Integrated Public Transport Network (IPTN)

Project Overview

9th April 2015

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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
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
2.1 METHODOLOGY

Status quo & data collection

- Develop a land use model: current
- Develop a land use model: base year 2013
- Develop a transport model: future

5 IPTN Alternatives 2032

Demand and Cost Modelling: Future 2032

Economic, Social, Environmental and Transport Evaluation

IPTN preferred network

High Level Operational Plan

Implementation Plan

Status Quo and Lessons Learnt

Understanding Land Use and Transport Patterns

Alternatives

Evaluation Framework

Preferred network, operations and prioritisation of components

Start: November 2012

Approval: June 2014
Land Use in 2032: Pragmatic TOD

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 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
Supporting feeder services to both rail and BRT trunk services
4. Role of Transit Orientated Development (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

★ Pragmatic TOD
★ Pragmatic Densification
★ Business as Usual

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
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
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

2 Main Network Elements

- Trunks
  - Rail
  - BRT
- Feeders

Area 1

Area 2

Feeder (Low floor)
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

System Structure & Design
System Structure & Design

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IRT Business Model

Old Model

CURRENT SCHEDULED BUS OPERATORS

- Operating the vehicles
- Planning / Regulation
- Ticketing
- Fare collection
- System Information
- Marketing the service
- Bus stop maintenance
- Termini management
- Depot management
- Depot owner
- Contract Monitoring

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PGWC
IRT Business Model

IRT Model

IRT VEHICLE OPERATOR COMPANY

- Operating the buses
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- Ticketing
- Fare collection
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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**

Long Street is just one of the streets set to become more accessible to people with disabilities. Council is set to roll out a plan to improve universal access at intersections in the city.

“I am a frequent visitor to Long Street, and I’ve noticed many of the bars and night life is housed there. With so many cafes and bars placing tables and chairs on the footpath, it’s difficult for pedestrians, people in wheelchairs or people who are visually impaired to negotiate,” he says.

This includes vehicles parked on the pavement and the placement of advertising boards, plants and street furniture on the sidewalk. The presence of informal traders along Long Street also limited universal access.

A project has been initiated in its drive to universal access at intersections in the CBD, including intersections along Long Street, he says. “This project involves the dropping of kerbs that provide access to sidewalks, as well as the widening of sidewalks at intersections. This widening of sidewalks at intersections will reduce the crossing distance for pedestrians across the street and prevent vehicular parking and obstructing the pedestrian crossing area,” he says.

A tender will be awarded soon for this project.

The widening of sidewalks and the dropping of kerbs are also listed as features meeting the standards for the city. Claremont Improvement District chairperson Komadji Heer be...
Thank you