

How to become an OpenStreetMap pro

jomo

([Video recording on media.ccc.de](https://media.ccc.de/r/2018-08-27-jomo-how-to-become-an-openstreetmap-pro))

What *not* to expect

- OSM introduction
- Basic tagging
- Basic editor usage
- To be an OSM pro after watching this

What to expect

- Tips
- Tricks
- Tools
- Examples
- ... that can help becoming an OSM pro

OpenStreetMap is not a map!

- osm.org website often equated with "OpenStreetMap"
 - commonly compared to Google Maps
 - not a fair comparison
 - osm.org is a demo and lacks many features
- OSM is an open geo database project

Keyboard Shortcuts



Browsing

Editing

Tools

Drawing

- 1 'Add point' mode
- 2 'Add line' mode
- 3 'Add area' mode
- N 'Add note' mode



-or-



-or-

Space

Place a point or note

Alt

Hold to disable point snapping

Enter

-or-

Esc

Finish drawing a line or area

Commands

- Ctrl + C Copy selected features
- Ctrl + V Paste copied features
- Ctrl + Z Undo last action

Operations

- A Continue a line at the selected endpoint
- C Combine (merge) selected features
- D Disconnect selected features
- E Extract a point from a feature
- X Split features at the selected points
- V Reverse selected features
- M Move selected features
- F Follow a line or area

- Shift + ↓, ↑, ←, → Nudge selected features
- Alt + Shift + ↓, ↑, ←, → Nudge selected features by a lot
- Shift + +, - Scale selected features
- Alt + Shift + +, - Scale selected features by a lot
- R Rotate selected features
- Q Square corners of a line or area
- S Straighten a line or points
- O Circularize a closed line or area

iD: Fields & Tags

- Fields can be misleading
- Many tags unsupported
- Tags are "truth"

Name		
Weißeritzstraße	+	
One Way		
Assumed to be No		
Speed Limit		
50	km/h	
Lanes		
4		
Surface		
Asphalt		
Structure		
☐ Bridge		
☐ Tunnel		
☐ Embankment		
☐ Cutting		
☐ Ford		
Road Number		
Unknown		
Allowed Access		
All		

cycleway:left	track		
cycleway:left:bicycle	designated		
cycleway:left:one	-1		
cycleway:left:segr	yes		
cycleway:left:traffi	DE:241		
destination:arrow:	through;through;t		
destination:colour:	;white;white;white		
destination:lanes:	Meißen;Messe;Haf		
destination:ref:lan	B 6 B 6;;		
destination:ref:to:l	A 4		
destination:symbo	;parking		
destination:symbo	motorway		
highway	secondary		
lanes	4		
lanes:backward	2		
lanes:forward	1		
lit	yes		
maxspeed	50		
name	Weißeritzstraße		
sidewalk	both		
sidewalk:right:bicy	yes		
sidewalk:right:foot	designated		

Tags

- Search the [wiki](#)!
- [Taginfo](#)
 - Stats on popularity
 - All used values for a key
 - Combination with other tags
- [Overpass](#) can help finding examples
- Helper tools for `opening_hours` [1](#) or `traffic_sign` [1,2](#)

Edit feature



Bing

Add...

Add field:

Description, Fix Me, Image...

Tags (2)



_building

yes



i

source

Bing



i



Relations (0)



Inspect



Point

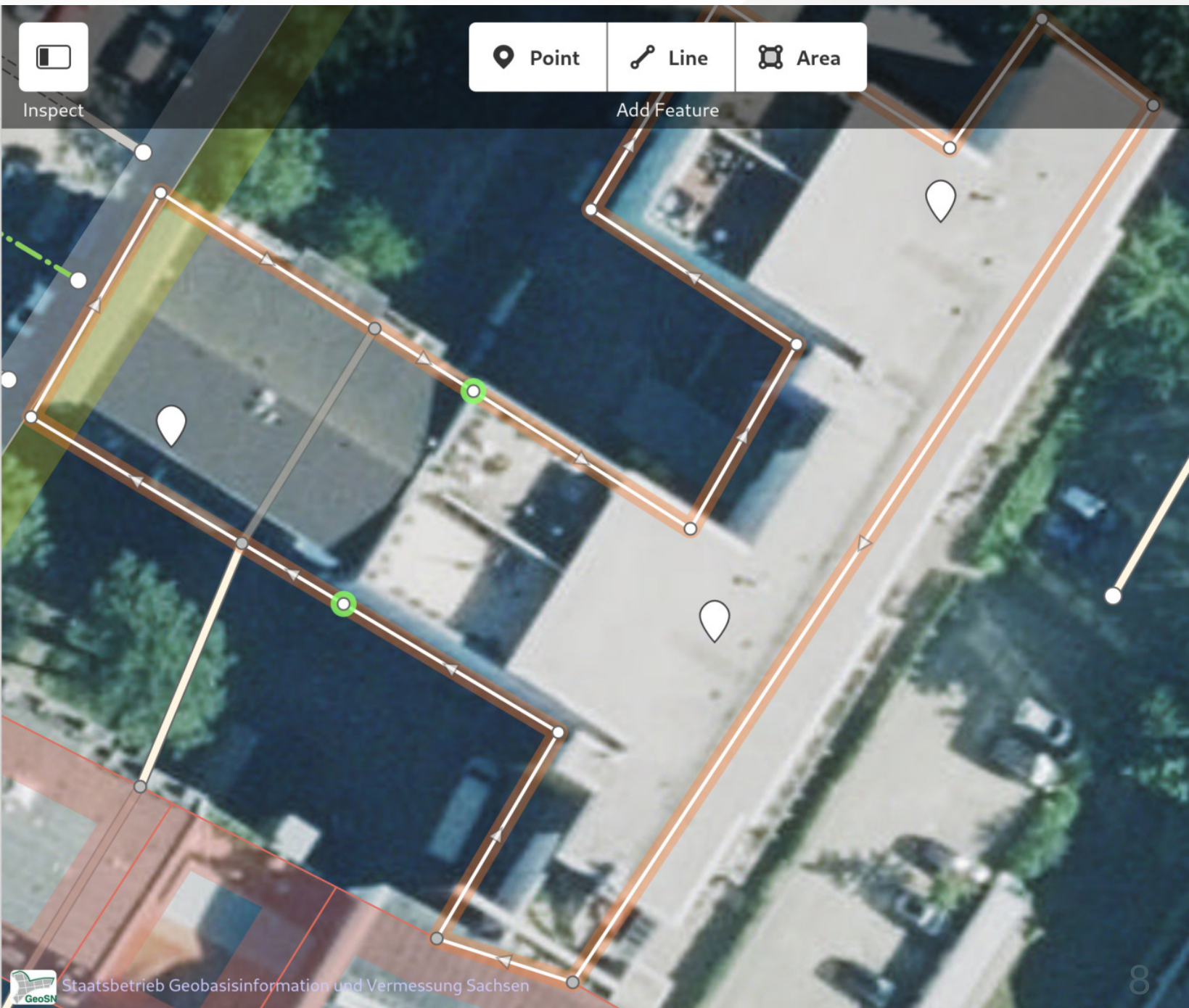


Line



Area

Add Feature



Features (2)

 **Foot Path** Foo Path 

 **Point** 

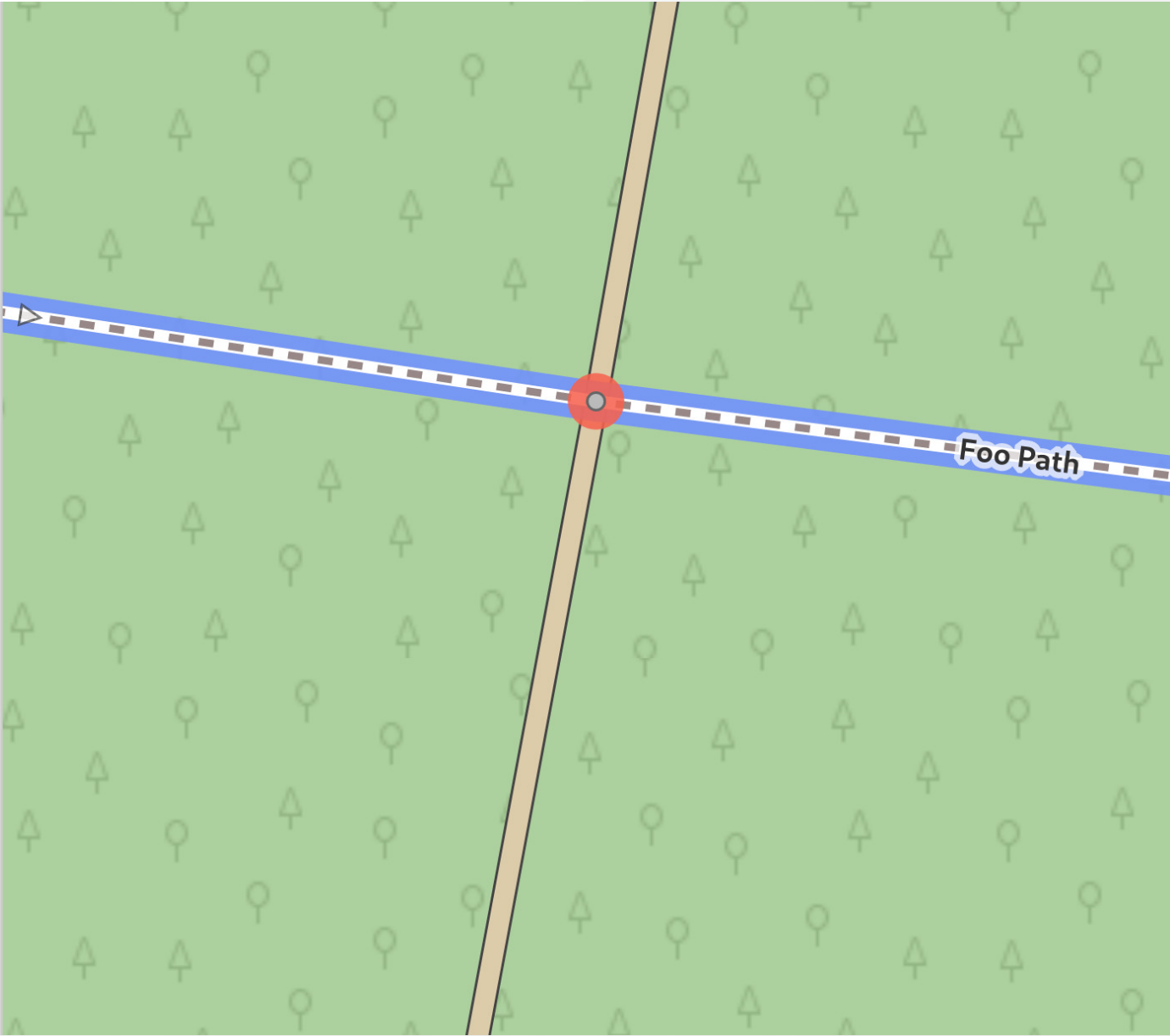
Feature Type



Multiple Types

Fields

Name			
<i>Multiple Values</i>			



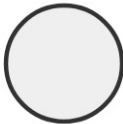
▼ Features (2)

- Point

×
- Point

×

▼ Feature Type



Point

i

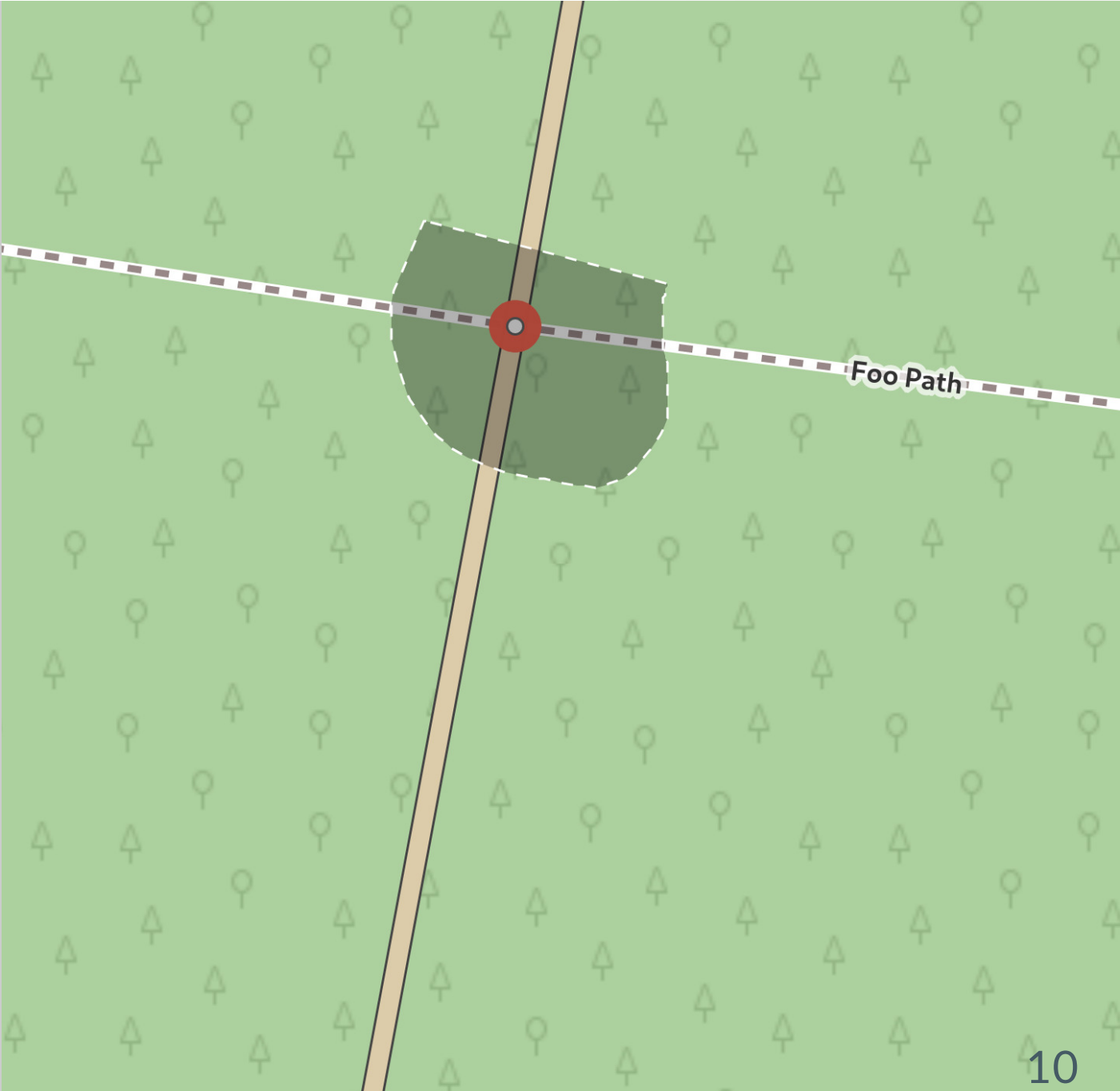
▼ Fields

Name	i
Common name (if any)	+

Add field:

Description, Elevation (Meters), Fix Me...

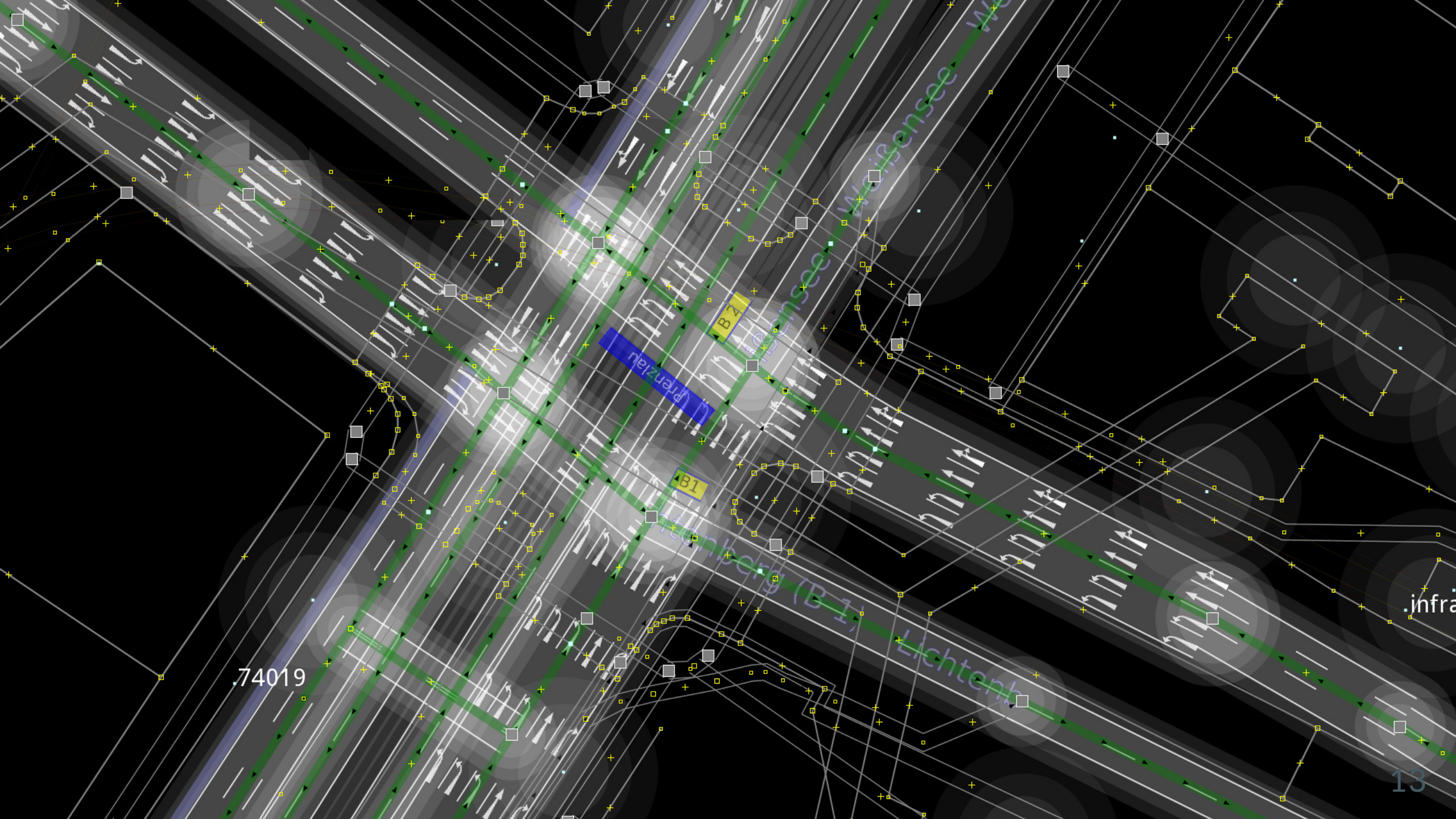
▼

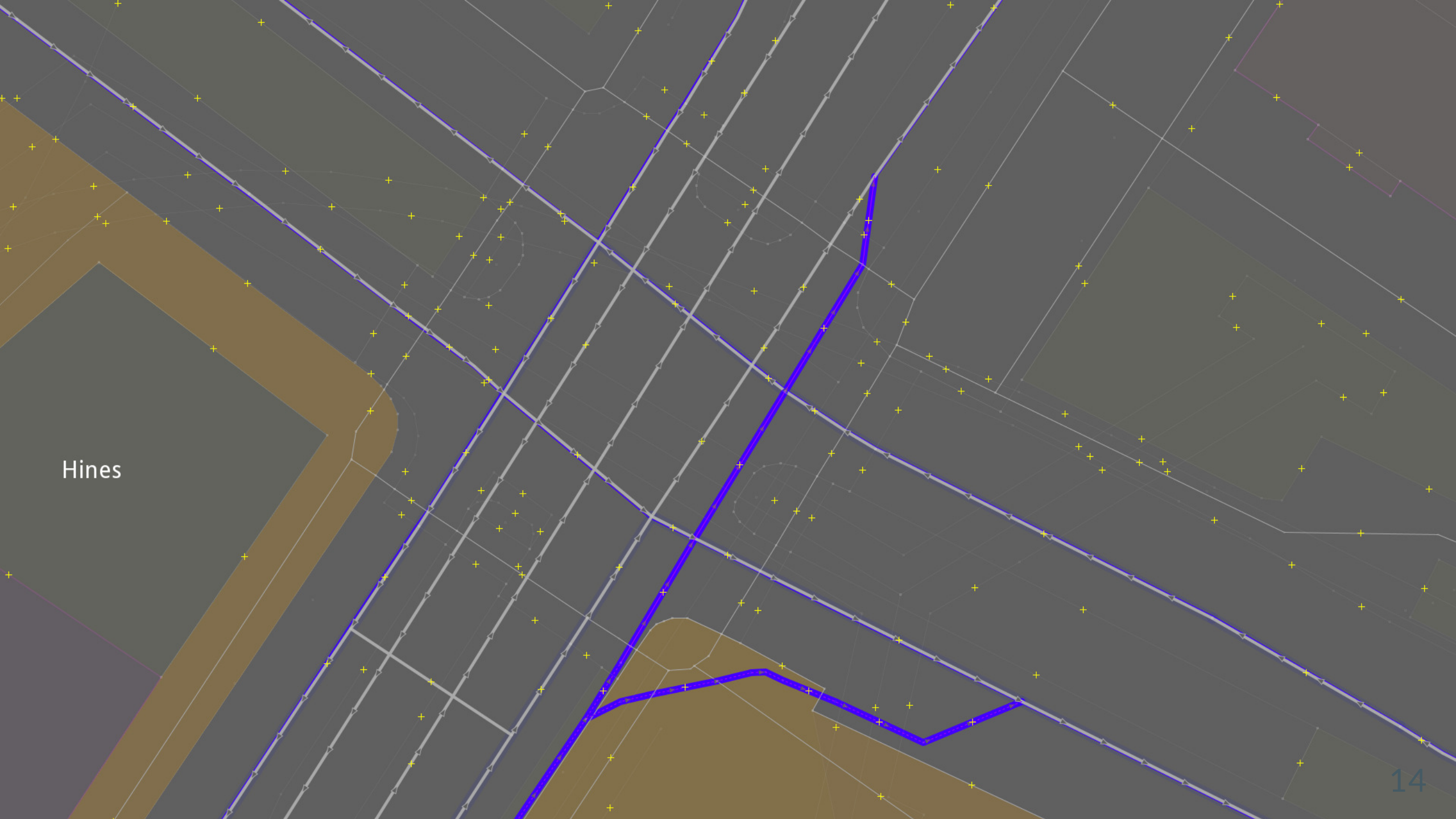


JOSM

- Most advanced editor
- Can be overwhelming at first
- Especially useful with [Styles](#) and [Plugins](#)







Hines



Inspect



Point



Line



Area



Assist

Add Feature

Microsoft Buildings

Tags **building** yes

source microsoft/BuildingFootprints

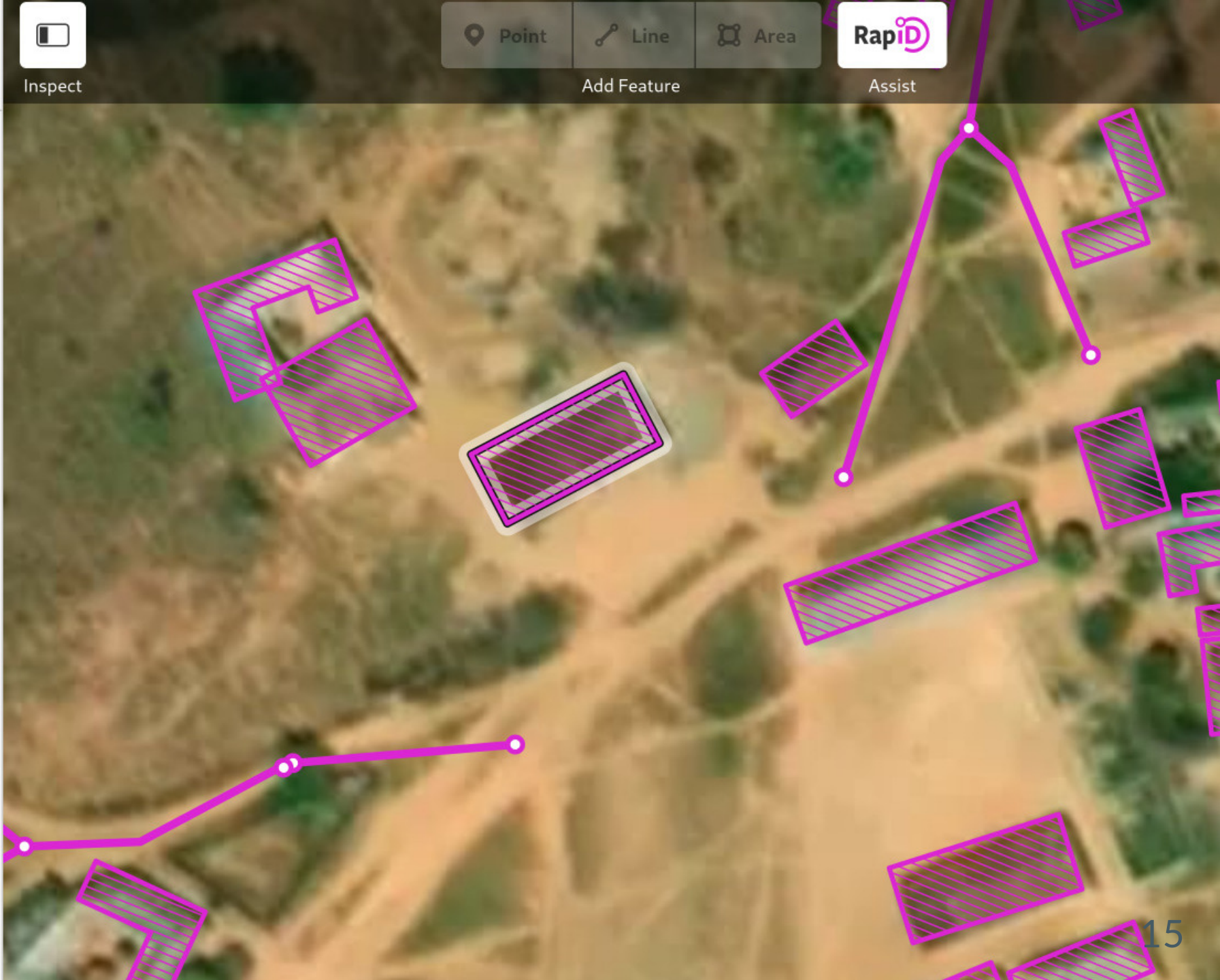
How would you like to proceed with this selected feature?



Use This Feature



Ignore This Feature



Yorma's

Usage

Structure

Kiosk

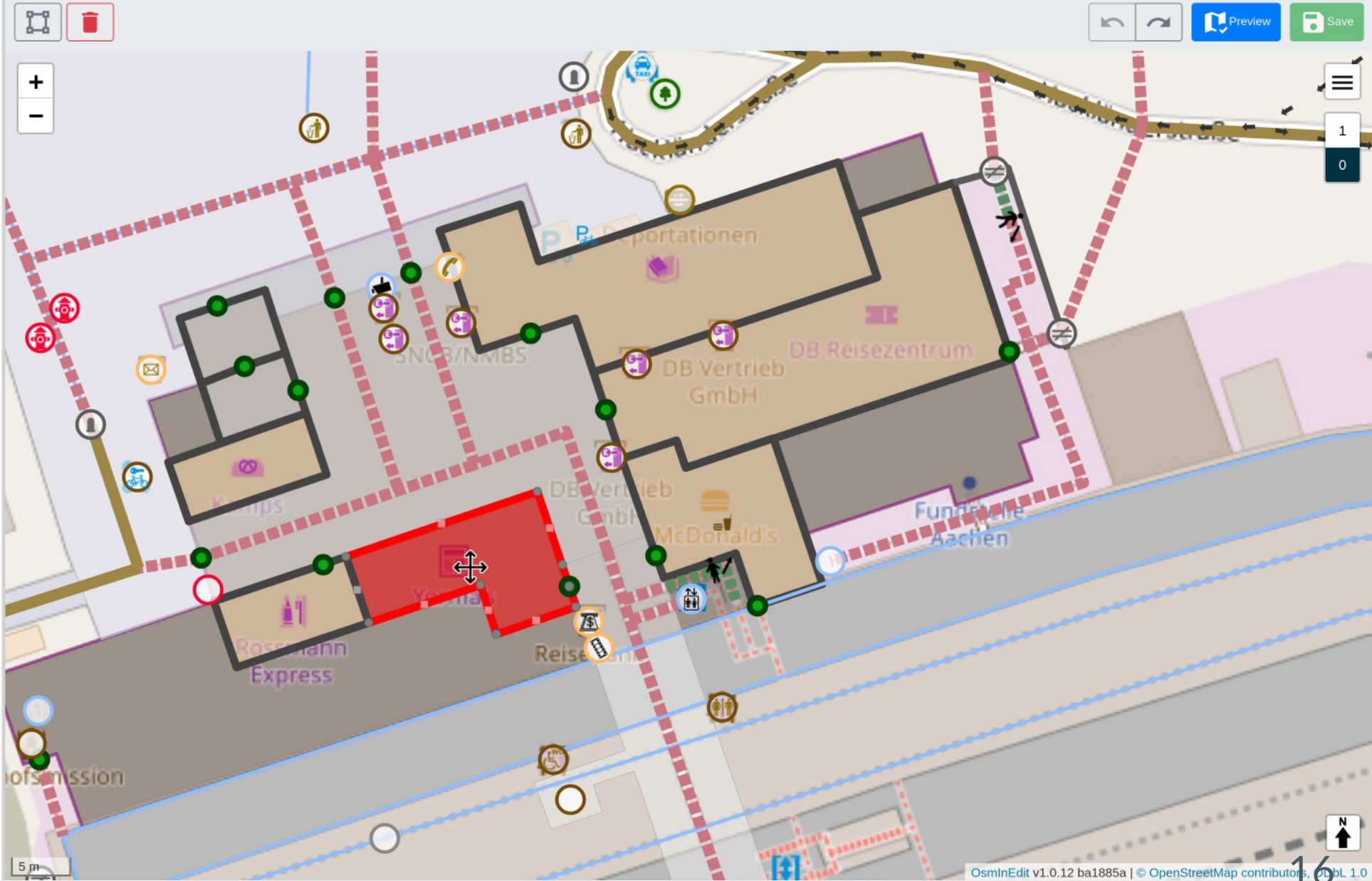
Name

Yorma's

brand	Yorma's	✗	i
brand:wikidata	Q2600868	✗	i
indoor	room	✗	i
level	0	✗	i
name	Yorma's	✗	i
opening_hours	Mo-Th 05:40-21:00; ...	✗	i
shop	kiosk	✗	i
website	https://www.yormas....	✗	i
wheelchair	yes	✗	i

+

See feature history on OpenStreetMap



Level0 OpenStreetMap Editor

URL or group of IDs like "n54,w33":

OSM or OSC file: No file selected.

node 3133512774: 48.8582067, 2.2944175

fixme = position estimated

highway = elevator

level = 2;3

min_height = 115.73

node 3133512777: 48.8583155, 2.2945784

fixme = position estimated

highway = elevator

level = 2;3

min_height = 115.73

node 3134285382: 48.8582474, 2.2944389

amenity = bar

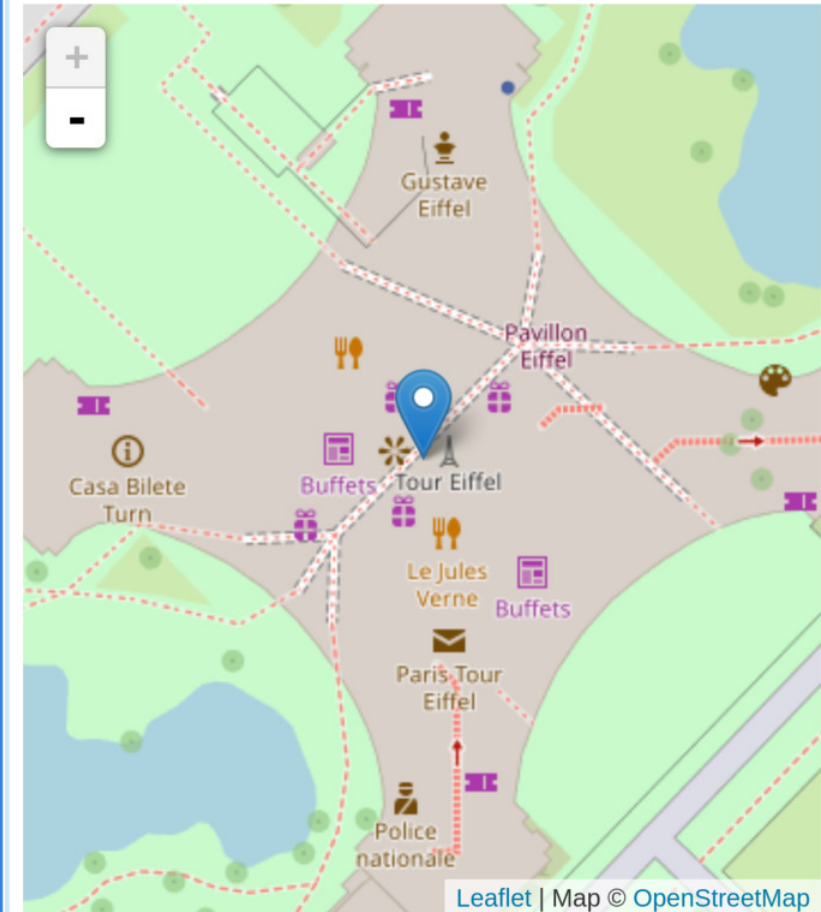
fixme = position estimated

level = 3

min_height = 276.13

note = Bar à champagne

← 48.858246, 2.294437



Useful links: [about this editor](#), [language reference](#), [tag reference](#), [tag statistics](#).

Street-level Images

- Bing Streetside
- Mapillary
 - Also detects road signs, street furniture
- KartaView (~~OpenStreetCam~~)
- Wikimedia Commons
- Some Available in iD / JOSM

Other data sources

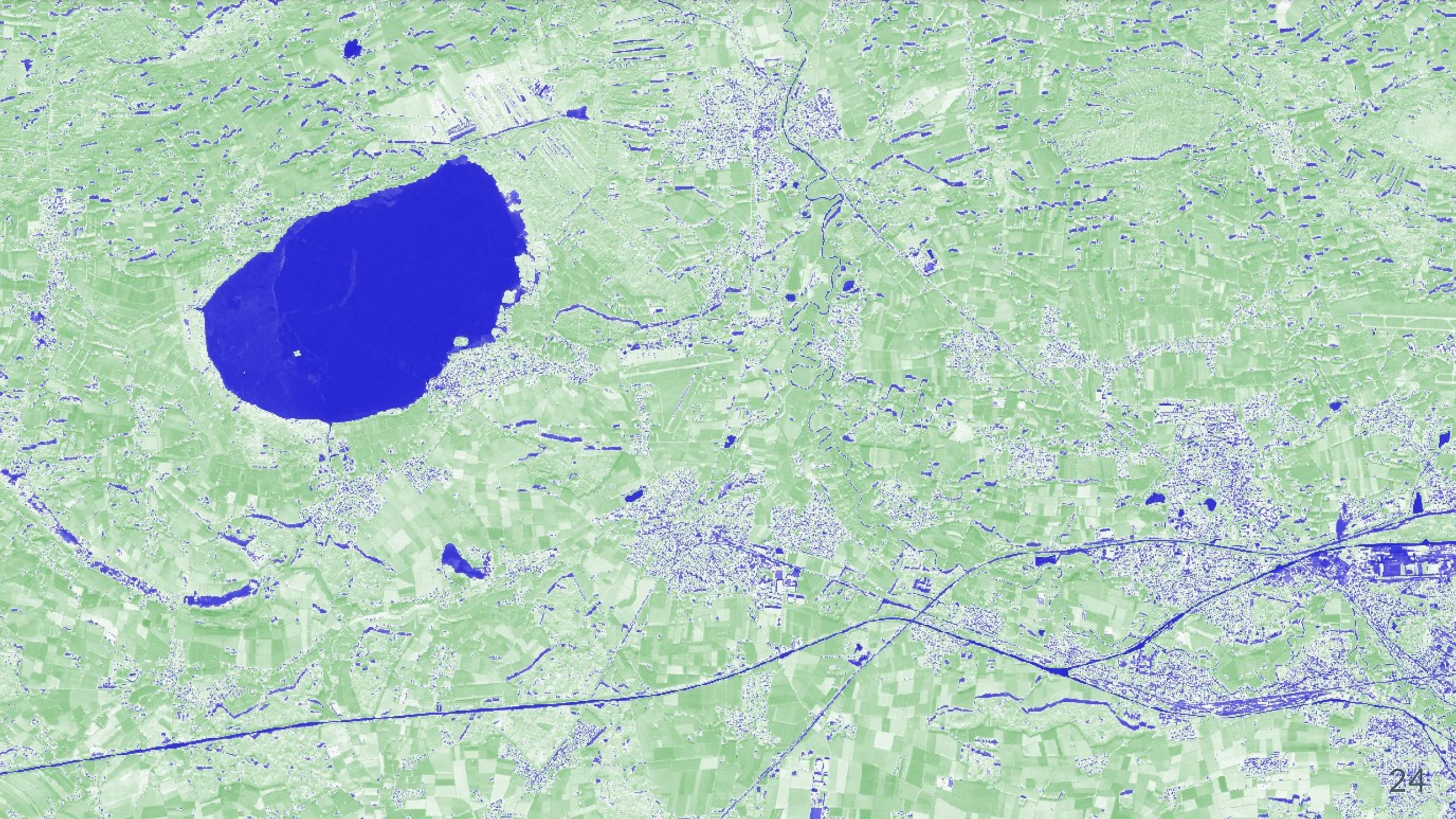
- Aerial imagery available in iD / JOSM
- Official government open data
- Discover open maps (mapwarper.net)
- Drone footage (openaerialmap.org)
- [GPX tracks](#)
- [DTM](#)











Changesets & osmChange

1. Open a [changeset](#), receive `changeset_id` x
2. Upload changes ([OsmChange](#) format) to changeset x
3. 
4. Close changeset x

Changesets

```
<changeset id="127182232" open="false"
  created_at="2022-10-08T05:05:52Z" closed_at="2022-10-08T05:05:54Z"
  user="jomox" uid="8556989"
  min_lat="45.2930991" min_lon="36.5067433"
  max_lat="45.3078607" max_lon="36.5190460"
  comments_count="1" changes_count="20">

  <tag k="comment" v="Part of the Crimean Bridge has been destroyed"/>

  <tag k="changesets_count" v="82"/>
  <tag k="created_by" v="iD 2.22.0"/>
  <tag k="host" v="https://www.openstreetmap.org/edit"/>
  <tag k="imagery_used" v="Esri World Imagery"/>
  <tag k="locale" v="en-US"/>
  <tag k="source" v="streetlevel imagery;https://twitter.com/..."/>
  <tag k="warnings:impossible_oneway:highway" v="4"/>

</changeset>
```

Changeset: 127182232

Part of the Crimean Bridge has been destroyed

Closed 2 months ago by [jomox](#)

Tags

changesets_count	82
created_by	iD 2.22.0
host	https://www.openstreetmap.org/edit
imagery_used	Esri World Imagery
locale	en-US
source	streetlevel imagery; https://twitter.com/Osinttechnical/status/1578598392779112449
warnings:impossible_oneway:highway	4

OsmChange

```
<osmChange version="0.6" ... >

  <create>
    <node id="10083068899" visible="true" version="1" lat="45.3003660" lon="36.5130830"/>
  </create>

  <create>
    <way id="1101866474" visible="true" version="1">
      <nd ref="5571171947"/>
      <nd ref="10083068899"/>
      <tag k="bridge" v="yes"/>
      <tag k="..." v="..." />
    </way>
  </create>

  <!-- ... -->

</osmChange>
```


QA

- Quality Assurance
- Validate your changes
- Validate other mappers' changes
- Find missing data
- Detect invalid tagging
- Detect common mistakes
- Detect missing tags
- General purpose or tailored tools

Request Review

- Available in editors
- Adds `review_requested=yes` to changeset
- Tools required to find these changesets

Upload to OpenStreetMap X

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

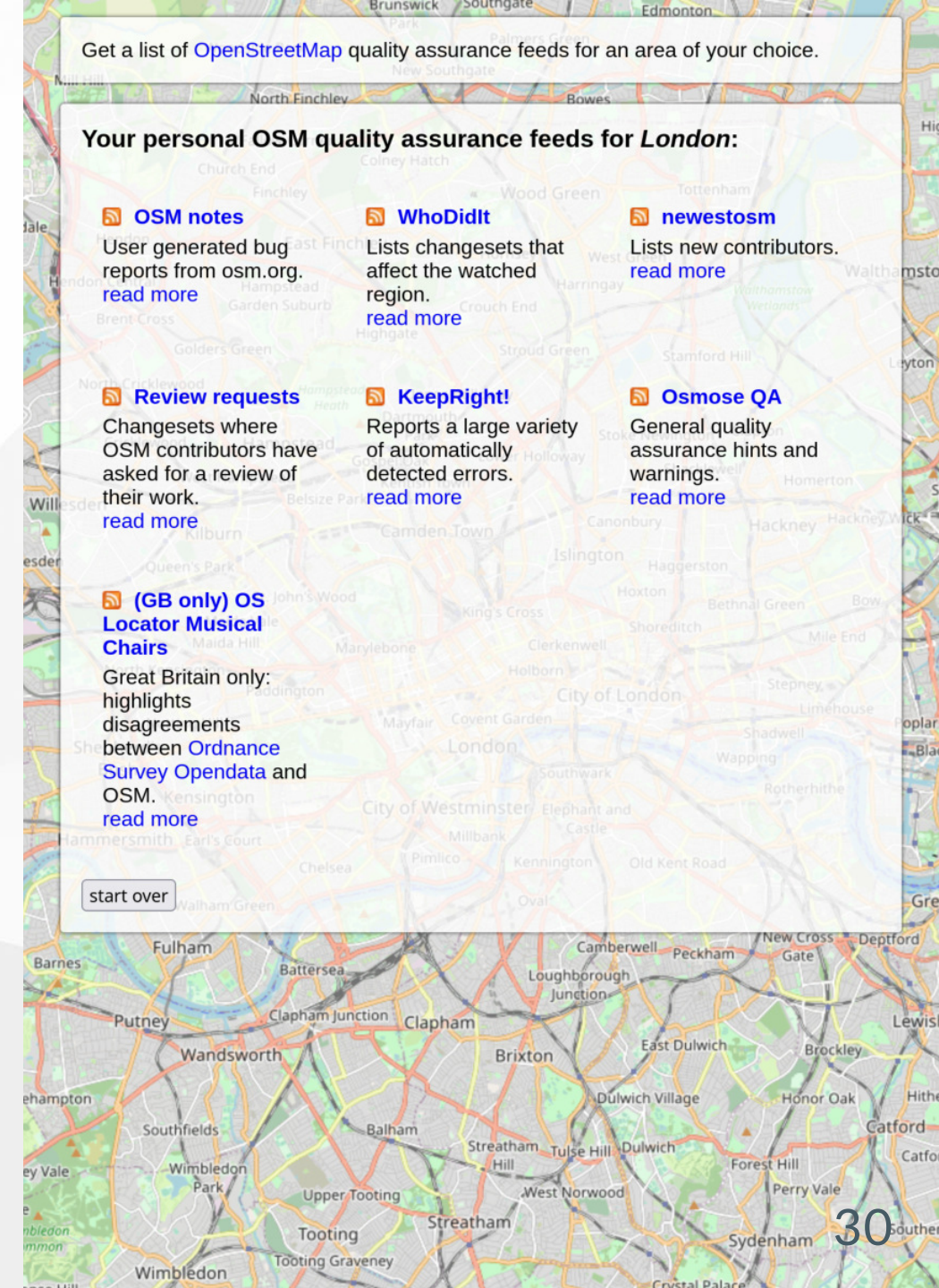
☒ I would like someone to review my edits.

Cancel

Upload

Observing changes

- OSM QA RSS Feeds:
 - New Notes (and comments)
 - New contributors
 - Changesets with review requests
 - All changesets
 - New detected QA warnings
- OSMCha
 - Made for reviewing



Reviewing Changes

- Element history on osm.org
- Tag history
- Geometry difference visualizers
- Relation analyzers

Elements & Element History

nodes
id
version
latitude
longitude
<i>changeset_id</i>
visible

1-----0..N

way_nodes
<i>way_id</i>
<i>node_id</i>
version
sequence_id

0..N-----1

ways
id
version
<i>changeset_id</i>
visible

Nodes

▼ 5 nodes

1199442699

1199442695

1199442721

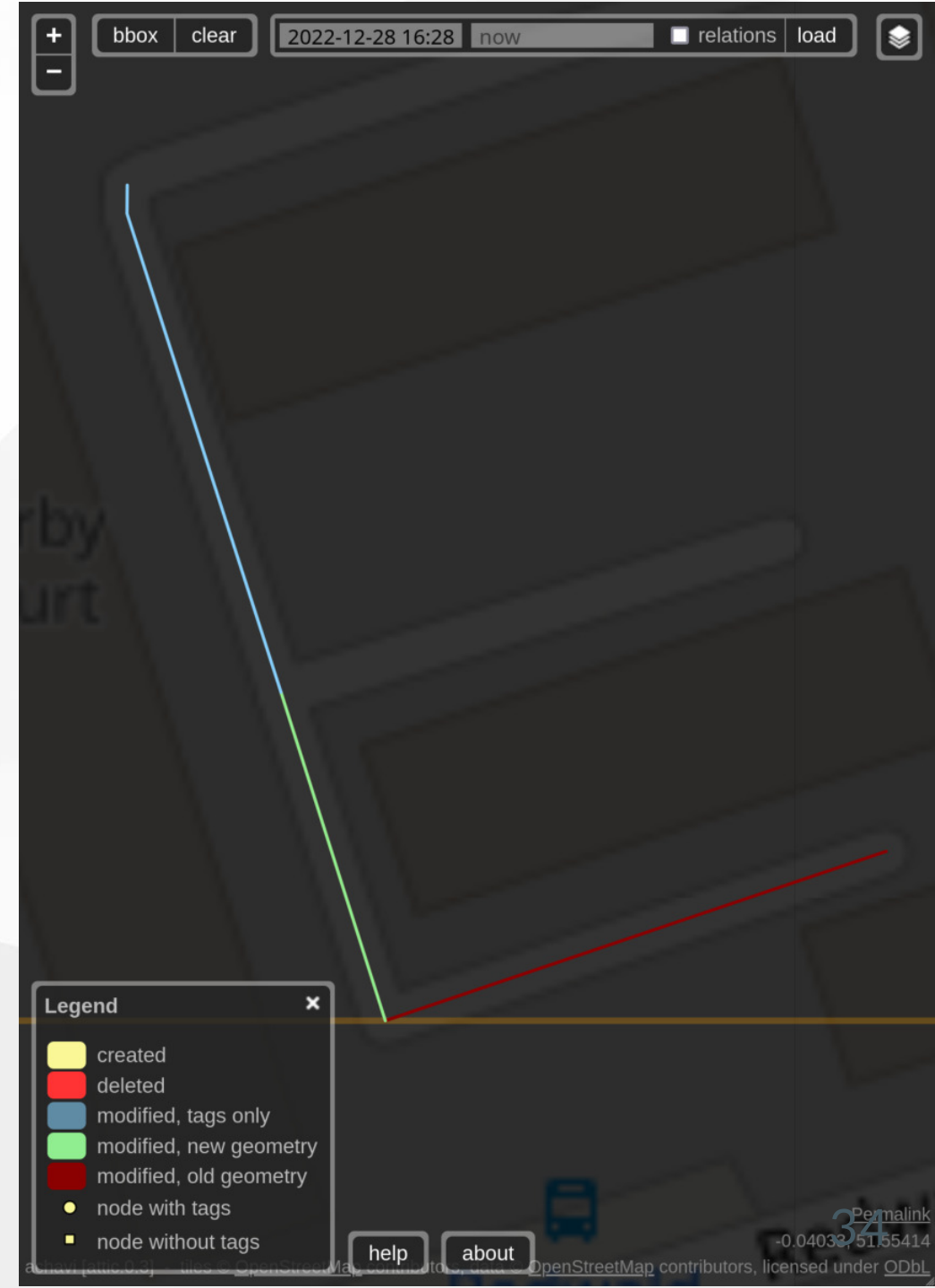
1199442700

1199442699



Achavi

- Augmented OSM Change Viewer
- Geometry difference
- Tag changes on hover
- Similar tools:
 - [OSM Lab Changeset Map](#)
 - [OSMHV](#)
 - [Changeset by Comparison Visualization](#)



OSMHV

- OSM History Viewer
- Highlights changed tags
- Includes visual map

Changed object tags

Hover the elements to view the changed tags.

- Node 1353211793 ([browse](#))
- Node 2364827705 ([browse](#))
- Way 227845031 ([browse](#))
- Way 564174516 ([browse](#))
- Node 5436489570 ([browse](#))
- Way 564174526 ([browse](#))

bicycle	yes	
surface	paved	paving_stones
cycleway:surface	<i>asphalt</i>	<i>asphalt</i>
lit	<i>yes</i>	<i>yes</i>
footway	sidewalk	
footway:surface	<i>paving_stones</i>	<i>paving_stones</i>
highway	footway	cycleway
segregated	yes	no
oneway	<i>no</i>	<i>no</i>
foot	<i>yes</i>	<i>yes</i>
cycleway		sidewalk

- Way 564174524 ([browse](#))

OSM Deep History

- See entire history, not just single change
- "When was tag x added the first time?"
- Highlights addition and changes of tags
- Also shows way nodes
- Also shows relation members

OSM History Browser

- Supports nodes, ways, relations
- Order of way nodes
- Order / Type of relation members

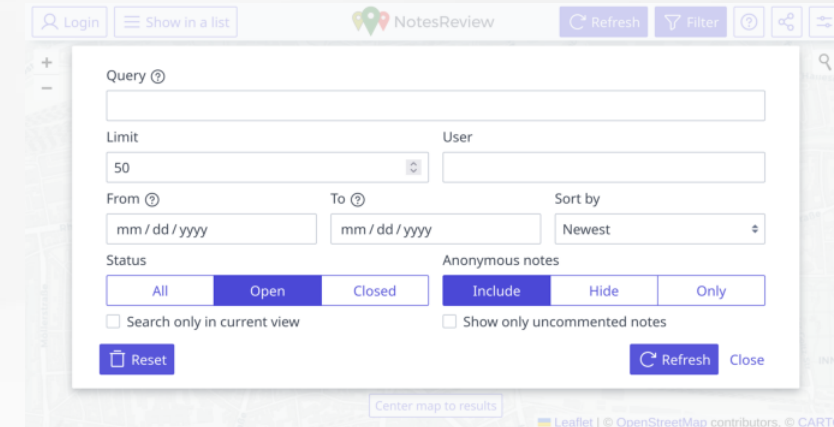
	version #34	version #35
edited by	MacLondon at 2018-10-11T00:42:17Z	eastender at 2018-11-19T07:13:49Z
changeset	63398029 [A] [C] [M] [V] [H]	64643074 [A] [C] [M] [V] [H] (re-sorted)
Tags	9	9
	name=Waterloo naptan:StopAreaCode=490G00254D; 490G00254J;490G00254V naptan:StopAreaType=GCLS network=London Buses note=Use this for the Waterloo bus stops only. Seperate relations exist for tube and railway stations, and these relations in turn belong to a Waterloo relation operator=Transport for London public_transport:version=2 public_transport=stop_area type=public_transport	name=Waterloo naptan:StopAreaCode=490G00254D; 490G00254J;490G00254V naptan:StopAreaType=GCLS network=London Buses note=Use this for the Waterloo bus stops only. Seperate relations exist for tube and railway stations, and these relations in turn belong to a Waterloo relation operator=Transport for London public_transport:version=2 public_transport=stop_area type=public_transport
Members	33	32
	node 469760386 as platform node 469760387 as platform node 469760379 as platform node 469760381 as platform node 2152588336 as platform node 2152588335 as platform node 469760376 as platform node 469760374 as platform node 469760375 as platform node 277675366 as platform node 469760377 as platform node 469760378 as platform node 469760380 as platform node 469760388 as platform node 469760389 as platform node 469779703 as platform node 469760384 as platform node 3560401458 as stop node 4082316447 as stop node 3560401450 as stop node 3560401451 as stop node 4113409048 as stop node 3560401452 as stop node 3560401453 as stop node 254780524 as stop node 21392082 as stop node 2623975685 as stop node 3560401454 as stop node 3519079530 as stop node 3560401449 as stop	node 469760386 as platform node 469760387 as platform node 6072434837 as platform node 469760379 as platform node 469760381 as platform node 2152588336 as platform node 2152588335 as platform node 469760376 as platform node 469760374 as platform node 469760375 as platform node 277675366 as platform node 469760377 as platform node 469760378 as platform node 469760380 as platform node 469760388 as platform node 469760389 as platform node 3560401458 as stop node 4082316447 as stop node 6072434836 as stop node 3560401450 as stop node 3560401451 as stop node 4113409048 as stop node 3560401452 as stop node 3560401453 as stop node 254780524 as stop node 21392082 as stop node 2623975685 as stop node 3560401454 as stop node 3519079530 as stop

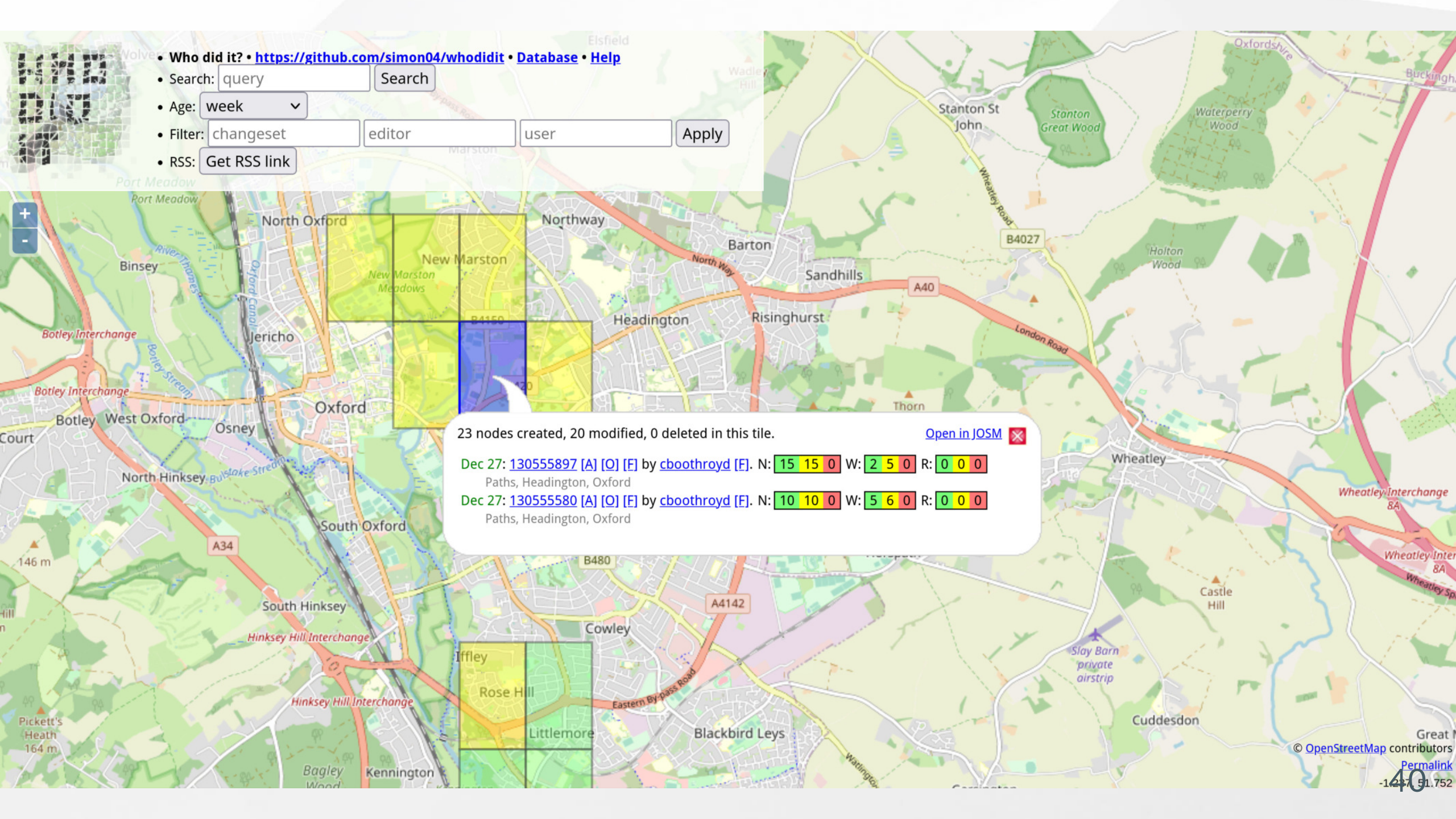
PTNA

- Public Transport Network Analysis
- Detect errors in public transport network relations
- FAQ lists many more QA tools

Map Notes

- Can be created by anyone to report issues
- Used to report missing/wrong data
- Sometimes to discuss *how* to add/fix data
- Available as overlay on osm.org
- Also in iD and JOSM
- Shows open and recently closed notes
- [NotesReview](#) allows searching





Who did it? • <https://github.com/simon04/whodidit> • Database • Help

Search:

Age:

Filter:

RSS:

23 nodes created, 20 modified, 0 deleted in this tile.

[Open in JOSM](#)

Dec 27: [130555897](#) [A] [O] [F] by [cboothroyd](#) [F]. N: W: R:

Paths, Headington, Oxford

Dec 27: [130555580](#) [A] [O] [F] by [cboothroyd](#) [F]. N: W: R:

Paths, Headington, Oxford

Severity

High

▼

Fixable

▼

Topic

▼

More filters ▼

Select: all nothing invert

Structure 30/30 all nothing

☒ overlapping building

☒ invalid polygon

☒ reverse roundabout

☒ orphan nodes

☒ sudden highway type change

☒ bad *_link highway

☒ broken highway continuity

☒ big relation

☒ multipolygon

☒ not-connected

highway/cycleway

☒ duplicate geometry

☒ almost junction

Missing tags 14/14 all nothing

☒ junction=roundabout

☒ oneway

☒ highway

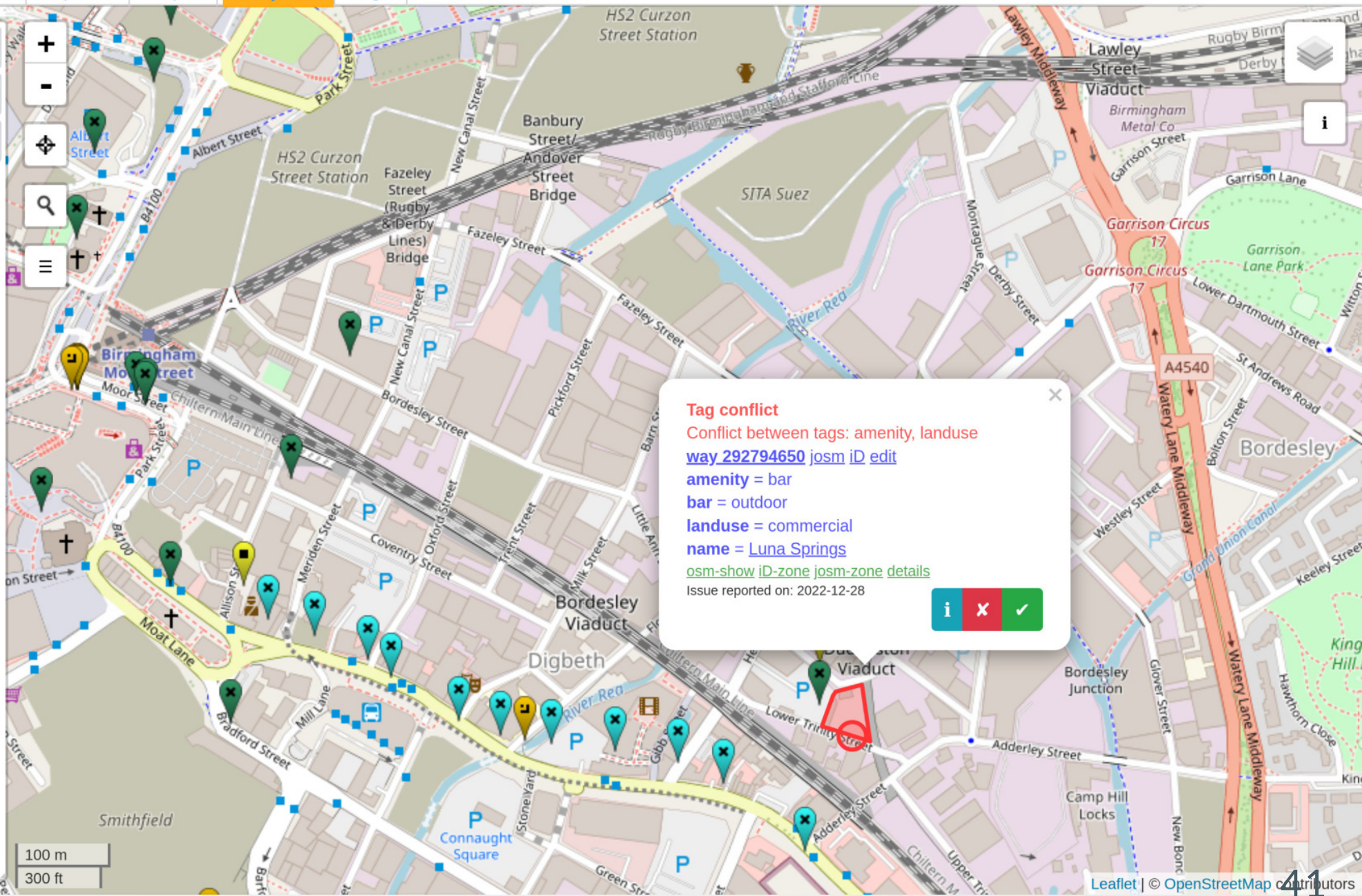
☒ zone:maxspeed

Bad tag 33/33 all nothing

☒ bad source tag

☒ multiple tags

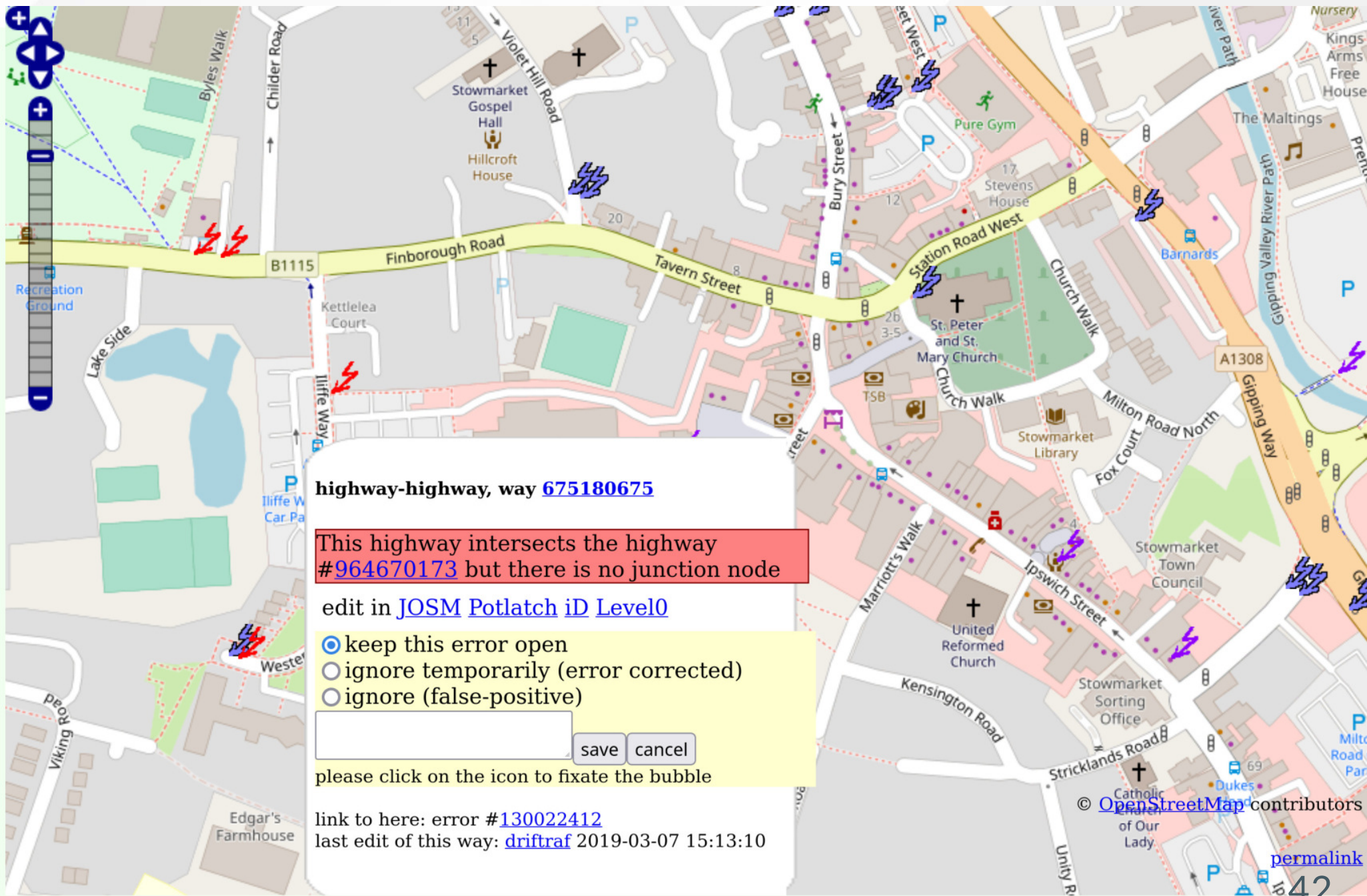
☒ incorrect tag



errors

- ☒ non-closed areas
- ☒ dead-ended one-ways
- ☒ almost-junctions
- ☒ missing tags
- ☒ motorways without ref
- ☒ places of worship without religion
- ☒ point of interest without name
- ☒ ways without nodes
- ☒ floating islands
- ☒ railway crossings without tag
- ☒ wrongly used railway crossing tag
- ☒ fixme-tagged items
- ☒ relations without type
- ☒ intersections without junctions
- ☒ overlapping ways
- ☒ loopings
- ☒ misspelled tags
- ☒ layer conflicts
- ☒ motorways connected directly
- ☒ boundaries
- ☒ restrictions
- ☒ roundabouts
- ☒ *_link-connections
- ☒ bridge-tags
- ☒ doubled places
- ☒ non-physical use of sport-tag
- ☒ geometry glitches

warnings



© OpenStreetMap contributors

permalink

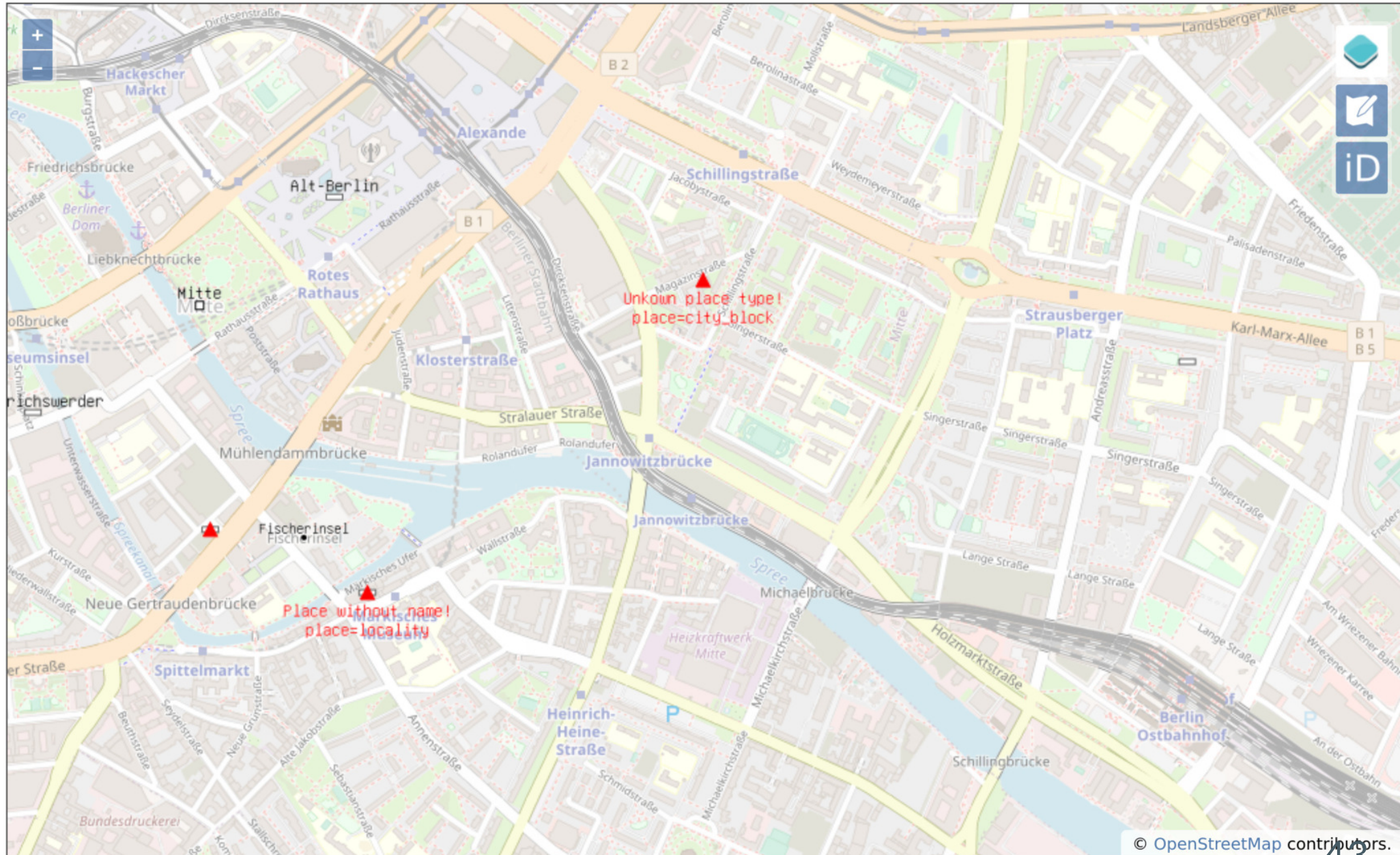
42

Places ▼ i

Opacity —●—

Overlays

- ☒ Settlement hierarchy
 - ☒ Megacities
 - ☒ Large Cities
 - ☒ Cities
 - ☒ Towns
 - ☒ Villages
 - ☒ Hamlets
- ☒ Other place types
 - ☒ Islands
 - ☒ Suburbs
 - ☒ Neighbourhoods
 - ☒ Farms
 - ☒ Isolated Dwellings
 - ☒ Localities
 - ☒ Municipalities
 - ☒ Unknown
- ☒ Errors
 - ☒ Population not a number
 - ☒ Without name
- ☒ Warnings
 - ☒ Unusual population size



Nominatim QA

Layers:

- no admin level
- duplicate label role
- Suspicious addr:street tag
- addr:* tags on non-addressable places
- duplicate wikidata id

place nodes close

Description of the layer:

Place nodes of same type and name close to each other.

Why are these data wrong:

Place nodes with the same type and name which are geographically close to each other are probably errors.

How to fix these errors:

Remove or correct the duplicate nodes.

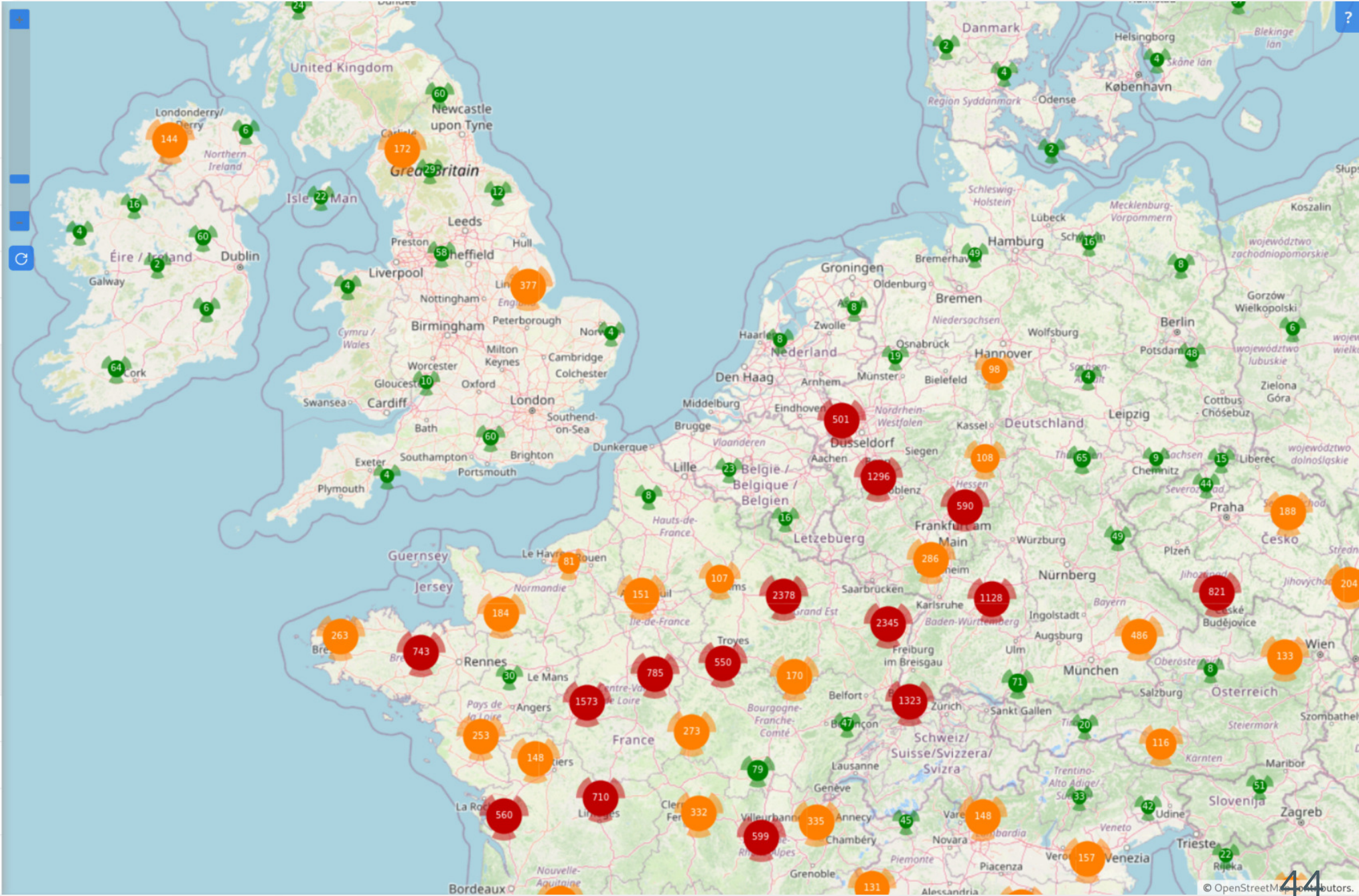
Last update of the layer:

2022-12-29 02:01:30 UTC

addr:place vs addr:street

Bad interpolation line

Unusual Postcode Format





OpenStreetMap

Layers

Config

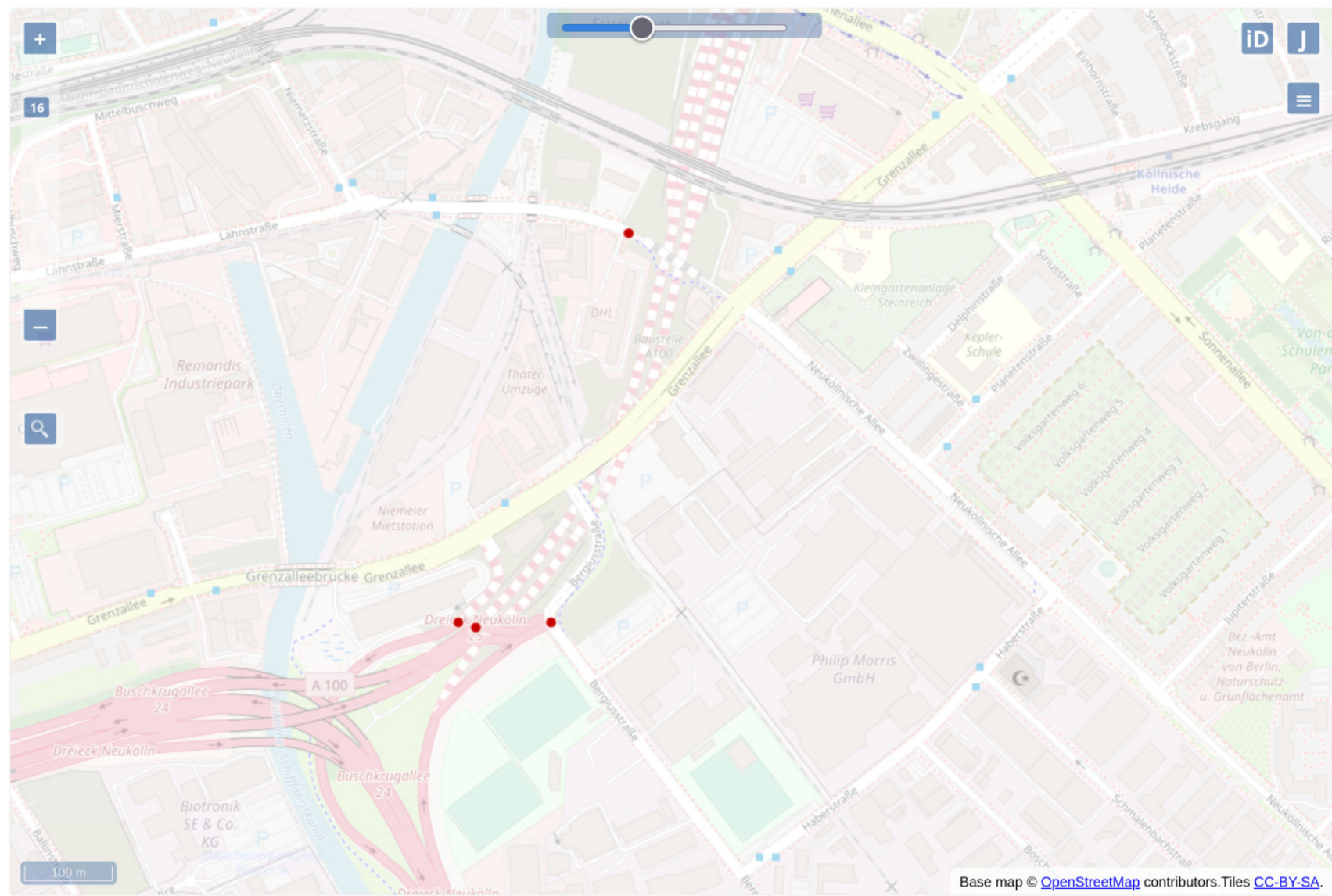
- new suspects for motorways
- new suspects down to trunk
- Active deferred suspects
- new suspects down to primary
- new suspects down to tertiary
- new suspects down to secondary
- ALL suspects for motorways
- Active false positives
- ALL DAILY suspects for germany
- ALL suspects for germany ▶

ALL suspects for germany

Map

Statistics

Layer info



Base map © OpenStreetMap contributors. Tiles CC-BY-SA.

Learn about
• [OpenStreetMap](#)
• [Osmoscope](#)

Selection

ID: [830887579904497366](#)
Status: archived
Level: motorway

ImproveOSM Detection ×



Missing Turn Restriction

Description

9 of 2,540 recorded trips (travelling south) make a turn from [Dürener Straße](#) to [L 160](#) at [this node](#). There may be a missing "no_left_turn" restriction.

New Comment

Enter a comment to share with other users.

Save Comment

Close (Issue Fixed)

Remove (False
Positive)



Inspect



Point



Line



Area

Add Feature

Germany: Add missing buildings in residential areas

Unmapped residential

INSTRUCTIONS

English below

🇩🇪 Öffne das hervorgehobene Gebiet im Editor und füge Satelliten-/Luftbilder hinzu. Zeichne alle fehlenden Gebäude als Flächen nach und markiere sie als **building=yes**.

Die meisten Gebäudegrundrisse haben rechte Winkel. Der Editor macht die eingezeichnete Fläche rechtwinklig, wenn Du **q** drückst. Falls Du JOSN verwendest, ist das BuildingsTools-Plugin hilfreich.

Selbstverständlich darfst Du auch alle weiteren fehlenden Dinge einzeichnen, die Dir auf dem Luftbild auffallen,

COMPLETION

Add MR Tags

Current Editor: [Edit in ID \(web editor\)](#)

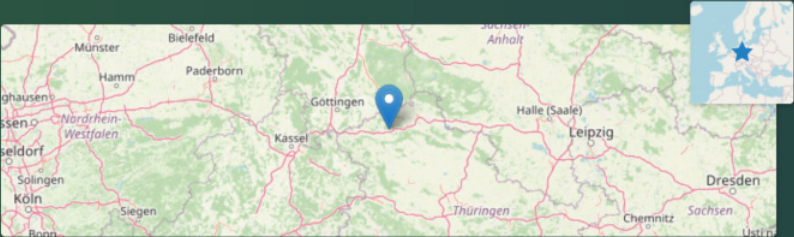
Edit

Not an Issue

Skip

Other...

LOCATION



Breitenworbis, Landkreis Eichsfeld, Thuringia, Germany

Lon/Lat: 10.4284862, 51.4140778 





SUMMARY

REVIEW

STATISTICS

What does bike parking look like?



Changeseet Discussions

- Comments notify uploader
- Used to ask questions about changes, or inform about mistakes
- Keep it friendly!
- Tools like HDYC allow tracking unanswered discussions
 - hdyc.neis-one.org

Reverts

- Undo a changeset (rollback)
- Can undo deletions
- By hand (iD, JOSM, Level0)
- [JOSM plugin](#)
- [Revert UI](#) (web)

What's more?

- The wiki knows everything (Except when it doesn't)
 - Search "[Everything](#)", not just "Content pages"
- [User diaries](#), [weeklyOSM](#)
- [BRouter](#) for custom routers (can import to OSMAnd)
- Tools: [osmz.ru](#) / [resultmaps.neis-one.org](#)
- [OSM Smart Menu](#)
- [SotM](#)
- Mailing lists / Matrix / IRC / Telegram
- Local meetups

Thanks for listening!

Any questions?

Mastodon	@jomo@mstdn.io
Website	jomo.tv
IRC	jomo @ { hackint, libera, oftc, ircnet }
Email	osm@jomo.tv

