GoMetro

Mapping to power a e-MBT conversion case in South Africa

MBT industry overview

Nature - Informal paratransit

Ownership - Private

Vehicles operational - >250 000

Market - 80% of public transport trips

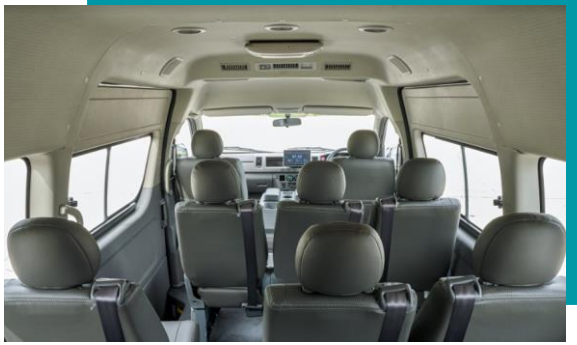
Employment - 650 000

CO_2 emittance - 34 million tons per annum


No major plans to **decarbonise** this **hard-to-decarbonise** industry


South Africa's first electric minibus taxi

- **Range** - >200km
- **Slow charging** - 8 hours (80%)
- **Fast charging** - 50 minutes (80%)
- **Capacity** - 15 passengers
- **Battery** - 70 kW lithium-ion



Stellenbosch Municipality

Stellenbosch is a municipality situated adjacent to Cape Town.

- **Population size** - 196 036
- **Area size** - 831 km²
- **Authority** - Stellenbosch Municipality

Minibus taxis are the only **functioning public transport system** in the municipality.

South Africa’s first e-MBT charging facilities

- **Bergzicht** taxi rank, Stellenbosch.
- Charging facilities specifically designed for **e-MBT operations**
- Development will start **beginning of 2023**
- Ready for testing by **mid 2023**

Data requirements

No data exist regarding MBT operations in the context of electrification.

This data is key in the strategic implementation of e-MBT's and charging facilities.

These strategic data points include:

e-MBT compatible **vehicle profiles**

Scheduling of charging activities

Charging facility locations

Charging equipment specs

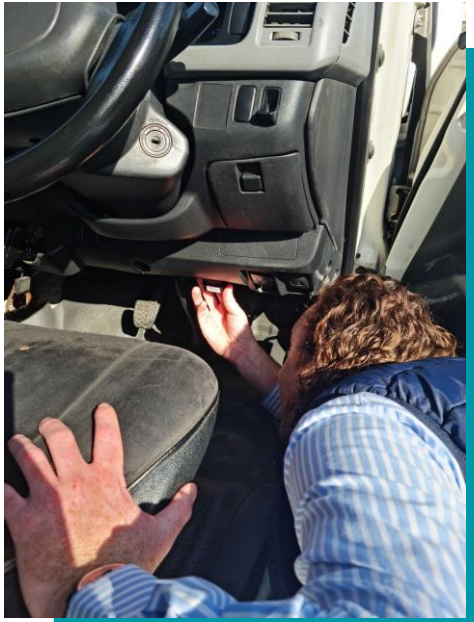
Charging needs for e-MBT's at Bergzicht rank

Data collection - Phase 1

This phase encompass the installation of **OBD tracking units** in all MBT's under the **Stellenbosch Taxi association**.

Data collected per MBT include:

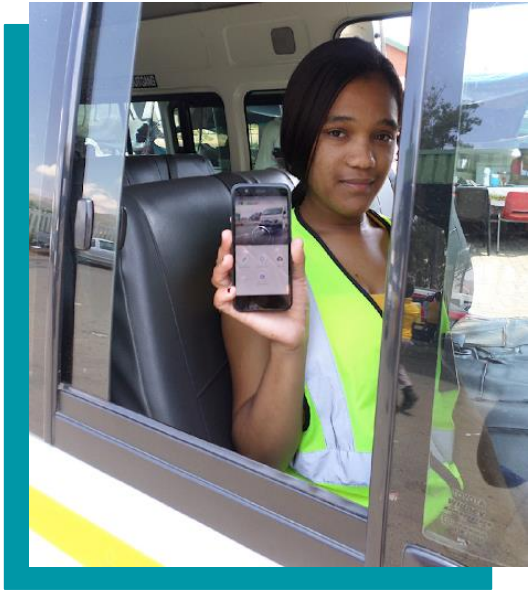
- Daily **range**
- Number of **trips**
- Average trip **distance**
- Operating and non-operating **time**
- Time spent in **Bergzicht taxi rank** (consecutive and total)
- Time spent in **other ranks**
- **Fuel consumption**



Data collection - Phase 2

Phase two encompass **on-board surveys** using GoMetro Pro.

GoMetro pro is mobile application designed for collecting data on infromatal paratransit systems in Africa.

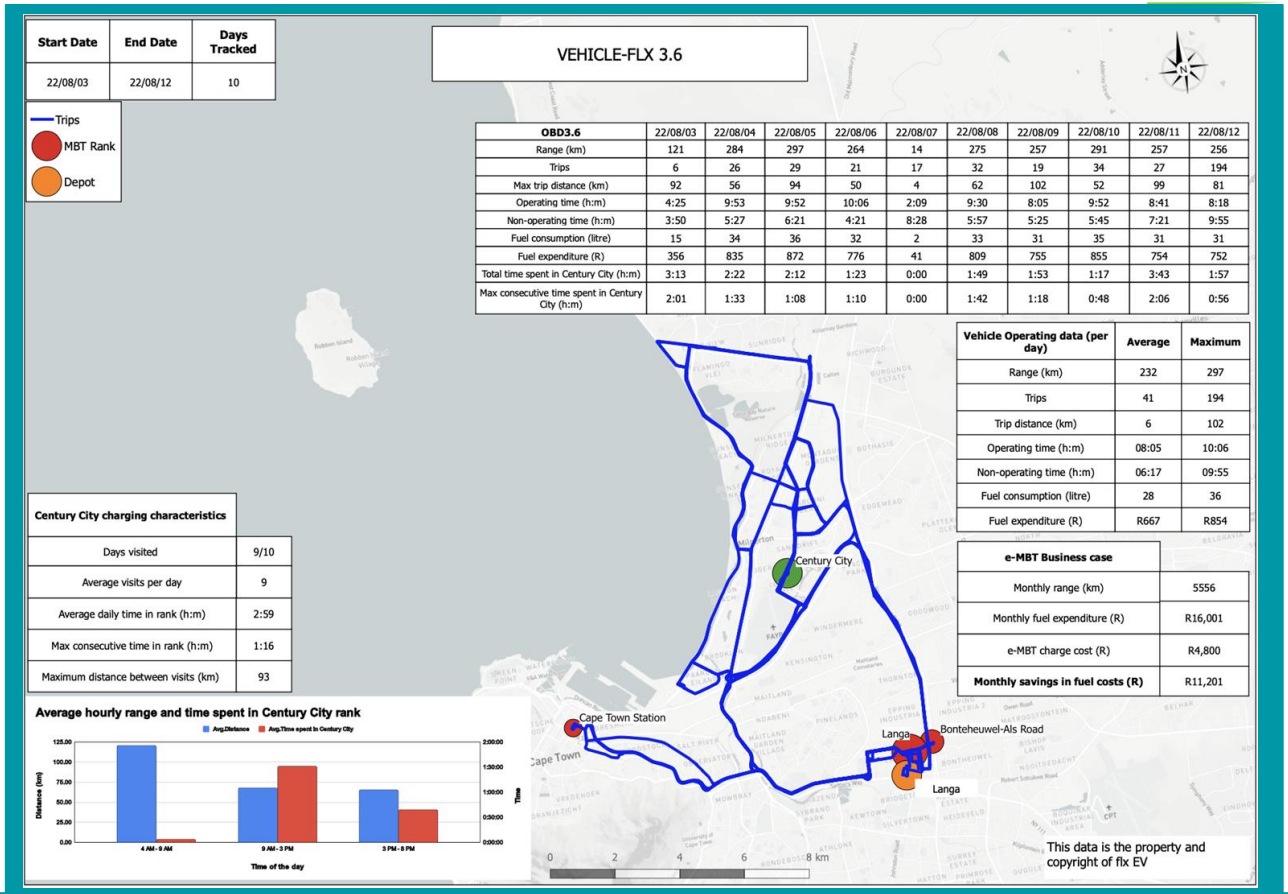


Data collected during this phase include:

- Passengers **boarding and alighting**
- Boarding and alighting **locations**
- Passenger **demographics**
- Total **revenue** generation
- Vehicle **utilisation**
- Route **demand** index

Project outcomes

1. Inputs into the **viability of e-MBT** adoption
2. Inputs into **charging facility requirements**
3. Inputs into **charging facility scheduling**
4. Estimated **financial savings** from e-MBT implementation
5. Locations for **future charging facilities**



Next steps

GoMetro is currently:

- **Training** the on-site data-collection team
- **Coordinating** the start of **data collection** with the **Municipality** and the **Stellenbosch Taxi Association**.
- Work with any city to identify which operations in their city can start being electrified.

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