

Geografski informacioni sistemi

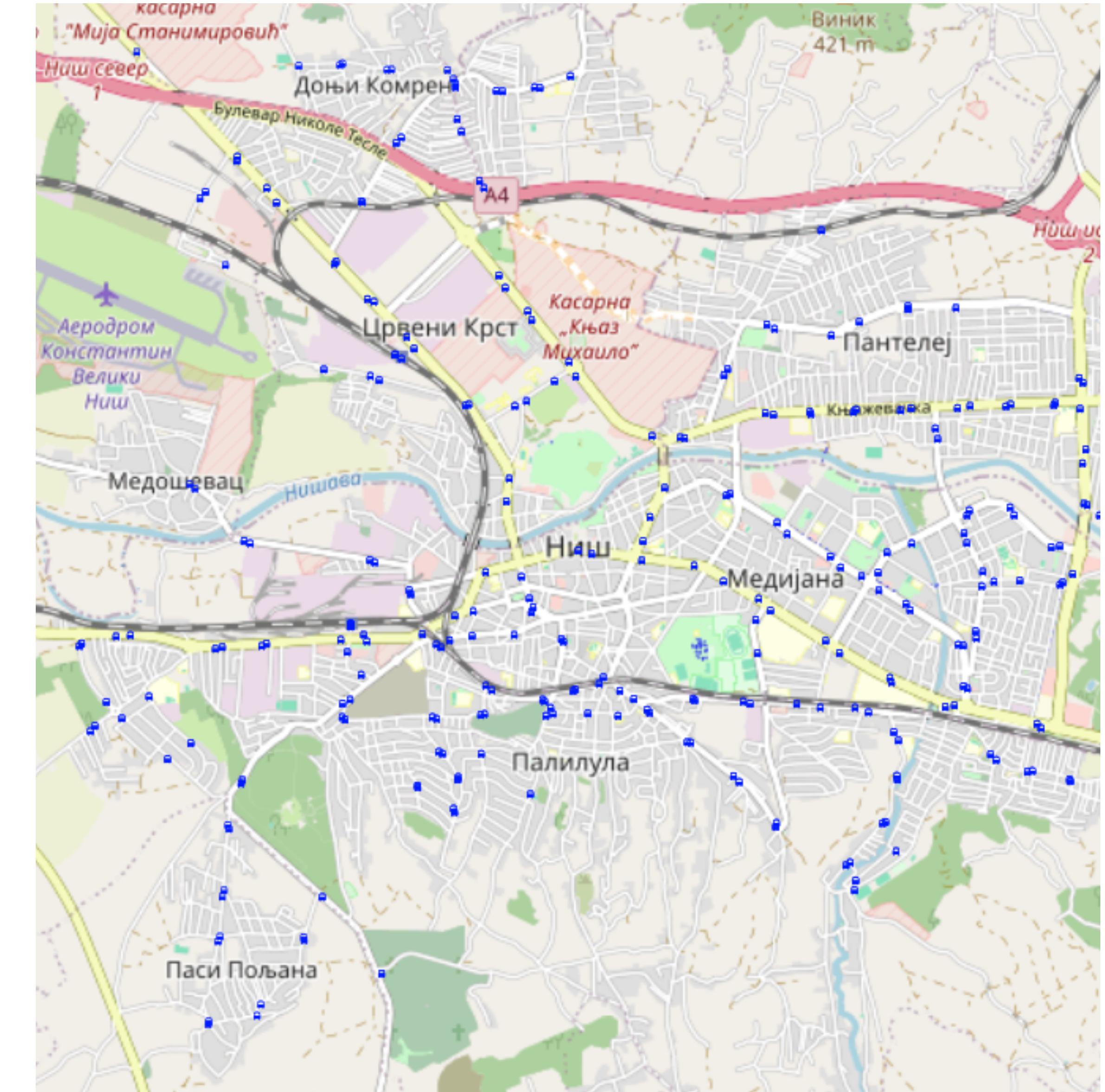
Projekat 1

Andrija Tošić 1711

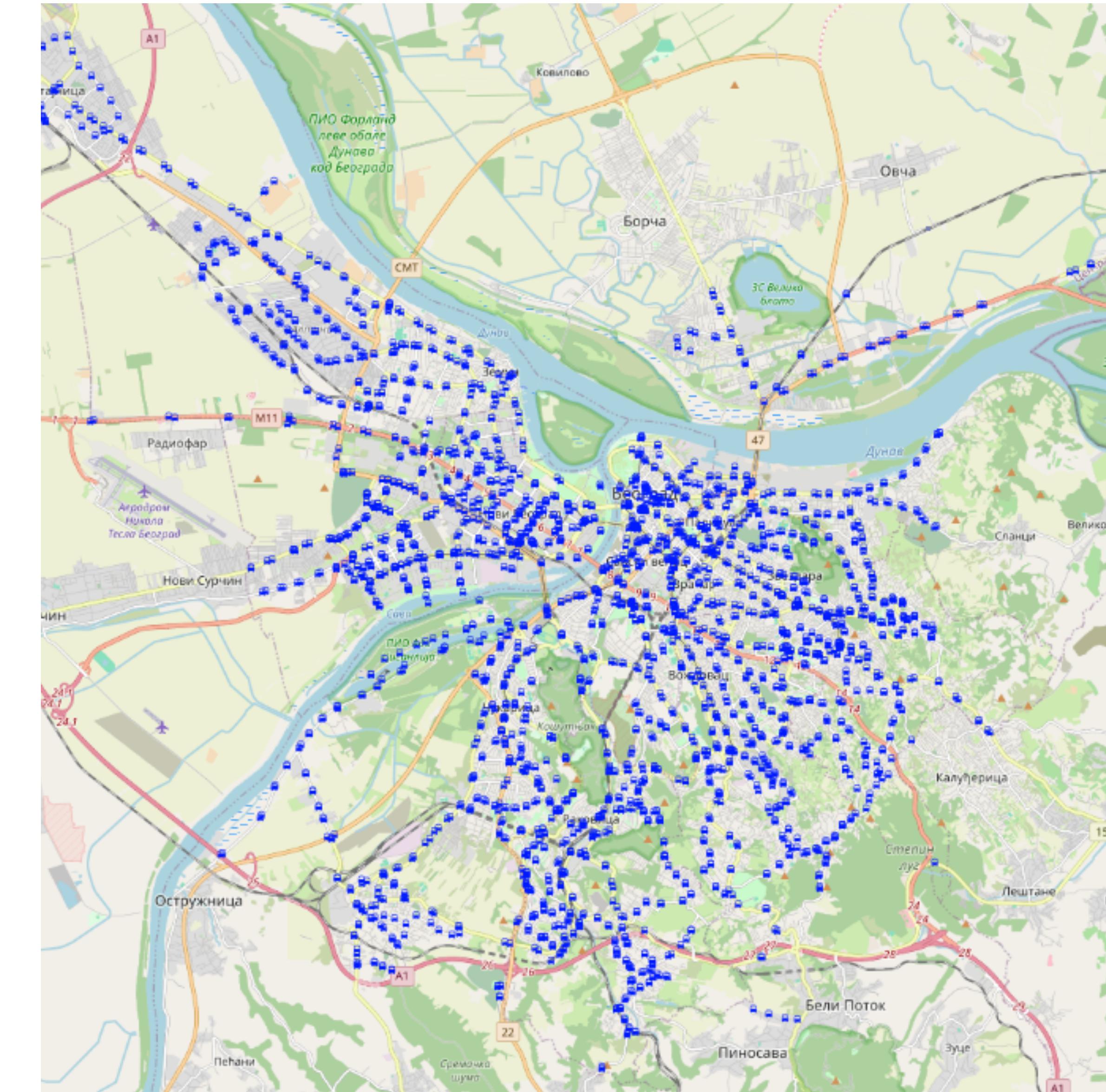
Setup

- homebrew: postgresql, qgis, pgadmin4, beekeper-studio
- <https://download.geofabrik.de/europe-serbia-latest.osm.pbf> (184 MB)
- CREATE DATABASE osm;
- CREATE EXTENSION postgis;
- osm2pgsql -c -d osm -U postgres -H localhost /Users/andrija/personal\ projects/gis/srbia-latest.osm.pbf

Autobuske stanice Niša



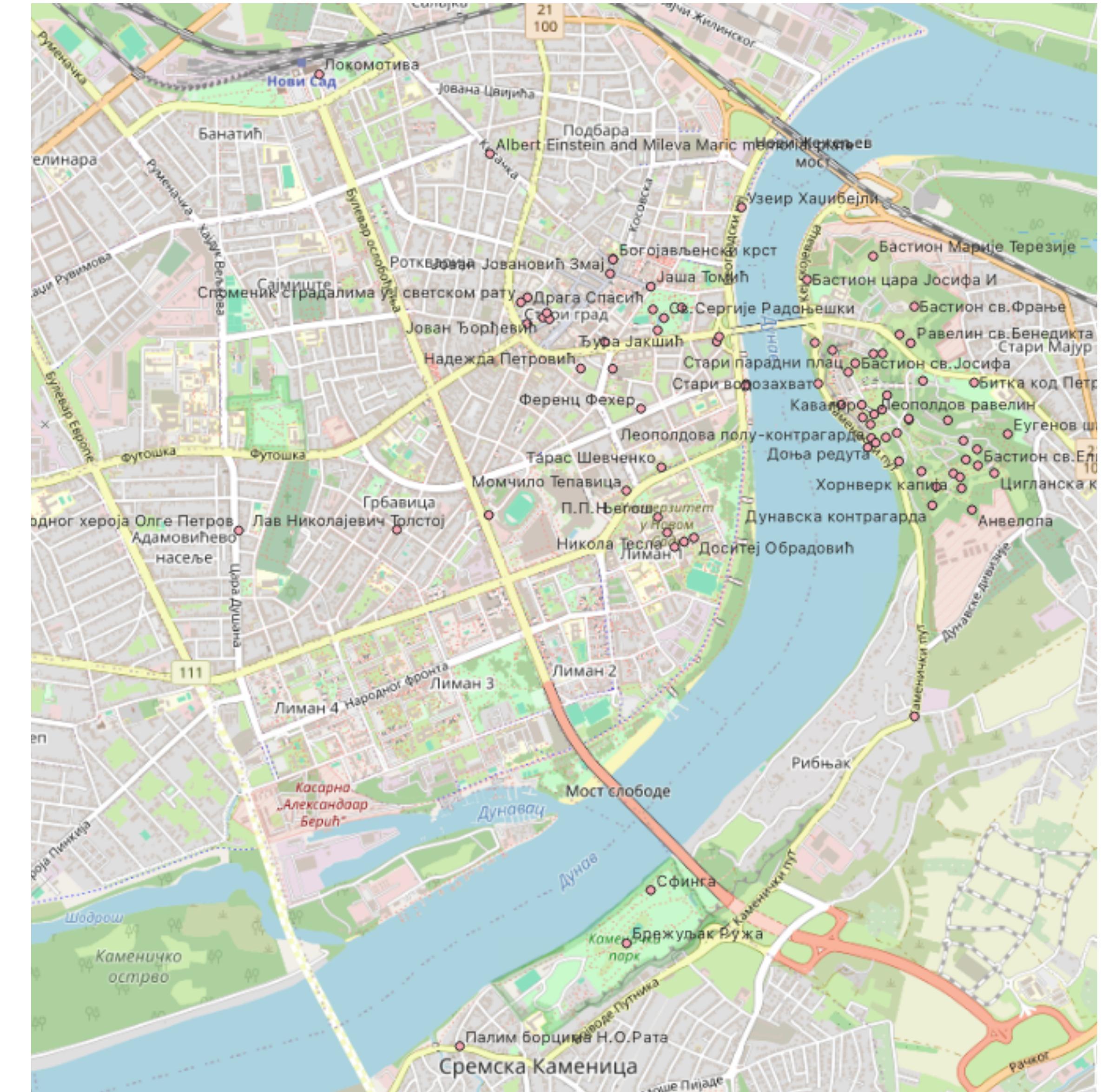
Autobuske stanice Beograda



Biciklističke staze Beograda



Istorijske turističke atrakcije u blizini hotela (1km)



Dužine biciklističkih staza

duzine biciklistickih staza — Update SQL

```
SELECT row_number() over () AS _uid_ ,* FROM (SELECT c.name AS city_name, ROUND(SUM(ST_Length(l.way))) AS total_cycleway_length
FROM planet_osm_line l
JOIN planet_osm_polygon c ON ST_Intersects(l.way, c.way)
WHERE (c.name LIKE '%Ниш%' OR c.name LIKE '%Београд%' OR c.name LIKE '%Нови Сад%')
AND l.highway = 'cycleway' GROUP BY c.name ORDER BY total_cycleway_length DESC
) AS _subq_1_
```

Clear Fetched rows: 27/27 221 ms Execute Stop

	uid	city_name	tal_cycleway_leng
1	1	Град Београд	331314
2	2	Град Нови ...	186949
3	3	Београдски ...	165657
4	4	Нови Сад	145295
5	5	Београд	142381
6	6	Градска ...	92198
7	7	Београд (Но...	92198
8	8	Нишавски ...	24140

Procenat povrsine pokriven biciklističkim stazama

Cycling Infrastructure Coverage — Update SQL

```
SELECT row_number() over () AS _uid_ ,* FROM (SELECT c.name AS area_name,
ROUND(SUM(ST_Length(l.way)) / ST_Area(c.way) * 100) AS cycleway_coverage_percentage FROM planet_osm_line l
JOIN planet_osm_polygon c ON ST_Within(l.way, c.way) WHERE l.highway = 'cycleway' and c.name IS NOT NULL
GROUP BY c.name, c.way order by cycleway_coverage_percentage desc
) AS _subq_1_
```

Clear Fetched rows: 373/373 10866 ms Execute Stop

uid	area_name	cycleway_coverage_percentage
1	Саобраћајни полигон	12
2	Катићев Сквер	6
3	Пупинов мост	5
4	Мост на Ади	2
5	Перон VI	1
6	МЗ Центар II	1
7	Савски кеј	1
8	Дунавски парк	1

Dodavanje indeksa

↔ Query #1 • +

```
1 create index idx_osm_line_way on planet_osm_line(way);
```

↔ Query #1 • +

```
1 create index idx_osm_polygon_name on planet_osm_polygon(name);
```

↔ Query #1 • +

```
1 create index idx_osm_point_amenity on planet_osm_point(amenity);
```

❗ There was a problem

index row requires 12424 bytes, maximum size is 8191

ⓘ Query 1/1: No Results. 0 rows affected. See the select box in the bottom left ↴ for more query results.

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Objekti za hitne slučajeve u blizini autoputa (200m)

```
SELECT DISTINCT e.* FROM planet_osm_point e
JOIN planet_osm_line l ON ST_DWithin(e.way, l.way, 200)
WHERE e.amenity IN ('hospital', 'fire_station', 'police')
AND e.name IS NOT NULL
AND l.highway IN ('motorway', 'trunk', 'primary')
```

	Sa indeksom	Bez indeksa
Vreme izvršenja [ms]	139	285

