

An introduction to OpenStreetMap

presented by David Dean

<http://www.dbdean.com>

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>



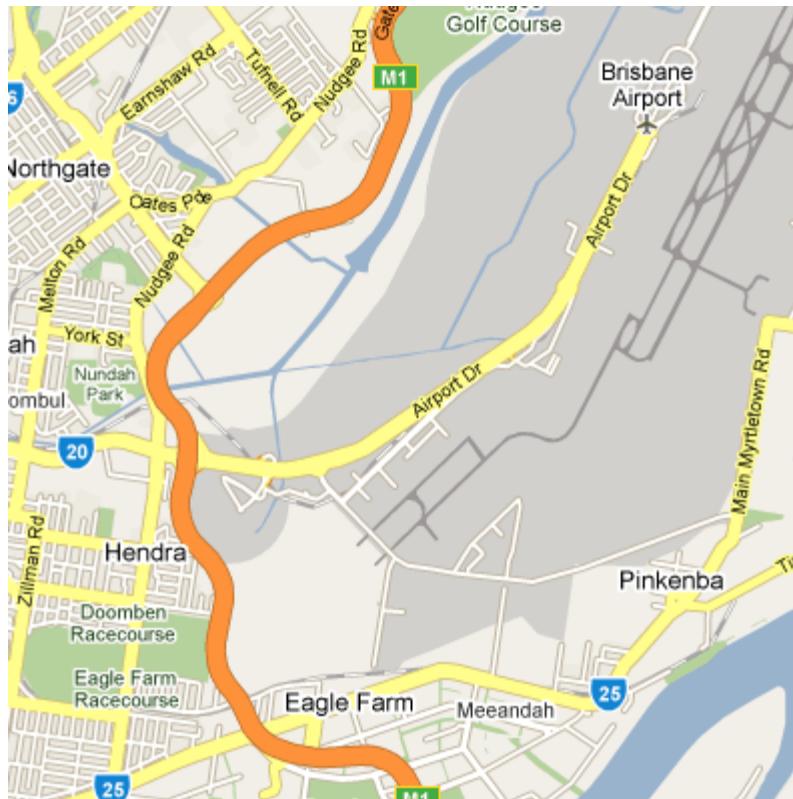
Why not just use Google Maps?

or WhereIs/Yahoo/Bing Maps?

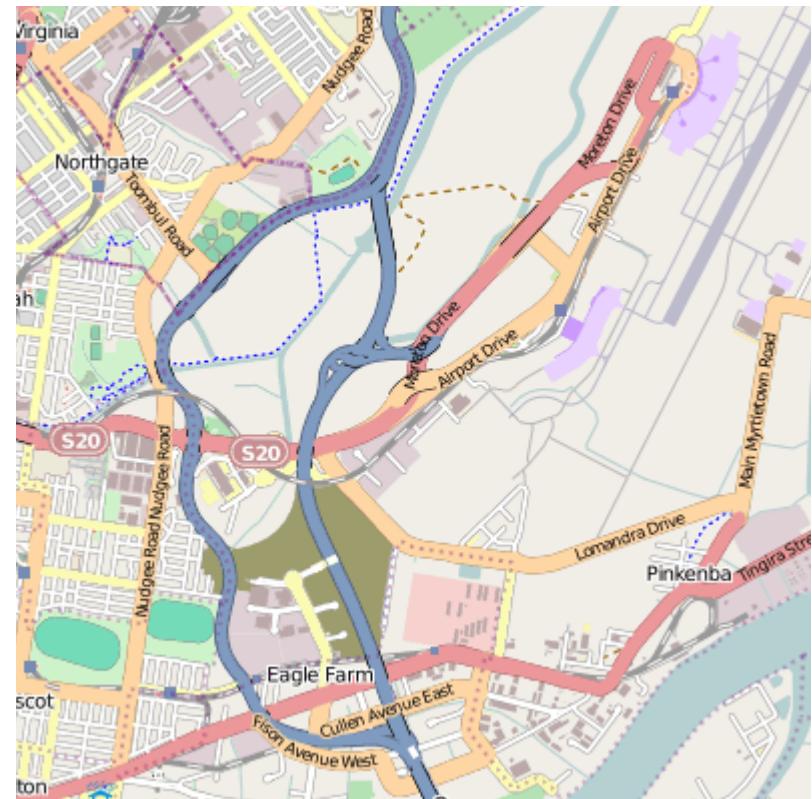
or whatever is on your GPS/Phone?



Updated rapidly



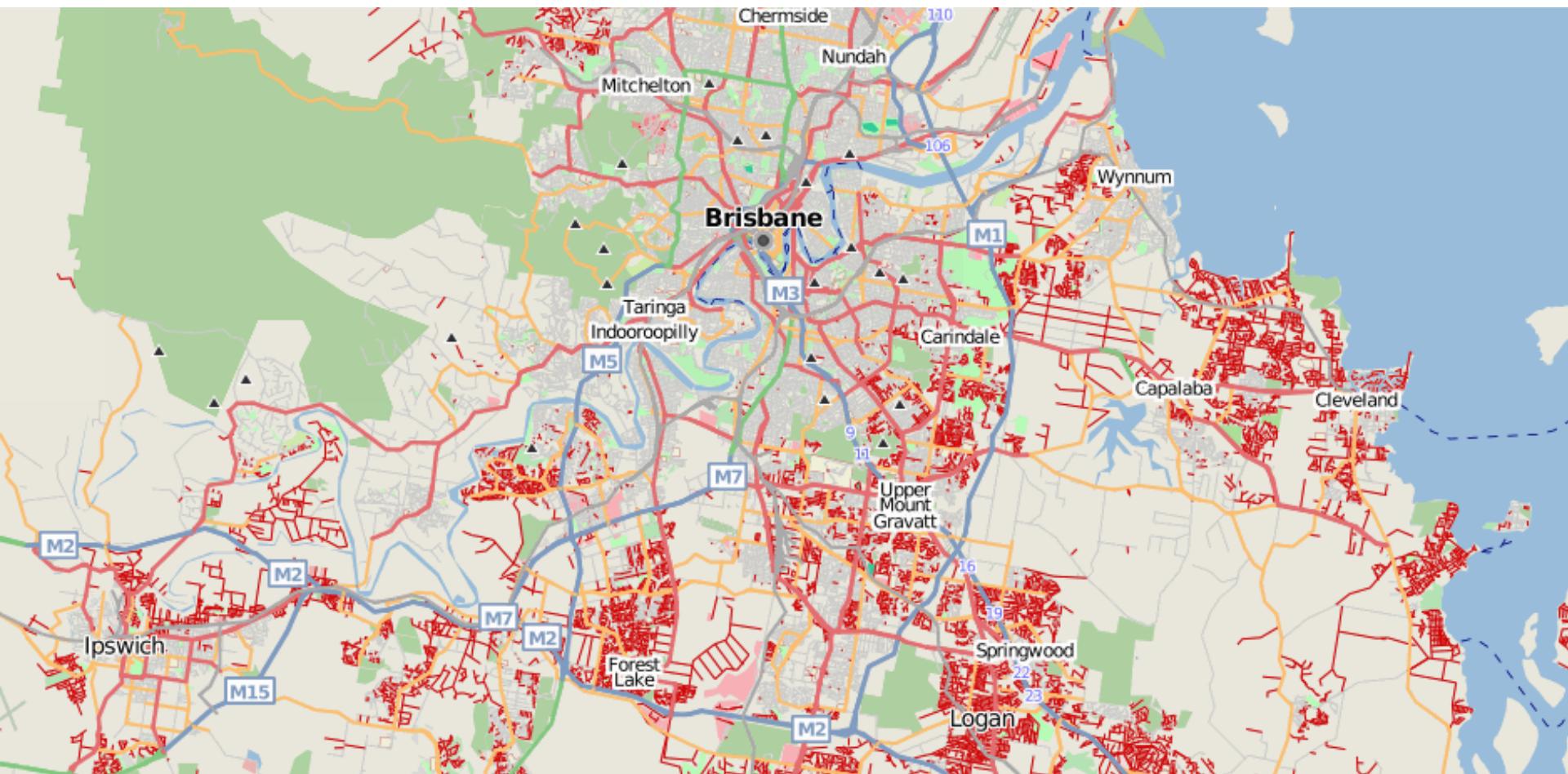
Google



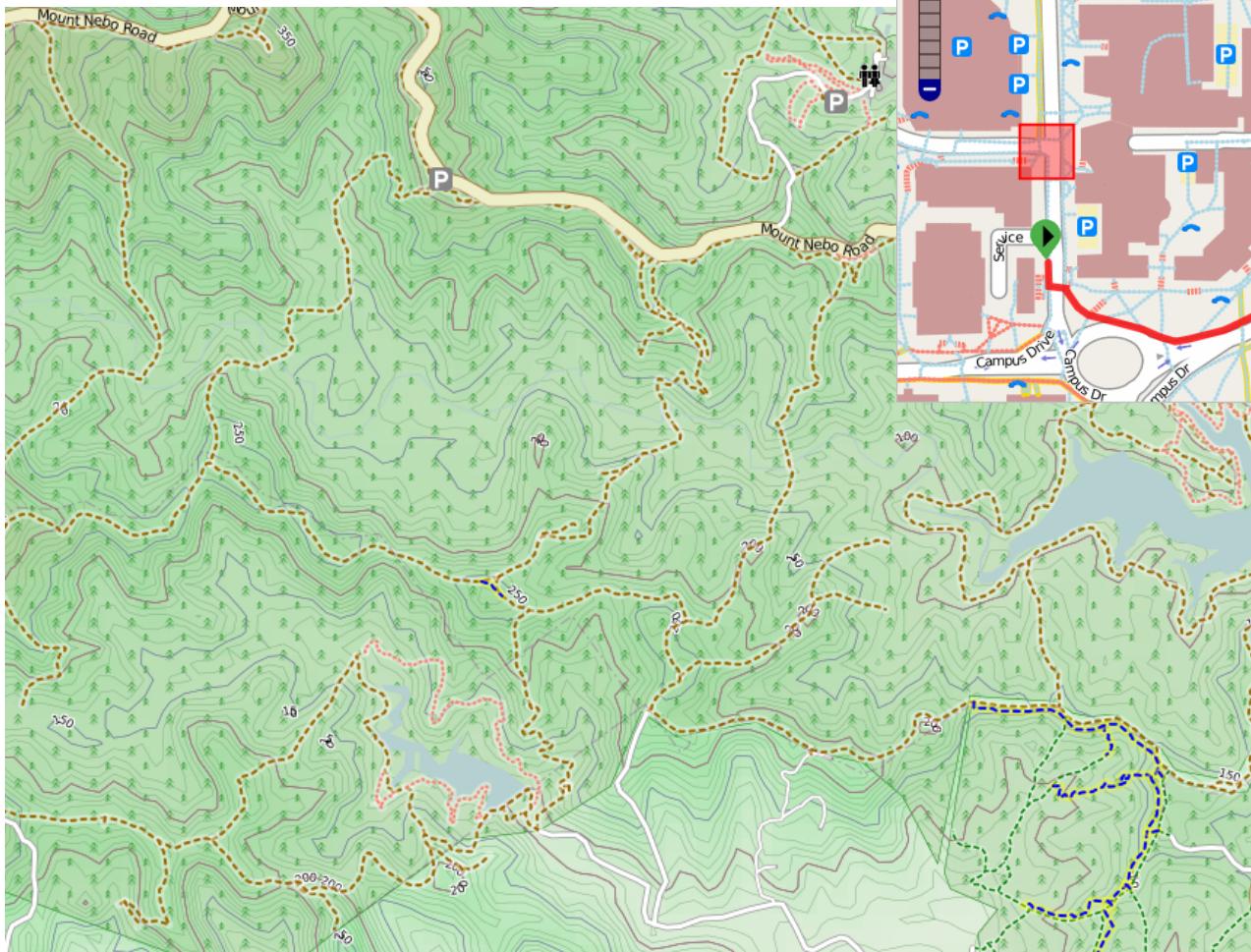
OpenStreetMap



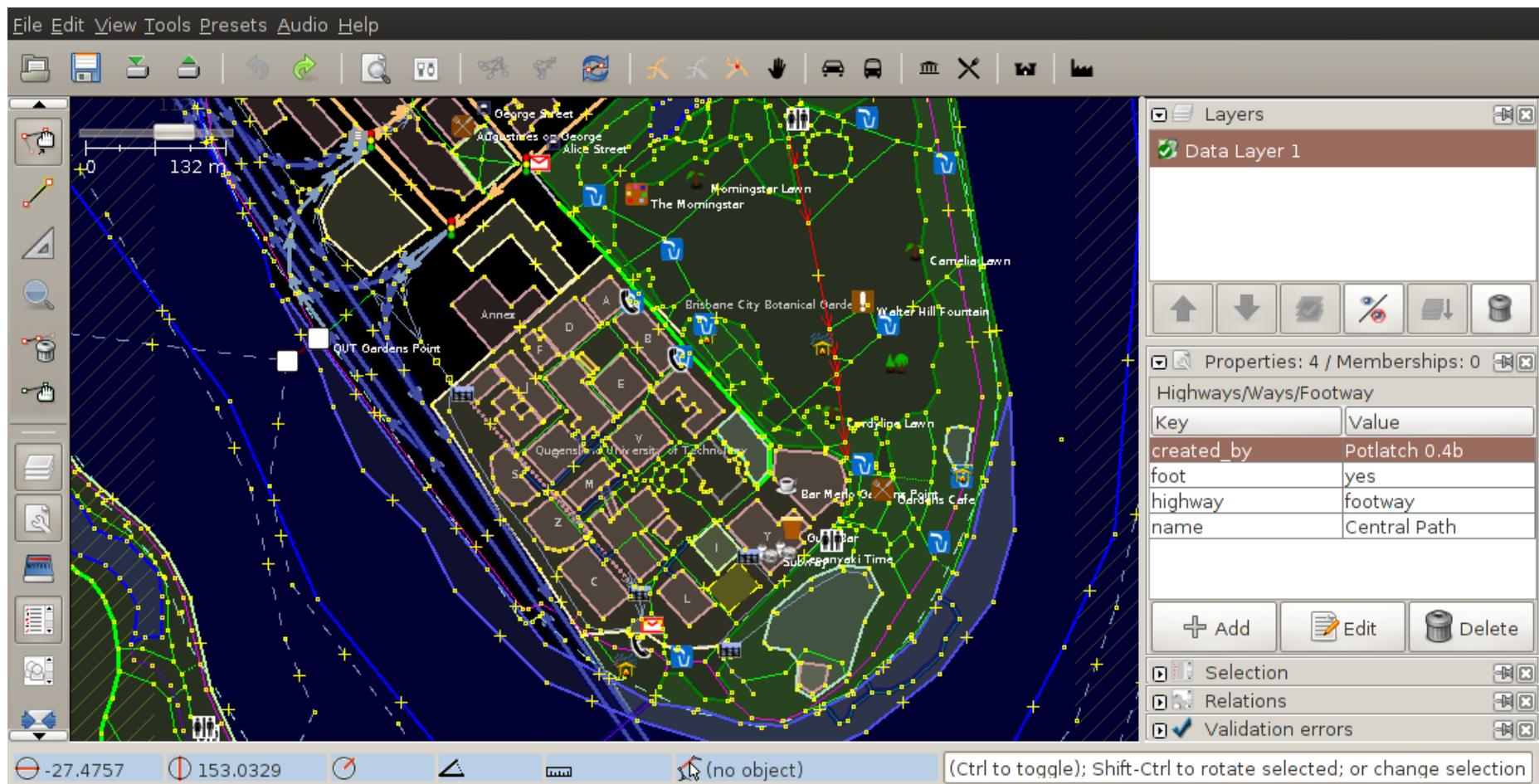
But, coverage can be poor



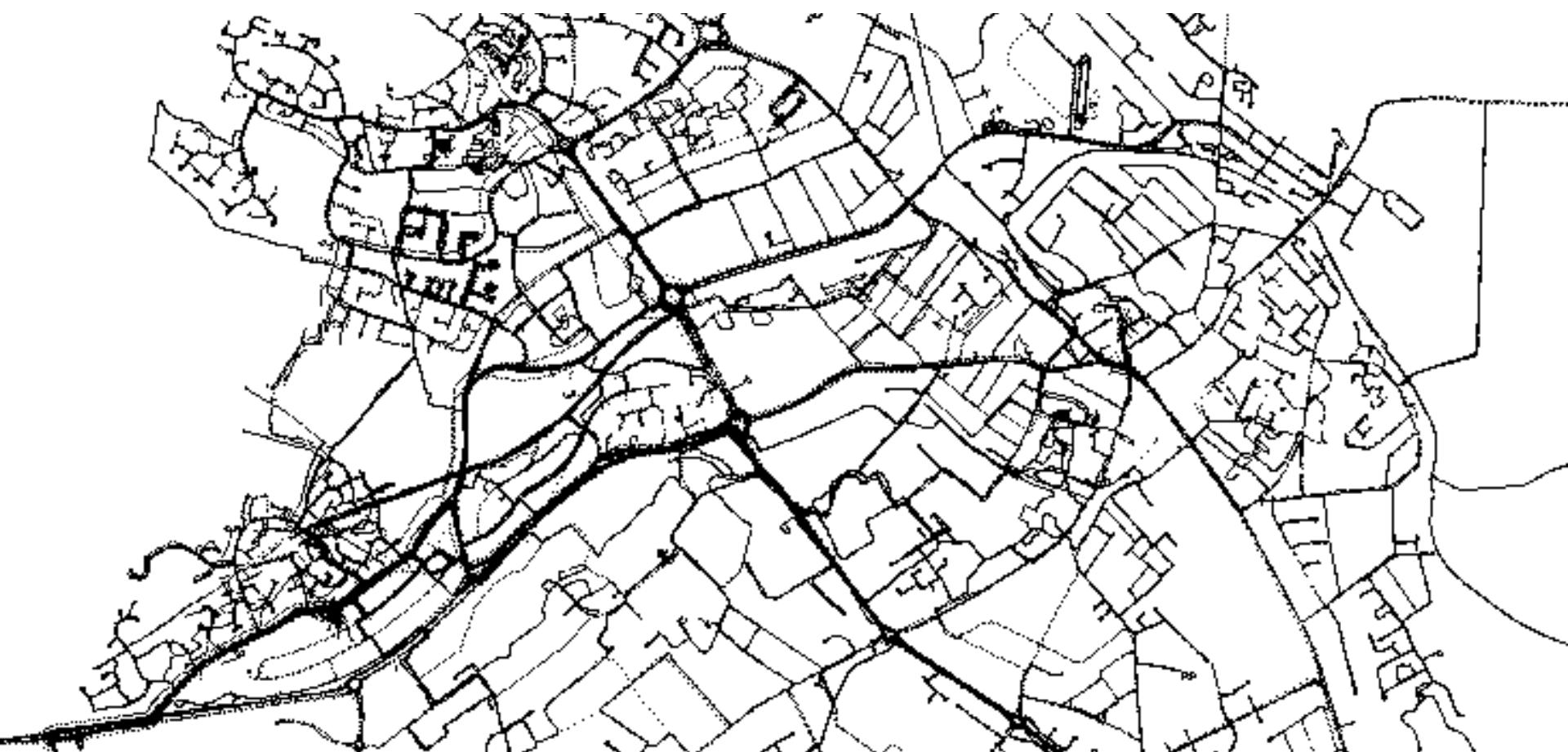
Not just for cars



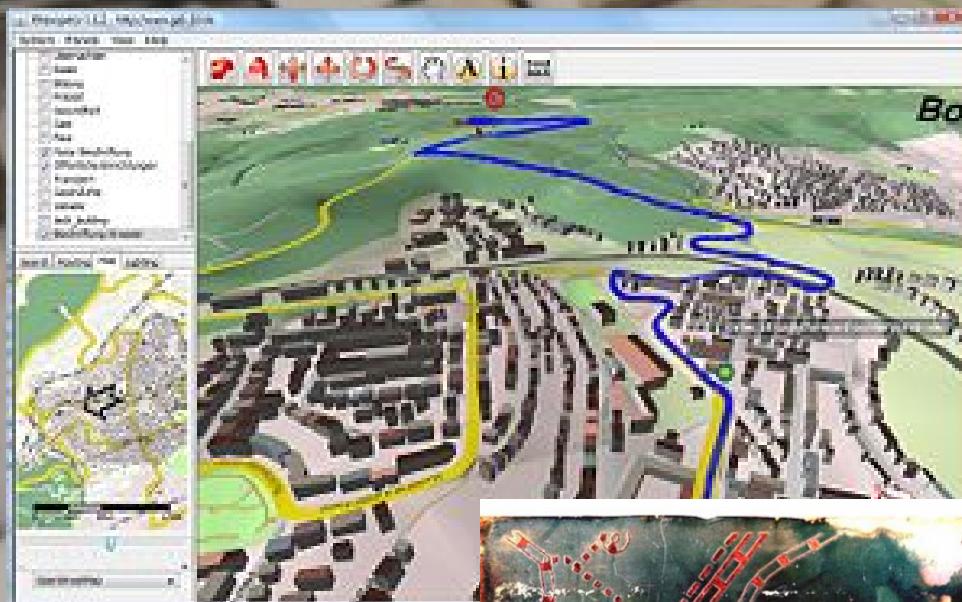
Data freely available (and editable)



Raw traces are available too

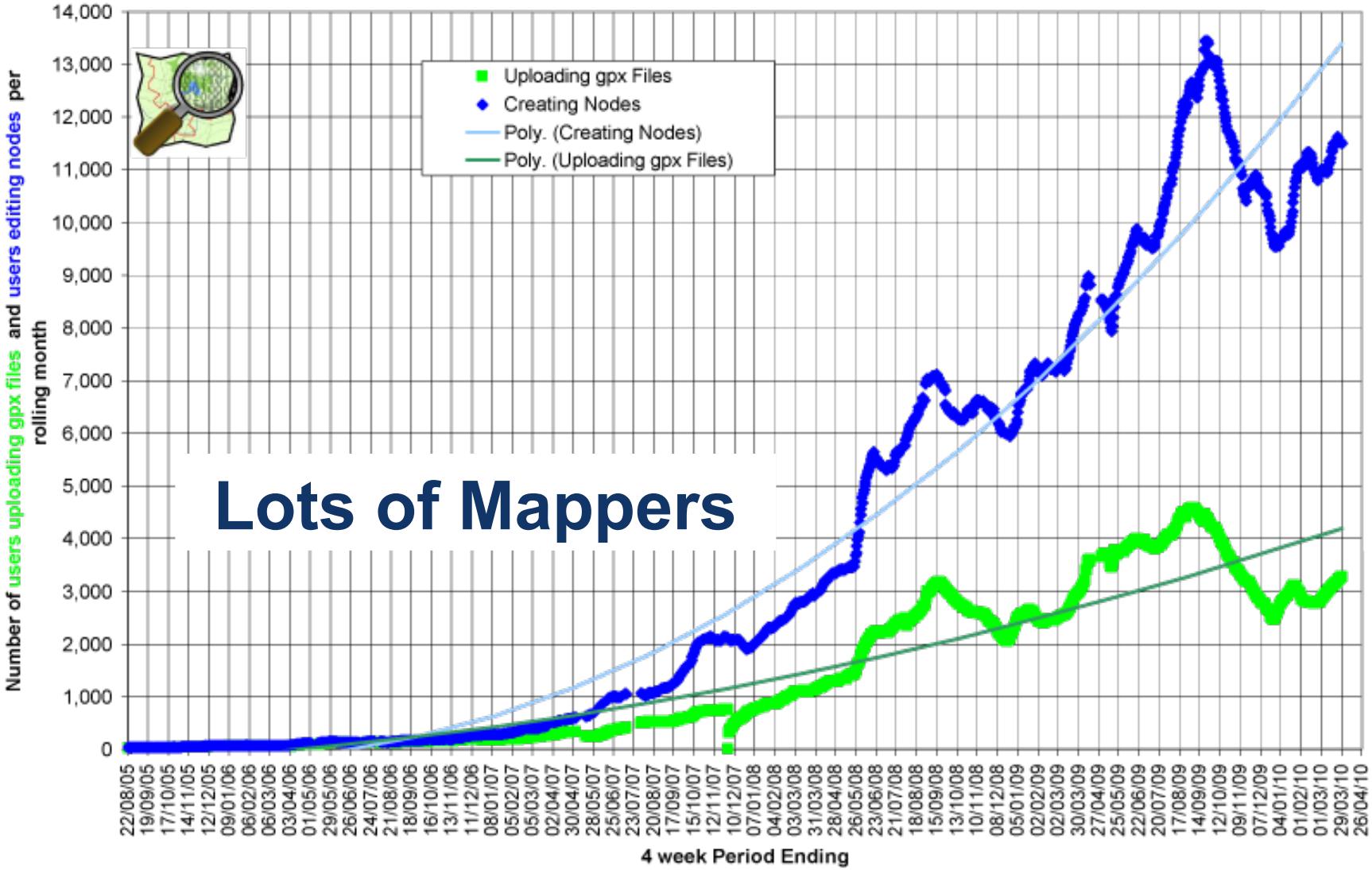


Free data means you can do more neat stuff



OpenStreetMap Database Statistics

Users Uploading or Editing Nodes (Rolling Month)



Lots of Mappers

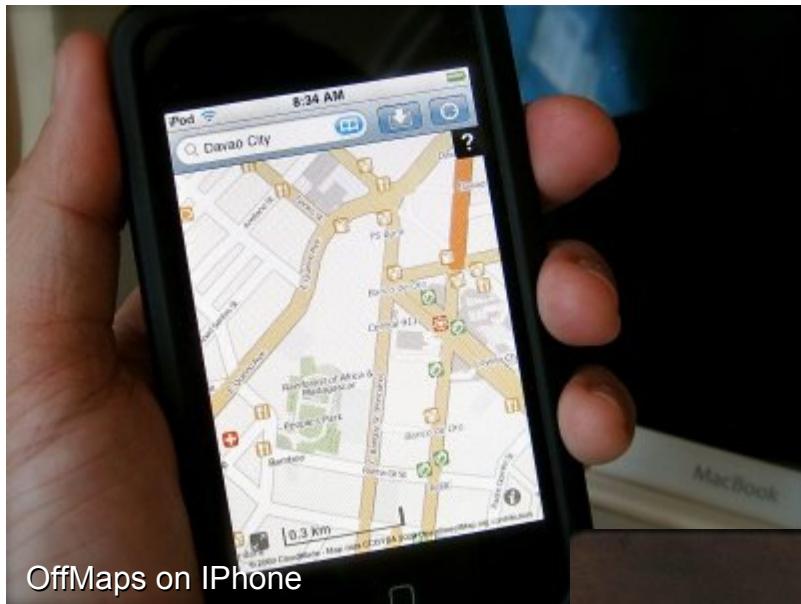


Worldwide activity

OSM 2008: A Year of Edits



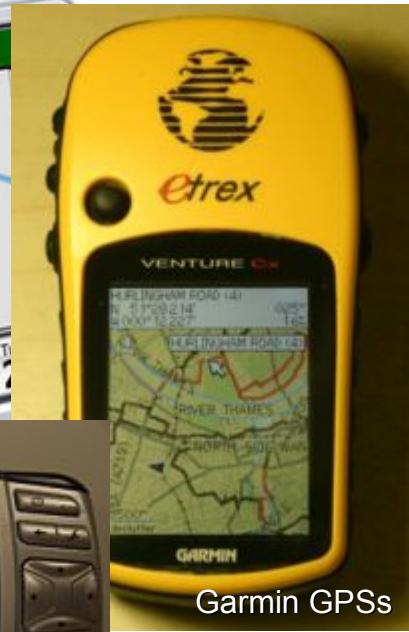
Available on many devices



OffMaps on iPhone



Garmin PNDs



Garmin GPSs



AndNav2 on Android



GPSMid on J2ME



Gosmore on Windows Mobile



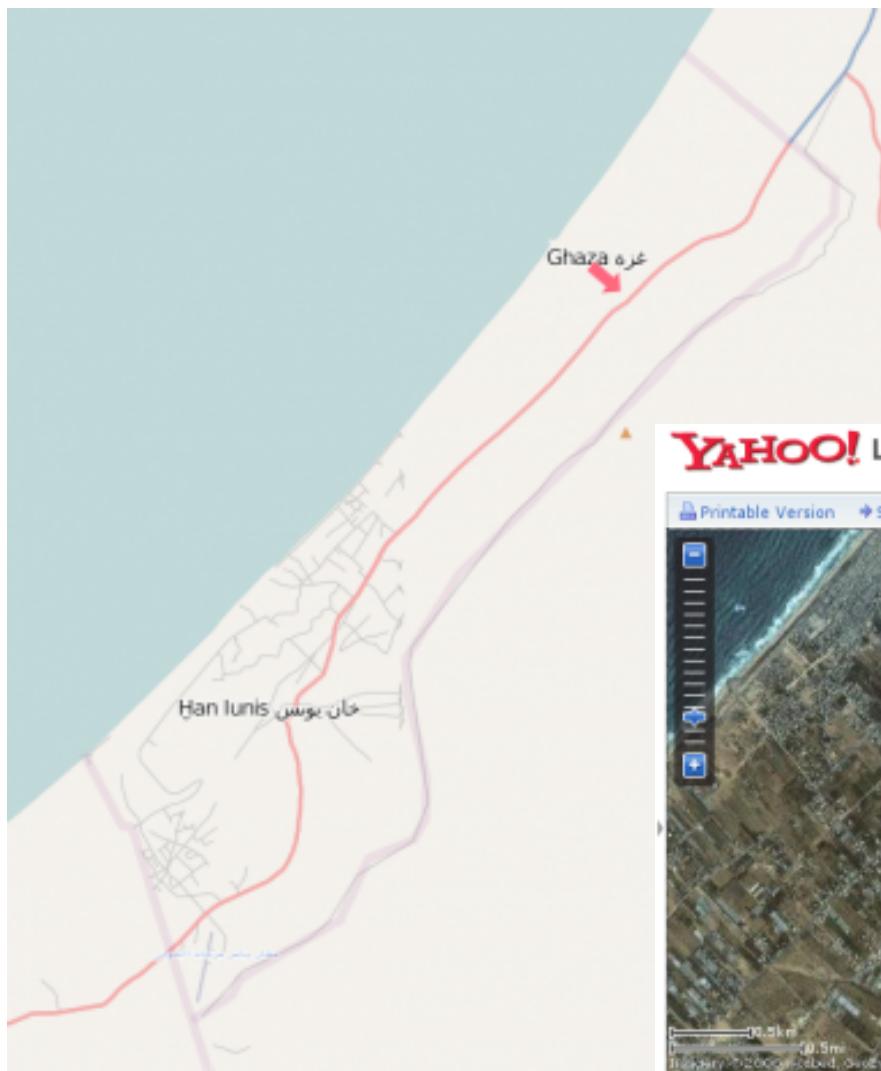
MaemoMapper on Nokia Maemo



Humanitarian OpenStreetMap Team

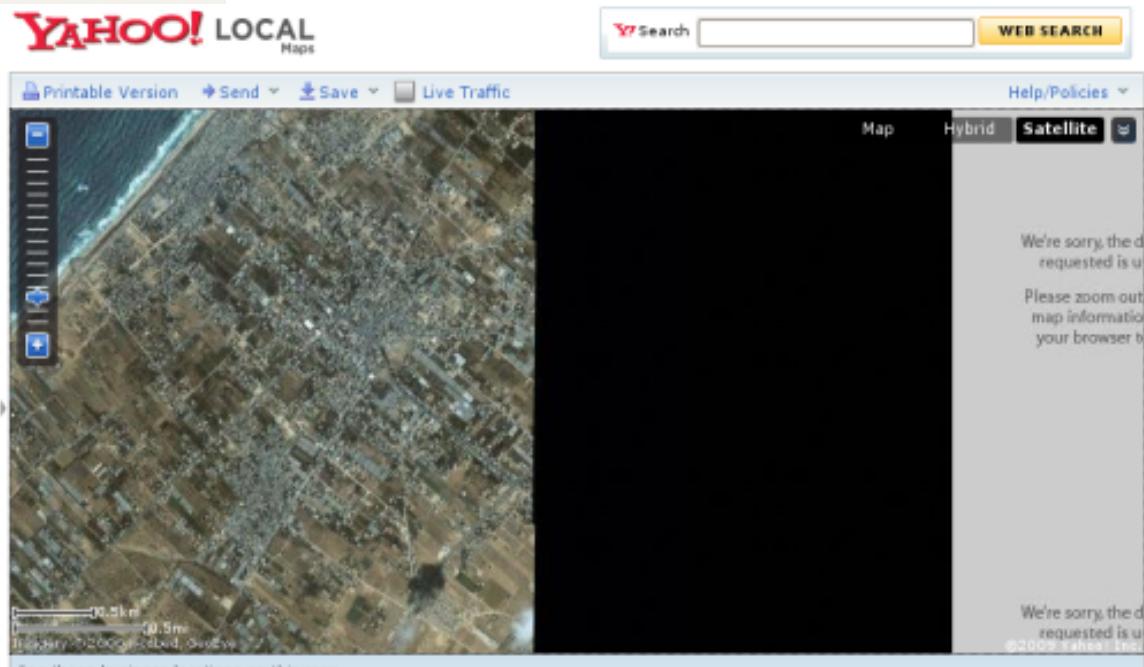


OpenStreetMap Gaza Project

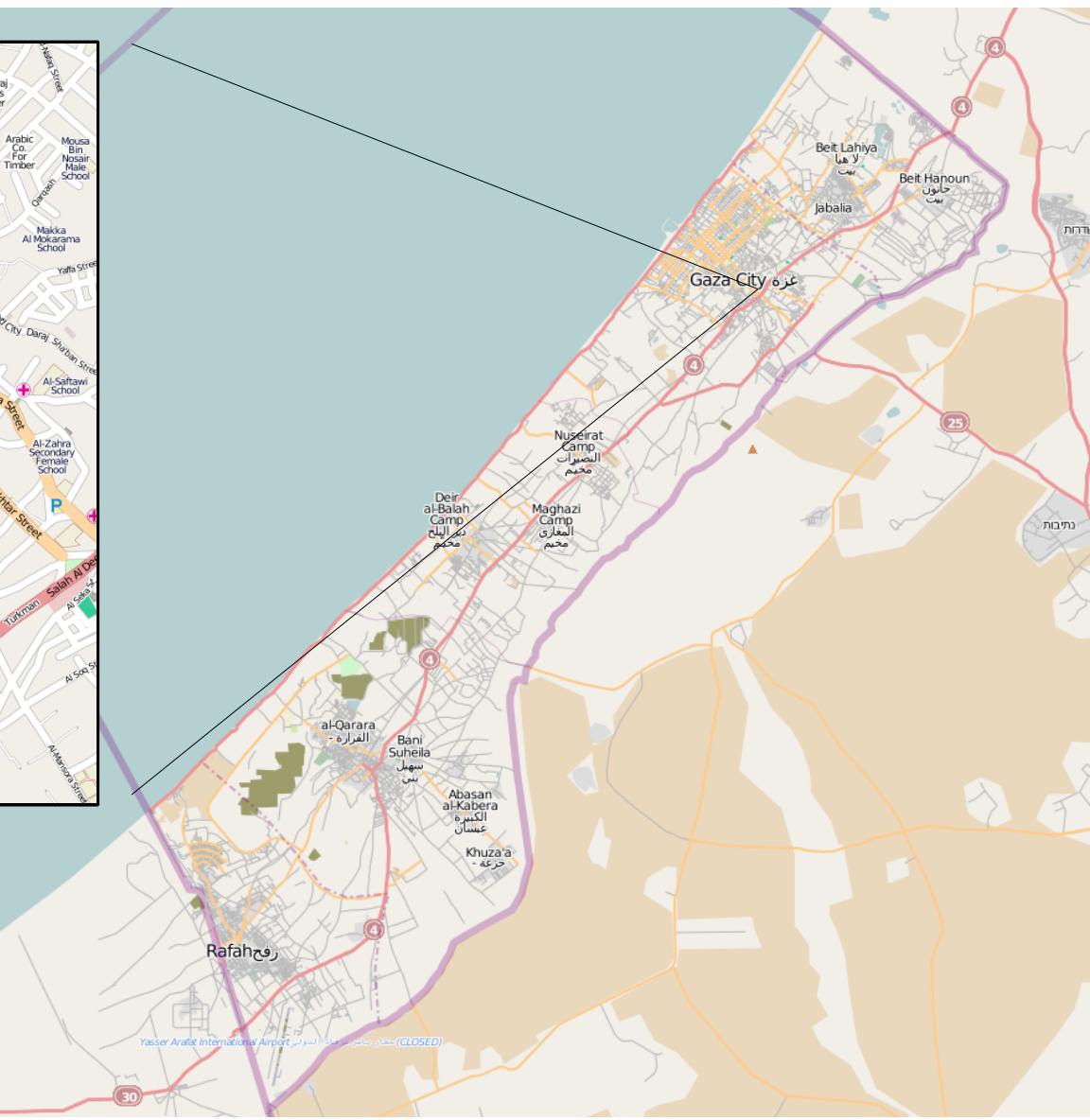
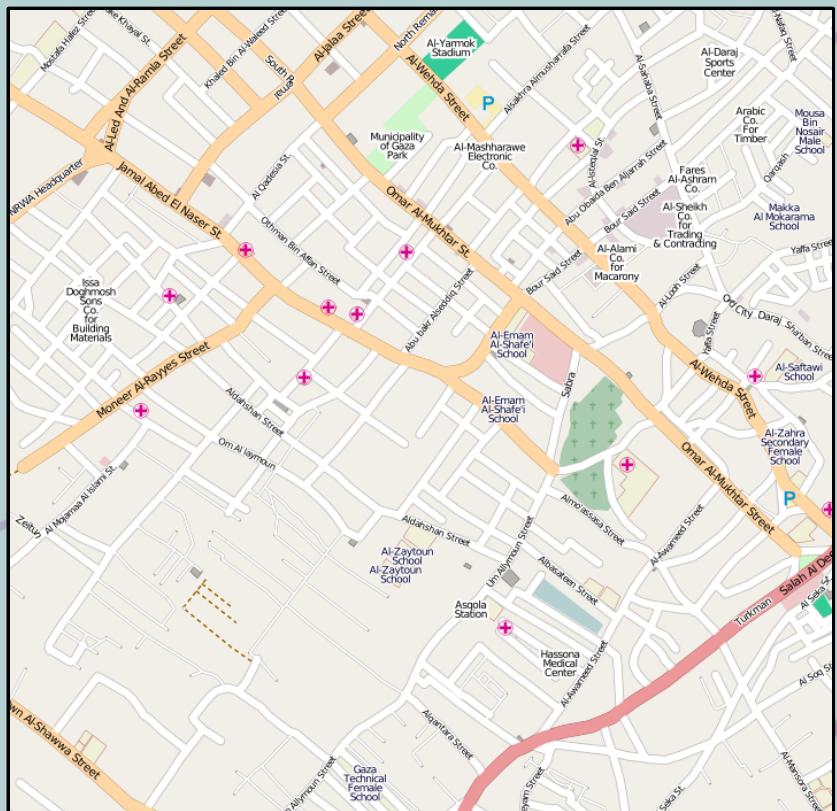


Jan 2009: Mikel Maron announces OpenStreetMap Gaza Project

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



Gaza Strip today



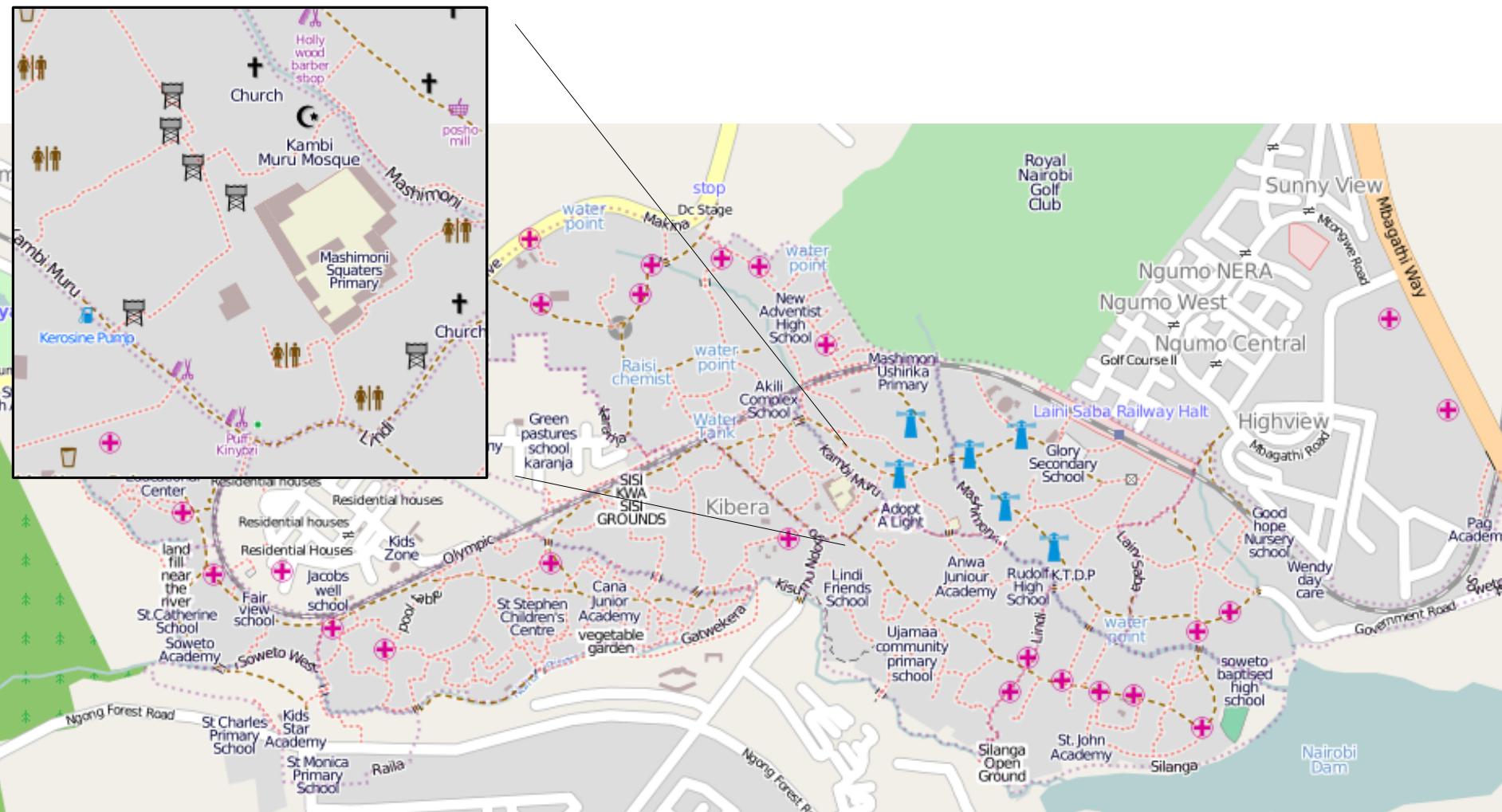
MAP Kibera (April 2009)

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

<http://mapkibera.org>



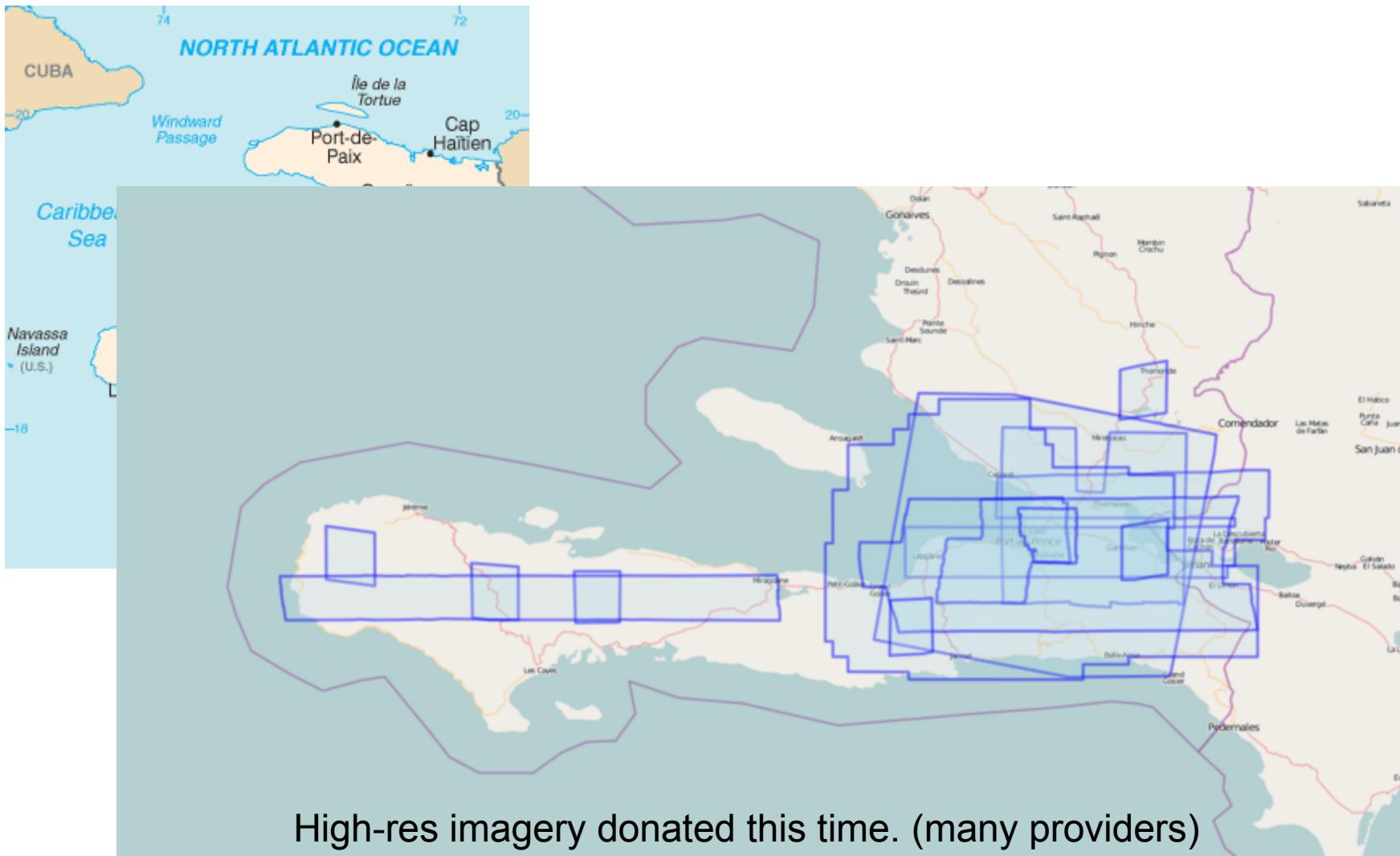
Kibera today



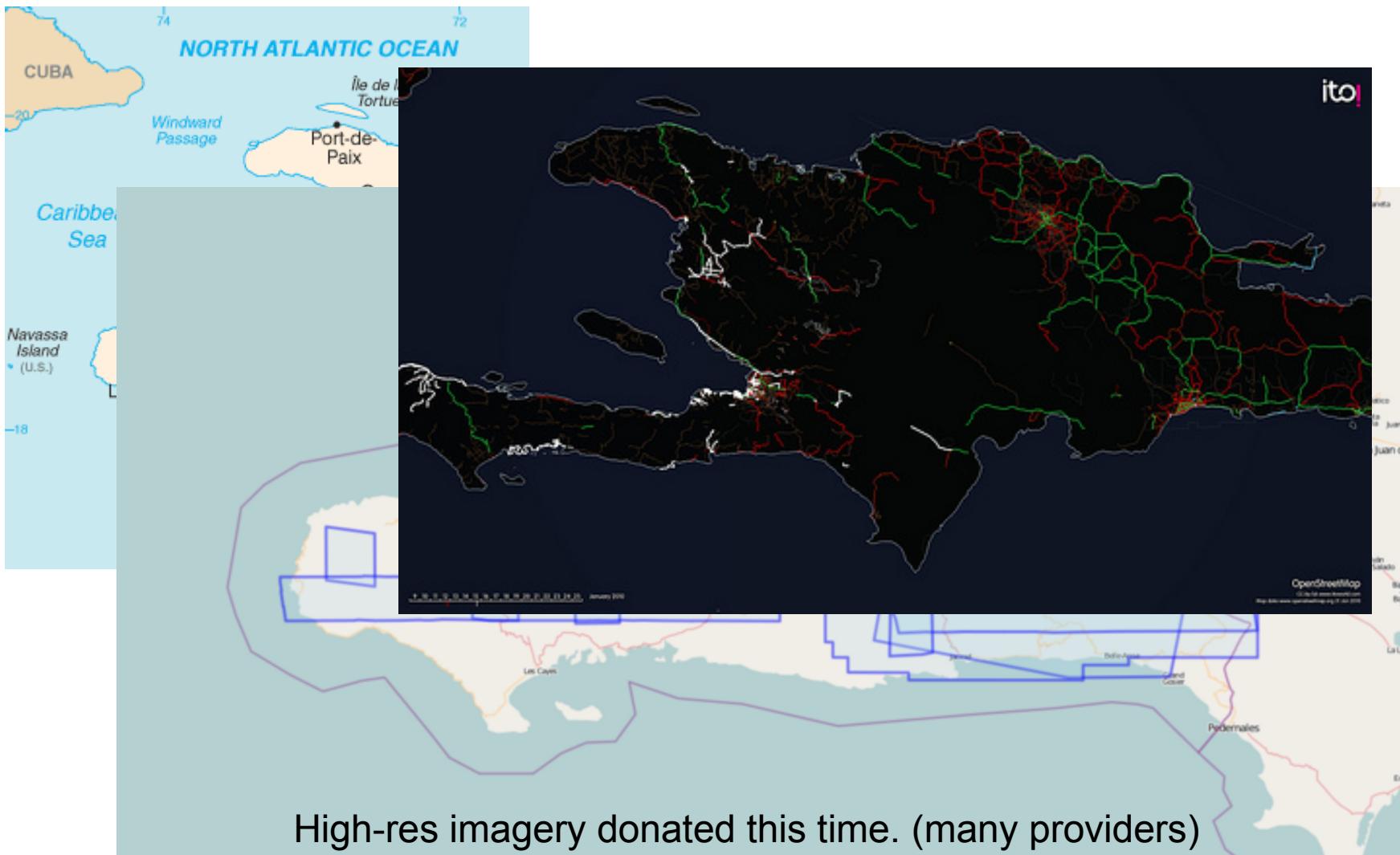
Haiti earthquake, Jan 2010



Haiti earthquake, Jan 2010



Haiti earthquake, Jan 2010



Use and Media Coverage

Uses of OpenStreetMap data by crisis responders

People on-the-ground in Haiti (and related organisations) are using (or used) our maps :

- Thanks message [from Colombian Mission in Haiti](#). (2010-02-10)
- "This is where OpenStreetMap is a godsend" in [How to Deploy Long-Distance WiFi in Haiti](#) (2010-02-10) by [Inveneo](#), a NGO whose mission is connecting those who need it most, on how they were able to bring high-speed Internet access - critical communication capacity - to eleven relief agency locations with minimal equipment and installation time.
- On 13/01/2010 [ITHACA](#) and [WFP](#) published their damage assessment of Port-au-Prince using OSM road data.
 - Special session on mapping the disaster during the Haiti Emergency at the [GI4DM 2010 Conference](#).
See subpage [GI4DM2010](#)

- [OpenStreetMap renderings on Garmin GPS receivers by Colombian search and rescue operators](#) - "Many thanks Freddy. Very timely maps of Haiti that sent me to the Garmin. I went down and installed the GPS in our search and rescue teams. OSM undoubtedly be a great help to our response teams, especially those going to move to rural areas." via [ouewmh](#) (2010-01-15)

Fairfax County Urban Search & Rescue Team Using

Unitar / UNOSAT use OpenStreetMap street data in t

GDACS [use OSM street data in their reports](#)

JRC [use OSM street data in their report](#)

"I'm told OSM is on the big monitors at SOUTHC

On 18/01/2010 [ITHACA](#) and [WFP](#) released maps

NOAA's Environmental Response Management Appli

The Food and Agriculture Organization (FAO) (<http://fenix.fao.org:8080/fenix-web/org.fao.fenix.we>

The Office for the Coordination of Humanitarian Aff

Wiki as a resource (Social Media Links category) for

Secretary of State Hillary Clinton, Remarks on Intern

Kjeld Jensen, Red Cross (IFRC): "Hello guys, I just wa

is impressive. It has already saved me and my drive

Again thanks a lot guys, we are really running fast here

Jihad Abdalla from UNICEF (<http://groups.google.com/group/unicef-emergencies/msg/2a2a2a2a2a>...Million thanks."

Other earthquake related websites using our maps :

Atlas [compiled by the Center for Interdisciplinary](#)

flickr.com [the massive photo sharing site switch](#)

<http://haiti.ushahidi.com/> - plotting "reports" from

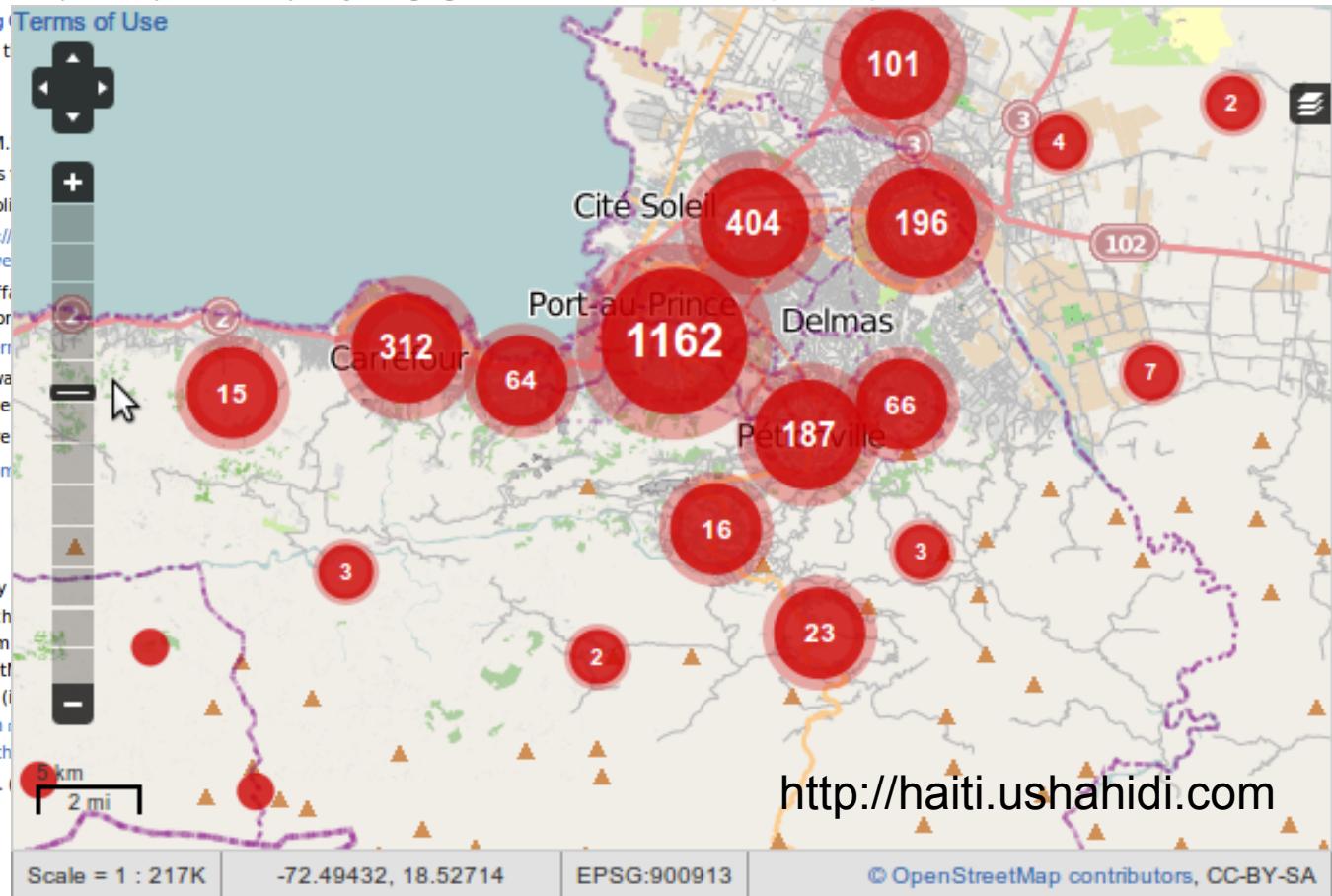
MapAction (<http://mapaction.org>) use OpenStreetM

Information Management & Mine Action Programs (i

World bank printed a giant poster for their SitRoom

OpenStreetMap data is being shipped on drives to th

There are many alternative renderings/map views too. (



Use and Media Coverage

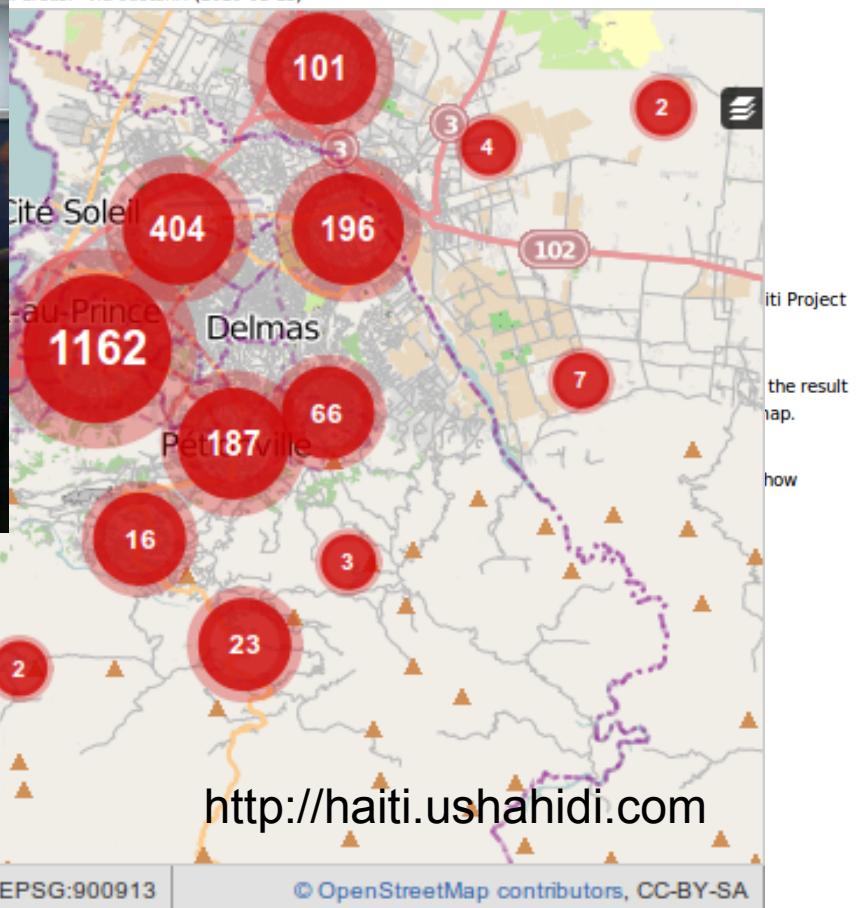
Uses of OpenStreetMap data by crisis responders

People on-the-ground in Haiti (and related organisations) are using (or used) our maps :



NGO whose mission is connecting those who need it most, on how they were able to bring and installation time.

Very timely maps of Haiti that sent me to the Garmin. I went down and installed the GPS in our areas." via ouewmH (2010-01-15)



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Use and Media Coverage

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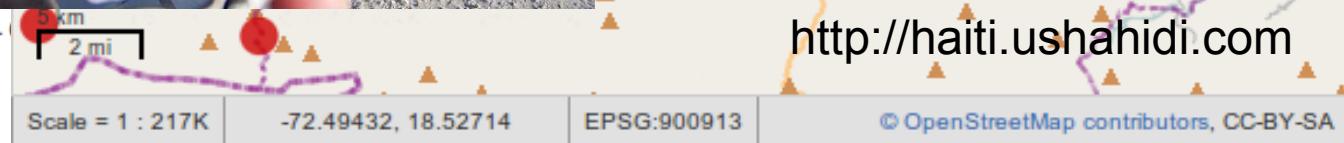
People on-the-ground in Haiti (and related organisations) are using (or used) our maps :

- The Red Cross (IFRC) - <http://www.ifrc.org/what-we-do/haiti>
- "The Red Cross has been using OSM data to help them respond to the emergency in Haiti."
- Oxfam America - http://www.oxfamamerica.org/what_we_do/emergencies/haiti
- OpenStreetMap users in the field
- FAO - http://www.fao.org/er/er_haiti_en.htm
- UNISDR - <http://www.unisdr.org/we/make-a-difference/100-best-practices/10-best-practices-for-disaster-risk-reduction-in-haiti>
- GDI - <http://www.gdi.org/2010/01/22/using-openstreetmap-data-to-improve-emergency-response-in-haiti/>
- JRC - http://ec.europa.eu/jrc/en/research/geo/activities/missions/missions_haiti_en.htm
- "I am using OpenStreetMap to map roads in Port au Prince."
- Oxfam America - http://www.oxfamamerica.org/what_we_do/emergencies/haiti
- NCDC - <http://www.cdc.gov/haiti/>
- The World Bank - <http://www.worldbank.org/haiti>
- Seismic Research Center - <http://seiscenter.hpc.utk.edu/~jason/Haiti/>
- Kjetil Johannessen - <http://www.kjetiljohannessen.com/2010/01/22/quake.html>
- Against the Grain - <http://www.againstthegrain.com/2010/01/22/quake.html>
- Jihane - <http://jihane.com/2010/01/22/quake.html>

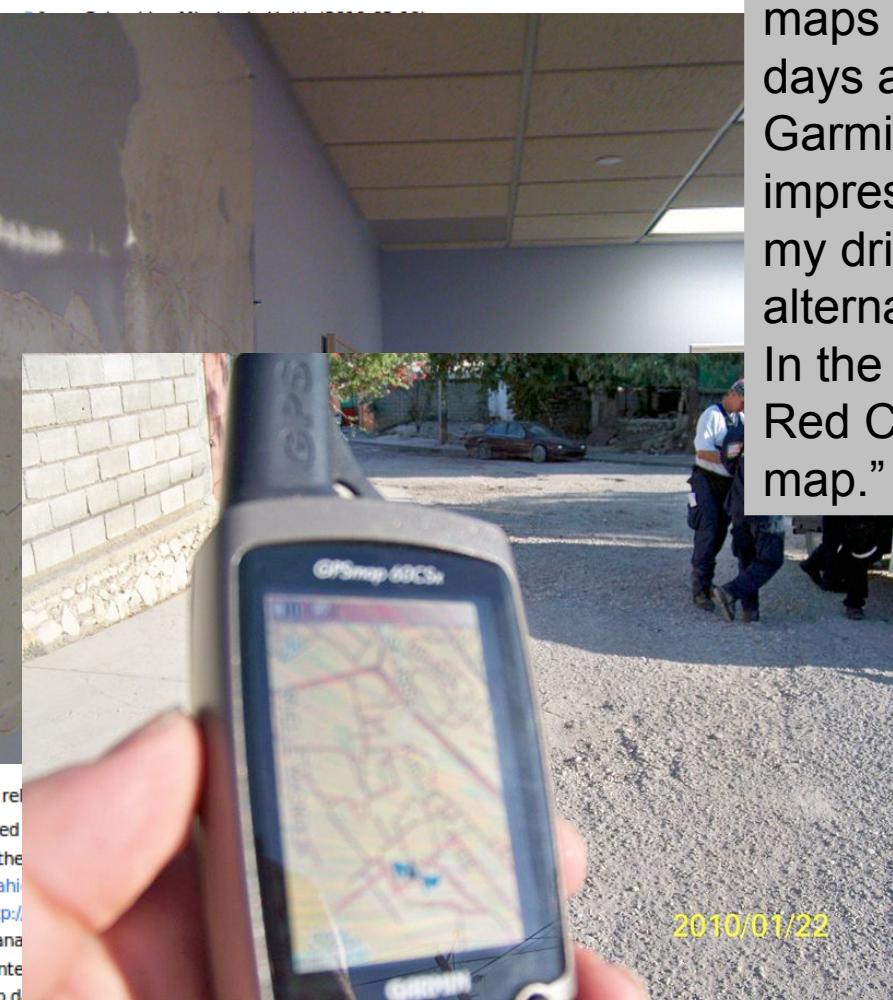
Other earthquake relief

- Atlas compiled
- flickr.com - the
- <http://haiti.usahahidi.com>
- MapAction (<http://mapaction.org>)
- Information Management
- World bank prints
- OpenStreetMap data

There are many alternative renderings/map views too.



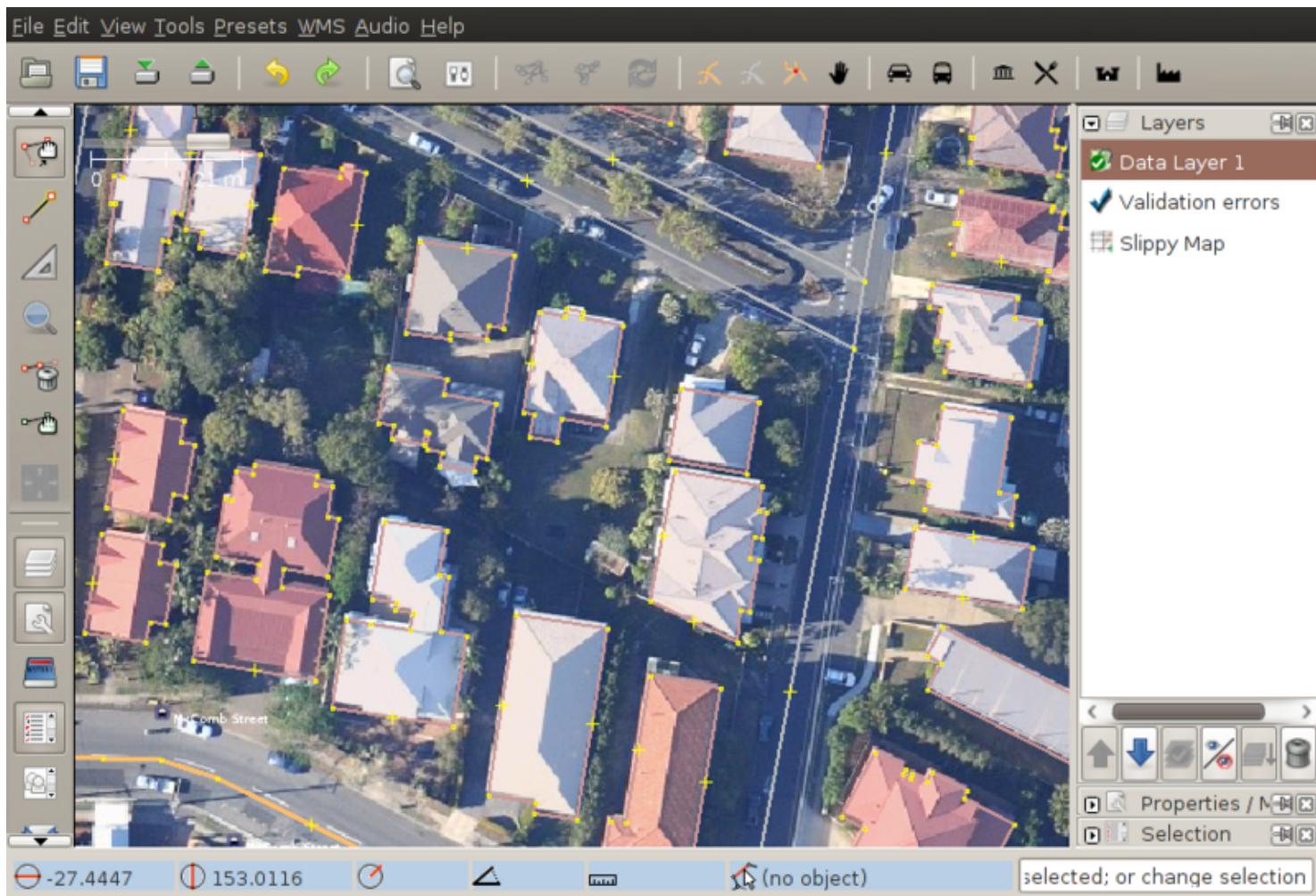
"Hello guys, I just wanted to let you know that your work on improving the Haiti maps is really appreciated here. A few days ago I installed a version on my Garmin Oregon GPS and the result is impressive. It has already saved me and my driver from getting lost twice, and the alternative would have been 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)



So, how can you map?



(Option 1) Trace aerial imagery

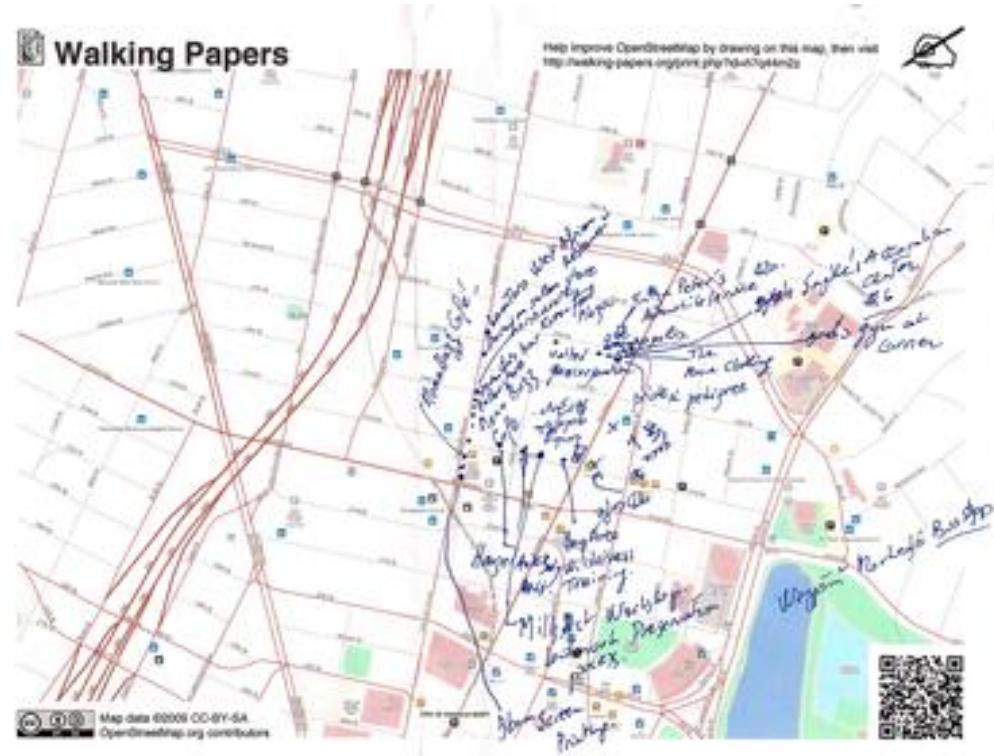


(Option 2) Go outside

Take notes, →



record your trip
(optional),



and update the map from your notes at home



(Option 3) Tell someone about a problem



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.

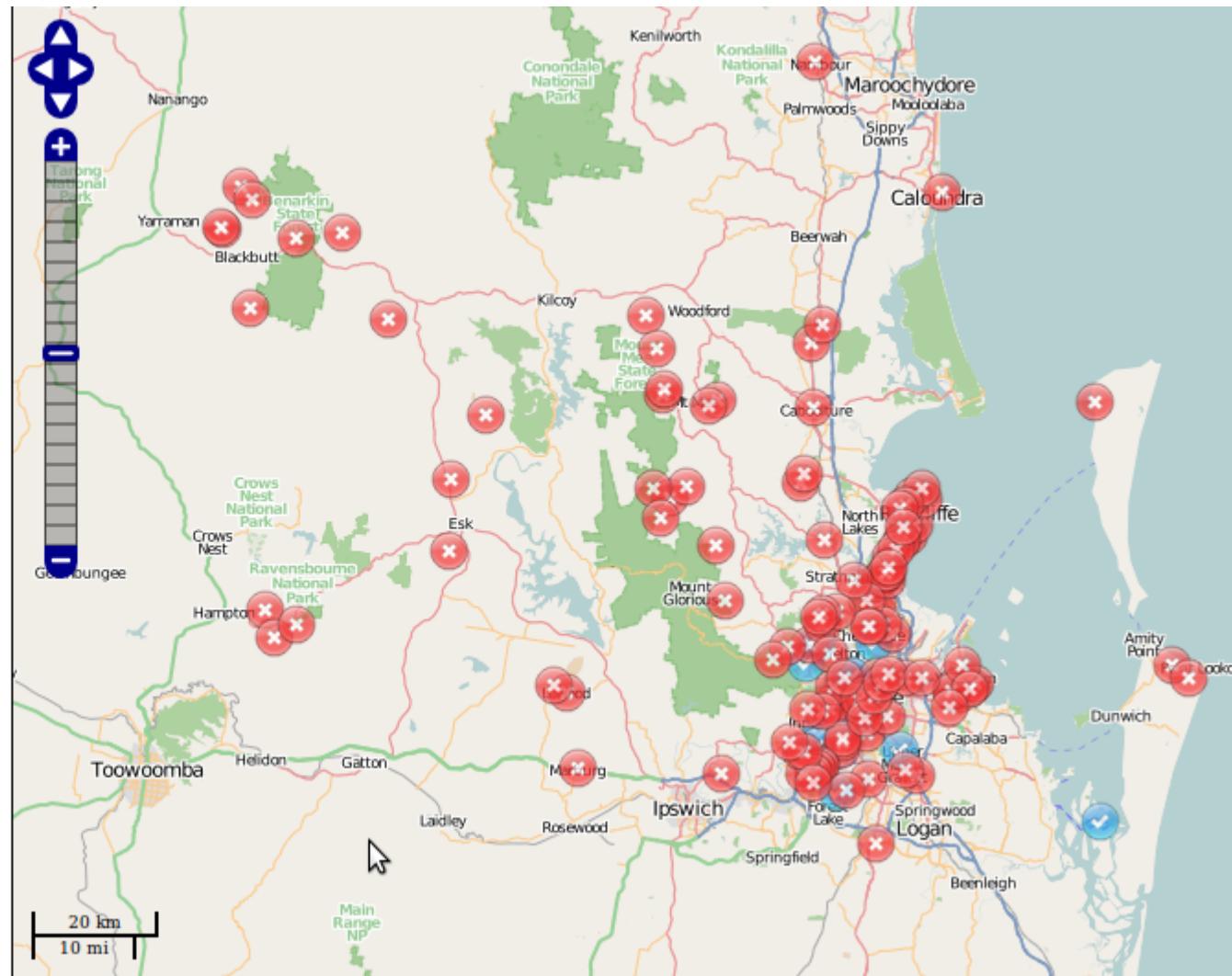
According to the OpenStreetMap license, the data that you add on the map will be licensed [CC BY-SA](#).

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

[More information](#)

current view

- [Permalink](#)
- [Geofabrik Map](#)



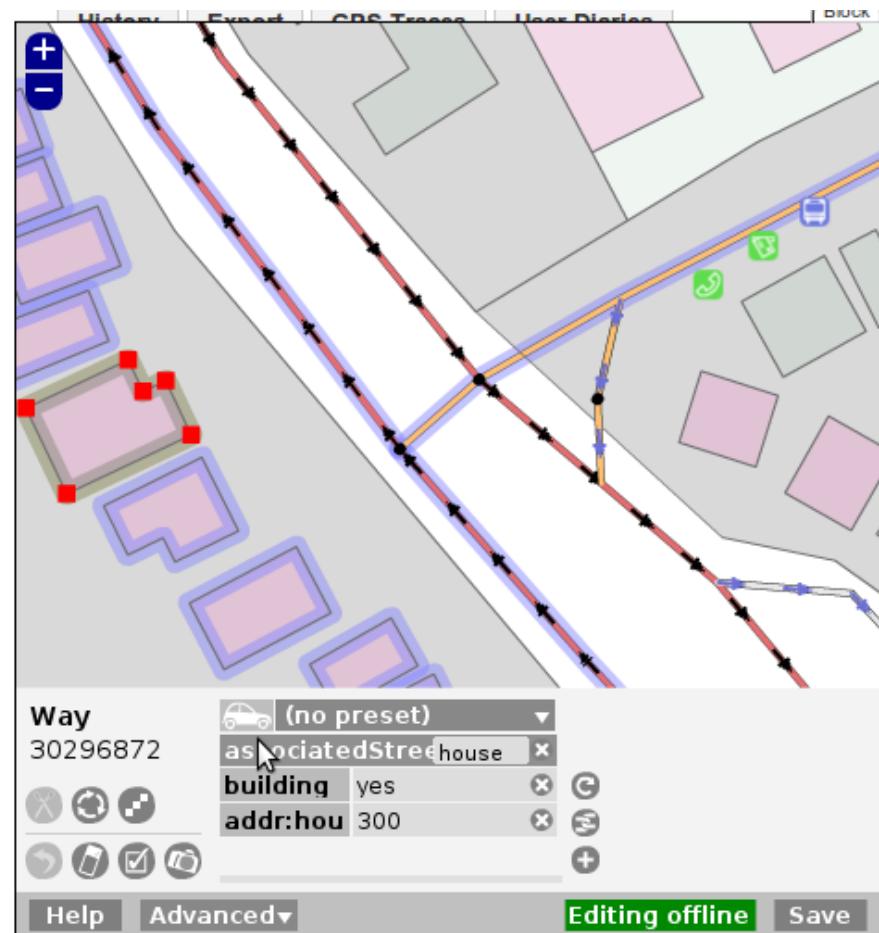
(Option 4) Be social

- Brisbane mapping events occur monthly
 - Alternate between mapping parties and meetups
- Next event: OSM Mapping Meetup
 - 7pm **Monday 21st June** at Grange Library
 - See <http://wiki.osm.org/wiki/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/Suggestions?

Thanks for listening.

