

OpenStreetMap

and other openly licensed geodata

What is OpenStreetMap?

- Free
 - Currently CC-BY-SA, moving to ODBL
- Wiki-like editing
- Geographic data
 - For driving, riding, walking, boating, skiing, hiking, anything



<http://www.osm.org>

Why not just use Google Maps?

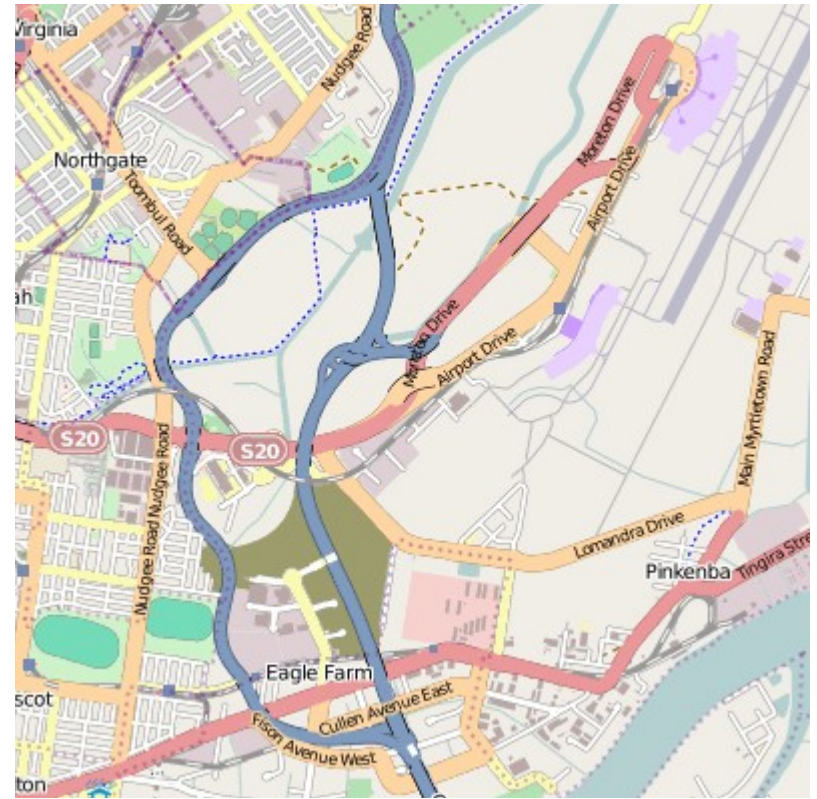
or WhereIs/Yahoo/Bing Maps?

or whatever is on your GPS/iPhone?

Updated rapidly

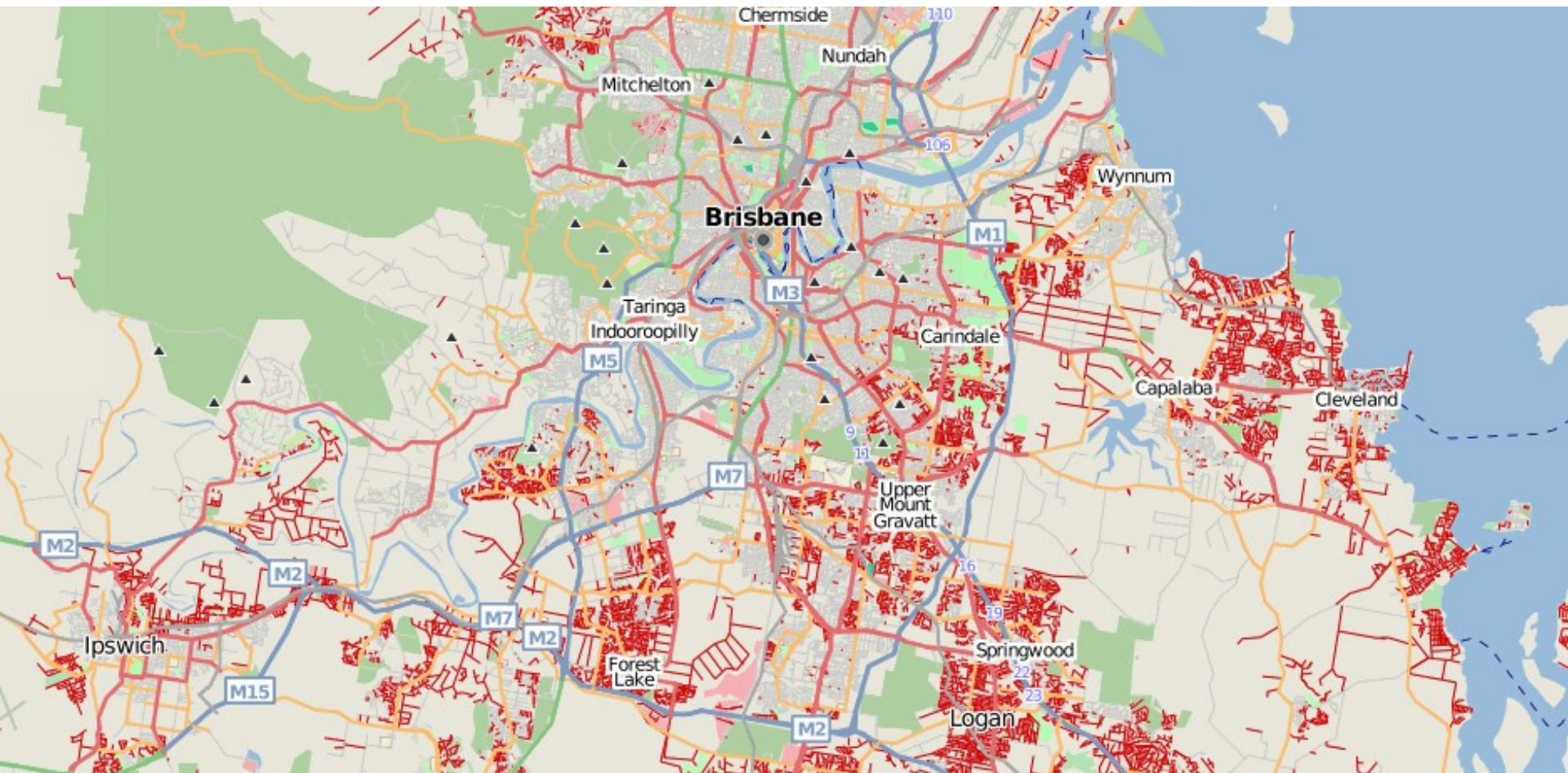


Google

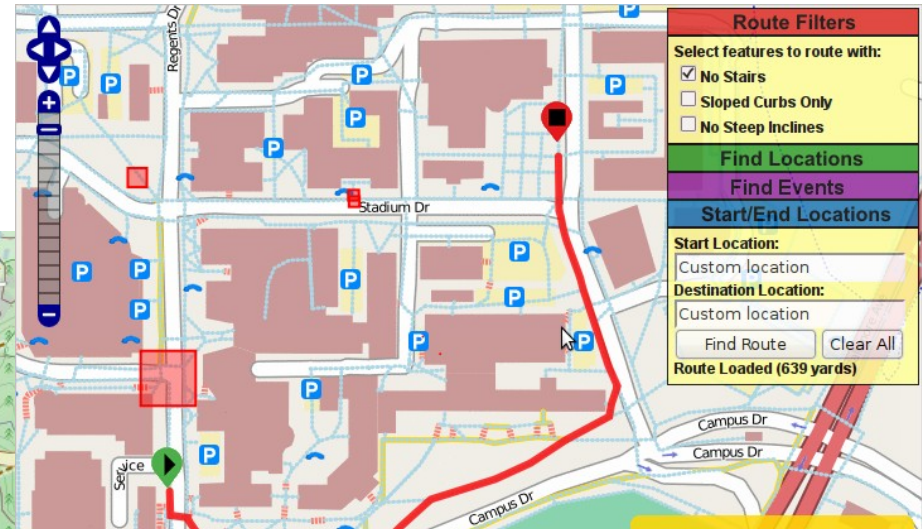
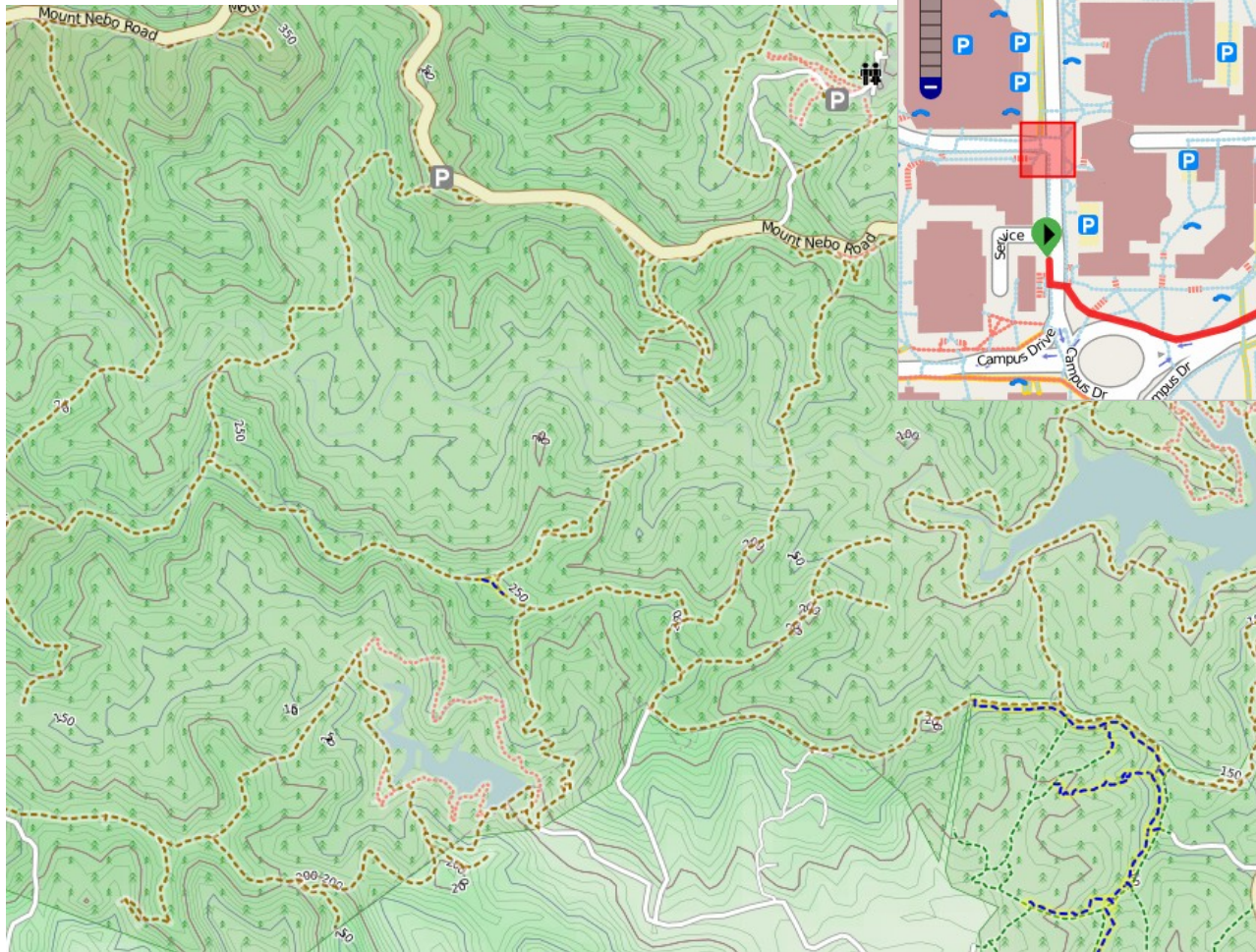


OpenStreetMap

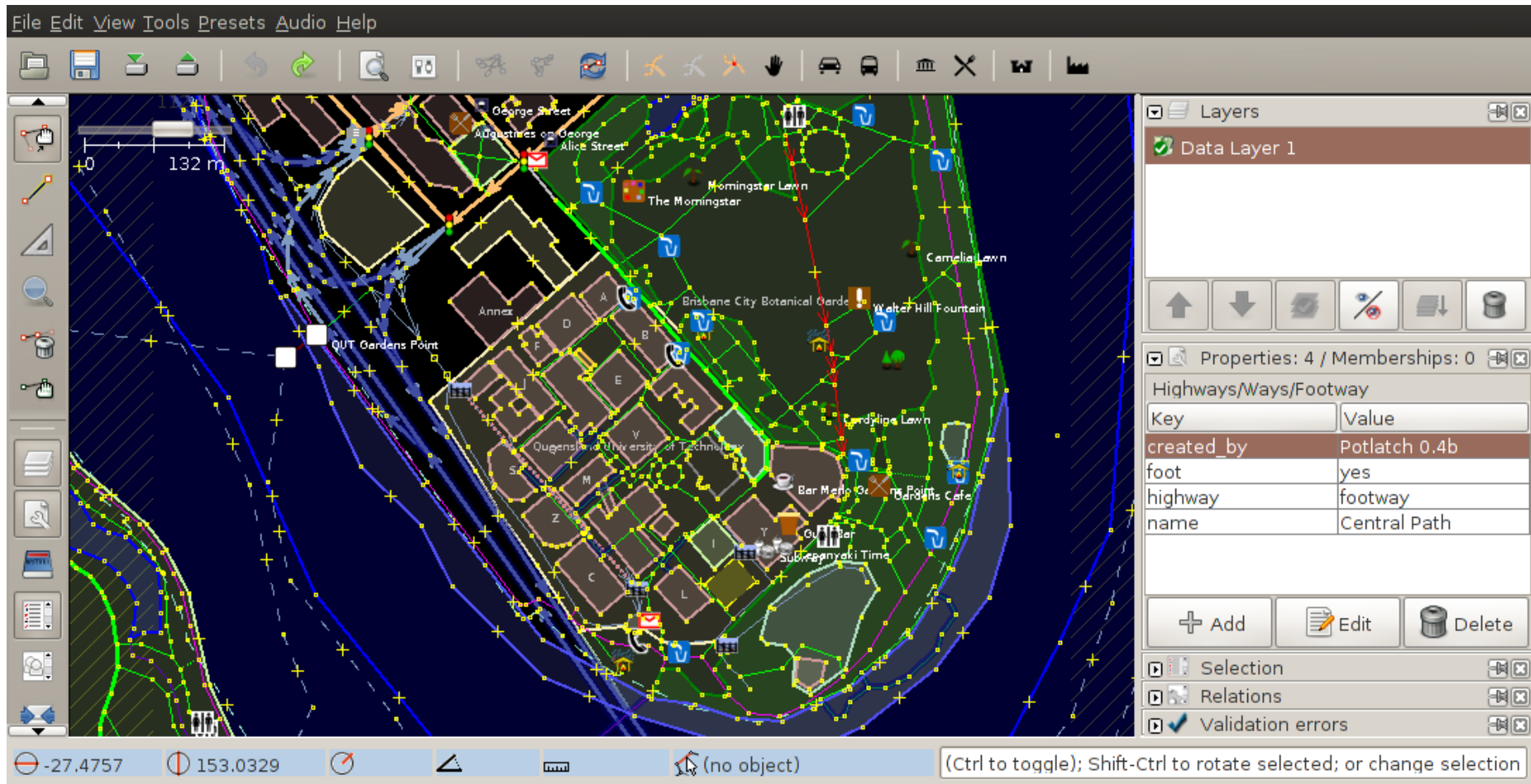
But, coverage can be poor



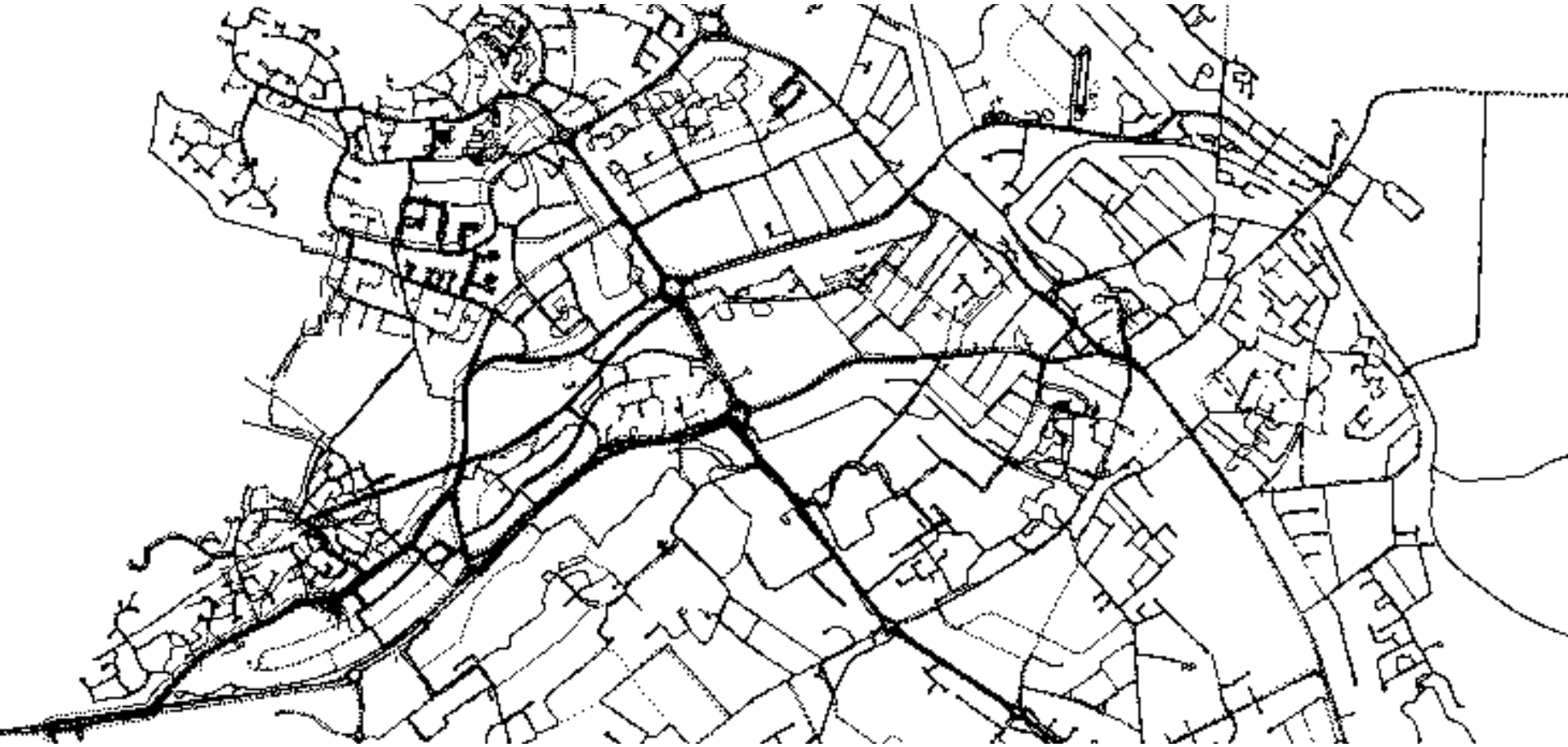
Not just for cars



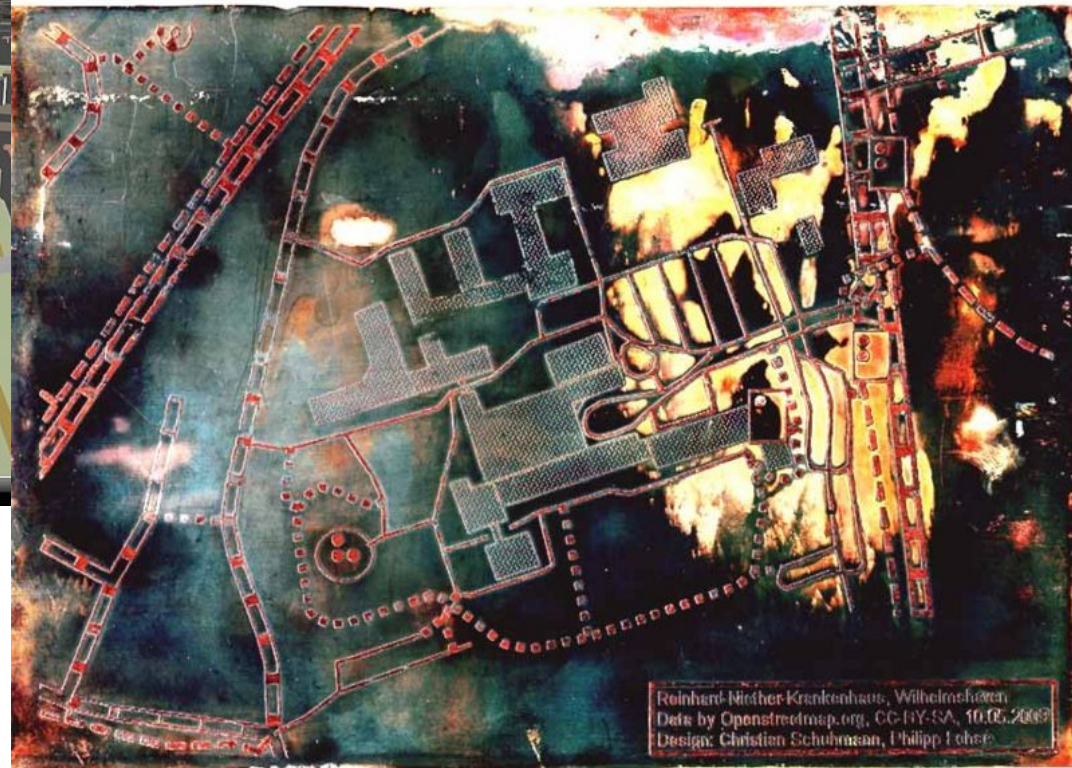
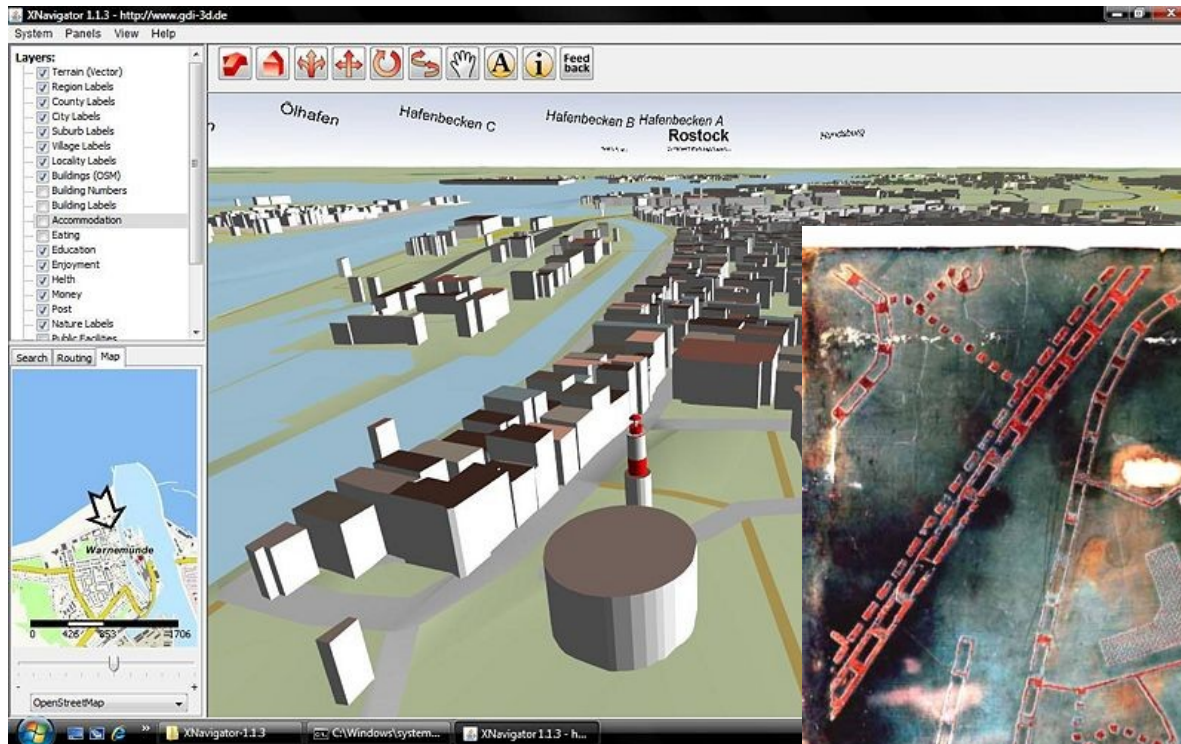
Data freely available (and editable)



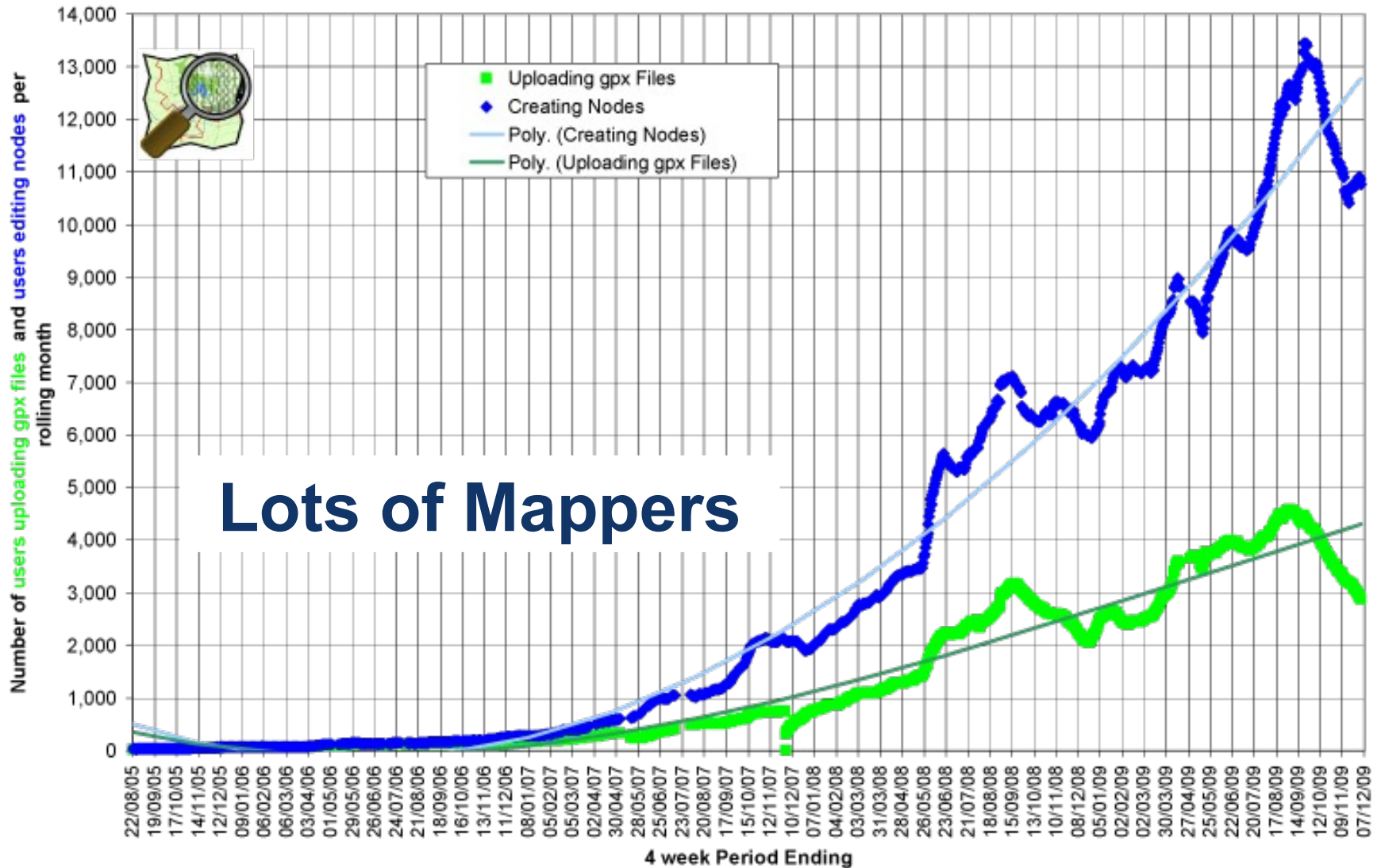
Raw traces are available too



Free data means you can do more stuff



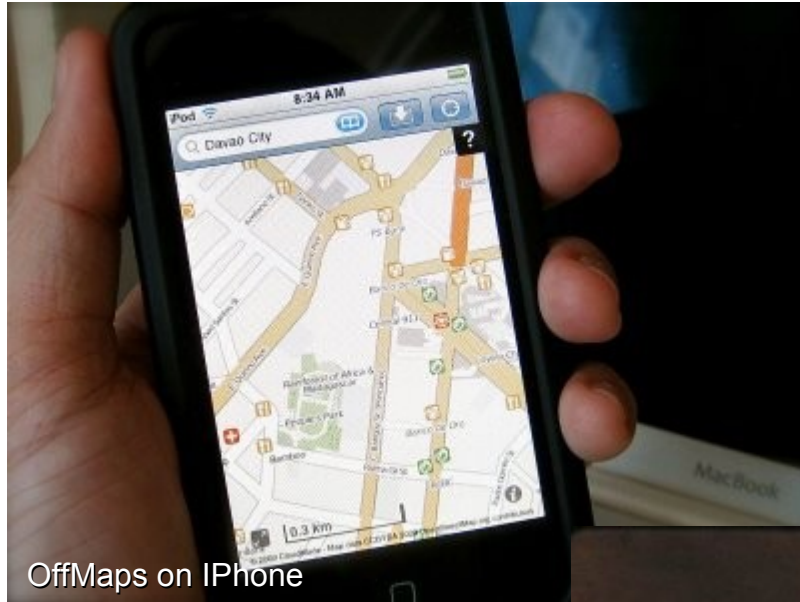
OpenStreetMap Database Statistics Users Uploading or Editing Nodes (Rolling Month)



Worldwide activity

OSM 2008: A Year of Edits

Available on many devices



OffMaps on iPhone



Garmin PNDs



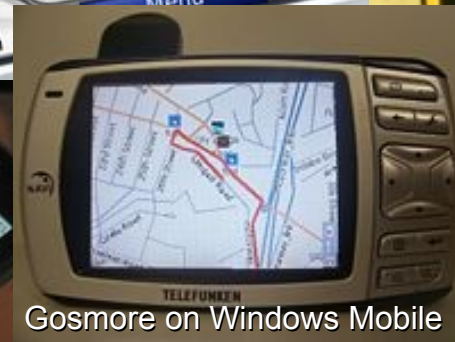
Garmin GPSs



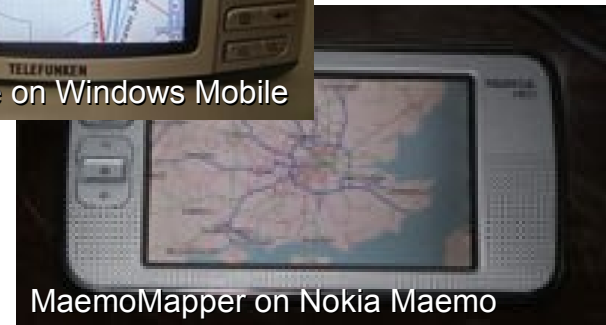
AndNav2 on Android



GPSMid on J2ME



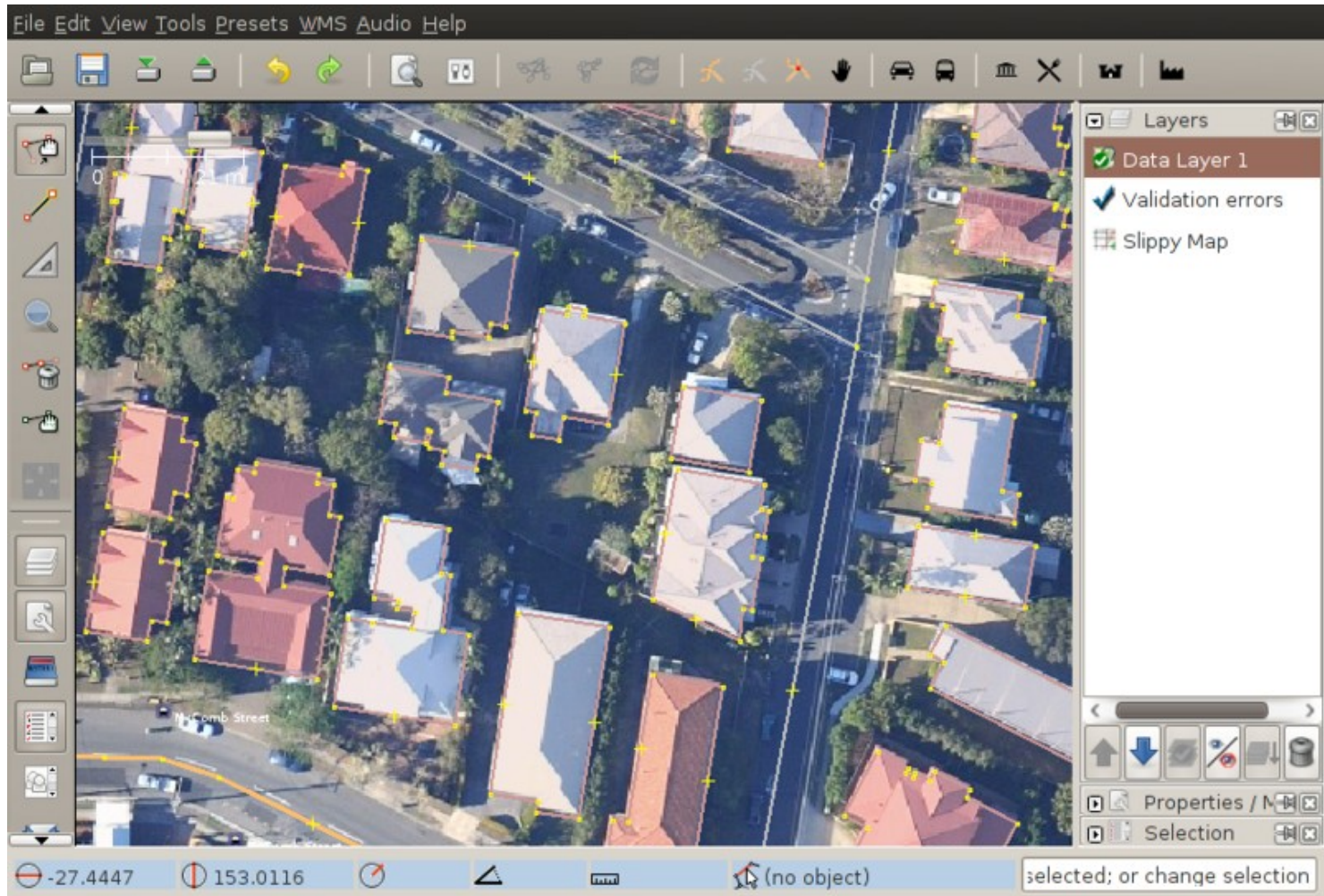
Gosmore on Windows Mobile



MaemoMapper on Nokia Maemo

How do we map?

(Option 1) Trace aerial imagery

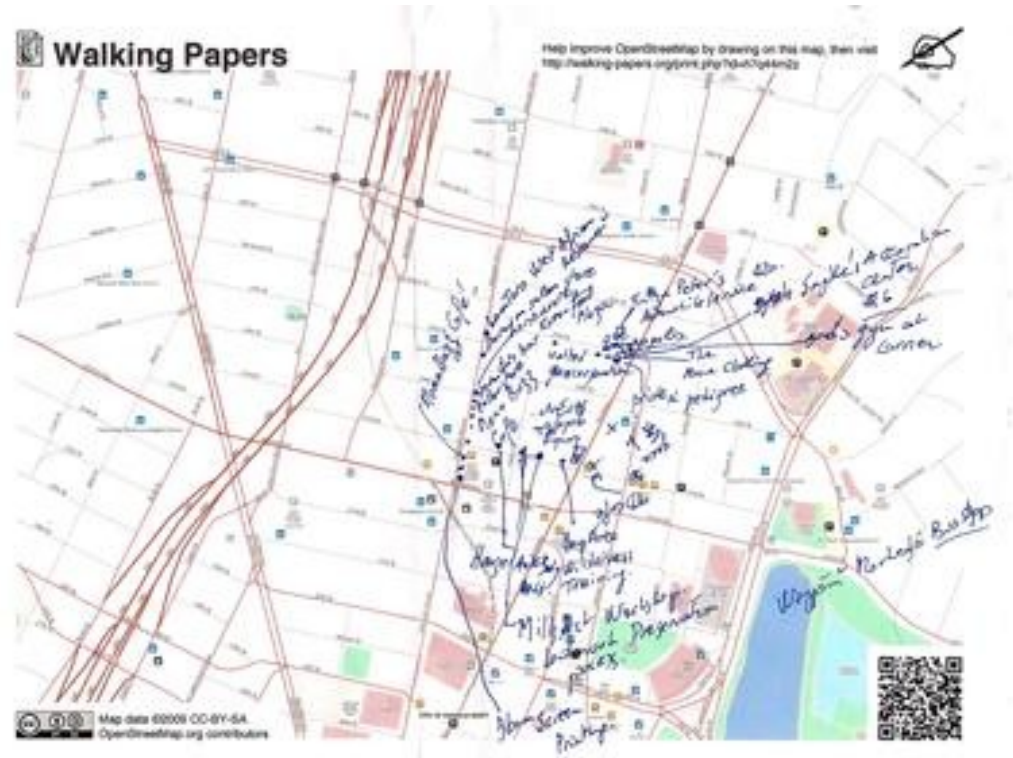


Take notes, →



record your trip
(optional),

and update the map from your notes at home



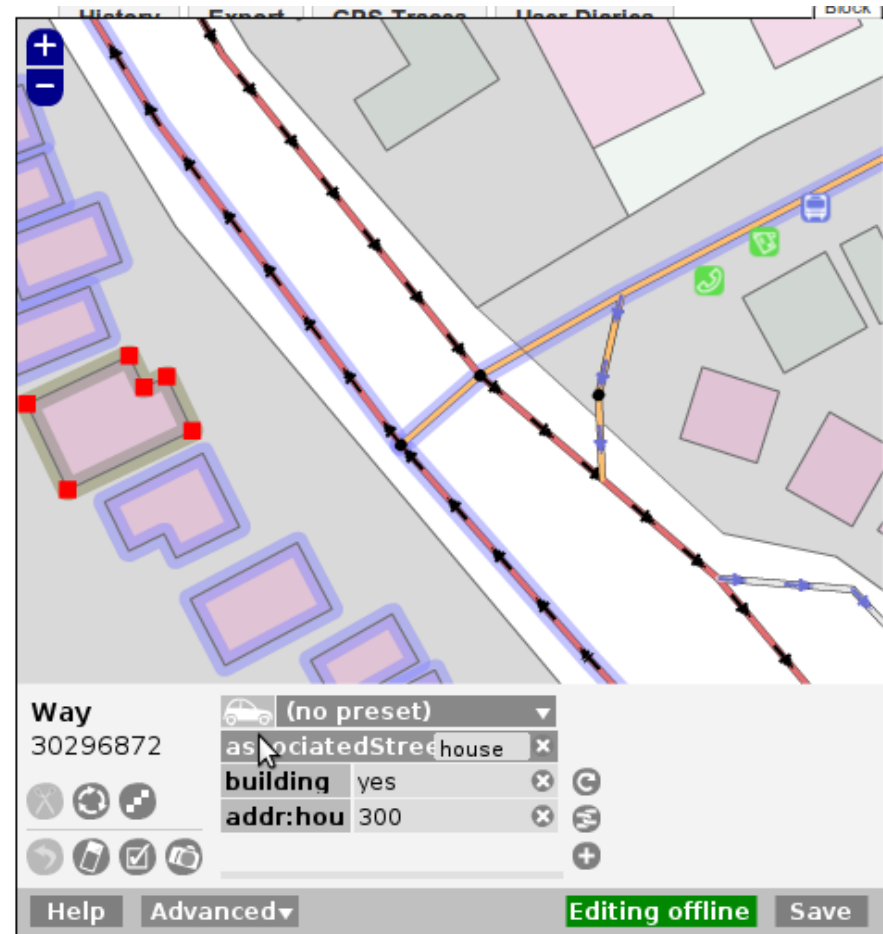
(Option 3) Be social

- Brisbane mapping events occur monthly
 - Alternate between mapping parties and social meetups
- Next event: OSM Christmas Meetup
 - 7pm **Wednesday 16th December** at Sawadee Kaa, West End
- What is a mapping party?
 - A group of people get together to map a large area in a single day
 - Example: Macleay Island in November 2009



Data representation


- Geographic information is represented as
 - Nodes
 - Ways
 - Ordered collections of nodes
 - Closed ways can be areas
 - Relations
 - Ordered collections of ways and nodes
- All can be tagged with any key/value pairs




1 /

No formal key/value ontology

- Let freedom flourish!
- Common tagging is encouraged
 - Map Features wiki
 - Editor presets
 - Renderers
 - OSMDoc
 - Tagwatch


 **highway=motorway** +/-



Description

Motorways are high capacity highways designed to safely carry fast motor traffic.

Used on these elements [help](#)



Useful combination

- `name=*`
- `ref=*`
- `oneway=yes`
- `lanes=*`

Implies

 **leisure=park** +/-



Description

A park. Open, green area for recreation, usually municipal

Used on these elements [help](#)



Useful combination

- `Key:name`
- `Key:operator`

Usage figures

- [OSMDoc](#)

Used combinations in [show](#)

Status

Undefined

Other openly licensed geodata

data.australia.gov.au

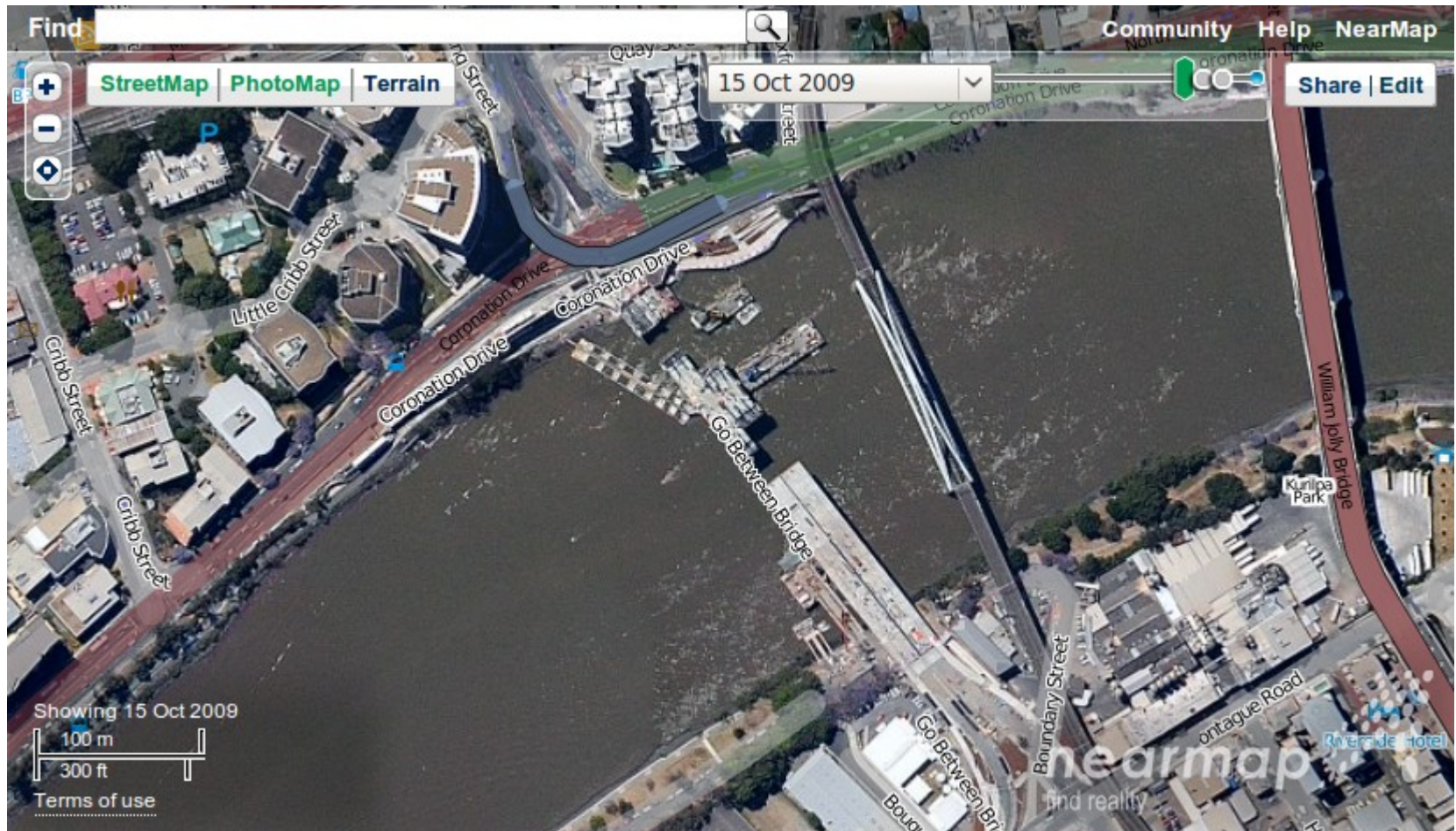
- Queensland property boundaries
- Local government boundaries
- Wetlands Mapping



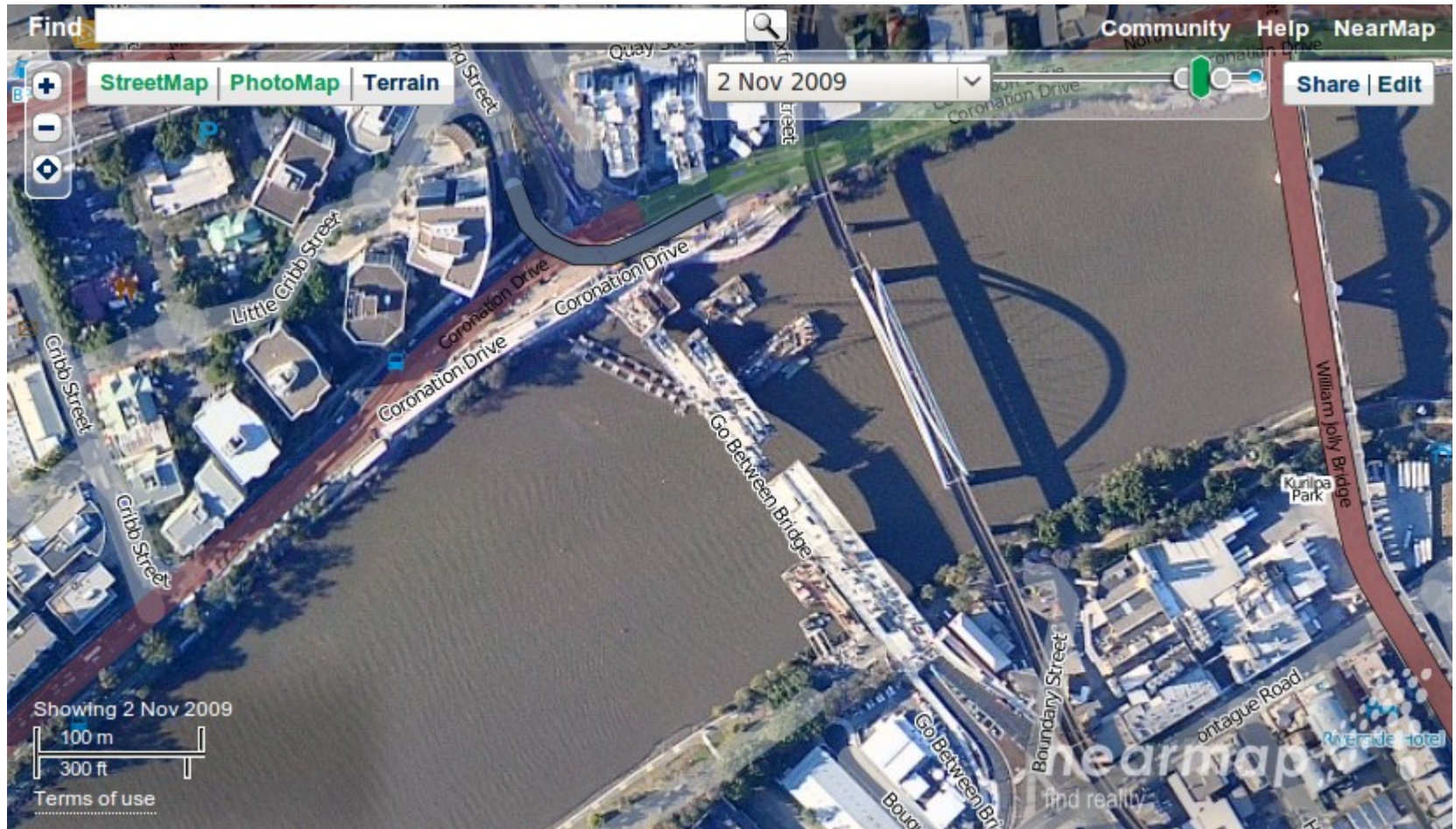
NearMap

- NearMap provide very high resolution Aerial Imagery under CC-BY-SA-NC
- 'Traced' derived data must be licensed under CC-BY-SA (can be commercial)
 - Suitable for inclusion in OpenStreetMap
- Might be very useful for image processing research

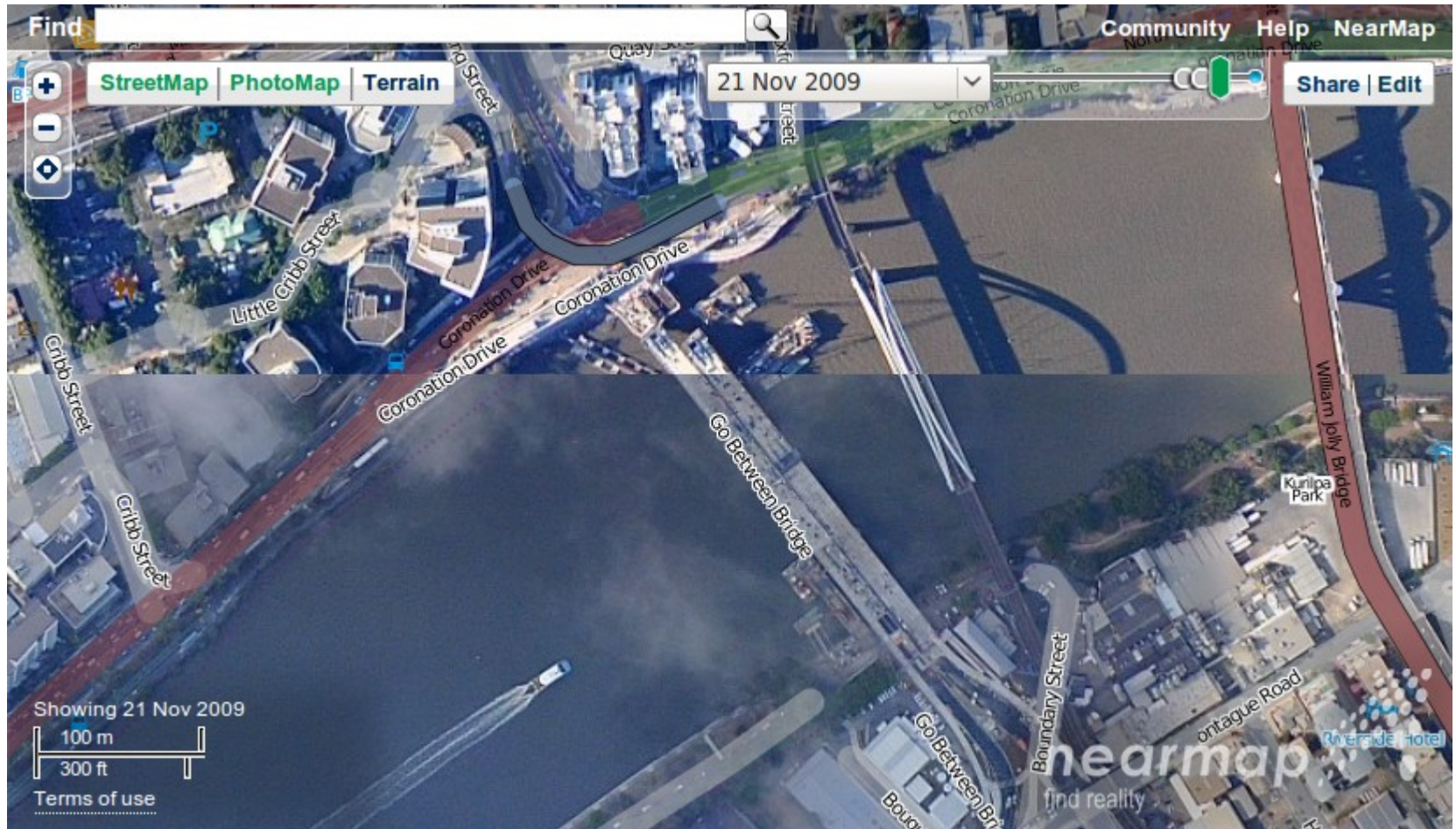
Imagery is updated monthly!



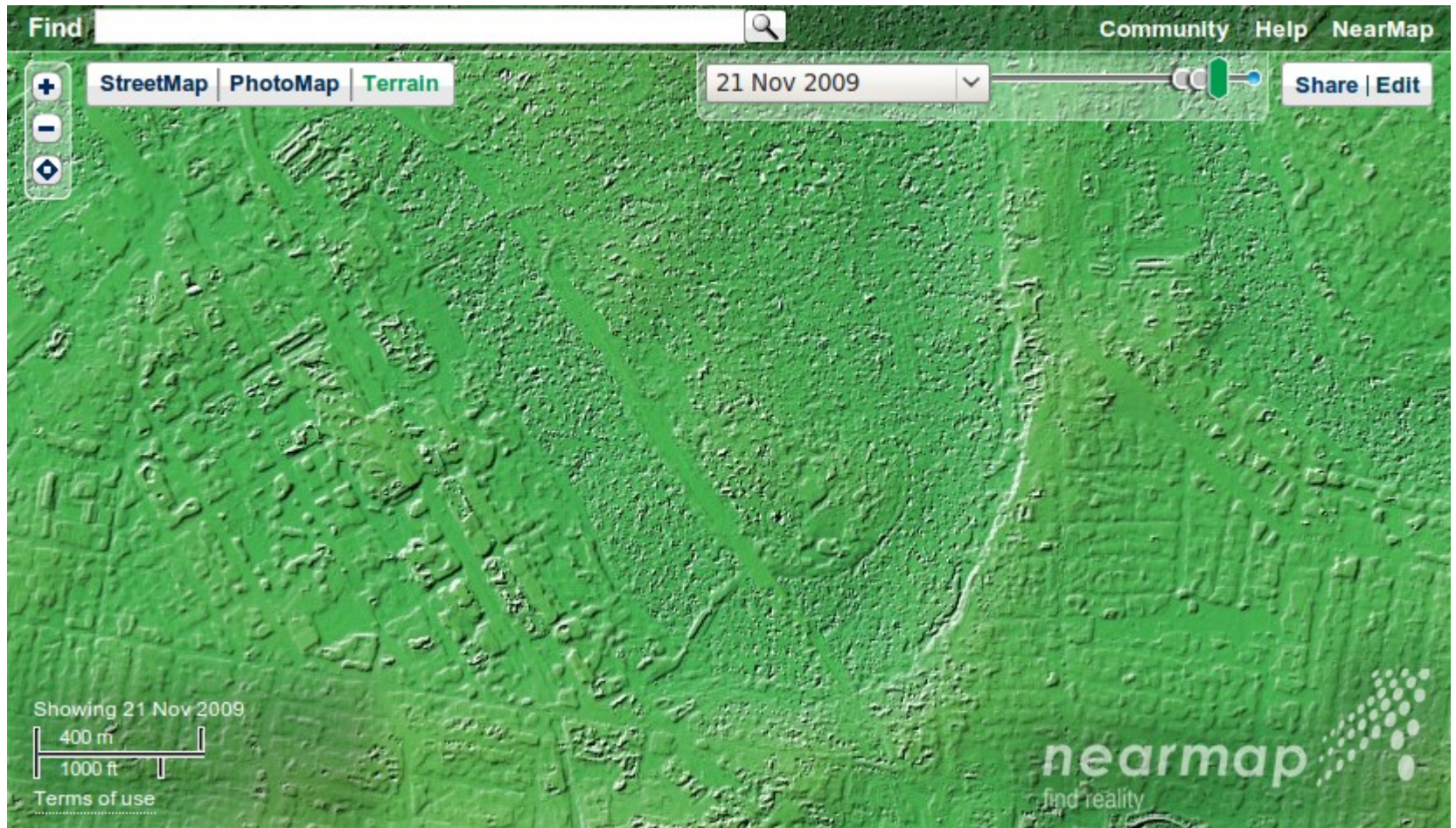
Imagery is updated monthly!



Imagery is updated monthly!



Terrain elevation is also collected



And Google Satellite?

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Google maps

Search Maps

[Show search](#)

Find businesses, addresses and places of interest.



So what use is all this to SAIVT?

Audio?

Not a lot

We could take open-source navigation software to (relatively) quickly make a functional in-car speech-based navigation system.

OSM name tagging could also be used to narrow the search space for navigation speech recognition applications.

Video?

More likely

Many projects could be easily be conducted using NearMap imagery and OSM/Government geodata:

- HV power-line detection
- Construction/building detection
- Automatic mapping updates from aerial imagery
 - Land use management

Questions/Suggestions?

Thanks for listening.