A Turbo Introduction to Overpass

Minh Nguyễn

State of the Map U.S. 2019

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here is this? Go

City MiniMart
Westminster Presbyterian Church
Ayjeré Salon
The Teak House
Nail Pros
Subway
Starbucks
La Dolce Velo
Gypsy Rose Salon
All American Fitness
Five Guys
El Rincón
Greenlee's
School of Visual Philosophy
Motel 6 San Jose Convention Center
O'Reilly Auto Parts
Gardens Apartments
1041
Recycle Bookstore
Hertz
NELSON
Park Avenue Preschool
Accounting For You
The Alameda ArtWorks
Rixavox
The Art Boutiki
Keeble Court
North Keeble Avenue
West Julian
The Alameda
Hanchett Avenue
Martin Avenue
Race Street

Map

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here is this? Go

Map

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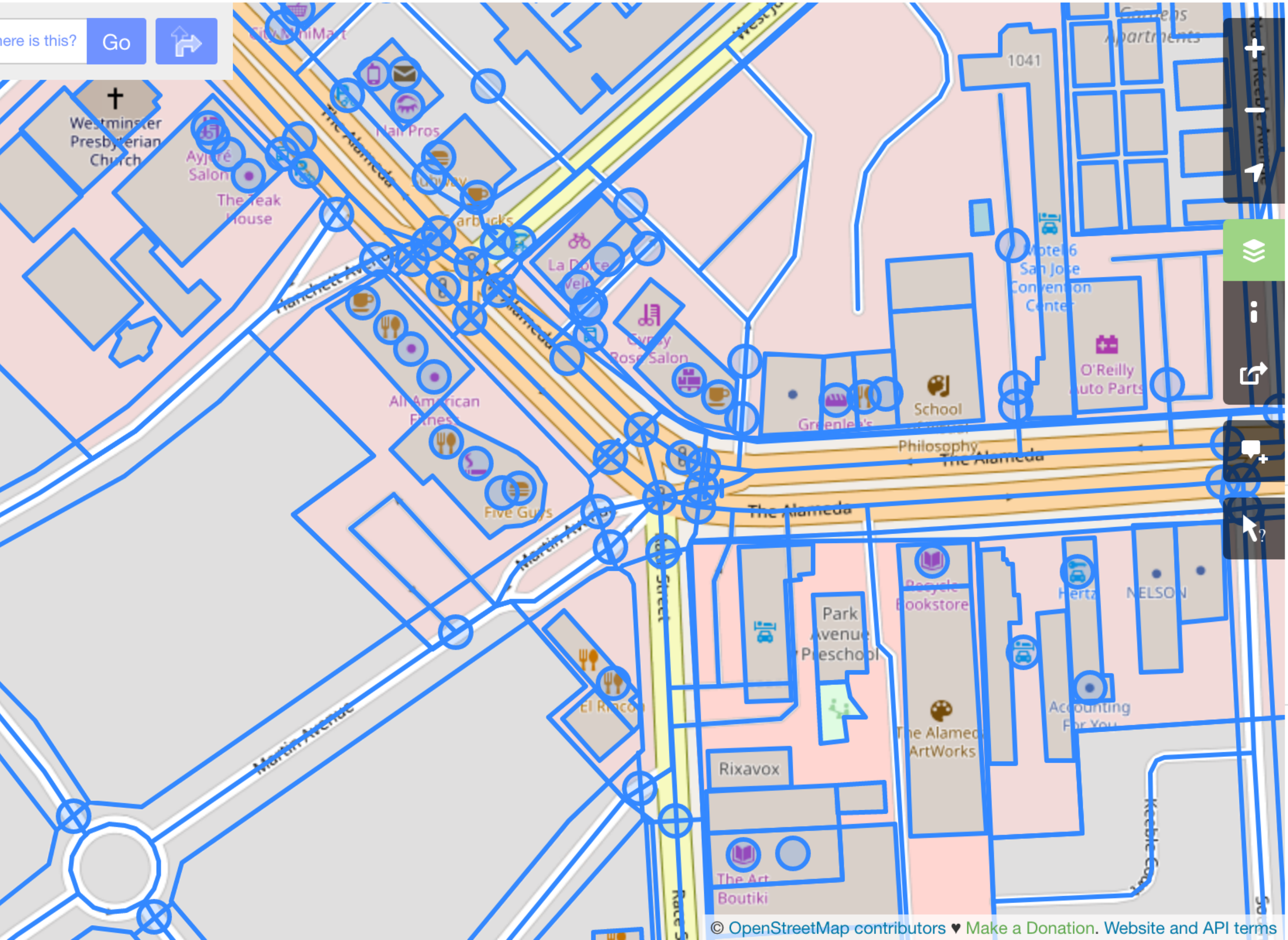


Connecticut	[.osm.pbf]	(27.4 MB)	[.shp.zip]	[.osm.bz2]
Delaware	[.osm.pbf]	(10.5 MB)	[.shp.zip]	[.osm.bz2]
District of Columbia	[.osm.pbf]	(15.8 MB)	[.shp.zip]	[.osm.bz2]
Florida	[.osm.pbf]	(220 MB)	[.shp.zip]	[.osm.bz2]
Georgia (US State)	[.osm.pbf]	(175 MB)	[.shp.zip]	[.osm.bz2]
Hawaii	[.osm.pbf]	(11.9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

Overpass API Query Form

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

Query

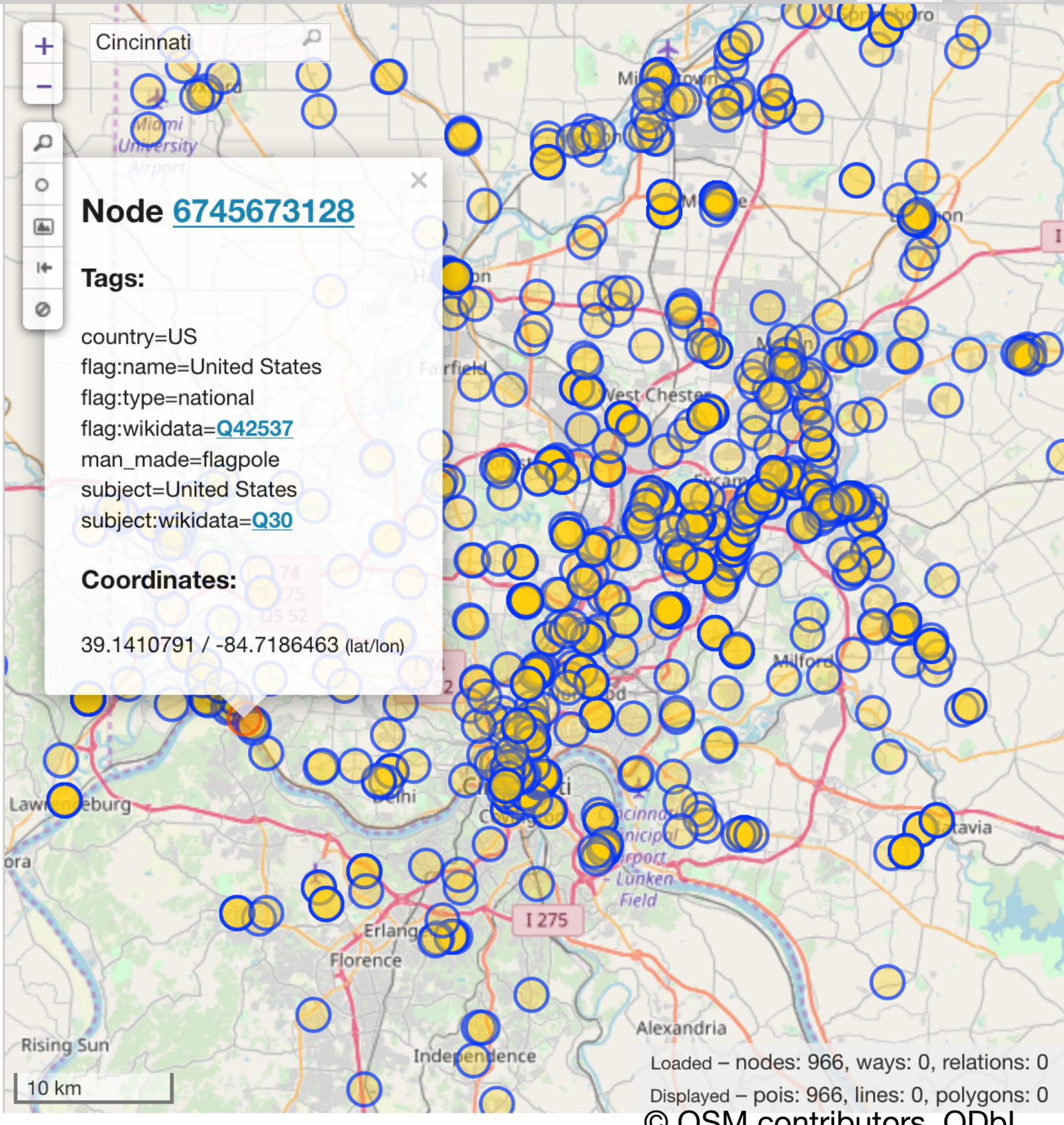
Overpass API Convert Form

Run | Share | Export | Wizard | Save | Load | Logout | Settings | Help

overpass turbo

Map | Data

```
/*
This has been generated by the overpass-turbo wizard.
The original search was:
“man_made=flagpole and type:node and user:"Minh Nguyen"”
*/
[out:json][timeout:25];
// gather results
(
  // query part for: “man_made=flagpole and user:"Minh Nguyen"”
  node["man_made"="flagpole"](user:"Minh Nguyen")({{bbox}});
);
// print results
out body;
>;
out skel qt;
```

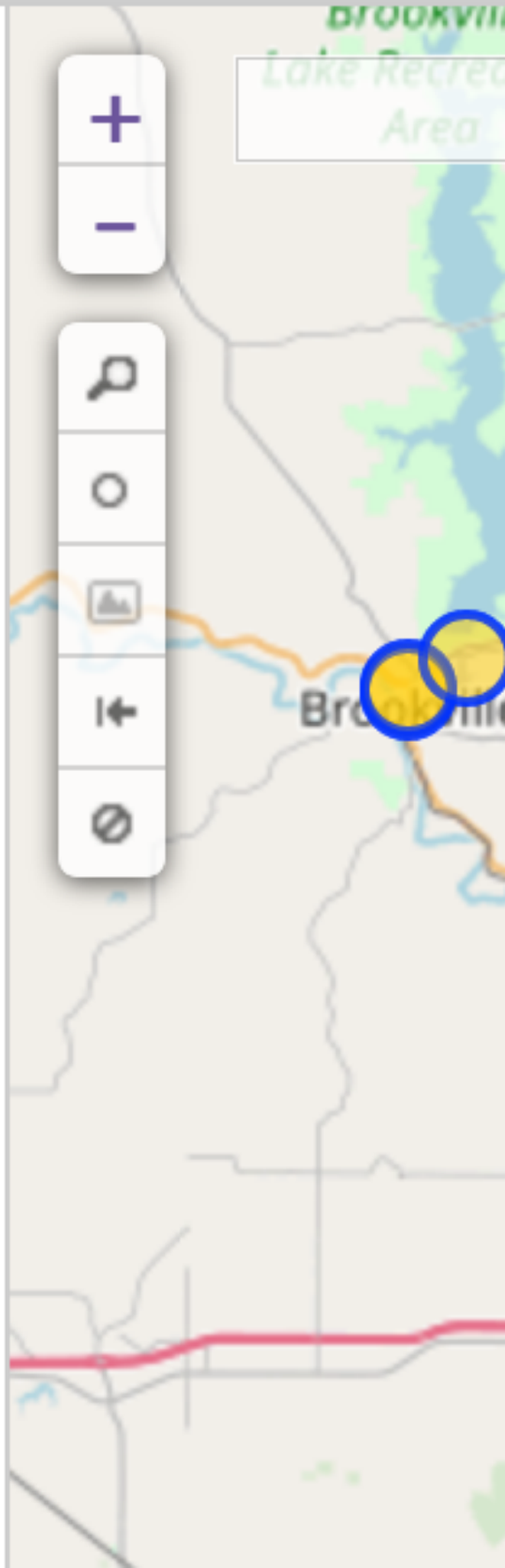


overpass-turbo.eu

Wizard Queries

Run | Share | Export | Wizard | Save | Load | Logout | Settings

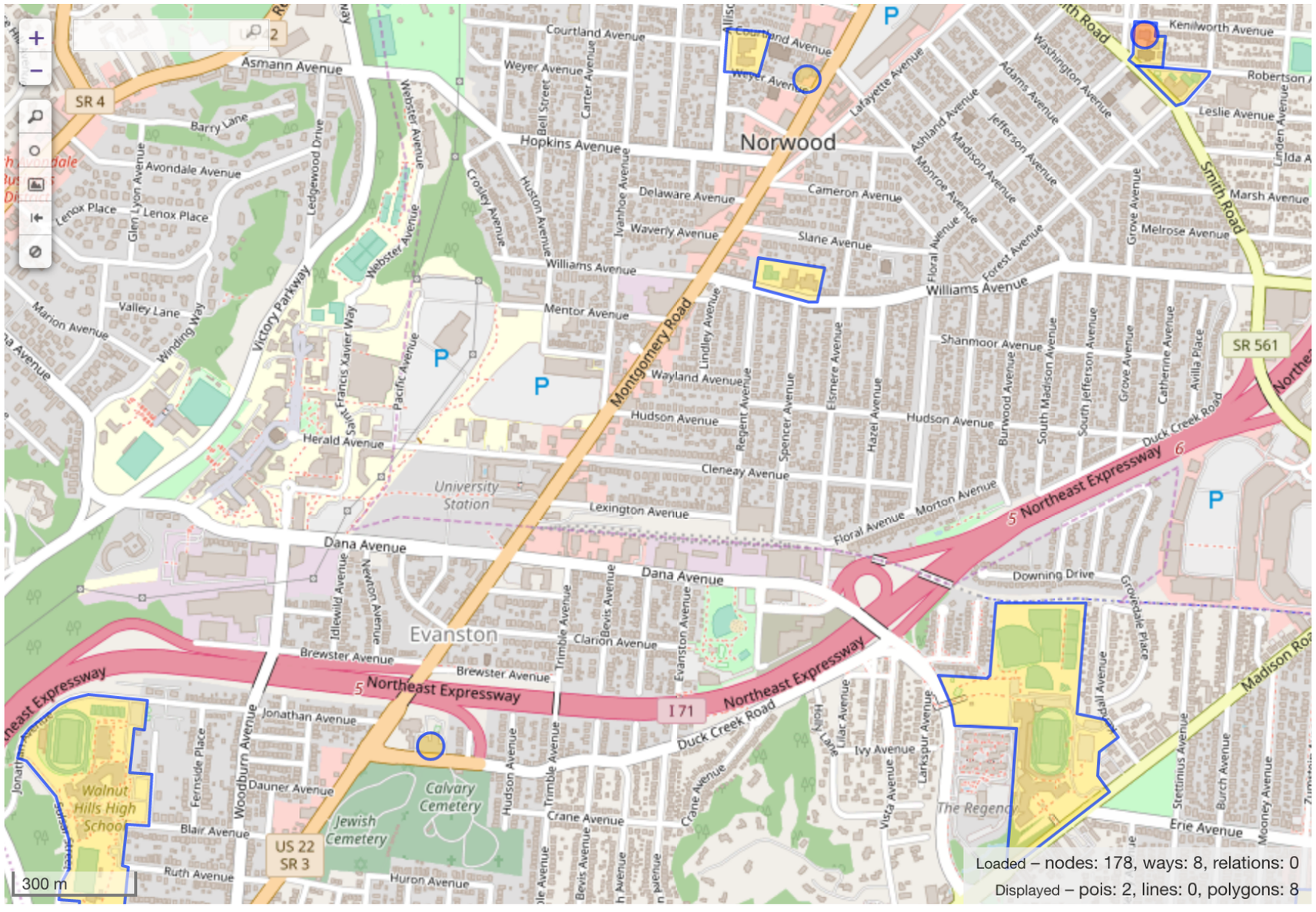
```
/*
This has been generated by the overpass-turbo wizard.
The original search was:
“traffic_calming=bump and type:node and user:"Minh Nguyen" global”
*/
[out:json][timeout:50];
// gather results
(
  // query part for: “traffic_calming=bump and user:"Minh Nguyen"”
  node["traffic_calming"="bump"](user:"Minh Nguyen");
);
// print results
out body;
>;
out skel qt;
```



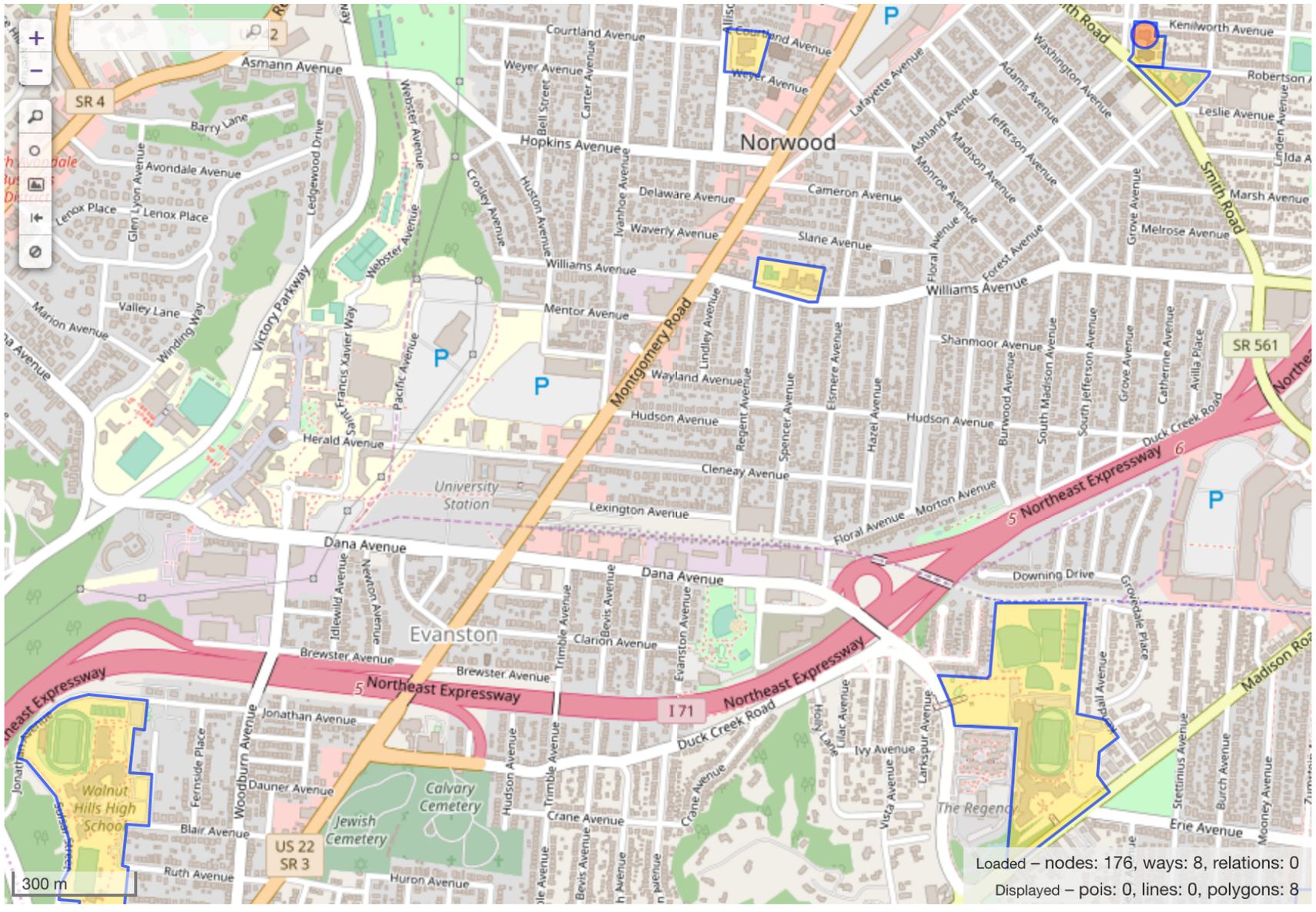
[redacted]

[redacted] Search

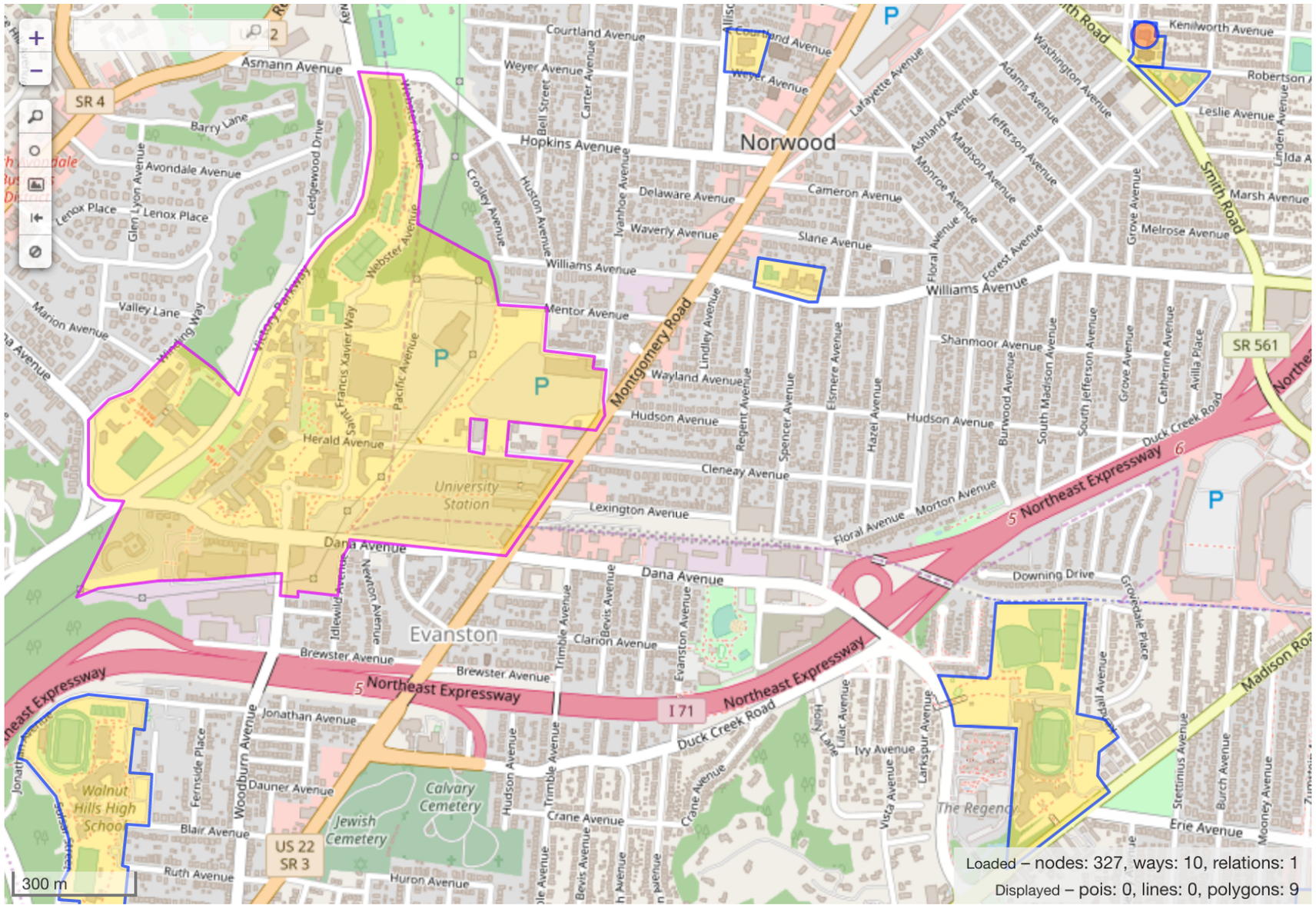
I'm Feeling [redacted]



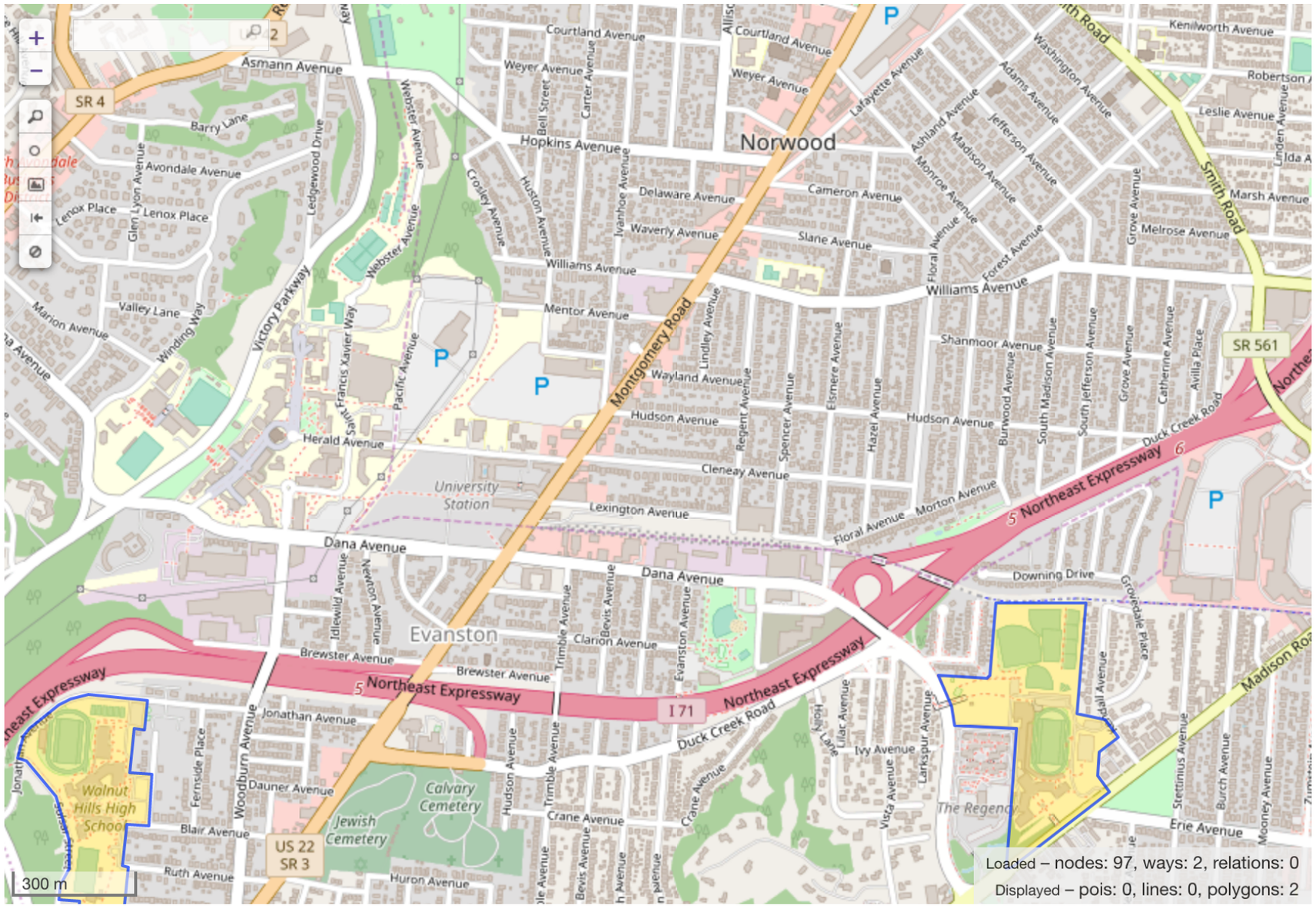
amenity=school



amenity=school
and type:way

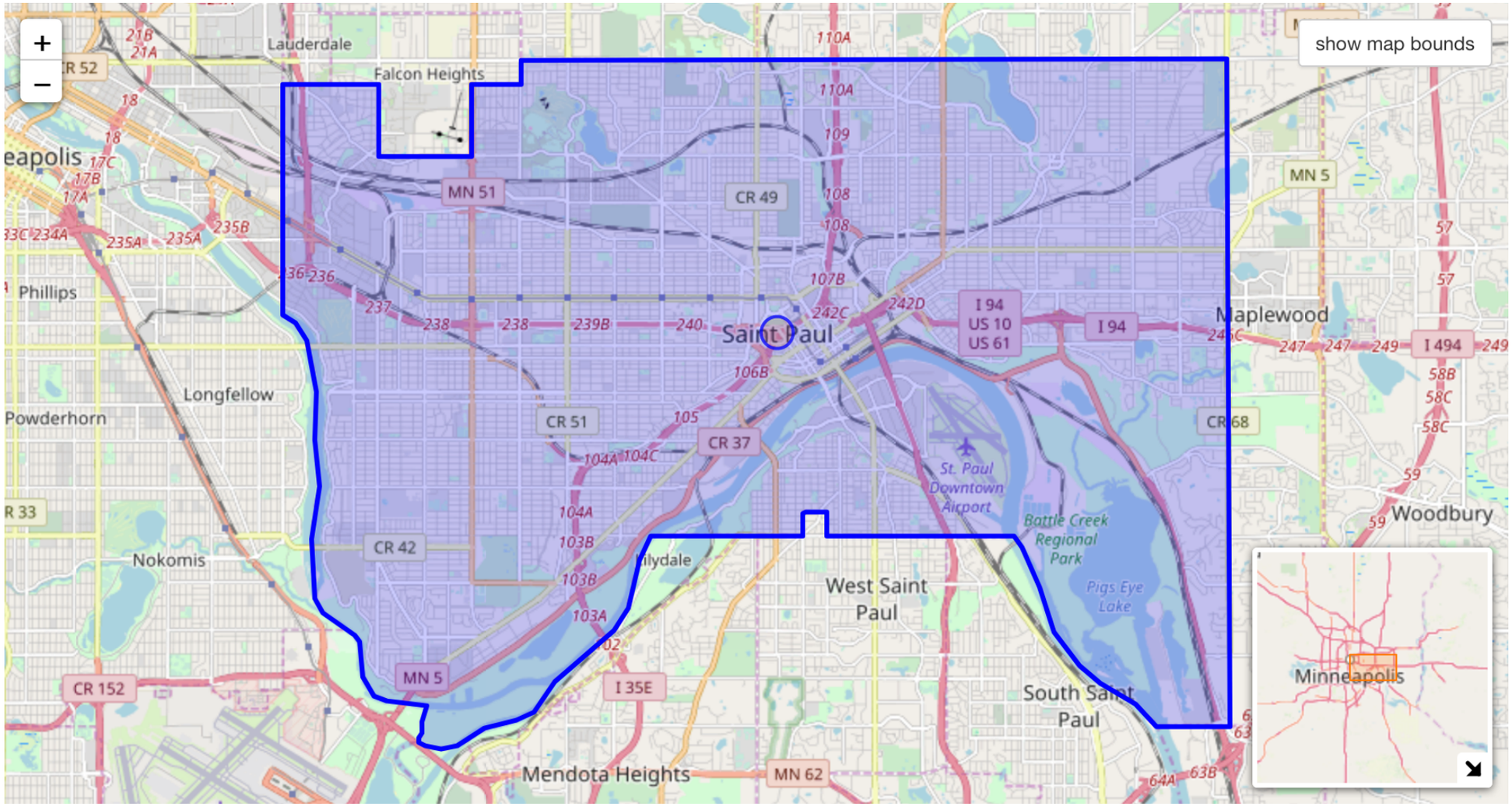


(amenity=school or amenity=university) and (type:way or type:relation)

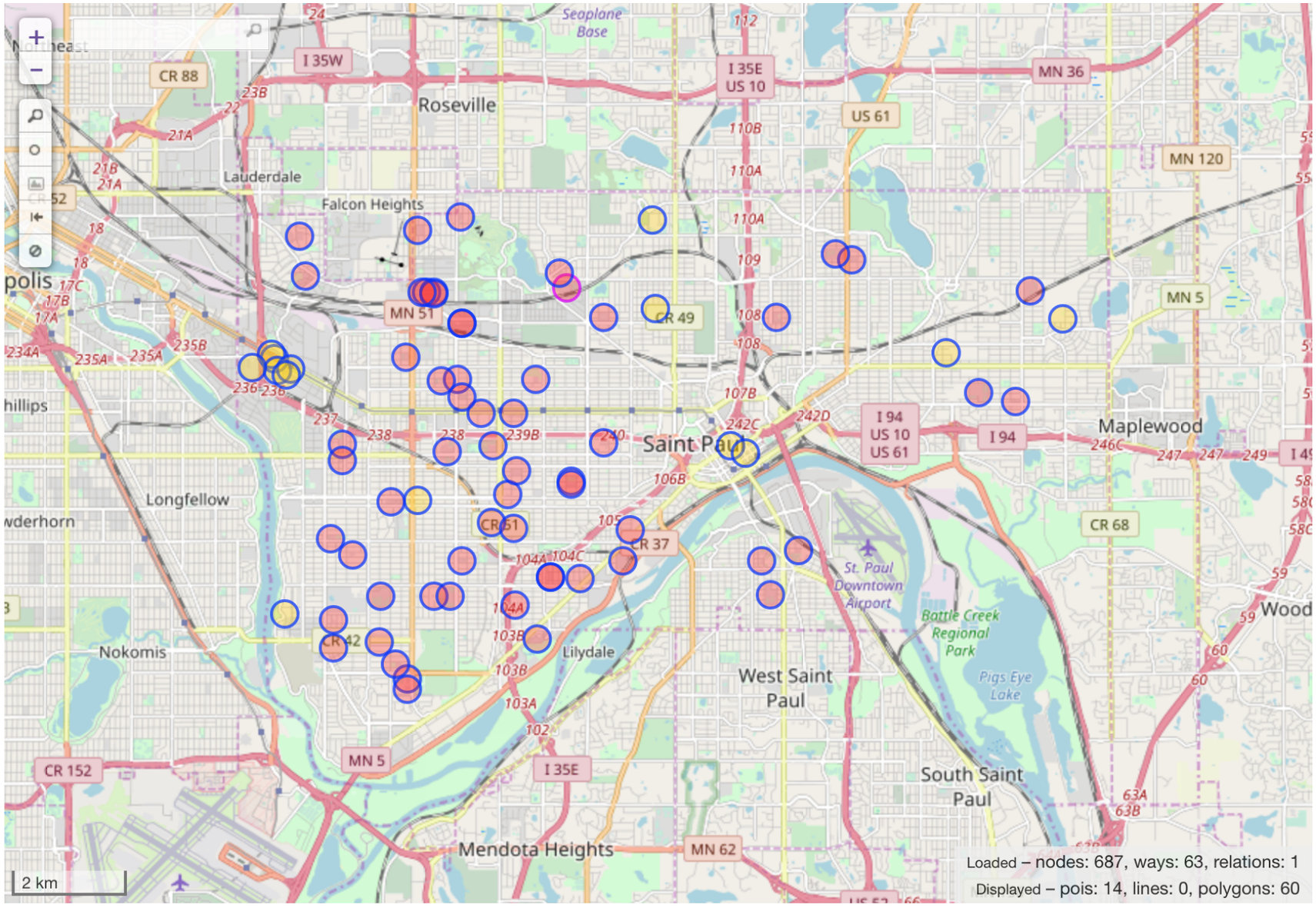


amenity=school
and name~"High School"

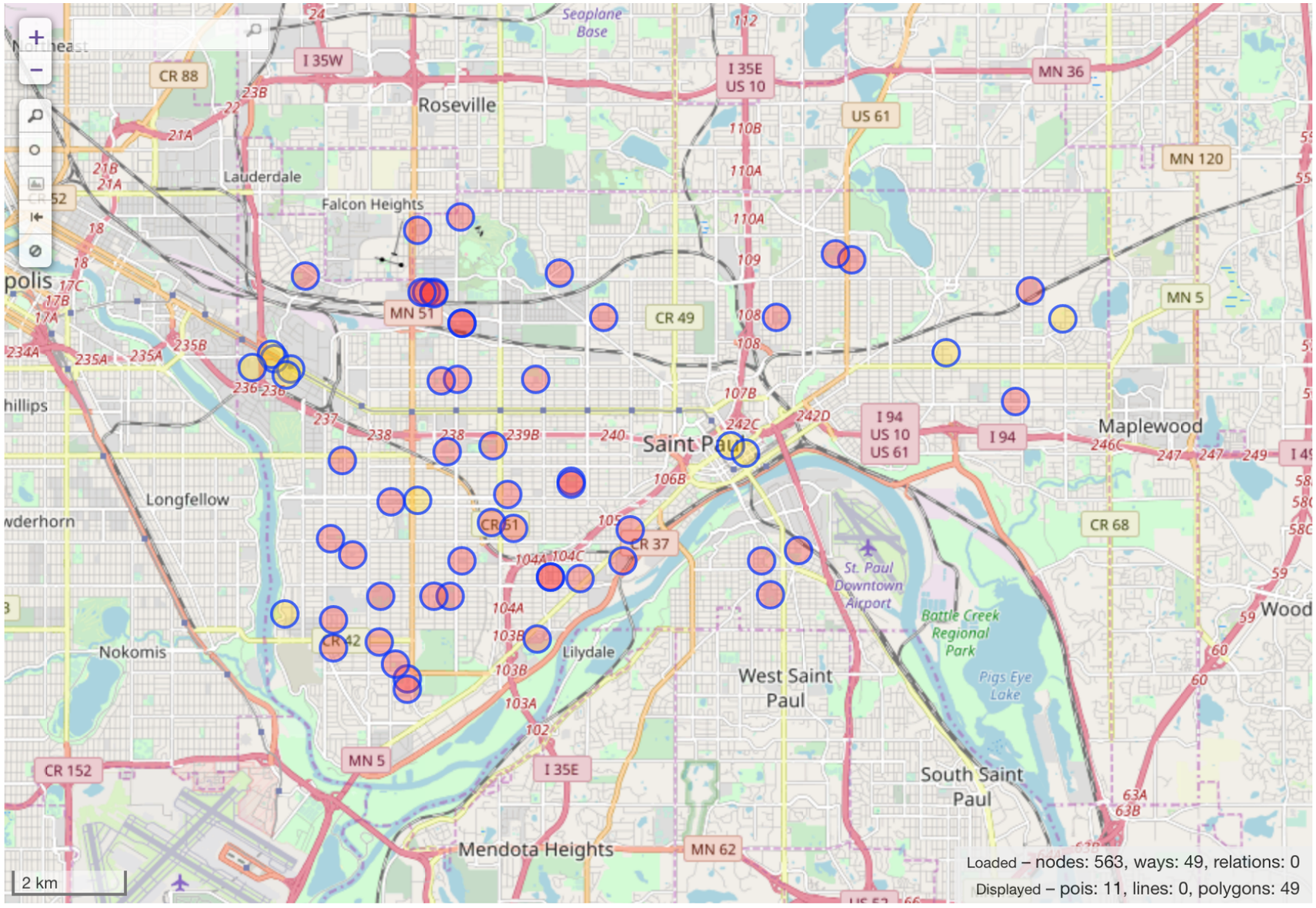
Regular expressions



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

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

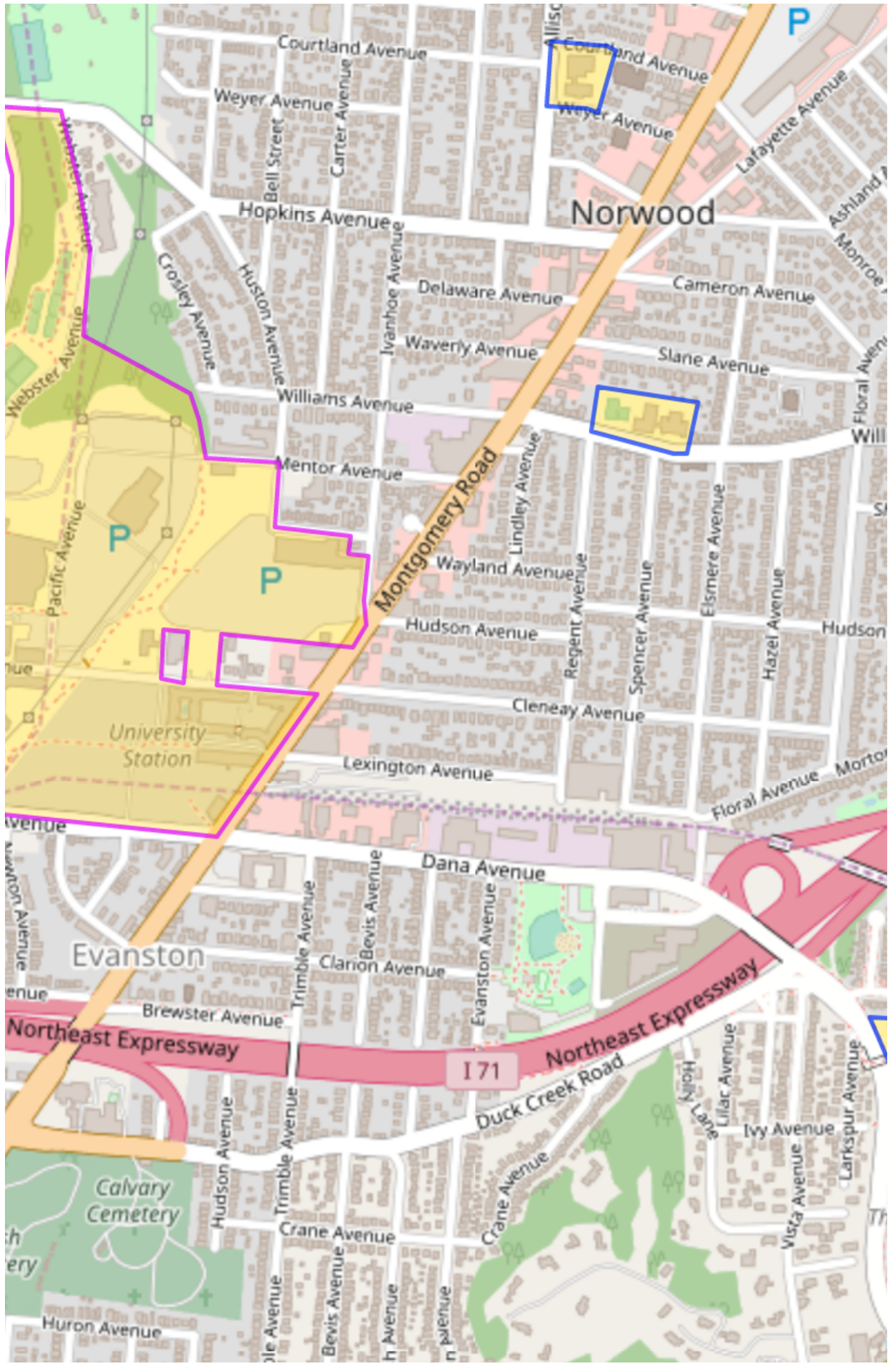
```
[out:json][timeout:25];
(
  node["amenity"="school"]
    ({{bbox}});
  way["amenity"="school"]
    ({{bbox}});
  relation["amenity"="school"]
    ({{bbox}});
);
out body;
>;
out skel qt;
```

amenity=school and type:way

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

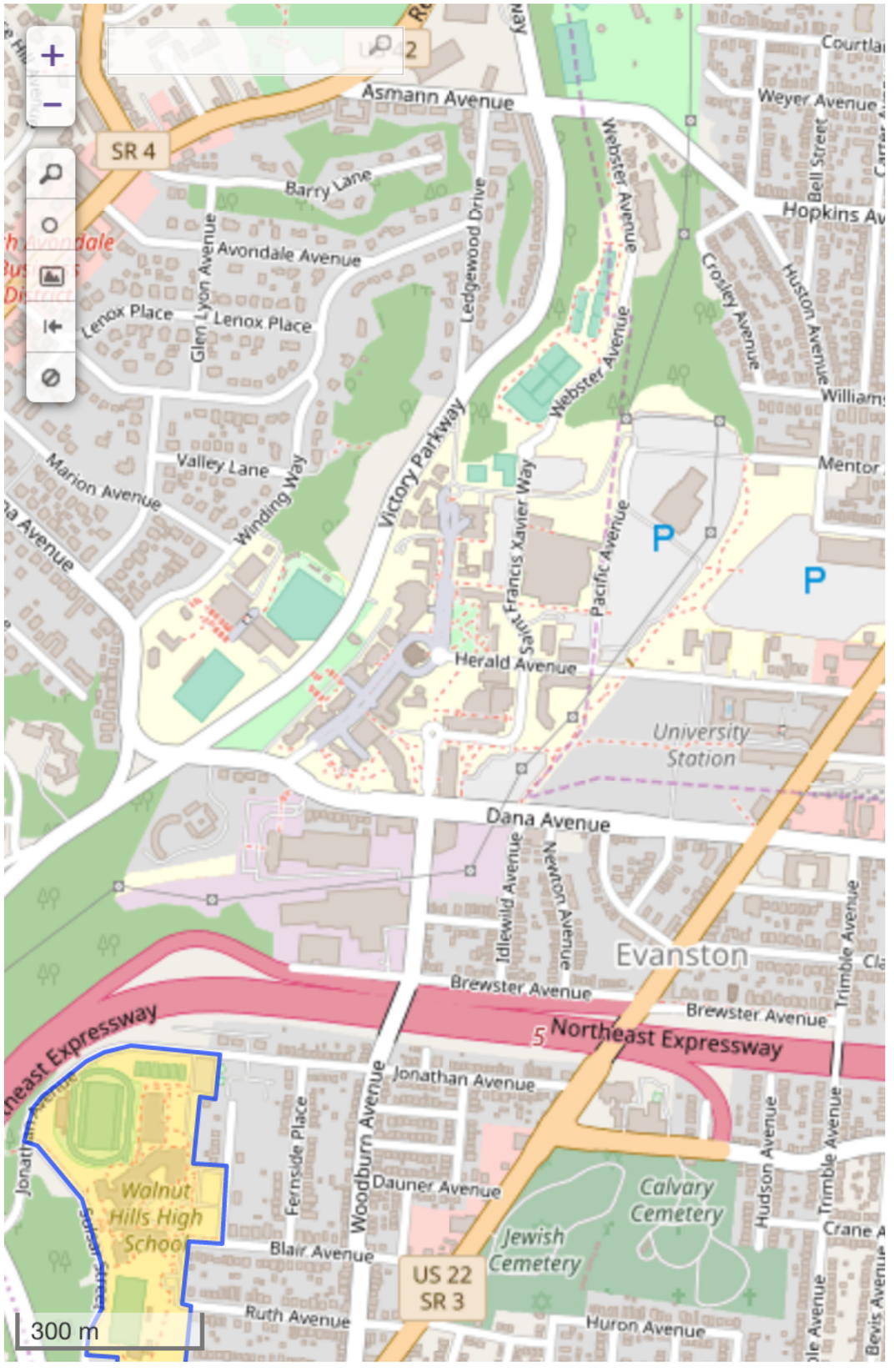
(amenity=school or amenity=university) and (type:way or type:relation)

```
[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;
```



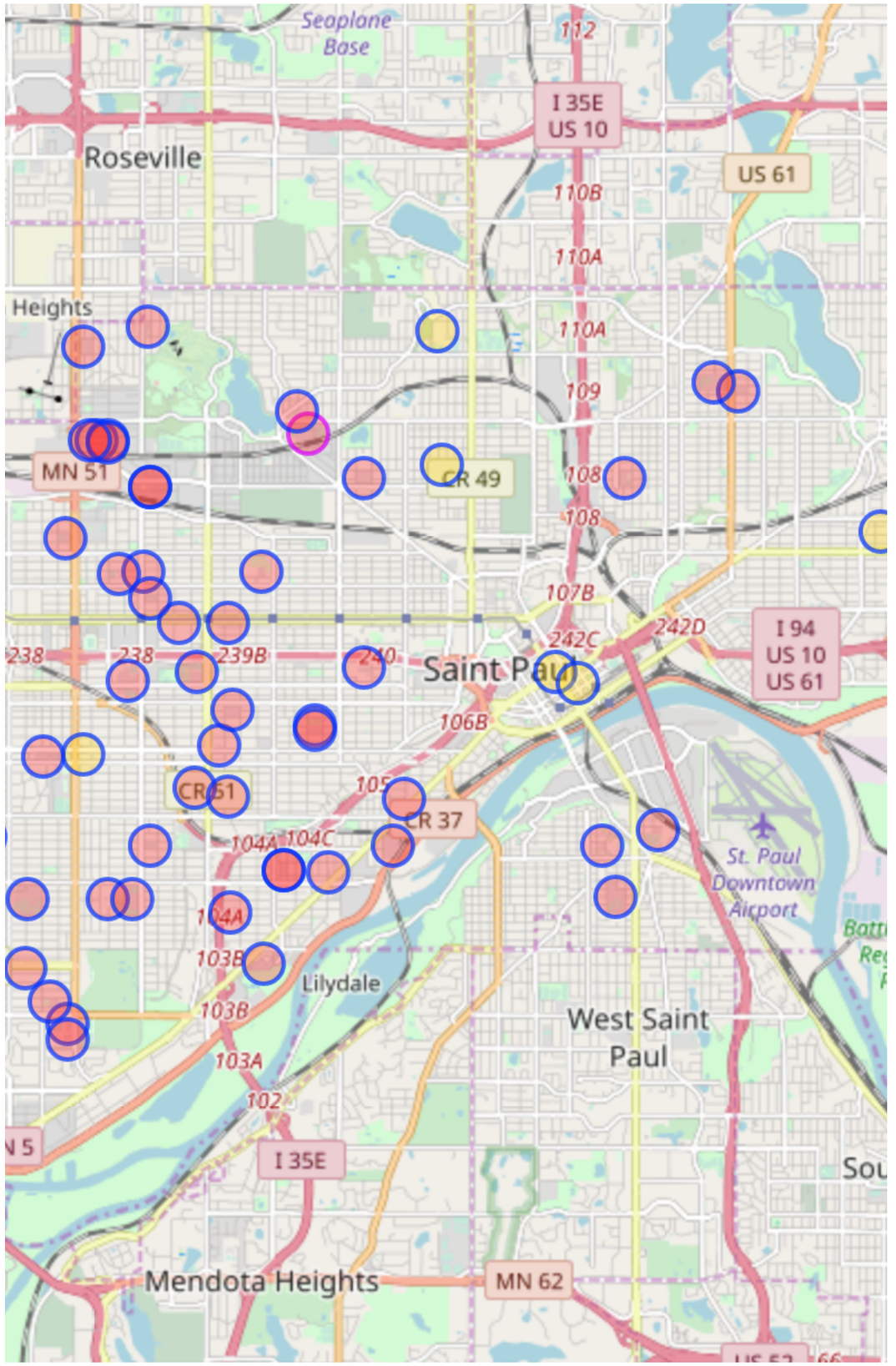
amenity=school and name~"High School"

```
[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;
```



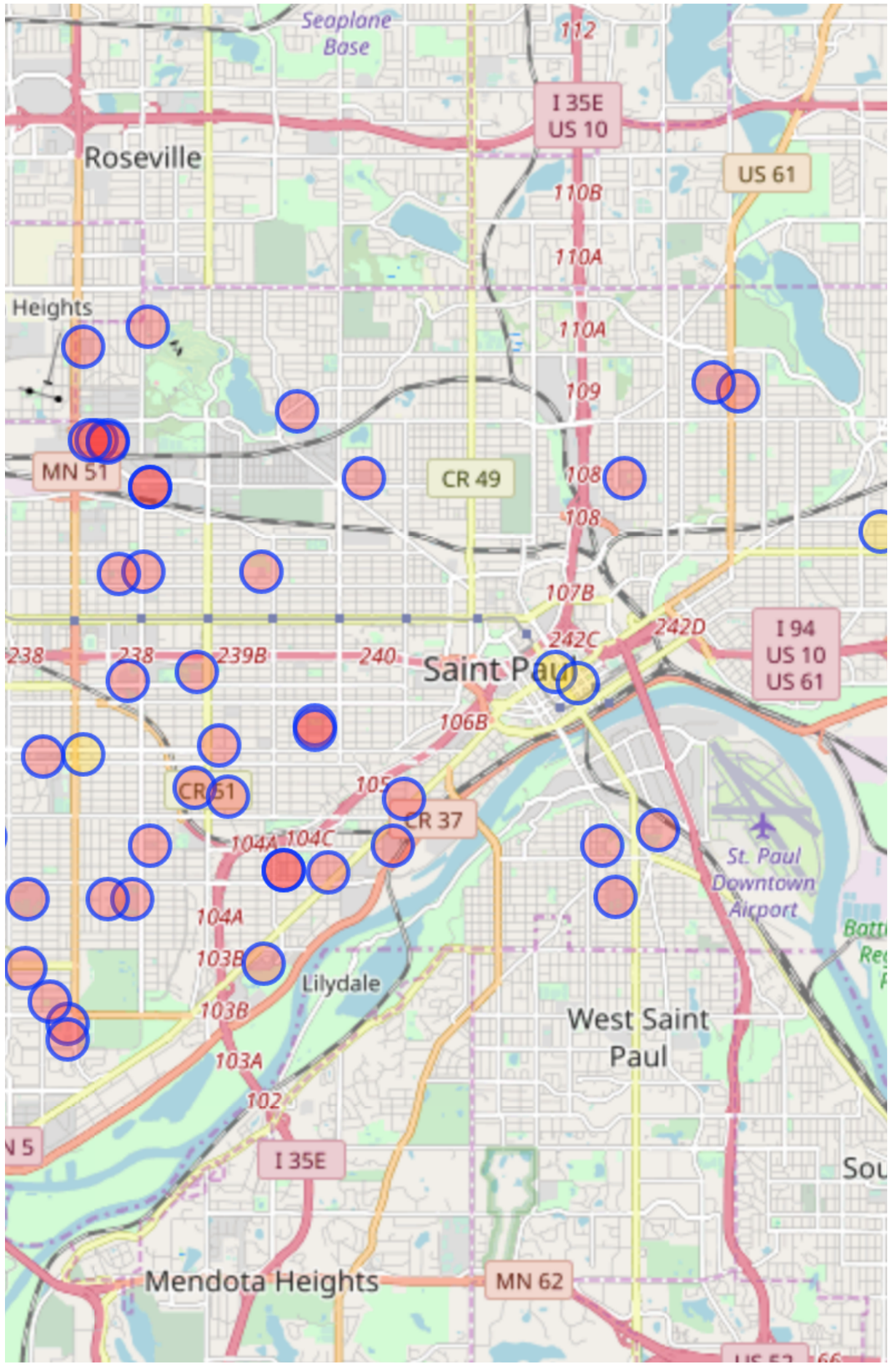
amenity=school in "Saint Paul, Minnesota"

```
[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

Options

- [x] 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**

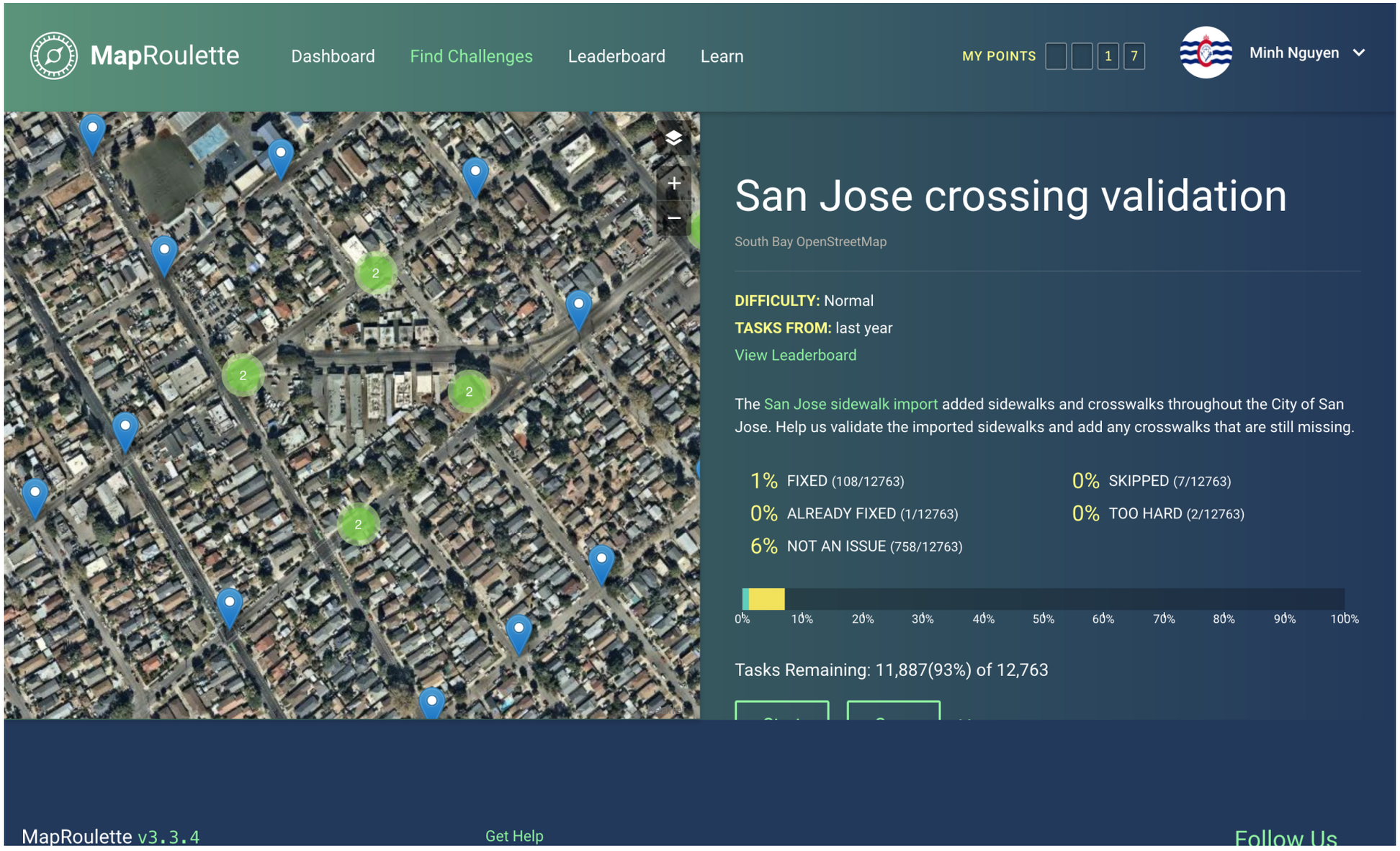
load data into an OSM editor: **JOSM**, **Level0**

save GeoJSON to **gist**

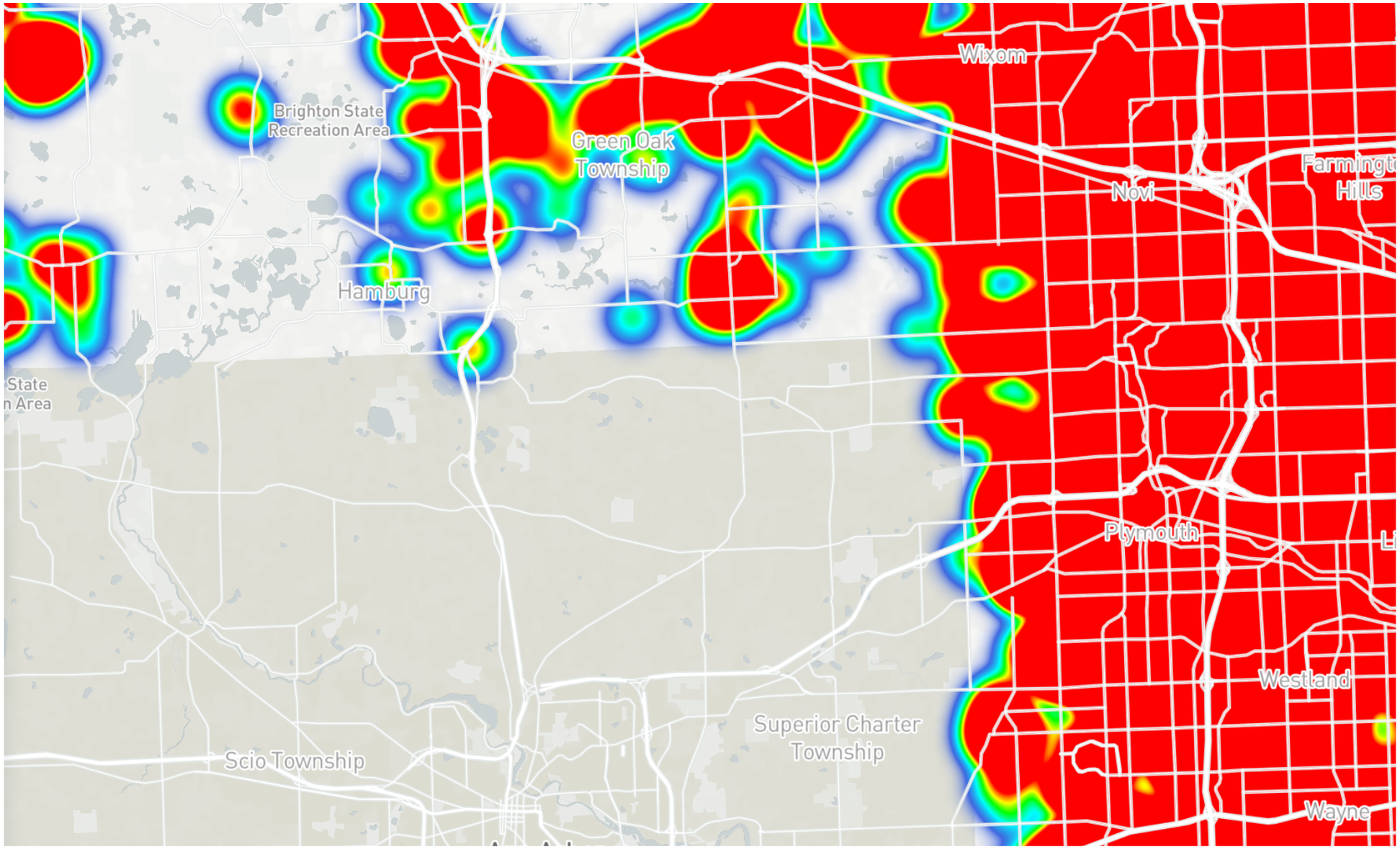
▸ Map

▸ Query

done

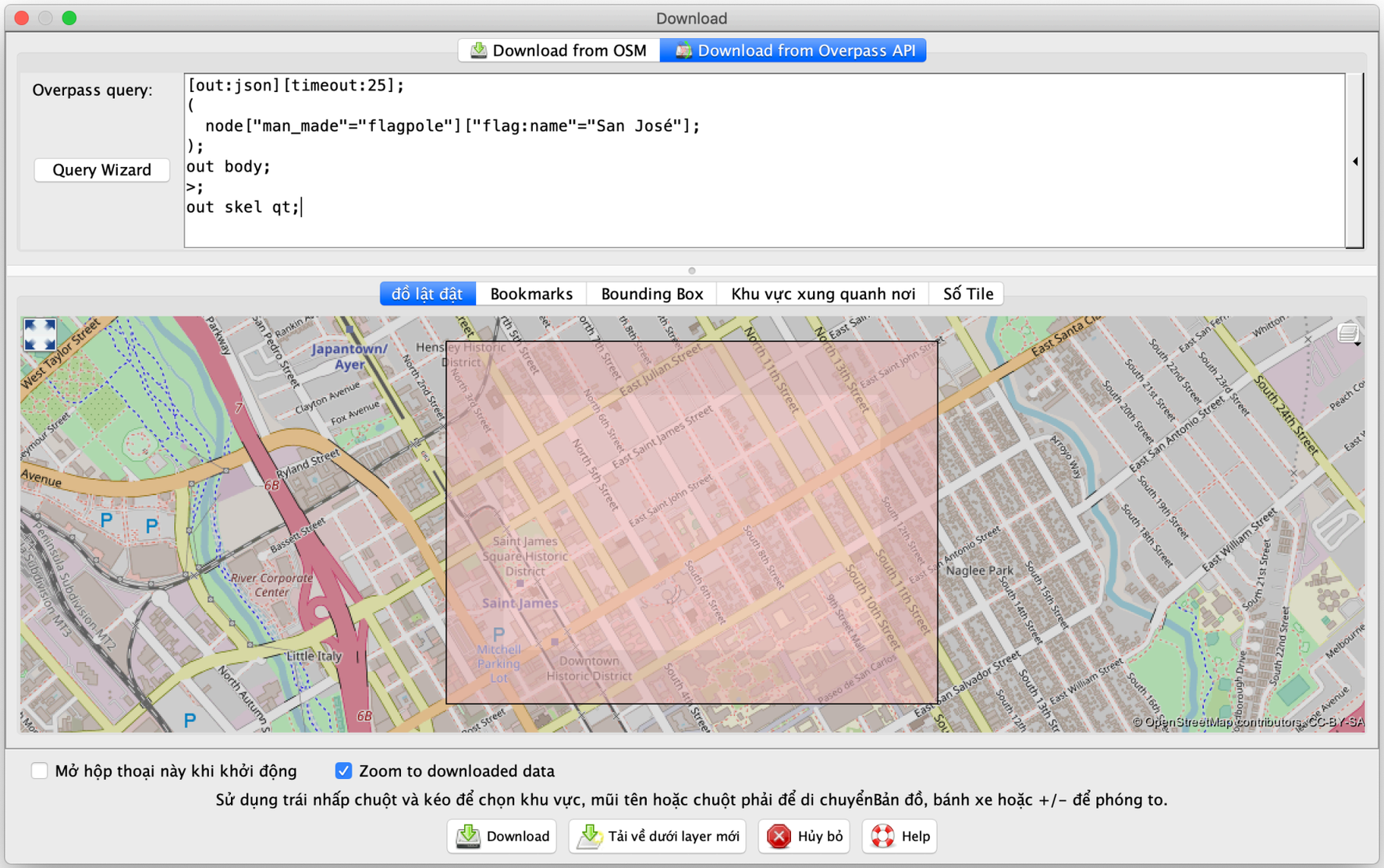


MapRoulette



Mapbox Studio

tinyurl.com/sotmus18heatmaps2



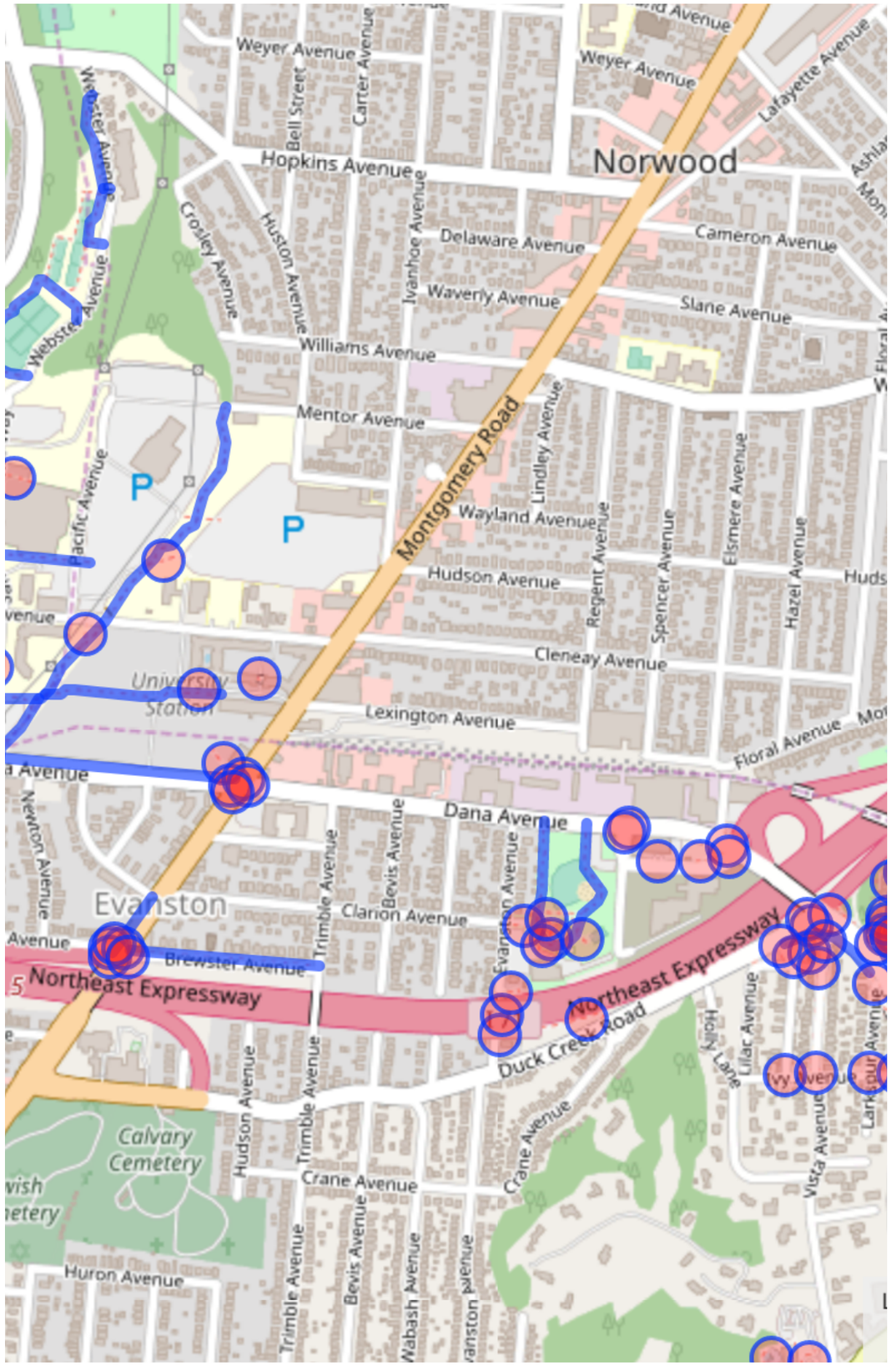
JOSM

Expert Mode

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;
```

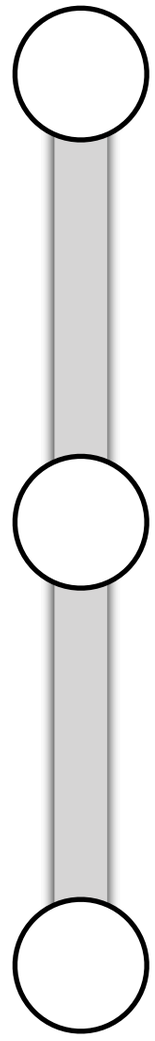


Footways intersecting roadways

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

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

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

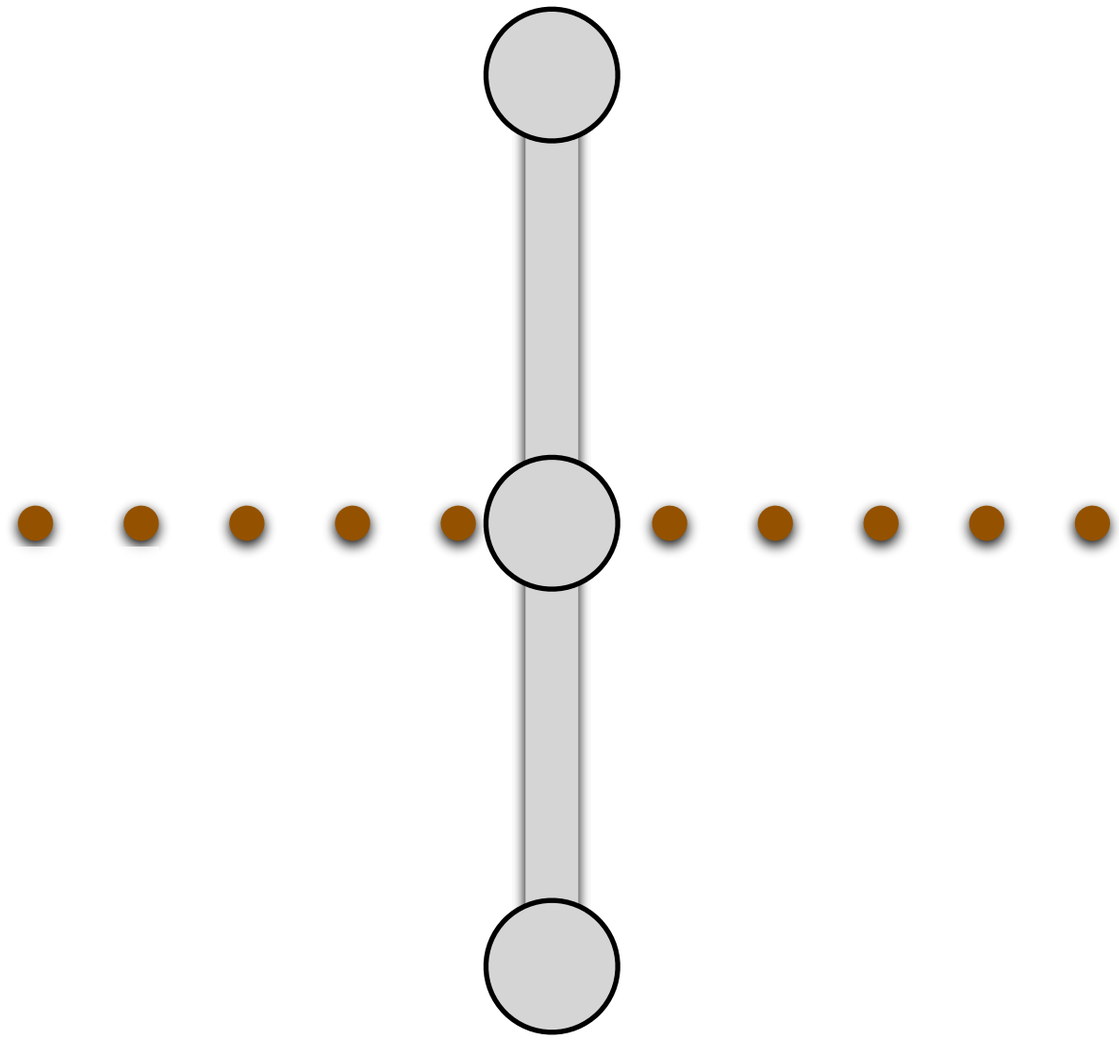
Footways intersecting roadways

```
[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

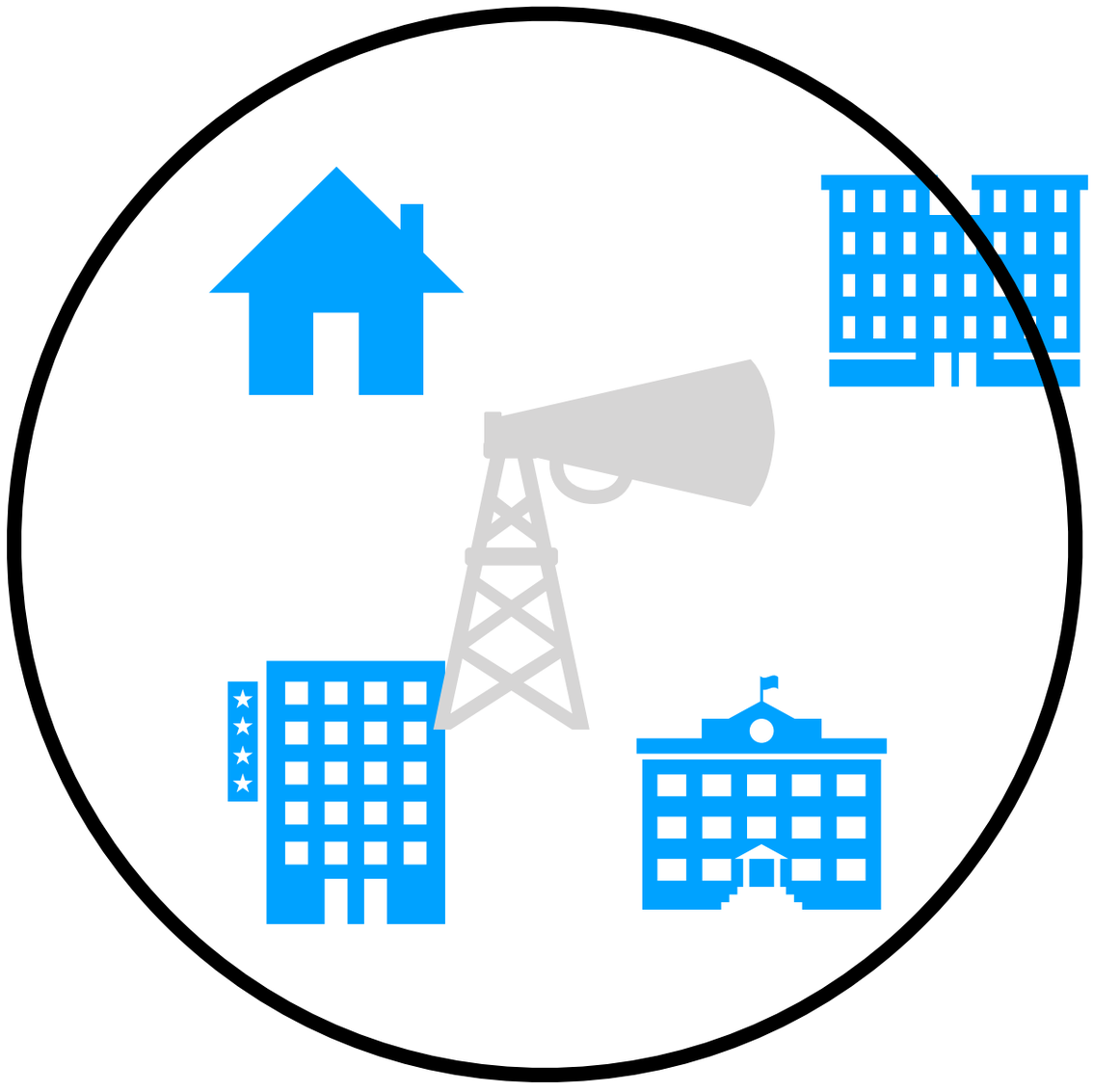
```
[out:json][timeout:25];

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

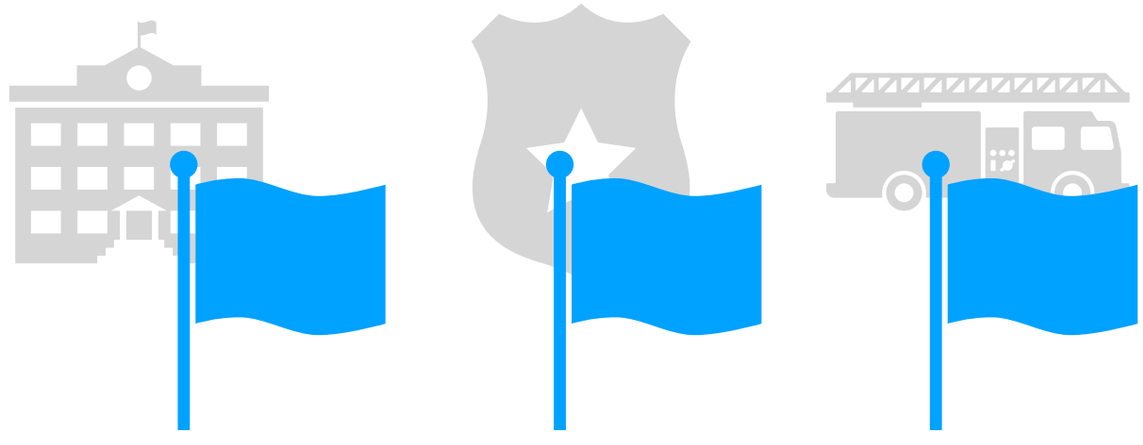
```
[out:json][timeout:25];

node["emergency"="siren"]
  ({{bbox}});
way(around:100)["building"];

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



Flagpoles not in front of fire stations

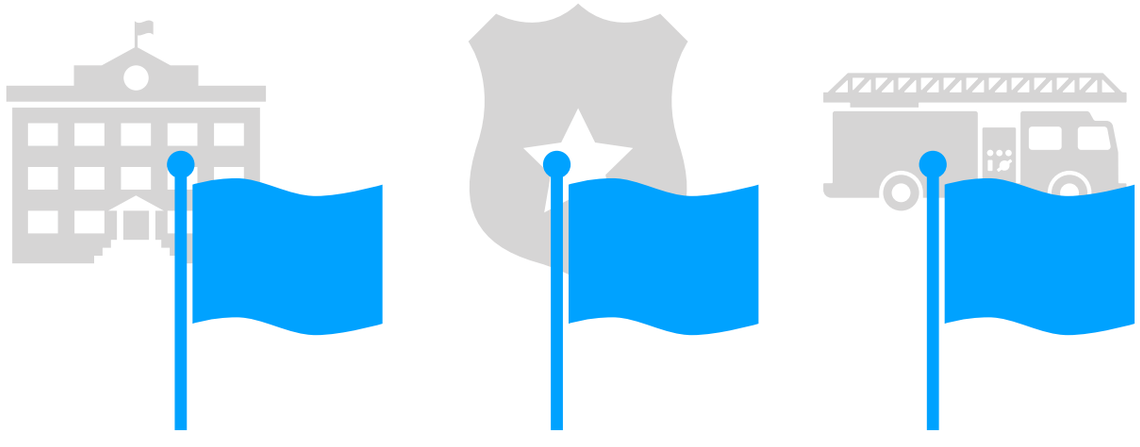
```
[out:json][timeout:25];
node["man_made"="flagpole"]({{bbox}})
  ->.flagpoles;
(
  node["amenity"="fire_station"]
    ({{bbox}});
  way["amenity"="fire_station"]
    ({{bbox}});
);
node["man_made"="flagpole"]
  (around:100)->.firepoles;
(node.flagpoles; - node.firepoles;);
out body;
```

Flagpoles not in front of fire stations



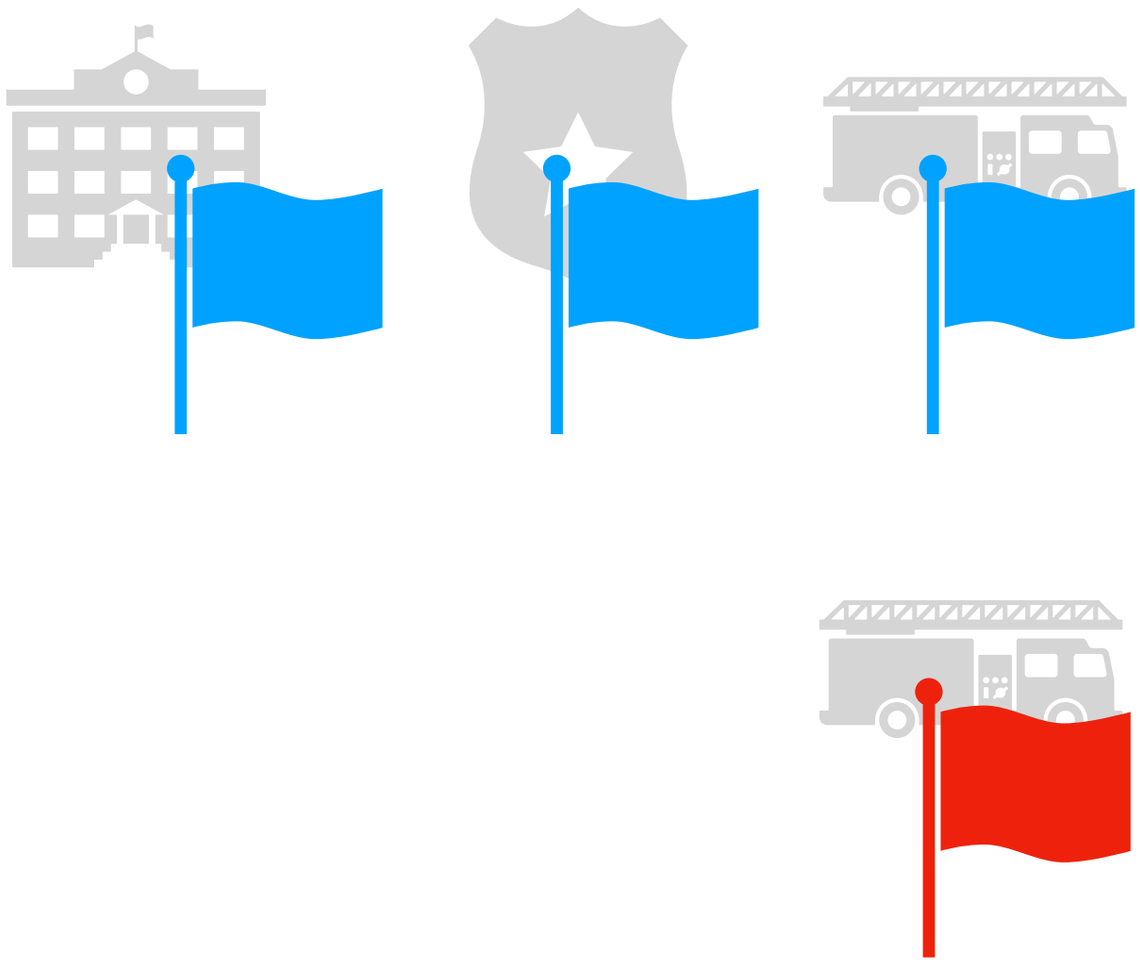
```
[out:json][timeout:25];
node["man_made"="flagpole"]({{bbox}})
  ->.flagpoles;
(
  node["amenity"="fire_station"]
    ({{bbox}});
  way["amenity"="fire_station"]
    ({{bbox}});
);
node["man_made"="flagpole"]
  (around:100)->.firepoles;
(node.flagpoles; - node.firepoles;);
out body;
```

Flagpoles not in front of fire stations



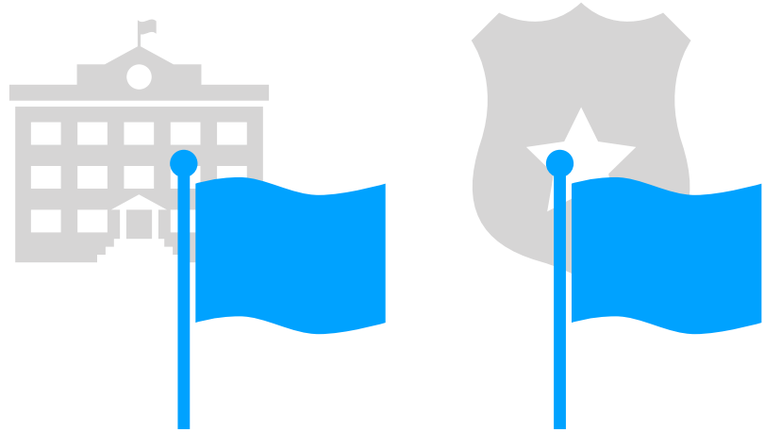
```
[out:json][timeout:25];
node["man_made"="flagpole"]({{bbox}})
  ->.flagpoles;
(
  node["amenity"="fire_station"]
    ({{bbox}});
  way["amenity"="fire_station"]
    ({{bbox}});
);
node["man_made"="flagpole"]
  (around:100)->.firepoles;
(node.flagpoles; - node.firepoles;);
out body;
```

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;
```

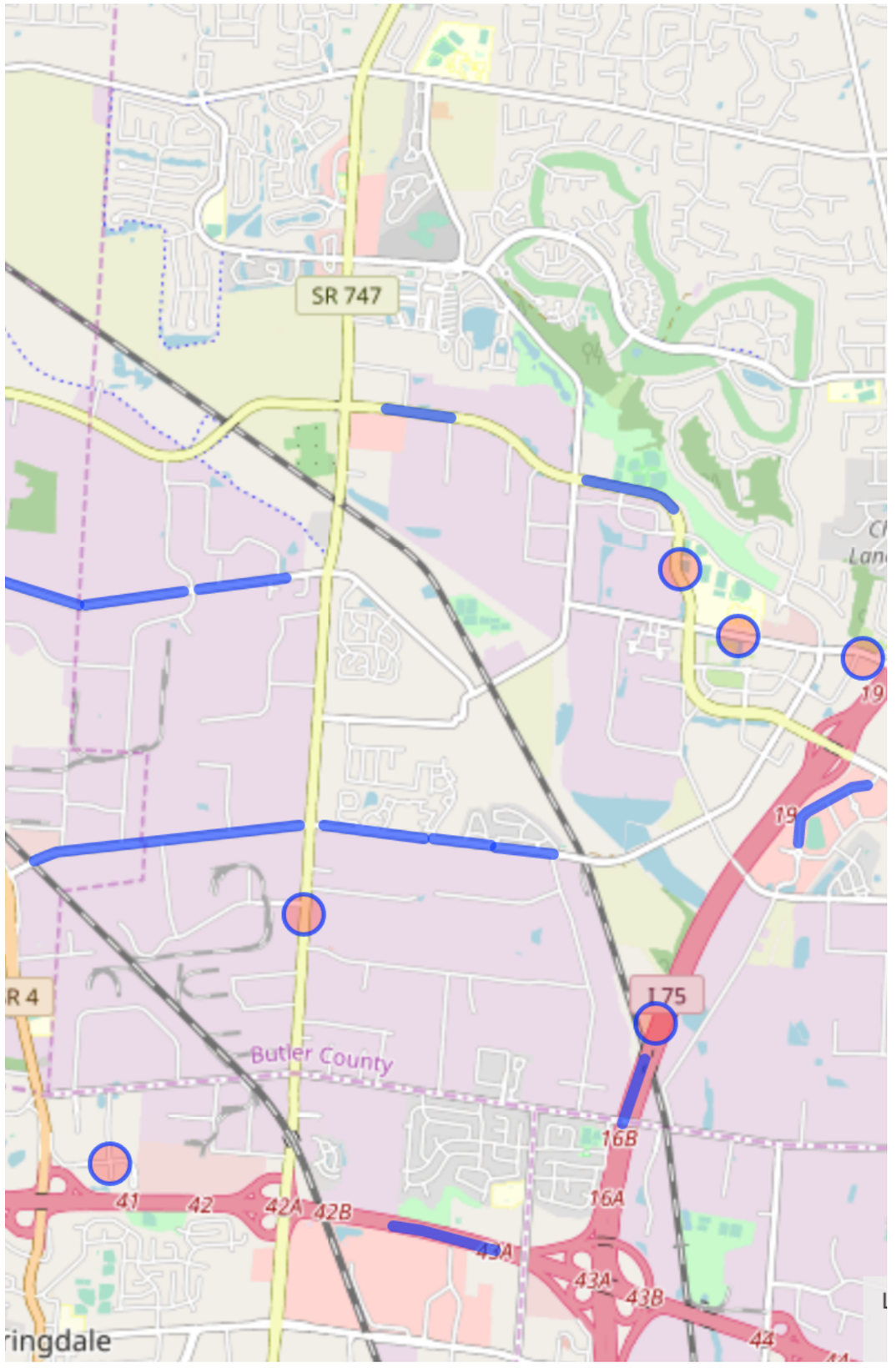
Flagpoles not in front of fire stations



```
[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"](area.searchArea);
 way["highway"="cycleway"](area.searchArea);
 way["bicycle"~"yes|permissive|designated"](area.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

Thank You

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