33%
<input type="checkbox"/> Way	468 152	0.10%
<input type="checkbox"/> Relation	14 785	0.26%



```

/*
This has been generated by the
overpass-turbo wizard.
The original search was:
"amenity=school in Rome"
*/
[out:json][timeout:25];
// fetch area "Rome" to search
{{geocodeArea:Rome}}>.searchArea;
// gather results
(
  // query part for:
  "amenity=school"
  node["amenity"="school"]
  (area.searchArea);
  way["amenity"="school"]
  (area.searchArea);
  relation["amenity"="school"]
  (area.searchArea);
)
// print results
out body;
>;
out json;

```



## Overview of the ResultMaps @ [neis-one.org](http://resultmaps.neis-one.org/)

Copyright © Pascal Neis ([neis-one.org](http://neis-one.org)) - Map data © OpenStreetMap contributors

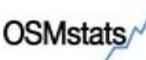
### Updated Maps/Websites



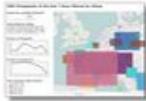
**Detect suspicious OSM Changesets**  
(Since January 20th, 2016)  
[Website](#) - [Blog Post](#)



**Latest OSM Changeset Discussions/Comments**  
(Since March 20th, 2015)  
[Website](#) - [Blog Post](#) - [Twitter](#)



**OSMstats**  
**Statistics of the free wiki world map**  
(Since September 7th, 2014)  
[Website](#) - [Blog Post](#)



**Filtering OpenStreetMap Changesets by a Specific Comment**  
(Since February 2nd, 2014)  
[Website](#) - [Blog Post](#)



**Stats about added OpenStreetMap Notes**  
(Since May 5th, 2013)  
[Website](#) - [Blog Post](#)

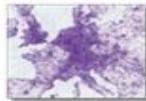


**Overview of OpenStreetMap Contributors aka Who's around me?**  
(Since January 6th, 2013)  
[Map](#) - [Blog Post](#)

### Static Maps/Websites



**Unmapped Places of OpenStreetMap**  
(June 19th, 2016)  
[Map](#) - [Blog Post](#)



**OpenStreetMap-GPS-Grid-Map**  
(May 27th, 2012)  
[Map](#) - [Blog Post](#)



**Unmapped Places in OSM Europe**  
(Since August 1st, 2010)  
[Map](#) - [Blog Post](#)

<http://resultmaps.neis-one.org/>

# Emacsen's Blog

Education | Esperanto | Free culture | Misc | Openstreetmap | Python | React | Reviews | Videos

Atom

FRI 16 FEBRUARY 2018

## Why OpenStreetMap is in Serious Trouble

I was a contributor for OpenStreetMap for a long time, and I advocated for OpenStreetMap for a long time, but the project has stalled while the proprietary mapping world has continued to improve in data quality. For those of us who care about Free and Open data, this is a problem. In this article, I explore the reasons why I think OSM has stalled, as well as solutions to get the project back on track.

I was a contributor to the OpenStreetMap project from 2009 until roughly 2016. I am no longer involved.

### Recent Posts

[Why OpenStreetMap is in Serious Trouble](#)

[Free Software Call To Action](#)

[Why is SFLC siding with Oracle over Linux developers?](#)

[The Rule of One](#)

[Modern Web Development with React \(Part 4\)](#)

### Categories

Education

<https://blog.emacsen.net/blog/2018/02/16/osm-is-in-trouble/>



## Tech Corner: how obtain the data

### Talk with OSM

API I/O

<http://wiki.openstreetmap.org/wiki/Xapi>

API for special queries

<http://overpass-api.de>

### Extract the data

Raw/Historic/Log data:

<http://planet.openstreetmap.org>

### Country data:

<http://download.geofabrik.org>

### Areas in different formats

<http://https://osmaxx.hsr.ch>

<http://export.hostosm.org>



# Contacts



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@napo