



WORLD  
RESOURCES  
INSTITUTE



# Paratransit and « Digital Commons »

[www.digitaltransport4africa.org](http://www.digitaltransport4africa.org)

*Design by*



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# 01 . The objectives

**SDG 11.2** : provide access to safe, affordable, accessible and sustainable transport systems for all.  
**Partransit**: Improve level of service and reduced negative externalities

Final objectives



Change image of Paratransit

Improve transport planning process

Beyond Mapping: leverage data and digital to « transform » the sector

Intermediary Objectives



Collect standardized and open Data on paratransit

Advocacy

Resource Center  
[www.digitaltransport4africa.org](http://www.digitaltransport4africa.org)

Primary objectives

## 02. Digital Transport 4 Africa

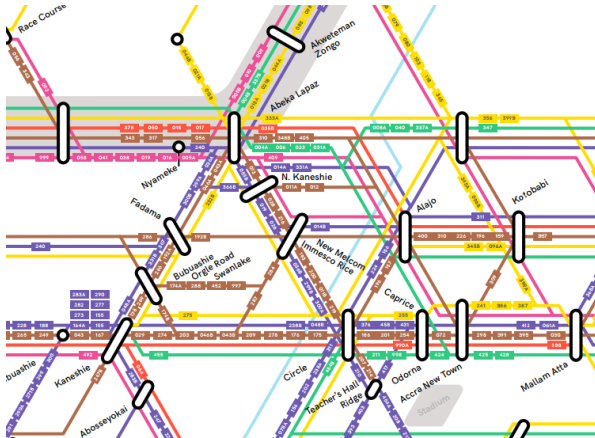


« Enabling African cities to develop open, high quality, transport data to improve their urban mobility system”

Data become an infrastructure, maintained by the public authorities or local communities where third parties can bring value.

Challenge the evolution of the role of public transport authorities?

# 03. [www.digitaltransport4africa.org](http://www.digitaltransport4africa.org) Develop « digital commons »



- **Scaling up by advocacy and network of experts**
- **Leverage power of standards (GTFS)**
- **Improve cost efficiency of data collection**
- **Enable data sovereignty (vs data dependency)**

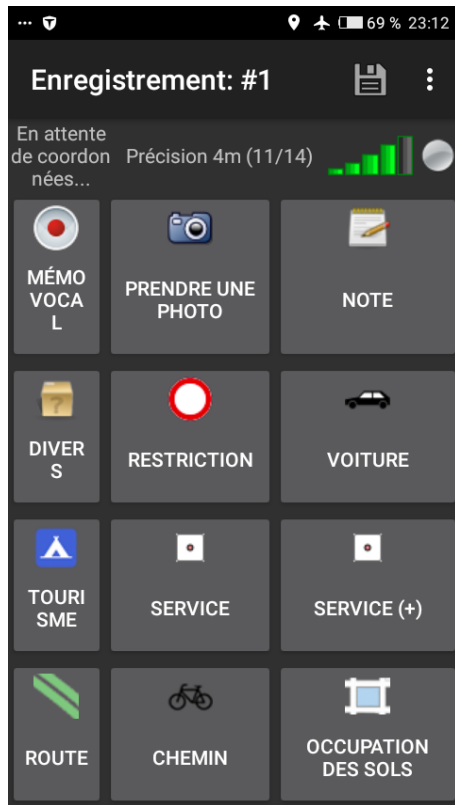
# ACCRA MOBILITY

Exploring Digital technologies for mapping

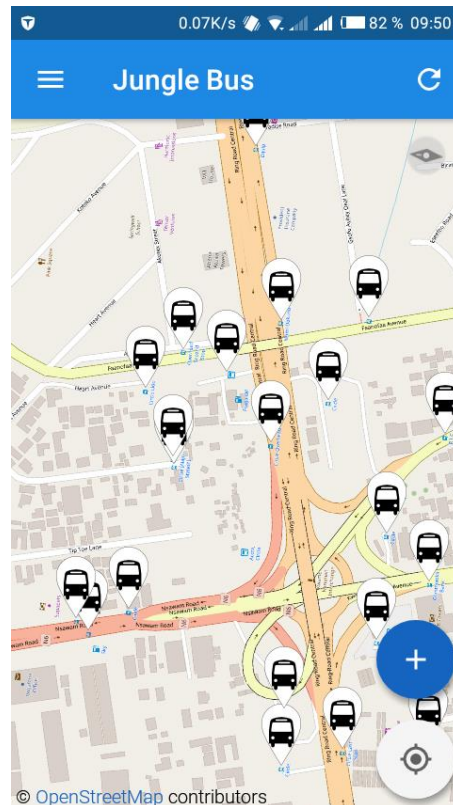
• 03

# Accra Mobility

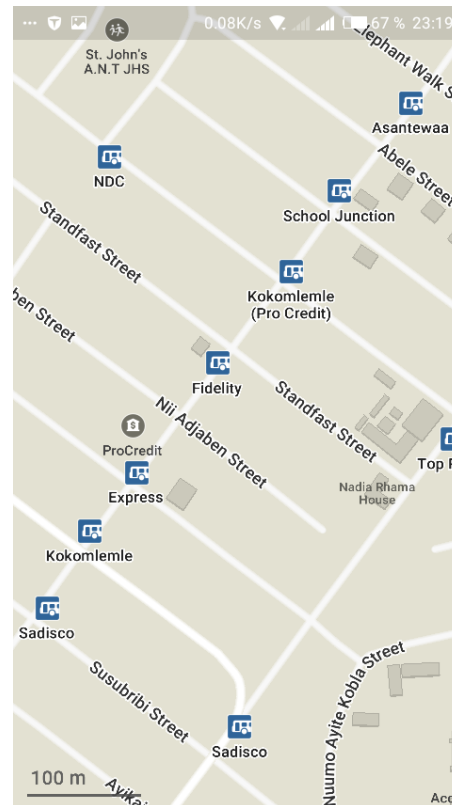
## Data Collection, Reuse, Community & Update



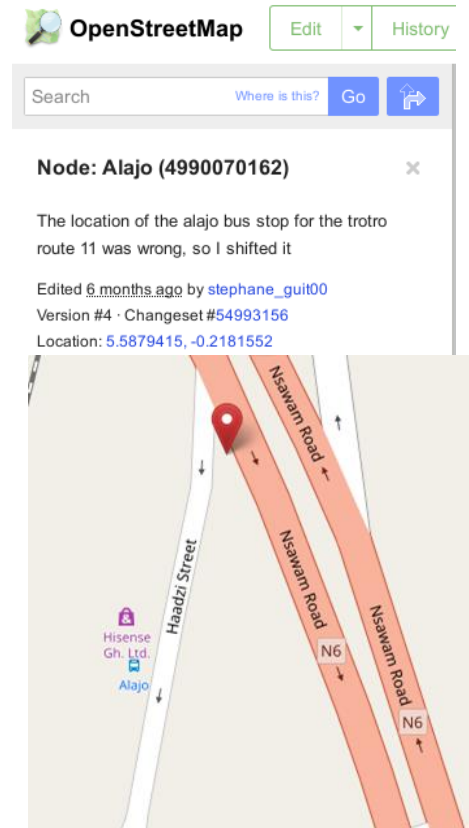
OSMTracker



Jungle Bus



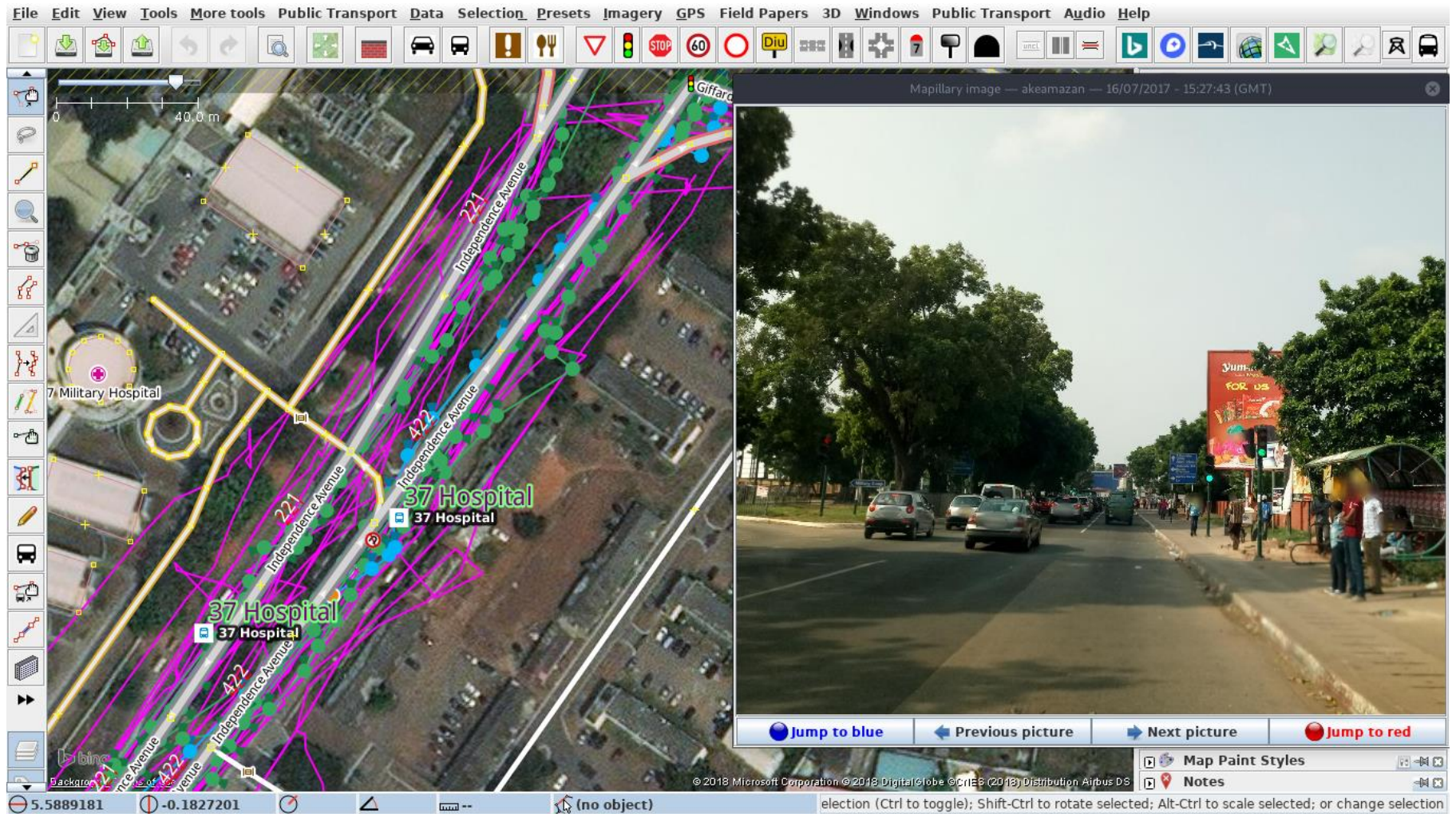
MAPS.ME



osm.org



# <https://wiki.openstreetmap.org/wiki/AccraMobile3>







- 365 tro tro lines map on OpenStreetMap
- GTFS Dataset
- Awareness of local stakeholders



## 02. Lessons learnt



Carte schématique du réseau de Trô-Trô

- GTFS Open data enable third parties to bring value: tro tro app, research ....
- OpenStreetMap: no cost to manage geographic data, mobilize local mappers community and tomorrow crowd sourced maintenance?
- Still poor endorsement by public authorities. The assumption « we have data = we can have relevant planning » is not so obvious.

# ABIDJAN

Map, develop digital commons and raise awareness about value of data

# 03. Mapping project in Abidjan



Gbakas



Woro Woro

- **Initial situation:** need for the ministry of transport to acquire a comprehensive knowledge of the paratransit (Gbakas Woro Woro) et formal networks(Lagoon and Bus) to prepare drastic change in the public transport sector
- **Support from AFD:** connection with similar projects in Africa, methodological support
- **TOR includes :**
  - **Datasets standards (GTFS & OSM) and License (OdBL)**
  - **Software Tools development open source**
  - **On line deliverables and methodology**

# 03. GTFS vs OSM



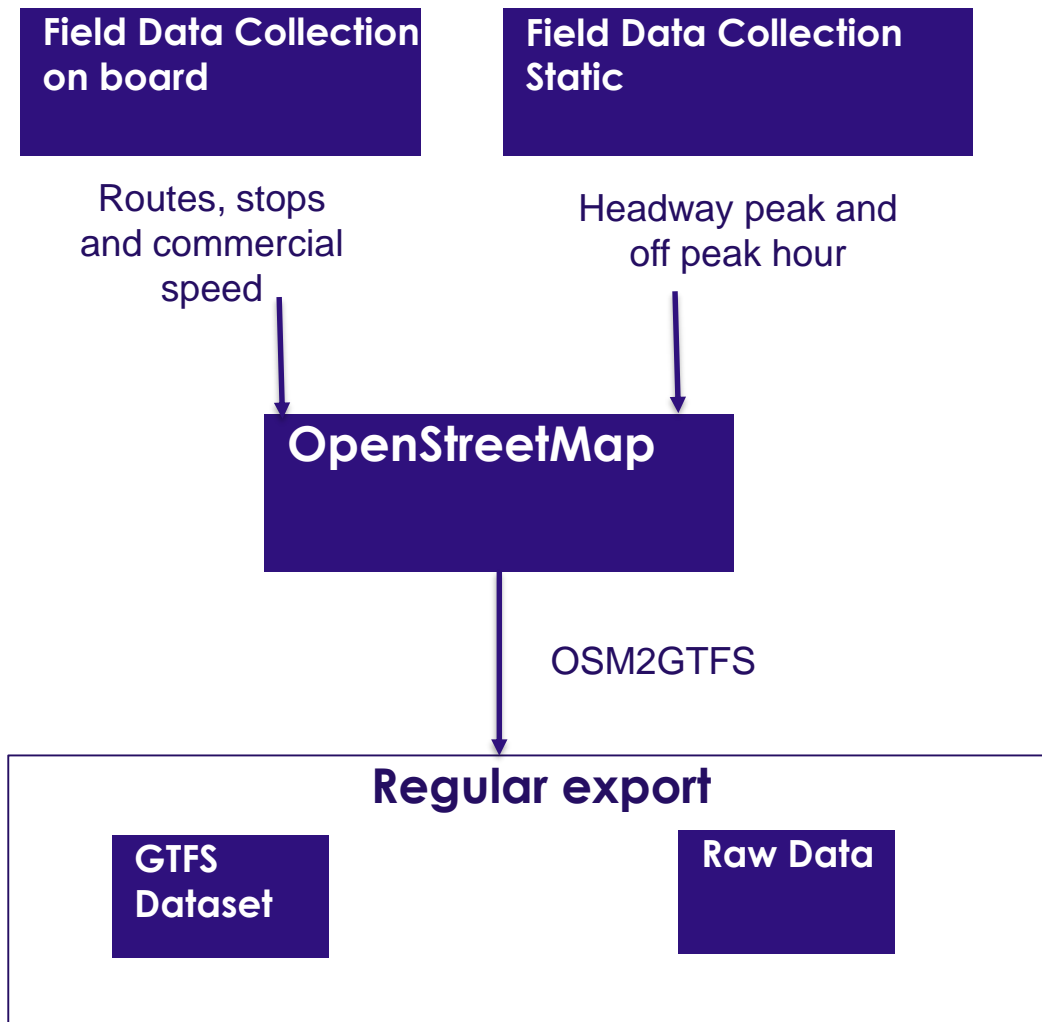
- Agnostic analysis to understand advantages and drawbacks





# 03. From data collection to GTFS

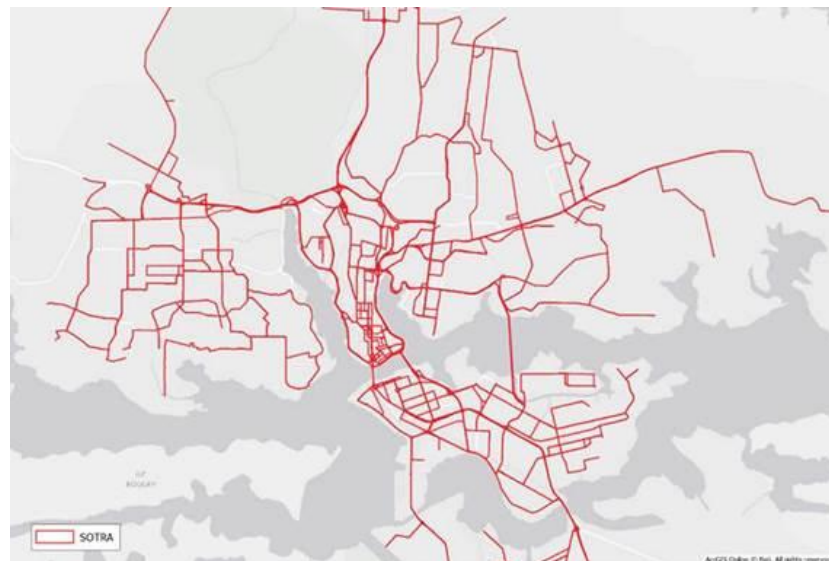
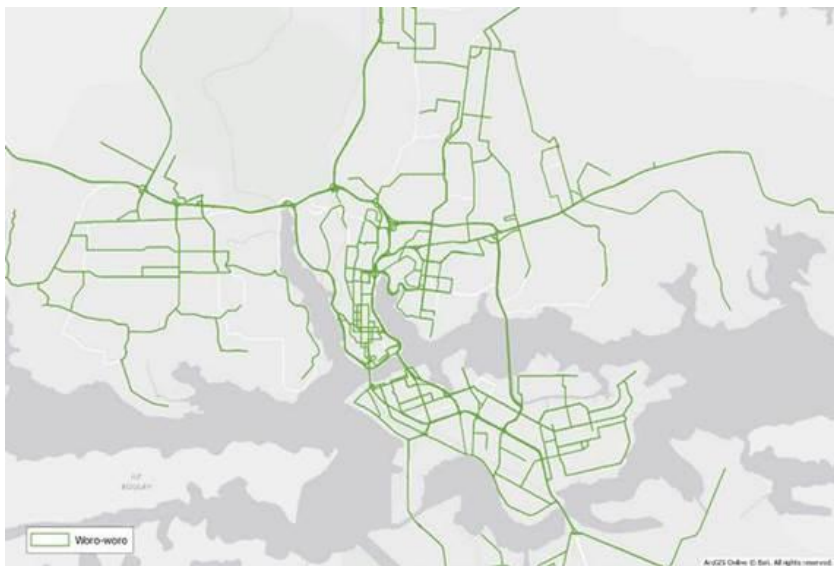
Process based on digital commons



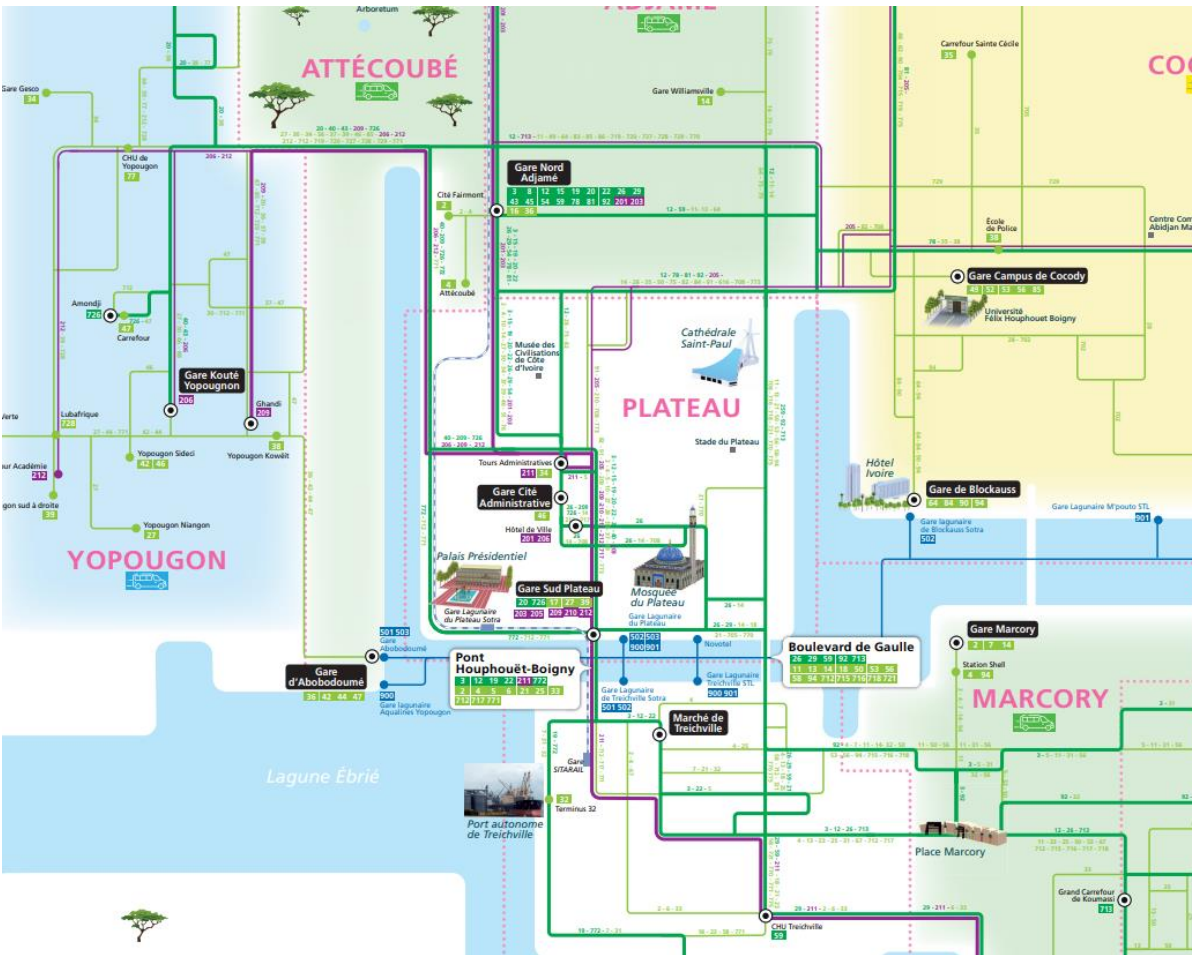
- [All the methodology is on line](#) – new way to think deliverables
- Request to distinguish off peak and peak hour recording to improve the GTFS data set quality
- Willingness to mobilize local community of mapper.
- Dialogue with the regular operator SOTRA to map their network

# 03. Dataviz

- Red SOTRA regular bus network
- Orange Gbaka paratransit minibuses
- Green Woro Woro taxi collectif

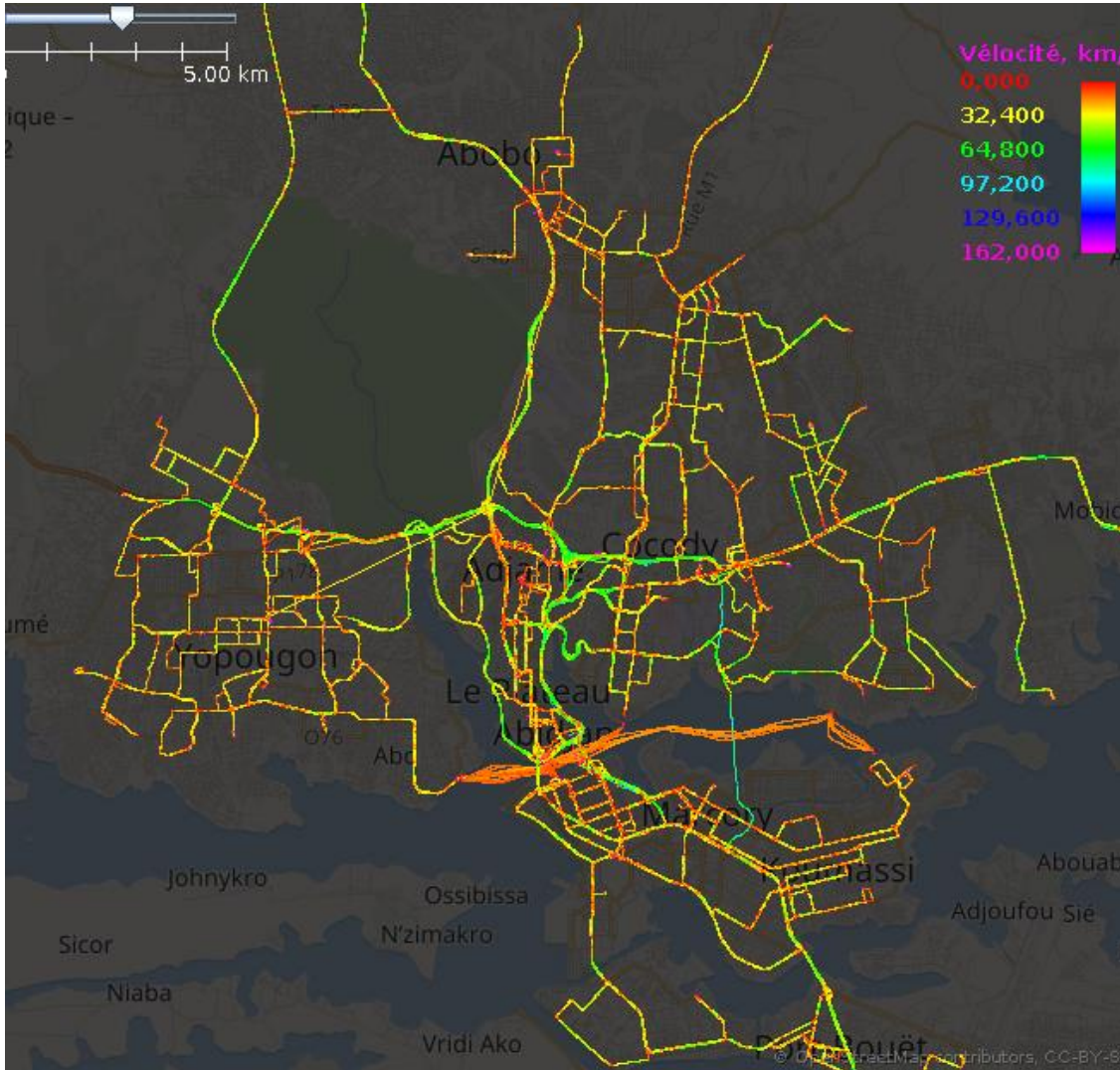


# 03. Outputs



- [GTFS Data Set](#)
- [Schematic Map](#)  
(WARNING this is a graphic designer job, can not be done automatically)
- [Software tools](#)

# 03. Outputs



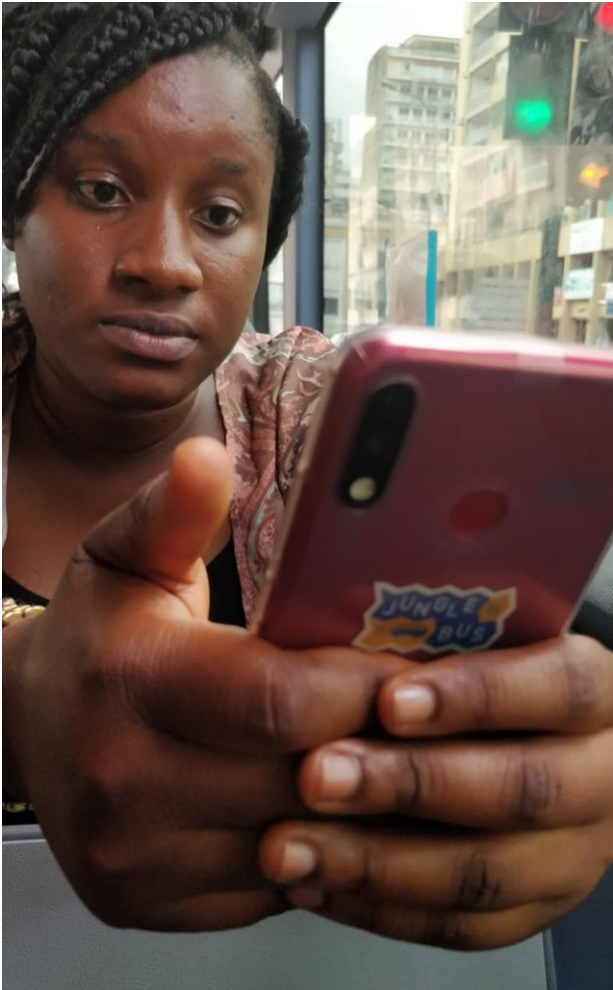
- Analytics: commercial speed



# 03. Software tools

- [code source of themes develop in the data collection](#) free licence GPL-3.0
- [code source application OSM Tracker](#) free licence GPL-3.0
- [code source JOSM](#) free licence GPL v2
- [code source PT Assistant](#) free licence GPL v3
- [code source pre-set up Jungle Stops](#) free licence GPL v3
- [code source Voodoo](#) free licence GPL v3 and developped by Jungle Bus
- [code source tool Busy Hours](#) free licence and developped by Jungle Bus
- [code source validator Jungle Bus](#) free licence GPL v3
- [code source analysis of Osmose tools](#) free licence GPL v3
- [code source osm-transit-extractor](#) free licence libre GPL v3
- [code source d'osm2gtfs](#) free licence libre GPL v3

## 02. Lessons learnt



- **Key successes:**
  - Raise awareness for passenger information needs especially with the regular bus company
  - Authorities considered paratransit as part of the solution for the overall transport system organisation
  - Participate to the on going effervescence around digital technologies and transport
- **Limits:**
  - Difficult for this kind of project to have too international team faraway from the field and local authorities
  - Only a first (small) step

# NEXT STEPS

# 01 . Next Step

Final objectives

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Thanks for your attention

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