

A map of Bergen, Norway, showing various districts and streets. The map is overlaid with several thick, colored lines in red, orange, yellow, and green, representing different routes or zones. The text 'OpenStreetMap' is prominently displayed in the center. Other labels on the map include Sandviken, Bergenhus, Arstad, Kronstad, Landås, Minde, and Fyllingsdalen. There are also two red circles with white crosses on the map, one near Kronstad and one near Landås.

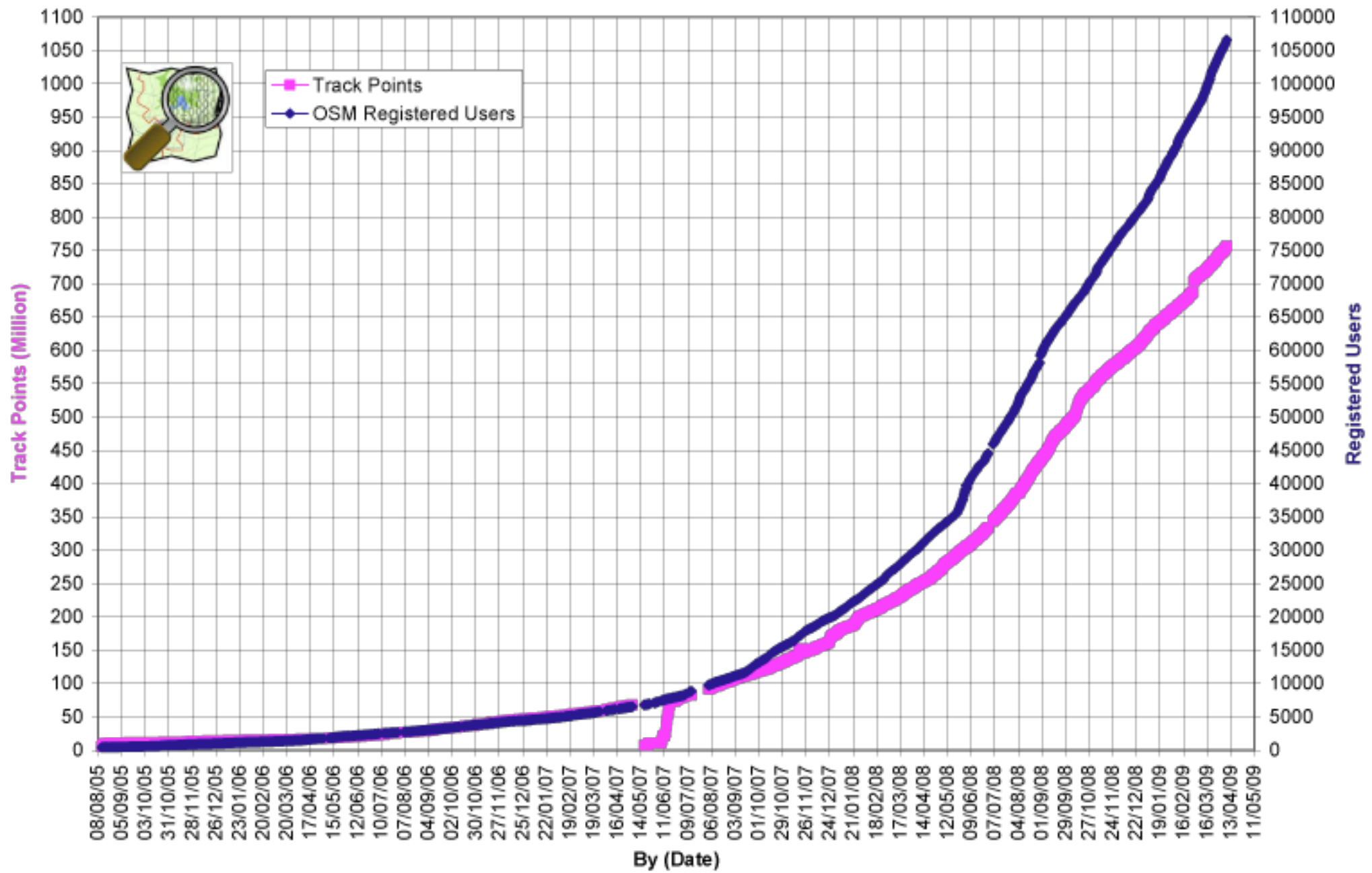
OpenStreetMap

Hva, Hvorfor, Hvordan og med nåko attåt

Hva

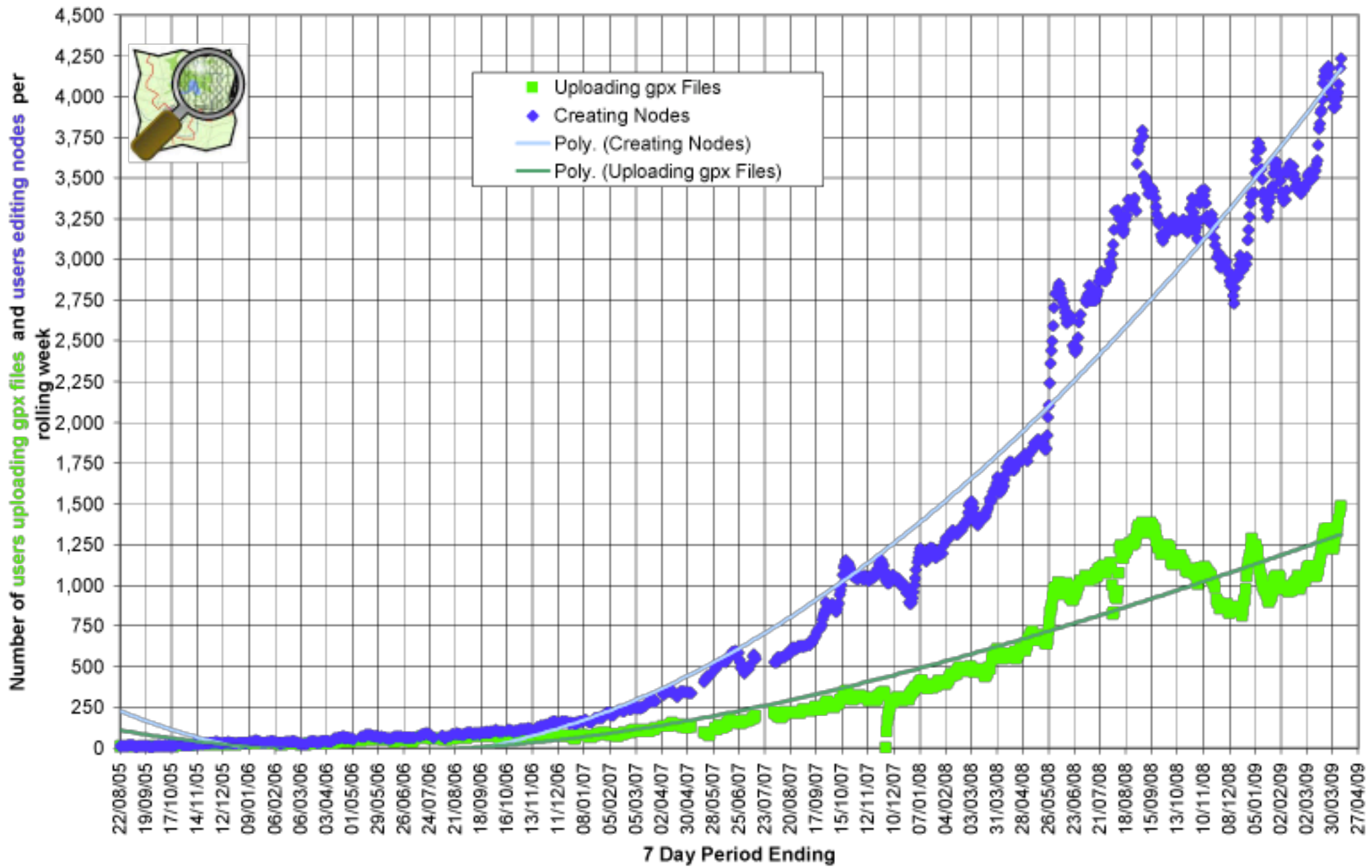
1. Database med vektor kartdata
2. Kart på web

OpenStreetMap Database Statistics Users and User gpx Uploads (track points)



OpenStreetMap Database Statistics

Users Uploading or Editing Nodes (Rolling Week)



Hvorfor

Hvordan: Kilder

- gps
- flyfoto

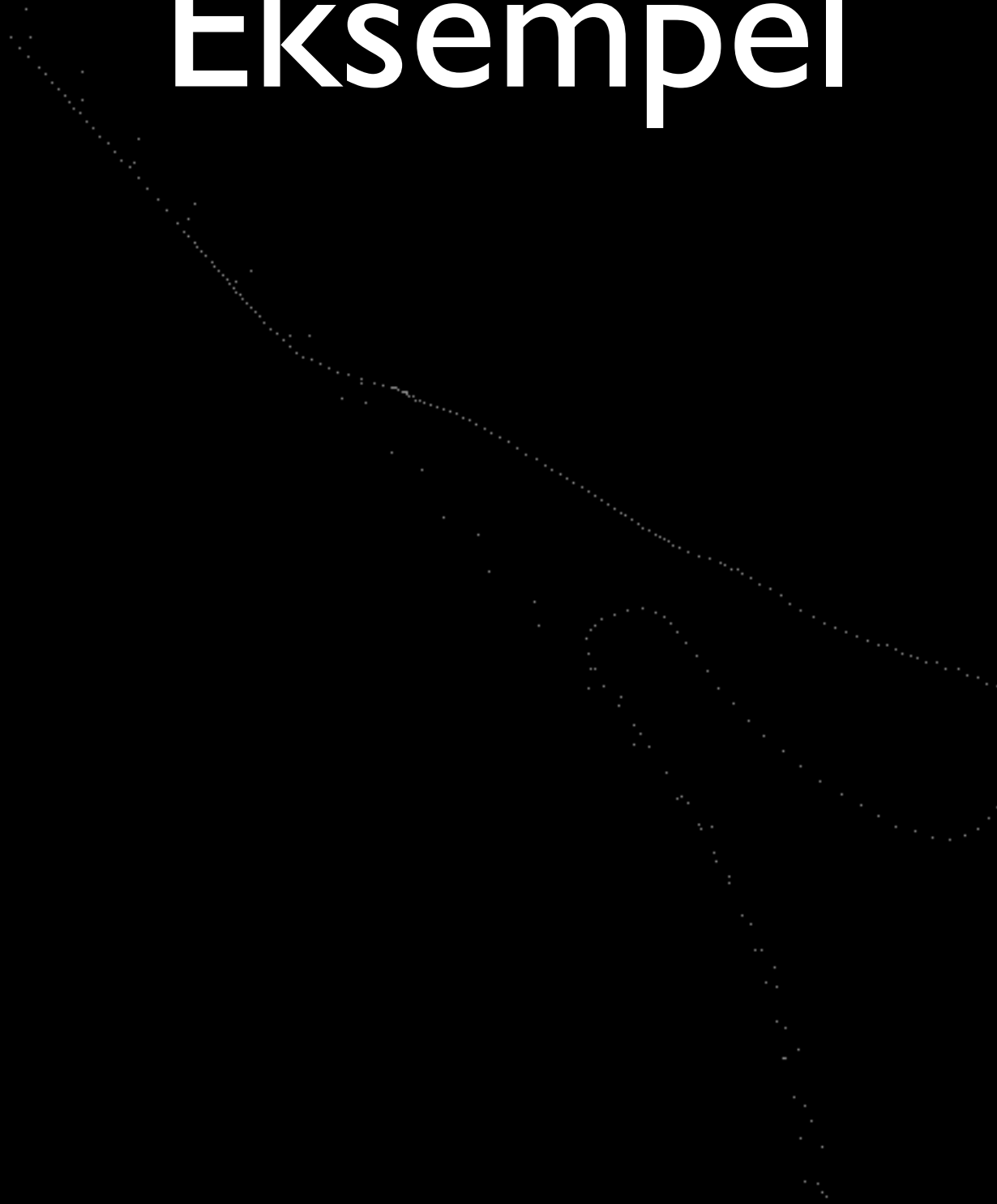
Hvordan: Notater

- audio
- foto

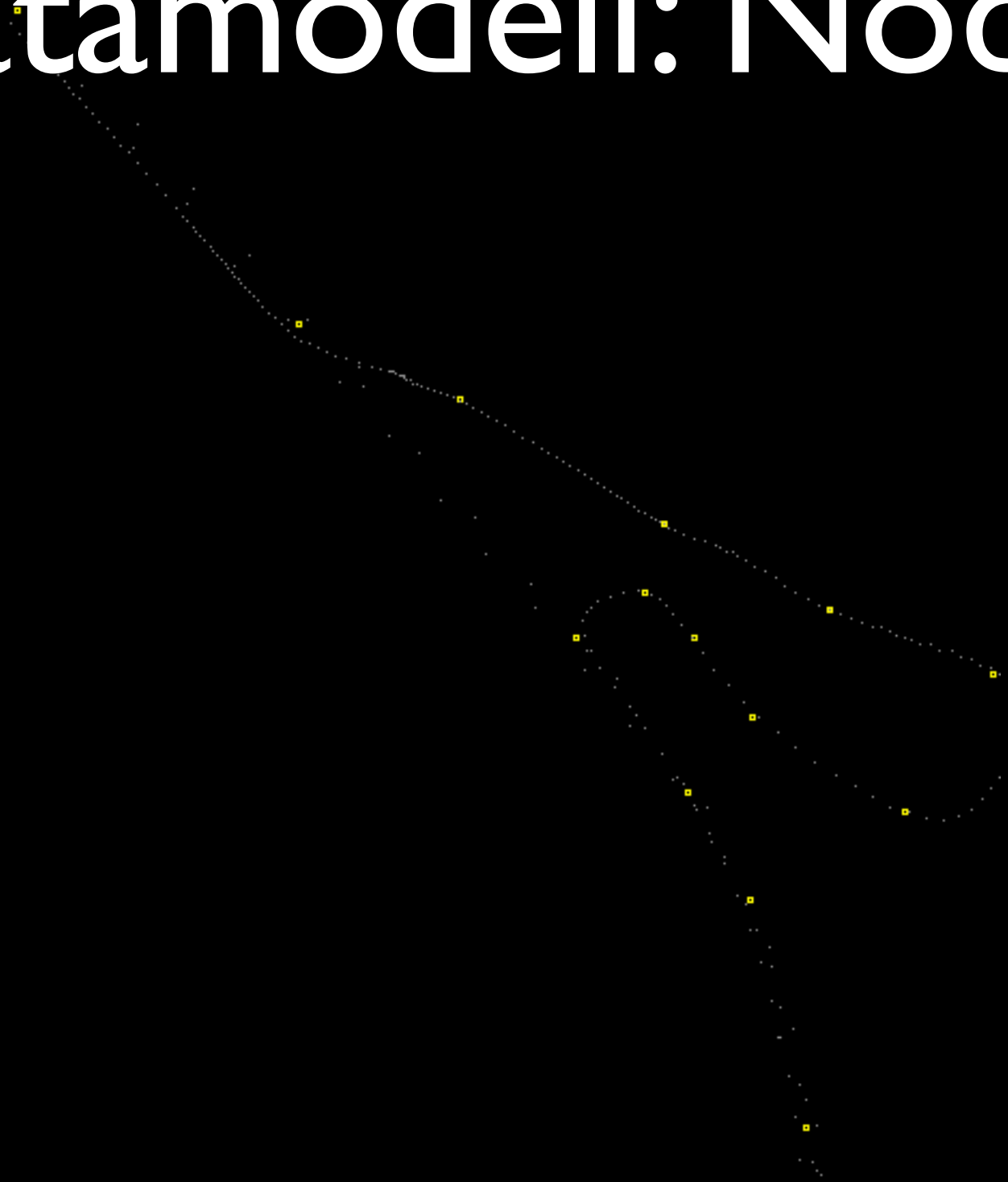
Hvordan: Lage data

- “tracking”

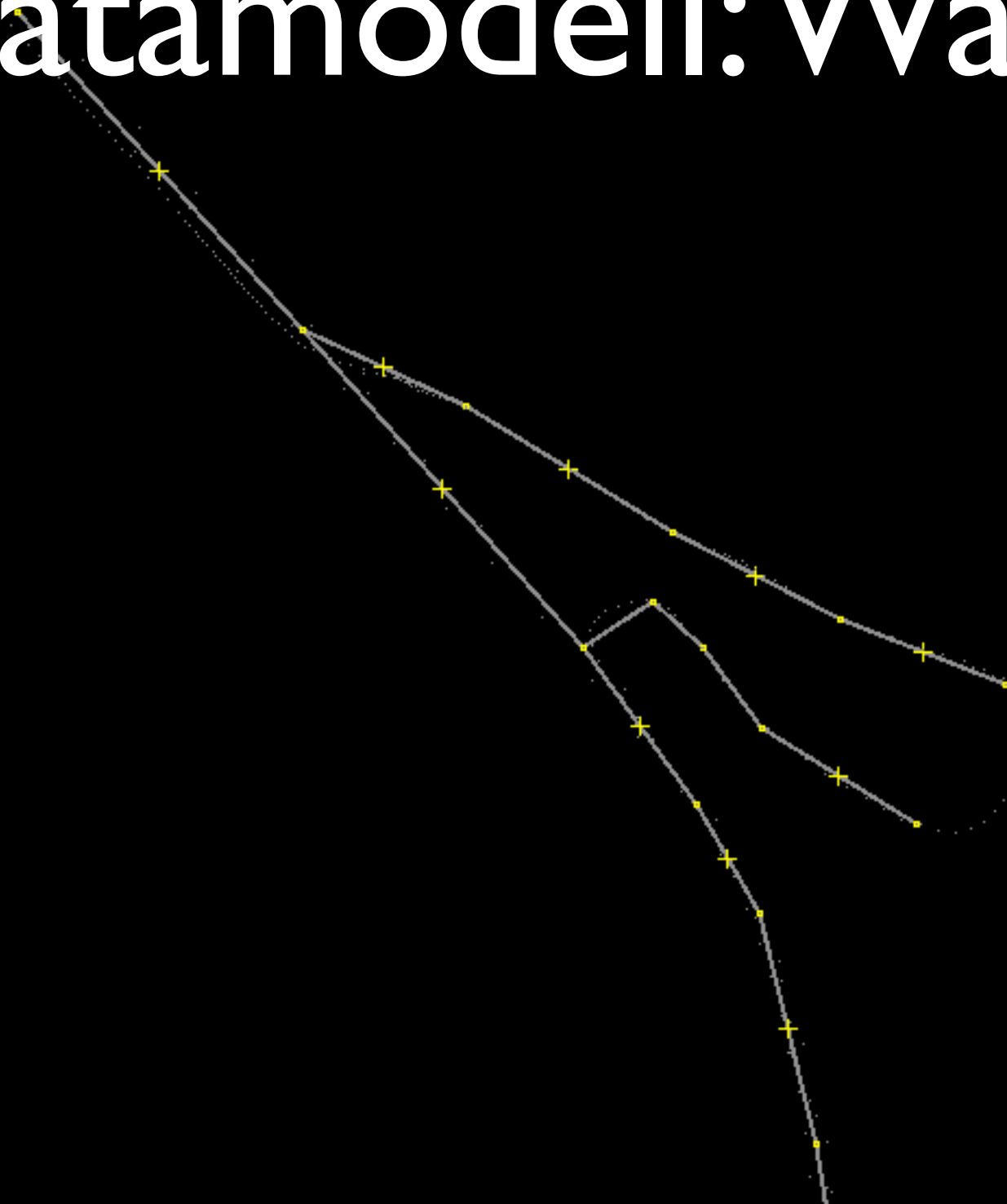
Eksempel



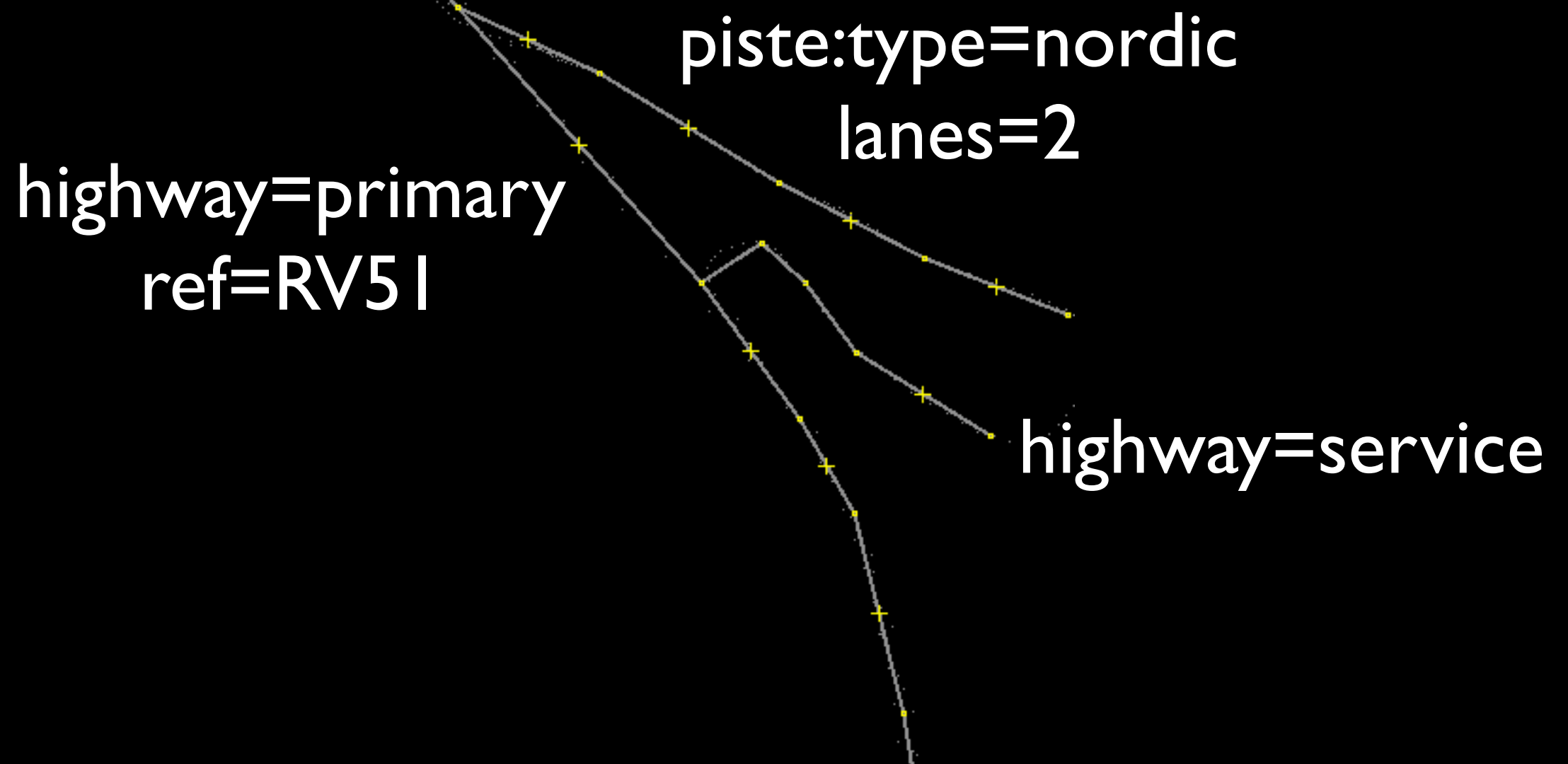
Datamodel: Noder



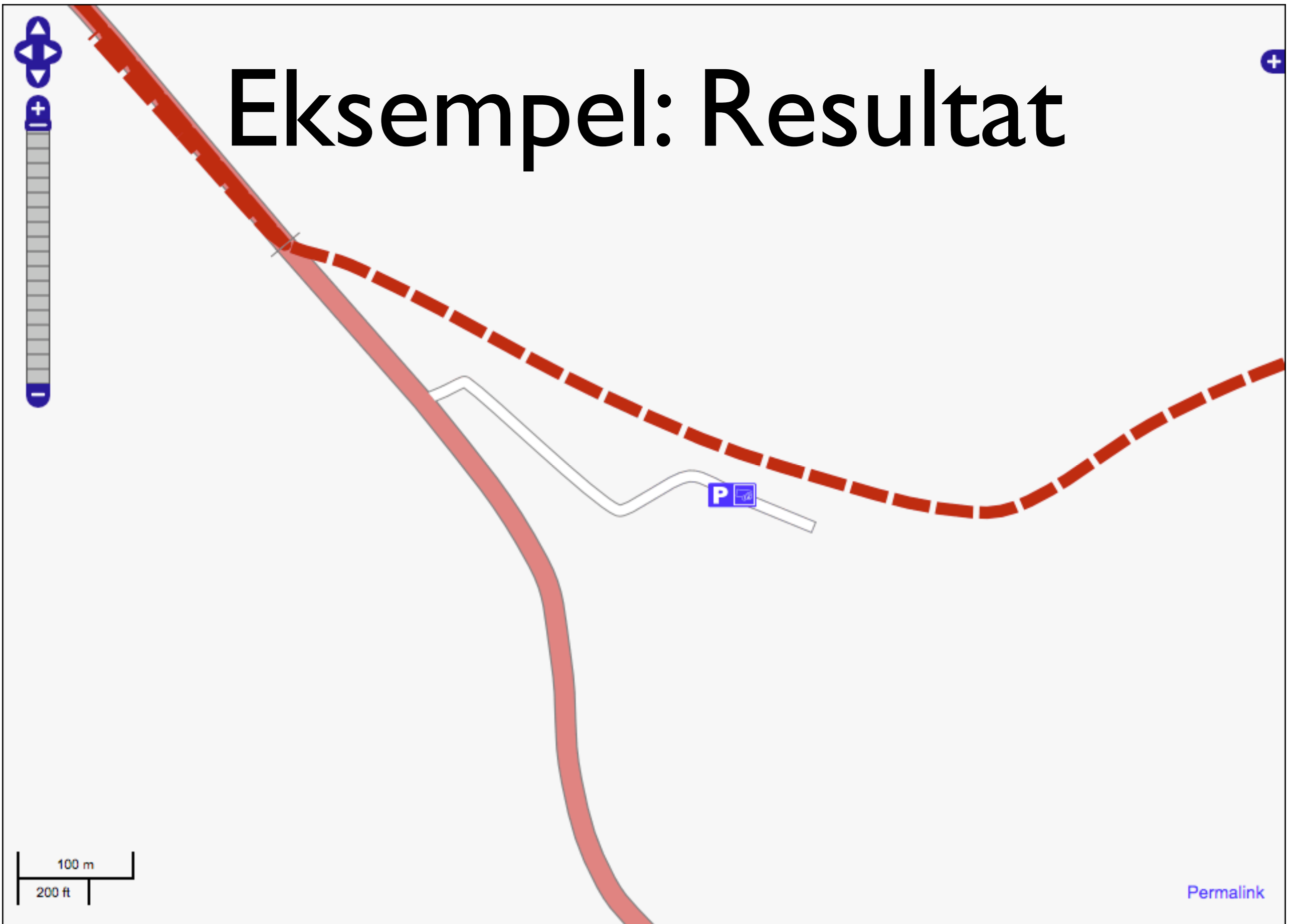
Datamodel: Ways



Datamodel: Tags



Eksempel: Resultat



Datamodel: XML

```
<?xml version='1.0' encoding='UTF-8'?>
<osm version='null' generator='JOSM'>
  <node id='-1' visible='true' version='1' lat='61.259513228727236' lon='8.860755834967456' />
  <node id='-2' visible='true' version='1' lat='61.259322682803194' lon='8.860437837829146' />
  <node id='-3' visible='true' version='1' lat='61.25585829476309' lon='8.846120833114494' />
  ...
  <node id='-84' timestamp='2008-04-05T21:47:28Z' visible='true' version='2' lat='61.25638969532916' lon='8.844672507758732'>
    <tag k='barrier' v='gate' />
    <tag k='created_by' v='JOSM' />
  </node>
  ...
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    <tag k='fee' v='yes' />
    <tag k='amenity' v='parking' />
  </node>
  ...
  <way id='-159' visible='true' version='1'>
    <nd ref='-84' />
    <nd ref='-96' />
  ...
  <tag k='ref' v='RV51' />
  <tag k='highway' v='primary' />
  <tag k='created_by' v='Potlatch 0.10b' />
</way>
  <way id='-160' timestamp='2008-04-05T21:47:45Z' visible='true' version='2'>
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  ...
  <tag k='lanes' v='2' />
  <tag k='piste:type' v='nordic' />
  <tag k='created_by' v='JOSM' />
</way>
  <way id='-161' visible='true' version='1'>
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  <tag k='highway' v='primary' />
  <tag k='piste:type' v='nordic' />
  <tag k='created_by' v='Potlatch 0.10b' />
</way>
  <way id='-162' visible='true' version='1'>
    <nd ref='-96' />
    <nd ref='-72' />
  ...
  <tag k='highway' v='service' />
</way>
</osm>
```

Tagging

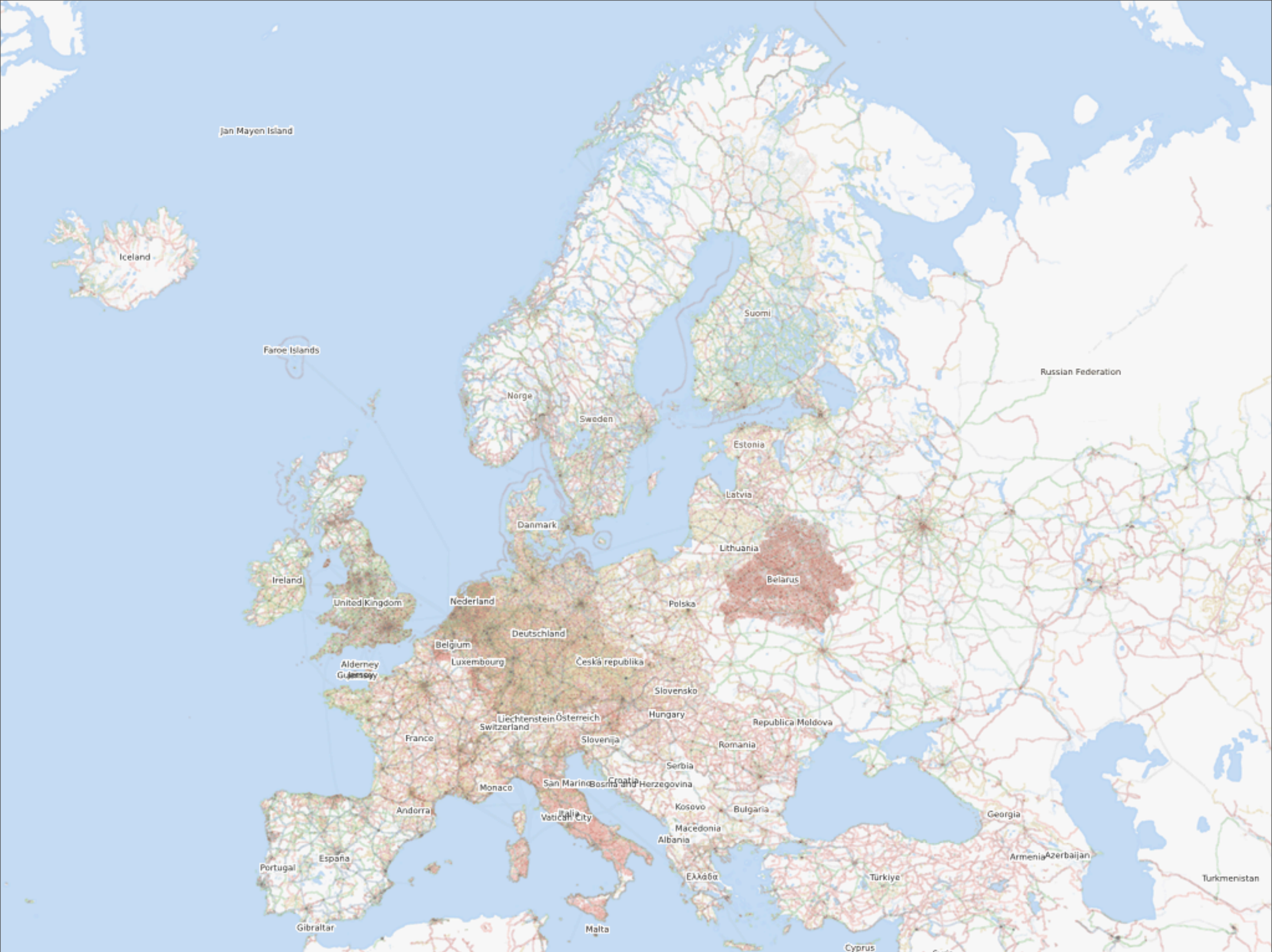
- key=value
 - UTF-8, maks 255 tegn
- Map Features
- Tagwatch

Resultater

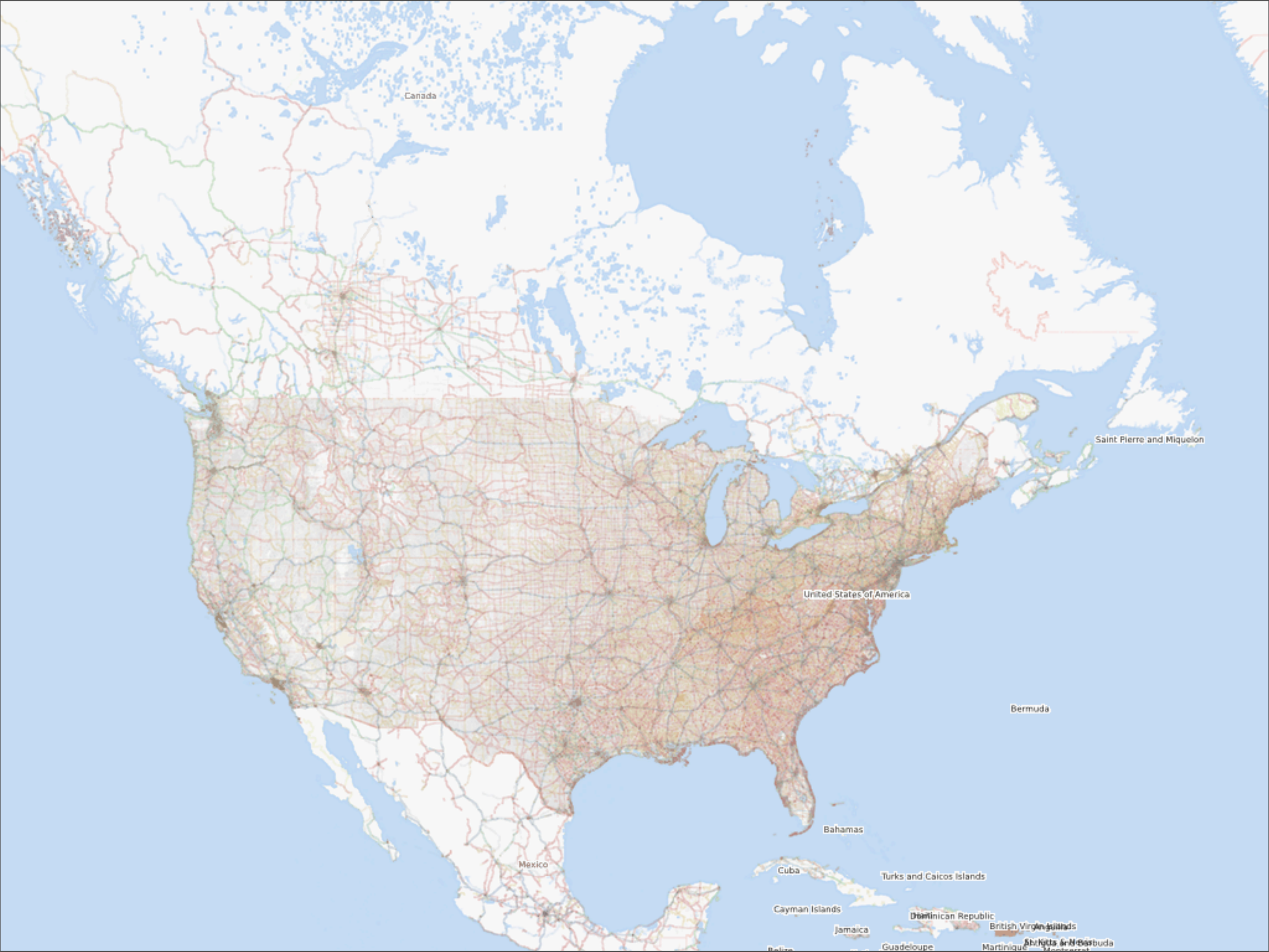
- Mapnik/Osmarender
- Cycle map
- Garminkart
- Piste map
- öpnvkarte

Dekning

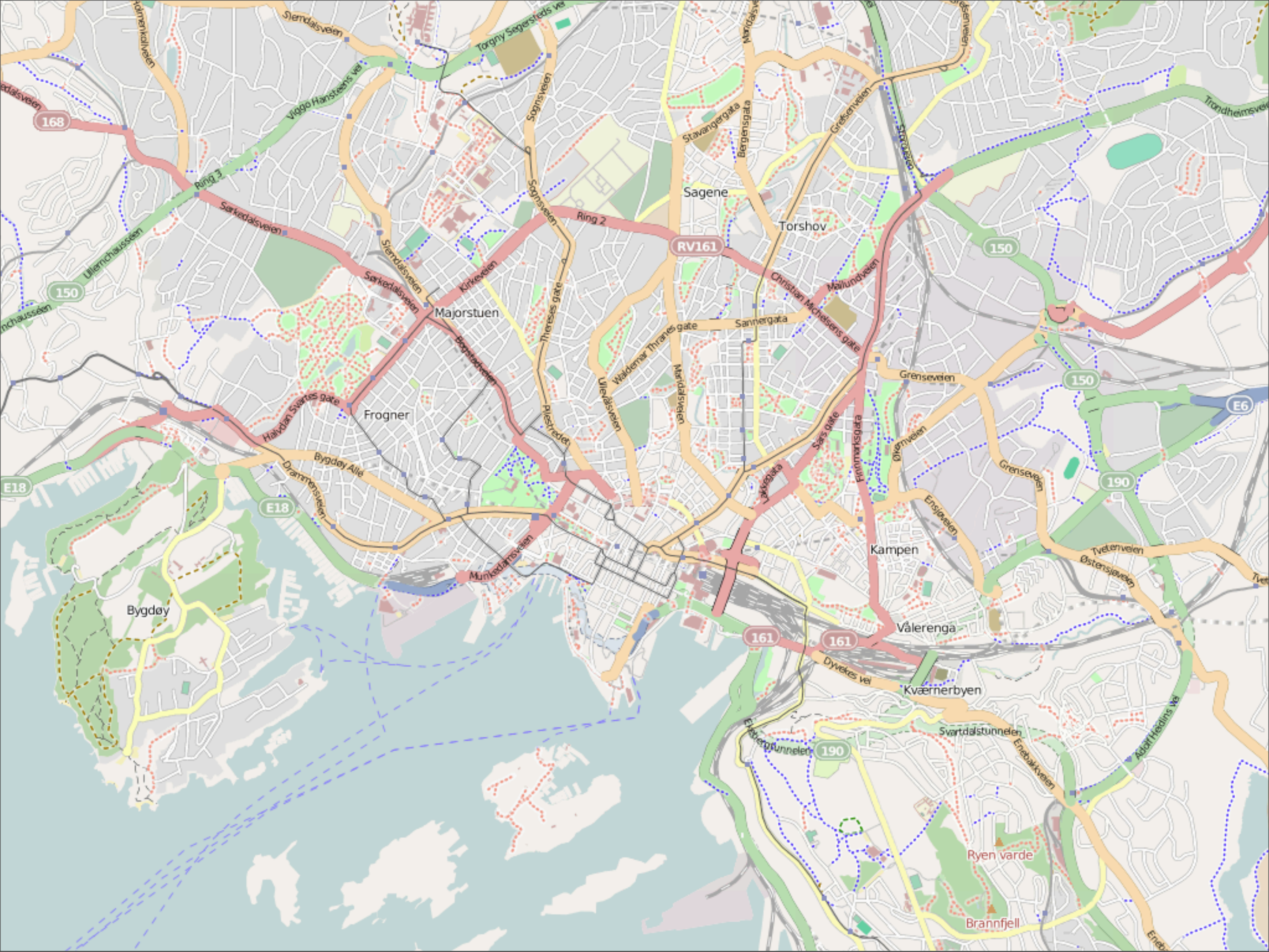
- Film: 2008 A Year of Edits
 - CC-BY-SA fra itoworld.com
- Historisk



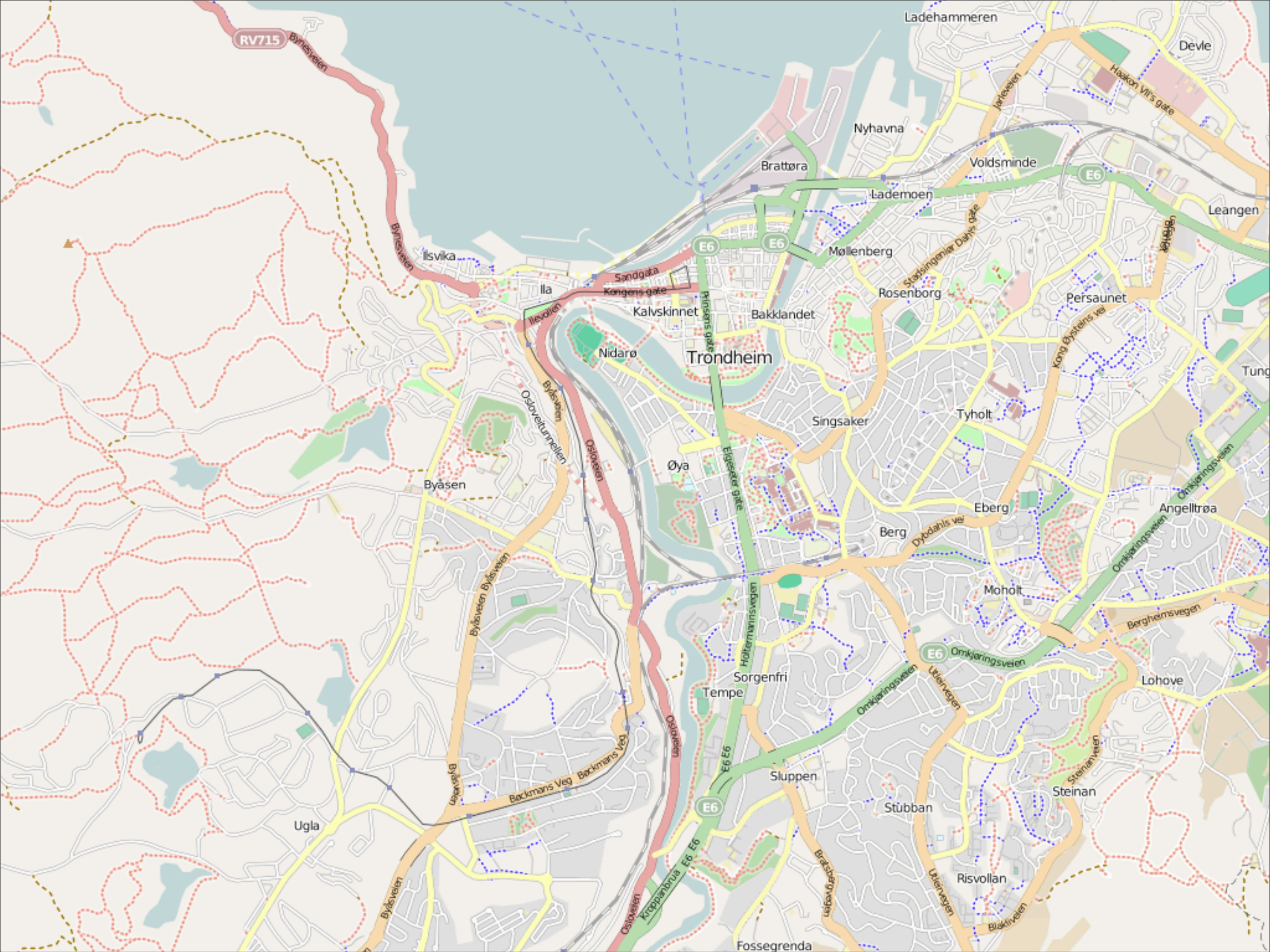
noen hvite flekker på kartet er manglende data – andre reflekterer greit virkeligheten ;) ref island

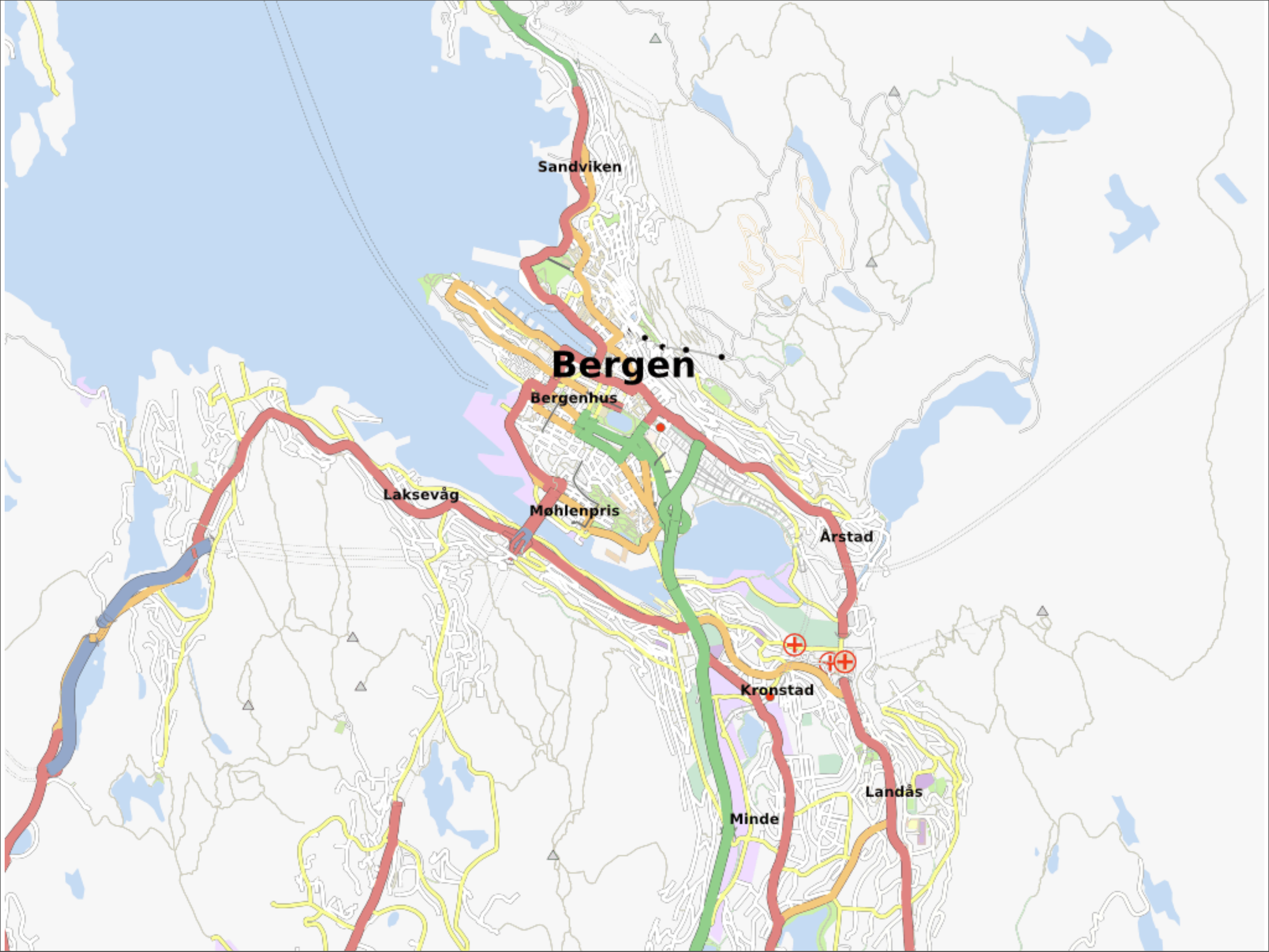












Osmarender

- XSLT
- Fordeler
 - Browser
- or/p
- T@H