The E-mobility transition: Learnings from data collection experiences

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Data Solutions Lead

WhereIsMyTransport
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.

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

2017
2645 km
Dar es Salaam - Tanzania

2017
2645 km

2022
8610 km
## Dar es Salaam - Tanzania

<table>
<thead>
<tr>
<th>Mode</th>
<th>2017</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daladala</td>
<td>90 Routes</td>
<td>215 Routes</td>
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<tr>
<td></td>
<td>2531 Km</td>
<td>7608 Km</td>
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<tr>
<td></td>
<td>1 053 Stops</td>
<td>4320 Stops</td>
</tr>
<tr>
<td>BRT (Mwendokasi)</td>
<td>5 Routes</td>
<td>13 Routes</td>
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<tr>
<td></td>
<td>122 Km</td>
<td>365 Km</td>
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<tr>
<td></td>
<td>95 Stops</td>
<td>143 Stops</td>
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<tr>
<td>Bajaji</td>
<td>On demand only</td>
<td>49 Routes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>636 Km</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1032 Stops</td>
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</tbody>
</table>
## Dar es Salaam - Daladala Operations

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2022</th>
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</thead>
<tbody>
<tr>
<td><strong>AM Peak</strong></td>
<td>07:00 - 10:00</td>
<td>06:30 - 10:00</td>
</tr>
<tr>
<td><strong>PM Peak</strong></td>
<td>16:00 - 18:00</td>
<td>15:00 - 20:00</td>
</tr>
<tr>
<td><strong>Av. Fare</strong></td>
<td><strong>Tsh</strong></td>
<td><strong>USD</strong></td>
</tr>
<tr>
<td><strong>Av. Fare</strong></td>
<td>490</td>
<td>656</td>
</tr>
<tr>
<td><strong>USD</strong></td>
<td>0.22</td>
<td>0.28</td>
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</table>
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

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

Christopher Hull a, J.H. Gillomee b, Katherine A. Collett a, Malcolm D. McCulloch a, M.J. Booyzen b, c

a Energy and Power Group at the Engineering Science Department, University of Oxford, United Kingdom
b Department of EBE Engineering, Stellenbosch University, South Africa

Using GPS data to analyze energy consumption per trip.
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.
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