

An introduction to OpenStreetMap

presented by Cameron Dawdy

What is OpenStreetMap?

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



<http://www.osm.org>



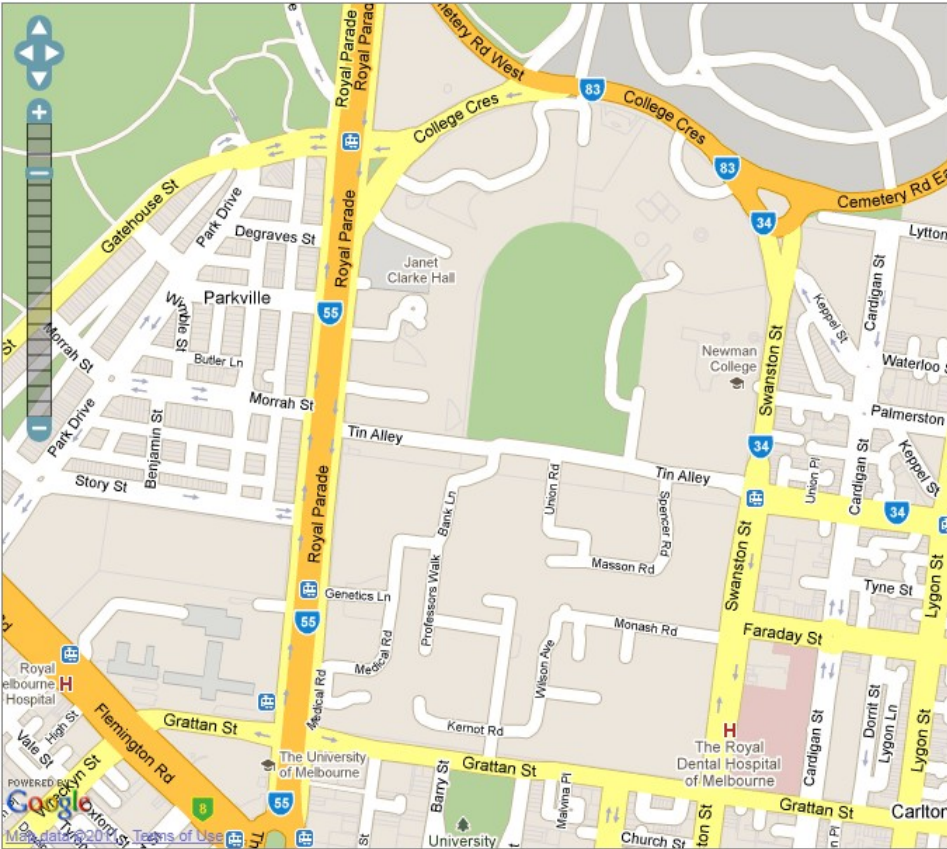
Why not just use Google Maps?

or WhereIs/Yahoo/Bing Maps?

or whatever is on your GPS/Phone?



Updated rapidly



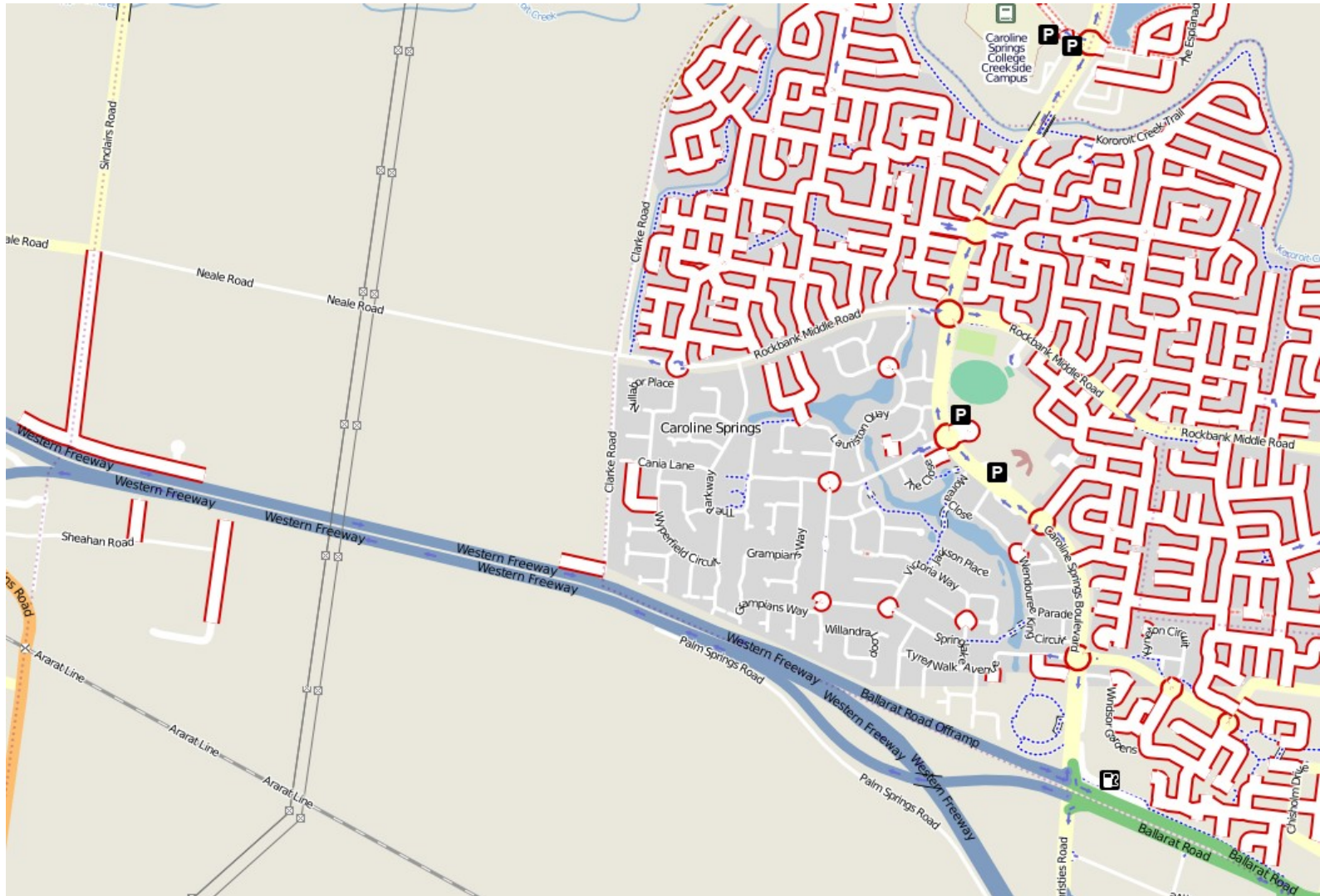
Google



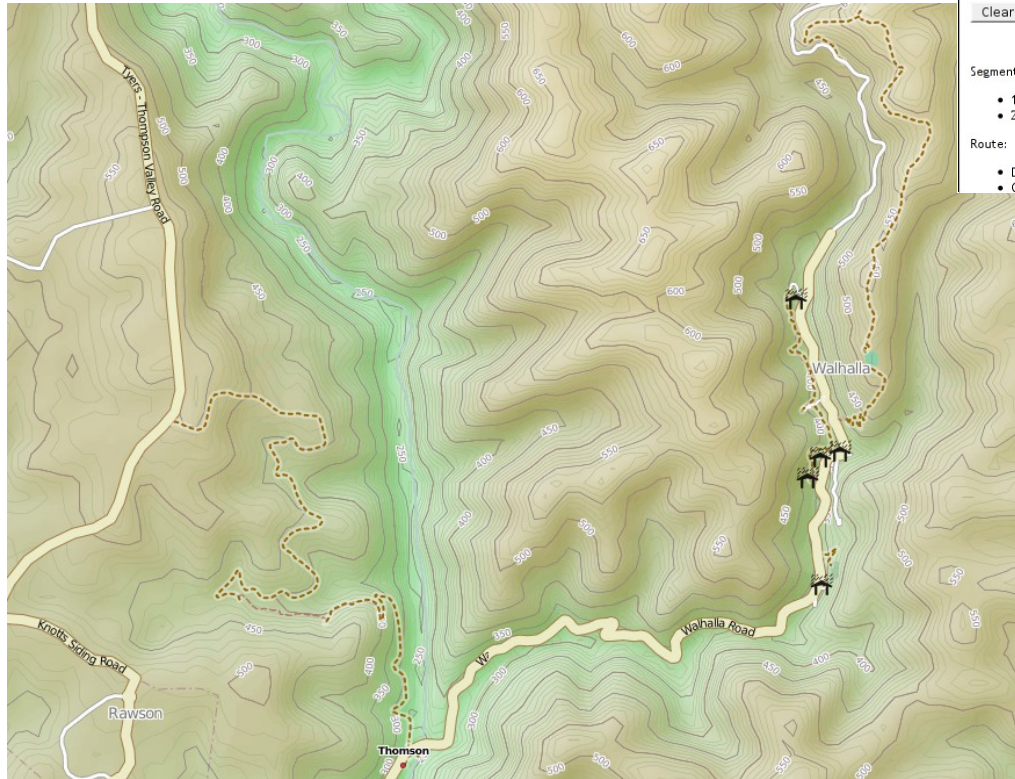
OpenStreetMap



But, coverage can be poor



Not just for cars



Route Directions Export

Car Truck Bus Motorcycle Bicycle Pedestrian

Recommended **Shortest**

Clear

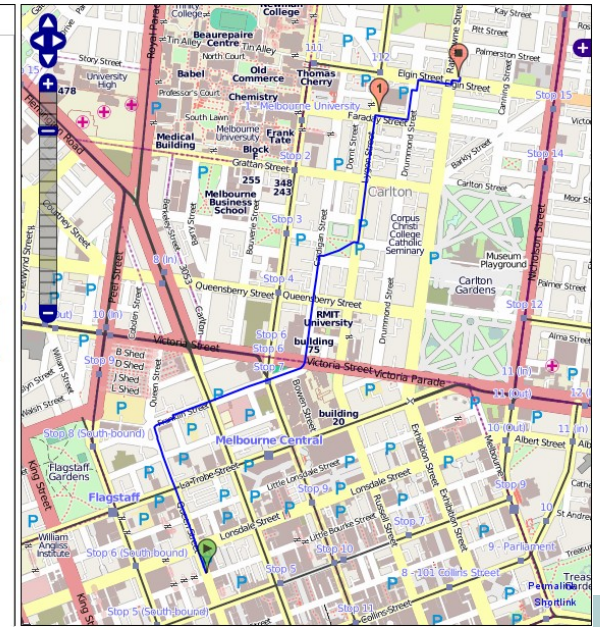
[Help](#)

Segments:

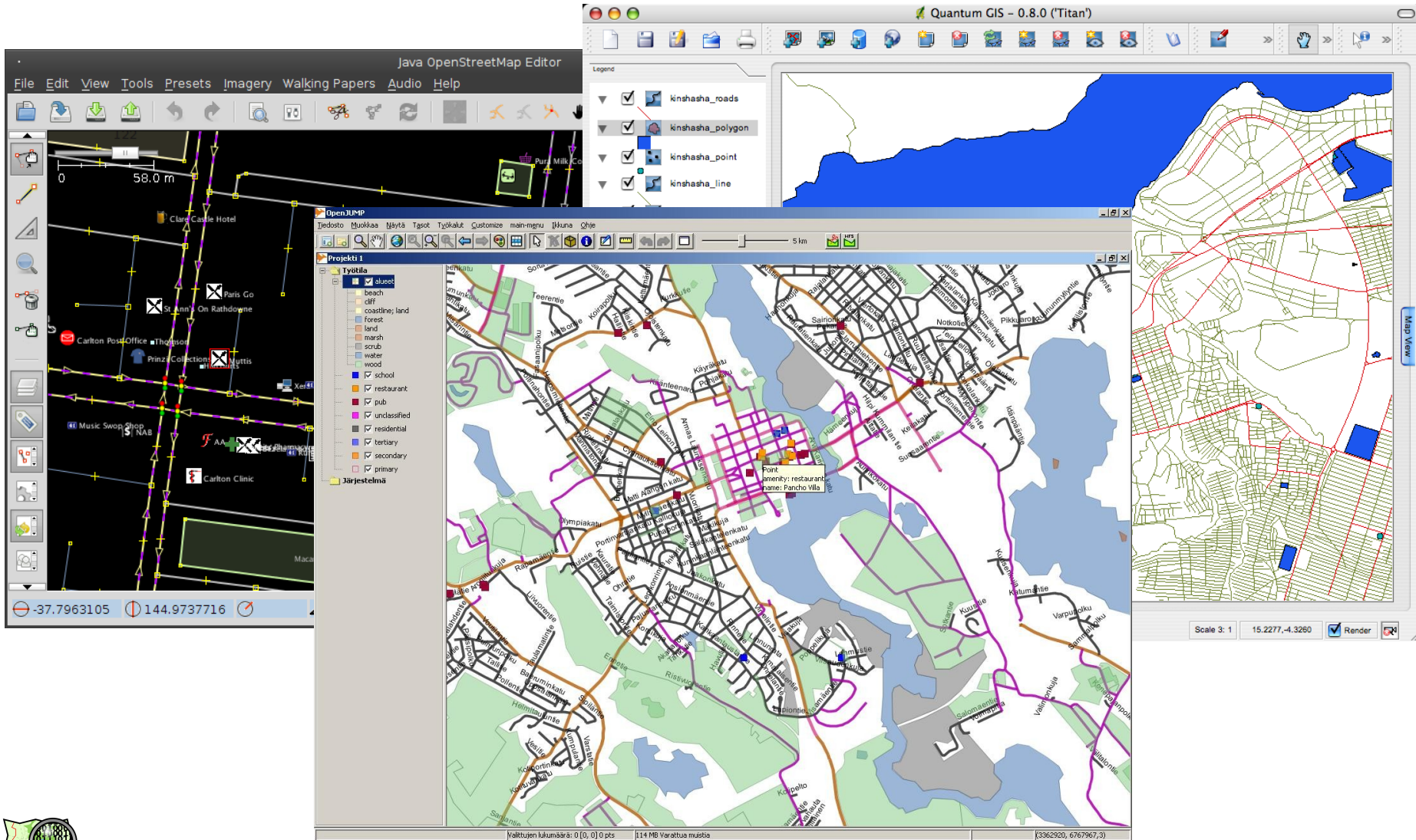
- 1) length = 2.24 km, nodes = 59
- 2) length = 0.47 km, nodes = 12

Route:

- Distance = 2.71 km
- OSM nodes = 71



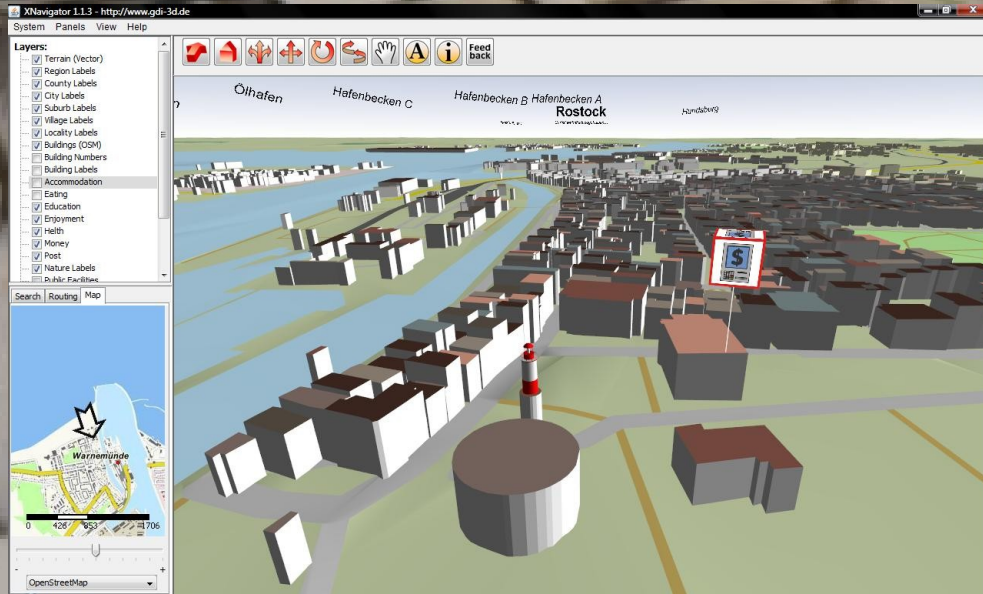
Data freely available (and editable)



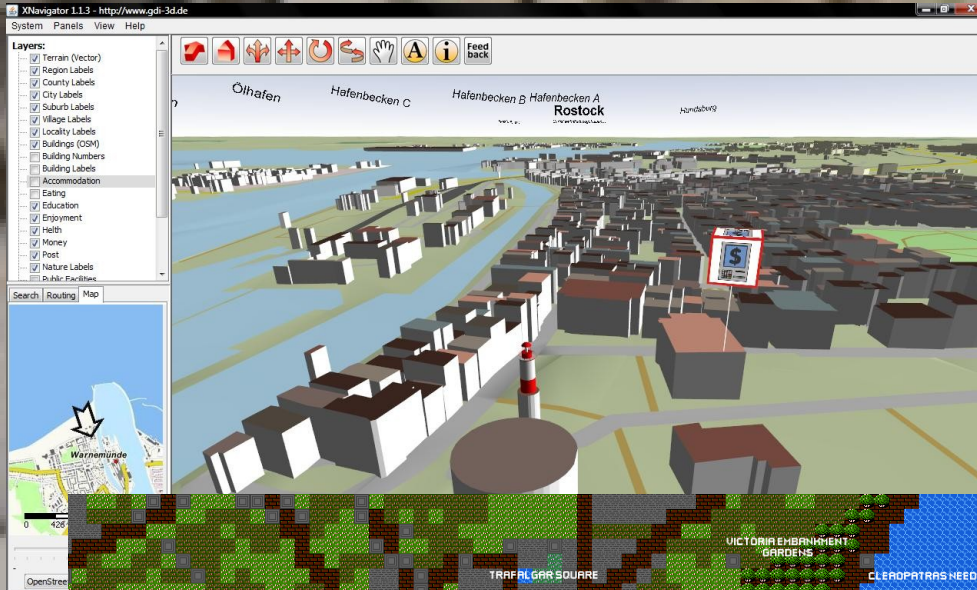
Raw traces are available too



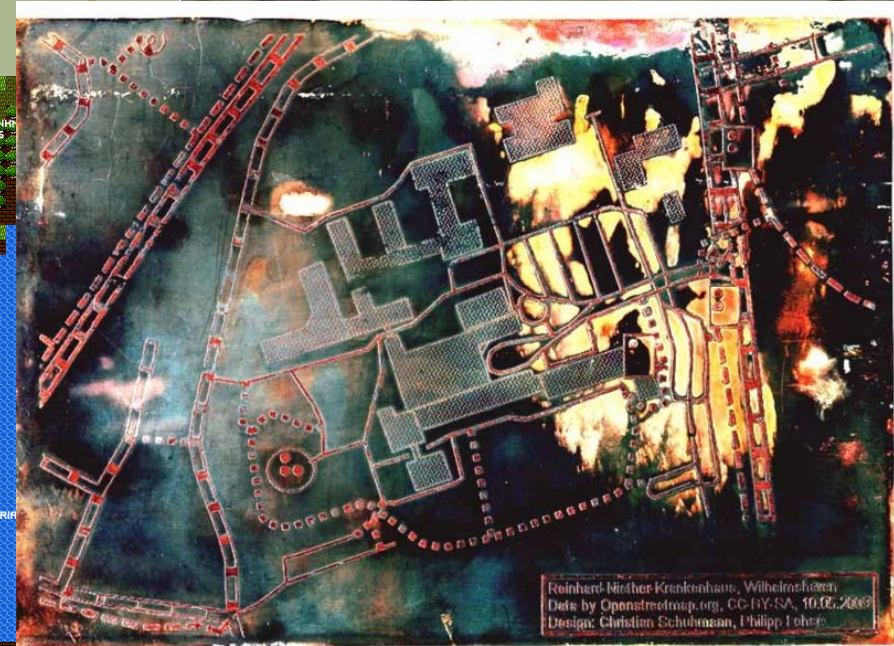
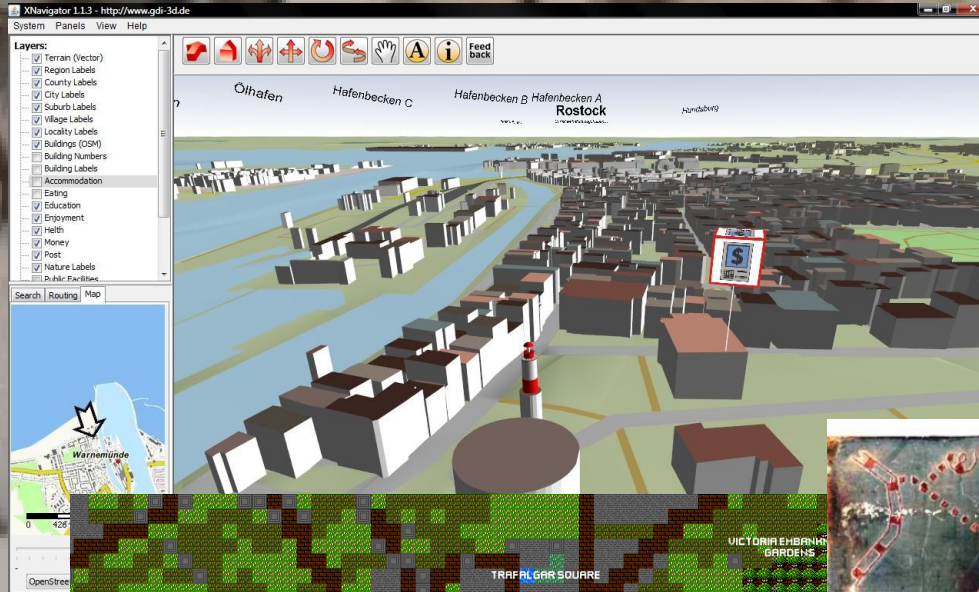
Free data means you can do more neat stuff



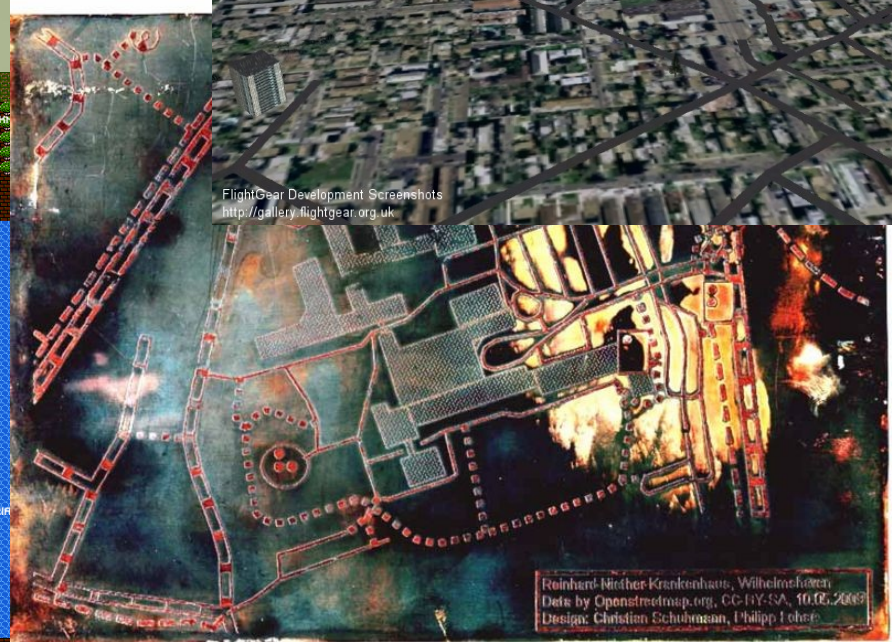
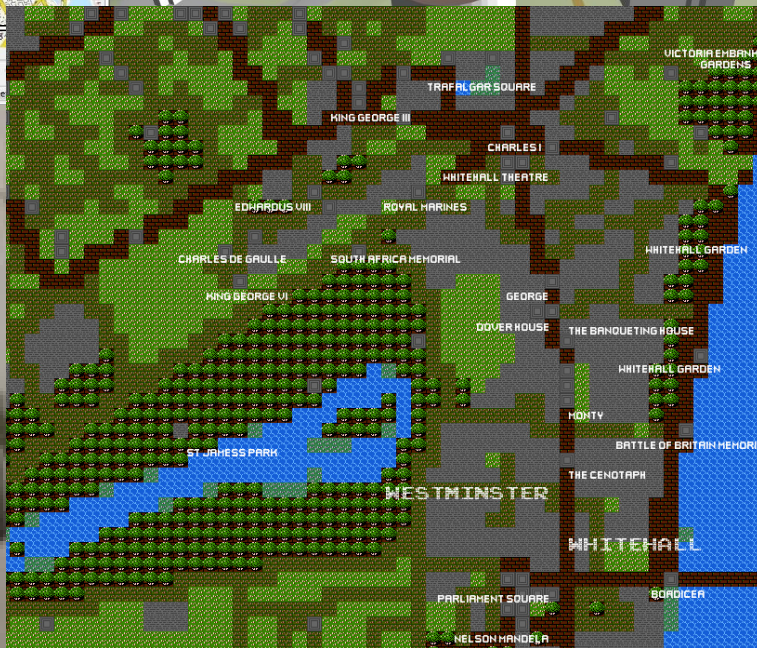
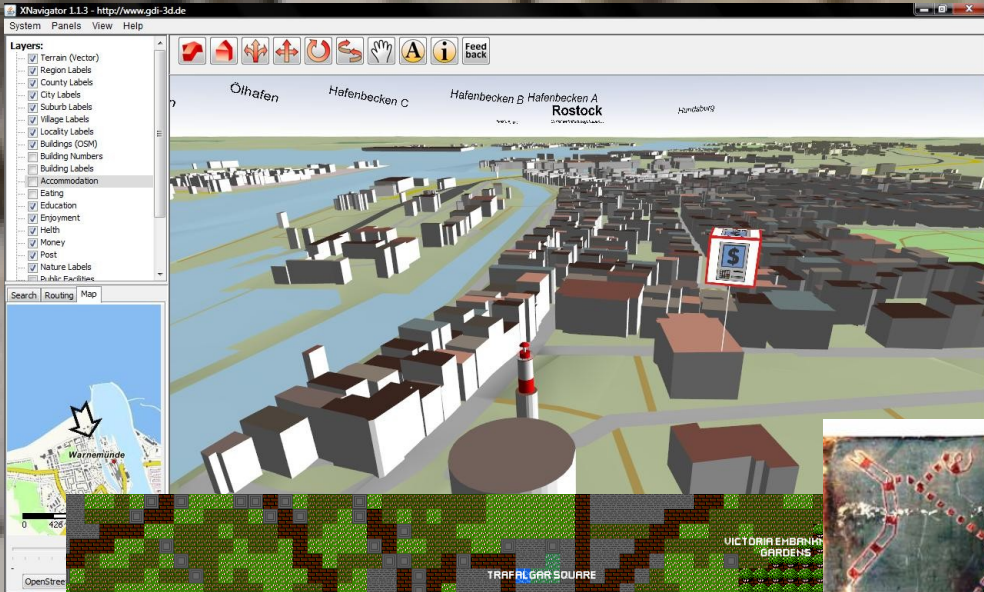
Free data means you can do more neat stuff



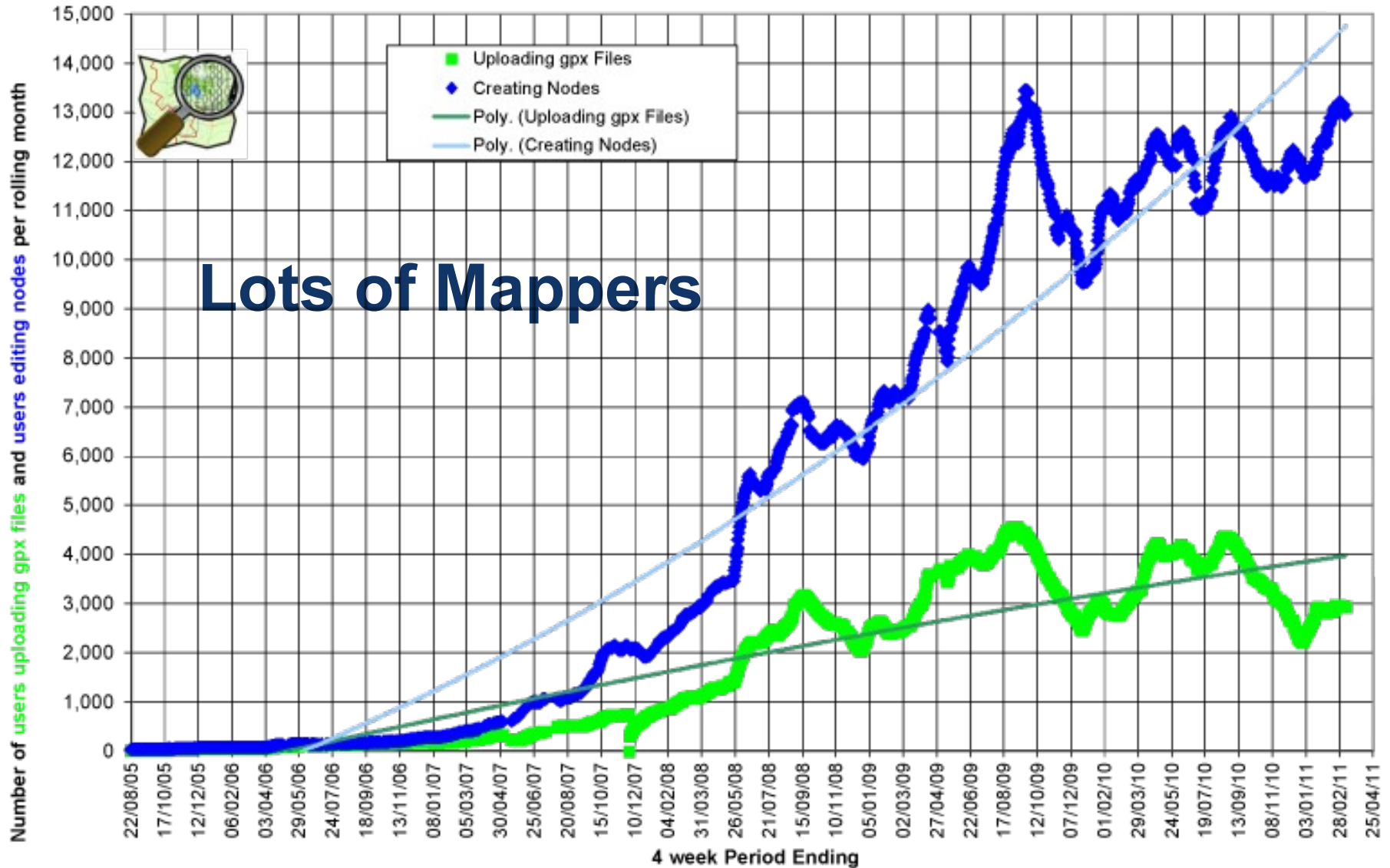
Free data means you can do more neat stuff



Free data means you can do more neat stuff



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

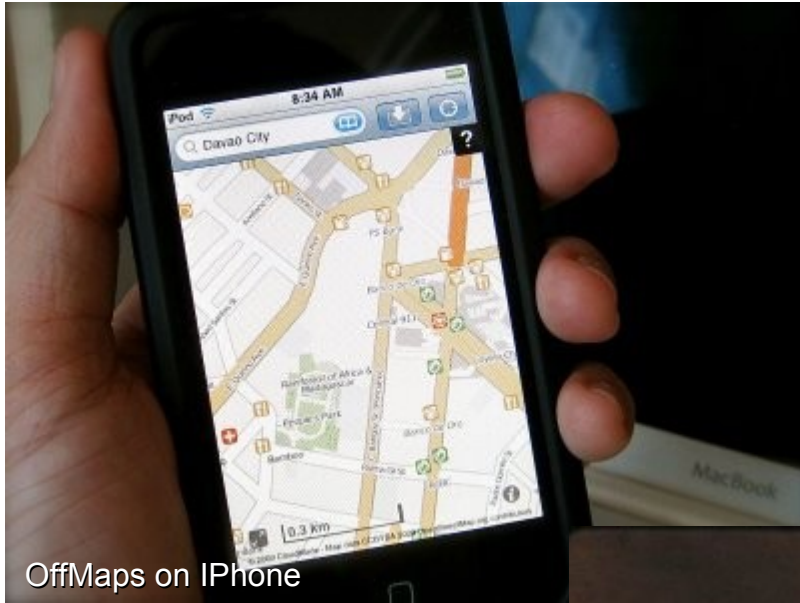


Worldwide activity

OSM 2008: A Year of Edits



Available on many devices



OffMaps on iPhone



Garmin PNDs



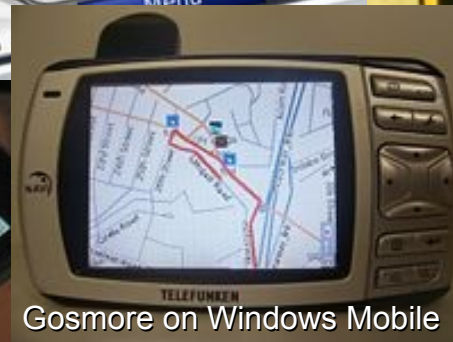
Garmin GPSs



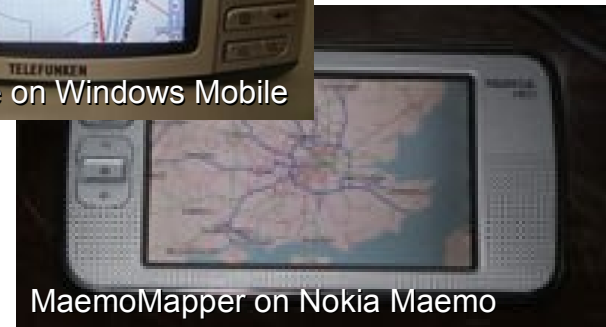
AndNav2 on Android



GPSPid on J2ME



Gosmore on Windows Mobile



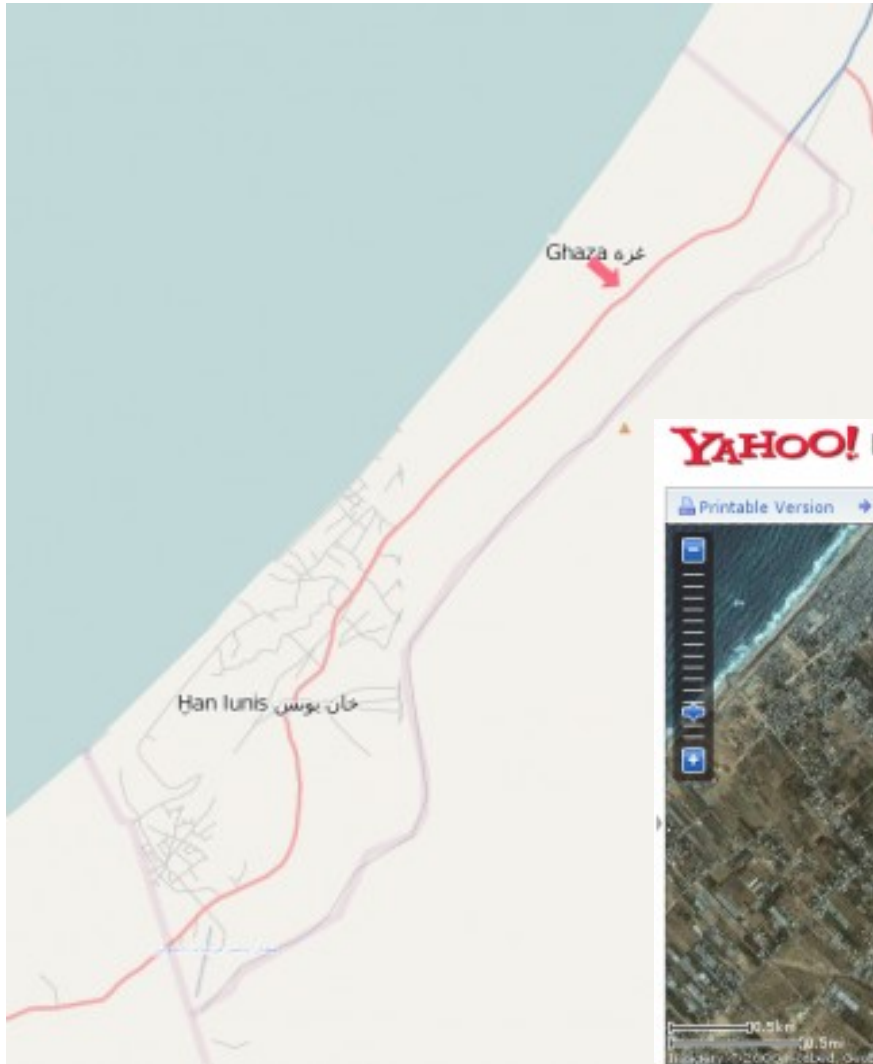
MaemoMapper on Nokia Maemo



Humanitarian OpenStreetMap Team

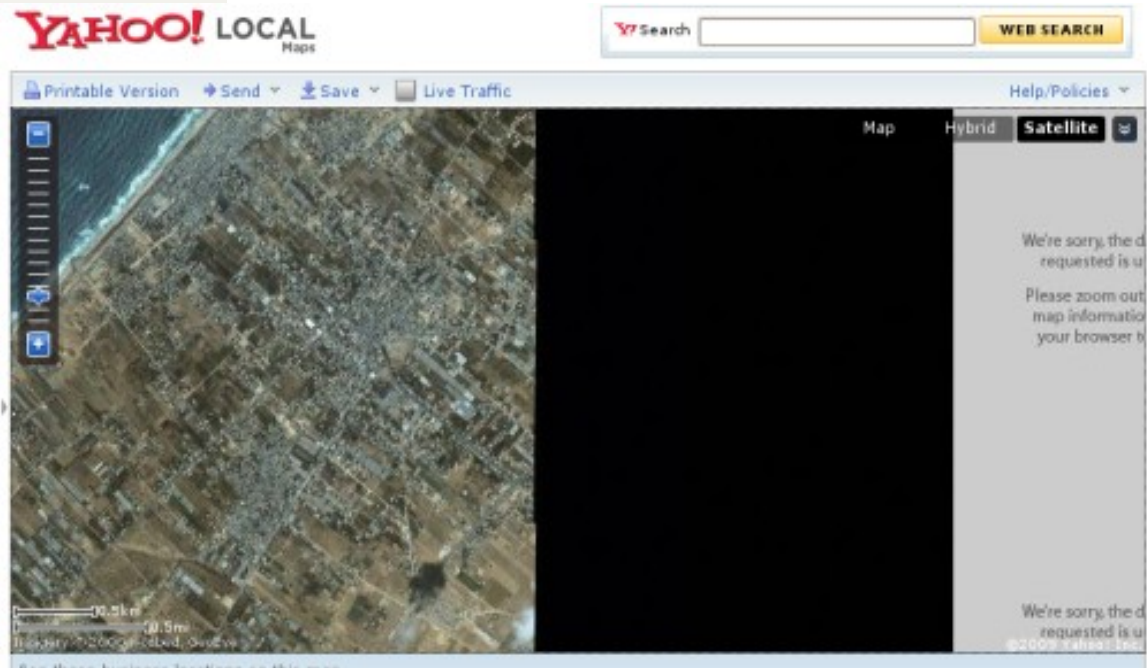


OpenStreetMap Gaza Project

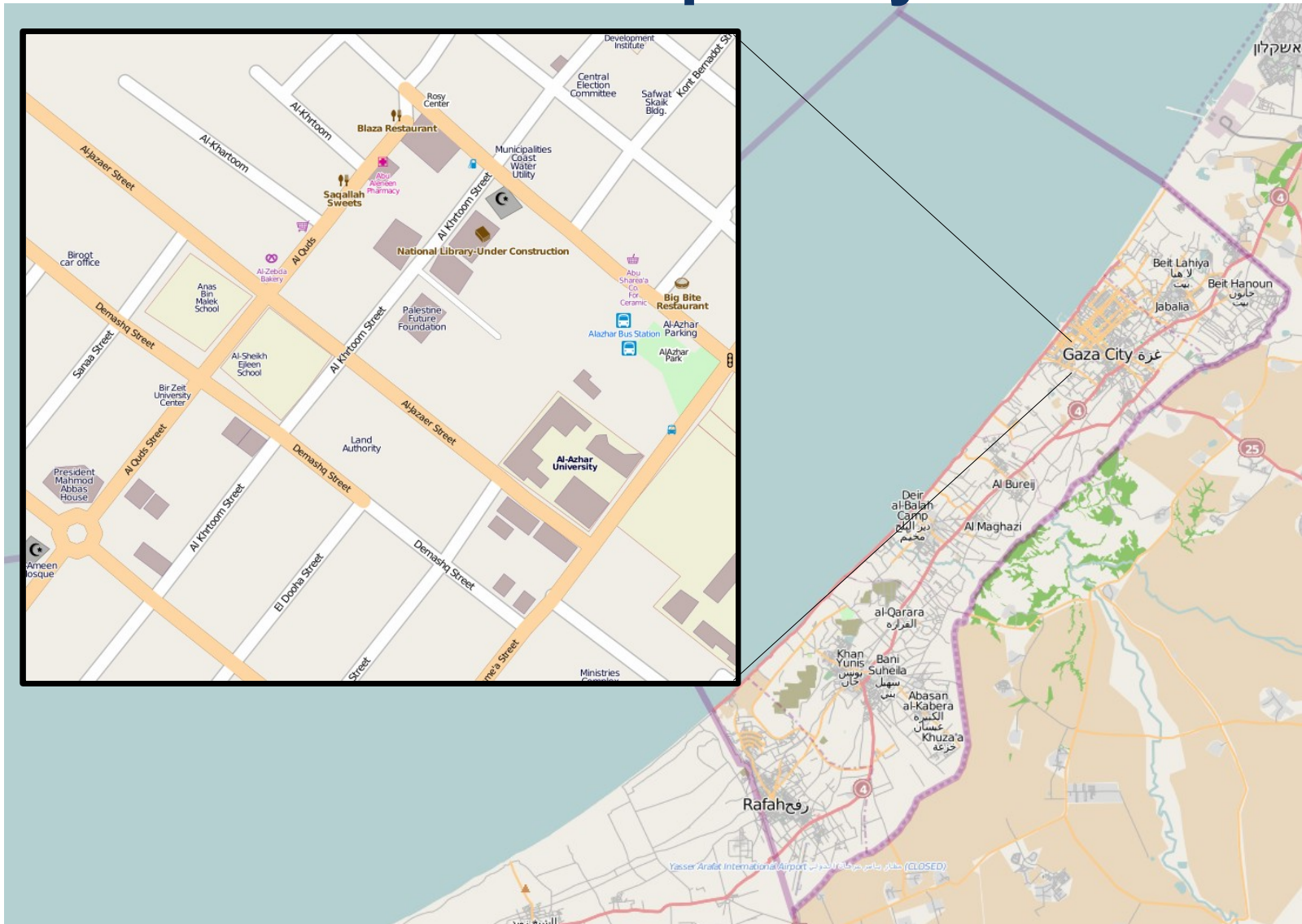


Jan 2009: Mikel Maron announces OpenStreetMap Gaza Project

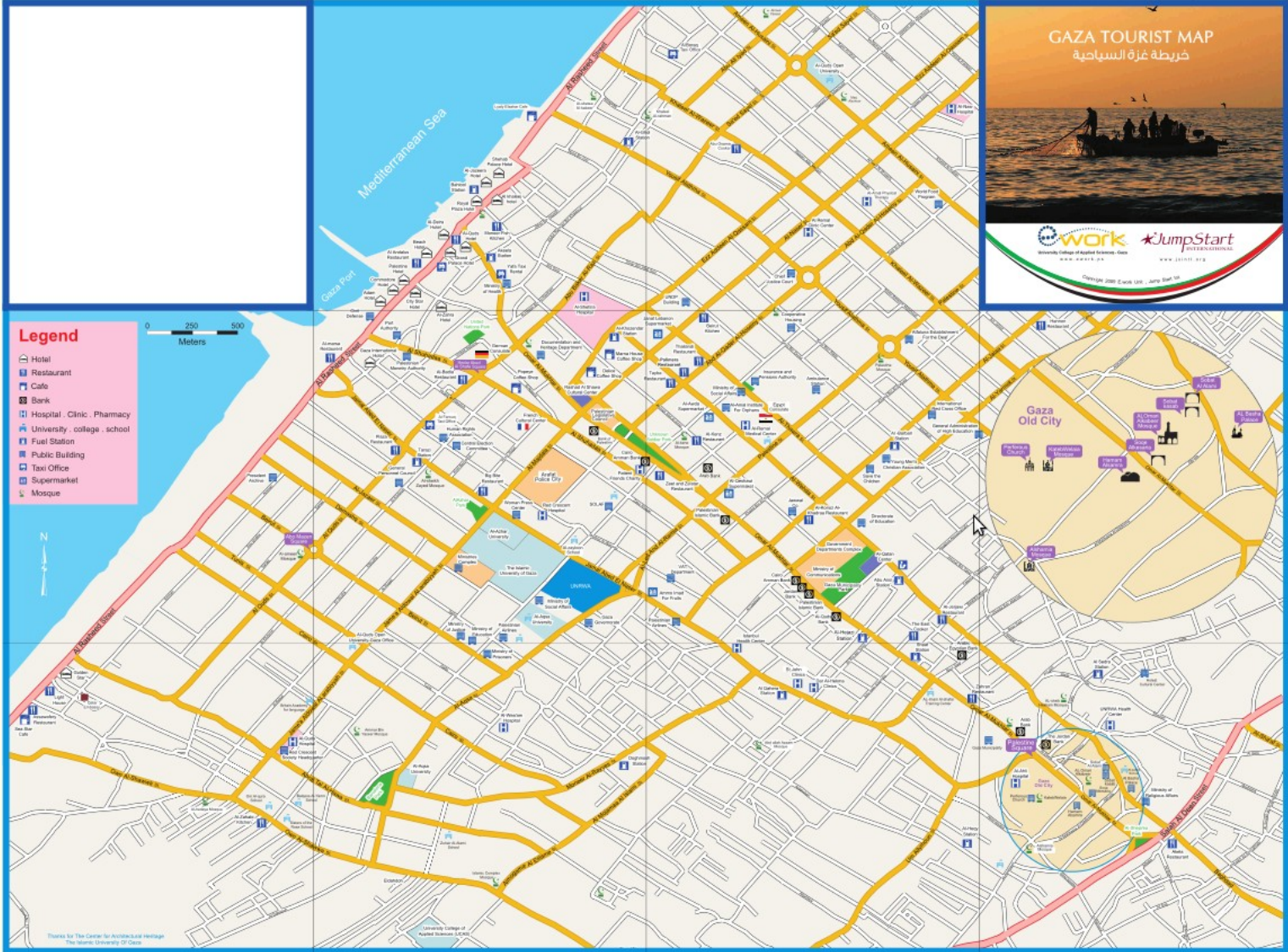
Feb 2009: Mapping begins with purchased aerial imagery (~ \$6000)



Gaza Strip today



Gaza Tourist Map



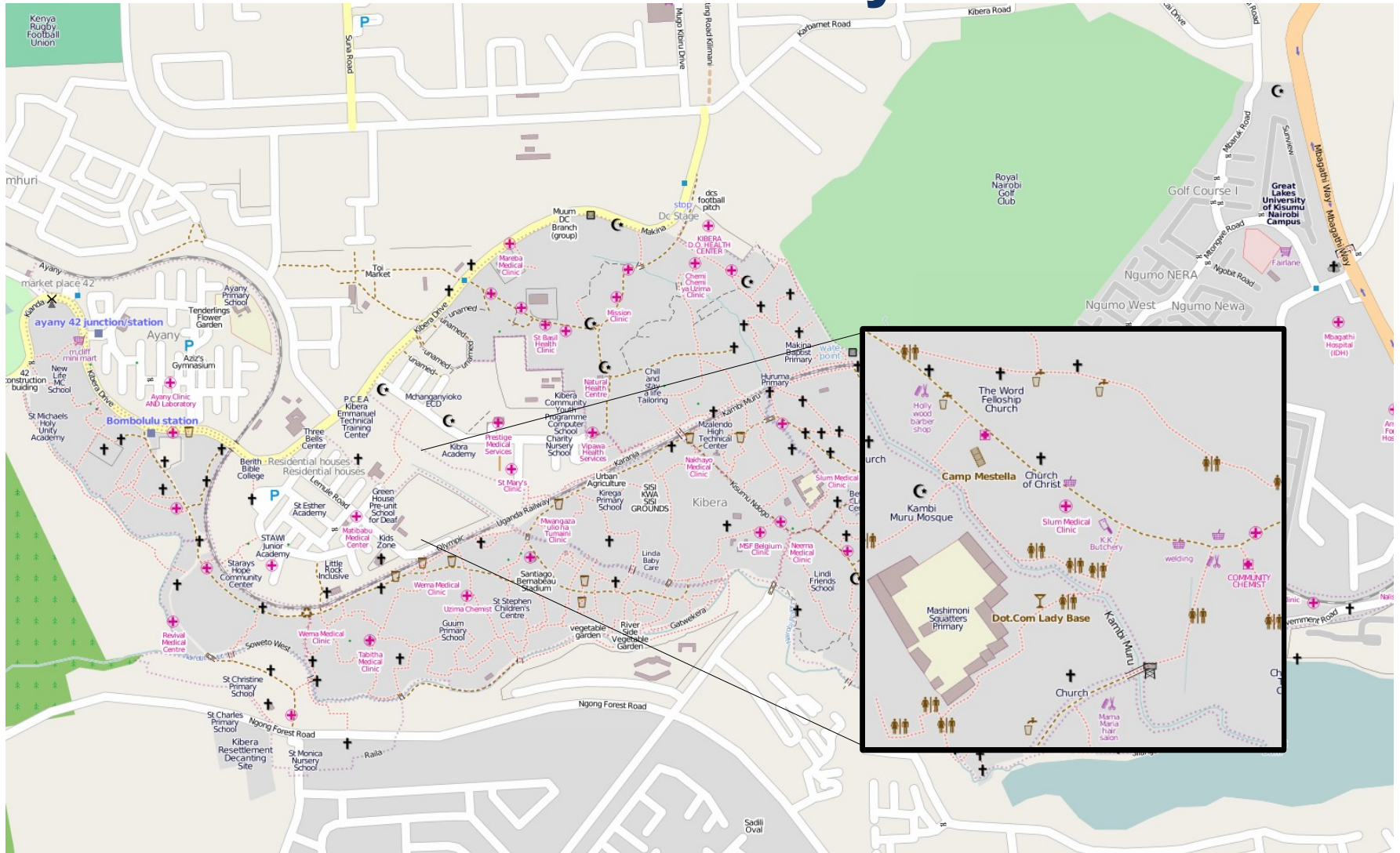
MAP Kibera (April 2009)

- **First complete, free and open map of Kibera, Nairobi.**
- Mapped primarily with local volunteers with the assistance of MAP Kibera.

<http://mapkibera.org>



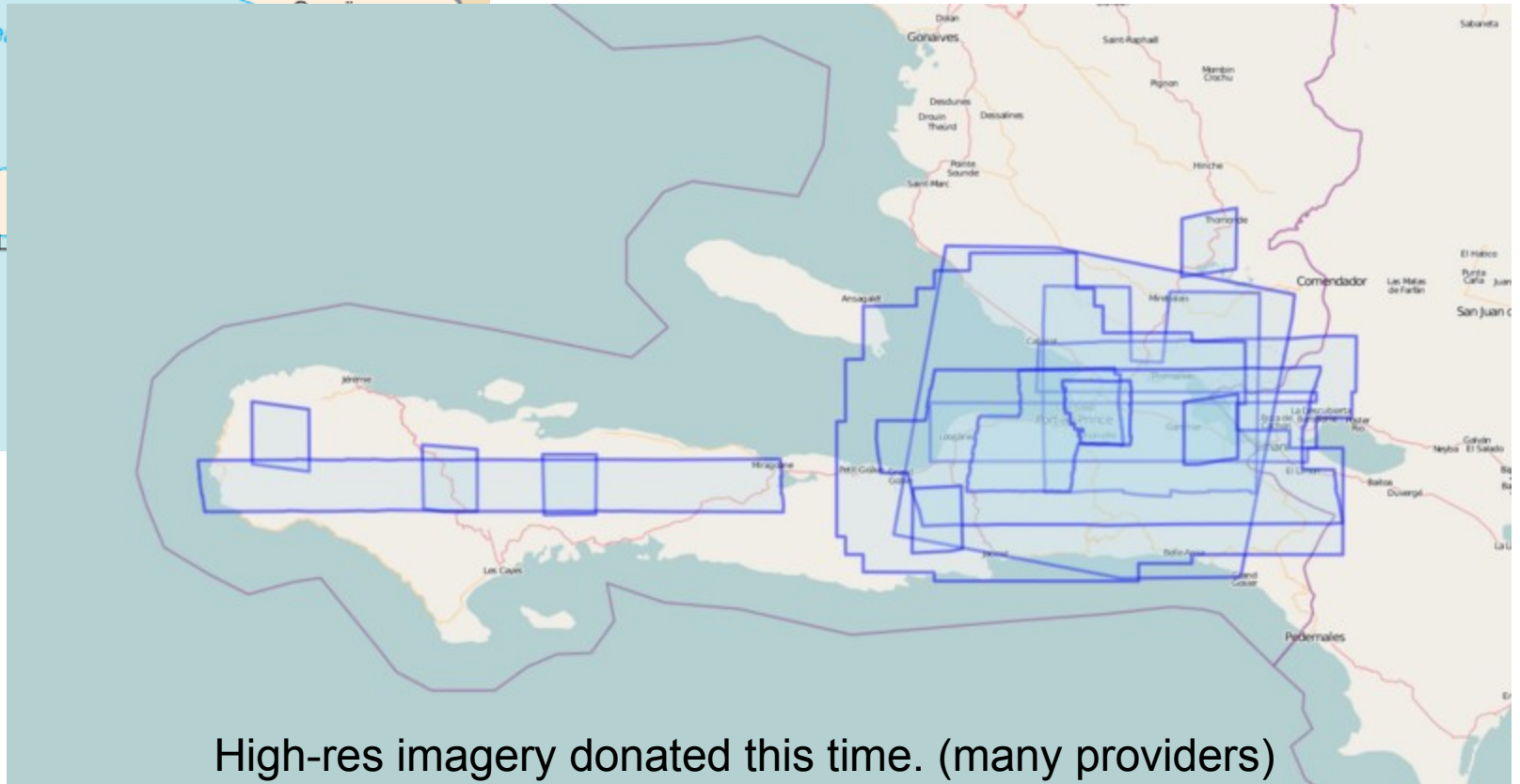
Kibera today



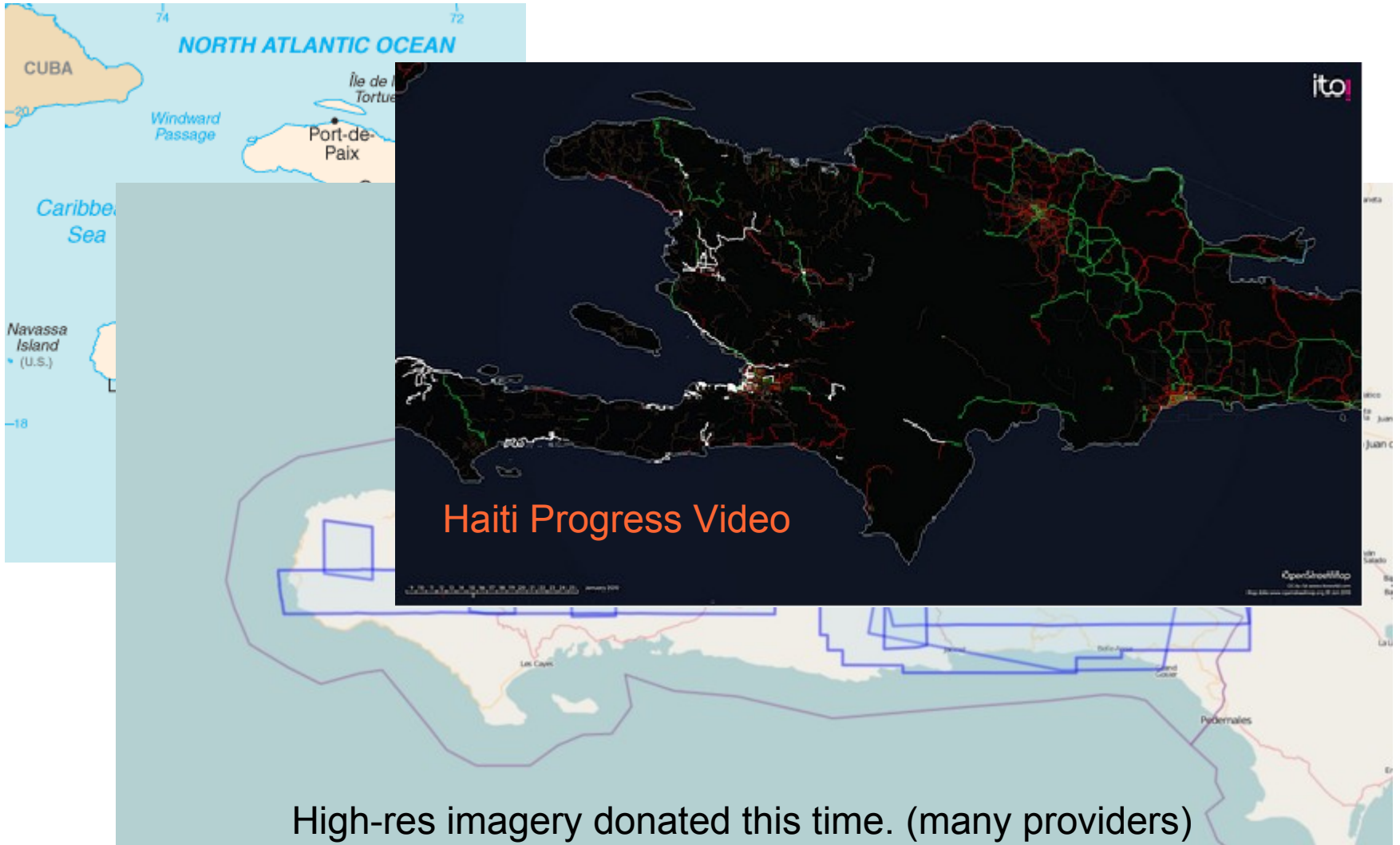
Haiti earthquake, Jan 2010



Haiti earthquake, Jan 2010



Haiti earthquake, Jan 2010



"Hello guys, I just wanted to let you know that your work on improving the Haiti maps is really appreciated here. A few days ago I installed a version on my Garmin Oregon GPS and the result is impressive. It has already saved me and my driver from getting lost twice, and the alternative would have been long delays. In the coming days I will try to update our Red Cross relief GPS receivers with your map." - Kjeld Jensen, Red Cross (IFRC)



Current OpenStreetMap Humanitarian Work



Japan earthquake and tsunami

Mapping for Libya

<http://hot.openstreetmap.org/>



So, how can you help map?



(Option 1) Trace aerial imagery

The screenshot displays the Java OpenStreetMap Editor interface. The main map area shows a street grid with several yellow and purple lines tracing the roads. The interface includes a menu bar (File, Edit, View, Tools, Presets, Imagery, Walking Papers, Audio, Help), a toolbar with various editing tools, and a left sidebar with additional tools. The right sidebar contains a Layers panel, a Properties panel for a selected object, and an Author panel. The status bar at the bottom shows coordinates and the current tool.

Layers Panel:

- Layers
- Data Layer 1
- Bing Sat

Properties: 8 / Membership

Facilities/Food+Drinks/Restaurant

Key	Value
addr:housenum...	118
addr:street	Elgin Street
amenity	restaurant
email	enquiries@mutti...
name	Muttis
opening_hours	We-Su 16:00+; F...
phone	0393495008
website	http://www.mutti...

1 Author

Author	# Objects	%	...
Rhubarb	1	100%	X

Status Bar: -37.7966790 144.9708069 (no object) ; or change selection



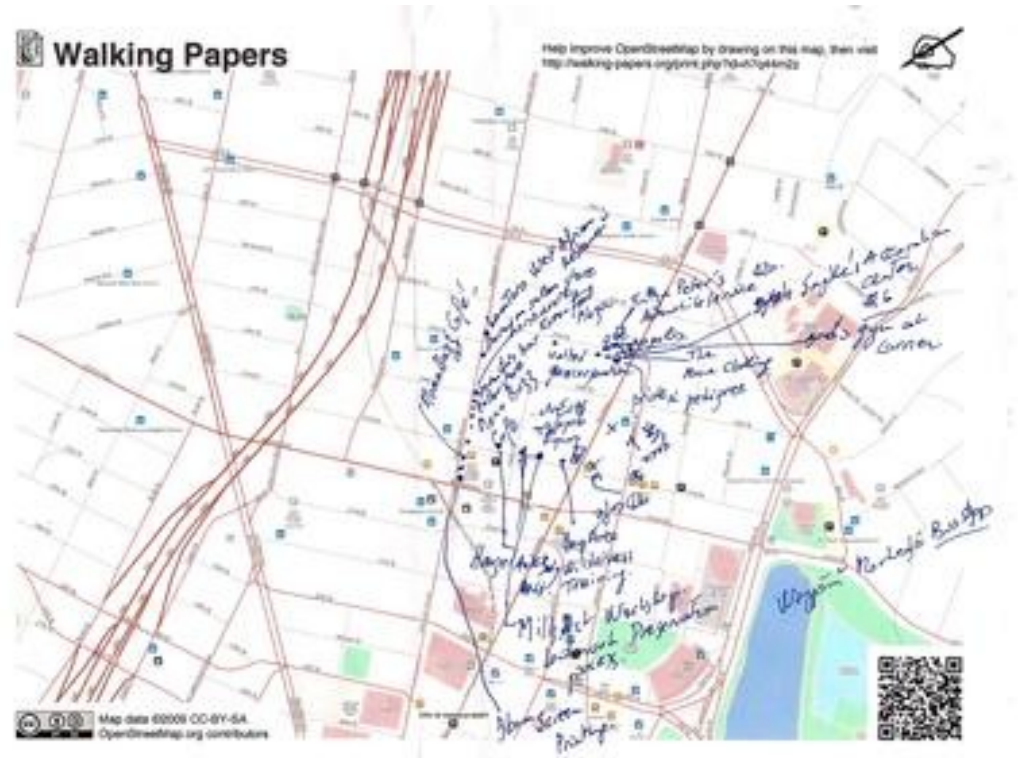
(Option 2) Go outside

Take notes, →

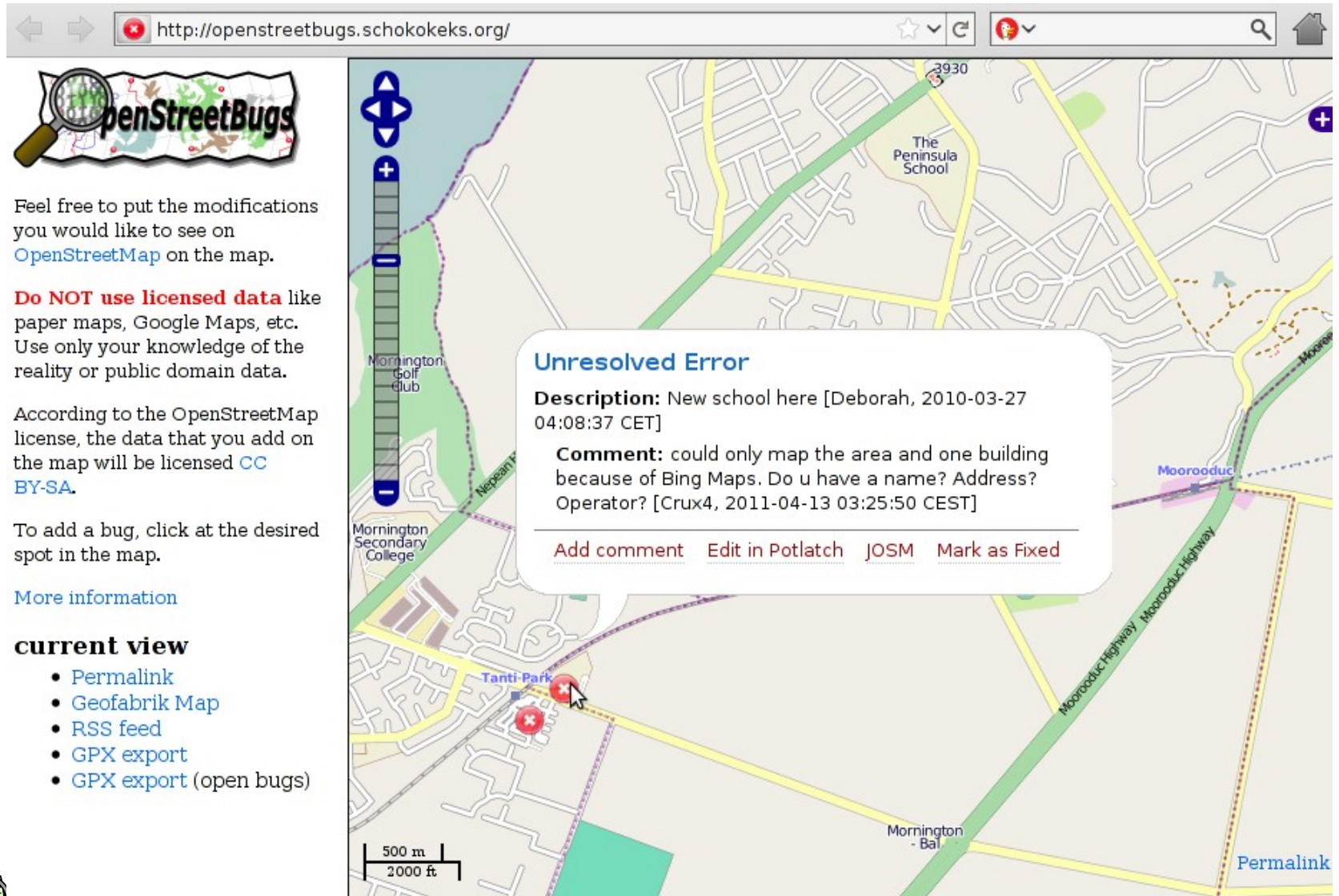


record your trip
(optional),

and update the map from your notes at home



(Option 3) Tell someone about a problem



http://openstreetbugs.schokokeks.org/

OpenStreetBugs

Feel free to put the modifications you would like to see on [OpenStreetMap](#) on the map.

Do NOT use licensed data like paper maps, Google Maps, etc. Use only your knowledge of the reality or public domain data.

According to the OpenStreetMap license, the data that you add on the map will be licensed [CC BY-SA](#).

To add a bug, click at the desired spot in the map.

[More information](#)

current view

- [Permalink](#)
- [Geofabrik Map](#)
- [RSS feed](#)
- [GPX export](#)
- [GPX export](#) (open bugs)

Unresolved Error

Description: New school here [Deborah, 2010-03-27 04:08:37 CET]

Comment: could only map the area and one building because of Bing Maps. Do u have a name? Address? Operator? [Crux4, 2011-04-13 03:25:50 CEST]

[Add comment](#) [Edit in Potlatch](#) [JOSM](#) [Mark as Fixed](#)

500 m
2000 ft

Permalink



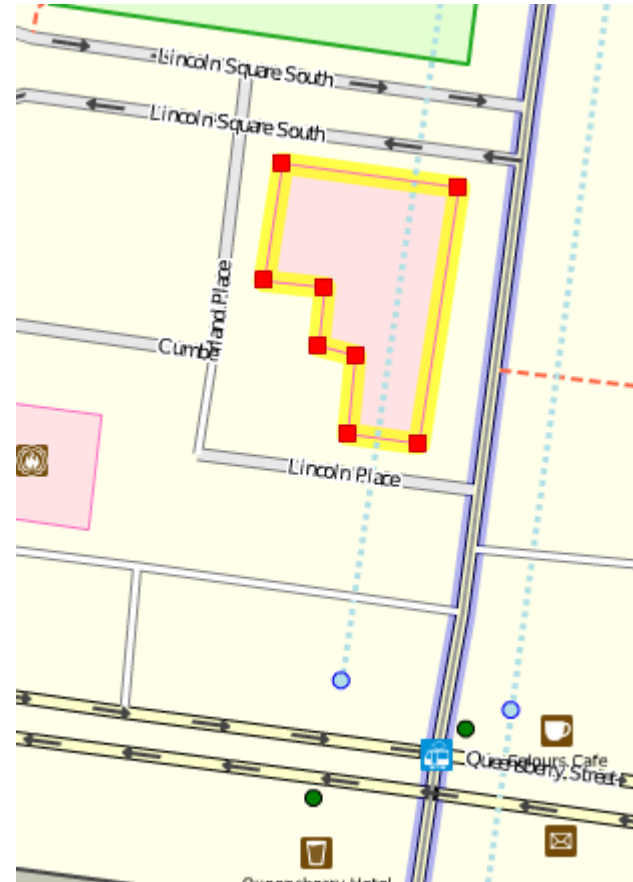
(Option 4) Be social

- Organise a Mapping Party
 - Parties are very rare in VIC
 - But are quite common in Brisbane
- 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



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



Questions?

Thanks for listening.



Links and cool stuff

OpenStreetBugs:	http://openstreetbugs.schokokeks.org/
MapDust:	http://www.mapdust.com/
Cloudmade maps:	http://maps.cloudmade.com/
Flickr:	http://www.flickr.com/map/ - uses OSM for high zoom in Melbourne (though very out of date)
Map compare:	http://tools.geofabrik.de/mc/
MapOSMatic	http://www.maposmatic.org/
Mapquest:	http://open.mapquest.co.uk/link/h/2-qTGJsY0V
Marble:	http://edu.kde.org/marble/
Nominatim:	http://wiki.openstreetmap.org/wiki/Nominatim
OpenCuisineMap:	http://toolserver.org/~stephankn/cuisine/
OpenOrienteeringMap:	http://oobrien.com/oom/
OpenStreetMap:	http://www.openstreetmap.org/
OpenStreetMap routing demo:	http://osmu.org/demo/index.html
Transparent map comparison:	http://sautter.com/map/

