Grab Intro: Grab (formerly known as GrabTaxi) is a Singapore-based technology company that offers ride-hailing, ride sharing and logistics services through its app in Singapore and neighbouring Southeast Asian countries.

Services

* GrabTaxi
* GrabCar
* GrabBike
* GrabHitch
* GrabExpress
* GrabPay

Grab Objective of Using OSM :

OSM being an open source project, releases map data in their most raw form, for free with an open license. OSM also has a larger community of local and remote volunteers who contribute to the map, which helps enhance the quality of maps. Grab would like to be part of the community and help improve the map.

Many places might not be accurate or identifiable on other forms of maps. Having these places improved by Grab will give richer information to OSM mapping contributors.

Goals

Grab’s main focus is to enhance OSM for Southeast Asian countries and specifically in areas served by Grab Taxi.

Cities currently edited in Indonesia:

* Jakarta - Completed
* Medan - Completed
* Bandung - Completed
* Bali - In Progress
* Makassar - In Progress
* Yogyakarta - In Progress
* Surabaya - In Progress

Sources Used:

* Grab Resource: GPS traces (these traces indicate the Grab Taxi vehicular flow).
* Imagery Resources: DigitalGlobe Standard/Premium
* Bing imagery
* Mapbox imagery
* ESRI imagery
* Mapillary

Tools

The team will use [JOSM](https://josm.openstreetmap.de/) for completing the task. JOSM has the OSM and Grab GPS traces (internal and non-downloadable file), and validation warnings for road networks and other possible issues that are important to prevent improper changes.

Data Modelling

The primary focus of work is adding missing roads and adjust alignment thereby enhancing the existing data of Indonesia in OSM.

In some cases, the existing road network has been mapped incorrectly, meaning that some features are missing or may be in-accurately mapped. We plan to use a variety of imagery sources to help map the geometry more accurately.

Improvements that will be addressed include the following:

* Adding missing roads
* Adjusting road alignment as per imagery and GPS traces
* Validate existing tags like- classification - Residential, Trunk, Motorway etc and attributes - Bridge, Tunnel, links etc.

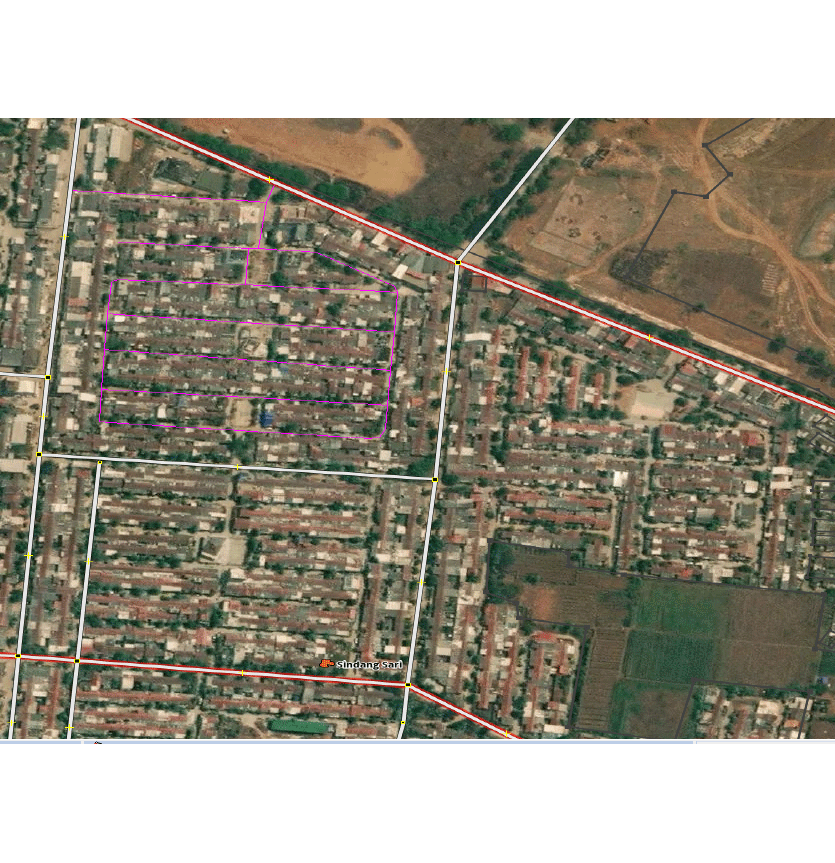
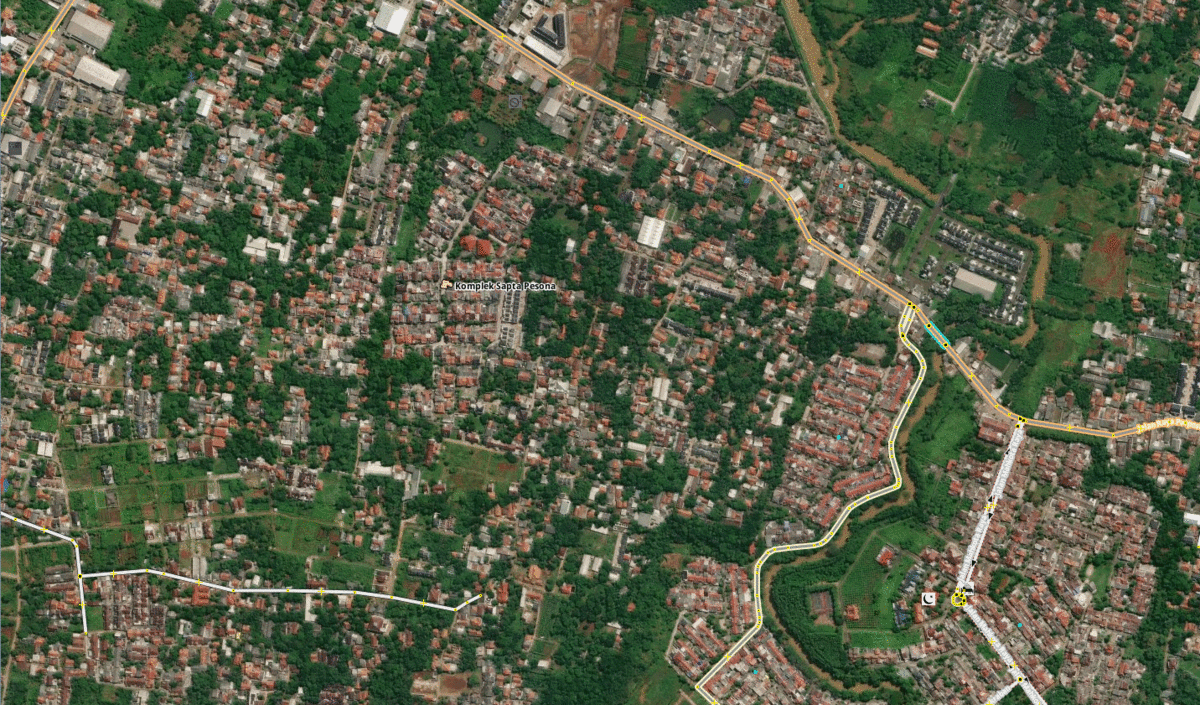
Process Flow

* Grab smoothened GPS traces
* Find best imagery properly aligned per GPS traces and ground truth
* Use JOSM with GPS traces and best imagery as reference
* Visually identify missing roads and add them
* Correct classification and attribute errors in existing data
* Run validation and fix all errors and warnings
* Upload changeset with appropriate comments

Data Processing

Road Extraction and Validation

We only contribute roads to OSM in areas served by Grab. Here is an example of where we have added missing roads in Jakarta.



Mapping Guidelines

Grab will follow [OSM](http://wiki.openstreetmap.org/wiki/Highways) global and local policies, along with any other guidelines as appropriate.

Grab will also reach out to local OSM communities before beginning work, to gather feedback, suggestions and learn more about the data and tags used in that area.

Data sources and imagery we will use are listed here. Grab will research and use local tags and defer to local mappers, and also check the JOSM history on items to see why previous edits and changes were made.

## Changeset Comments

The team will provide changeset comments that are in compliance with [OSM changeset guidelines](http://wiki.openstreetmap.org/wiki/Good_changeset_comments).

## Error Detection

Grab will use various QA and data quality tools such as JOSM validation warnings and errors, as well as best practices on data quality from the [OpenstreetMap Wiki page](http://wiki.openstreetmap.org/wiki/OSM_Tasking_Manager/Validating_data) and [LearnOSM](http://learnosm.org/en/coordination/review/).

## Contributors

* [Grab Data Team](https://docs.google.com/spreadsheets/d/1ZBdjqAlkzmgaf6glGnkFPRiuXHF9wbGq79JkUsrMJUM/edit#gid=0)

## Contact information

For more information, suggestions or questions contact our community lead [Lilian Quek](https://www.openstreetmap.org/user/Lilian%20Quek)