



# OpenStreetMap

**Building a great map  
while everyone\* tells you  
you're doing it wrong.**



# What I won't talk about ...

- How the servers are set up
- The joys of spatial databases
- How to map
- Why it's okay to use Google\*/Bing/Nokia maps anyway.

*\*: well, except for Google Map Maker ...*



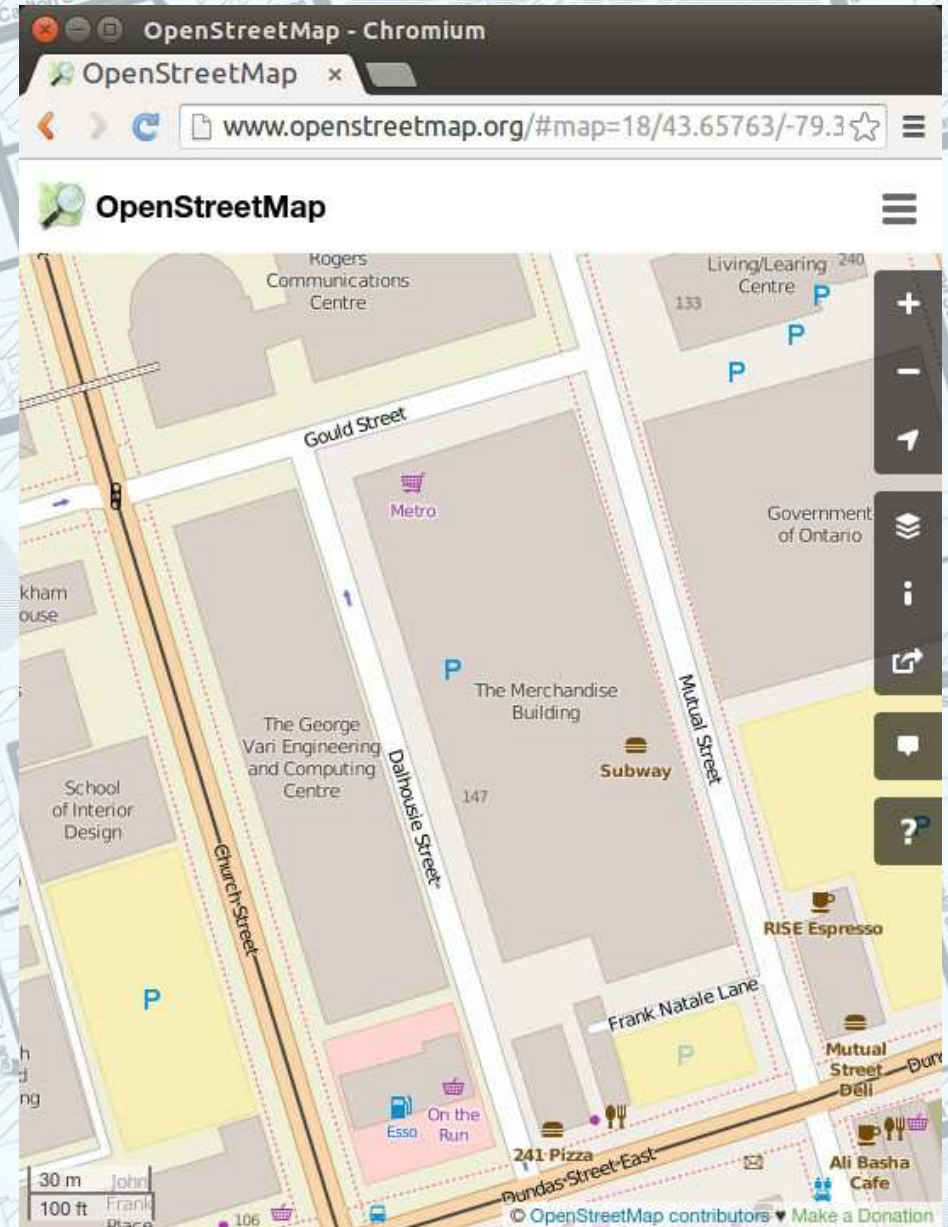
# Instead, let's talk about ...

- How OpenStreetMap ("OSM") got started
- How you can use it and contribute to it
- How we managed to change OSM's licence with only a *tiny* bit of drama
- How OSM changed Open Data
- How the community works
- What OSM does really well ... and not so well



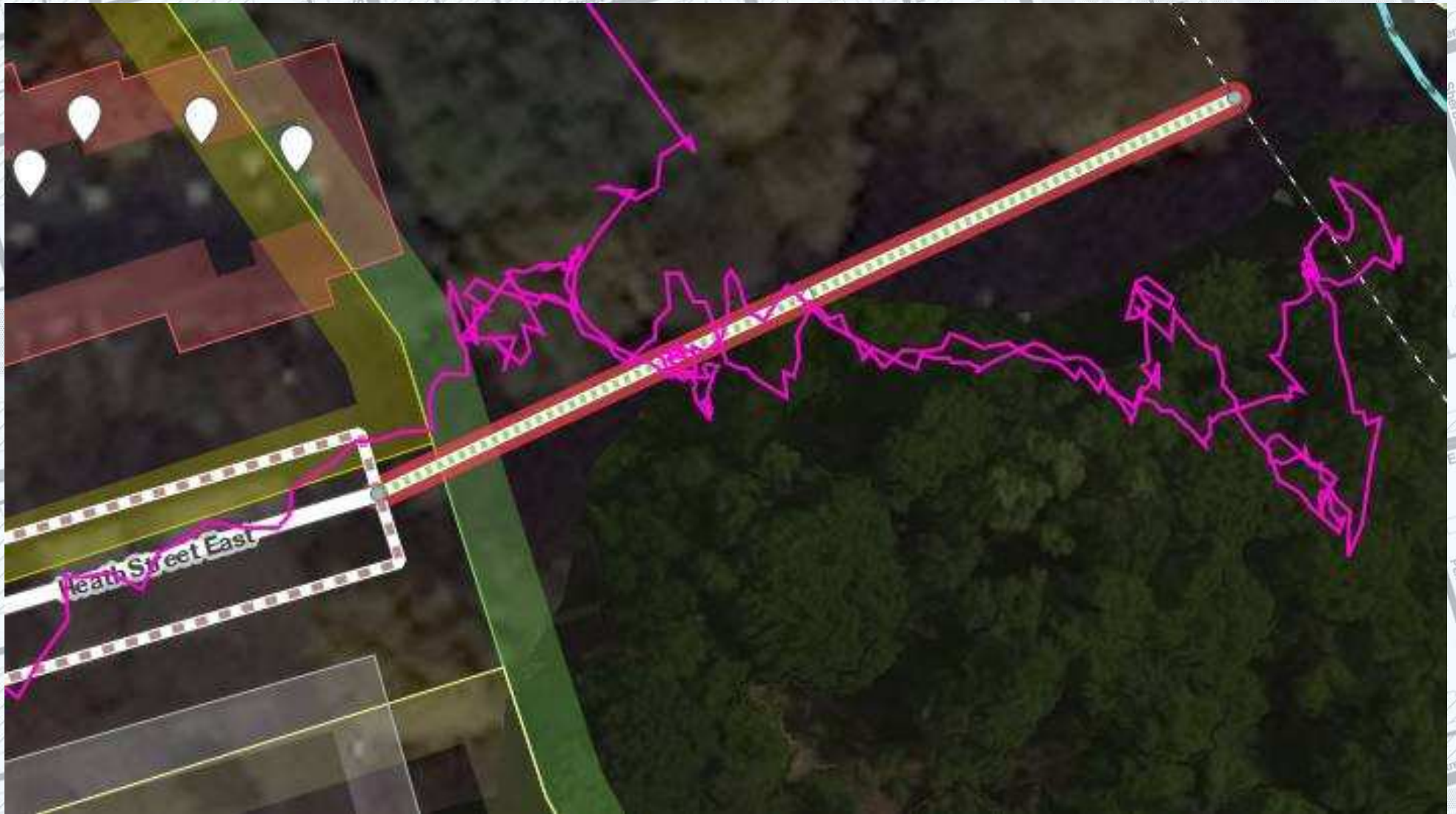
# What is OSM?

- **openstreetmap.org**
- Open data, licensed under the **Open Data Commons Open Database License (ODbL)**
- Supports routing





# What is OSM? (2): A map you can edit





# What is OSM? (3)

## Geodata Source



**Post Offices from OSM**



# What is OSM (4): A Community

- **Mappers**
- **Data Providers**
- **Designers**
- **Programmers**
- **Tagging and Data Nerds**
- **... and *many* more**

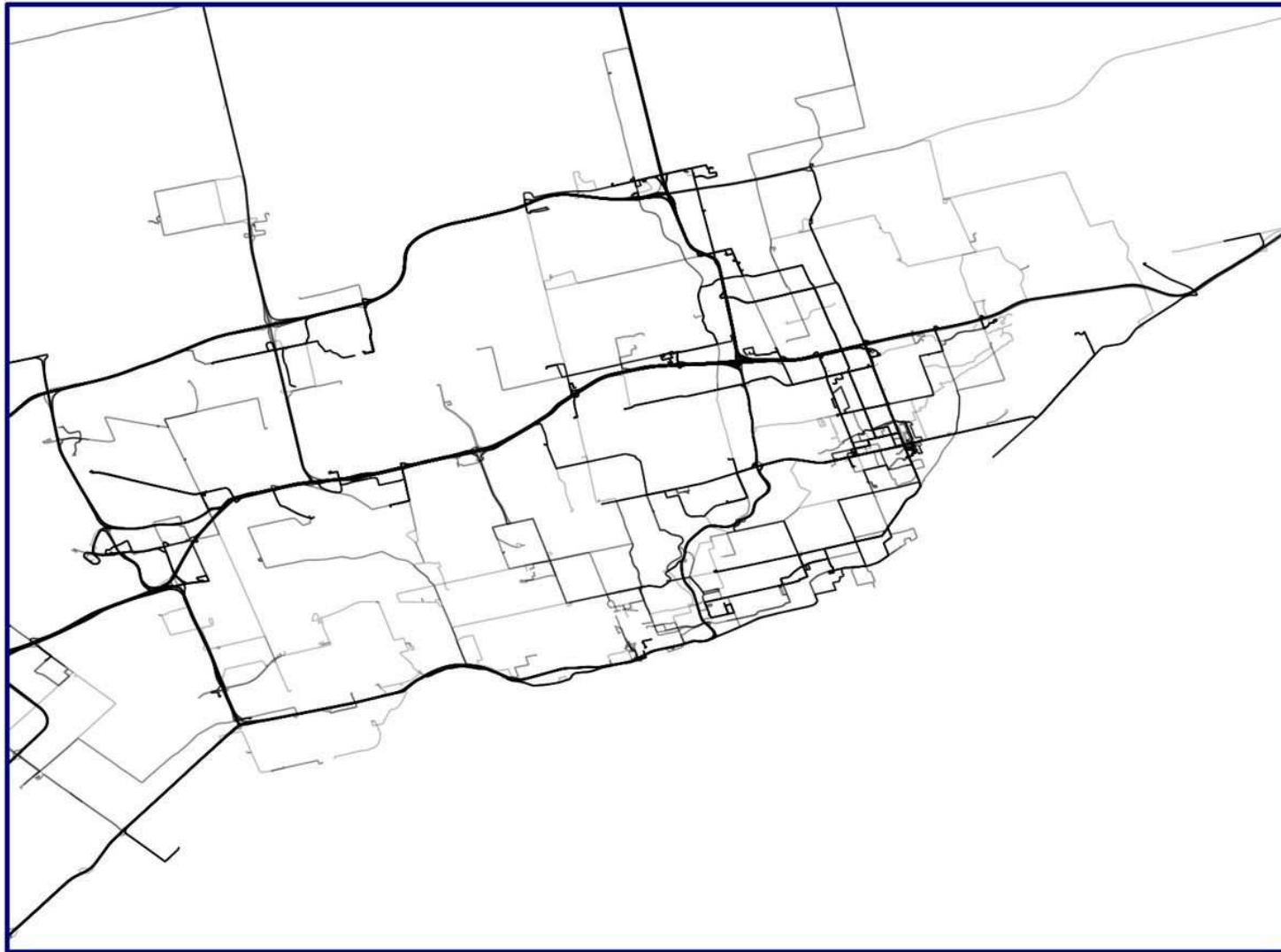


# History

- Started in the UK in 2004:
  - UK map data **very** restricted
  - Phones had GPS, so ...
- First organized mapping party July 2005
- OSM Foundation created 2006
- Current technology stack (Ruby on Rails) began 2007



# A map from just GPS tracks?





# OSM — it just grows ...

- **Registered Users:** over 2,000,000
- **Nodes:** hit  $2^{32}$  nodes in February 2013
- **Changes:** more than 30,000,000 change sets
- **GPS Track Point Uploads:** > 4.6 billion

<https://wiki.openstreetmap.org/wiki/Stats>



# Just 6 years ago ...

- Richard Weait presented to GTALUG on OSM
- There were only **65,000** registered users;  
**3%** of the current number
- Only **65 million** uploaded GPS track points;  
**< 2%** of what we have now.



# Toronto: the first years

Toronto in OpenStreetMap, August 2006



Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under ODbL



# Be a Local Mapping Hero

1. Go to **openstreetmap.org**
2. Find something missing in your neighbourhood
3. Register at **openstreetmap.org**
4. Fix it!
5. Repeat ...



# A bit about Licences

- All OSM data is licensed to the OSM Foundation.
- Original licence: **CC-BY-SA 2.0**
  - Didn't protect data, only creative works
  - Made overlaying your data on OSM maps difficult
- New licence: **OdbL**
  - Specifically for data
  - Allows overlaying, but any mixing must be share-alike



# Licence Change Drama

- The fateful day: **2012-09-12.**
- Phased in slowly from mid-2010
- Contributors who didn't agree restricted from editing, and eventually, data replaced or removed
- *Huuuuuuuuuge* pitched battles on the mailing lists
- At least two “**Truly Open**” competitors proposed
- **End Result:** ~1% data loss ... and no competitors.



# Why not use L?

- **Public Domain:** not applicable in many countries, too easy to take without giving back
- One of the **CC-\* data licences:** didn't exist in 2012
- A **No Share-Alike** licence: much loved by the *plz free data make us \$\$\$* 'disruptive' crowd
- **It's not like we couldn't change the licence again, guys ... uh, where's everyone gone...?**

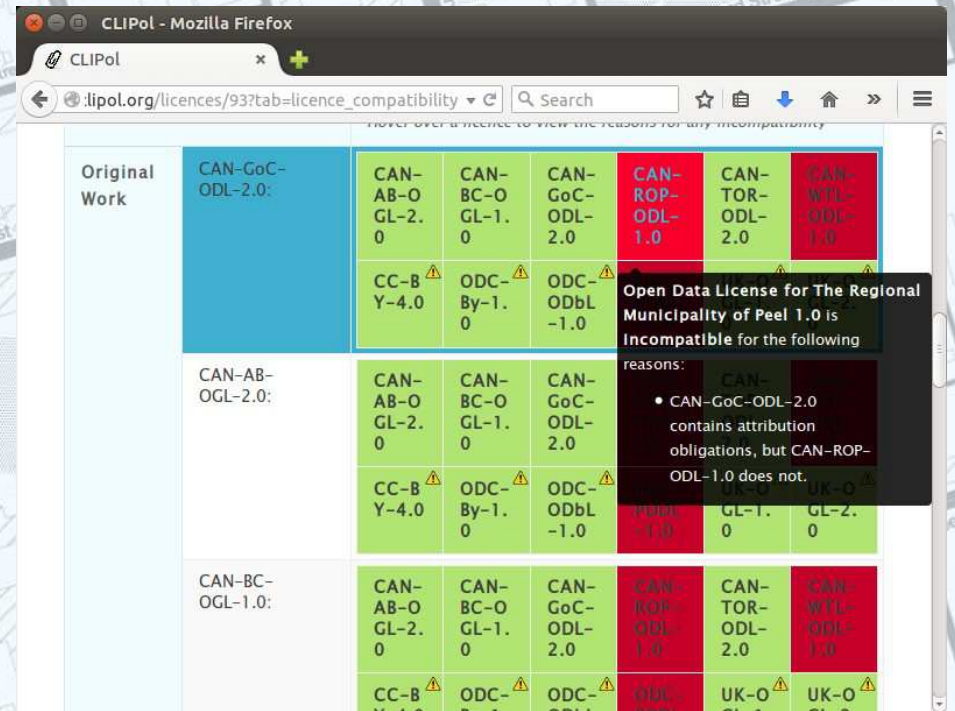
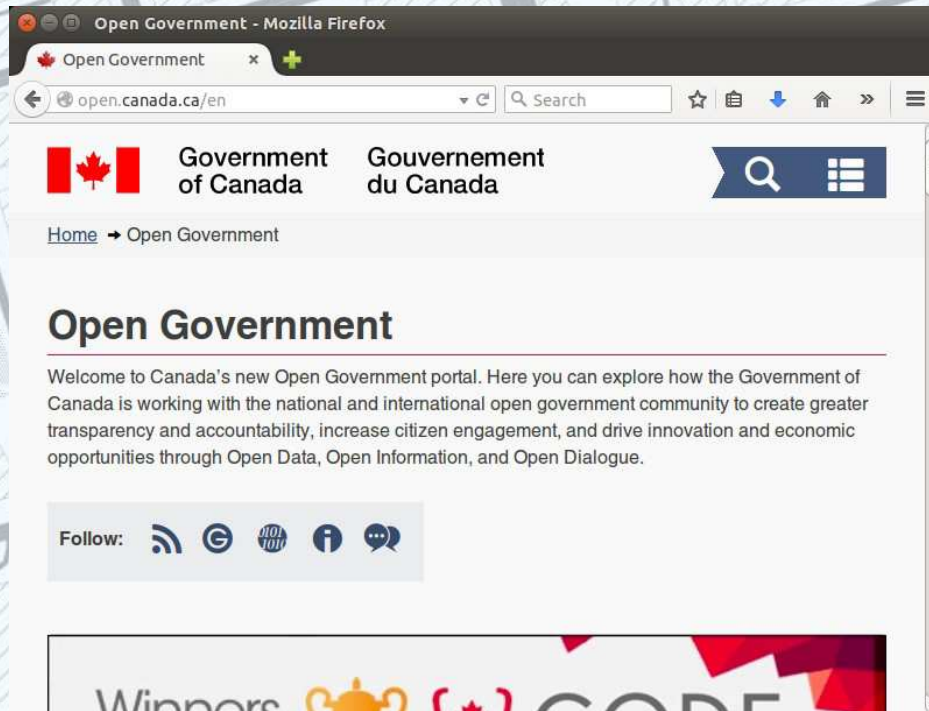


# What OSM has done for Open Data

- **Free the Post Code**
  - Compare to Canada, still suing [geocoder.ca](http://geocoder.ca)
- **Open Ordinance Survey Data**
  - So the UK's official maps can be used freely
- **Indirectly, Open Government Licence.**



# OGL: the Good & the Bad





# It all depends what you mean by “Community” ...

- Railfans, public transit geeks, cyclists, physical ability activists, pylon spotters, restaurant lovers, gravespotters, power nerds, recreational boaters ... **all are part of the OSM community.**
- How can a community be so spread out and diverse in interest still be considered a community?
- All want a better map, and all can do so (*mostly*) without treading on toes.



# What OSM does well (1): HOT

## #1046 Nepal Earthquake, 2015, Severely damaged housing areas and IDP Informal camps, Kadichaur THIS TASK IS FOR MORE EXPERIENCED MAPPERS

3 4%



- Author: **HOT / Kathmandu Living Labs** volunteers
- Requesting organization: **Nepal Government, International Response community**
- Priority: **Urgent**
- Imagery: **DigitalGlobe, 2015-05-03**

The objective is to help with aid delivery and search & rescue efforts by identifying earthquake damaged buildings and displaced populations.

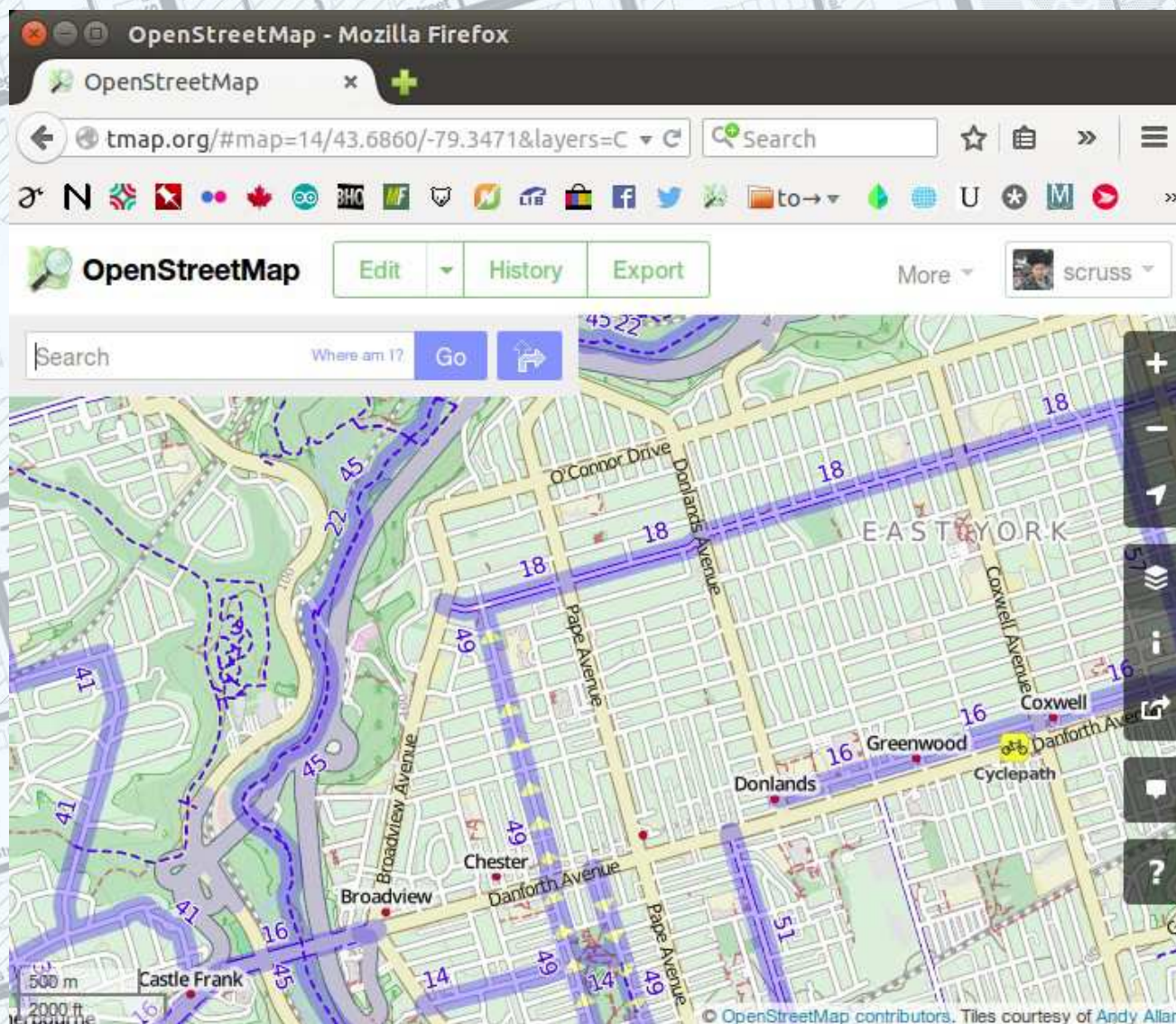
### Objects to trace

- Report severely damaged housing areas - `landuse=brownfield`
- IDP informal camps

Created by [PierZen](#) - Updated less than a minute ago - Priority: urgent

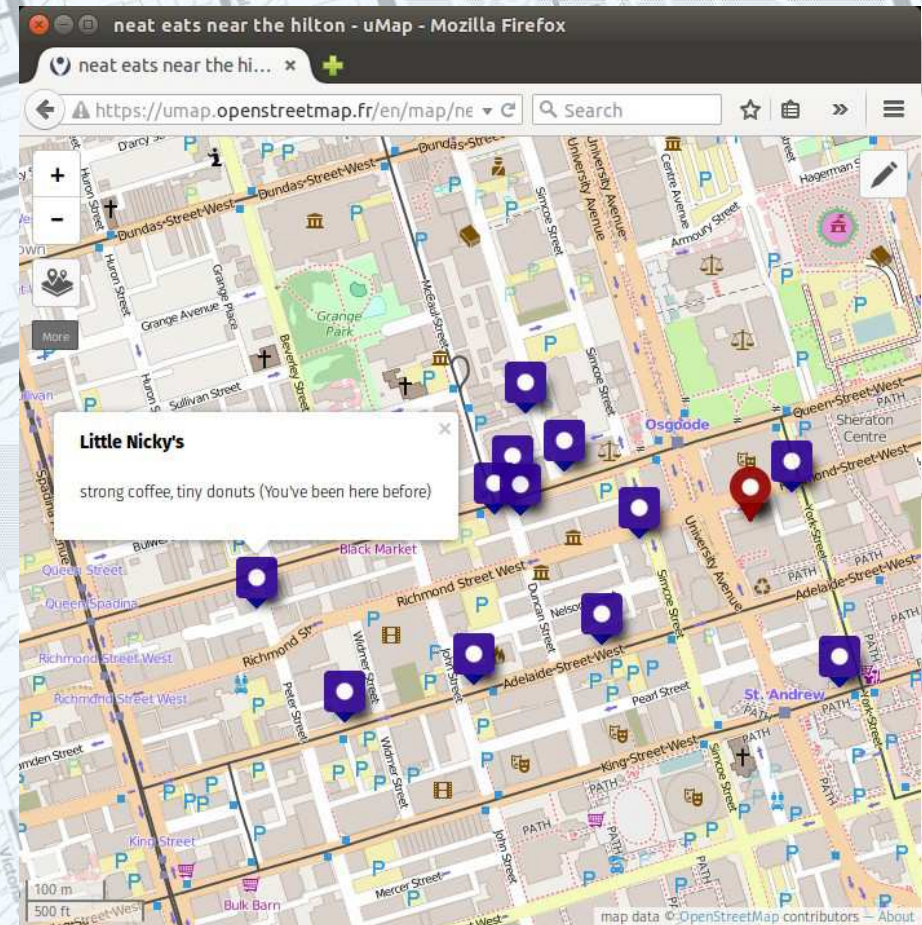
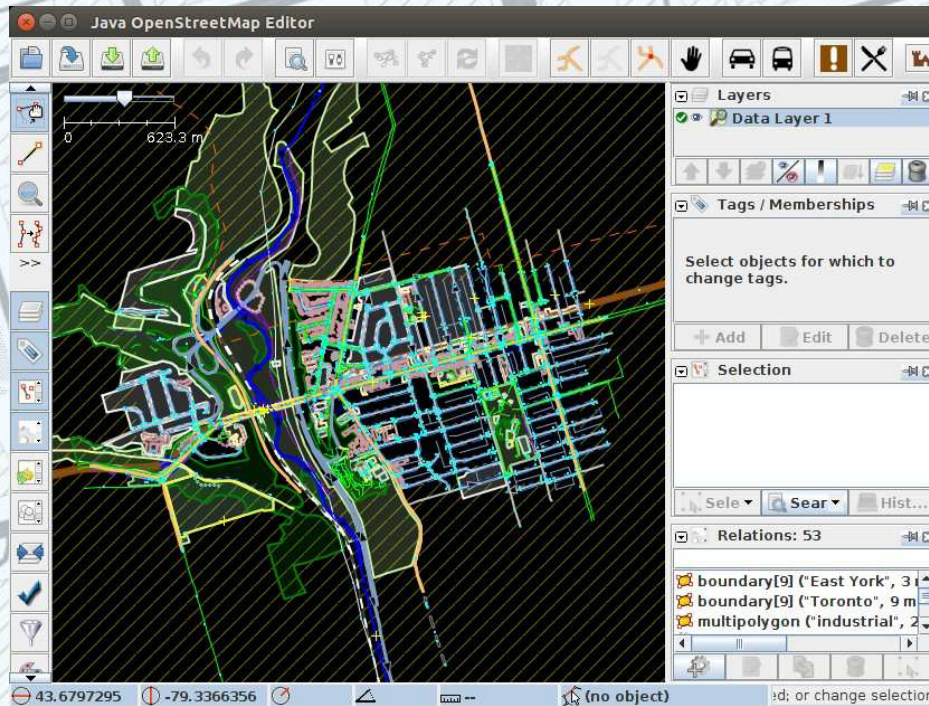


# What OSM does well (2): Custom Views





# What OSM does well (3): Software ecosystem





# What OSM does well (4): Timeliness



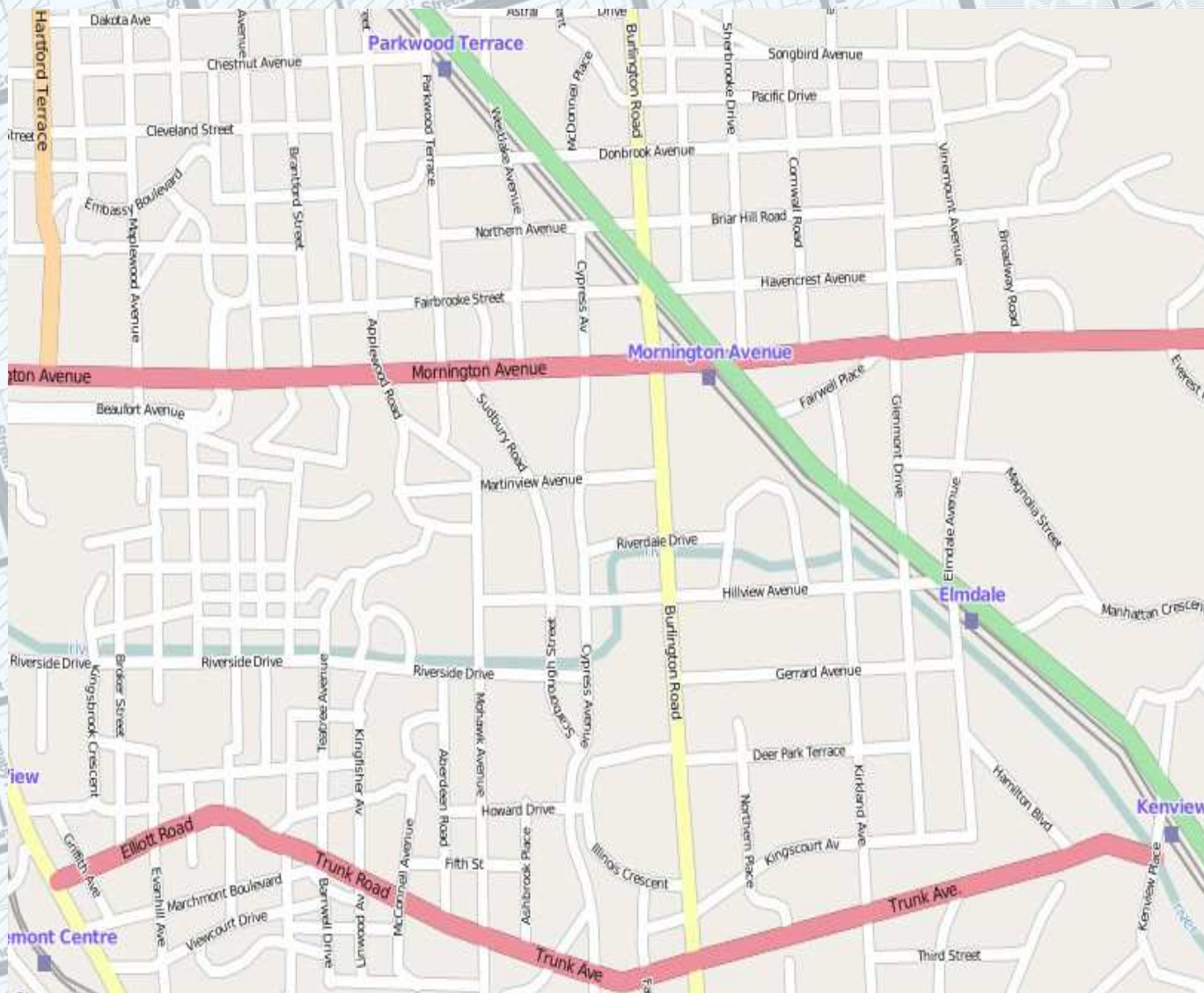


# What OSM does badly (1): Diversity

- Most mappers are blokes
- Many tend to be higher income, gadget/tech types
- Some map remote areas, but often only desktop/imports
- Few represent minority groups

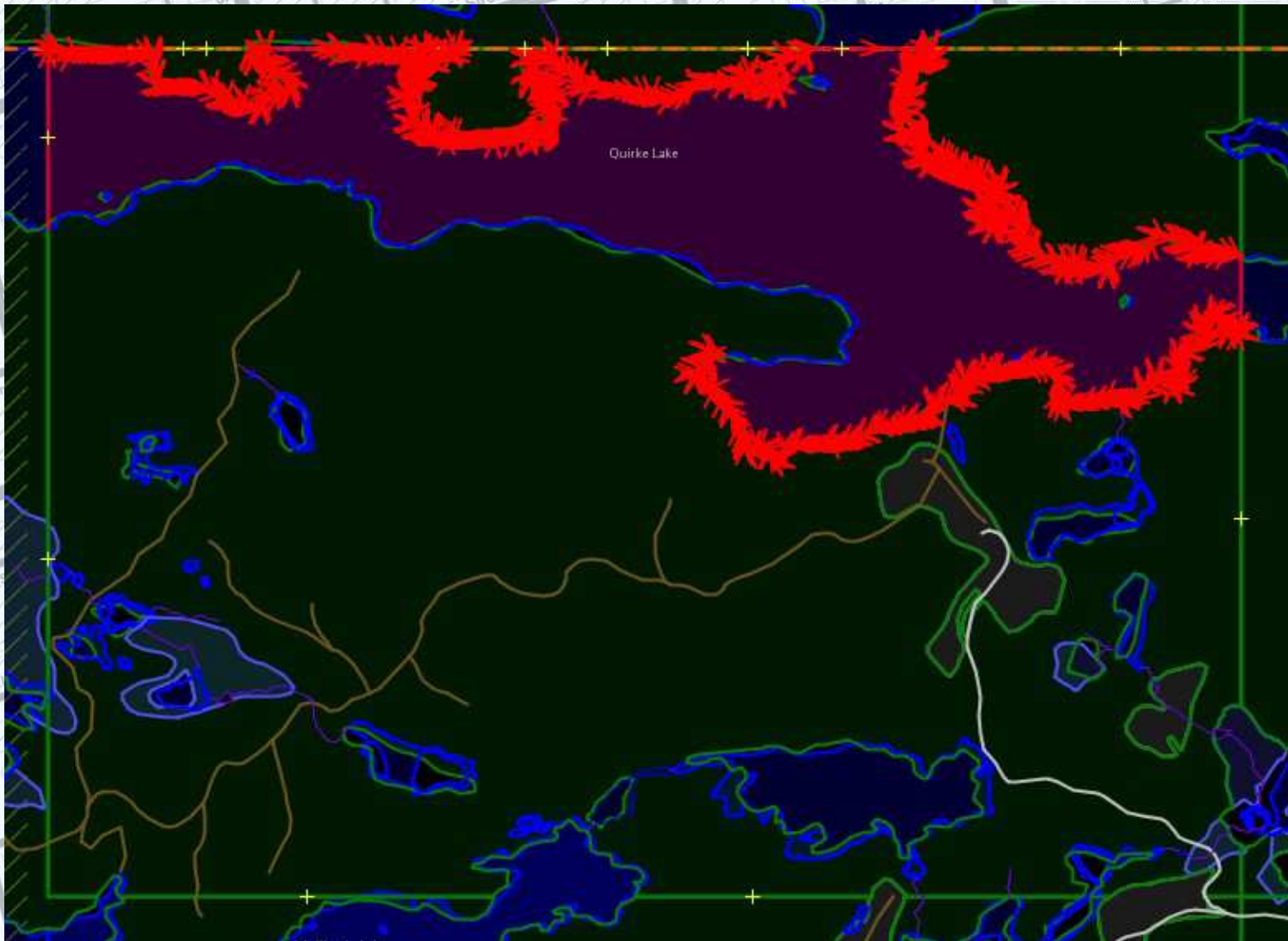


# What OSM does badly (2): Vandalism/Edit Wars





# What OSM does badly (3): Imports





# The Future of OSM

- OSM has no agenda beyond being a better, more open, map
- Features are developed to 'scratch an itch', rather than follow a business plan
- It's a do-ocracy ...
- ... who knows where new mappers will go.



# Credits & Thanks

- **Toronto animation:** Geofabrik, [geofabrik.de](http://geofabrik.de)
- **Almost everything else:**  
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**Thanks:** Richard Weait, Toronto OSM Meetup Group, and ntntm ...

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