

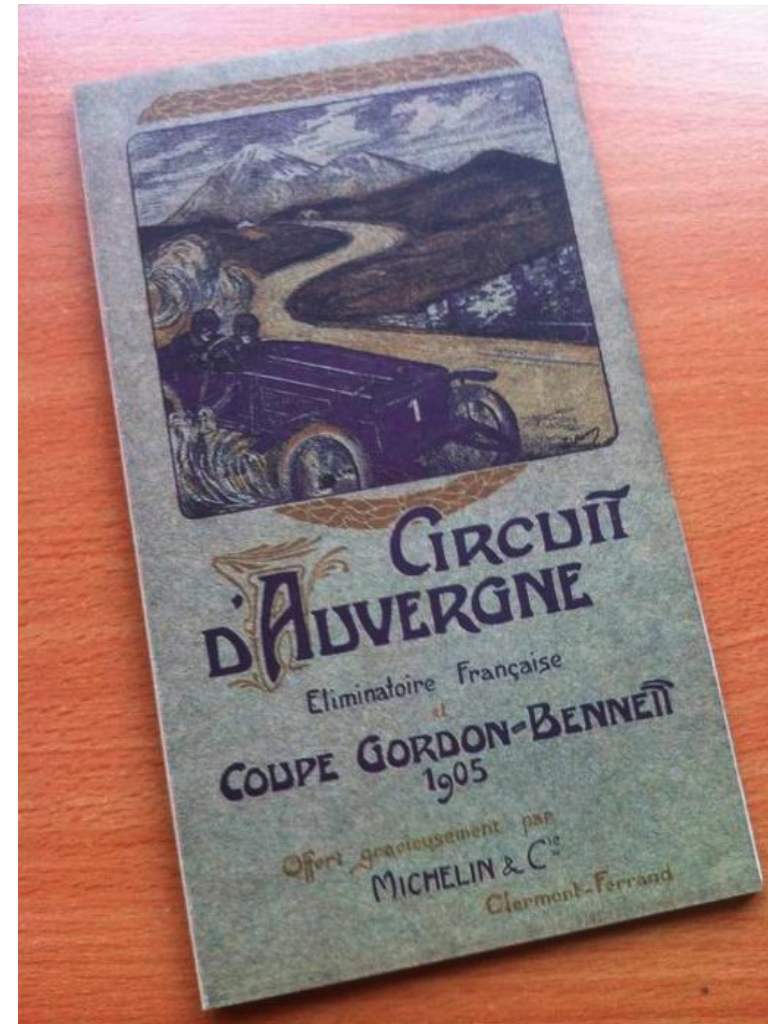


The story behind Michelin Clermont-Ferrand city map #70

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Michelin and road maps

- **1905** : First map published for the Gordon Benett race ...around Clermont-Ferrand
- **2001** : ViaMichelin brings all Michelin maps online (3 years before Google)



Real case test for OSM data

Starts with many questions...

- Are OSM data usable for commercial maps ?
- What can be really done ?
- Quality ? Completeness ?
- Innovation ?

Experiment !

- **Real test ?**

- make a prototype, go as far as possible in the usual process

- **Which scale ?**

- City map to match OSM usual Level Of Detail

- **Which area ?**

- Clermont-Ferrand : because many employees living there are available to check OSM data

OSM data quality check

- **500km** of residential roads to check in the area...
 - Quick check outcome :
 - some street names are missing,
 - some data are outdated
- **data needs to be improved, updated**

How to improve ?

- French cadastre : get street names
- Opendata : schools, post office
- orthophotos: bing + opendata imagery (CRAIG)
- No opendata yet in Clermont-Ferrand

→ **survey is needed !**

Efficient survey

- One person only on site, but many will use the collected data.
- Walking papers ? Geotagged pictures ? Video ?
 - pictures are selected
 - easy to collect and share
- By car, bike, foot ?
 - bike : access to small streets

Survey equipment

- GoPro : 2 pictures / second → no need to stop
- 11 Mpixels → makes street names readable
- GPS data loggers to collect location (3 in use to reduce errors)
- Batteries... helmet... water ;)



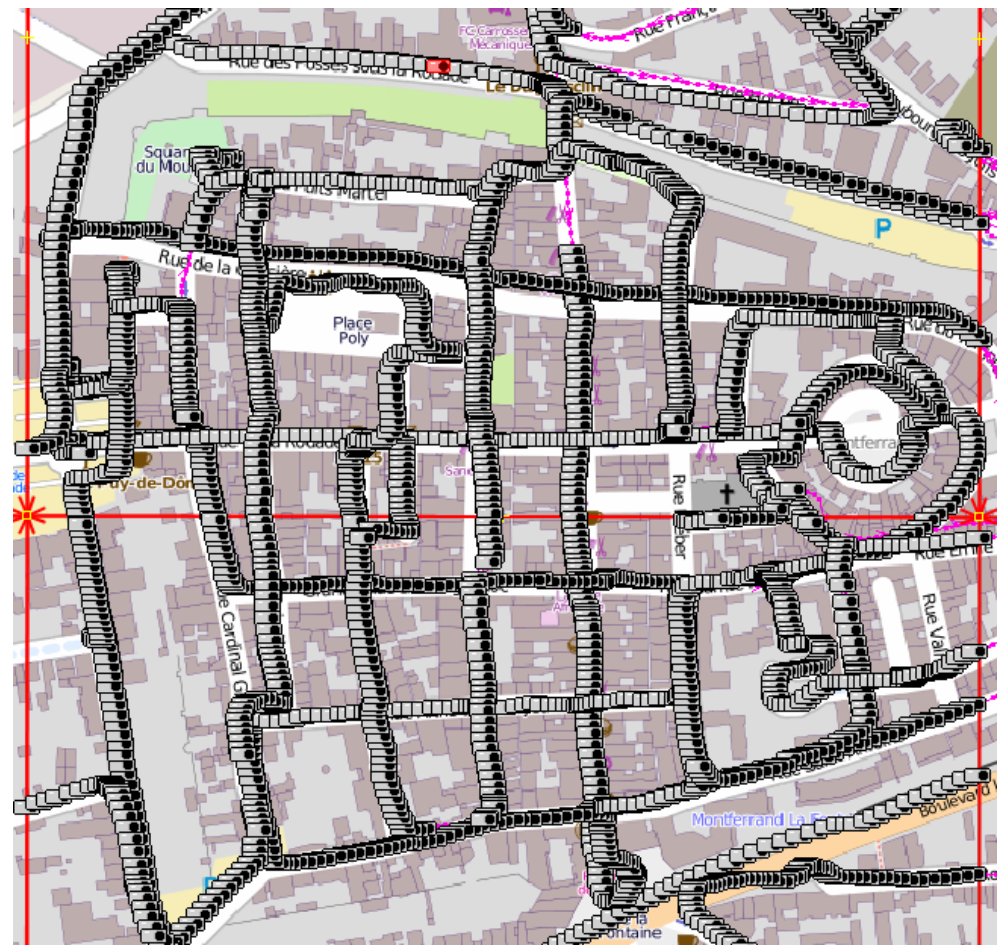
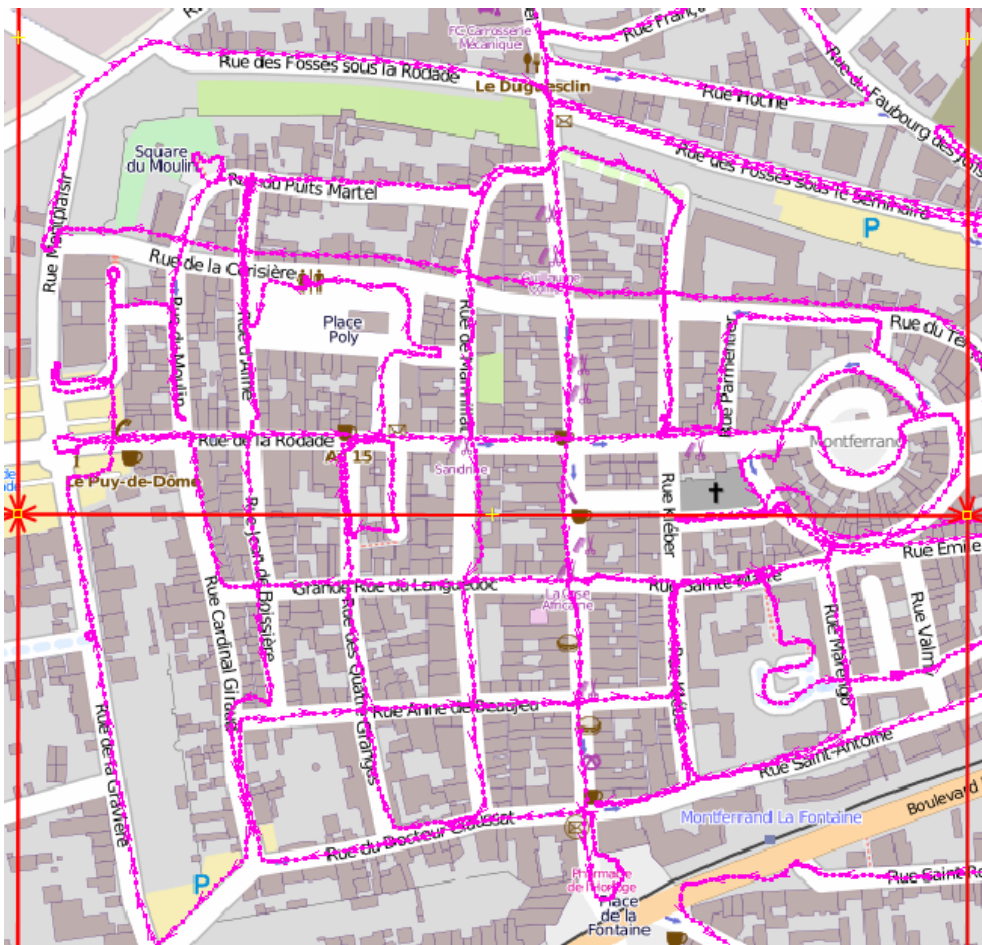
One week (only) on site...

- Mid-june 2012
- 180.000 pictures / 400 GB JPEG data
- 500km GPS traces
- Some rain, then sun (and sun burns)
- Many details collected which are only visible by surveing
- No problem with locals except...



Data processing

- Pictures are geotagged using ExifTool
- A work grid is set to share work internally

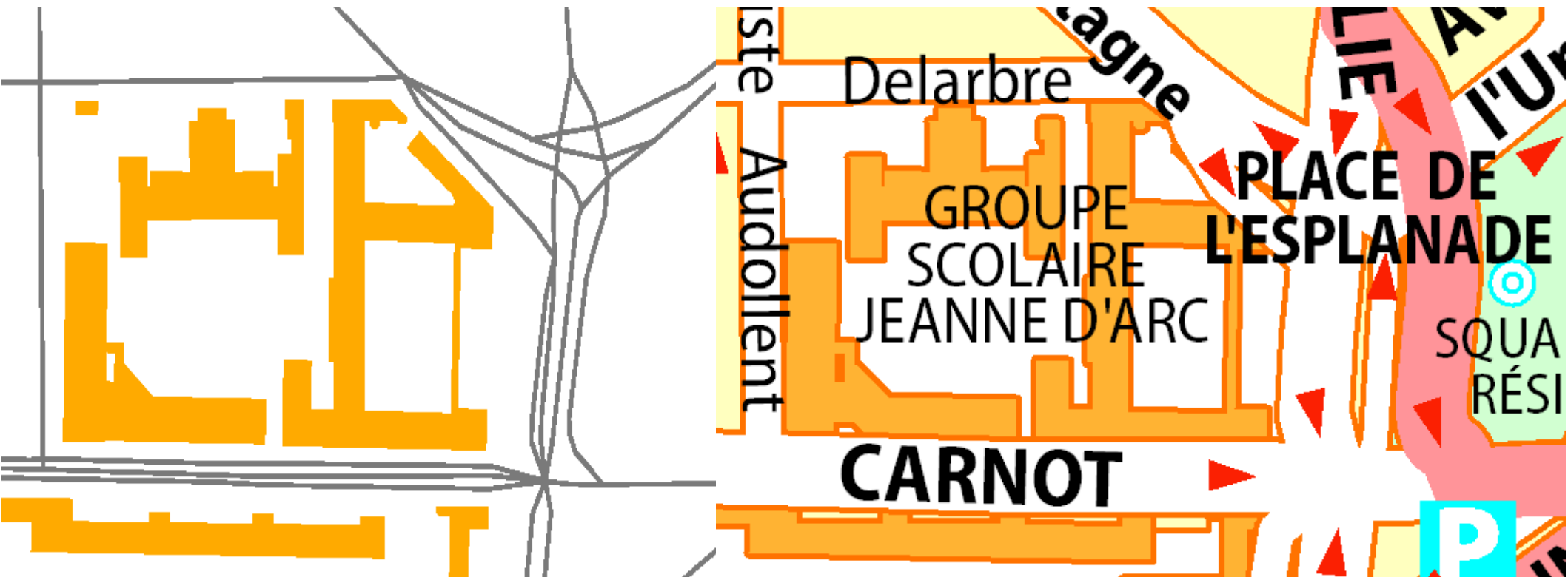


Data input...

- JOSM is used with :
 - Geotagged pictures
 - Aerial imagery
 - Cadastre overlay
- Naming of 400km of unnamed streets
- 120km of highway=* added
- 3 times more « steps » 1.5km total

From data to map

- Data from Geofabrik « Auvergne » extract
- Conversion to ArcGIS tools using Michelin standard attributes
- Manual redrawing :



Final result

- Started as prototype → ends up in shops
- Map sales started in february 2013
- Same quality and design as usual Michelin city maps
- 100% based on OSM data, fully ODbL compliant
- 100% « open spirit »
 - win/win for both OSM and Michelin
 - Clermont-Ferrand area data got major update

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MICHELIN

CLERMONT- FERRAND

et son agglomération

1 cm = 120 m

Aubière - Aulnat - Beaumont
Chamalières - Durtol
Nohanent - Royat

Centres d'Aubière - Clermont
Montferrand - Royat

Plan de tram et de bus

Index des rues

