The E-mobility transition: Learnings from data collection experiences

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Data Solutions Lead

WhereIsMyTransport

Making the invisible visible

WhereIsMyTransport is a **central source of high-quality mobility and location data for emerging markets**. Our global team produces and maintains the world's most complete and accurate data assets in emerging markets.

By offering the highest-quality mobility and location data for cities in Africa, Latin America, Southeast Europe and Asia, we help leading organisations understand transport networks and the informal economy, and tap into the vast opportunities within them.

A multi-layered approach

01 **Transit Data** that reflects the complete public transport network.

02 **Origin-Destination Data** that reflects all modes of public transport—formal and informal.

03 **Real-Time Alerts** that deliver the most complete and comprehensive incidents and disruption data in real time.

04 **Point of Interest (POI) Data** that gives insight into previously offline or unmapped locations.

05 **Research Solutions** that help you further understand the mobility ground truth.

Producing valuable data

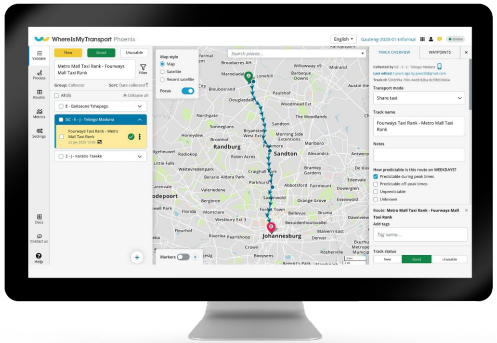
The quality of our data offering is underpinned by a powerful combination of **products, playbooks, and people**.

Our custom-built data management platform and the expertise of our in-market teams are key—meaning we deliver fresh data assets unrivalled in their accuracy and completeness.

Products

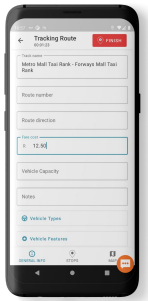
Our suite of tools is custom built and optimised for digitalising information from the dynamic public transport networks of emerging-market megacities.

Data Management Platform



1. Secure login

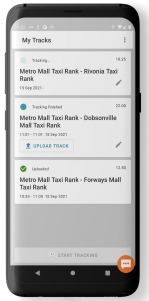
2. Start: Origin Hub



3. Collect route info

4. Add stops, names

5. End: destination



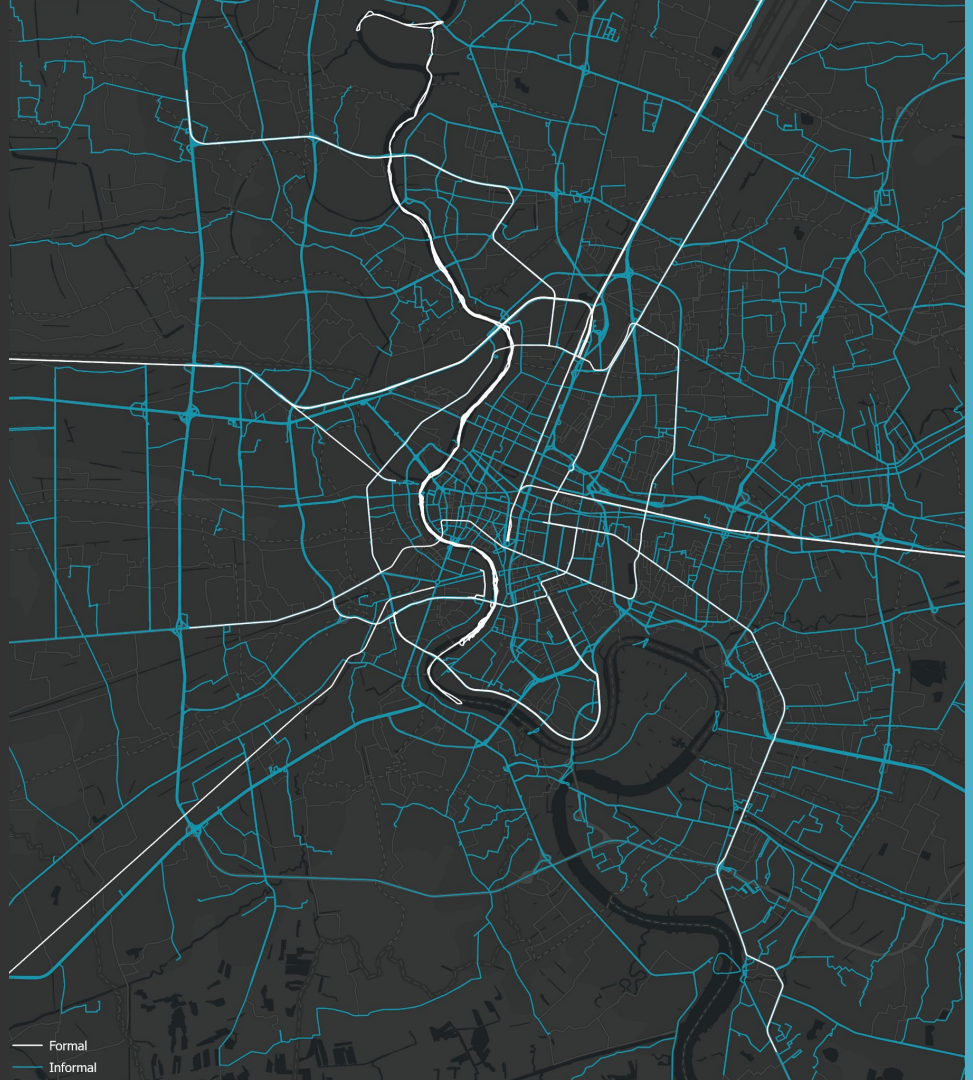
6. Upload route information

Transit Data

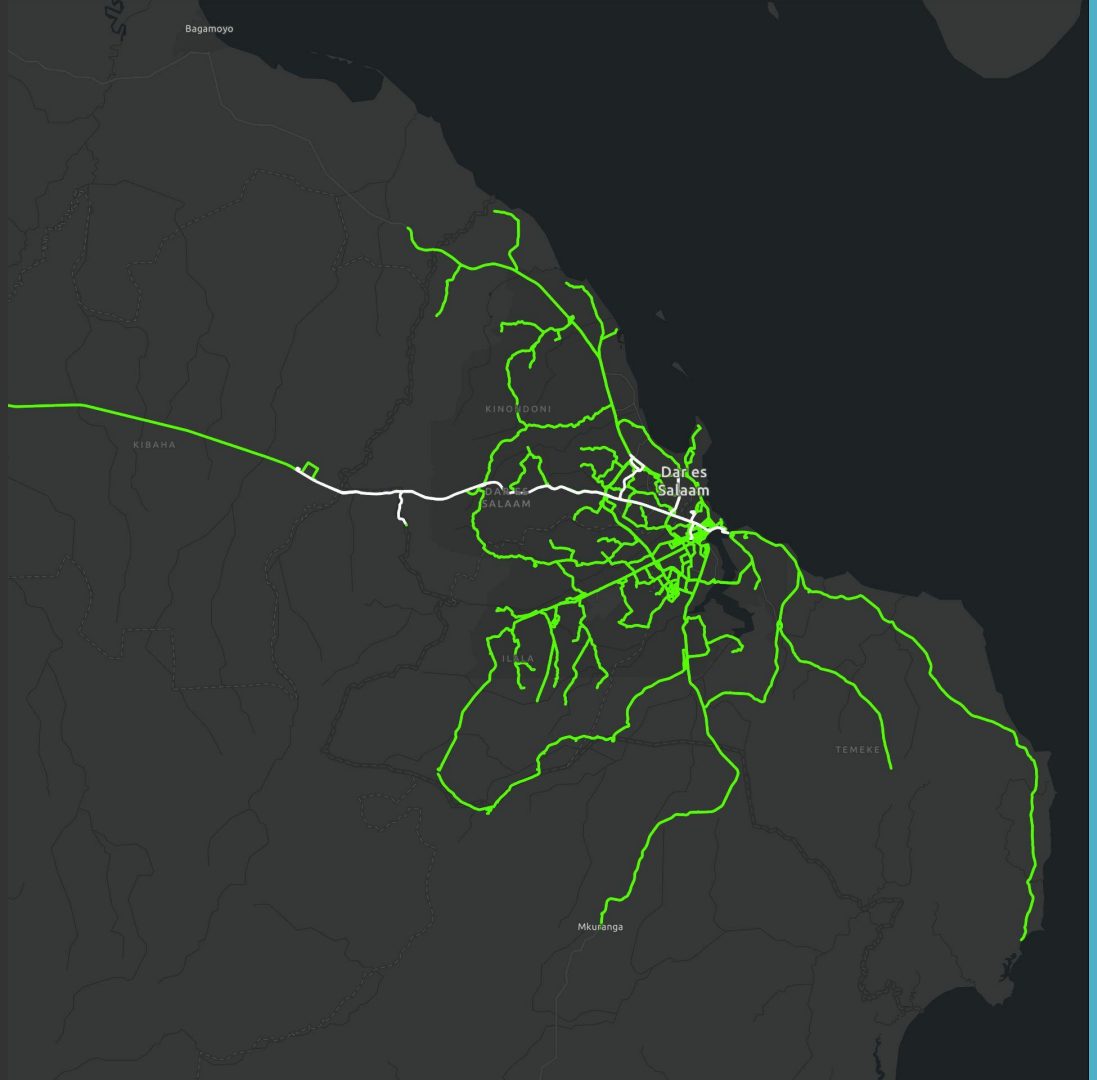
We map and maintain data for the entire public transport network—every mode, every operational style—delivering accurate, reliable, and fresh Transit Data.

Our Transit Data, delivered in the global-standard GTFS format, includes:

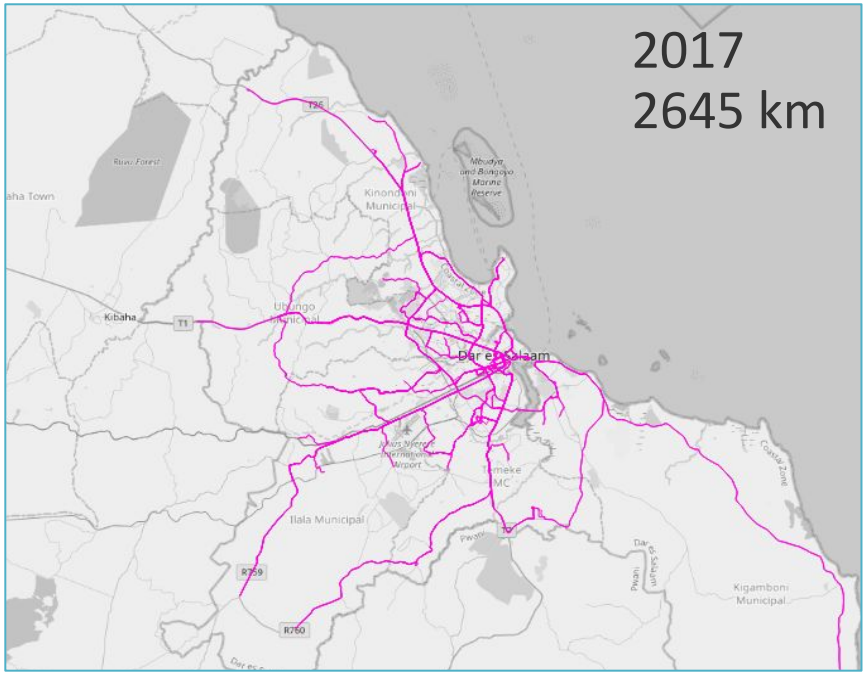
- Route information
- Service operating times
- Fare details
- Accessibility data
- Vehicle attributes (wifi, air conditioning, etc.)
- Hyperlocal data (vehicle headsigns, route and stop names, route colours, iconography, etc.)



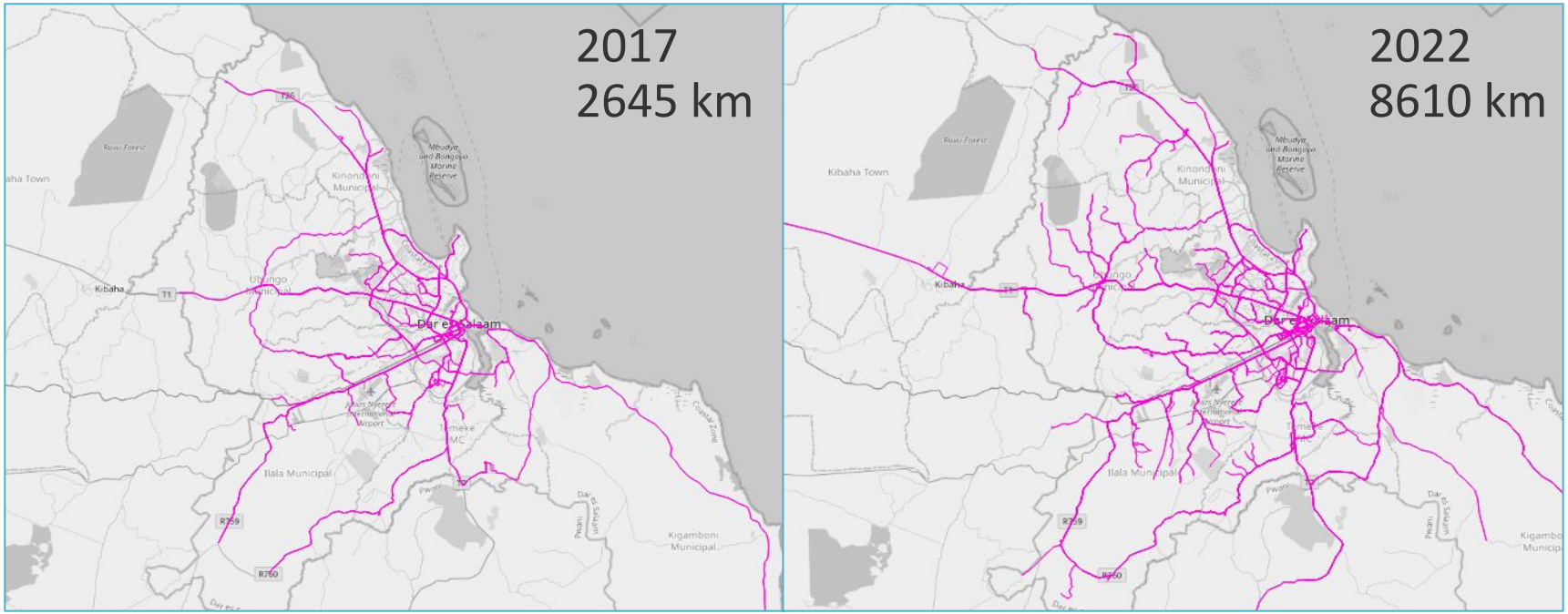
Dar es Salaam
Tanzania



Dar es Salaam - Tanzania



Dar es Salaam - Tanzania

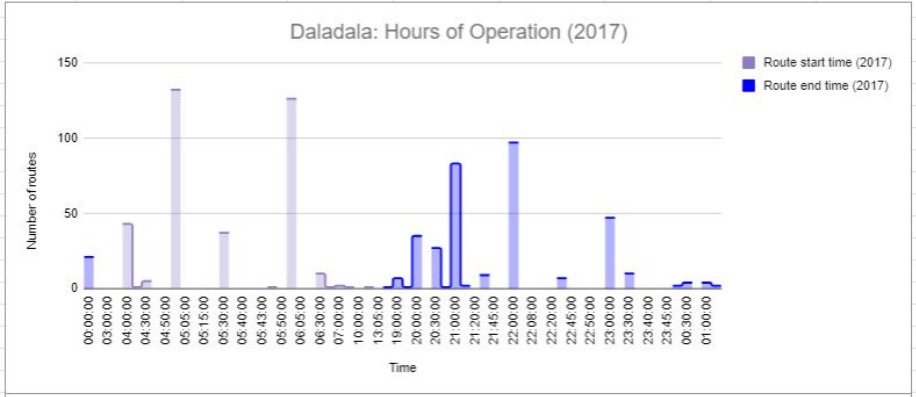


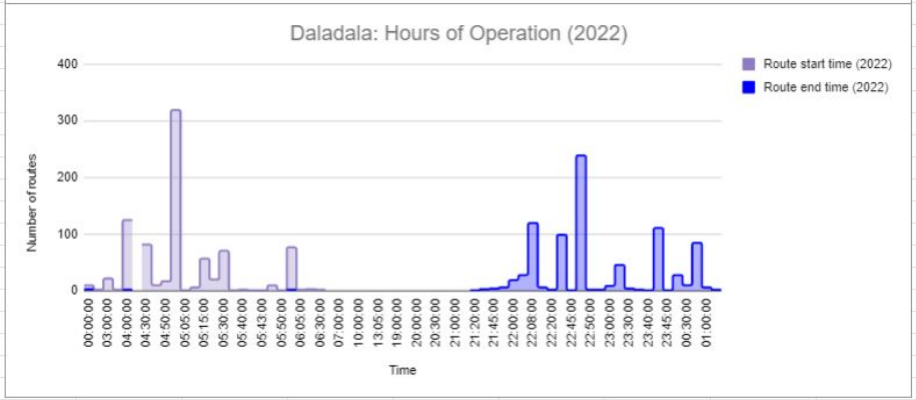
Dar es Salaam - Tanzania

	Mode	2017	2022
	Daladala	90 Routes 2531 Km 1 053 Stops	215 Routes 7608 Km 4320 Stops
	BRT (Mwendokasi)	5 Routes 122 Km 95 Stops	13 Routes 365 Km 143 Stops
	Bajaji	*On demand only*	49 Routes 636 Km 1032 Stops

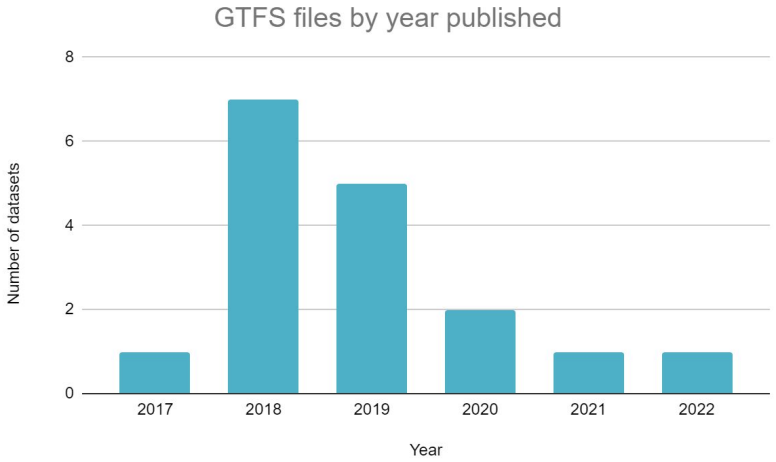
Dar es Salaam - Daladala Operations

	2017	2022
AM Peak	07:00 - 10:00	06:30 - 10:00
PM Peak	16:00 - 18:00	15:00 - 20:00
Av. Fare Tsh	490	656
Av. Fare USD	0.22	0.28



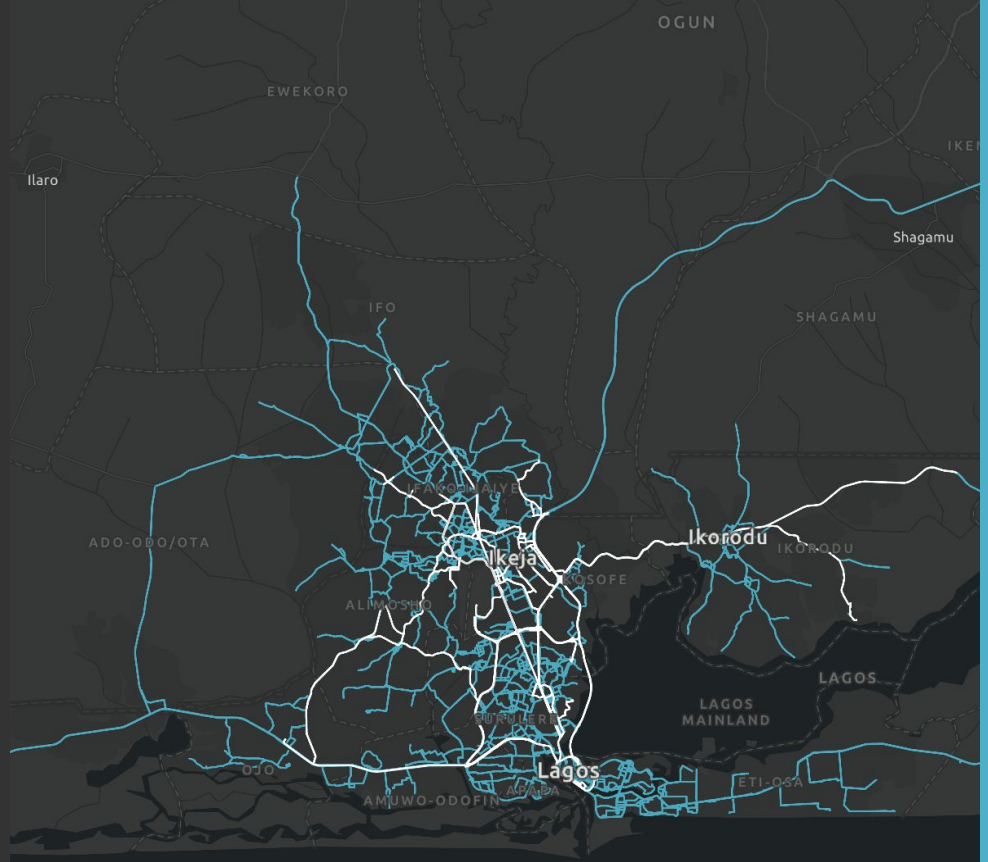


Good decisions require good data



Data from https://digitaltransport4africa.org/

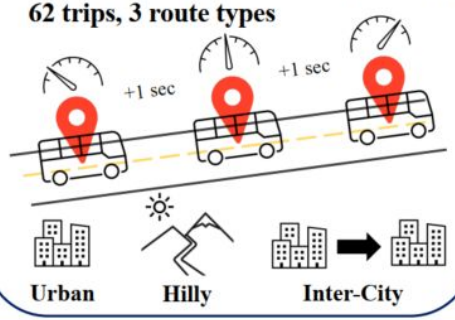
Lagos Nigeria



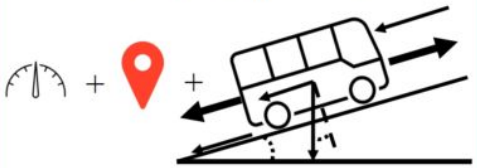
Energy Consumption of Paratransit in South Africa

FIRST TIME per-second GPS tracking data has been gathered on paratransit (previously only per-minute)

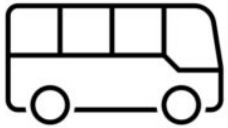
GPS Data: Speed, Location, Altitude
62 trips, 3 route types



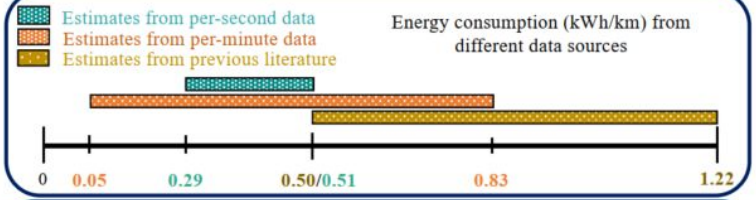
Kinetic Model:
Input GPS data to compute energy consumption per second



kWh/km per trip



0.29 – 0.51 kWh/km
mean: 0.39 kWh/km



	Urban	Uphill	Downhill	Inter-City
Average (kWh/km) *Useful for analyzing grid impact*	0.37	0.47	0.33	0.40
Maximum (kWh/Km) *Useful for planning operations*	0.44	0.51	0.35	0.45

Conclusions:

- Stakeholders now have reliable kWh/km values to use for planning vehicle and infrastructure design around paratransit electrification.
- kWh/km estimates lower than **previous estimates** seen in literature, meaning paratransit electrification is more attractive.
- 50-100 kWh battery can be needed depending on driving condition
- Future research must develop a methodology that can reliably estimate paratransit kWh/km from per-minute data, to facilitate continent-wide paratransit electrification

Using high resolution GPS data to plan the electrification of paratransit: A case study in South Africa

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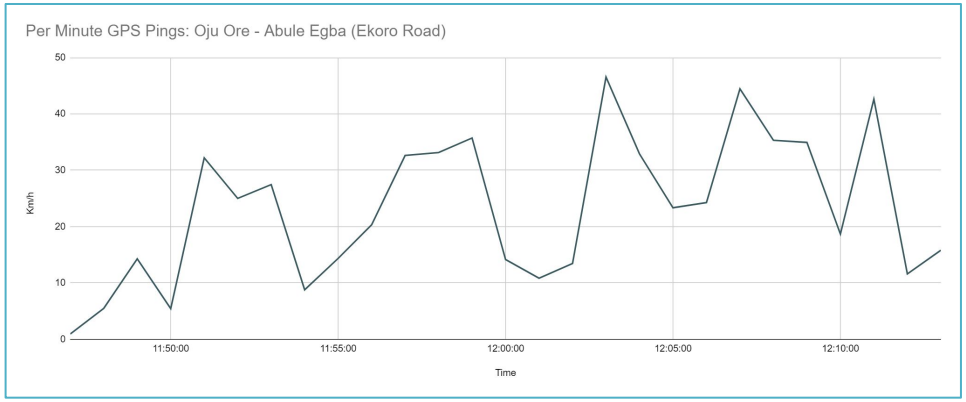
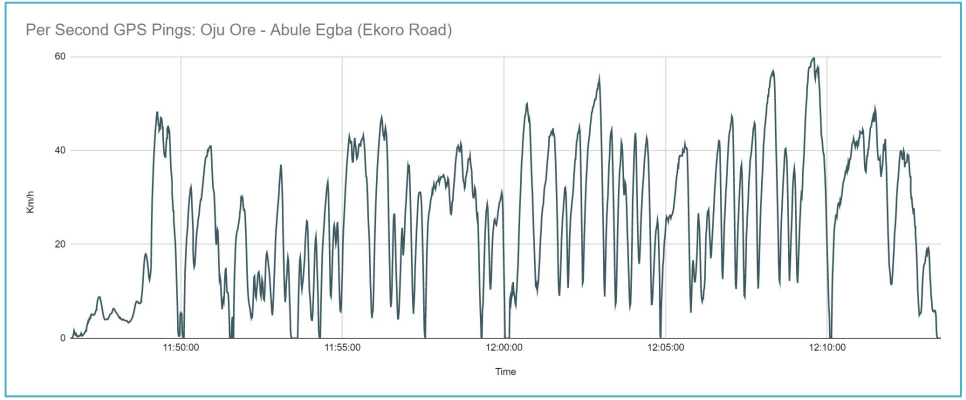
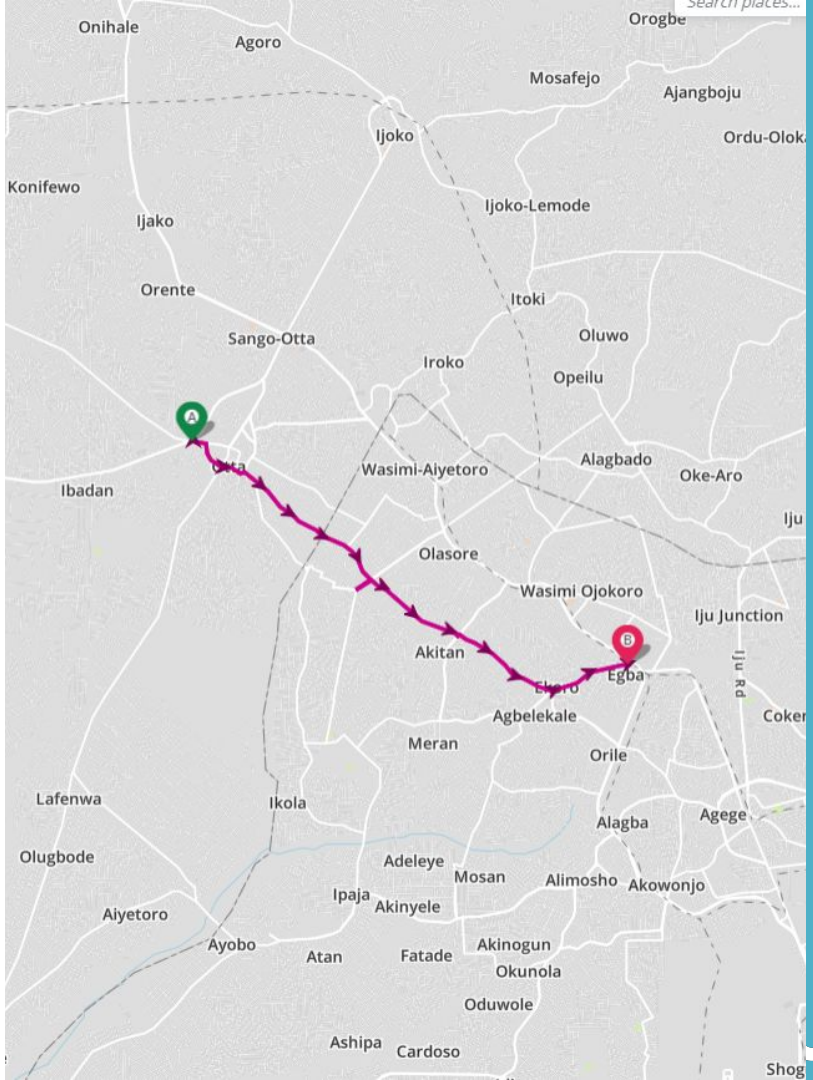
[a] *Energy and Power Group at the Engineering Science Department, University of Oxford, United Kingdom*
[b] *Department of E&E Engineering, Stellenbosch University, South Africa*

Lagos: Oju Ore - Abule Egba (Ekoro Road)







Making the invisible visible

Our census revealed an informal network that has never before been mapped. Thousands of kilometres of routes that move people and goods around the metro area, feeding the city's vibrant informal economy.

Routes	KM	Stops
41	1,105	1,063
1,040	28,182	8,744

Formal public transport network

Lagos' Danfo (minibus) network

Route data available prior to the project

Route data produced by WhereIsMyTransport

What makes WhereIsMyTransport's data stand out?

Complete

We produce data where others don't. Every mode of public transport, every operational style, as well as centres of economic activity.

Detailed

Defined attributes across our data offering. The information we deliver to our clients is the ground truth of high-growth, emerging markets.

Accurate

Produced, verified, maintained—with precision. Accurate and fresh mobility and location data underpinned by a powerful combination of products, playbooks, and people.

Our data is trusted by the biggest brands in the world

Millions of users | Multi-million dollar investment decisions | Sustainable urban mobility solutions