

## Public Transport in City of Johannesburg

Dorothy Mabuza; ED: Transport

• Informal Transit is ubiquitous in Africa

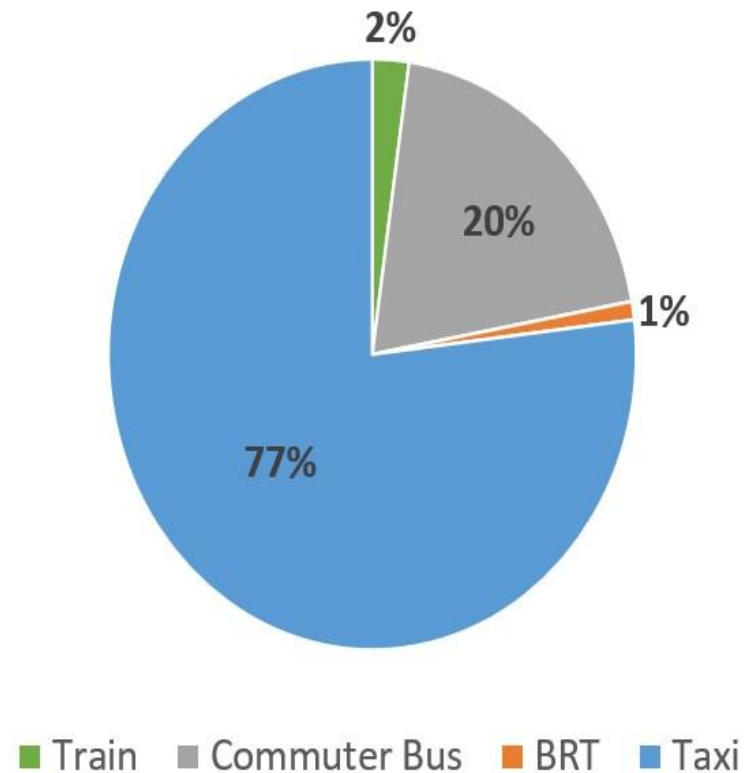
• The “minibus taxi” has a modal share of more than 75% of public transport trips in South Africa. Elsewhere in Africa the number is much higher.

• It is likely that informal transport will continue to play a major role in the public transport market in Africa for the foreseeable future.

• While significant effort has been put towards introducing BRT, there is still much that can be done to improve the quality of transport offered by informal transit services.

• Key to this must be efforts to professionalize the informal transit sector.

PT modes to work and education



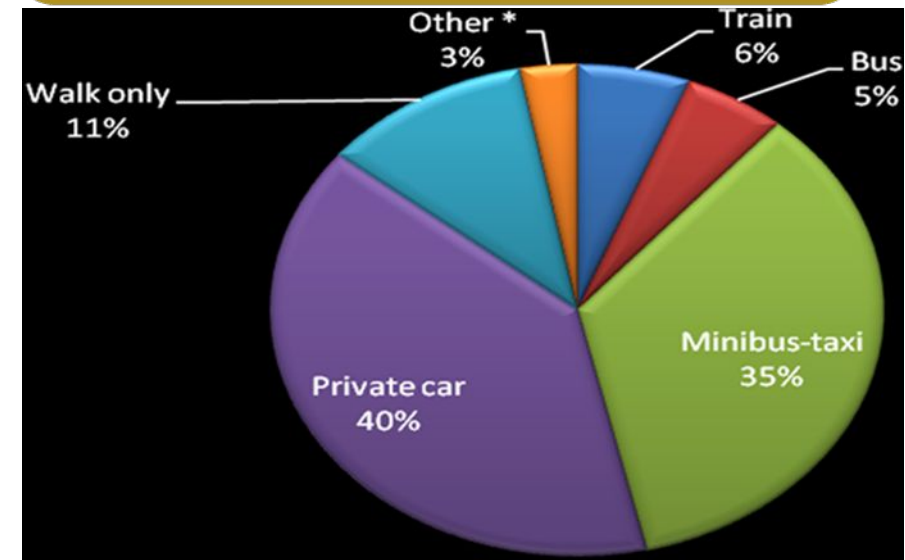
2020 South African NHTS: Work and Educational Morning Trips



## Introduction: Transport modes in Johannesburg

- The main modes are:
  - Private vehicles
  - Mini bus taxis
  - Rail (Gautrain and Metrorail)
  - Bus (City bus fleet – Metrobus, provincial subsidised, Rea Vaya BRT, Gautrain bus)
- New 'demand responsive' modes also active in Joburg:
  - Metered taxis, Uber
  - Tuk tuks

Specific challenges arise out of apartheid spatial legacy (poor people on the periphery) and decades of car centred, security focused planning



Main mode to work



# Minibus taxi Operations

- Minibus taxis are an integral part of the transport system in the City of Joburg providing a highly convenient although not always safe or comfortable service.
- There are more than 32 short-distance taxi associations controlling at least 1013 different routes, operated from over 600 starting points.
- The long-distance minibus operate to more than 100 destinations, including international (cross border).
- The City is seeking on one hand to improve the quality and safety of the minibus-taxi routes and incorporate them into an integrated network while also replacing certain of them with more appropriate modes (especially BRT)

Some of our interventions are to:

- Encourage the City's taxi industry to re-fleet, in particular to switch to greener vehicles.
- Improving the regulatory environment to ensure that unsafe vehicles do not operate and that there is a balance between supply and demand.
- Stronger law enforcement to ensure law-abiding road traffic behaviour by minibus-taxis.
- Providing good and integrated public transport facilities (interchanges, ranks, shelters etc.)
- Mapping out and agreeing on engagement protocols with over-arching structures (SANTACO and GJNTA).
- Continuous engagements, consultations and participation in the implementation of projects related to Public Transport Facilities.





THE CITY HAS A BACKLOG IN THE PROVISION OF PUBLIC TRANSPORT FACILITIES. THERE ARE MORE THAN 50 FORMAL PUBLIC TRANSPORT FACILITIES AND MORE THAN 600 INFORMAL TAXI RANKS.



CURRENT FORMAL FACILITIES CANNOT ACCOMMODATE THE DEMAND DUE TO THE INCREASING NUMBER OF PASSENGERS AT PUBLIC TRANSPORT FACILITIES.



AT LEAST 20 LOCAL AND LONG-DISTANCE ASSOCIATIONS DO NOT HAVE ALLOCATED RANKING SPACE IN THE FORMAL TAXI RANKS OF THE CITY.



THE INCREASE OF INFORMAL SETTLEMENTS WITHIN THE CITY OF JOHANNESBURG ACERBATES THE OVER-FLOODING OF TAXIS IN THE INNER CITY AND OTHER CENTERS WITHIN THE CITY.



MINIBUS TAXIS OPERATING/HOLDING ON-STREET IN THE INNER CITY HAVE INCREASED DUE TO THE EXPLOSION OF BREE STREET, AND SURROUNDING STREETS ARE OVERWHELMED; THUS OTHER ADJACENT STREETS ARE REDUCED TO ONE LANE.

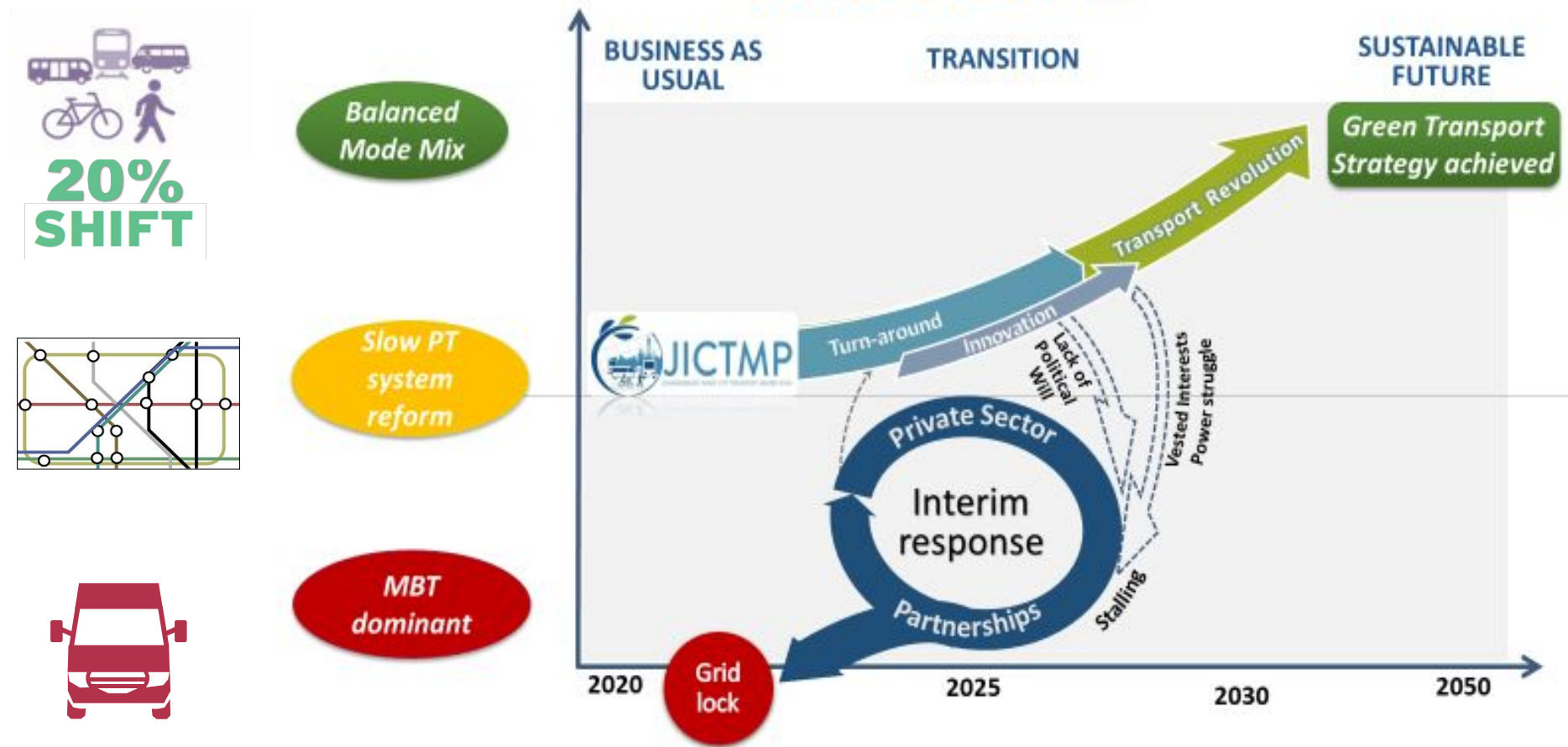


MINIBUS TAXI OPERATORS HAVE DEVELOPED A NEW TREND OF PARKING HORIZONTALLY TO ACCOMMODATE MORE VEHICLES THEREBY TAKING UP PUBLIC PARKING AND/OR LANES.

## State of Minibus Operations in CoJ



# Optimal mode(s) to handle the high transport demands of a thriving African MegaCity\*



\* Johannesburg is expected to pass the population threshold for a MegaCity of a population of 10 million by 2030 – United Nations ([un.org/africarenewal](http://un.org/africarenewal)) a world class African city



## **KEY INTERVENTION MEASURES**

- **Johannesburg Inner City**
- **BRT Implementation**
- **Integrated Corridor Model**
- **Secondary Network**
- **TTSA**



## TRANSFORMING TRANSIT IN SOUTH AFRICA (TTSA)

*Project Concept* proposed –

- in support of the Planning Authorities represented by CoJ, COT and EKH

**AND**

- to guide regulatory change in support of MBT transformation





## **TTSA: OBJECTIVE**

- World Bank & DBSA are partnering through a RAS to develop an approach to improving MBT services in South Africa.
- Support DBSA by developing options for it to leverage its mandate to support MBT industry enhancement in South Africa



## TTSA (Transforming Transit South Africa) Pilot Project

Greater co-operation amongst MBT operators makes it possible to deliver much greater efficiency in matching supply to demand

The efficiency gains can be shared such that:

Drivers get better working conditions

Users get better, safer services

Owners earn better returns

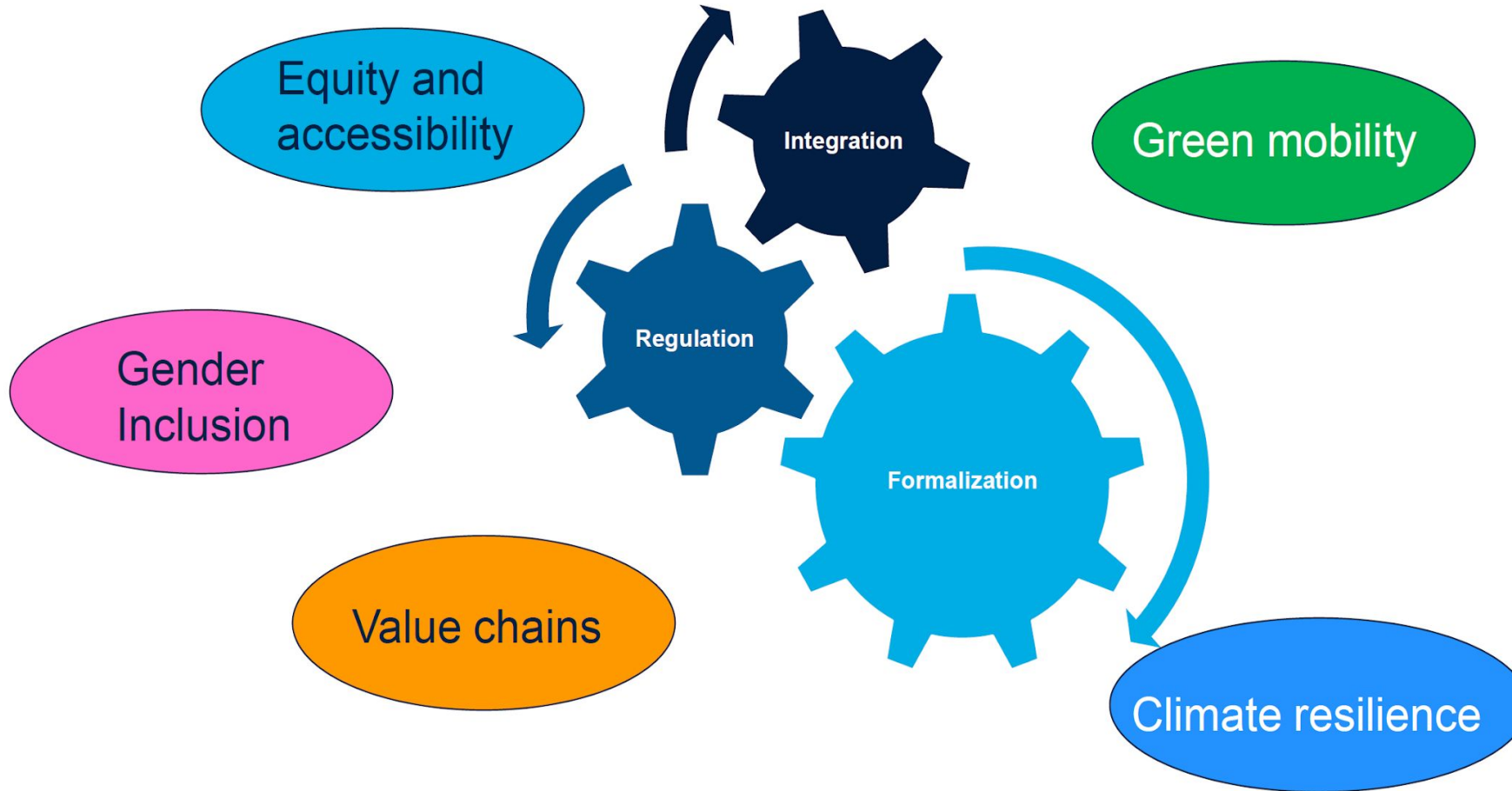
Stronger, more organised transport businesses offer a platform for business expansion within and outside the transport sector



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# TSA: Intervention Framework





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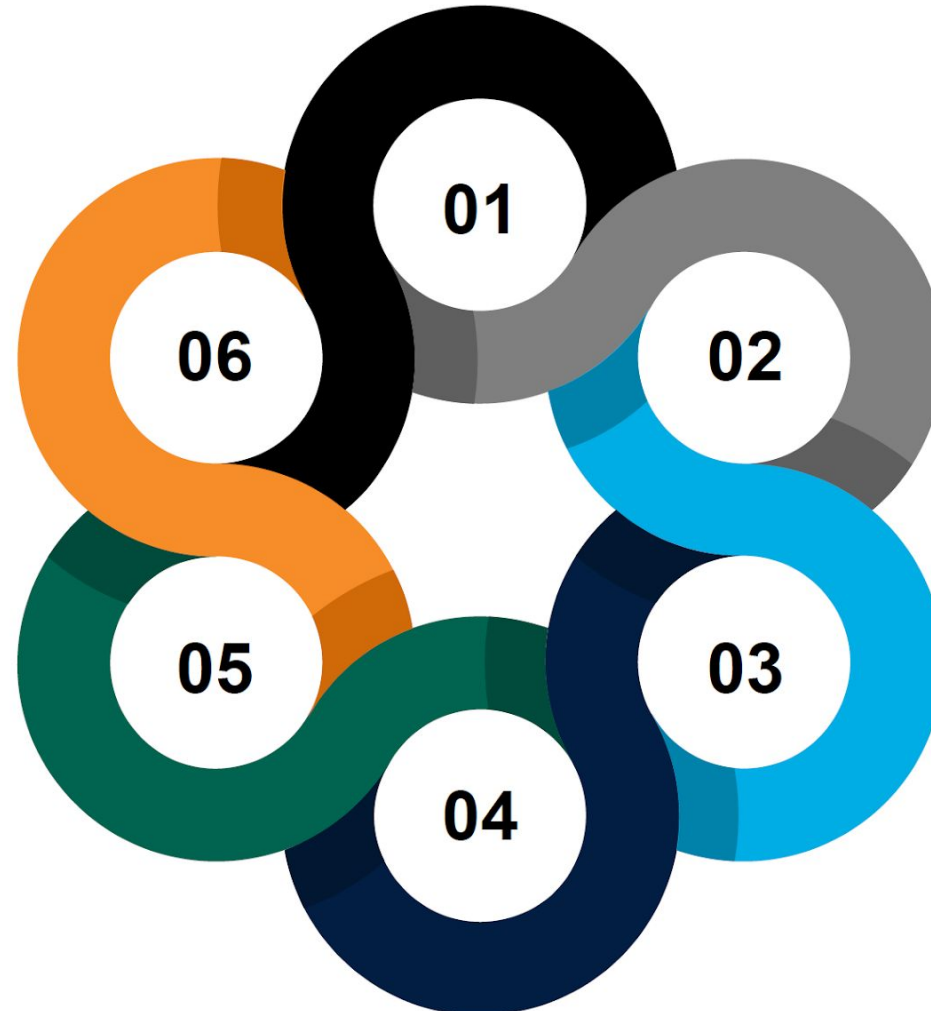


# TTSA: Anticipated Outcomes

Gender Inclusion & innovations

Empowerment through Value chain: job creation, & improved employment conditions

Developing technologies to improve operations



Commercially viable taxi companies

Guide to transforming taxi cooperatives

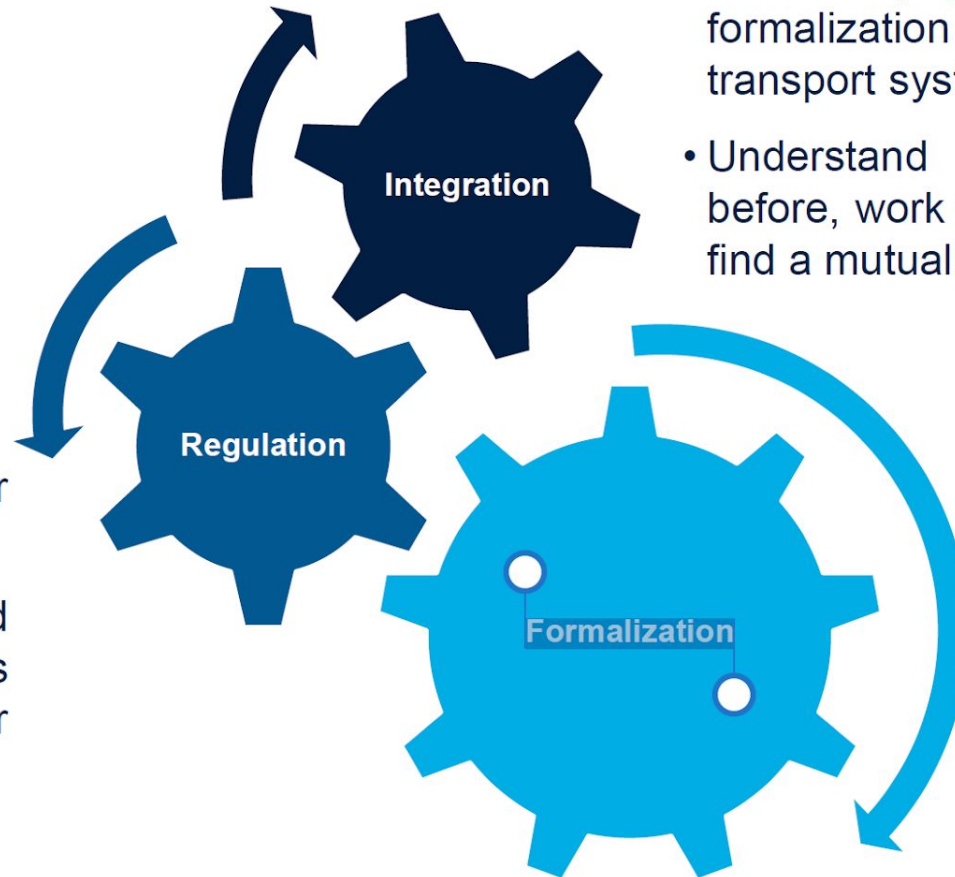
Improved regulatory systems



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## TTSA: Focus Areas



- Cashless payment systems is key to supporting formalization and integrating MBT's with public transport system.
- Understand where programs have failed before, work with cities and taxi associations to find a mutually beneficial solution.

- Effective regulation is key for formalization.
- Work with taxi's, PRE's and MRE's to understand issues and identify opportunities for improvement.

- Work with taxi associations on business improvement and transformation.
- How can the DBSA support?
- What is the way forward?



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# TSA: Pilot with Thandabantu PT

## Service Planning

Service Design (Incl. Routes) ✓

Finalized Timetables ✓

Vehicle Scheduling ✓

Staff Scheduling (Driver & Other Staff Requirements) ✓

Operational Documents – Duties, Dispatch, Cash up Regulation, Monitoring etc. ✓

## Infrastructure Planning

Depot (Interim & Permanent), Rank Arrangements ⌚

Acquire Fleet – Right numbers + Spare ⌚

Operating License Applications / Transfer ⌚

Operational Arrangements for Fuel, Maintenance, Services & Cleaning ⌚

Vehicle evaluations ⌚

## Staff Planning

Organogram Determination (Incl. Functional Areas) ✓

Job Descriptions – Complete Organogram ✓

Internal & External Staff Identification & Skills Audit / Determination ✓

Staff Employment – Fill all positions (temp or permanent) ✓

Staff Training & Company Policies ⌚

## Back Office & Office Planning

Financial Arrangements (Auditors, Working Capital etc.) ✓

Systems (Ops Management, Financial Control) ⌚

Spare Parts Arrangements (Tyres, running repairs etc.) ⌚

Payroll System & Arrangements ✓

Recordkeeping & Admin Support Arrangements (Printing etc.) ⌚



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# TTSA: GI Road Map

## January 2023

- PRS Women’s Desk First Meeting
- Site Visit to Upholstery Factory



## March 2023

World Bank Kick Off Session with PRS Women’s Desk



## May 2023

DBSA Due diligence



## July - August 2023

Feedback Session and Report Finalisation



## June 2023

Gender Focus Groups with PRS Women’s Desk members, executives and employees





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# TTSA: GI Preliminary Findings

## MBT BUSINESS (OWNERS)



### LACK OF BUSINESS SKILLS

Provide adequate taxi business specific skills training



### DRIVER BEHAVIOUR

Implementation of a cashless fare system to control drivers & Rank Marshalls from taking advantage



### COMPETITION

Understand and reduce the existing competitiveness between the women within PRS, which inevitably leads to jealousies. Promote Unity



### OWNER PROTECTION

Develop a policy that supports confidentiality and anonymity





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## TTSA: Pilot Next Steps

- Completion of DBSA due diligence process
- Finalization of Depot / Staging Arrangements and fueling arrangements
- Valuation of vehicles
- Finalize Discussions with OEM suppliers
- Formal submission / payment of OL Application to PRE by PRS
- Confirmation by DBSA of Loan for Pilot
- Finalize GI intervention(s)
- Finalization of Pilot Implementation Plan
- Pilot Implementation
- ***Go Live***

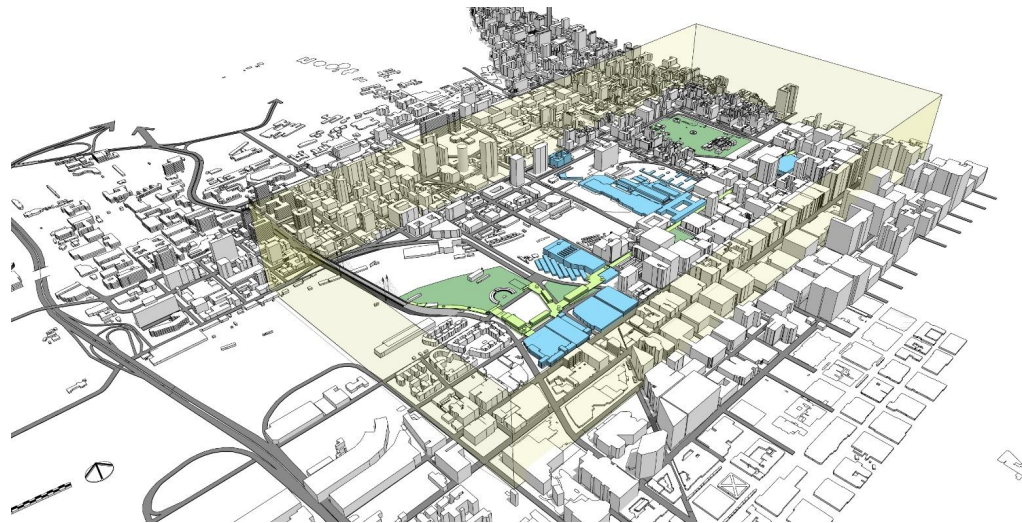


## **DECONGESTING THE JOHANNESBURG INNER CITY**



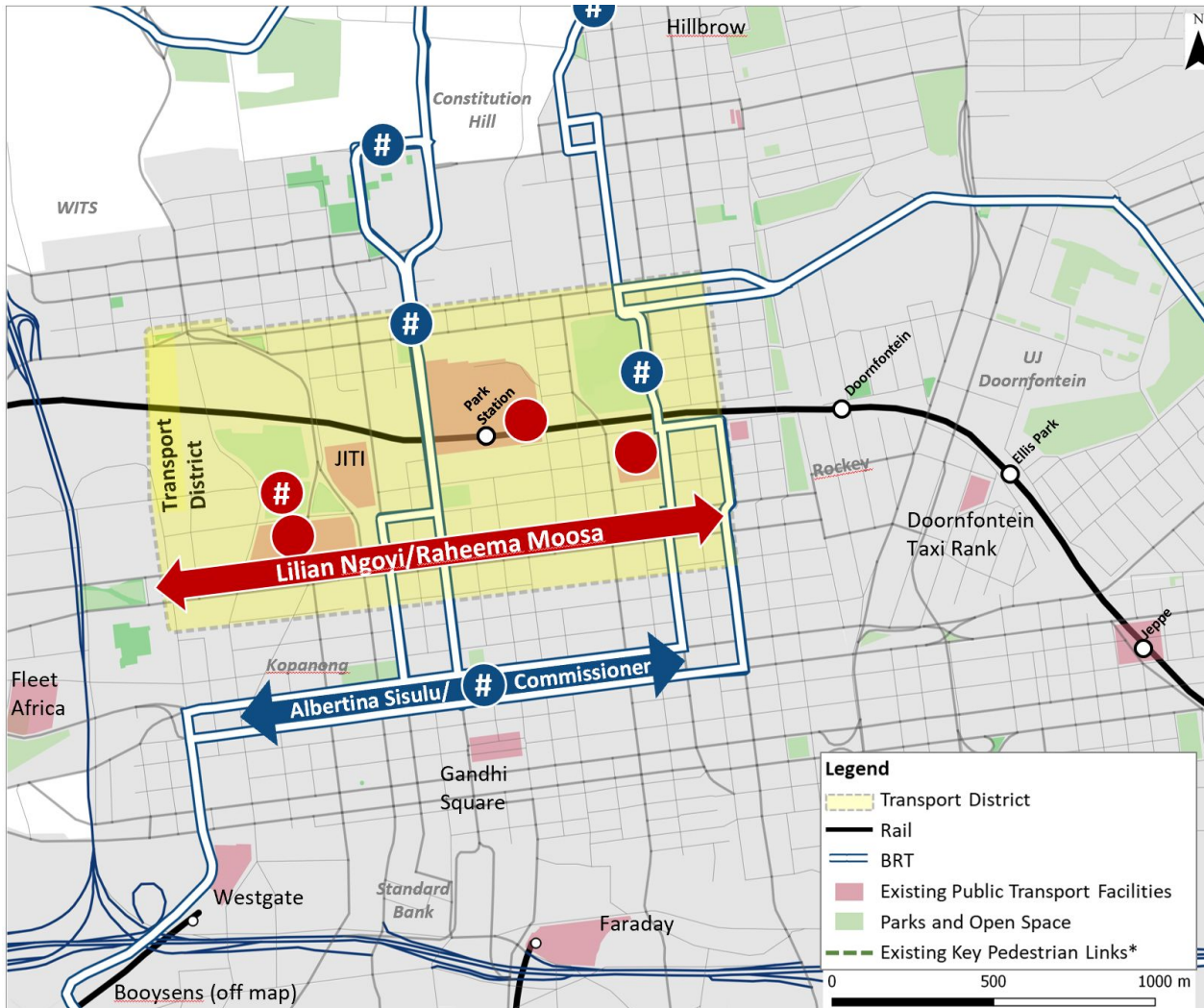
# JICTMP: Transport District Concept

- Sustainable Green Infrastructure
- Multilayer facilities
- Flexible/ Adaptable built form
- Integrated land use mix
- Manageable; Co- produced - Partnerships





# JICTMP: Catalyst Projects

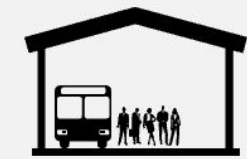


First things first –  
Inner City Governance



## 1 Transport District

Public Transport by Choice - Safe  
and Dignified Passenger Facilities



Public Transport by Choice -  
Moving People Seamlessly

## 2 Rea Vaya Phase 1C Public Transit Mall





# JICTMP: PT Typologies



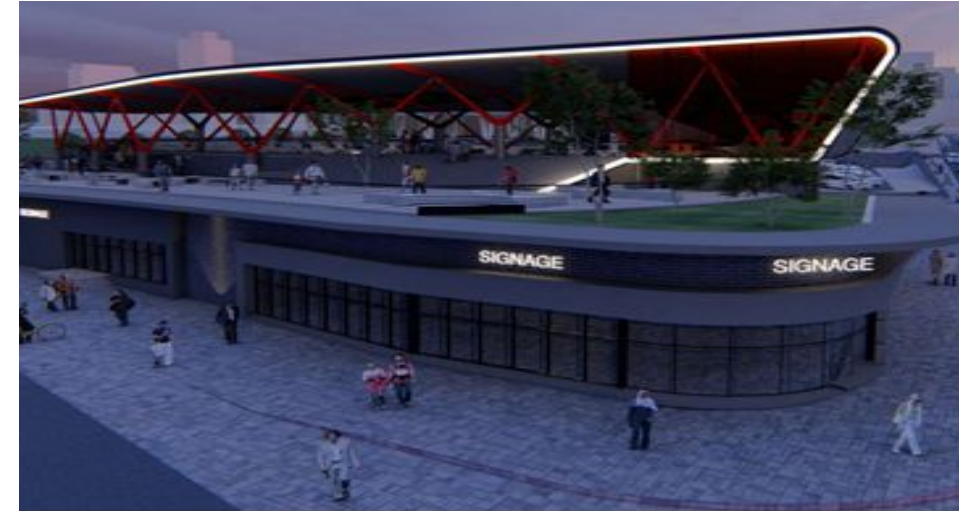
- Transit Mall
- Managed Lanes
- Quality PT Routes



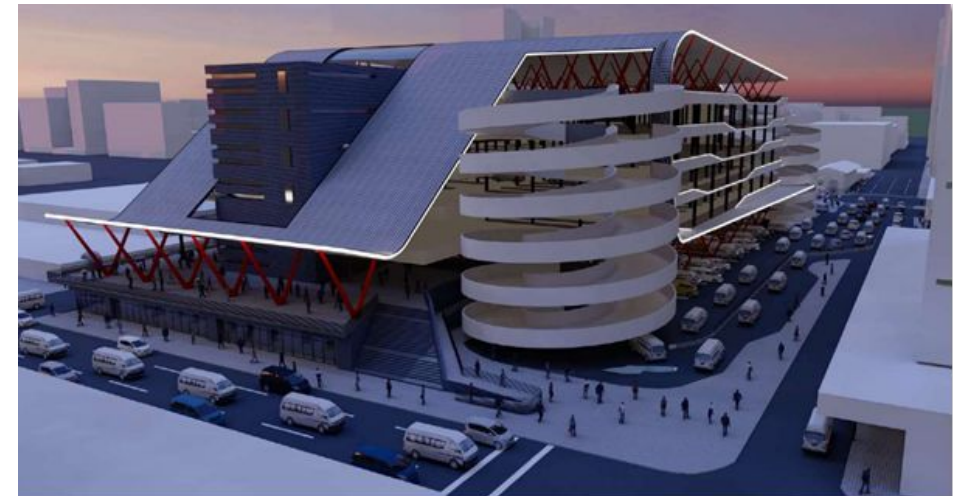


- Council approved the Johannesburg Inner City Transport Master Plan (JICTMP) in May 2022.
- The JICTMP makes several recommendations for the decongestion of the Inner City i.e., Rethinking Holding for Minibus Taxis, Recover the High Cost of “Free Parking.” etc.
- **Carr Street – Redevelopment:** Improve and increase the capacity of existing supporting infrastructure - Detailed designs have been completed, and Phase 1 construction is scheduled to be implemented 2023/24 financial year
- **Jack Mincer PTF – Redevelopment:** Demolish existing rank and design a new mini-bus taxi ranking facility - Detailed designs are completed. Joburg City Parks has promised to allow Transport to use Joubert Park as a temporary holding area.
- **Metro Mall – refurbishment** -Refurbishment is scheduled to commence in 2023/24 financial year.
- **Fleet Africa – Refurbishment** - Detailed designs have been completed, and the refurbishment is to commence in 2023/24 financial year.

## JICTMP: Increasing Capacity



Architect's impression of the facility : Phase 1 (Carr Street)



Architect's impression of the facility, with an additional three stories (Jack Mincer)



# Johannesburg International Transport Interchange (JITI): A premier, high quality one-stop long, distance and cross-border facility

All long distance and cross border destinations will be accommodated in JITI to create equality between all operators and accessibility and choice for commuters;

The facility will be well managed by an independent operator. This will ensure that it remains attractive, clean, safe and secure.

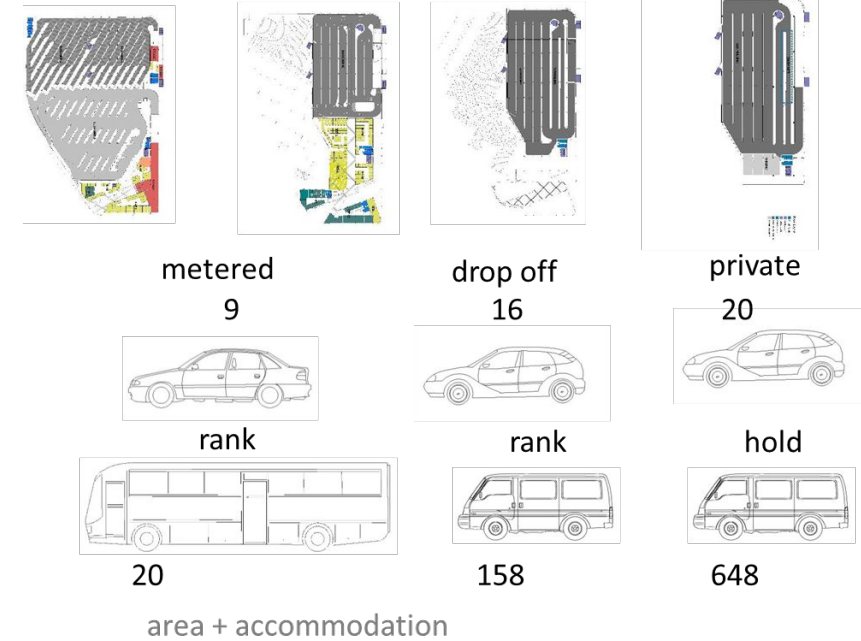
Once the facility is operational, all long-distance minibus taxis and cross border minibus taxis and buses (belonging to about 48 different bus companies and over 50 different minibus taxi associations) operating within the Inner City will be relocated

## Total Floor area 47,940 m<sup>2</sup>

taxi ranking	158
taxi holding	648
bus ranking	20
metered taxis	9
drop-off vehicles	16
private vehicles	20

Total Retail	3308m <sup>2</sup>
Informal:	1450m <sup>2</sup>
formal:	1858m <sup>2</sup>

Total Offices	1250m <sup>2</sup>
(Including JMPD office)	
Waiting area:	97m <sup>2</sup>
Storage:	925m <sup>2</sup>
Ticket Office:	72m <sup>2</sup>
Ablutions:	506m <sup>2</sup>



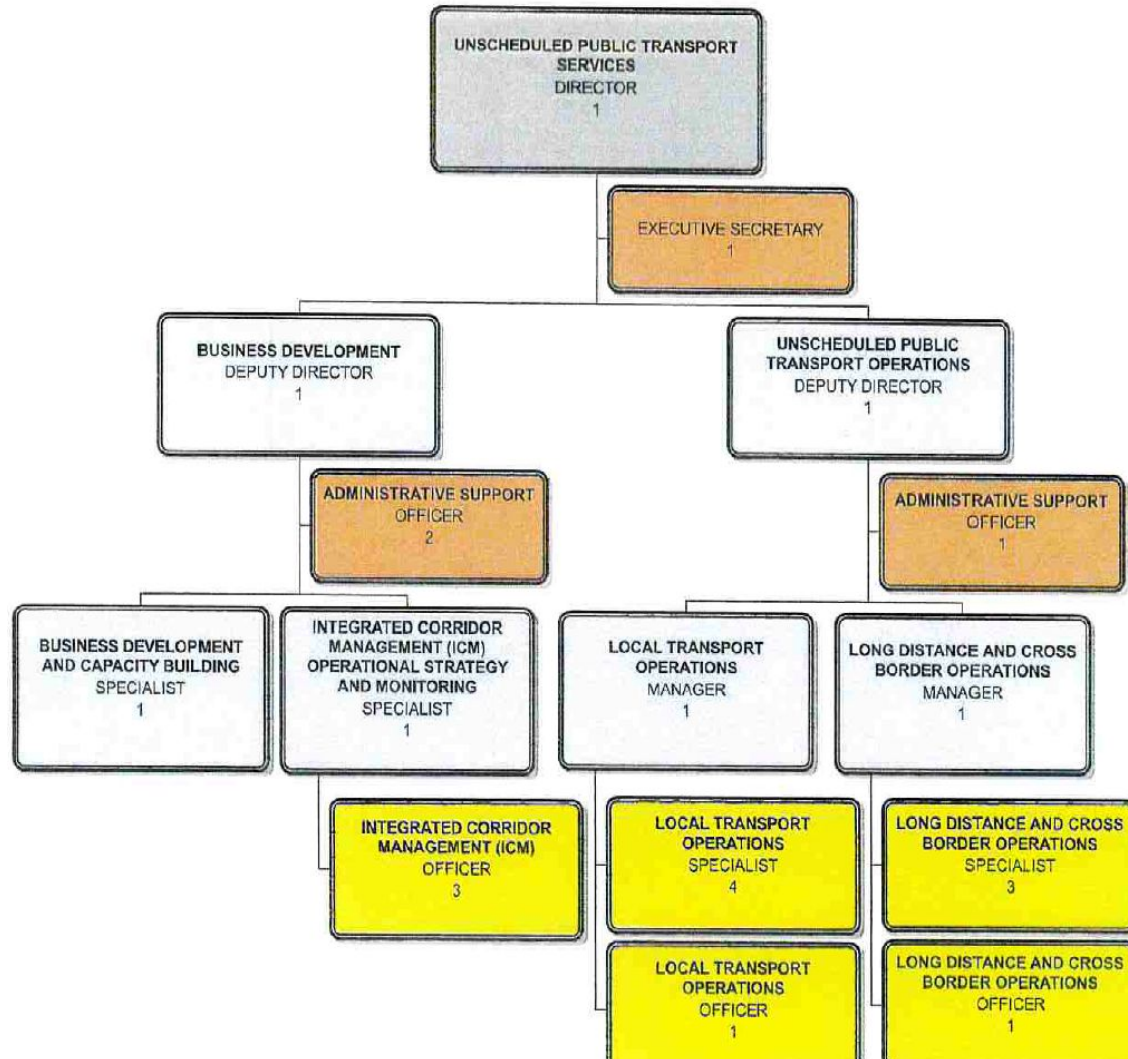


## **INTEGRATED CORRIDOR MODEL**





# ICM Strategies: Institutional arrangements



## ICM Implementation

- The department has introduced a position of Specialist: ICM Operational Strategy and Monitoring in the Organizational Structure.
- Three officers reporting to the specialist will also be appointed.

## Completed ICM studies

- Orange Farm to Joburg CBD
- Roodepoort to Joburg CBD
- Diepsloot to Sandton



# ICM Strategies: Fourways/Diepsloot

## Option 1 – Quality Bus Service

### Premium Solution

Trunk and Feeder designed for the project corridors

Mode selected based on demand along certain corridor sections

Mode will range from MBT and double articulated buses

**Kerbside Service** with **dedicated queue jump lanes**, where required.

**Kerbside** stations envisioned to have **variable message signage** (eg. **Bus to Sandton to arrive in 2min 34 seconds**), **fully integrated** with existing Rea Vaya services.

**Affordable bus shelters** without pre-boarding facilities at most stops, unless deemed essential.

## Option 2 – Bus and Minibus Taxi Service

### Similar to Option 1, but

- Lower frequencies (smaller fleet)
- Fewer dedicated lanes (20 to 50% of option 1)

## Option 3 – Subscription Based Minibus Taxi Service

This service would operate as a **rewards-based or incentive** subscription for Minibus Taxis

MBT **could subscribe** and **receive a basic subsidy** if basic vehicle safety standards and other requirements were met

**Increasing subsidies** would come with increasing specifications such as **safer driving, vehicle tracking etc.**

No infrastructure upgrades other than NMT in Options 1 and 2.



# ICM Strategies



**Multi-Modal Facility - Station**



**Look and feel of a Public Transport intermodal facility**



**Kerbside Stop with VMS**

Upon a review of the Full Feasibility Study for the 3 options the CoJ recommended as follows:

- **Implement infrastructure as per Option 2** (incl Stations & Stops, Queue Jump Lanes, road pavement upgrades along Diepsloot – Fourways-Sandton Corridor)
- **Operations in the area to be left as is** for the short to medium term
- **Implement a fuel subsidy rewards program** as in **Option 3** that would allow **qualifying vehicles** to use new infrastructure along the relevant corridor; and
- **Over the long-term – Implement Option 1 – Quality Bus Service** over the full network of corridors.



# ICM Strategies

Objectives of the ICM is to guide common development, as per the Growth and Development Strategy (GDS) - Johannesburg 2040 with the following targeted outcomes:

• **Outcome 1:**

Human and social development - Improved quality of life and development-driven resilience for all.

• **Outcome 2:**

Environment and services - Provide a resilient, liveable, sustainable urban environment underpinned by smart infrastructure supportive of a low carbon economy.

• **Outcome 3:**

Economic growth - An inclusive, job-intensive, resilient, competitive and smart economy that harnesses the potential of citizens.

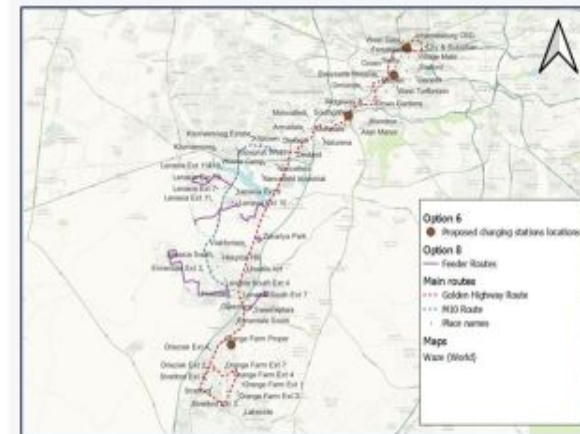
• **Outcome 4:**

Good governance - A high performing metropolitan government that proactively contributes to and builds a sustainable, socially inclusive, locally integrated and globally competitive Gauteng City Region.



## Pilot route: Orange Farm to CBD

### Electric Buses Option



Two main services are proposed with two charging depots

- Line 1: Finetown - Lenasia - Kliptown and Devland
- Line 2: Orange Farm - Zakariya Park - Devland - Southgate Johannesburg CBD

Feeders	Feeder length (km)
Zakariya Park	1,549
Finetown	11,976
Thembelihle Informal Settlement	2,143
Lawley	3,334
Lehae	4,077
Wheielers Farm Settlement	4,143
Lenasia	6,566



## **GREEN ENERGY STRATEGIES**



# Alternative Green Technology

## CAP green transport intervention

- Stakeholder engagement and awareness-raising.
- Conversion of municipal fleet vehicles.
- Partnering with the private sector in investigating, enabling, development, conversion and promotion of Alternative Green Energy powered transport system.
- Develop an EV (green energy) tariff for City-owned charging stations.
- Install 4300 to 8500 charging stations for EV by 2030.
- Lobby national government to develop a strategy to enable a fuel switch for private, public transport and freight vehicles.
- City to procuring only zero-emission buses from 2029;
- COJ is a member of the C40.

Action	2025	2030	2040	2050
Transportation	Private car use reduced to 30% of journeys.  2% of journeys by BRT. 26% by minibus. 4% by commuter rail. 2.5% of vehicles electric.	Private car use reduced to 29% of journeys.  2% of journeys by BRT. 26% by minibus. 4% by commuter rail. 4.5% of vehicles electric.	Private car use reduced to 27% of journeys.  4% of journeys by BRT. 24% by minibus. 6% by commuter rail. 35% of vehicles electric.	Private car use reduced to 26% of journeys.  5% of journeys by BRT. 23% by minibus. 7% by commuter rail. 55% of vehicles electric.

## Electric Bus Option

Option Name	Key Corridor Elements Affected (Category-Element-Option/Intervention)
Alternative energy buses	<p><b>Infrastructure</b> - Provide charging infrastructure at strategic depots/terminals.</p> <p><b>Operations</b> - Introduce an alternative energy public transport system i.e., hydrogen, electric or CNG; and adopt the operational concepts of option 4 (express bus service).</p> <p><b>Institutional Frameworks</b> - MOAs and MOUs with institutions of higher learning to train the required skills set in support of implementation; and agreement with OEMs for localisation of certain industrial activities related to system elements</p> <p><b>Information Technology Systems</b> - Include vehicle tracking technology to enable communication with the control centre for the purpose of updating the services in line with technology limitations.</p> <p><b>Other</b> - Nodal integration at Southgate.</p>





# Green Transport Strategy (UITP)

Transport Department will be commencing with the development of a Green Transport Strategy and Implementation Plan.

## PHASED APPROACH FOR E/H-BUS DEPLOYMENT

**if**  
KNOW & DECIDE

- Develop clean-buses deployment strategy
- Exchange of experiences
- Market monitor & understanding

**when**  
PLAN & REGULATE

- Standardised / interoperable solutions
- Funding & financing
- Urban policies

**what**  
SELECT & PROCURE

- Procurement process principles
- Indicators for procurement evaluation
- Relationship with energy providers

**how**  
OPERATE & MAINTAIN

- Training (new competencies, new processes)
- Operations (including charging operations)
- Maintenance (new garage settings)
- Decommissioning (battery after-life)

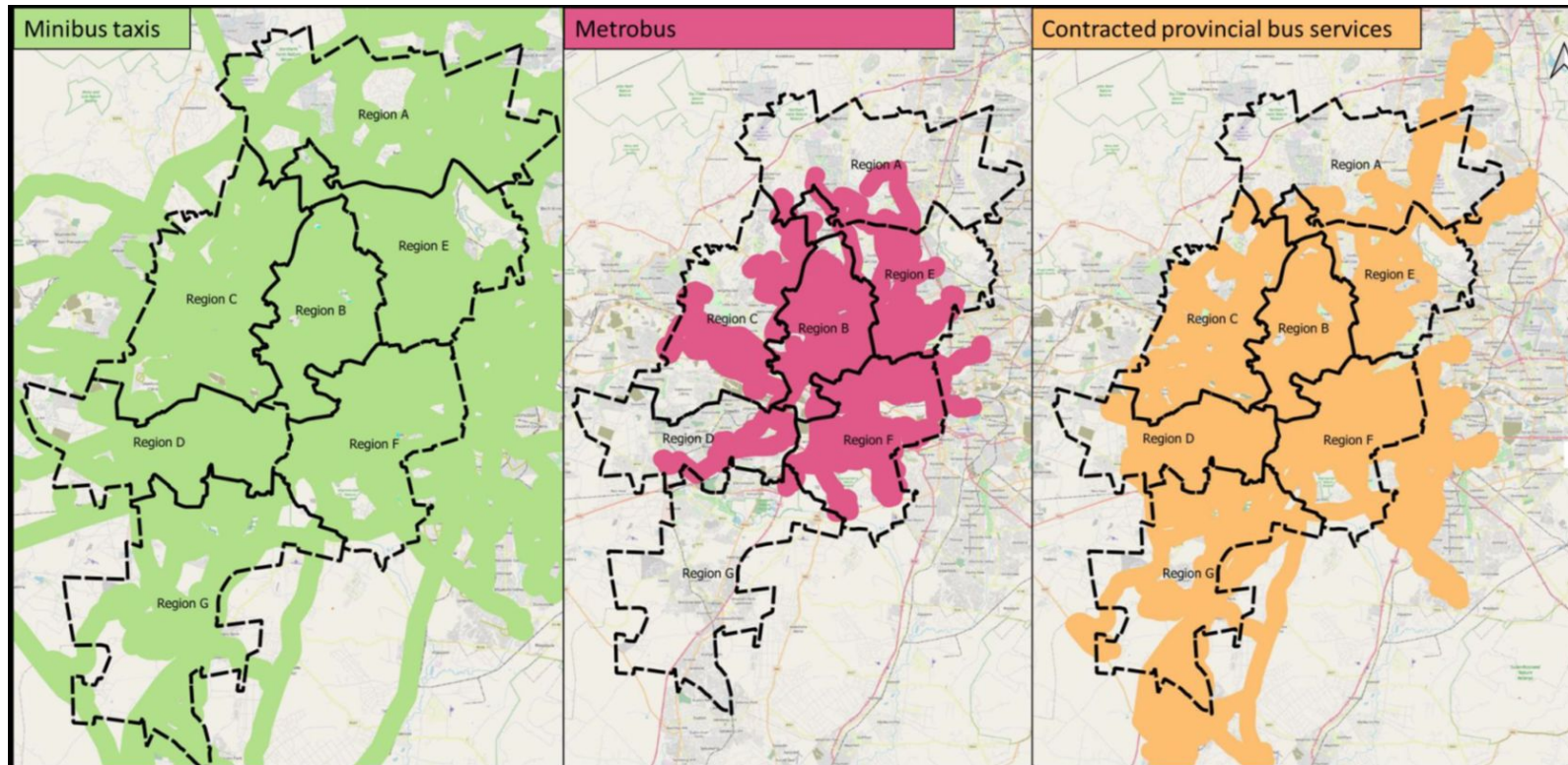
Action lines to support public transport stakeholders to deploy E-buses/ Hydro-cells

Joint effort of Institutions stakeholders cities





## Secondary Network: An opportunity for total Mass Transit?



- The secondary network operational plan has identified about 84 million kilometers of scheduled public transport services for contracting across the City's seven regions. Both buses and minibuses will be used for contracting purposes.
- It require in the order of 2 million seats in the peak. It was considered necessary to allocate these estimated 2 million seats spatially and temporally, cost effectively.
- The plan is proposed to be phased over a period of 7 years period up to 2030.





# Secondary Network: An opportunity for MBT Transformation

- The secondary network is integral to the CITP
- Methodology for its development followed a framework that comprises network design scenario modelling, using geo-spatial modelling tools. Development of a cost model with consideration made to existing bus and MBT network
- With key cost drivers being fuel, vehicle repayments, minibus taxis have lower human capital cost due to low standard labour practices
- Network requires about 2m seats (primary network: 365 000 seats in the peak, 60% standing)
- 83m km, Operational costs: R3.3bn, revenue: R1.4bn (the rest is shortfall)
- Proposed models for contracting is a combination of:
  - Commercial
  - PPP – Public Private Partnership



**Thank You.**