

Mapping with OpenStreetMap

*Mapping with
Free and Open tools
for newcomers*



CWTS++ Pilot for PUPSJ

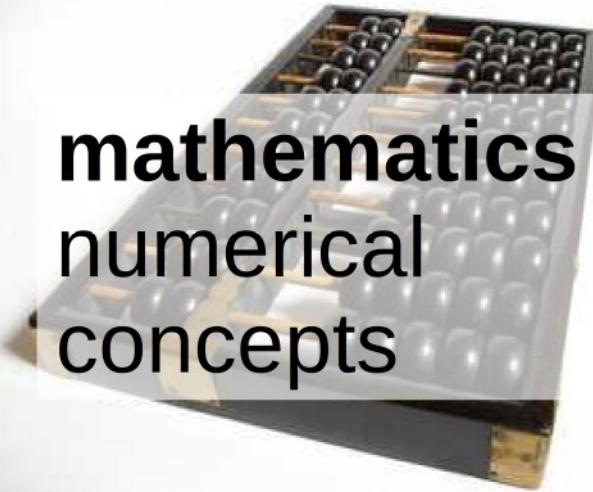
n: erwin olario
e: erwin@kaartgroup.com
m: <https://t.me/GOwin>

Topics Today

- [CL] Intro to maps
- [ST] Navigating the OSM website
- [ST] Recap of editing with iD
- [CL, HO] OpenStreetMap Elements
- [CL, HO] Micro-tasking Managers
 - [PA] Improve OSM
 - [CL] HOT Tasking Manager

What are these?

mathematics
numerical
concepts



U	W	3	(None)
(None)	I	I	F
A	T/E	U/O	Ø
KA	GA	NGA	
TA	DA/RA	NA	
PA	BA	MA	
U	F	V	W
YA	LA	WA	SA
S			HA

language
thoughts,
ideas



Why map?

Tourism

Simple navigation for visitors and locals

Businesses

Attract more patrons to visit

Routing/Traffic

Up-to-date drivers, and alternative routes

Development

Update roads, and put neighborhoods on the map

Education

Help learners appreciate spatial data

Emergency

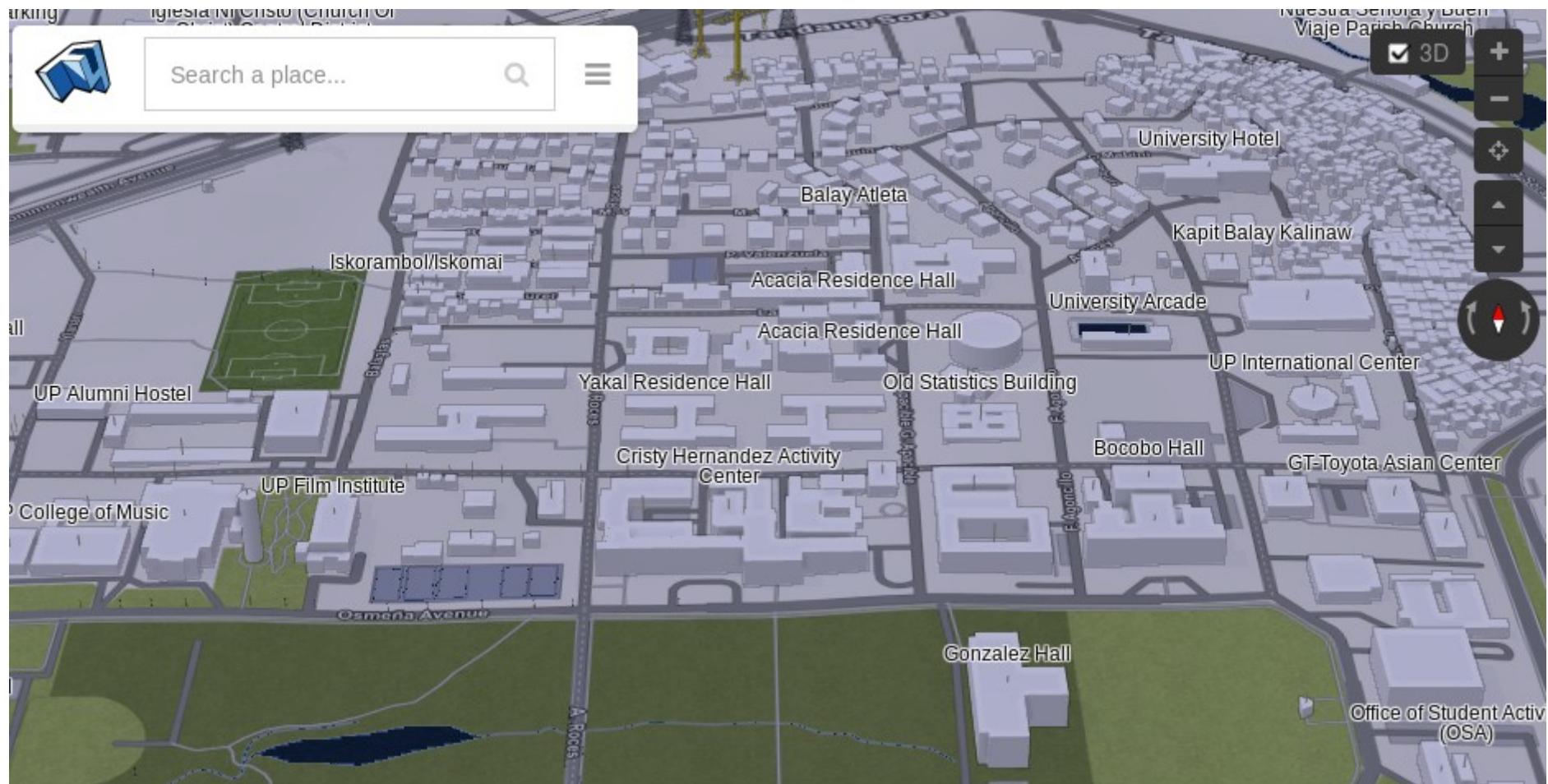
Providing accurate information for everywhere

Intro to OSM

So, what's OSM ?



What's been done with OSM data?



Website Navigation

Incognito/Private Browser

Firefox : Press CTRL+P

Chrome : Press CTRL+N

- Walk-through, no login URL pygy.co/pq
- **DO NOT** login.

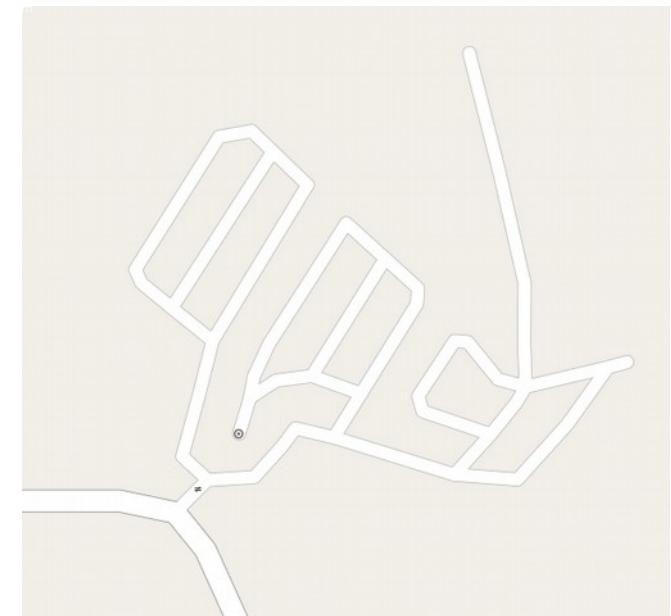
OSM Website Basics

- Basics
 - Navigation
 - Search
 - Export
 - Profile
- Recap of using iD

An aerial photograph showing a patchwork of green and brown agricultural fields. A network of dirt roads cuts through the land. In the center, there is a small cluster of buildings, possibly a farm or a small town. A yellow dashed rectangular box highlights a specific area in the upper-middle portion of the image.

What's here?

Overview, Editing Process



1. Select an area

- Background imagery may come from satellites, drones, or street-level photos

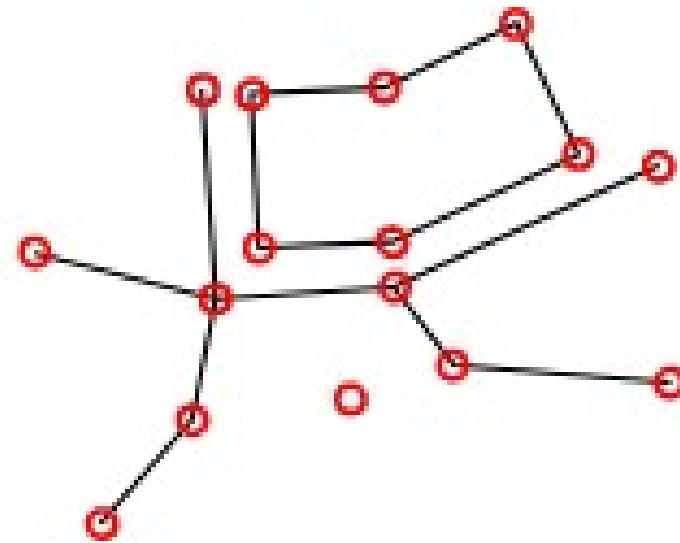
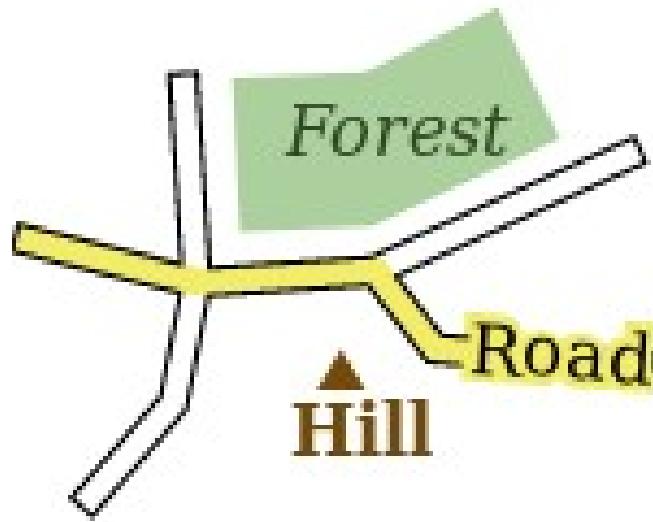
2. Make changes

- Digitize and tag new or missing features
- Update incomplete information
- Save and upload!

3. Visualize the data

- After uploading edits, they are saved in the database
 - changes will be rendered on the map after a few minutes

OSM Data Model



Elements of OSM

Nodes and Ways

NODE (point)

any point-like entity (shop, lamp post, bench, etc.), plus additional information

- may be placed as a part of a way (line) to determine its shape.
- It may also fulfill both purposes (e.g. traffic light in an intersection)

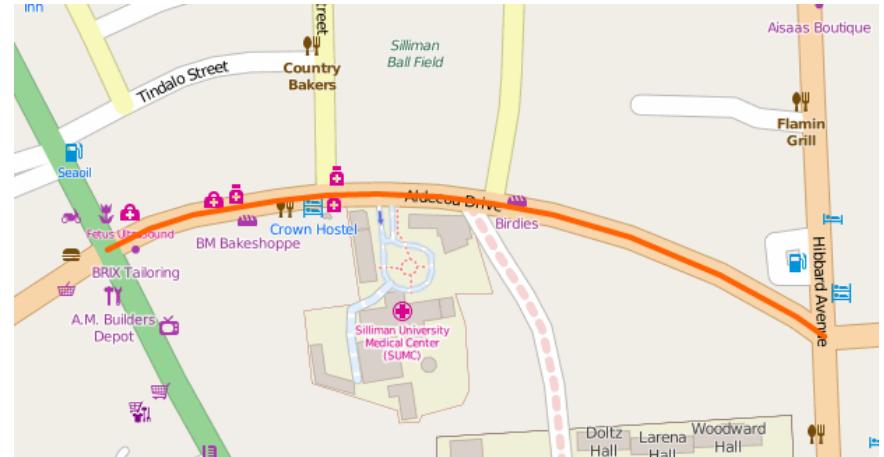


OSM data model - Way

WAY (line)

are used to represent non-pointlike entities, namely polylines and polygons

- line features are ways used for roads, railways, river centerlines, powerlines, boundaries, etc.
- polygon features are used for forests, water bodies, residential areas and building outlines.



OSM data model - Tag

Tag

To describe the features that Nodes and Ways represent, we add **tags** to them.

- Tags consist of a key and value pair, often written like **key=value**.
 - E.g. The **name** key defines the name of an object.
 - E.g. The **building** key indicates it as a structure.

Node: greenbelt chancellor
(5763778953)

(no comment)

Edited about 19 hours ago by namhyun

Version #1 · Changeset #60762789

Location: 14.5550386, 121.0187726

Tags

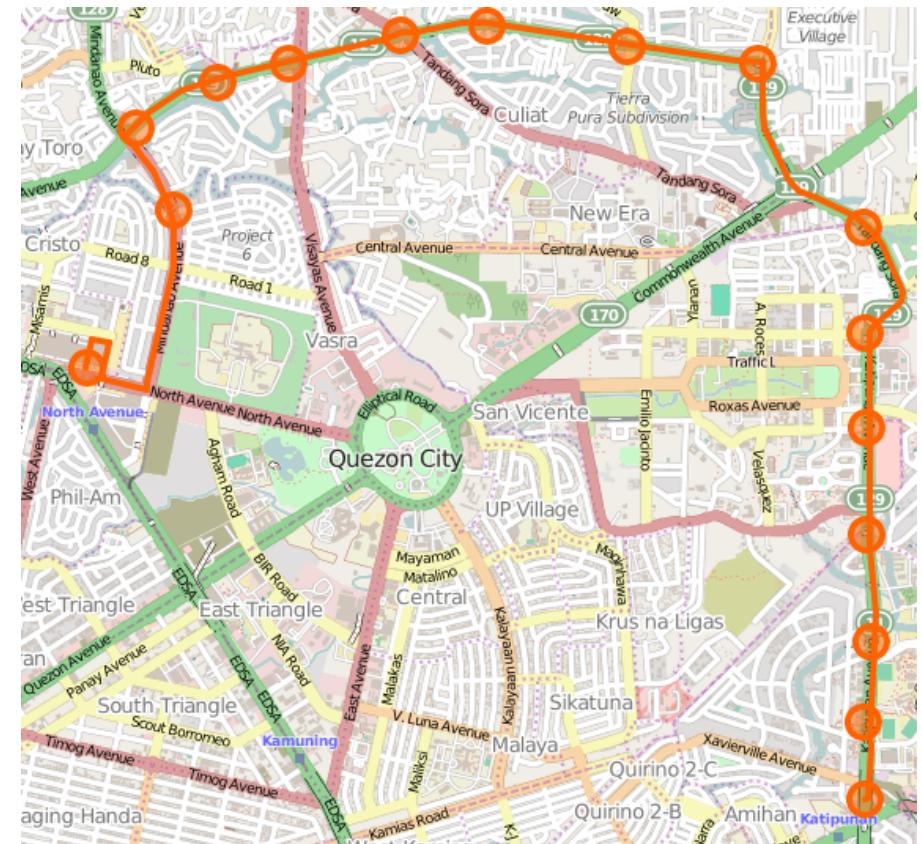
name	greenbelt chancellor
name:ko	그린벨트 찬셀러
tourism	hotel

[Download XML](#) · [View History](#)

OSM data model - Relations

Relations

a logical grouping of ordered list of other objects (nodes, ways or other relations), and carry tags of their own that denote things like bus stops (a list of nodes) or transport routes (a list of ways)

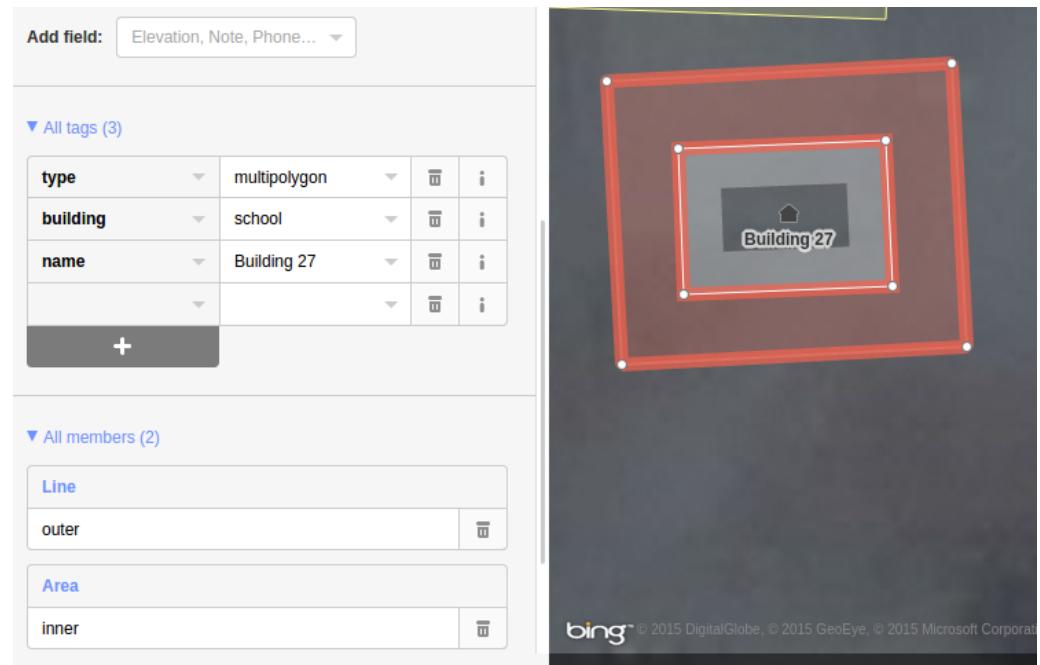


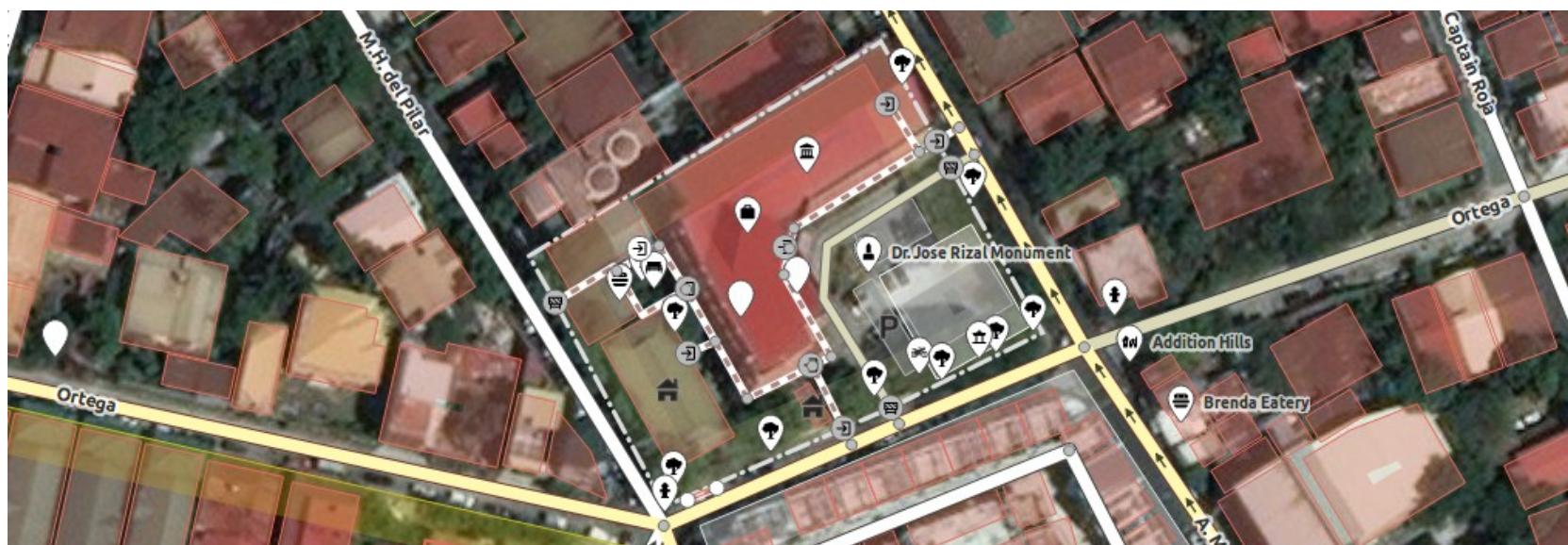
OSM data model - Relations

Relations

The most common relation is a **multi-polygon**.

- Building with a court-yard consists of 2 closed ways, each with multiple nodes.
- One way describes the outer wall of the building, the other one the inner wall





Feature: Basketball Court



Node: basketball (3648129506)

Adding building and way

Edited about 3 years ago by [sheikarmela](#)
Version #1 · Changeset #32592211
Location: [11.9245376, 120.2548820](#)

Tags

leisure	pitch
name	basketball
sport	basketball

Way: basketball (360213302)

Adding building and way

Edited about 3 years ago by [sheikarmela](#)
Version #1 · Changeset #32592211

Tags

leisure	pitch
name	basketball
sport	basketball

Nodes

[3648129594](#)
[3648129598](#)
[3648129595](#)
[3648129591](#)
[3648129594](#)

ImproveOSM

find missing roads

improveOSM.org

- Go to URL: **pygy.co/pt**
 - Follow the tutorial
- Full URL:
<https://improveosm.org>



Improve OSM
[Active](#) [Inactive](#)
Reported Status
[Open](#) [Solved](#) [Invalid](#)
OneWay - Confidence
 Super High Okay

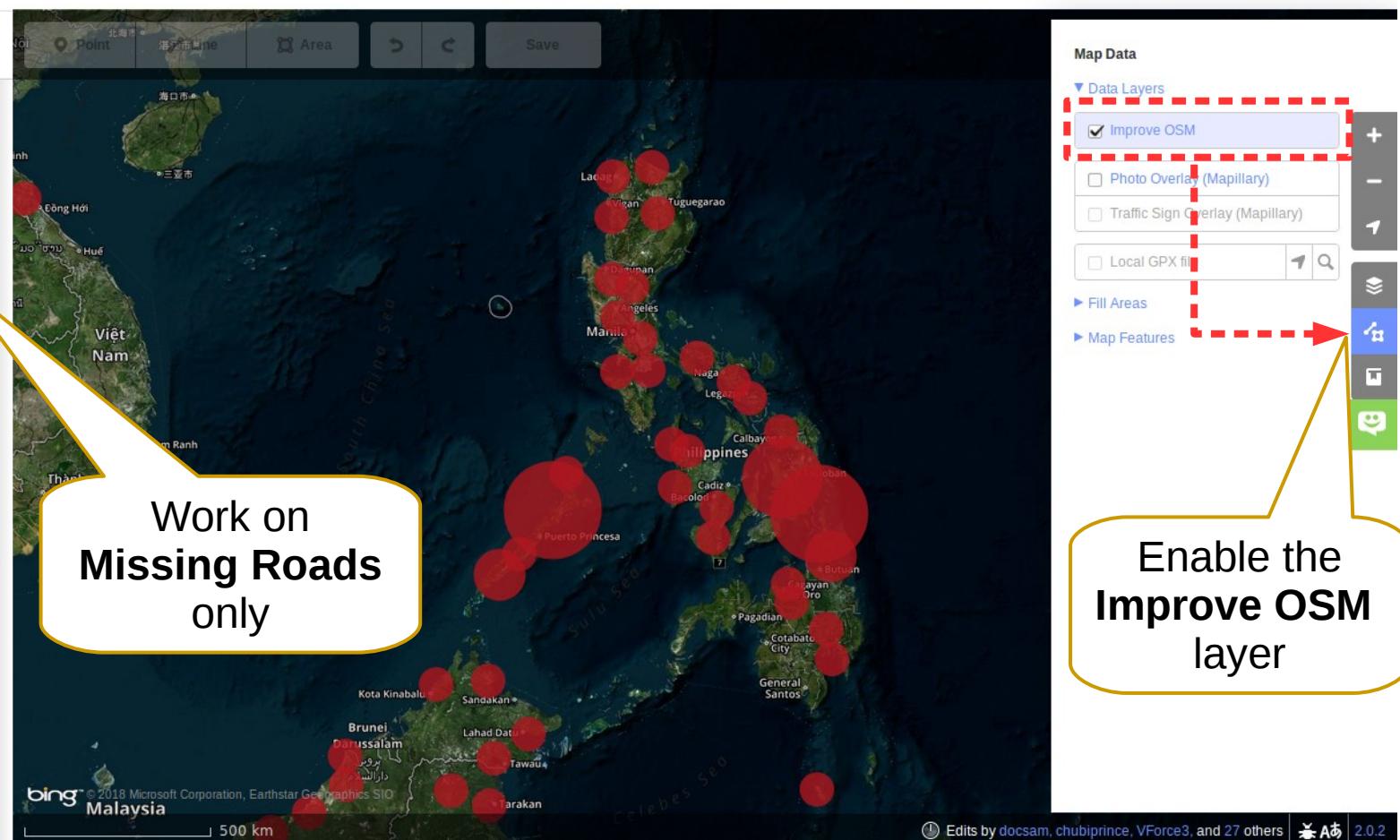
Missing roads
 Show Roads Show Parking Show Mixed

Filters
 Show Water Trail Show Path Trail

Turn Restriction - Confidence
 High Normal

[Report issue on Github](#)

Work on
Missing Roads
only



Enable the
Improve OSM
layer

Improve OSM

Active **Inactive**

Reported Status

Open Solved Invalid

OneWay - Confidence

Super High Okay

Missing roads

Show Roads Show Parking Show Mixed

Filters

Show Water Trail Show Path Trail

Turn Restriction - Confidence

High Normal

[Report issue on Github](#)



Select feature type

Search

-  ► Road Features
-  ► Rail Features
-  ► Path Features
-  ► Water Features
-  ► Barrier Features
-  Power Line
-  Line

Improve OSM

Active

Inactive



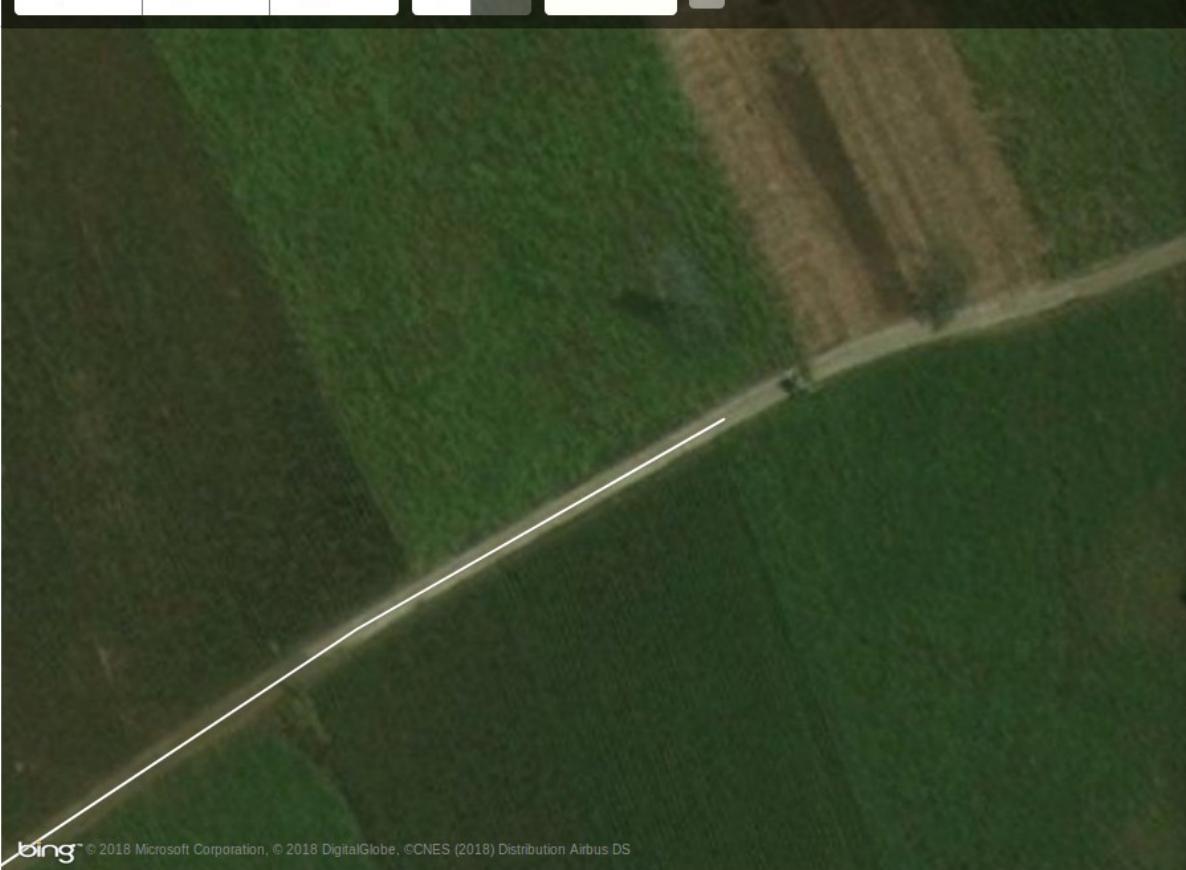
Search features

 Point Line Area

Save

2

Search



Map Data

▼ Data Layers

- Improve OSM
- Photo Overlay (Mapillary)
- Traffic Sign Overlay (Mapillary)
- Local GPX file



► Fill Areas

▼ Map Features

- Points
- Traffic Roads
- Service Roads
- Paths
- Buildings
- Landuse Features
- Boundaries
- Water Features
- Rail Features
- Power Features
- Past/Future
- Others



Edits by Edward Cardew, Gero, jmjm26 | 3 hidden features

2.0.2

Improve OSM

Back / Deselect

Point

Line

Area



Save

7

Detailed Information

Type	probable road
Status	open
Timestamp	2018-3-5 6:6:27
Trip count	56
Points count	628

Change Status

 Open Solved Invalid

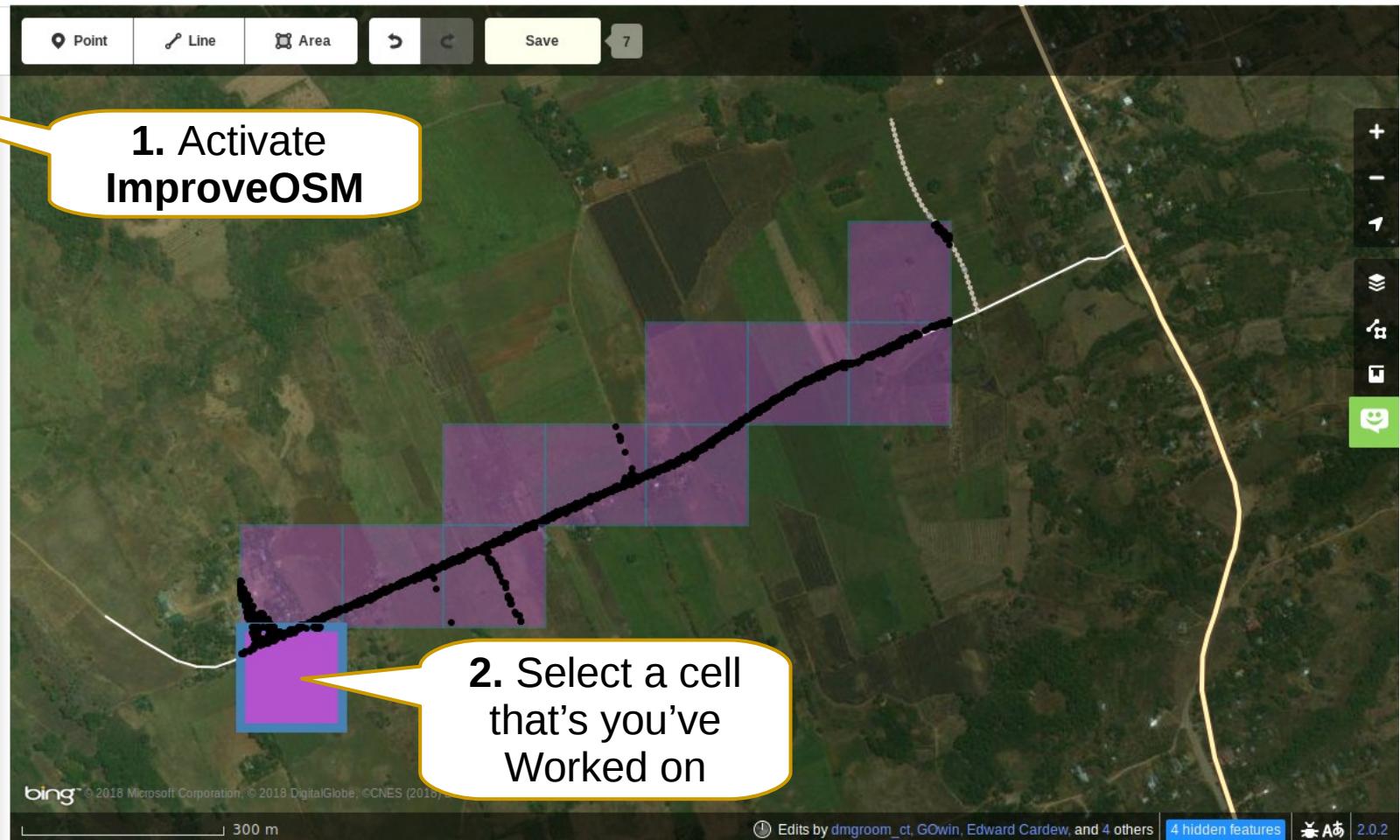
Comment

Roads has been digitized. Fixed.

3. Add a comment:
“Road digitized.”,
then click on
Solved button.

1. Activate
ImproveOSM

2. Select a cell
that's you've
Worked on



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300 m

Edits by dmgroup_ct, GOwn, Edward Cardew, and 4 others

4 hidden features

2.0.2



Improve OSM

Back / Deselect

Detailed Information

Type	probable road
Status	open
Timestamp	2018-3-5 6:6:27
Trip count	56
Points count	628

Change Status

Comment

Roads has been digitized. Fixed.

OpenStreetMap - Mozilla Firefox https://www.openstreetmap.org/login?referer=%2Foauth%2Fauthorize%3F

Login

Don't have an account? [Register now](#)

E-mail Address or Username:

Password:

[Lost your password?](#)

Remember me

[Login](#)

Alternatively, use a third party to login:

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Edits by dmgroup_ct, GOwn, Edward Cardew, and 4 others | 4 hidden features | 2.0.2

Improve OSM

Back / Deselect

Detailed Information

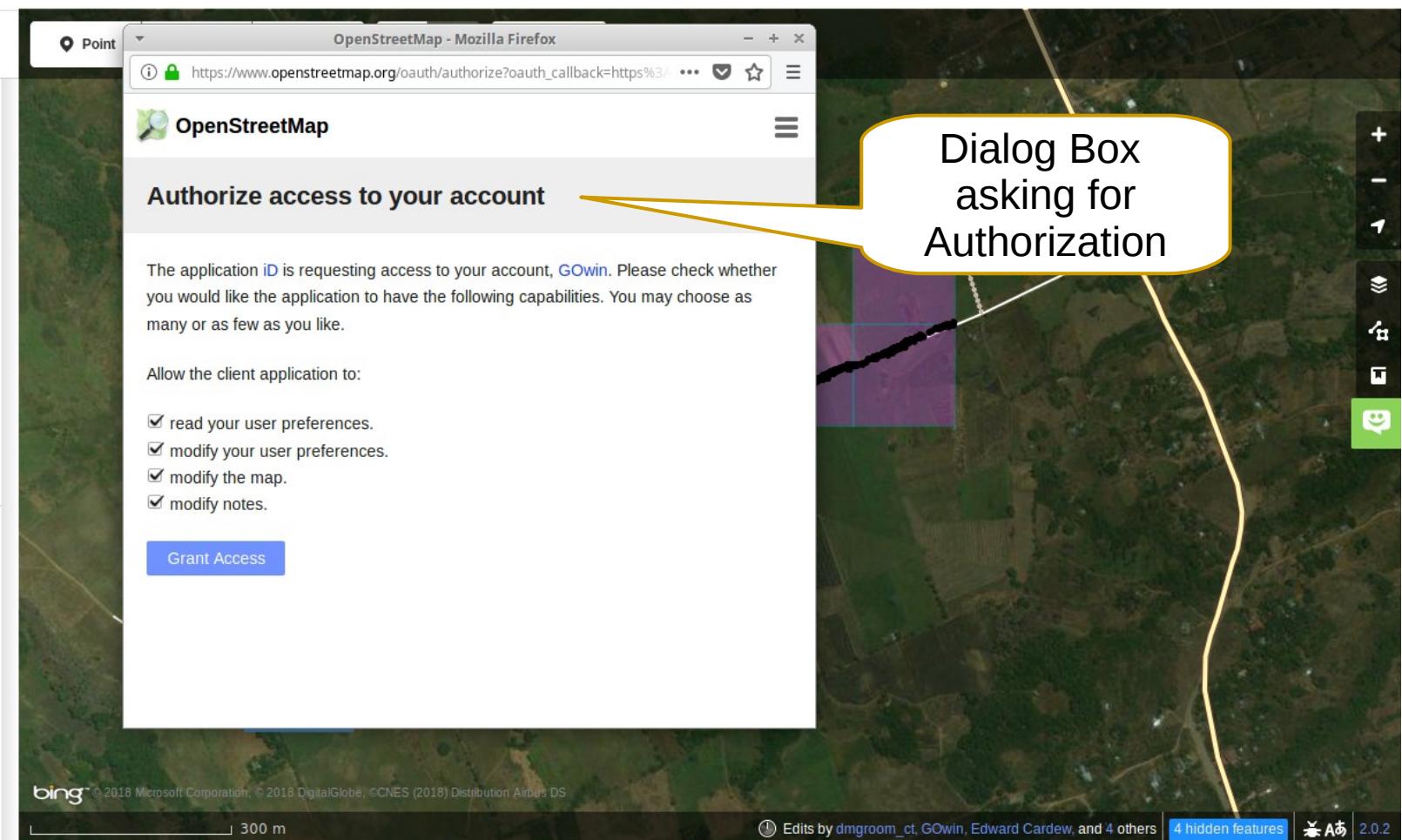
Type	probable road
Status	open
Timestamp	2018-3-5 6:6:27
Trip count	56
Points count	628

Change Status

Open **Solved** **Invalid**

Comment

Roads has been digitized. Fixed.



Improve OSM

Back / Deselect

Point

Line

Area



Save

7

Detailed Information

Type	probable road
Status	open
Timestamp	2018-3-5 6:6:47
Trip count	18
Points count	41

Change Status

 Open Solved Invalid

Comment

Road digitized.

Mark “Solved” if you digitized roads.

Mark “Invalid” for false positives.

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300 m

Edits by dmgroup_ct, GOwn, Edward Cardew, and 5 others | 4 hidden features

A 2.0.2

GOwn

logout

Improve OSM
Active
Inactive
Reported Status

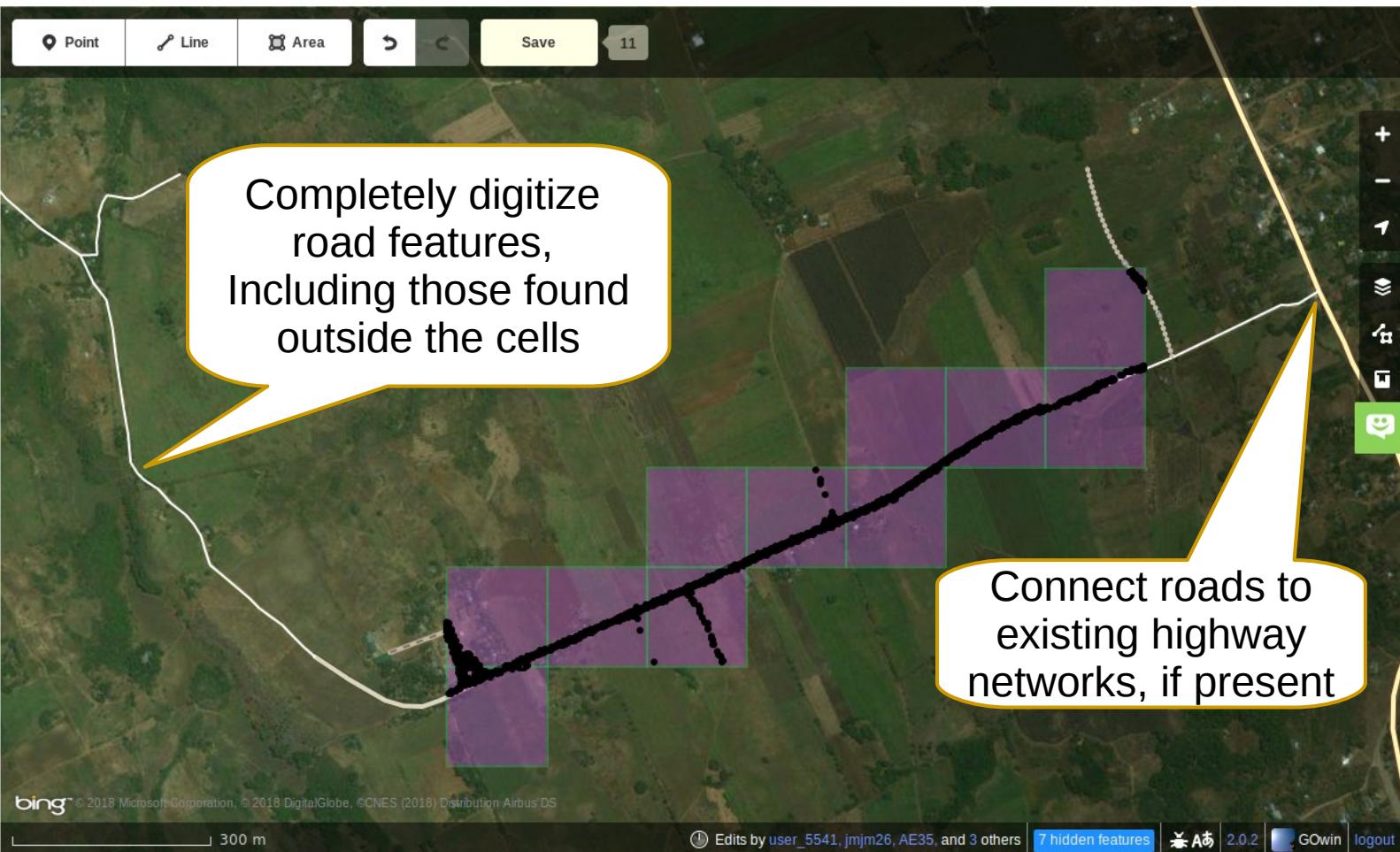
OneWay - Confidence
 Super High Okay

Missing roads
 Show Roads Show Parking Show Mixed

Filters

 Show Water Trail Show Path Trail

Turn Restriction - Confidence
 High Normal

[Report issue on Github](#)


Completely digitize road features,
Including those found outside the cells

Connect roads to
existing highway
networks, if present

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300 m

Edits by user_5541, jmjm26, AE35, and 3 others | 7 hidden features | 2.0.2 | GOwn | logout

Save Changes

Changeset comment

Added missing roads detected by #improveosm.
#pupsjcwts

[About changeset comments](#)

Warnings

- ⚠ Untagged line
- ⚠ Untagged line
- ⚠ Untagged line
- ⚠ Untagged line

The changes you upload as  GOwin will be visible on all maps that use OpenStreetMap data.

[Cancel](#)

[Save](#)

11 Changes

-  Created Minor/Unclassified Road
-  Modified Power Line
-  Created Line

[Improve OSM](#)

[Active](#)

[Inactive](#)

Always leave a changeset comment. Don't forget to add #pupsjcwts

Always resolve warnings. In this case, some lines are not yet tagged.

After fixing the warnings, click the **Save** button.

 Edits by user_5541, jmjm26, AE35, and 3 others

7 hidden features

  2.0.2

 GOwin

[logout](#)



Tip: Add details.

The screenshot shows the OpenStreetMap Improve editor interface. On the left, there's a sidebar with a search bar, a 'Edit feature' button, and sections for 'All fields', 'All tags (2)', and 'All relations (0)'. The 'All tags (2)' section is expanded, showing two tags: 'highway: unclassified' and 'surface: unpaved'. A yellow callout bubble points from this section to a road segment on the map. The map itself shows a satellite view of a rural area with a road highlighted in red. A circular editing tool is overlaid on the road, showing various icons for editing operations. The bottom of the screen displays copyright information from Bing and other footer links like 'Improve OSM', 'Active' (button), 'Inactive' (button), 'Edits by GOwn', '2 hidden features', and 'Mapfimore'.

Add **surface=unpaved**
if the imagery shows
Such condition

Tag them or lose them.



Data Download Cygnus Tutorial Blog Subscribe Hello Gown! | Logout

Select feature type

Search

	Minor/Unclassified Road	
	Path	
	Unmaintained Track Road	
	► Road Features	
	► Rail Features	
	► Path Features	
	► Water Features	
	► Barrier Features	

The feature panel will show the most recently used tag on top.

Number of features that hasn't been saved yet.

Untagged features will pulsate in red, until they've been tagged.



Improve OSM

Active Inactive

Save often

OpenStreetMap
IMPROVE

Save Changes

Changeset comment

Added missing roads detected by #improveosm. #pupsjowts

About changeset comments

The changes you upload as GOwn will be visible on all maps that use OpenStreetMap data.

Cancel Save

4 Changes

- Created Minor/Unclassified Road
- Modified Minor/Unclassified Road
- Modified Path
- Created Minor/Unclassified Road

No warnings. Great!

Click on Save

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50 m

Edits by GOwn 2 hidden features

Active Inactive

Improve OSM 2.0.2 GOwn logout

A screenshot of the OpenStreetMap IMPROVE editor interface. The main view shows a satellite map of a rural landscape with a yellow line representing a road edit. A speech bubble with a yellow border is overlaid on the map, containing the text "No warnings. Great!" and "Click on Save". On the left, there's a sidebar with a "Changeset comment" section containing the text "Added missing roads detected by #improveosm. #pupsjowts", a "About changeset comments" link, and a note about visibility. Below that is a "4 Changes" list with items like "Created Minor/Unclassified Road" and "Modified Path". At the bottom, there are buttons for "Active" and "Inactive", and a "Improve OSM" section with version information and user links.

Mark settlements, when found

OpenStreetMap IMPROVE

Edit feature

Point Line Area Save 1

Residential Area

All fields

All tags (1)

landuse residential

All relations (0)

Add landuse=residential or select feature type

Example of a settlement area.

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50 m

Edits by GOwn 1 hidden features

Active Inactive

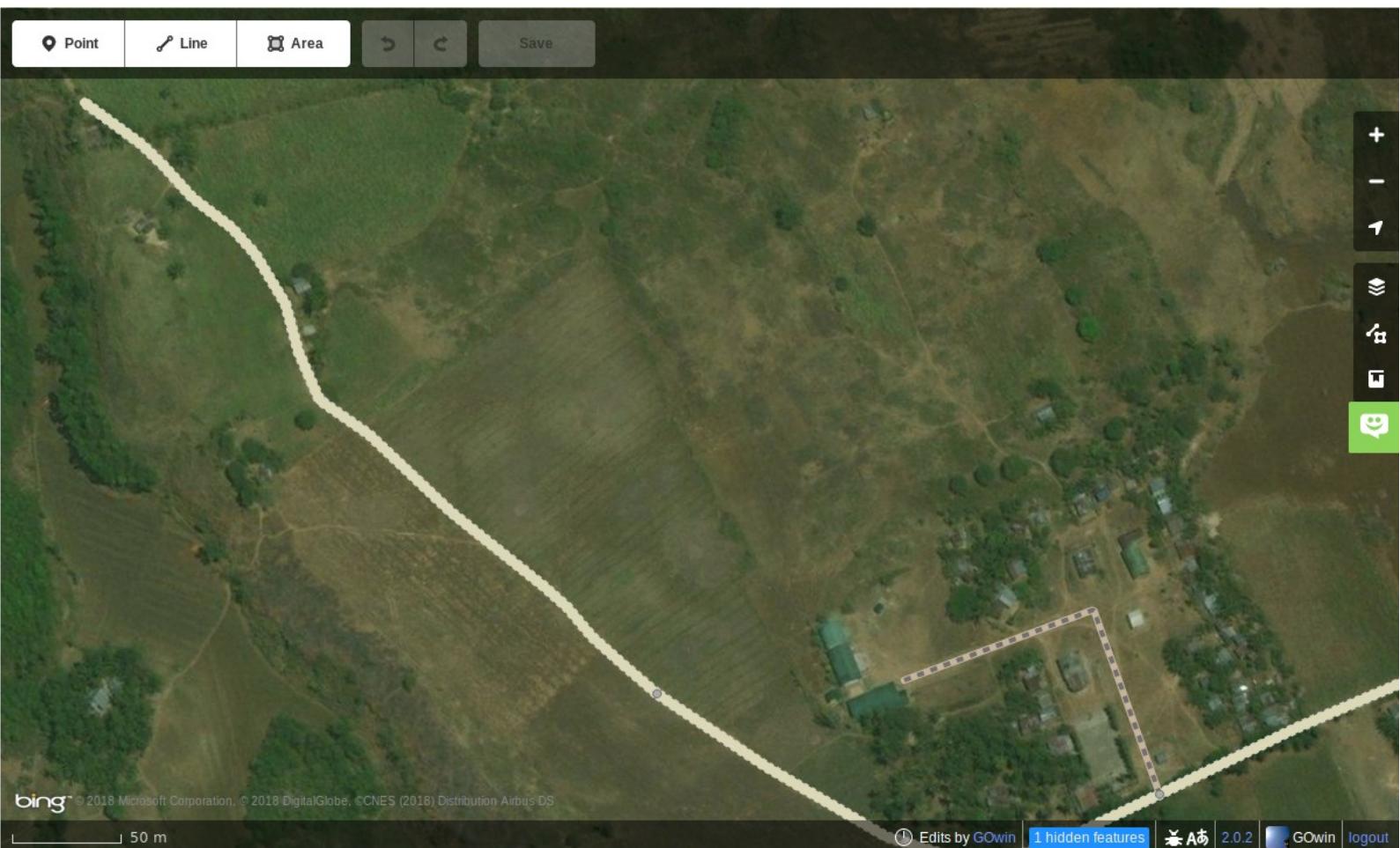
Improve OSM

GOwn logout

You just edited OpenStreetMap!

Point Line Area undo redo Save

Your changes should appear in the "Standard" layer in a few minutes. Other layers, and certain features, may take longer.

[Details](#)[View on OSM](#)

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50 m

Edits by Gown

1 hidden features

2.0.2

Gown

logout

Improve OSM

Active

Inactive

Tips & Tricks

#pupsjcwts

OSM Changesets of the last 30 Days filtered by 'pupsjcwts'

Copyright © Pascal Neis (neis-one.org)
Map data © [OpenStreetMap](http://OpenStreetMap.org) contributors
(Data is updated on a hourly basis!)

Search for a specific Text: Go!

Information for 'pupsjcwts'

Some used terms: pupsjcwts

Number of OSM Contributors: 1

Number of Map Changes: 165

Total number of Changesets: 2

Displayed Changesets : 2

(Limit is 5000 Changesets) hide large Changesets

Number of Changesets and Contributors



Number of created (modified) OSM Objects

Nodes: 148 (3)

Ways: 11 (3)

Highways: 7 (2)

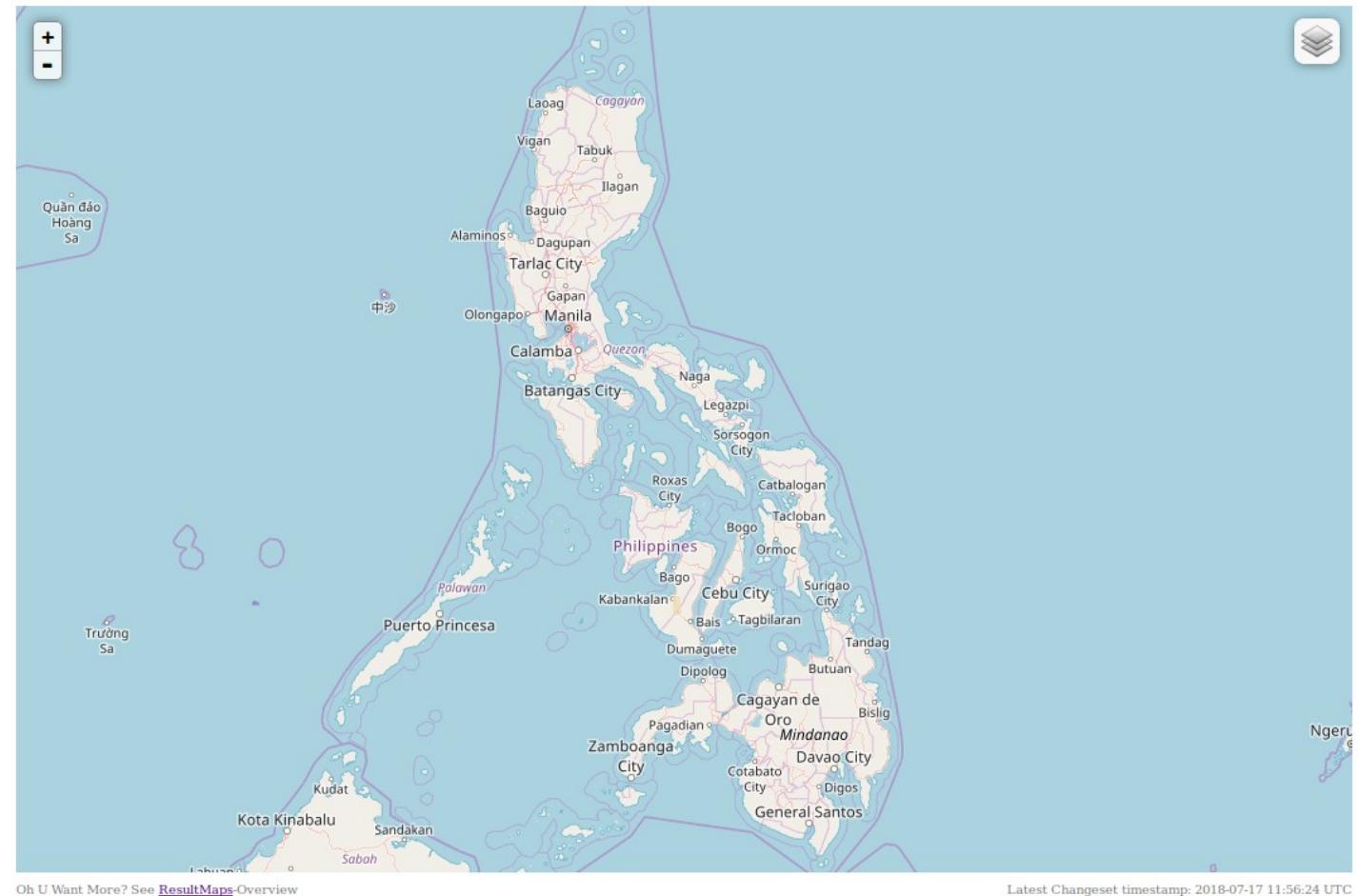
Buildings: 0

Land-uses: 0

Waterways: 0

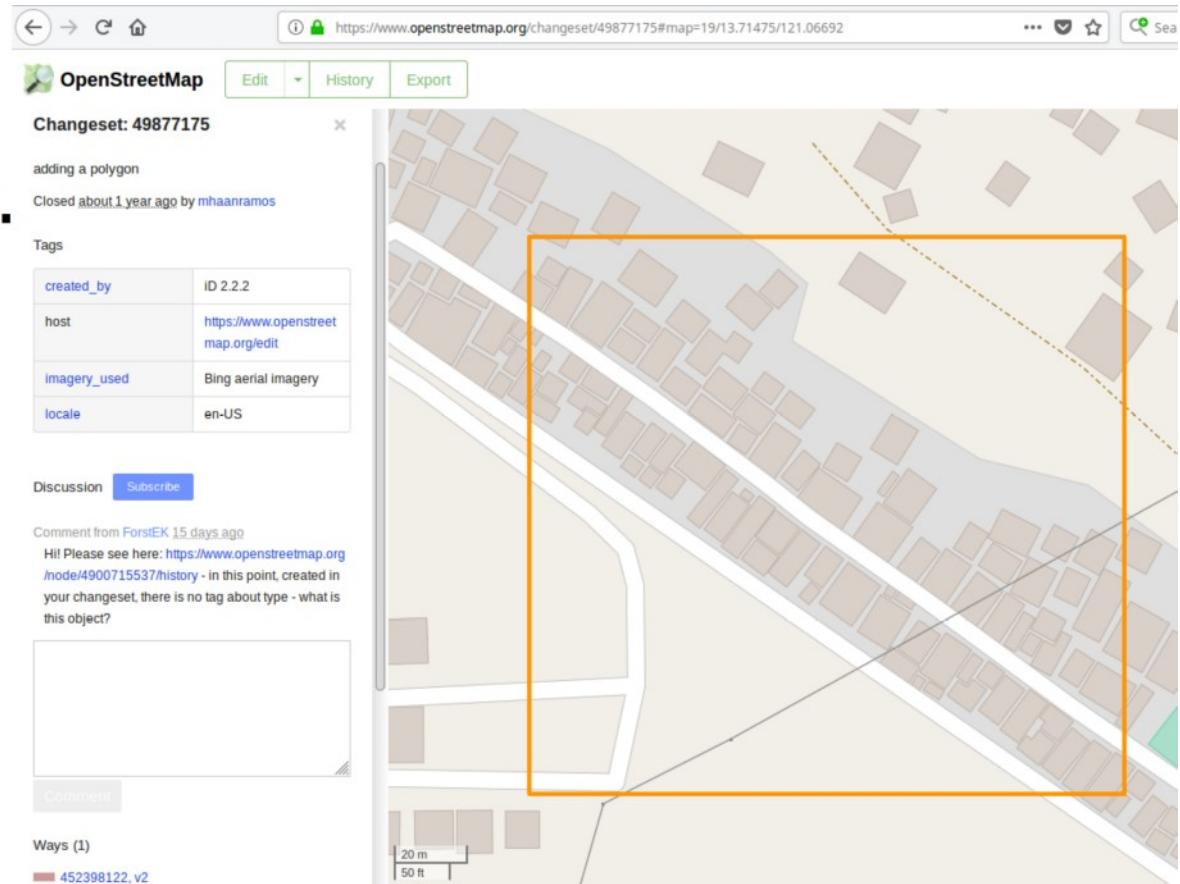
Top 7 Countries: Contributors - Changesets (Map Changes)

1. Philippines: 1 - 2 (165)



Changesets – your edits

- All changes are visible to the public.
 - Respond to any feedback, or questions.



Imagery Offsets



Getting Help

- **Wiki** – wiki.osm.org
- **Self-paced Learning** – <https://learnOSM.org>
- **CWTS++ channel** – https://t.me/cwts_plus_plus