Integrated Public Transport Network (IPTN)

Project Overview

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TCT
TRANSPORT FOR CAPE TOWN

PRESENTATION OUTLINE

1. Project Background
2. Project Methodology and process
3. IPTN Proposal
4. Role of Transit Orientated Development
5. MyCiTi BRT Project – Executive Summary
6. Conclusions

1. Project Background

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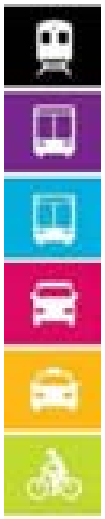
1.1 What is an IPTN plan?

The IPTN plan determines the role of appropriate public transport modes to provide users of the system with optimal solutions to able to travel from origin to destination in a seamless and in the most cost effective manner

- ✓ Ensures the correct mode responds to the correct function to ensure maximum efficiency
- ✓ Ensure viability and efficiency within the development of the City



Rail – Mass rapid transport across the Metropolitan area

BRT – Large volumes carried by dedicated bus ways

Feeder bus– Distribution and feeder service

Mini-bus taxi– on demand local service

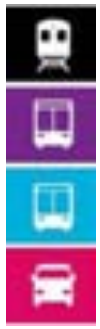
Metered - taxi

NMT

1.2 Purpose of an IPTN Network Plan?

- Provides the long term public transport network plan for the City

- Establish the role of each mode of transport
  - Rail
  - BRT
  - Scheduled Feeder bus
  - Mini-bus taxi

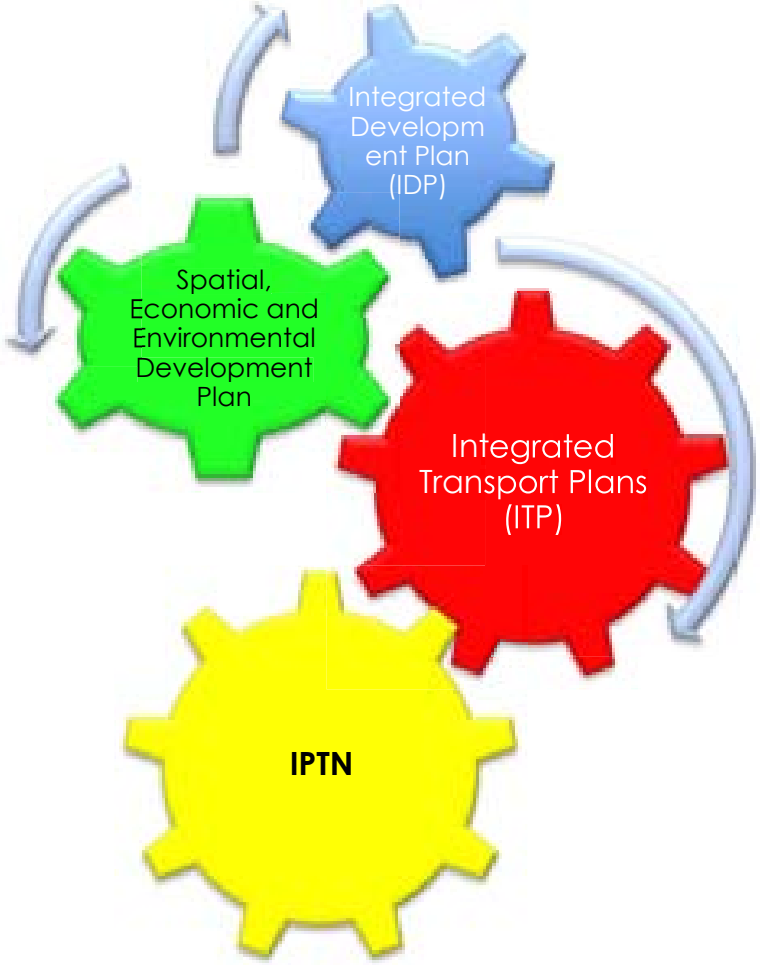


- Provide strategic direction for investment

- Shows commitment towards achieving an efficient and well run city (investment mechanisms)

1.3 Scope of the IPTN

- Takes guidance from existing policies, strategies and plans to produce a network plan:
- Provides the picture for a 20-year time horizon i.e. 2032
- Incorporates both rail and road-based public transport



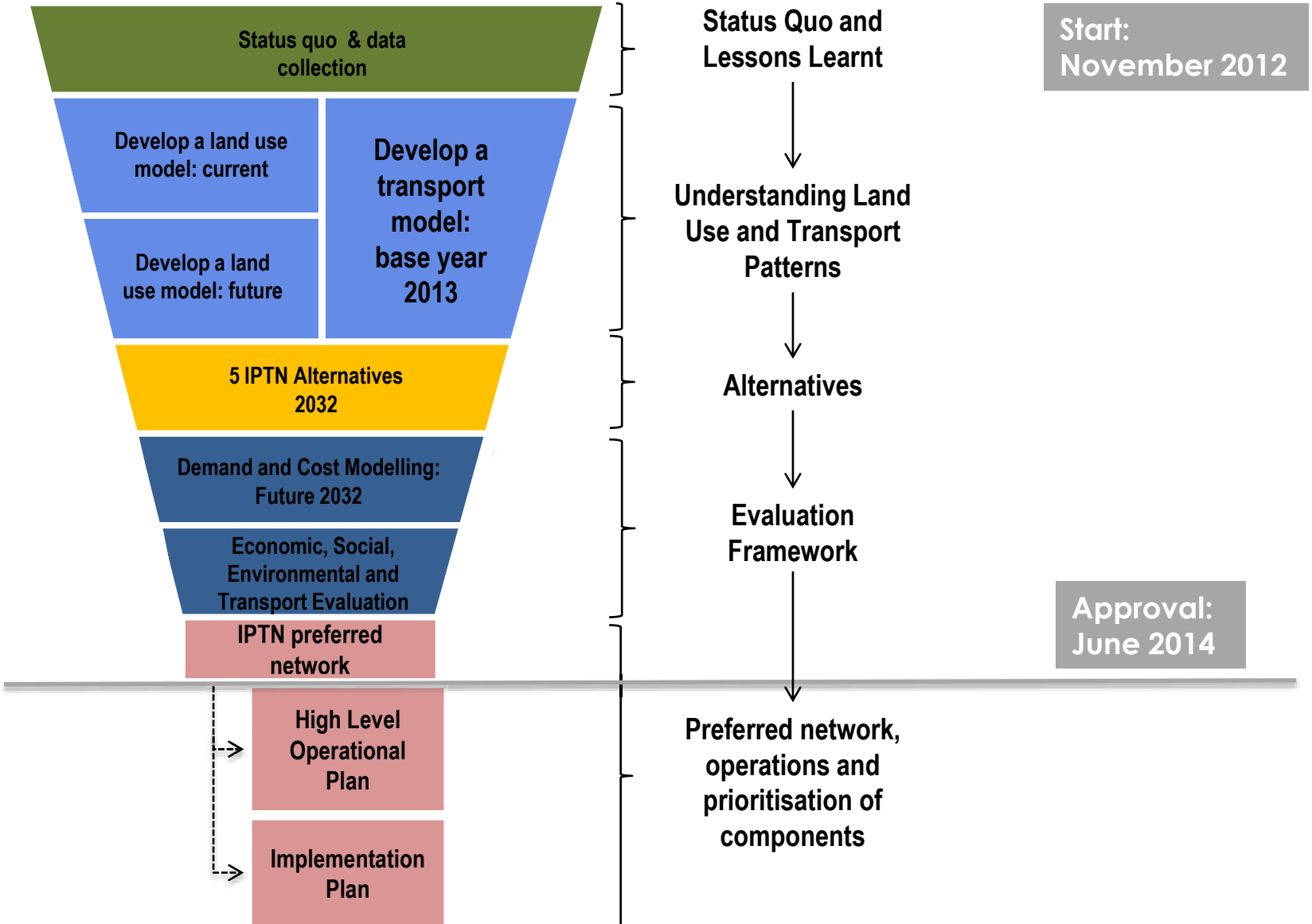
1.4 IPTN Deliverables

The key deliverables of an IPTN Network Plan includes:

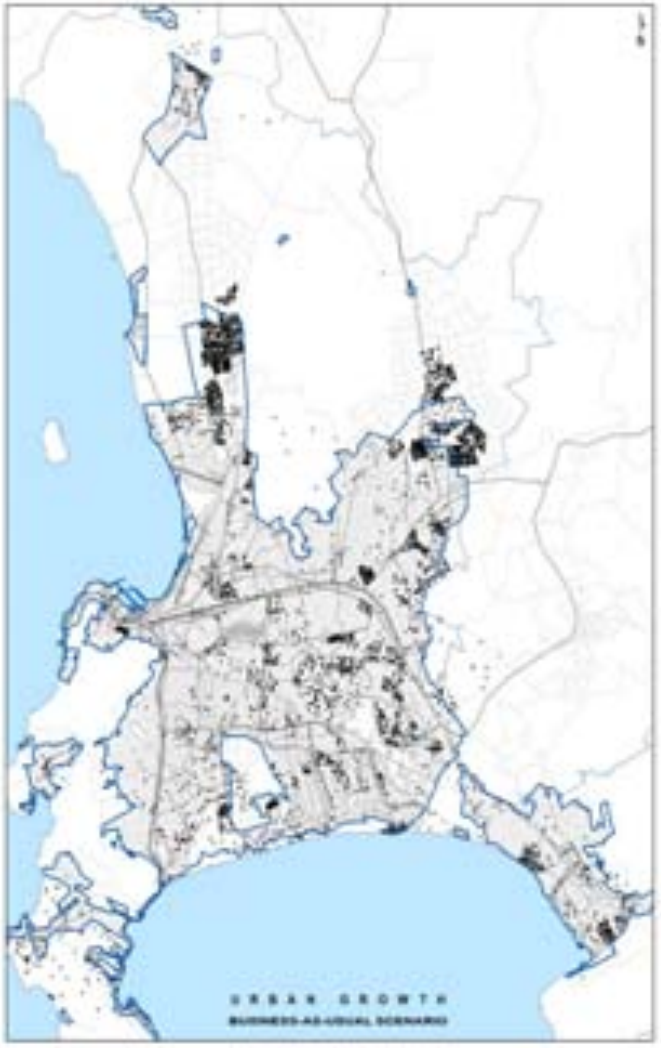
- Identification of metro wide transport corridors
- Defining the role of rail and road based modes
- System route descriptions (rail and road-based)
- Projects passenger demand per route into the future
- Route service frequencies
- Fleet types and sizing by mode

2. Project Methodology

2.1 METHODOLOGY

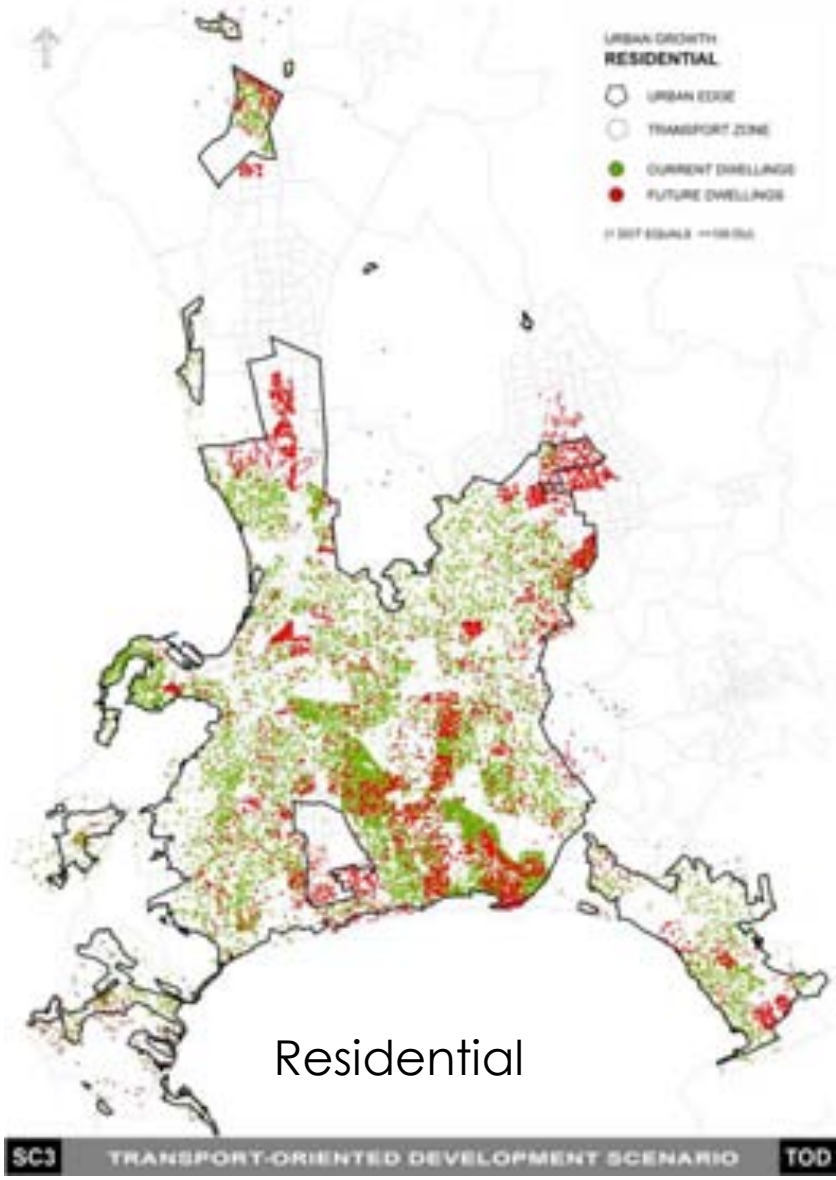


Land Use in 2032: Pragmatic TOD



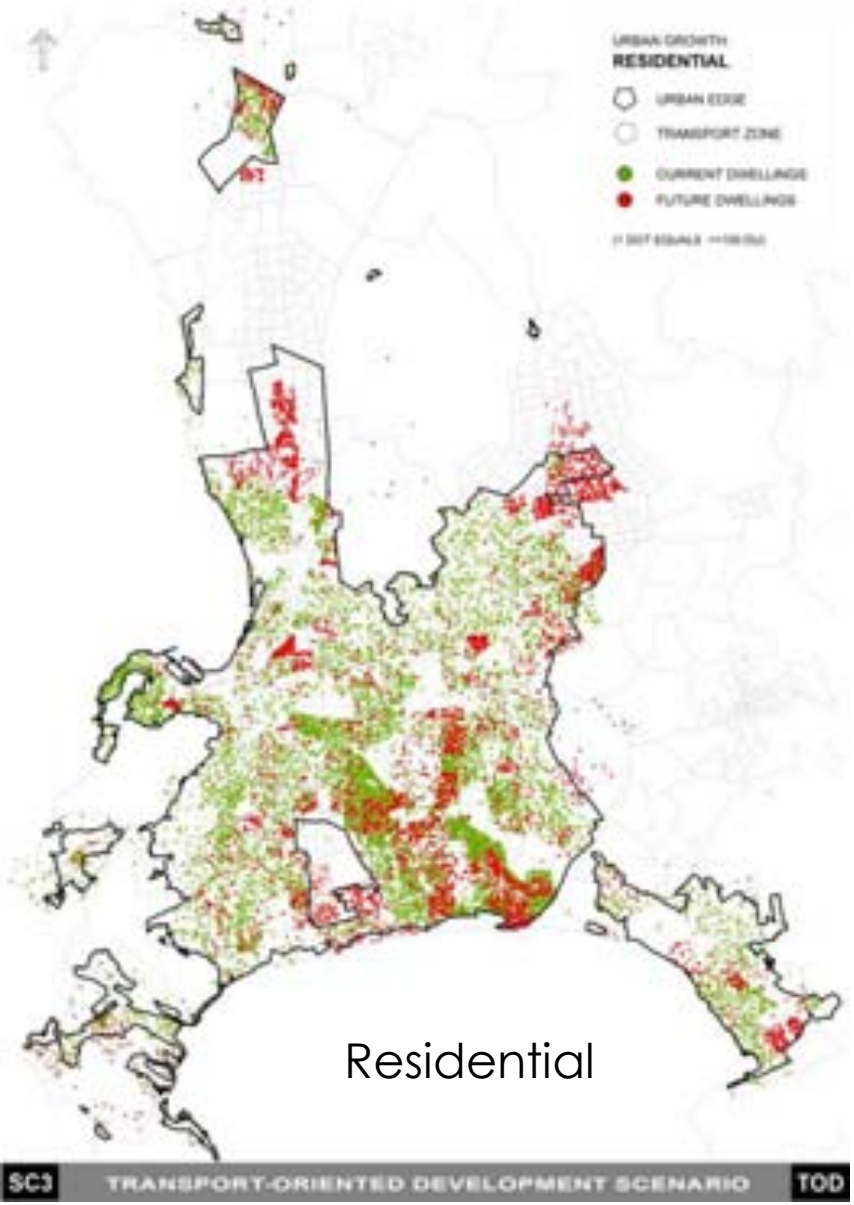
Residential

Shift to

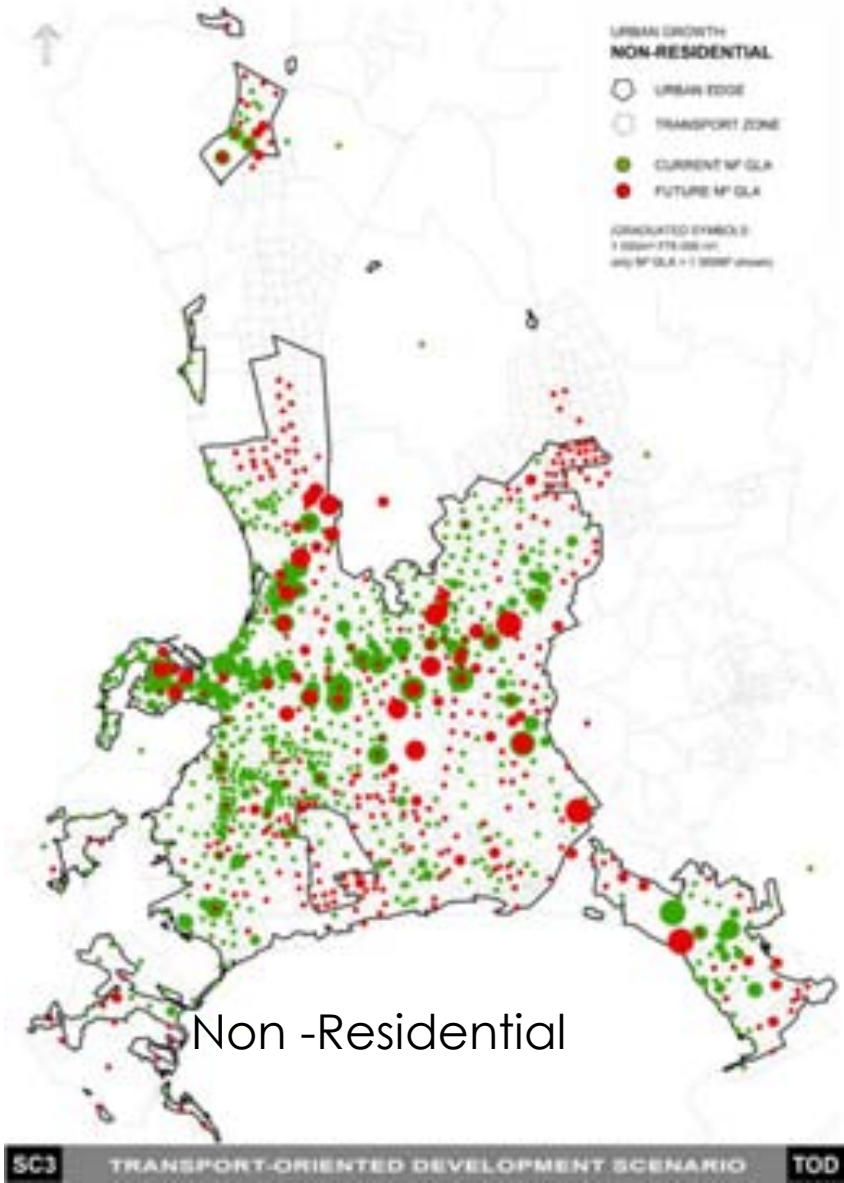


Residential

Land Use in 2032: Pragmatic TOD

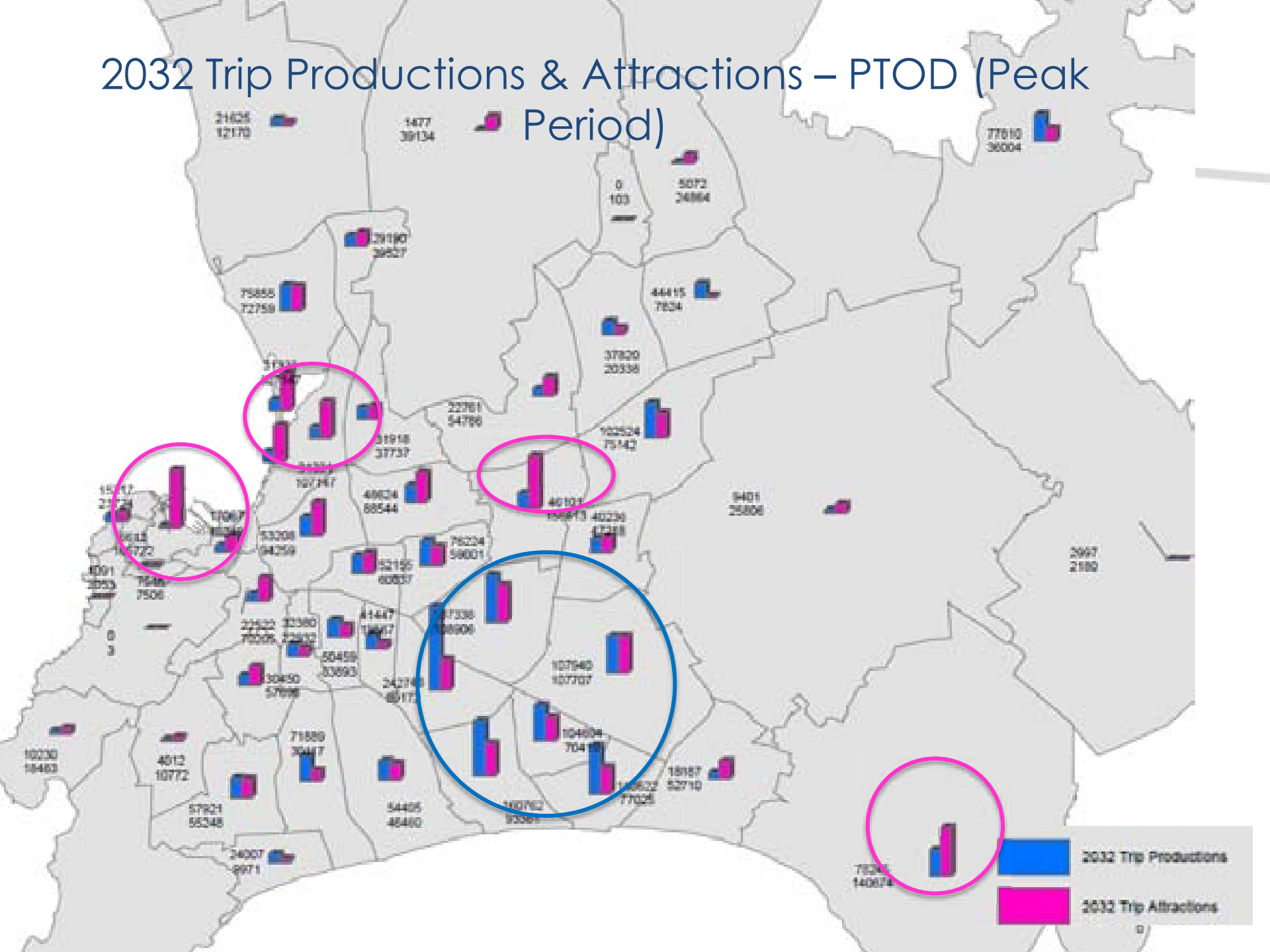


Residential

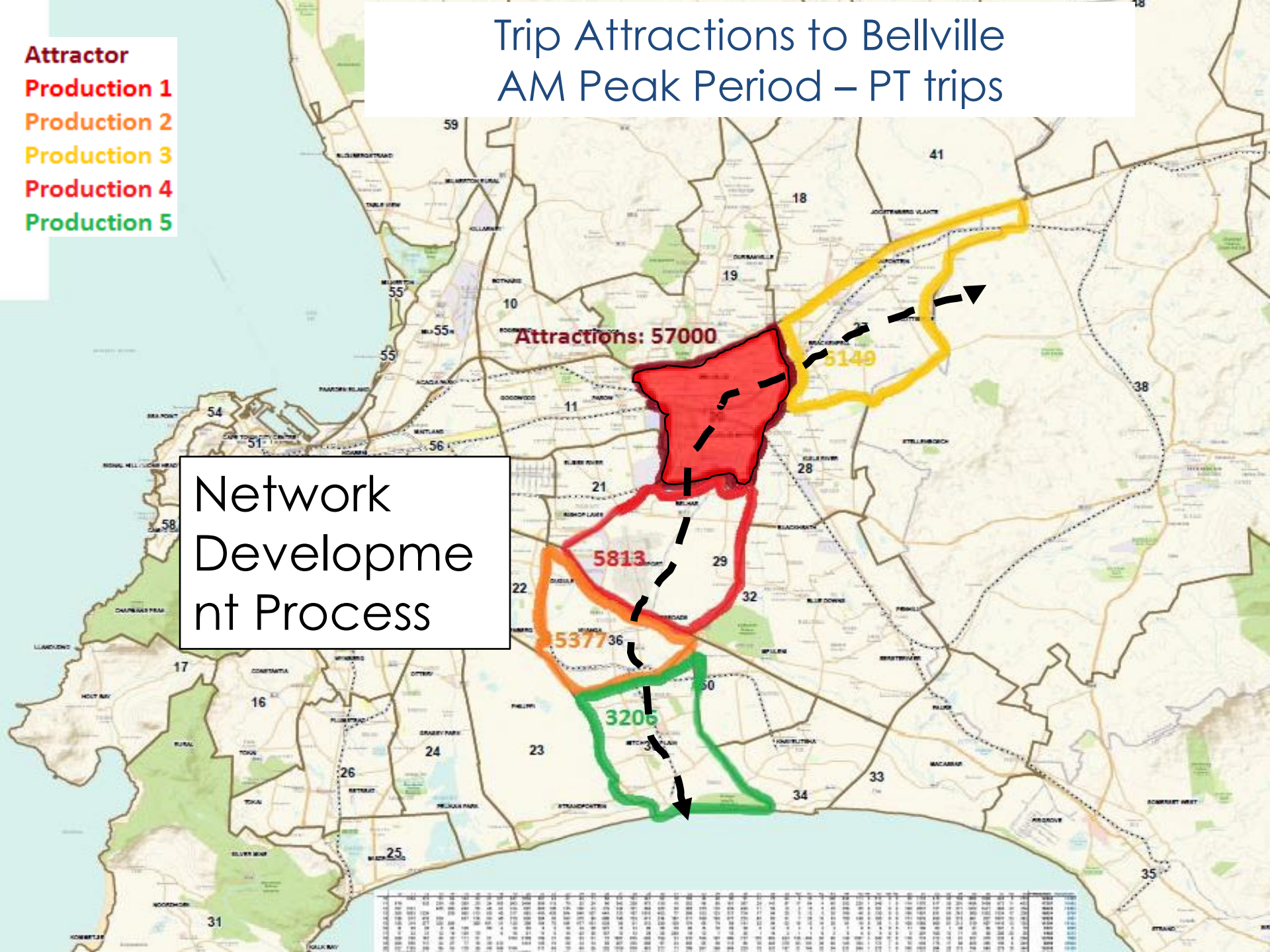


Non -Residential

2032 Trip Productions & Attractions – PTOD (Peak Period)



Trip Attractions to Bellville
AM Peak Period – PT trips



3. 2032 IPTN

2032 IPTN

- Rail
- BRT
- Feeder bus and taxi

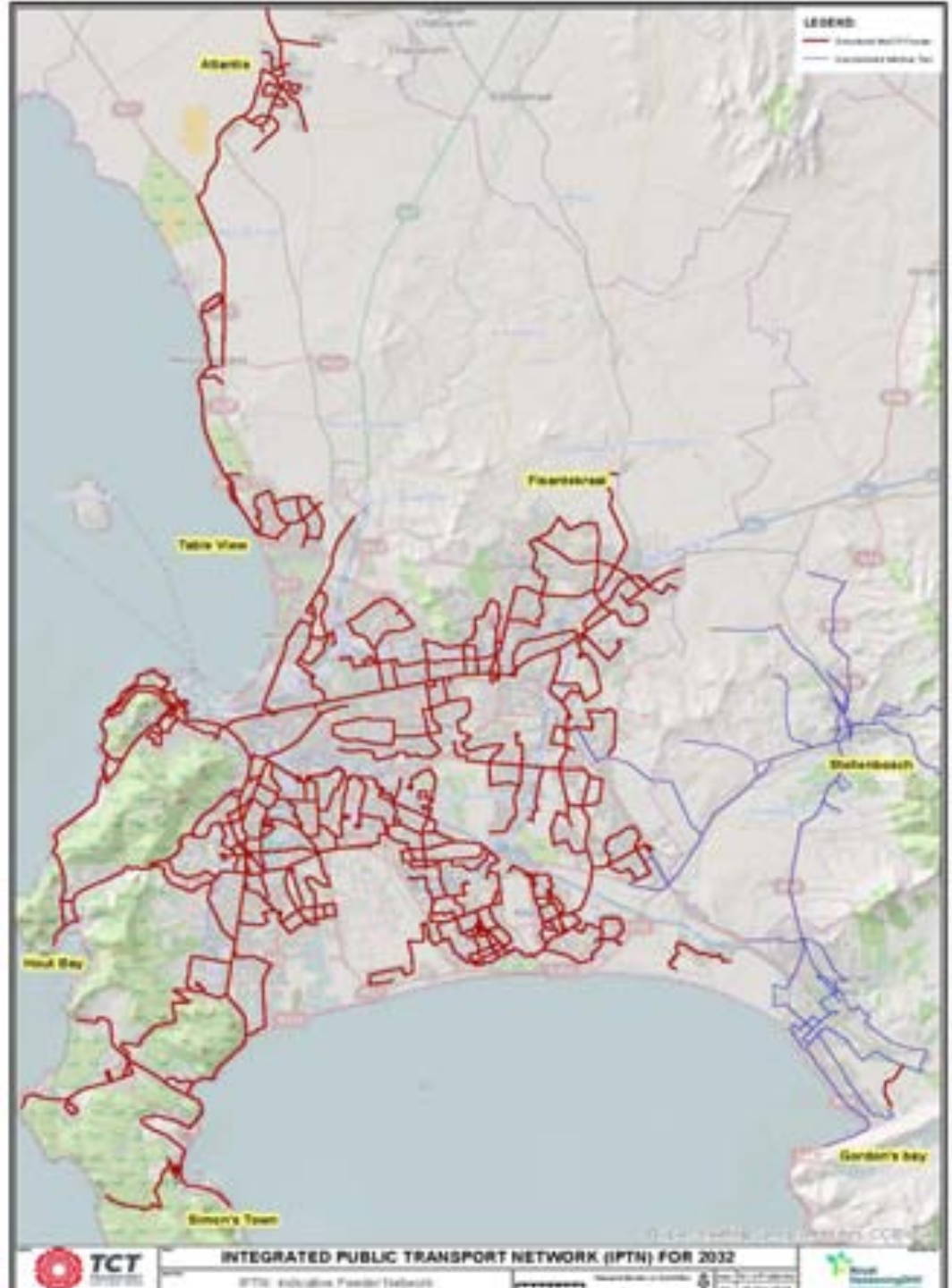
Proposed Rail Network

- New Blue Downs Rail Link
- Doubling of the existing Strand line
- Extension of Chris Hani Rail link to Somerset West subject to planned development in Somerset West
- Special attention to be given to the Fisantekraal line during the operational plan

BRT Network

BRT routes covering the following corridors:

- Lansdowne – Wetton
- Klipfontein Road (Distributor)
- Gordons Bay to Retreat
- Symphony Way
- Westlake/ Retreat to Bellville
- Strandfontein Road
- Blue Downs to West Coast
- Metro South East to West Coast
- Frans Conradie Drive



Feeder bus

Mini-bus taxi

Supporting feeder services to both rail and BRT trunk services

4. Role of Transit Orientated Develoment (TOD)

Transport & Land-use

- Transport is a derived demand from land-use activity
  - *E.g. Commuters travel because of work*

- Transport is influenced by land-use type, distribution, intensity and mix:
  - Type refers residential, office, industrial, recreation and others
  - Distribution refers to location
  - Intensity speaks to density, and
  - Mix land-use. Example: Century City

- This transport and land-use relationship affects:
  - Optimal use of public transport
  - Cost of public transport to both passenger and City
  - Type of public transport
  - Viability of public transport
  - Impacts on the economy, environment and social aspects of the City

Progression of land use scenarios

? – More aggressive TOD still required

Densification, **intensity and mix** of land use **located** around transit in order to make the most of transit and lower operating costs

*Density and **mix** near transit to optimise flows*

Densification policy implemented and **located** around transit

Density located at transit & slightly improved mix-use

Densification policy implemented

General increase in density

Existing trends

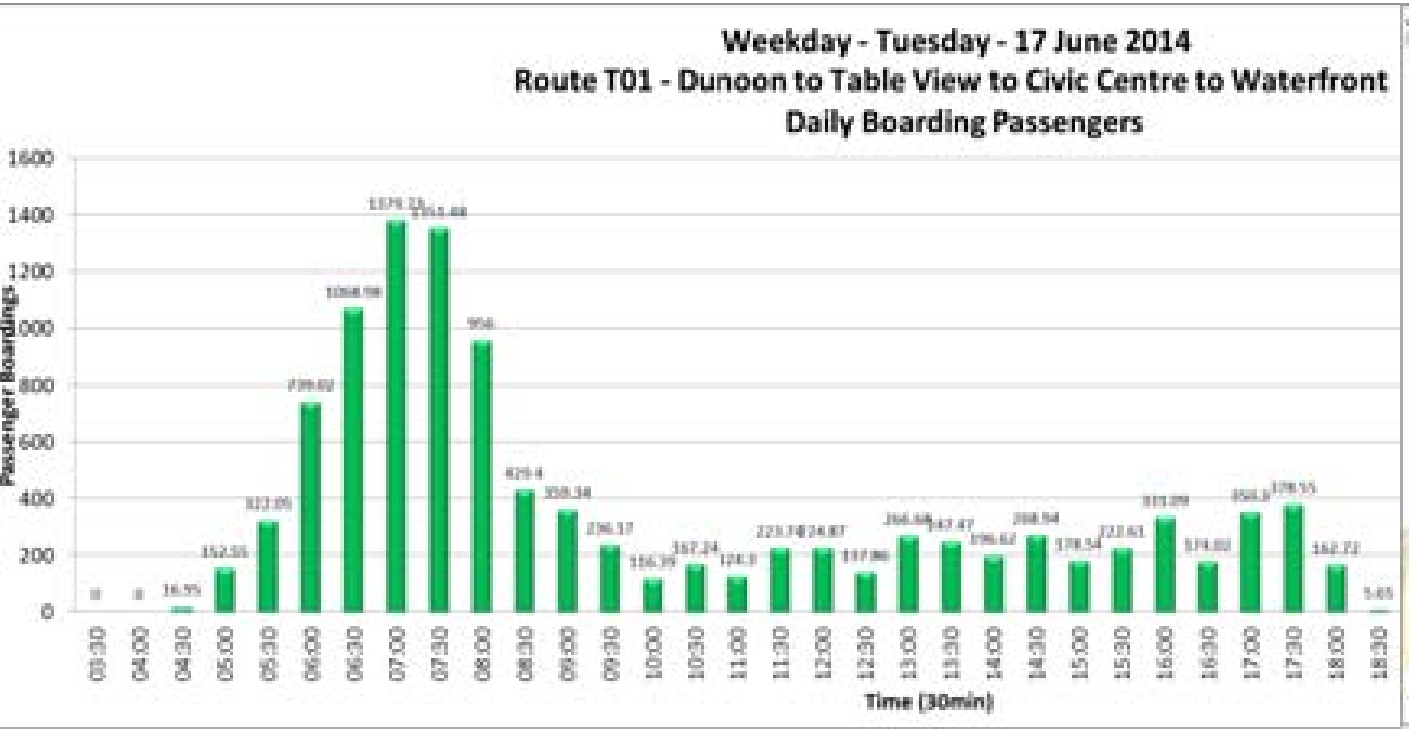
★ Pragmatic TOD

★ Pragmatic Densification

★ Business as Usual

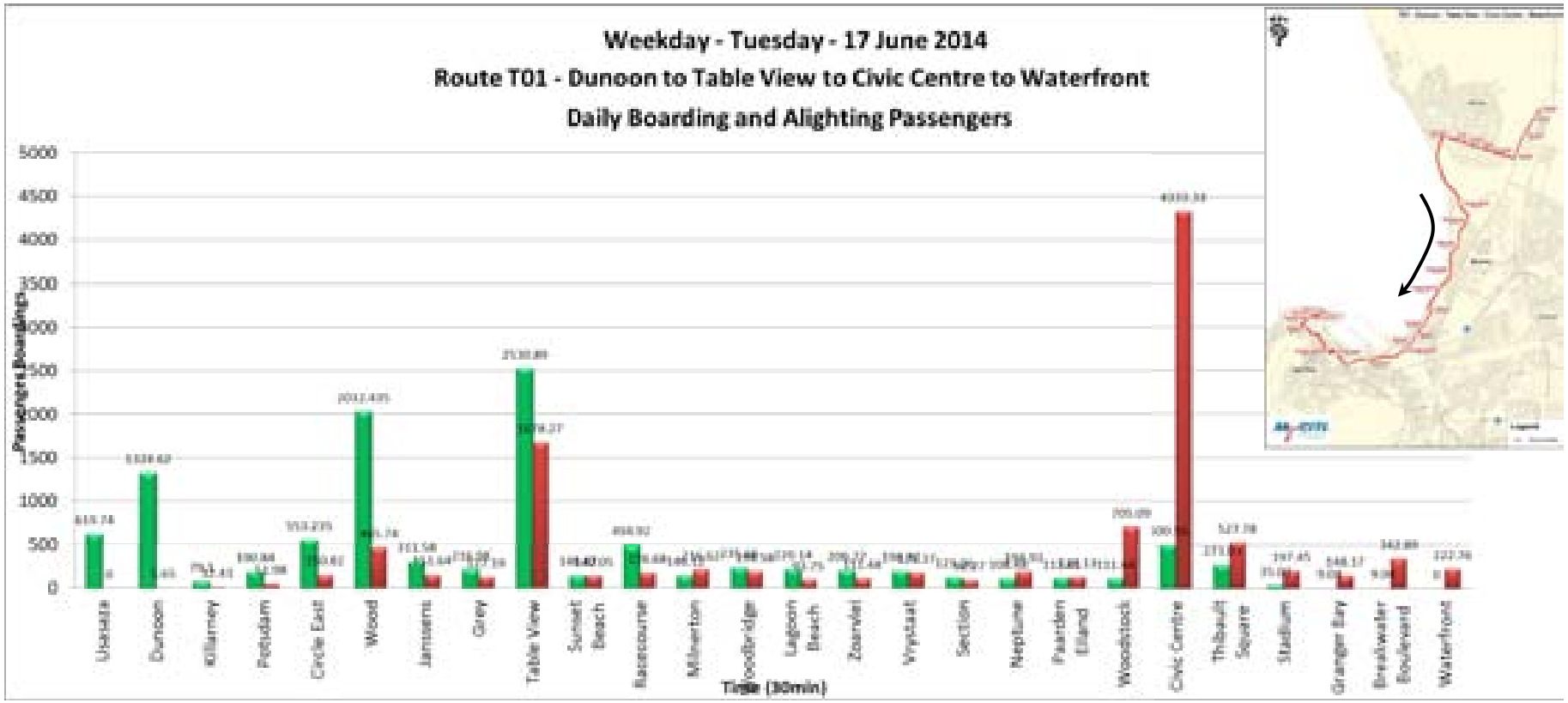
How will TOD can help?

- **Overcoming the Tidal Movement**



How will TOD can help?

Improve Seat renewal



Transport & Land-use

KEY CONCLUSIONS

- ✓ **Lower density** implies more public transport provision for a relatively lower return
  - ✓ **more cost** to the City
- ✓ Further away land-use located **more it cost** in money and time for the **passenger**
- ✓ Effective **land-use mix** provides **benefit to both** City and passenger
  - ✓ Improved return on City Investment
  - ✓ Passenger travels shorter distances and saves time and money
- ✓ **Location** of land-use types is critical to **efficient use** of public transport which improves viability of the public transport system

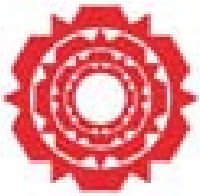
Political support and champion

At the Mayoral Committee when IPTN was approved:

The Executive Mayor P de Lille suggested that Transport for Cape Town, Human Settlements, Utility Services and Community Services meet to discuss the issue of integrated planning by utilising the City's Integrated Public Transport Network (IPTN) Plan as a guideline for the alignment of all planning and projects relating to community development along the identified corridors.

The Executive Mayor further requested that the outcomes of the above meeting form the basis of detailed discussions on integrated corridor development plans at the next Strategic Mayco/EMT session in September 2014.

5. MyCiTi BRT Project: Executive Summary



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2015/04/09

KEY SYSTEM CHARACTERISTICS

• Integrated **network** of routes consisting of Trunks & Feeder services

• **Dedicated median** priority Trunk infrastructure
  - Frequent and rapid service between major origins and destinations

• **Rapid** Trunk boarding and alighting, facilitated by:
  - Pre-board fare collection and fare verification on the trunk services
  - Multiple right sided doors

• **Reliable and accessible** feeder service network

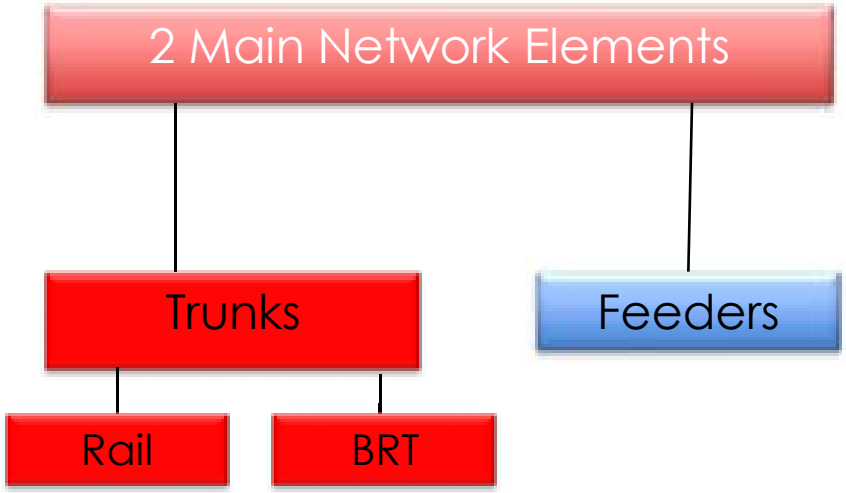
• **Universal Access**

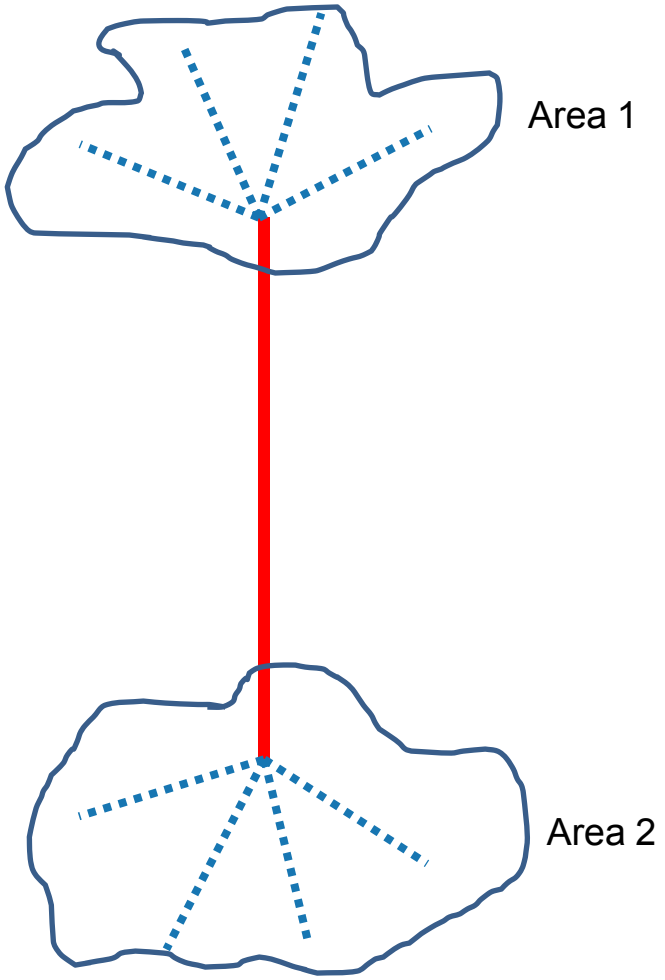
• **Fare-integration** between routes, corridors, and feeder services

• Passenger **information**

• Enable and support **City Development**

Integrated Network





Feeder (Low floor)

System Structure & Design

Advantages of Median Operation

- Least Friction
  - Parked/ break-down vehicles
  - Minimise interaction with private vehicles
- Maintain consistent operating speeds
- Requires one station per location
  - Reduce Costs
  - Facilitates transfer between routes
- More easily enforced
- Making a statement for public transport


07/01/2013

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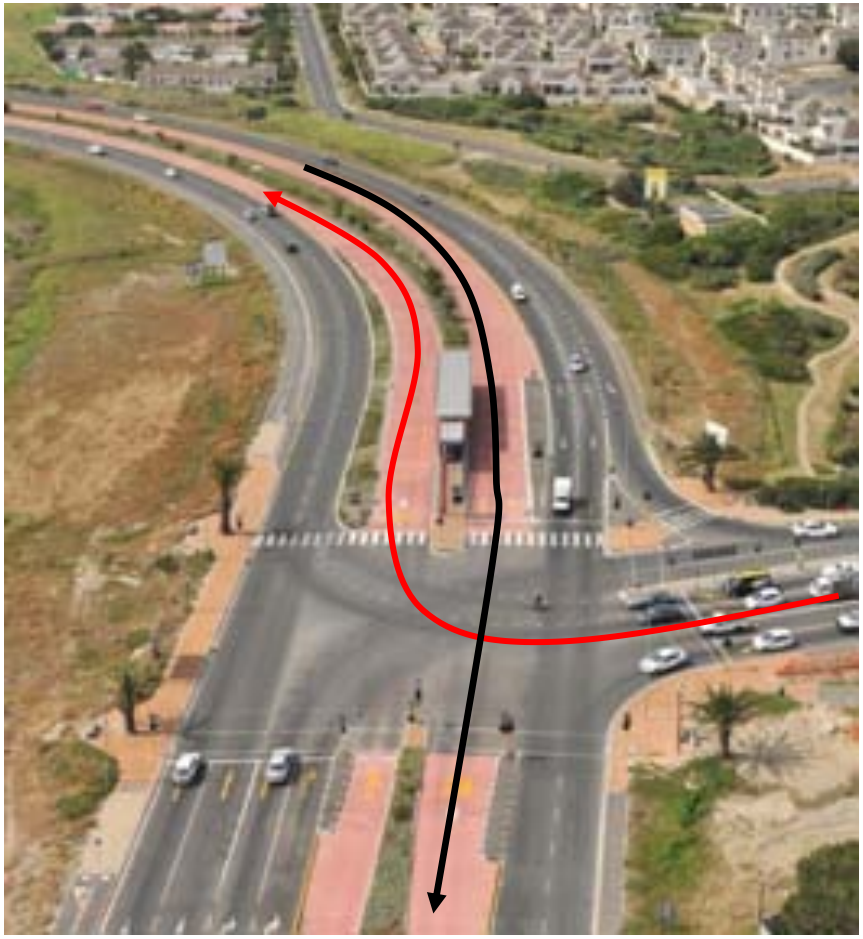

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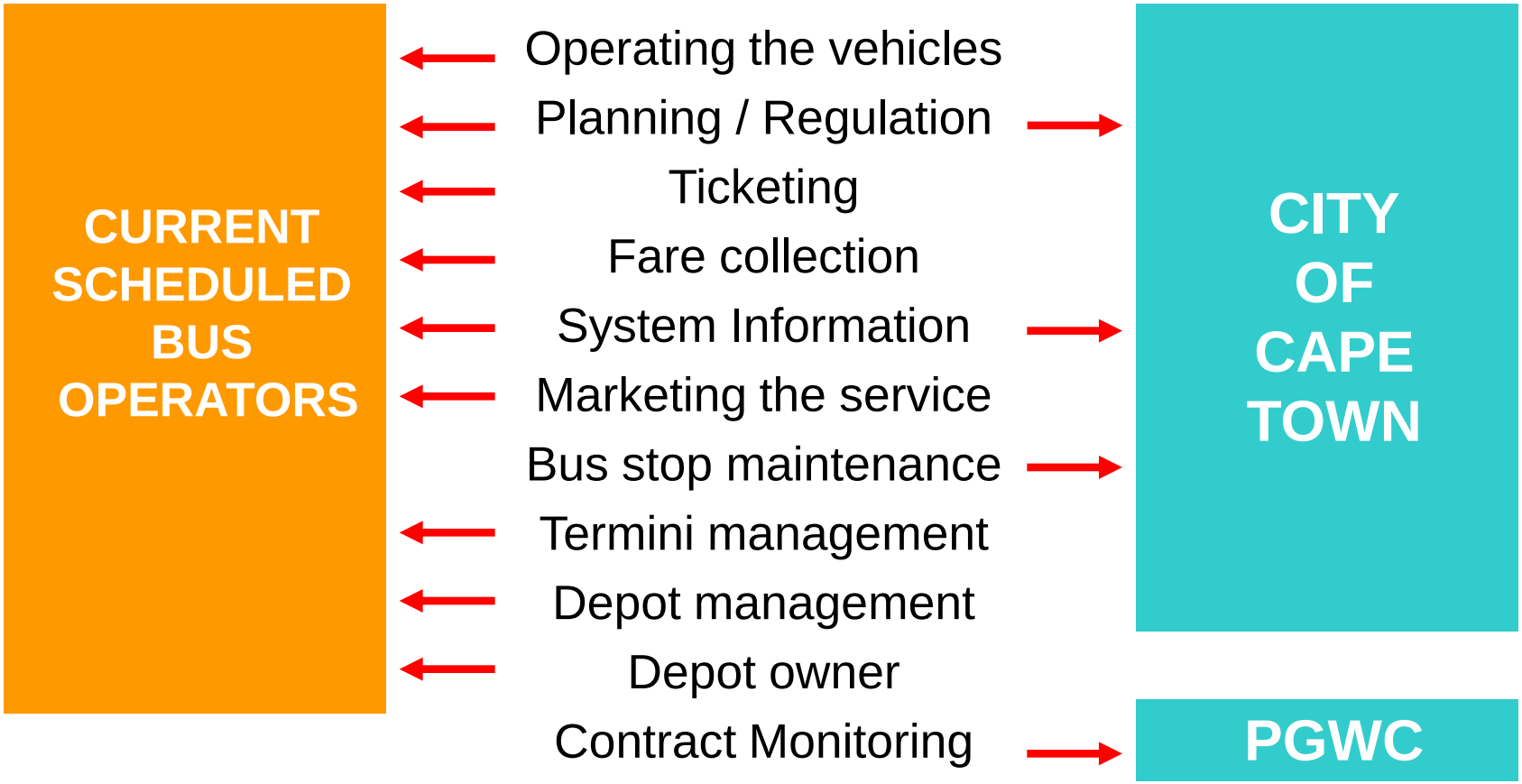
IRT Business Model

Old Model



IRT Business Model

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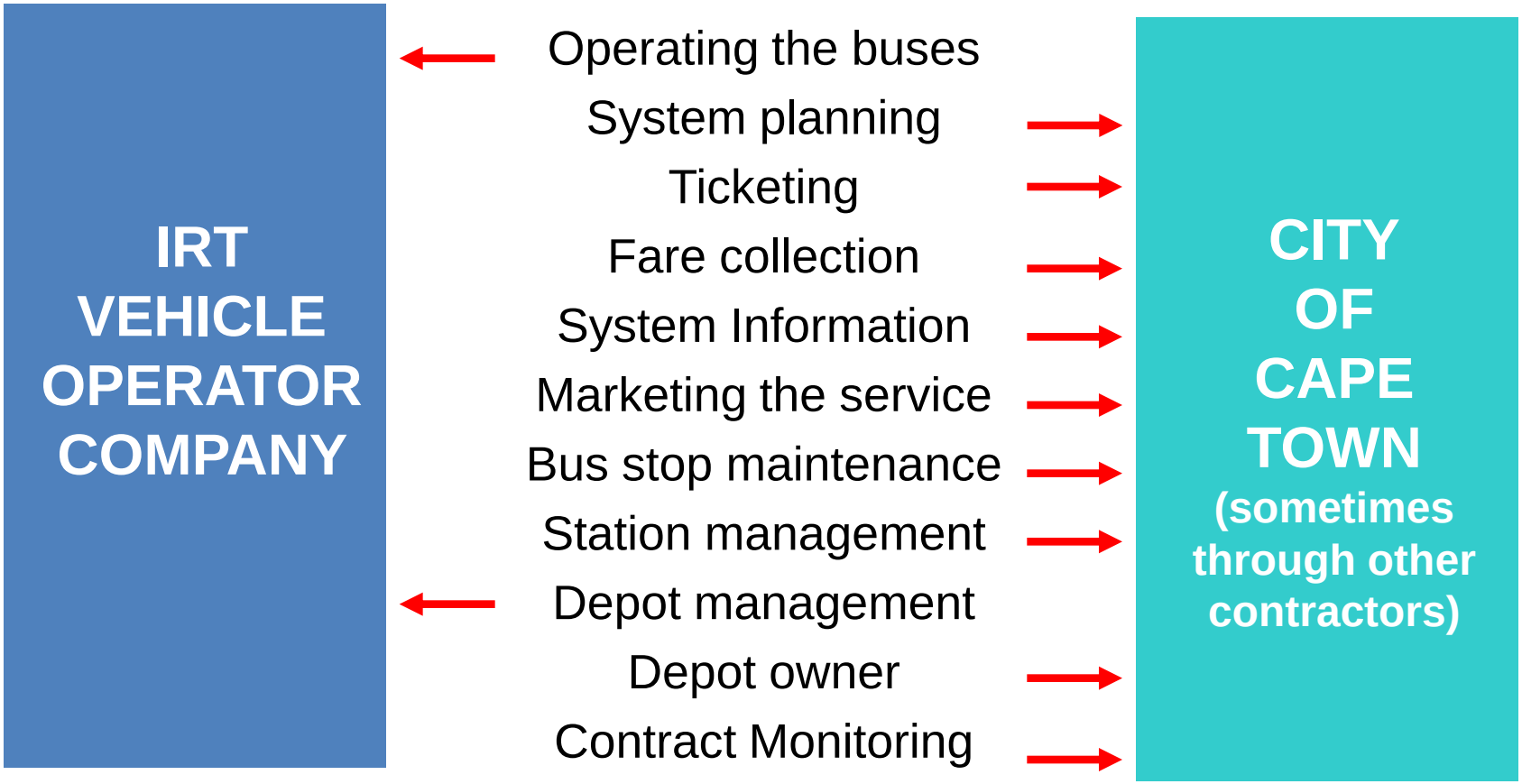

5. Conclusions

Key Lessons Learnt

1. IPTN Development

- Good, regular and credible transport data to continuously calibrate Transport Demand Model and monitor projection

- Active engagement with Land-use planners to push the boundaries with respect to Transit Orientated Development

Key Lessons Learnt

2. BRT Project

- Key driver for bus operation efficiency
  - Physically separated busway
  - Zero tolerance enforcement
  - Priority Intersection treatment

- Key contributors to operational costs
  - Cost involved in managing closed stations
    - Kiosk management, Security, Cleaning, Faulty doors

Key Lessons Learnt

2. BRT Project

- Key contributors to operational costs (2)
  - Slow feeder services
    - Provide more priority lanes for feeder services
    - Need to strike a balance between extensive coverage and operational cost

Key Lessons Learnt

2. BRT Project

- Planning
  - Well Calibrated Model to improve accuracy of the demand projection which impacts revenue projection
  - Very High Peak hour Demand & Low Off-peak demand

  - Fleet type
    - Move from High Floor to Low Entry bus
    - Low Entry Bus provide more flexibility and provides opportunity to further reduce operation cost

Key Lessons Learnt

2. BRT Project

- Industry Transition
  - Informal Transport industry cannot be 100% replaced
    - Requires a hybrid model
    - City is developing this hybrid model

Change has started…

Claremont won't miss this bus

Access for all

Thank you