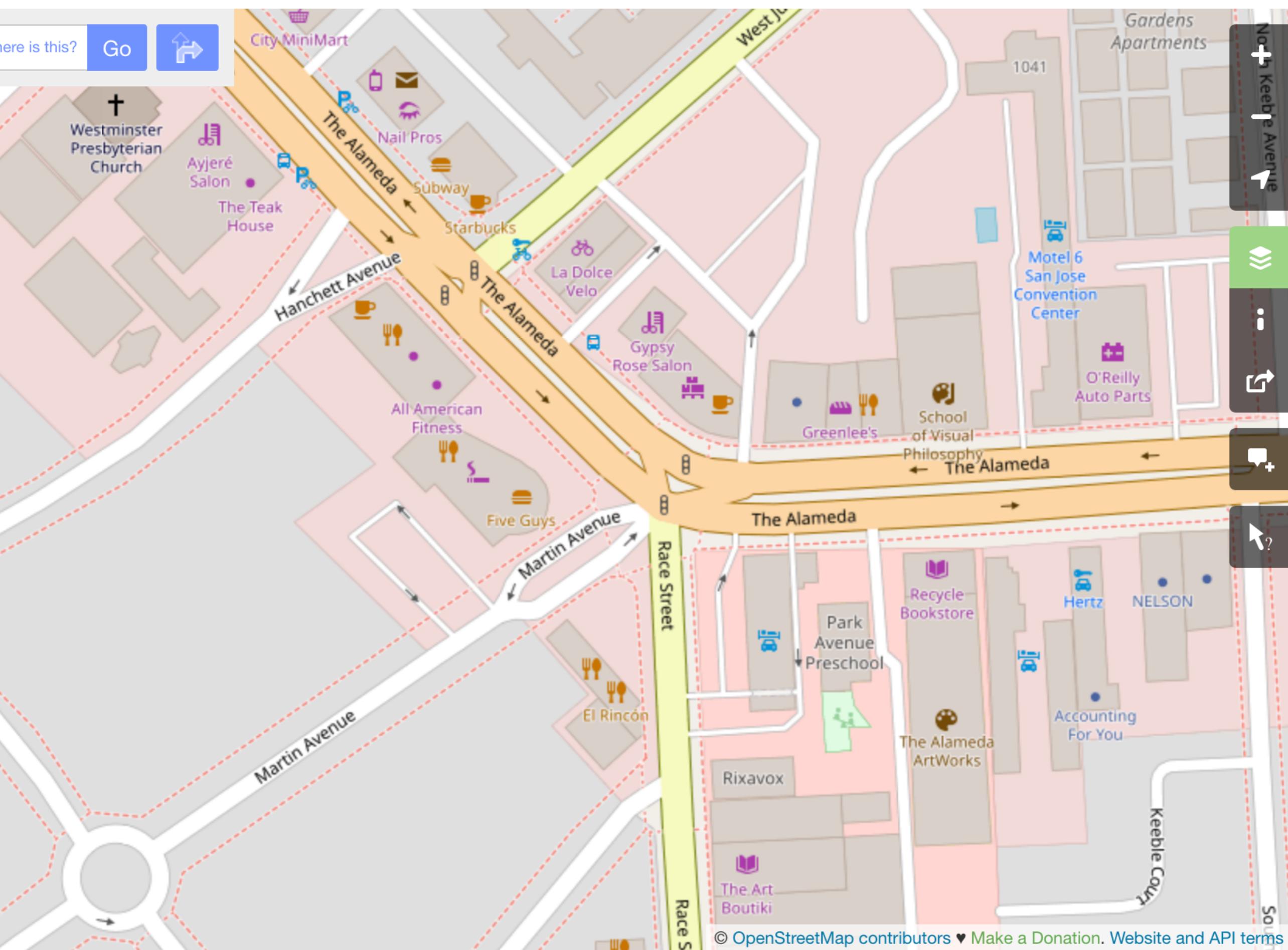


A wide-angle, low-angle night photograph of a highway interchange. Multiple lanes of traffic move along the roads, their headlights and tail lights creating long, streaky light trails against the dark night sky. The interchange features several overpasses and support pillars. Streetlights and signs are visible, though mostly illegible due to the motion blur.

# A Turbo Introduction to Overpass

Minh Nguyễn  
State of the Map U.S. 2019



Map

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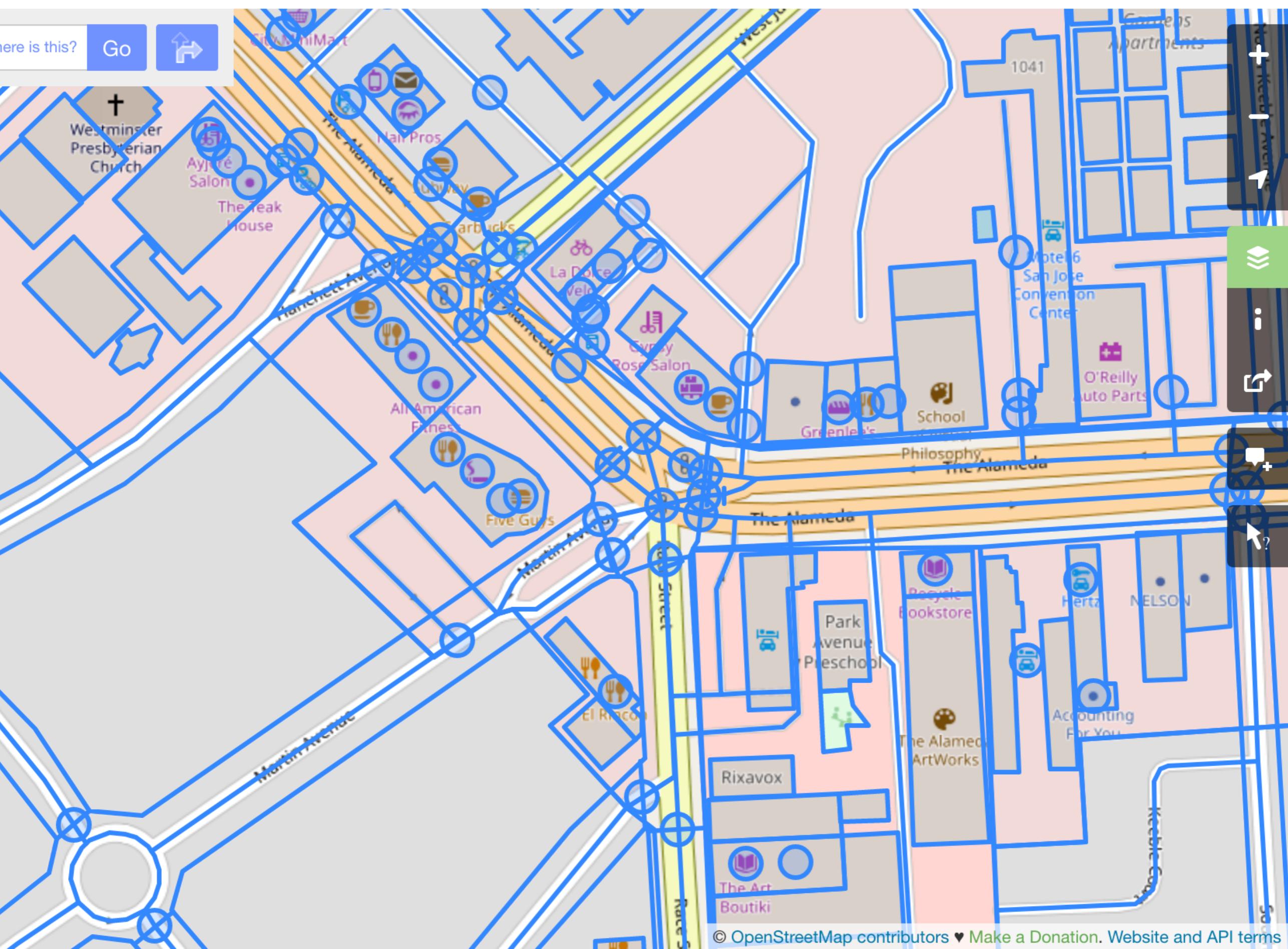
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| <a href="#">Connecticut</a>          | <a href="#">[.osm.pbf]</a> | (27.4 MB) | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
|--------------------------------------|----------------------------|-----------|----------------------------|----------------------------|
| <a href="#">Delaware</a>             | <a href="#">[.osm.pbf]</a> | (10.5 MB) | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">District of Columbia</a> | <a href="#">[.osm.pbf]</a> | (15.8 MB) | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Florida</a>              | <a href="#">[.osm.pbf]</a> | (220 MB)  | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Georgia (US State)</a>   | <a href="#">[.osm.pbf]</a> | (175 MB)  | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Hawaii</a>               | <a href="#">[.osm.pbf]</a> | (11.9 MB) | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Idaho</a>                | <a href="#">[.osm.pbf]</a> | (62 MB)   | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Illinois</a>             | <a href="#">[.osm.pbf]</a> | (166 MB)  | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Indiana</a>              | <a href="#">[.osm.pbf]</a> | (69 MB)   | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Iowa</a>                 | <a href="#">[.osm.pbf]</a> | (84 MB)   | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Kansas</a>               | <a href="#">[.osm.pbf]</a> | (58 MB)   | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Kentucky</a>             | <a href="#">[.osm.pbf]</a> | (104 MB)  | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Louisiana</a>            | <a href="#">[.osm.pbf]</a> | (99 MB)   | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Maine</a>                | <a href="#">[.osm.pbf]</a> | (43.8 MB) | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Maryland</a>             | <a href="#">[.osm.pbf]</a> | (132 MB)  | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Massachusetts</a>        | <a href="#">[.osm.pbf]</a> | (235 MB)  | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Michigan</a>             | <a href="#">[.osm.pbf]</a> | (128 MB)  | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Minnesota</a>            | <a href="#">[.osm.pbf]</a> | (169 MB)  | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |
| <a href="#">Mississippi</a>          | <a href="#">[.osm.pbf]</a> | (68 MB)   | <a href="#">[.shp.zip]</a> | <a href="#">[.osm.bz2]</a> |

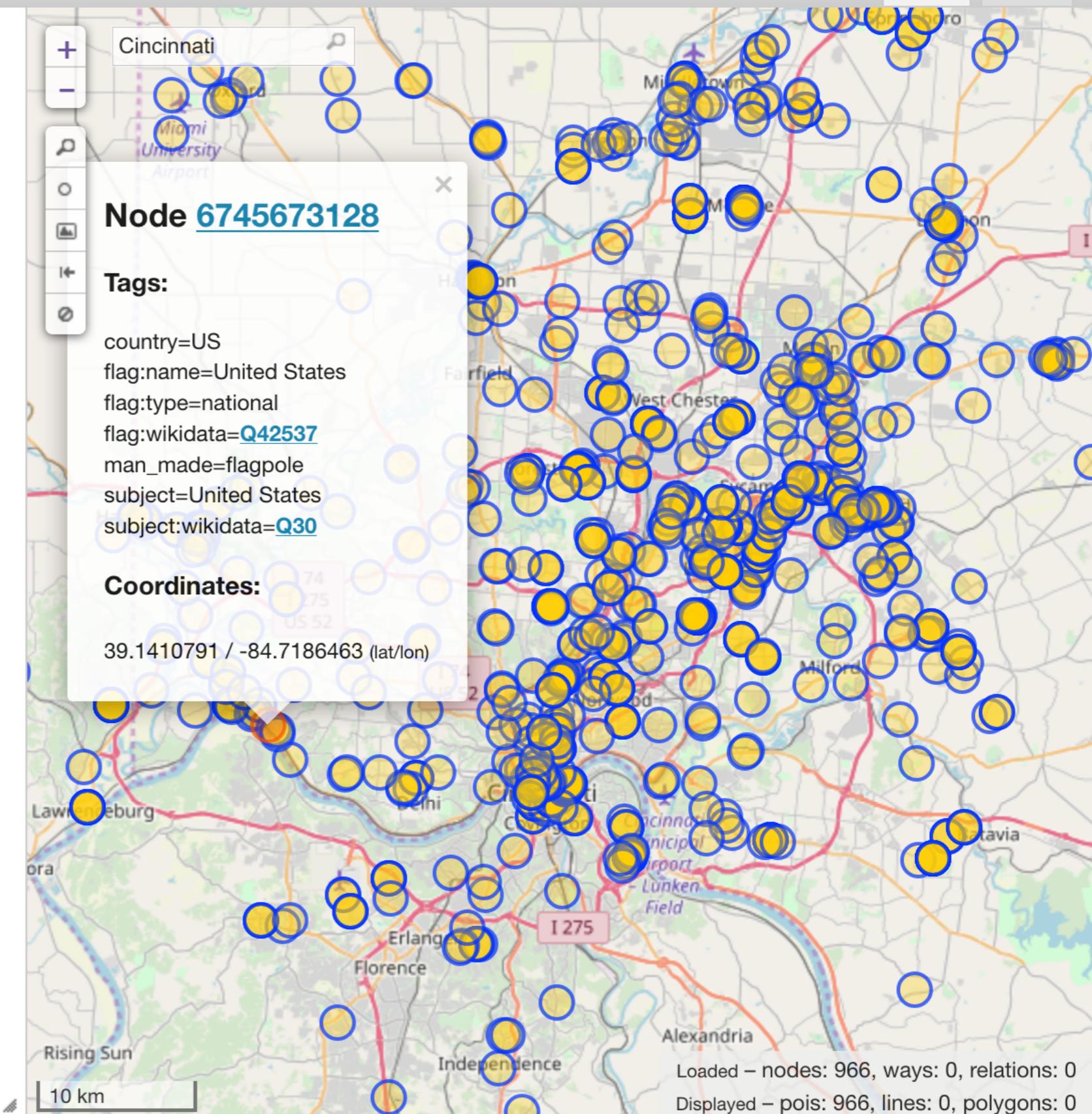
# Overpass API Query Form

```
[out:json][timeout:25];
(
    way[~"turn"~".*"](user:"Minh Nguyen");
);
out body;
>;
out skel qt;
```

Query

# Overpass API Convert Form

```
1 /*  
2 This has been generated by the overpass-  
3 turbo wizard.  
4 The original search was:  
5 "man_made=flagpole and type:node and  
6 user:"Minh Nguyen""  
7 */  
8 [out:json][timeout:25];  
9 // gather results  
10 (  
11   // query part for: "man_made=flagpole  
12   and user:"Minh Nguyen"  
13   node["man_made"="flagpole"]({user:"Minh  
14   Nguyen"});  
15 );  
16 // print results  
17 out body;  
18 >;  
19 out skel qt;
```

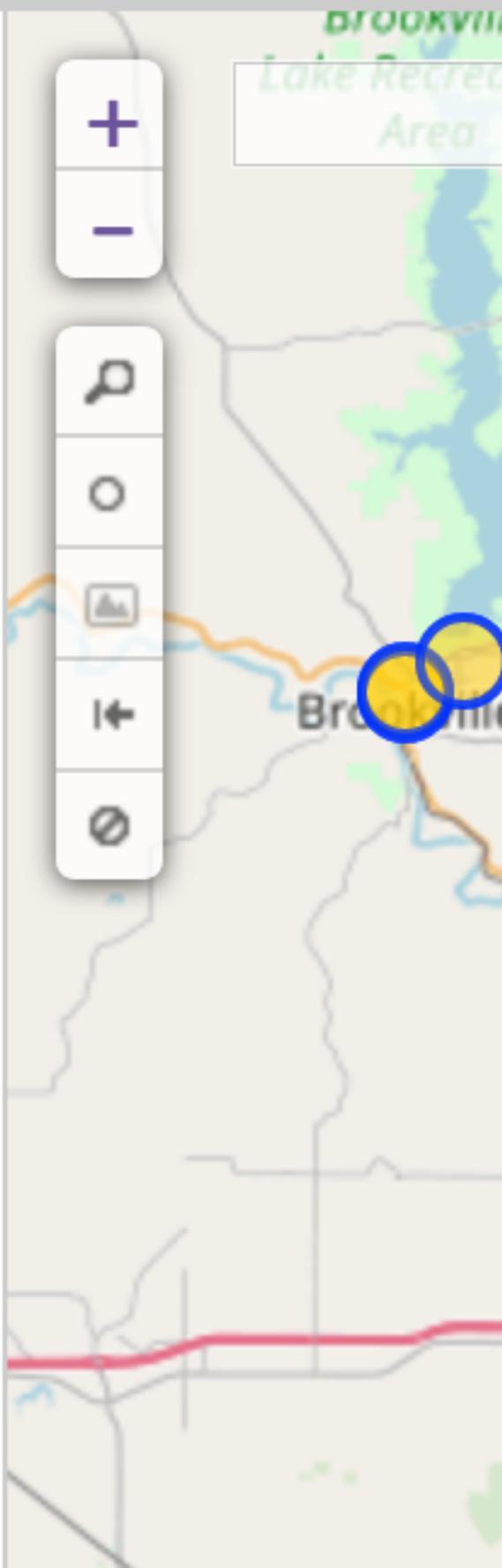


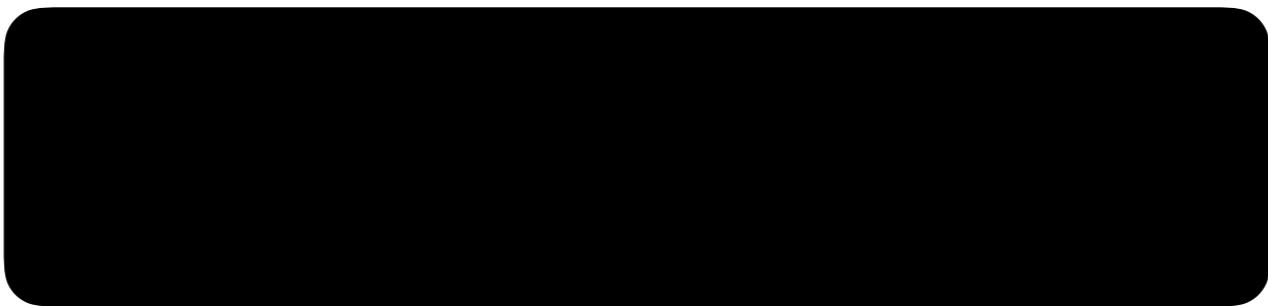
overpass-turbo.eu

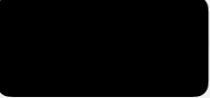
# *Wizard Queries*

Run Share Export Wizard Save Load Logout Settings

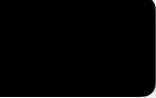
```
1  /*
2   This has been generated by the overpass-
3   turbo wizard.
4   The original search was:
5   "traffic_calming=bump and type:node and
6   user:"Minh Nguyen" global"
7   */
8   [out:json][timeout:50];
9   // gather results
10  (
11    // query part for: "traffic_calming=bump
12    and user:"Minh Nguyen""
13    node["traffic_calming"]="bump"
14    (user:"Minh Nguyen");
15  );
16  // print results
17  out body;
18  >;
19  out skel qt;
```



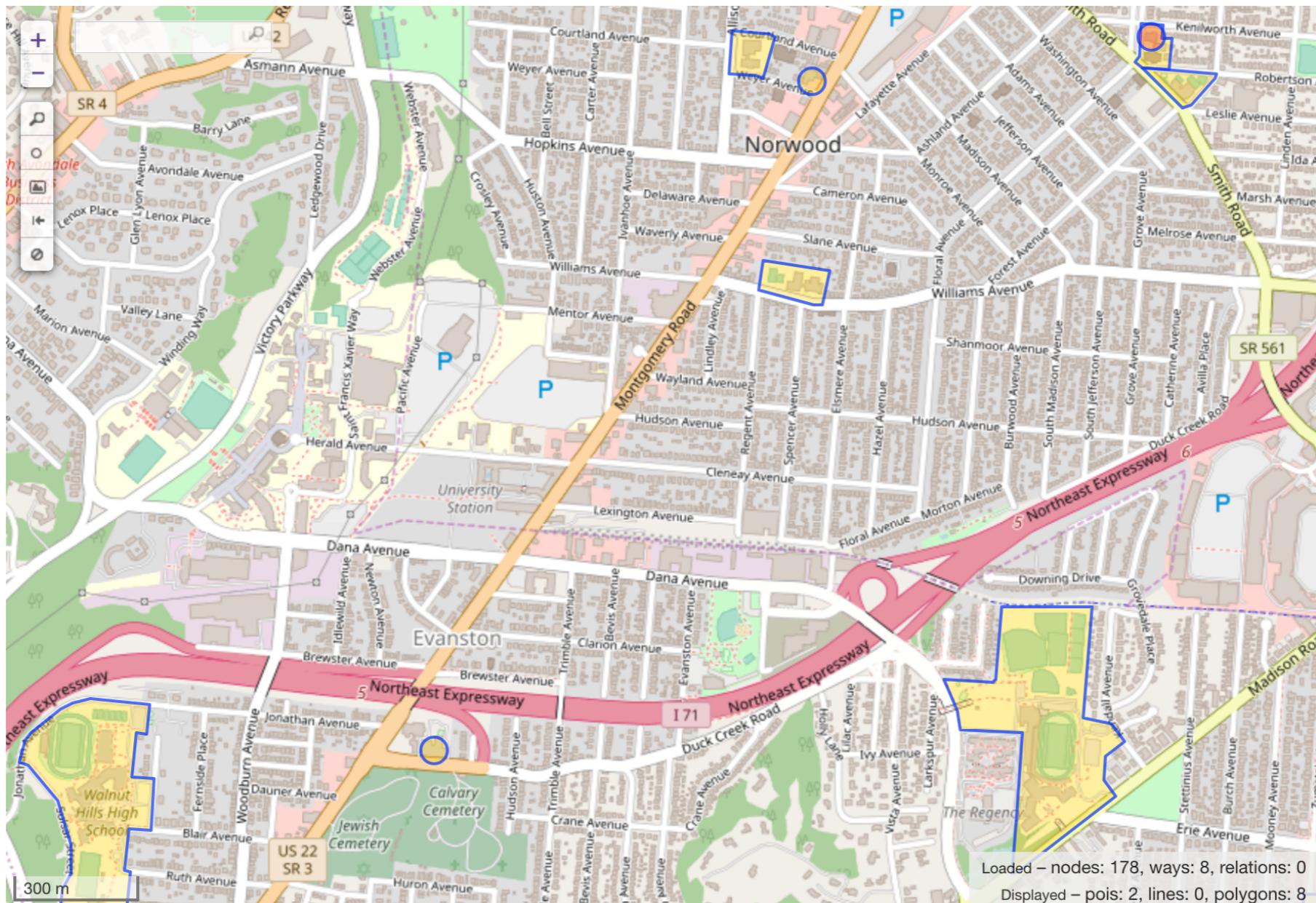


 Search

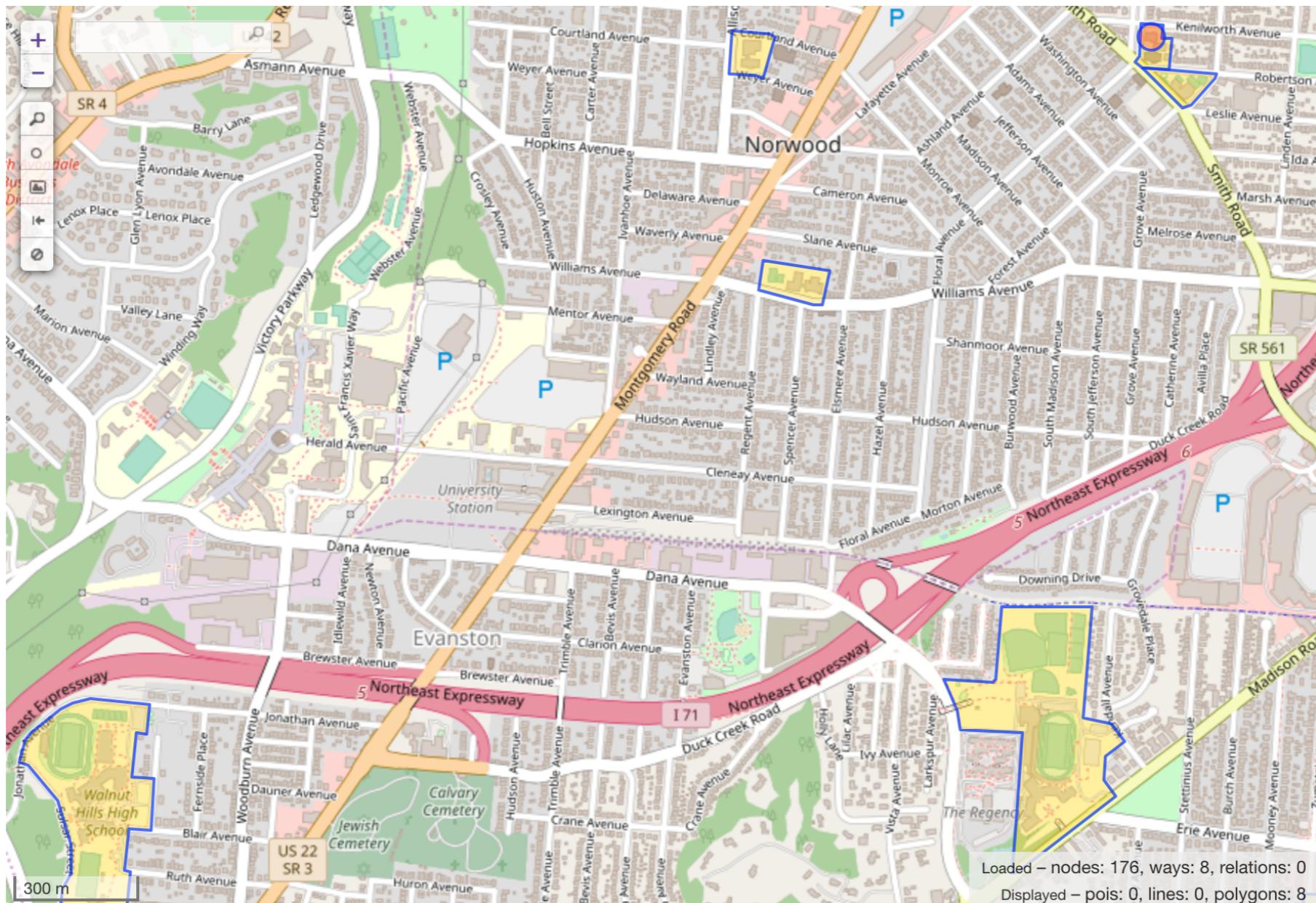
A light gray button with a black rectangular redaction box on its left side. To its right, the word "Search" is written in a dark gray sans-serif font.

I'm Feeling 

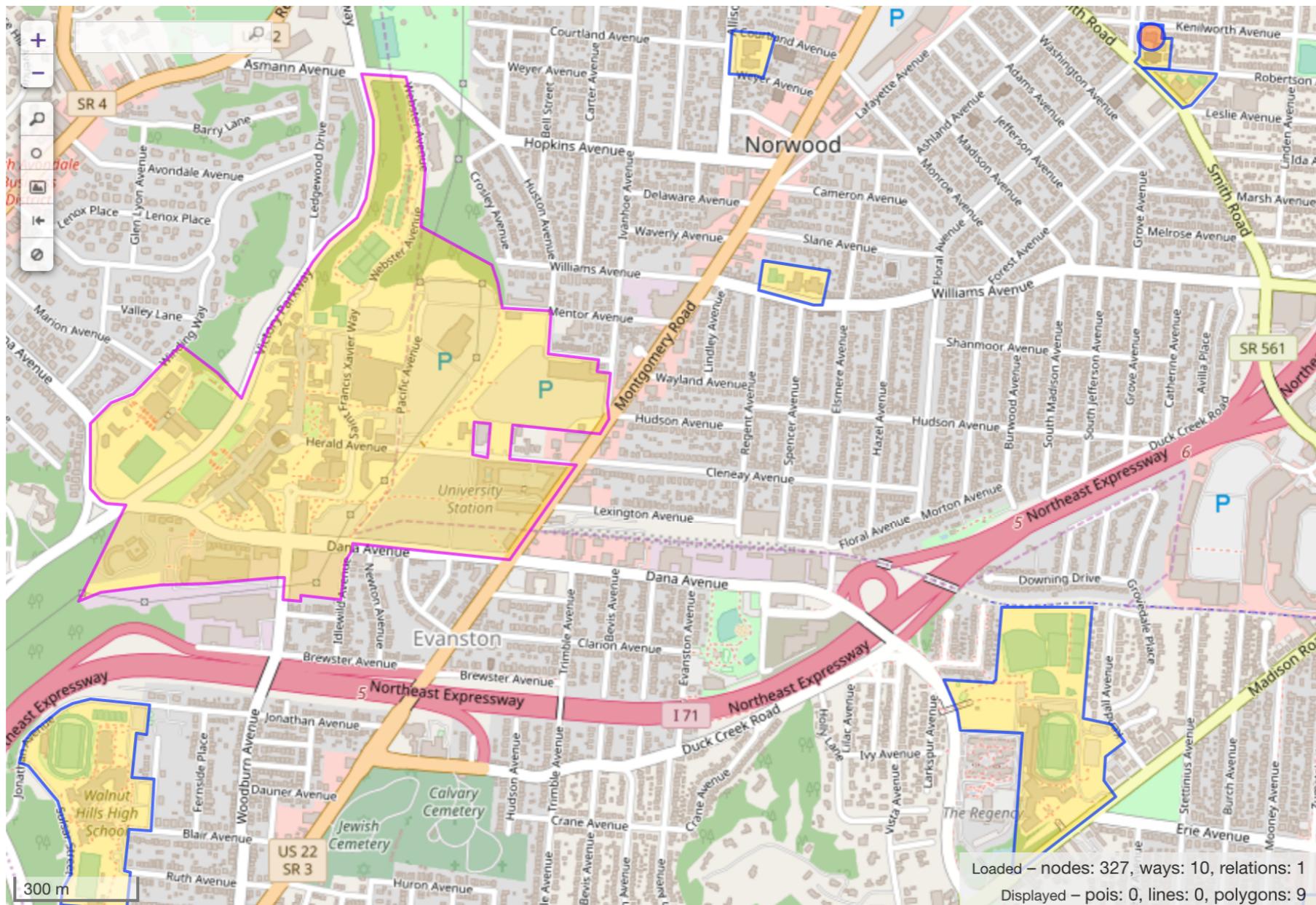
A light gray button with a black rectangular redaction box on its right side. To its left, the text "I'm Feeling" is written in a dark gray sans-serif font.



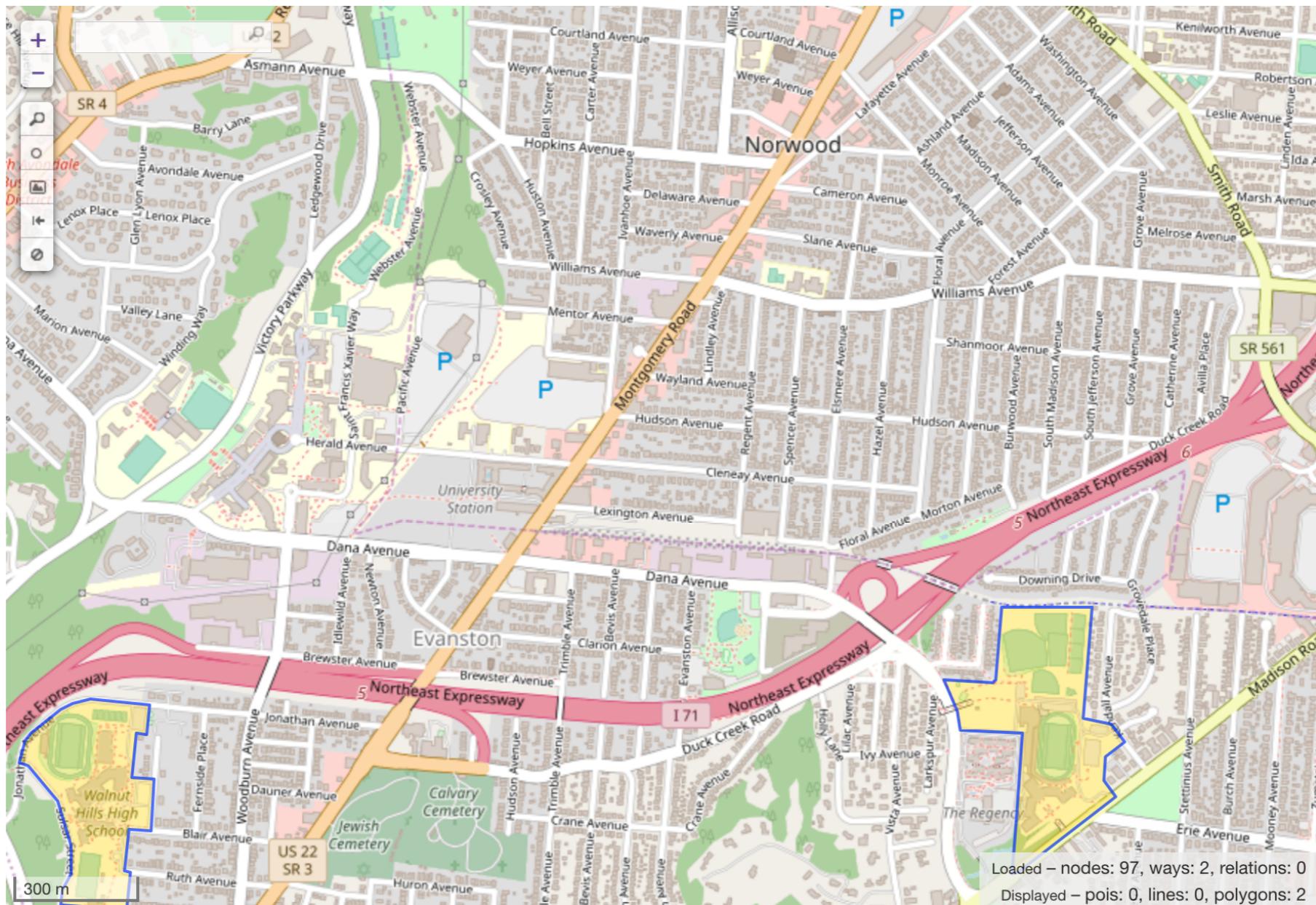
# amenity=school



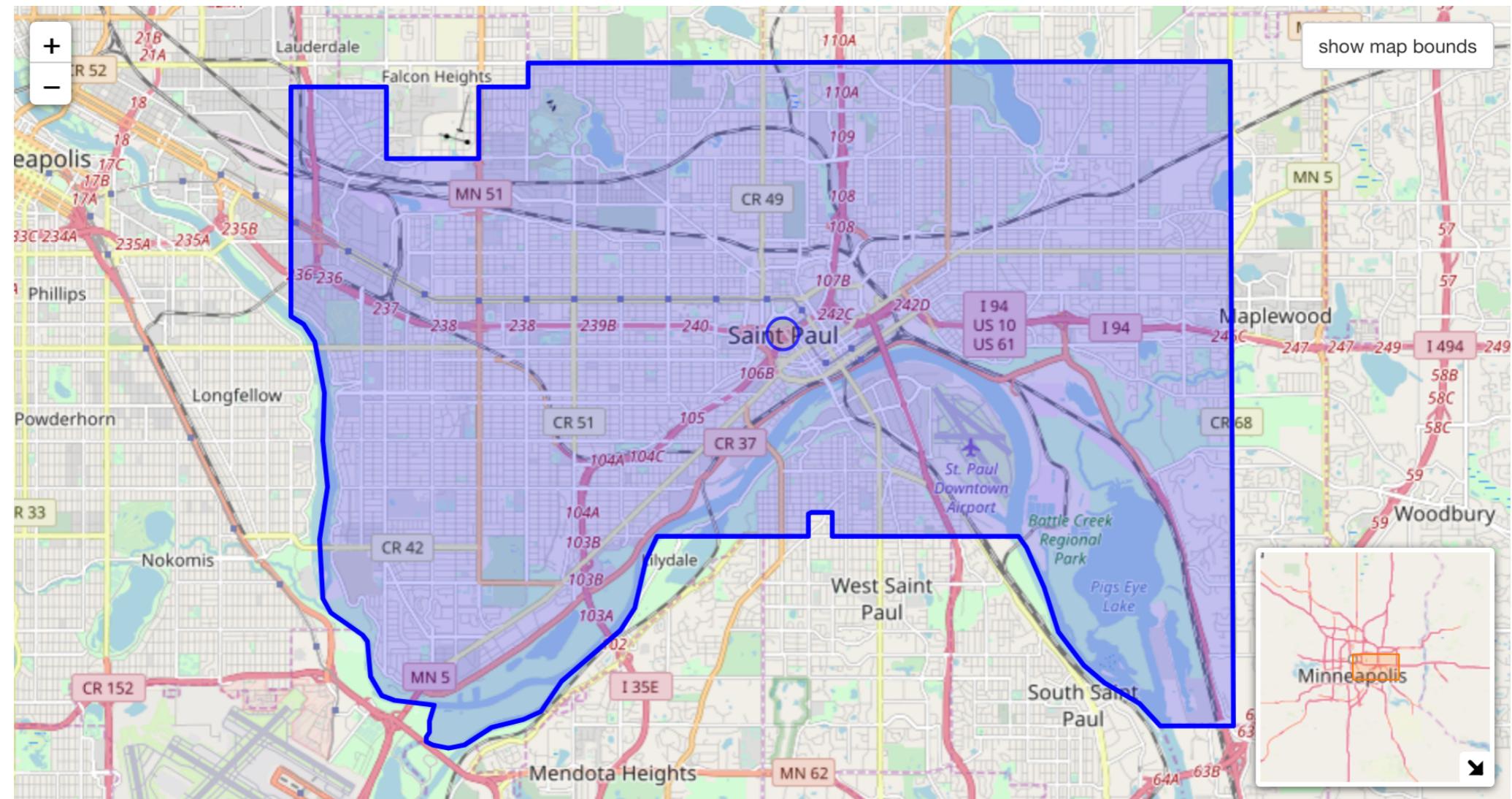
**amenity=school**  
and type:way



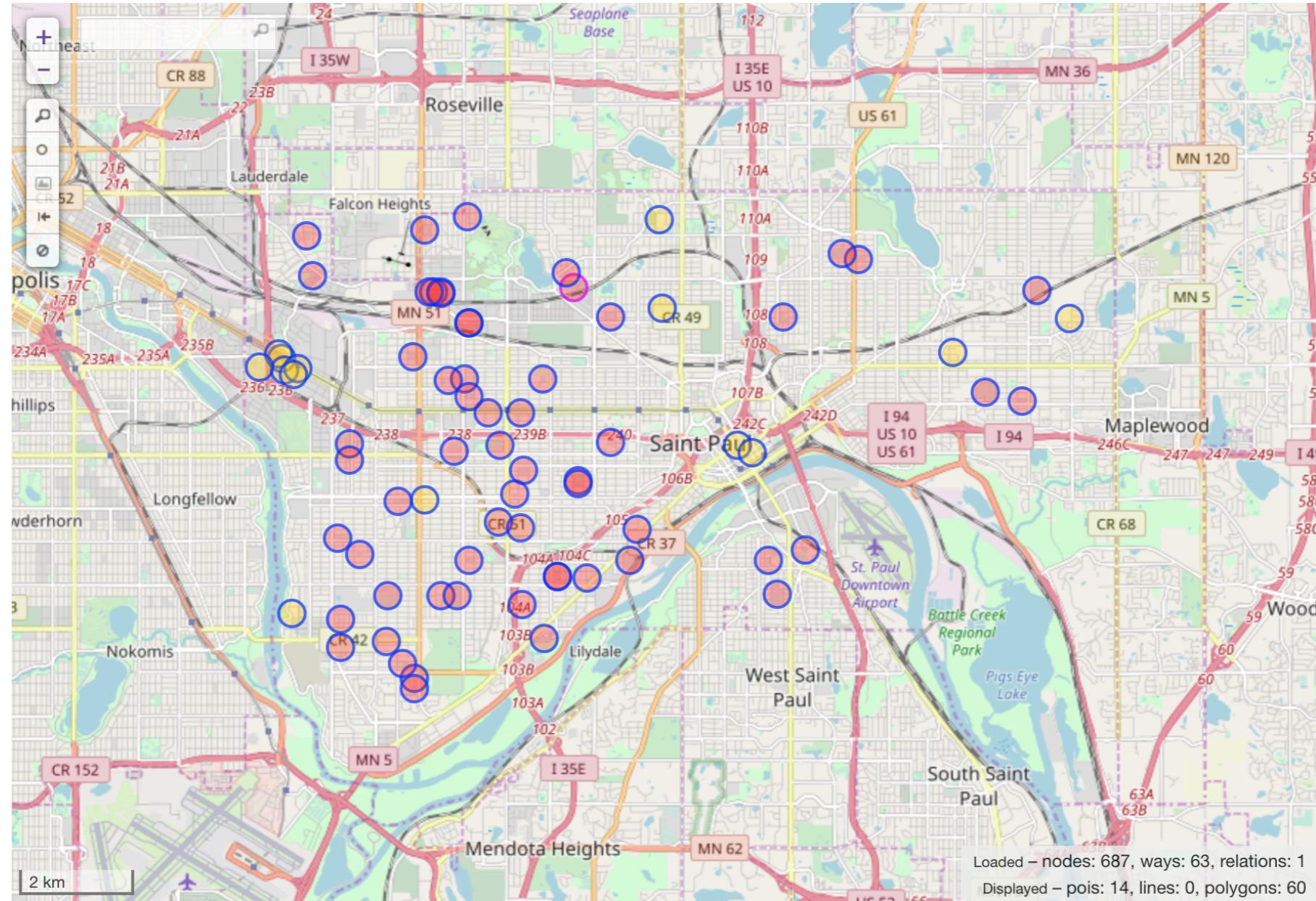
**(amenity=school or amenity=university)  
and (type:way or type:relation)**



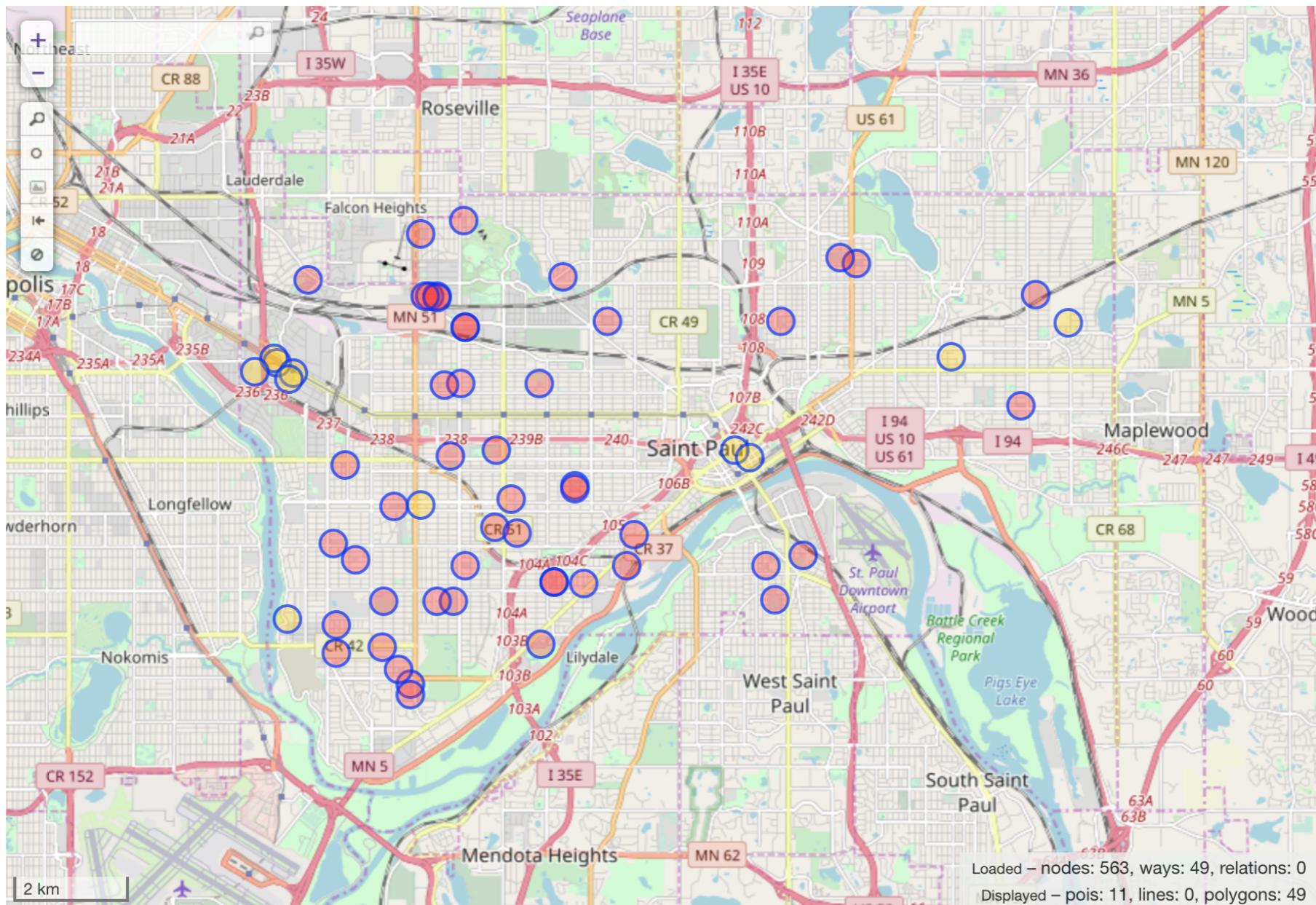
**amenity=school**  
and name~"High School"  
*Regular expressions*



# Saint Paul, Minnesota



**amenity=school**  
in "Saint Paul, Minnesota"



**amenity=school and operator!=\***  
in "Saint Paul, Minnesota"

# More wizardry

- amenity=school and user:"Marvelous Mapper"
- amenity=school newer:1day
- ~"(disused:|demolished:)?amenity"~"school"
- amenity=language\_school global

An aerial photograph of a complex highway interchange with multiple levels of overpasses and ramps. The interchange is set against a backdrop of a bright blue sky with scattered white clouds. Several cars and trucks are visible on the roads. In the center foreground, there is a large, semi-transparent watermark containing the title text.

# Dissecting OverpassQL

# amenity=school

```
[out:json][timeout:25];
(
  node["amenity"="school"]
    ({{bbox}});
  way["amenity"="school"]
    ({{bbox}});
  relation["amenity"="school"]
    ({{bbox}});
);
out body;
>;
out skel qt;
```



# amenity=school

```
[out:json][timeout:25];
(
  node["amenity"]="school"]({{bbox}});
  way["amenity"]="school"]({{bbox}});
  relation["amenity"]="school"
    ({{bbox}});
);
out body;
>;
out skel qt;
```

# **amenity=school**

```
[out:json][timeout:25];
(
  node["amenity"]="school"]({{{bbox}}});
  way["amenity"]="school"]({{{bbox}}});
  relation["amenity"]="school"
    ({{{bbox}}});
);
out body;
>;
out skel qt;
```

# amenity=school

```
[out:json][timeout:25];
→ (
    node["amenity"="school"]({{bbox}});
    way["amenity"="school"]({{bbox}});
    relation["amenity"="school"]
        ({{bbox}});
);
←
out body;
>;
out skel qt;
```

# **amenity=school**

```
[out:json][timeout:25];
(
  node["amenity"]="school"]({{{bbox}}});
  way["amenity"]="school"]({{{bbox}}});
  relation["amenity"]="school"
    ({{{bbox}}});
);
out body;
>;
out skel qt;
```

# amenity=school

```
[out:json][timeout:25];
(
  node["amenity"="school"]
    ({{bbox}});
  way["amenity"="school"]
    ({{bbox}});
  relation["amenity"="school"]
    ({{bbox}});
);
out body;
>;
out skel qt;
```



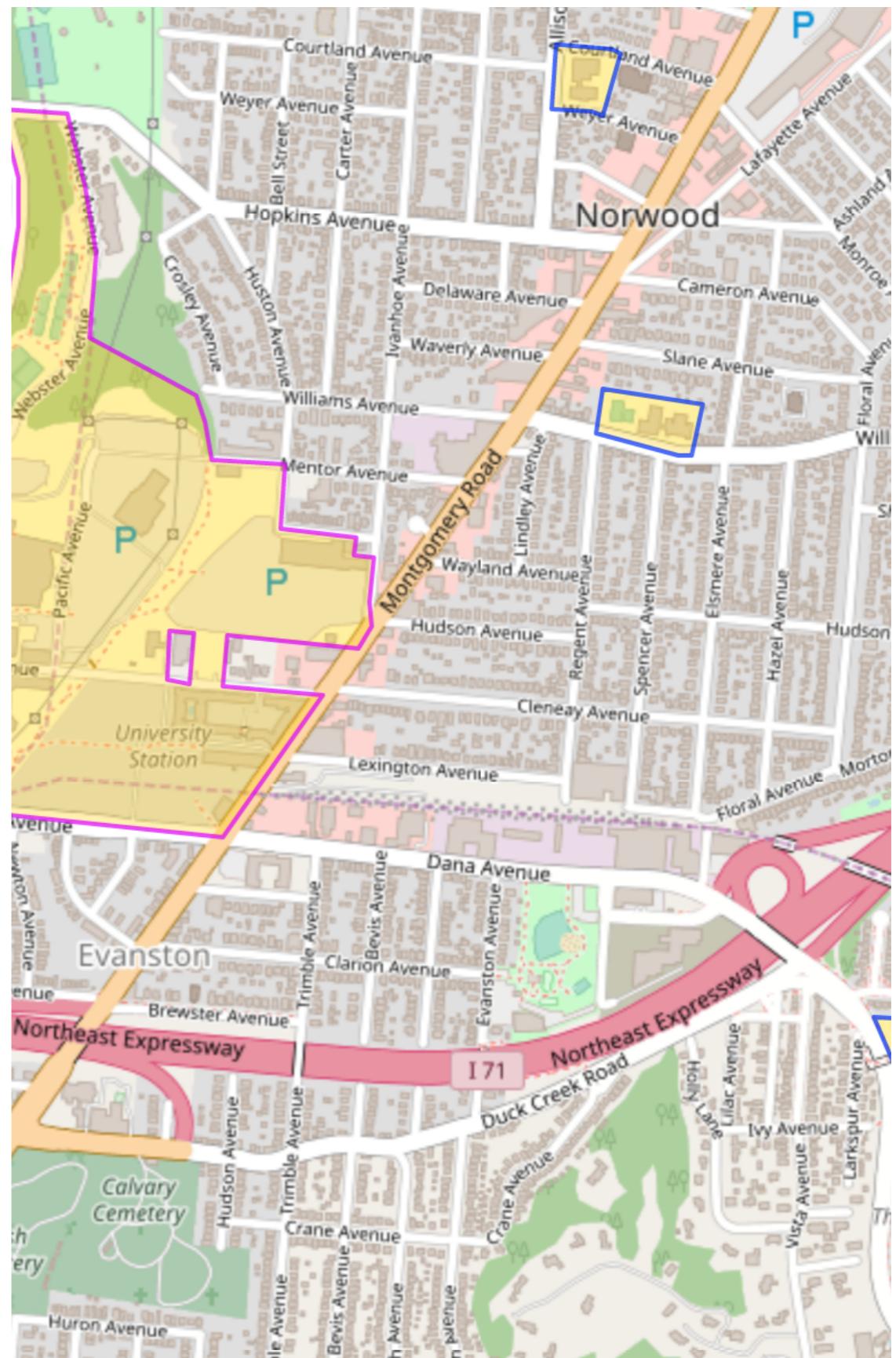
# amenity=school and type:way

```
[out:json][timeout:25];
(
    way["amenity"="school"]
    ({{bbox}});
);
out body;
>;
out skel qt;
```



**(amenity=school or  
amenity=university)  
and (type:way or  
type:relation)**

```
[out:json][timeout:25];
(
    way["amenity"="school"]
        ({{bbox}});
    relation["amenity"="school"]
        ({{bbox}});
    way["amenity"="university"]
        ({{bbox}});
    relation["amenity"="university"]
        ({{bbox}});
);
out body; >; out skel qt;
```



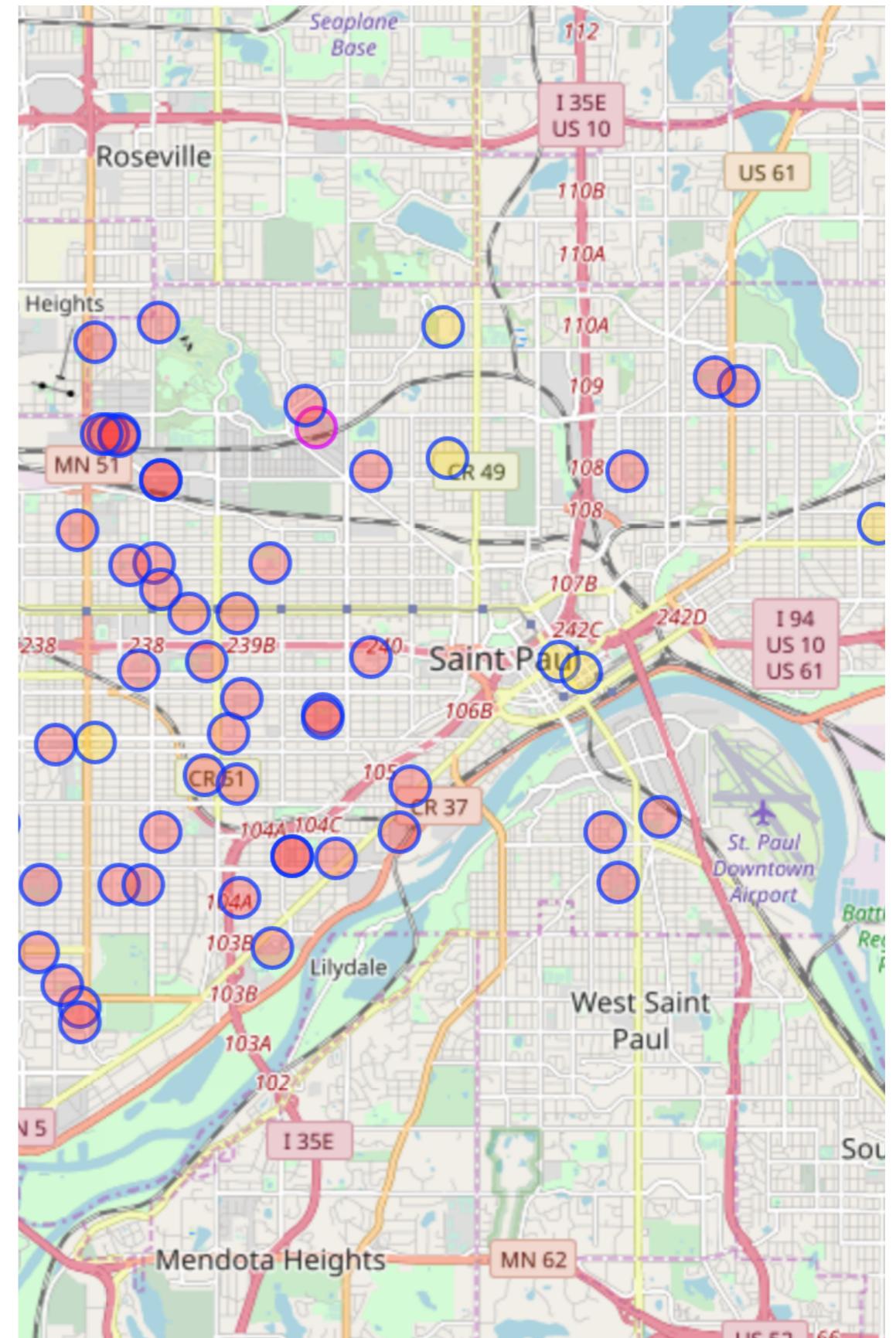
# **amenity=school and name~"High School"**

```
[out:json][timeout:25];
(
  node["amenity"="school"]
    ["name"~"High School"]({{bbox}});
  way["amenity"="school"]
    ["name"~"High School"]({{bbox}});
  relation["amenity"="school"]
    ["name"~"High School"]({{bbox}});
);
out body;
>;
out skel qt;
```



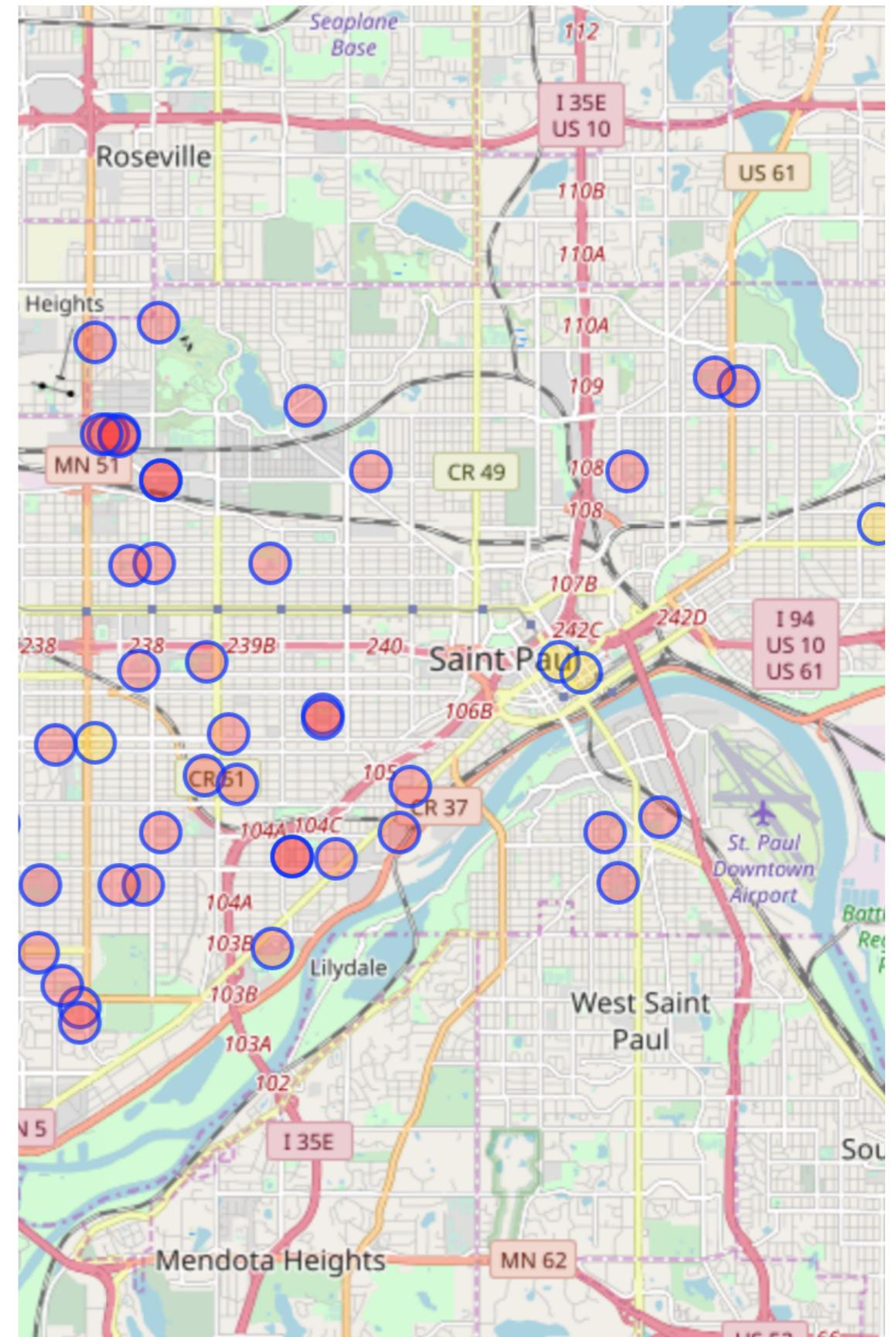
# amenity=school in "Saint Paul, Minnesota"

```
[out:json][timeout:25];
{{geocodeArea:Saint Paul, Minnesota}}
->.searchArea;
(
  node["amenity"="school"]
    (area.searchArea);
  way["amenity"="school"]
    (area.searchArea);
  relation["amenity"="school"]
    (area.searchArea);
);
out body; >; out skel qt;
```



# **amenity=school and operator!=\***

```
[out:json][timeout:25];
(
    node["amenity"="school"]
        ["operator"!~".*"]({{bbox}});
    way["amenity"="school"]
        ["operator"!~".*"]({{bbox}});
    relation["amenity"="school"]
        ["operator"!~".*"]({{bbox}});
);
out body; >; out skel qt;
```





# *Using the Results*

**Share**

**Permalink**

Copy this [link](#) to share the current code:

<http://overpass-turbo.eu/s/M6V>

include current map state

run this query immediately after loading

**done**

**Export**

▼ Data

[download/copy](#) as GeoJSON

[download/copy](#) as GPX

[download/copy](#) as KML

[download/copy](#) as raw OSM data

raw data directly from [Overpass API](#) ↗

load data into an OSM editor: [JOSM](#),  
[Level0](#) ↗

save GeoJSON to [gist](#) ↗

▶ Map

▶ Query

**done**



MapRoulette

Dashboard

Find Challenges

Leaderboard

Learn

MY POINTS     1 7



Minh Nguyen ▾



## San Jose crossing validation

South Bay OpenStreetMap

**DIFFICULTY:** Normal

**TASKS FROM:** last year

[View Leaderboard](#)

The San Jose sidewalk import added sidewalks and crosswalks throughout the City of San Jose. Help us validate the imported sidewalks and add any crosswalks that are still missing.

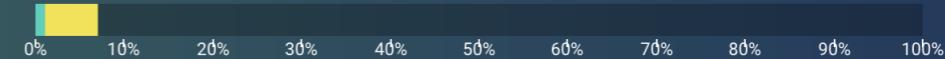
1% FIXED (108/12763)

0% ALREADY FIXED (1/12763)

6% NOT AN ISSUE (758/12763)

0% SKIPPED (7/12763)

0% TOO HARD (2/12763)



Tasks Remaining: 11,887(93%) of 12,763

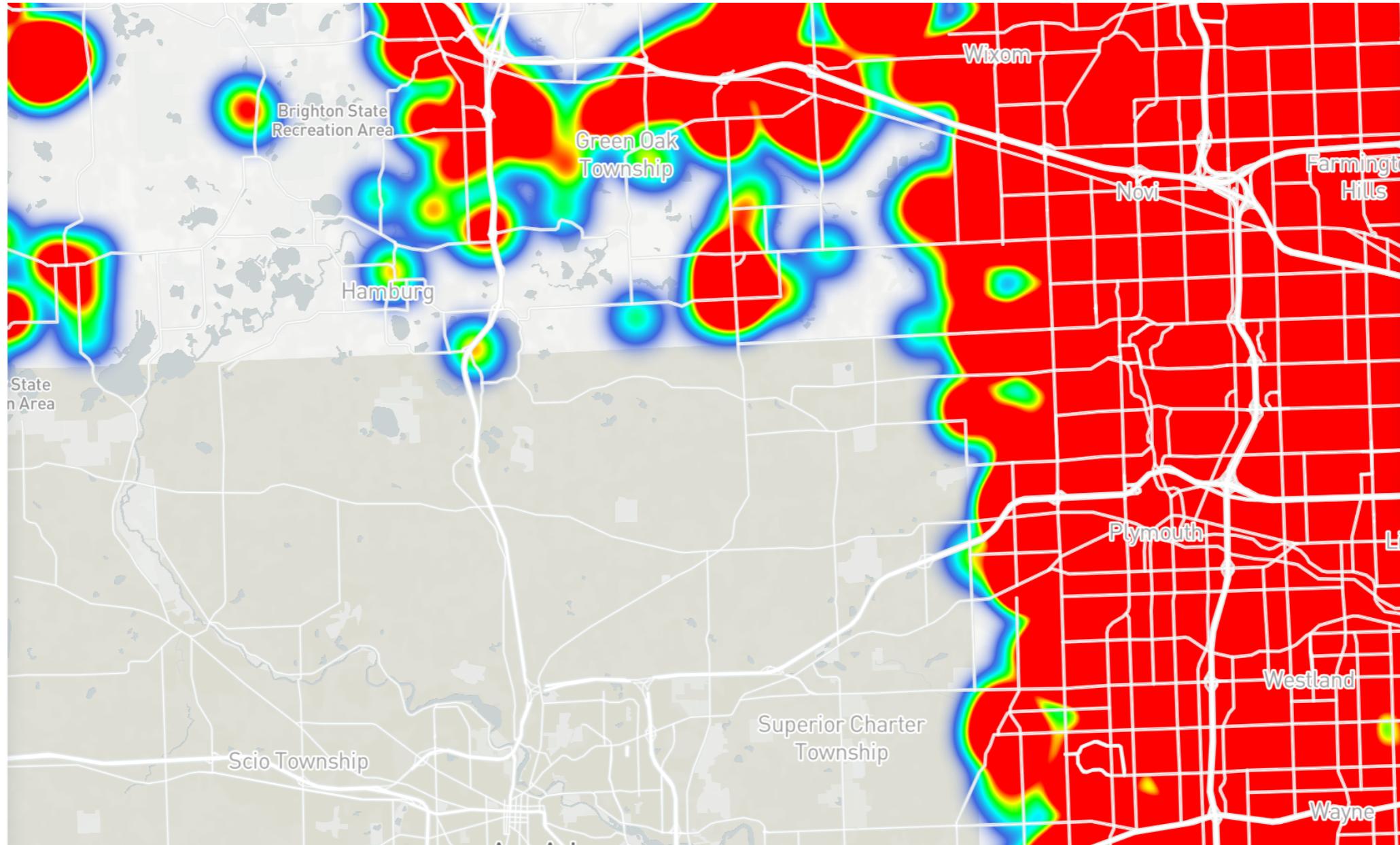


MapRoulette v3.3.4

[Get Help](#)

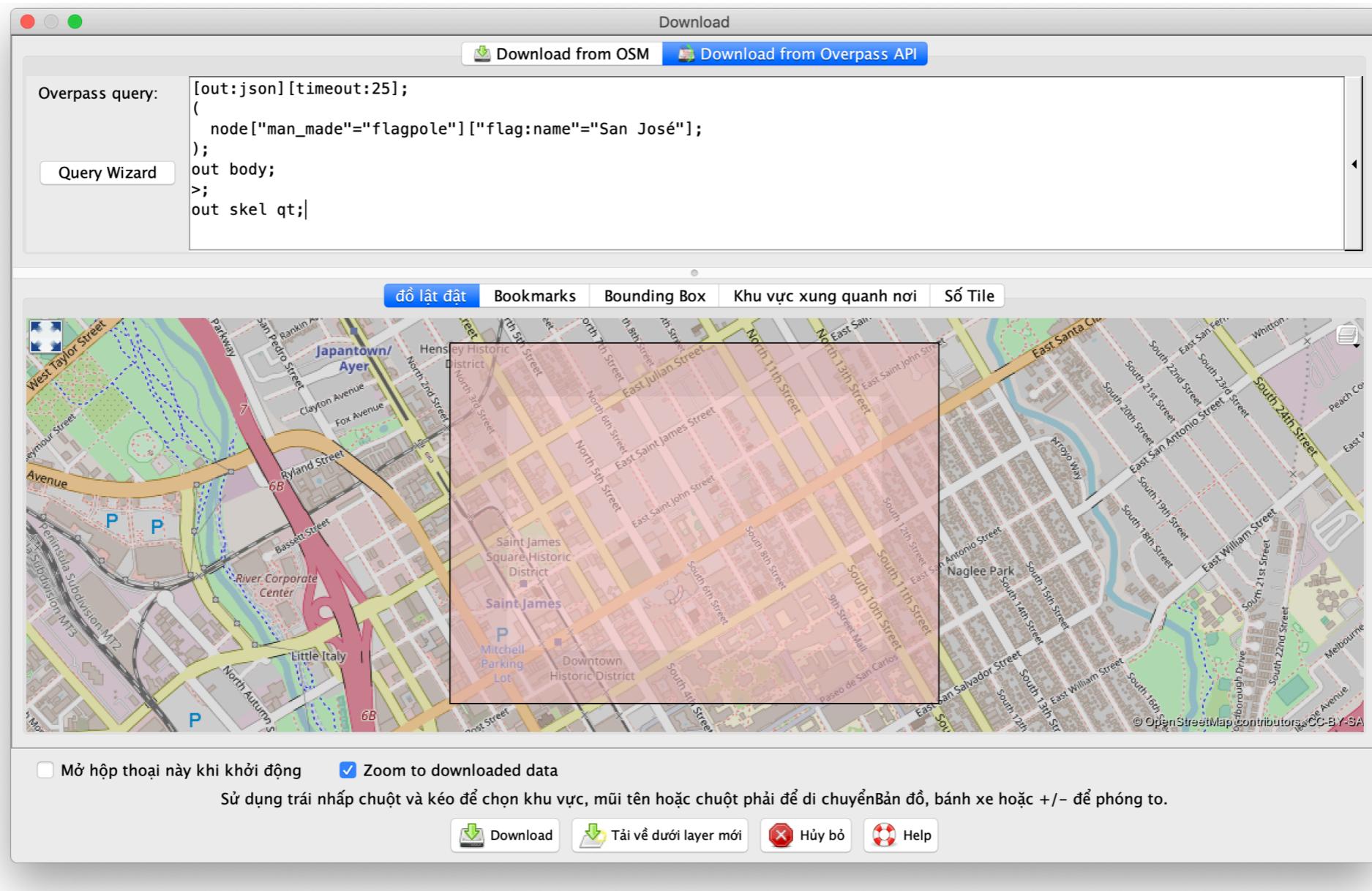
[Follow Us](#)

# MapRoulette



# Mapbox Studio

[tinyurl.com/sotmus18heatmaps2](https://tinyurl.com/sotmus18heatmaps2)



# JOSM

## Expert Mode

A night photograph of a complex highway interchange. The image shows several concrete overpasses and support pillars against a dark blue sky. A prominent palm tree stands in the foreground on the left. In the lower right, a street sign for "Bonneville" and "The Strip" is visible. The overall scene has a warm, golden glow from streetlights.

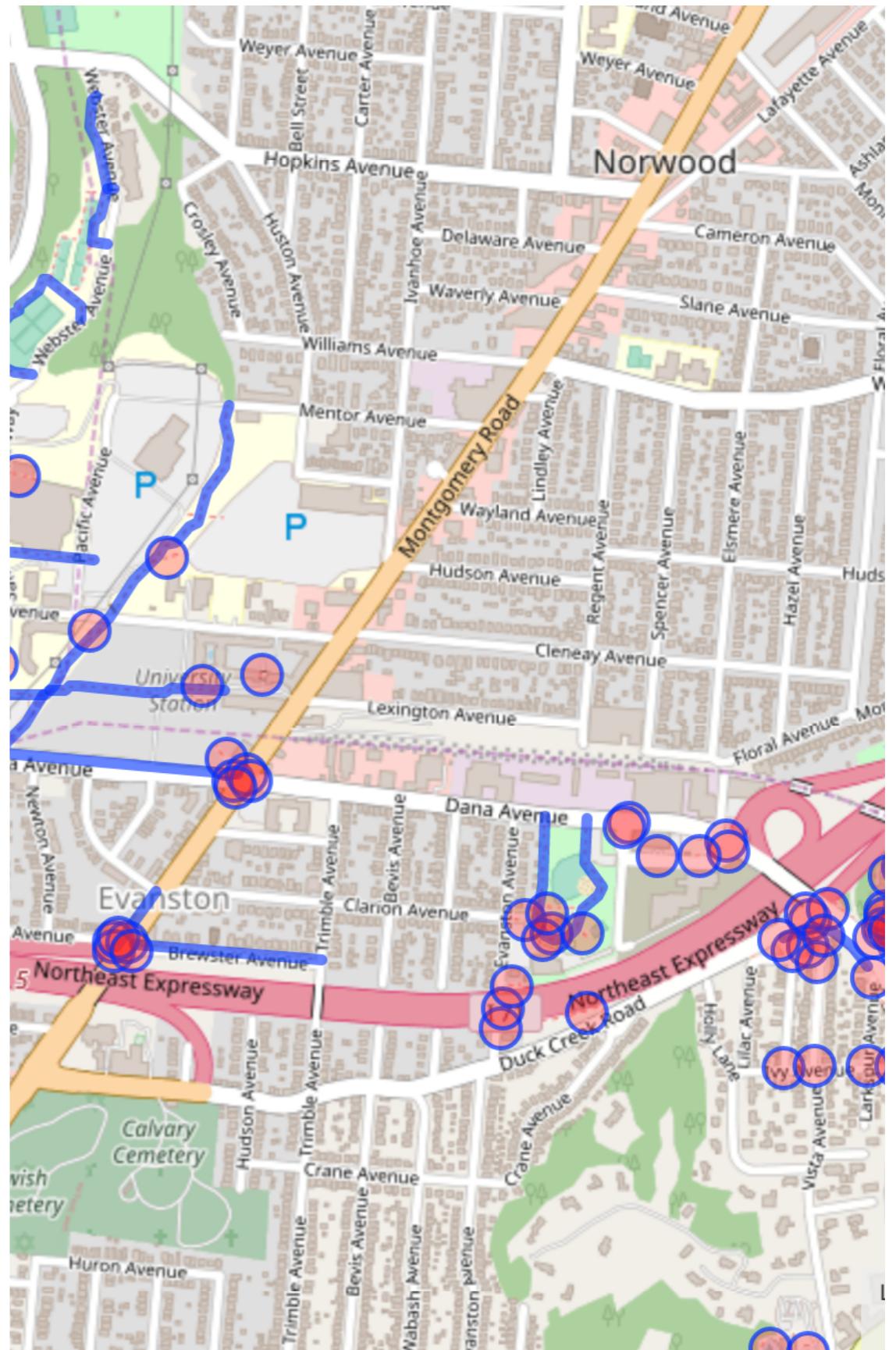
The Next Level

# Footways intersecting roadways

```
[out:json][timeout:25];
```

```
way["highway" != "footway"]
({{bbox}});
node(w);
way(bn)["highway" = "footway"];

out body;
>;
out skel qt;
```



# Footways intersecting roadways

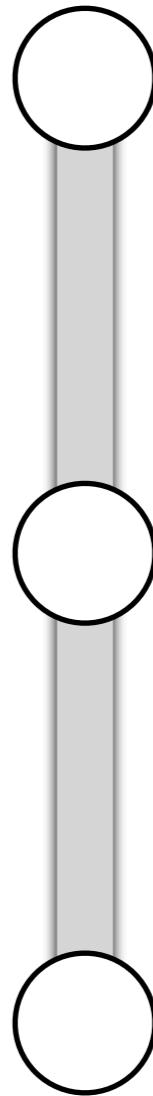
```
[out:json][timeout:25];  
  
way["highway" != "footway"]  
({{bbox}});  
node(w);  
way(bn)["highway" = "footway"];  
  
out body;  
>;  
out skel qt;
```

# Footways intersecting roadways

```
[out:json][timeout:25];
```

```
way["highway" != "footway"]  
({{bbox}});  
node(w);  
way(bn)["highway" = "footway"];
```

```
out body;  
>;  
out skel qt;
```

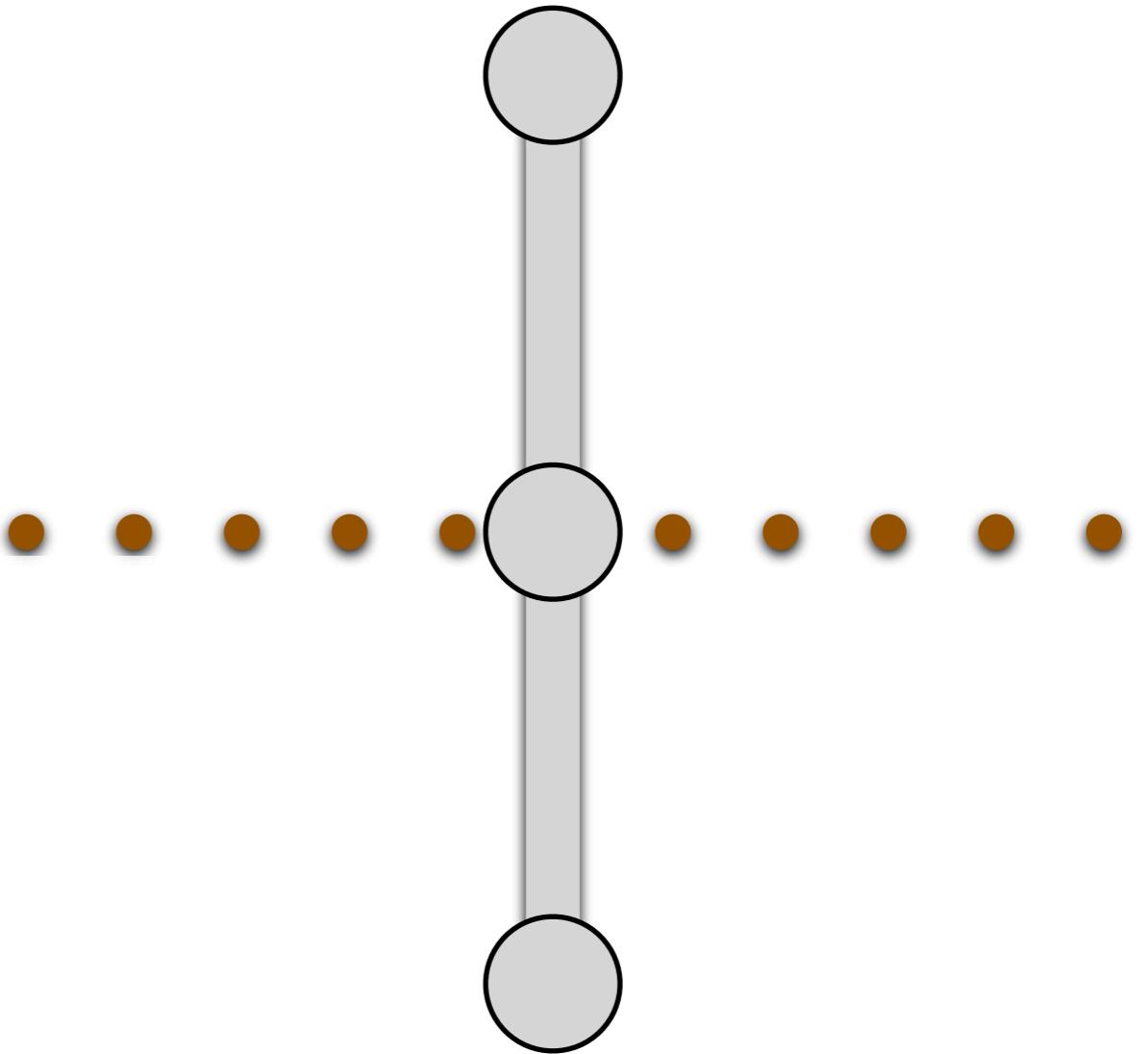


# Footways intersecting roadways

```
[out:json][timeout:25];
```

```
way["highway" != "footway"]  
({{bbox}});  
node(w);  
way(bn)["highway" = "footway"];
```

```
out body;  
>;  
out skel qt;
```



# Buildings near tornado sirens

```
[out:json][timeout:25];  
  
node["emergency"="siren"]  
({{bbox}});  
way(around:100)["building"];  
  
out body;  
>;  
out skel qt;
```



# Buildings near tornado sirens

```
[out:json][timeout:25];  
  
node["emergency"="siren"]  
({{bbox}});  
way(around:100)["building"];  
  
out body;  
>;  
out skel qt;
```



# Buildings near tornado sirens

```
[out:json][timeout:25];  
  
node["emergency"="siren"]  
({{bbox}});  
way(around:100)["building"];  
  
out body;  
>;  
out skel qt;
```



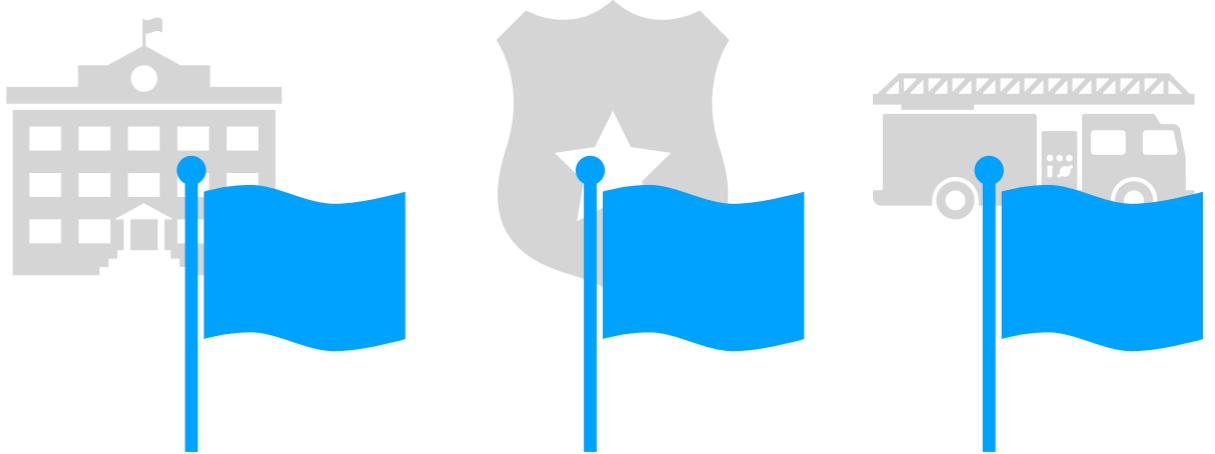
# Flagpoles not in front of fire stations

```
[out:json][timeout:25];
node["man_made"]="flagpole"]({{bbox}})
->.flagpoles;
(
  node["amenity"]="fire_station"
  ({{bbox}});
  way["amenity"]="fire_station"
  ({{bbox}});
);
node["man_made"]="flagpole"
(around:100)->.firepoles;
(node.flagpoles; - node.firepoles; );
out body;
```



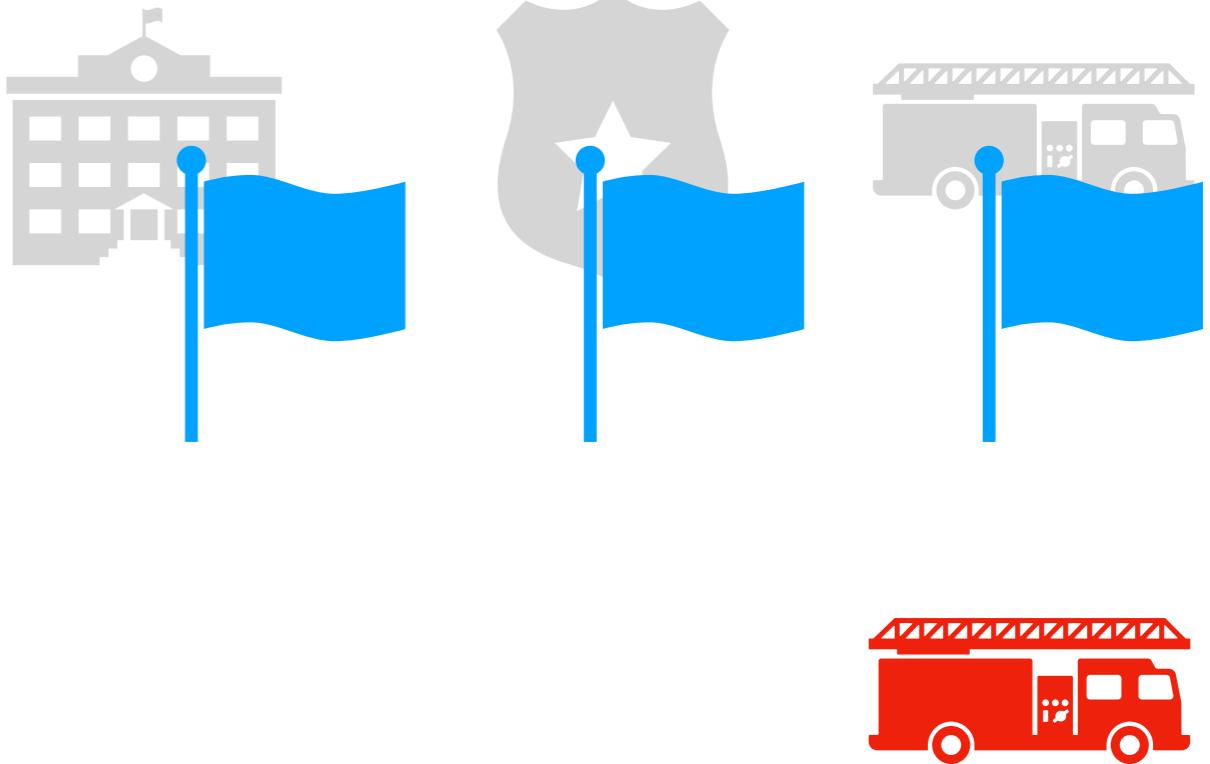
# Flagpoles not in front of fire stations

```
[out:json][timeout:25];
node["man_made"]="flagpole"]({{bbox}})
    ->.flagpoles;
(
    node["amenity"]="fire_station"]
        ({{bbox}});
    way["amenity"]="fire_station"
        ({{bbox}});
);
node["man_made"]="flagpole"
    (around:100)->.firepoles;
(node.flagpoles; - node.firepoles;);
out body;
```



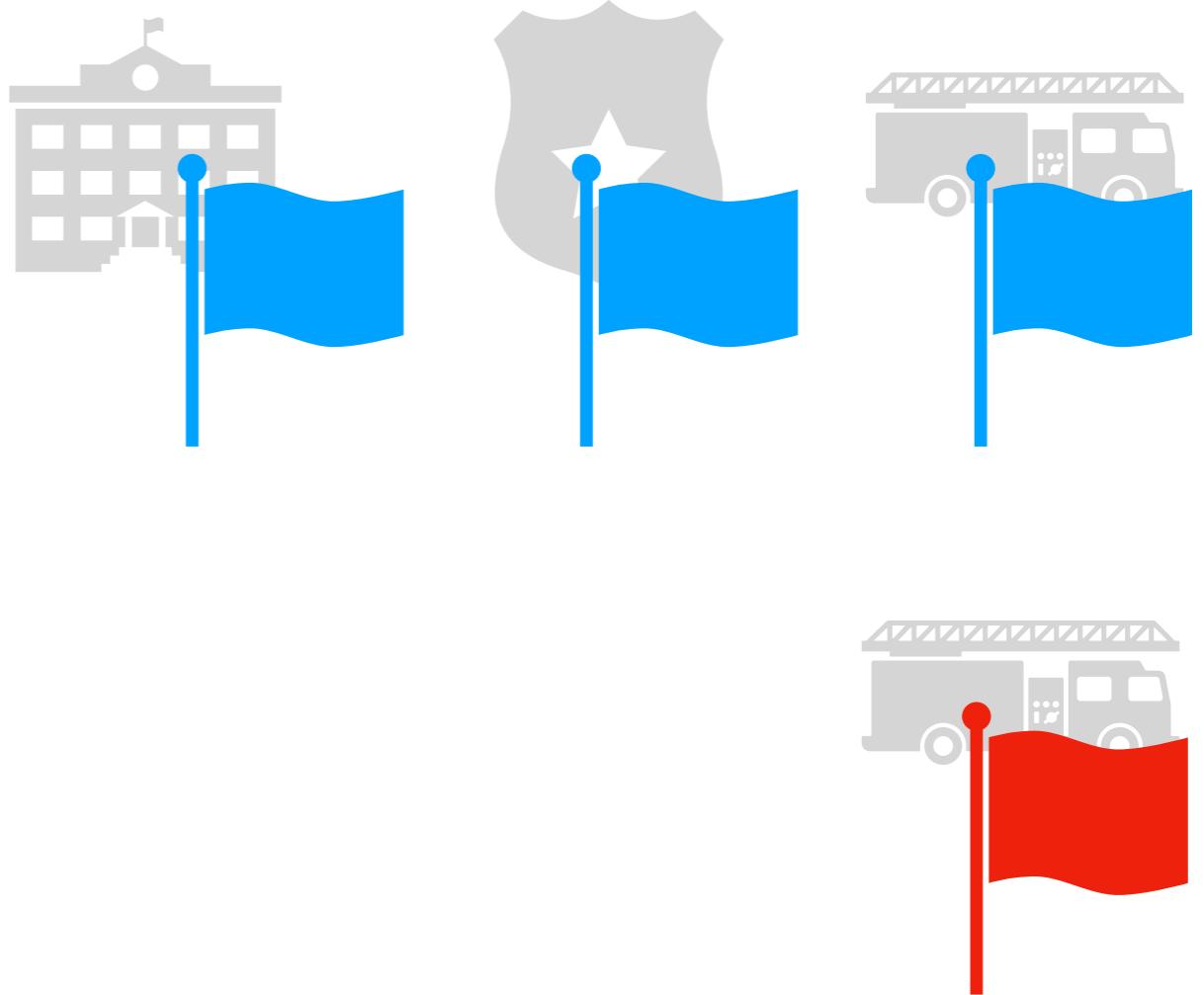
# Flagpoles not in front of fire stations

```
[out:json][timeout:25];
node["man_made"]="flagpole"]({{bbox}})
->.flagpoles;
(
  node["amenity"]="fire_station"]
  ({{bbox}});
  way["amenity"]="fire_station"
  ({{bbox}});
);
node["man_made"]="flagpole"
(around:100)->.firepoles;
(node.flagpoles; - node.firepoles; );
out body;
```



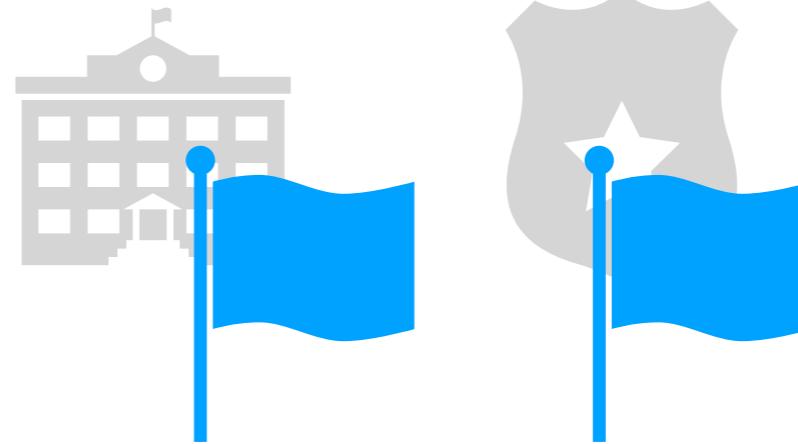
# Flagpoles not in front of fire stations

```
[out:json][timeout:25];
node["man_made"]="flagpole"]({{bbox}})
->.flagpoles;
(
  node["amenity"]="fire_station"]
  ({{bbox}});
  way["amenity"]="fire_station"
  ({{bbox}});
);
node["man_made"]="flagpole"
(around:100)->.firepoles;
(node.flagpoles; - node.firepoles; );
out body;
```



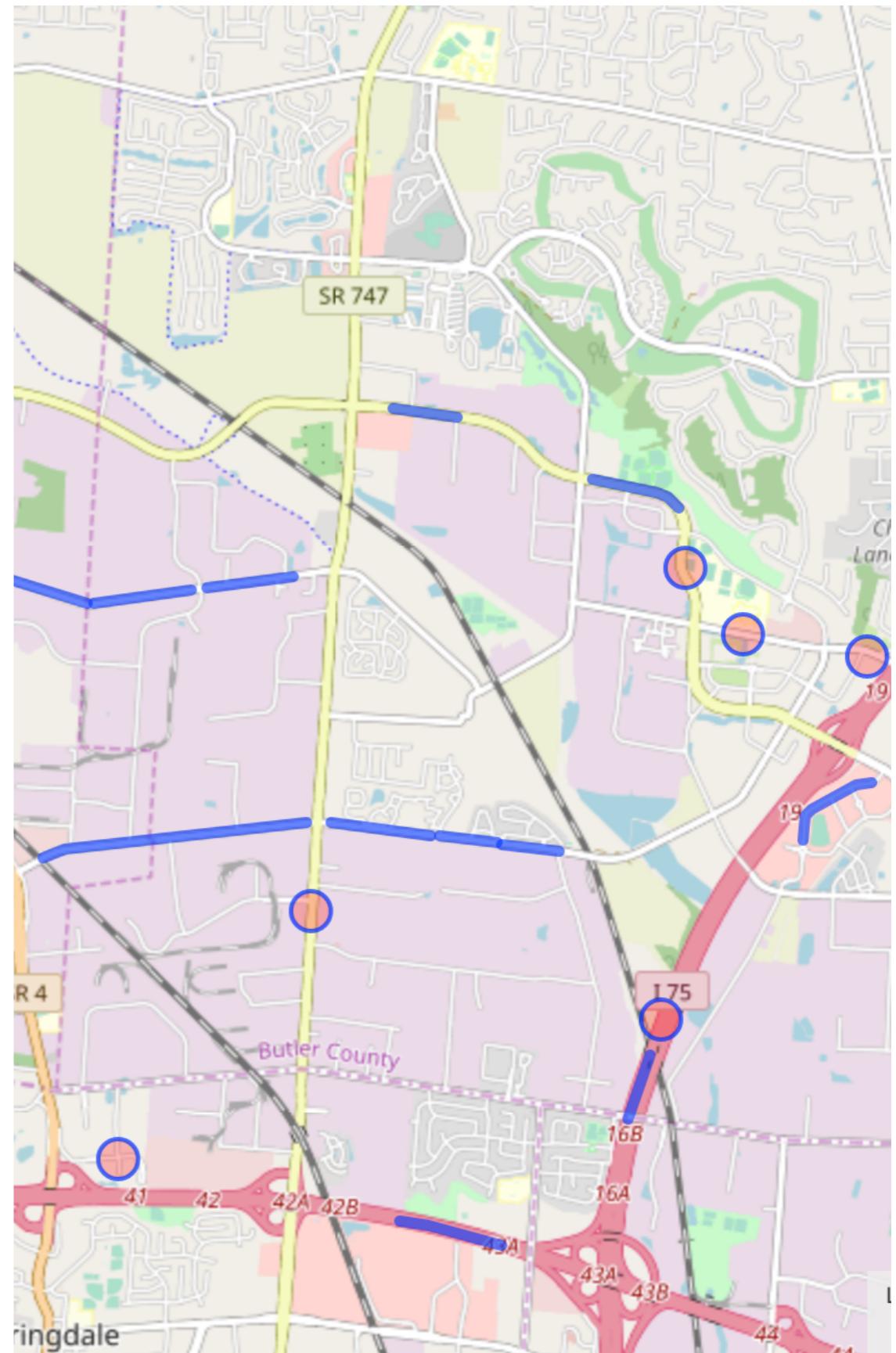
# Flagpoles not in front of fire stations

```
[out:json][timeout:25];
node["man_made"]="flagpole"]({{bbox}})
->.flagpoles;
(
  node["amenity"]="fire_station"]
  ({{bbox}});
  way["amenity"]="fire_station"
  ({{bbox}});
);
node["man_made"]="flagpole"
(around:100)->.firepoles;
(node.flagpoles; - node.firepoles; );
out body;
```



# Long turn lanes

```
[out:json][timeout:25];  
  
way[~"^turn"~".*"]({{bbox}})  
  (if: length() > 300);  
  
out body;  
>;  
out skel qt;
```



# Total length of bike infrastructure

```
[out:json][timeout:25];
(
  {{geocodeArea:Minneapolis}};
  {{geocodeArea:Saint Paul, Minnesota}};
)->.searchArea;

(
  way[~"cycleway"~"lane|track|opposite|shared_lane|shared|crossing|
opposite_lane|yes|share_busway"](.searchArea);
  way["highway"]="cycleway"(.searchArea);
  way["bicycle"~"yes|permissive|designated"](.searchArea);
);

make stats length=sum(length());
out;
```

**490½ centerline miles**

# Performance

- Avoid overspecifying filters
- Increase timeout: [timeout:60] (1 minute)
- Increase memory: [maxsize:1073741824] (1 GB)
- Check the rate limiting status for your IP address:  
[overpass-api.de/api/status](https://overpass-api.de/api/status)

# Thank You

- Special thanks to Roland Olbricht, Martin Raifer, mmd
- [osmlab.github.io/learnoverpass](https://osmlab.github.io/learnoverpass)
- [wiki.openstreetmap.org/wiki/Overpass API](https://wiki.openstreetmap.org/wiki/Overpass_API)
- #overpass on OSMUS Slack
- [minh@mapbox.com](mailto:minh@mapbox.com) or [minh@nguyen.cincinnati.oh.us](mailto:minh@nguyen.cincinnati.oh.us)
- @1ec5