Draft Public Transport Action Plan:


- Phase 2: Promote & Deliver Basic Networks (2010–2014)
- Phase 3: Advance & Sustain Accessible Networks (2014–2020)

SASITS
March 2007
Public Transport Strategy has two key thrusts: *Accelerated Modal Upgrading* and *Integrated Rapid Public Transport Networks (IRPTNs)*.

This Action Plan is submitted in order to translate the Strategy into action - with a focus on implementing Phase 1: (2007-2010) Catalytic Integrated Rapid Public Transport Network Projects in 12 cities and 6 districts.
The Strategy and Action Plan are framework documents and are informed by and in turn guide the future focus of:

- Municipal ITPs,
- Inclusion of taxi industry into formal networks,
- 2010 Transport Action Plan and PTIF,
- Draft Rural Strategy and IRMA projects,
- Regional Rail Plan implementation,
- Bus contract redesign

Key next step is to complete detailed local network operational plans by August 2007 in order to develop detailed costing and initiate procurement.
Overview of phase 1 (2007-2010): catalytic integrated rapid public transport networks comprising rapid rail and bus rapid transit corridors

Linkage with Accelerated Modal Recovery Plans - transition From Modal Services To Multi-modal Integrated Networks - passenger rail plan, taxi recapitalisation and metered taxi plan and transformation of subsidised road-based public transport plan

Linkage with the Public Transport Infrastructure and Systems fund (PTIF)

Costing implications and funding framework
ENHANCED COMPONENTS OF INTEGRATED RAPID PUBLIC TRANSPORT NETWORKS

Intelligent Transport Systems Implementation In Public Transport Networks

Fare Integration Through Electronic Fare Payment In Public Transport Networks

Linkage With High Quality Non-motorised Transport Network

Linkage With Long Distance Public Transport Services

BUILDING CAPABILITIES FOR SUSTAINABLE IMPLEMENTATION OF INTEGRATED RAPID PUBLIC TRANSPORT NETWORKS

Industry Supply Challenges In A Fast-growing Economy

Alignment With Land Use And Housing Implementation

Institutional Framework For Municipal Controlled Integrated Rapid Public Transport Networks
FACILITATING PHASE 1 (2007-2010) RURAL DISTRICT IMPLEMENTATION

Rural Transport Concept Plan For 6 District Municipalities

INTEGRATED PUBLIC TRANSPORT NETWORKS AS AN ALTERNATIVE SOLUTION TO URBAN CONGESTION

Implications Of Integrated Rapid Public Transport Networks For Car Use Travel Demand Management And Freeway/road Supply Expansion

PHASE 1 (2007-2010): CATALYTIC INTEGRATED RAPID PUBLIC TRANSPORT NETWORK PROJECTS PER CITY
**Strategic Approach 2007-2020:**
Vision: From Basic Commuter operations...To Accelerated Modal Upgrading & Integrated Rapid Public Transport Networks!

- 85% of all residents within 1km of Rapid PT Network by 2020
  - Upgraded modal fleet, facilities, stops & stations
    - Extended hours of operation (16-24hrs)
  - Peak frequencies (5-10min) - Off peak frequencies (10-30min)
  - Full special needs and wheelchair access
  - Safe and secure operations monitored by Control Centre
  - Electronic fare integration when making transfers
  - Integrated feeder services including walking/cycling and taxi networks
  - Integration with metered taxi services and long distance intercity services
  - Car competitive PT option - enables strict peak period car use management

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**Critical Implementation Building Blocks**

- Integrated Rapid Public Transport Network Implementation Plan
- Municipal control over Integrated Network
- Maximum stake for existing bus/minibus sector in Rapid PT Network operations
**Strategic Phasing 2007-2020:**

**Phase I**
2007-2010
Accelerated Recovery & Catalytic Projects (up to 12 cities & 6 districts)

Accelerated Modal Recovery aligned to Integrated Rapid PT Network (if applicable)
Taxi Recap, Rail Accelerated Rolling Stock Recovery Plan, Bus Tendering based on redesigned routes, Safety and Security Enforcement on PT.

Metro/District Catalytic Integrated Rapid PT Network Project:
Basic Rail and Bus Rapid Transit Corridors, PTIF - 2010 Legacy, New Rural Subsidised PT services, NMT Facilities, Car Use Management, Integration with Metered Taxi & Long Distance PT for 16-24 hour service.

**Phase II**
2010-2014
Promote & Deliver Basic Networks (up to 12 cities & 6 districts)

- Modal recovery completed (taxi recap, rail and bus upgrading)
- Expand initial Priority Corridors into a Basic Service Network in Metros/Districts & phase in car use disincentives.

- Intermediate BRT/Rail Network operational on major corridors
- Integrated fare system and ITS control centres
- All operators consolidated into capable network service providers

**Phase III**
2014-2020
Advance & Sustain Accessible Networks (maximal national rollout)

Metro/District-wide Full Service Network coverage. Fund PT/NMT through local charging of car users for road use & parking.

- Full coverage BRT/Rail Network
- Full physical and fare integration
- Strict land use actions to support PT Network
- High quality intercity rail/road services operational
Summary of Key Actions...2010

- Municipal transport authorities in 12 cities to finalise high quality network operational plans (BRT and Rail Priority Corridors) – by August 2007. Rural Public Transport plans for 6 districts by October 2007 with implementation thereafter until 2010;

  - Improved Rail infrastructure and signalling - R5.4 Billion is required. Upgraded Rail rolling stock – 2000 coaches refurbished by 2010;

  - Accelerated rollout of Taxi Recapitalisation – 75 000 vehicles to be scrapped by 2009/10;

  - BRT Phase 1 rollout in cities commences from September 2007 to January 2010 - estimated at 13bn in capital investment for up to 12 cities;

  - Incorporate current subsidised bus services and include minibus operators and labour into the IRPTNs – detailed city-taxi industry negotiation and business planning process completed by June 2008;

  - The DoT will convene task team (TETA, Department of Public Service and Administration, transport authorities, etc.) to assess skills and staffing requirements required to implement IRPTNs. A detailed skills plan for each transport authority will be finalised by March 2008.

  - From 2009 all new buses, taxis and rail coaches will comply with safety and special needs access standards.
Planning Actions

Finalise full network planning and roll out Phase 2 gross cost contracts which include small bus and taxi operators.

Capacity Enhancement Actions

Consolidate operators (including minibus) into capable entities and provide business planning support to ensure they are able to provide high quality services under contract.

Full establishment of municipal network planning and management entity that has the necessary operational expertise to monitor operators in terms of performance contracts.
Summary of Key Actions...2014...2

Operational Improvement Actions

Fully upgrade Phase 2 integrated rapid public transport corridors –to cover at least the top 50 mass corridors (Rapid Rail/BRT) in SA

Roll out Public Transport Intelligent Transport Systems nationally

Implement Travel Demand Management and car use reduction measures in all metropolitan areas – including roadspace reallocation measures to prioritise public transport

Implement an IRPTN-supportive land use system in the 12 cities

All 12 cities and 6 districts to mainstream high quality pedestrian and cycling facilities, infrastructure, public space and bicycle transport promotion – including at least 100km of high quality cycle and pedestrian paths in each area

Completion of taxi recapitalisation and rail rolling stock refurbishment programme. BRT Phase 2 rollout in the metropolitan cities to ensure full replacement of bus fleet

Roll out targeted public transport subsidies - that are linked to integrated rapid public transport networks

Full implementation of periodic rural public transport service networks in 6 districts

Phase 2 IRTPN corridors fully accessible for special needs users.
Funding needs for Phase 1 vs MTEF 2007/8-2009/10

<table>
<thead>
<tr>
<th>PUBLIC TRANSPORT BUDGET (2007/8 TO 2009/10)</th>
<th>Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter Rail (operational and capital)</td>
<td>14.7bn</td>
</tr>
<tr>
<td>Bus Subsidy (existing contracts)</td>
<td>8.3bn</td>
</tr>
<tr>
<td>PTIF</td>
<td>5.5+2.3+1.7bn</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Action Plan estimates for Phase 1 - 2010</th>
<th>Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRT Phase 1 Infrastructure in 6 metros</td>
<td>10bn</td>
</tr>
<tr>
<td>Road Priority infrastructure in 6 non-metros</td>
<td>3bn</td>
</tr>
<tr>
<td>Road-based Subsidy to ensure full contract compliance and include taxis</td>
<td>R1.7bn additional p/a</td>
</tr>
<tr>
<td>Rural District Network Programme</td>
<td>R3bn</td>
</tr>
</tbody>
</table>

Rail funding nearly adequate for Phase 1, however up to R25bn is required over Phase 2 and 3 for NEW rolling stock.

PTIF proposed as the funding mechanism to support the implementation of the Action Plan.

Careful estimates still to be finalised through detailed operational plans in the 12 cities and 6 districts by September 2007.
Intersphere partnerships for rapid Implementation from 2007...

2007 is the CRUCIAL year for detailed network planning in order to create a 2010 legacy.

Detailed operational network plans will need to be done by August 2007 in the first wave of cities. These plans will involve a detailed assessment of corridor volumes and demand patterns and this will dictate the sizing of infrastructure, facilities and fleets.

In his State of the Nation address on 9 February 2007, President Mbeki has already committed the transport sector in Government to detailed planning and implementation in 2007:

“Our programme in the social sector for this year will also include.......... implementing detailed plans for passenger rail and road transport including the Bus Rapid Transit System in the Metros.........”

Therefore implementing The Strategy and Action Plan will require all 3 spheres of Government to co-operate in innovative and effective ways in order to complete high quality operational planning.
The Action Plan presents initial Phase 1 corridor/network concepts for the 12 cities. This is done in order to scope the size and cost of a Phase 1 intervention. These proposals are in the main aligned to some of the current provincial frameworks (e.g. W.Cape Bus Restructuring, Gauteng SPTN).

The concepts are illustrative and were based on an iterative engagement with regard to assessing and facilitating alignment between the Public Transport Strategy and the Phase 1 city project proposals. The Action Plan is NOT a simple cut and paste of city’s pre-existing plans.

In some cases where cities have not done much work on network identification, the DoT team has highlighted some options for further exploration (e.g. Rustenberg, Mangaung, Polokwane). In other cases cities were challenged to upgrade the scope of their proposals to explore full BRT options (e.g. Cape Town, Nelson Mandela, Tshwane).

The next step is to IMMEDIATELY set up a 3 sphere team to jointly finalise the detailed operational plan for each city and district Phase 1 network by August 2007.
Integrated Rapid PT Networks in the 6 Metros and 6 other cities - comprising Rail and Road Priority Corridors

• Aim is to develop a Catalytic Phase 1 Rapid PT Network based on Road and Rail Priority Corridors plus feeder and NMT systems. Must be operational by 2009/10.

• 7 of the 12 cities have made initial start and require operational planning expertise to finalise plans by Aug 07. These are JHB, Tshwane, C Town, N. Mandela, eThekwini, Mbombela and Buffalo.

• Other 5 cities still need to establish basic network vision and concept. Will require intensive support. These are Polokwane, Rustenburg, Mangaung, Ekurhuleni and Msundizi.
These DM’s are spread across six provinces. They form part of the Integrated Sustainable Rural Development Programme (ISRDP) and some already include the IRMA programme of action sites.

In terms of the National Spatial Development Perspective (NSDP) – they are characterised as areas with a high social need index and simultaneously (in many instances) areas of developmental potential or in close proximity to economic opportunities.

**Six District Municipalities for Phase 1 ((2007-2010))**
- Sekhukhune District Municipality, in Limpopo
- OR Tambo District Municipality, in Eastern Cape
- Umkhanyakude District Municipality, in KZN
- Ehlanzeni District Municipality, in Mpumalanga
- Thabo Mofutsanyane District Municipality, in Free State
- Kgalagadi District Municipality, in Northern Cape
Implementation of a city/district NMT for the four years of Phase 1 (2007-2010) in the figure above includes full planning of the area and planning of the NMT associated with the rapid public transport corridors. It also includes undertaking detailed plans for two local areas, a special pilot project such as a bicycle rental or taxi service and a study to investigate institutional issues around planning, implementation and maintenance for NMT.

The initial package of infrastructure and design improvements assumes that for every km of rapid public transport, twice as many kms of NMT connections will be built. Therefore, if 2 corridors of 25km are constructed, 100km of NMT routes will be built. This will include the pathways, sidewalks, crossings, lighting and landscaping. In addition, two local areas will be improved by implementing a full network of NMT infrastructure.
The cost of implementation of a typical public transport ITS system is highlighted in the figure and is based on the deployment of a rapid bus system, and assumes a route length of 130kms with stops at every kilometer. Figures for a partial deployment are also provided, assuming that the route length is halved.

The figures provided are for a basic system, and provides the core elements to further expand the public transport ITS infrastructure. Note that the estimate does not include operational and maintenance costs – it only presents initial capital cost requirements. It is critical that O&M costs be budgeted for to ensure a sustainable system.
PRINCIPLE 1: Electronic Fare Collection and Information Systems in Public Transport must be implemented as an integrated system to enable the collection of public transport data electronically.

An Electronic Fare Collection System or a Public Transport Information System must not be implemented as separate standalone systems. Implementation of these elements as an integrated system, provides access to extensive information for planning and operational purposes.

PRINCIPLE 2: The impetus for implementation of these systems needs to be provided by Government.

The full implementation of these systems and associated benefits, extend beyond the requirements and/or needs of the Public Transport Operator only. Guidance for implementation should be provided by the Department of Transport to Transport Authorities. If supported and guided by Government, it will help build marketplace confidence, promote growth of the electronic technology industry and encourage producer investment and involvement.

PRINCIPLE 3: EFC and Information systems are critical elements to ensure integration in Public Transport, and should be aligned with fare structures and fare subsidy policy.
PRINCIPLE 4: Data generated by the Electronic Fare Collection Systems, is owned by Government.

Public transport operations and associated infrastructure are largely funded by the public sector. Data generated by these systems, must interface with an appropriate Government owned transportation data warehouse.

PRINCIPLE 5: A National Public Transport Data Warehouse as well as regional Public Transport Databases need to be established, with level of access based on requirements and functions of the various stakeholders.

Both historic and operational data will be generated by the Electronic Fare Collection System. Historic data used for strategic planning and subsidy management purposes, should typically be available at National and Provincial levels of government and should be housed in a National Public Transport Warehouse. Real time information will be generated regionally and should be available to the local transport authority and public transport operators.

PRINCIPLE 6: Data structures must be based on International Standards, but adapted to suit the local application and implementation.

It is imperative that guidance be provided on the type and format of data that needs to be provided to the national and regional databases.
PRINCIPLE 7: Open systems must be specified
Non-proprietary systems must be specified as far as possible for all aspects of the EFC and information systems. This includes the validating equipment, communication links, databases and the payment instruments.

PRINCIPLE 8: Electronic Fare Collection and Information Systems in Public Transport is a subset of Intelligent Transport Systems (ITS) and should be planned and implemented holistically to ensure integration
This would rule out the possibility of duplication of communications backbones, databases, technology and non-interoperability within this context.

PRINCIPLE 9: The Banking system and infrastructure should be utilised as far as possible to prevent duplication of payment infrastructure and services.
There is good justification to utilise the banking system and infrastructure specifically for clearing and settlement of payment transactions, their distribution network as well the payment instrument.
PRINCIPLE 10: The role of the Reserve Bank as guiding authority within the payment environment, should be respected and their guidelines adhered to – specifically as it involves electronic money.

PRINCIPLE 11: The introduction of a low value payment product in Public Transport, must be introduced to maximise social benefits to the end-user. Public Transport Passengers must be able to use their low value payment instrument to purchase products not only in Transport but also in retail sector.

PRINCIPLE 12: The Public Transport user must be able to use the electronic payment instrument on any mode of transport anywhere in South Africa.
Key Issues for Implementation

Further engagement with banking representatives through a technical working group to agree on principles and to align initiatives;

Agreement on transportation user needs for each mode of transport to ensure that the payment mechanism and technology solutions are aligned with these user needs;

Initiate consultation process with the industry to obtain input to improve system and give signals to industry to conform to proposed regulations;

Formalise Electronic Fare Payment guidelines and regulations.
Key considerations for Metropolitan Authorities

It is envisaged that EFP systems will be implemented initially in the major metropolitan areas as part of IRPTN Rail and BRT corridors. The following actions are identified for Metropolitan Authorities:

- Develop an implementation plan for EFC systems,
- Define roles of different modes of transport. It is likely to be implemented first on rail and the rapid bus network. Taxi’s involvement initially will be voluntary,
- The rail sector will need to ensure compatibility when their fare payment system is upgraded as is currently being planned,
- The move towards a “gross” contract system for metropolitan areas enables integrated network planning and simplifies the fare payment rules as a first step toward integrated fare payment,
- Plan for an integrated fare structure between all modes to ensure EFP roll-out across all modes in medium term.
IRPTNs and Car use/Road supply management

IRPTNs forms the platform (that will be phased in from 2007-2020) on which to target a shift of 20% of current metropolitan car users (for the trip to work) to switch to public transport. This means that the quality of the network services that are designed and implemented in 2007 needs to aim to be car competitive in order to retain existing public transport users firstly and secondly, to attract a portion of current car users.

The Action Plan calls for the following steps:

• DoT to finalise and release its Travel Demand Management Strategy by July 2007.
• Specialised support for metropolitan cities to ensure IRPTNs are designed to be car competitive and also to develop local plans to phase in car use and parking disincentives.
• DoT to co-ordinate roads authorities and transport departments in the three spheres of Government with regard to implementing alternatives (both infrastructure and operations) to suburban road expansion.
• DoT to promote a flagship catalytic IRPTN initiative that focuses on full scale implementation of a BRT alternative to car commuting. Possibilities include the N1 in Cape Town and the N1-M1 in Gauteng between Tshwane and Johannesburg.
• HOV lane implementation should be encouraged, but with due care to ensure adequate traffic law enforcement, marketing and integration with IRPTNs and park and rides is in place to ensure sustainable implementation.
Process & Way Forward:

- COTO and Minmec – March 2007
  
  Recommended: Minmec authorise the immediate establishment of a 3 sphere team to jointly finalise the detailed operational plan for each city and district’s Phase 1 network by August 2007.


- Massive intersphere effort to produce local network operational plans by August 2007

- Detailed costing by June 2007 for MTEF cycle

- Rapid Procurement and Implementation from September 2007 to March 2010

- Phase 1 IRPTNs to be operational from 2009 onwards
THANK YOU !