SOUTH AFRICAN ROAD FEDERATION

Non-Motorised Transport Practitioner's Course

24 JULY2023

Session 2: Legal and Planning Frameworks for NMT

Dr. Hubrecht Ribbens
ribbens.hubrecht@gmail.com

1

Topics covered in presentation

1. Organisational responsibilities for NMT
2. Legislative and Policy Support for NMT & NMT Strategies
3. NMT Planning documents
4. NMT Design Guideline documents & Standards

2

1. Organisational responsibilities for NMT

3

Organisational responsibilities for NMT (1)

- **National Department of Transport**
  - Roads Policy - including Road Safety and NMT provision
  - Road Safety Strategy 2012-2030
  - Decade of Action for Road Safety 2021-2030 – reducing fatalities by 50%.
  - Green Transport Policy 2018 – 2050
  - Scholar Transport/Shova Kalula – mainstreaming of bicycle transport into transport system.
  - Rural Transport Development Plan & Implementation Guidelines
  - Integrated Rural Mobility and Access (IRMA), e.g. pedestrian bridges across rivers.

4

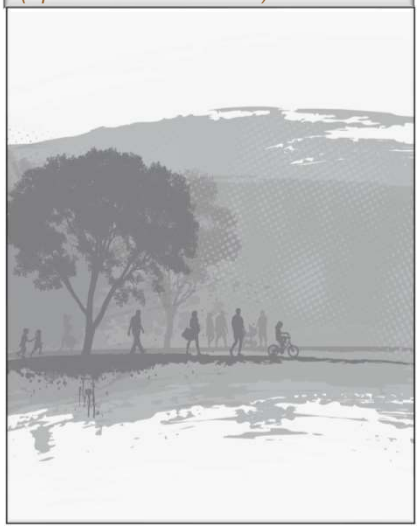
Organisational responsibilities for NMT (2)

Department of Human Settlements

- DHS a major role player in the integration of human settlements (land-use) with transport and NMT.
- Section I deals with planning and design of roads and streets to accommodate a range of transport options, including NMT & public transport.
- Aspects to be taken into consideration with transport demand created by a neighbourhood development are outlined. 'Road' refers to any pathway (road or street) that is intended to accommodate and facilitate the movement of pedestrians, cyclists, animal-drawn carts, wheelchairs, motor cycles, motor vehicles, etc., as well as other activities that may take place in neighbourhood streets.

The Neighbourhood Planning and Design Guide, Section I – 2019

(Update of The Red Book).



5

Organisational responsibilities for NMT (3)

- **Department of Cooperative Governance and Traditional Affairs**
  - Urban Renewal Programme (URP)
  - Integrated Sustainable Rural Development Strategy (ISRDS)
  - Integrated Development Planning (IDP)
  - Municipal Infrastructure Grant (MIG)
  - Local Economic Development (LED)
- **Department of Environmental Affairs (in consultation with DoT)**
  - Greening of transport
  - Promoting of low carbon alternatives (e.g. cycling, bike rental schemes)

6

Organisational responsibilities for NMT (4)

- **SANRAL**
  - Freeway Management System
  - Provincial road upgrades
  - SANRAL Pedestrian Road Safety Strategy
  - Community Development - Poverty Alleviation
- **Road Traffic Management Corporation**
  - Promotion of road safety and NMT safety
- **Gautrain Management Agency**
  - NMT facilities at stations and along Gautrain bus routes (planning with municipalities)
- **Department of Public Works**
  - Extended Public Works Programme
  - Skills Development Programme in Built Environment
- **Provinces, Metro's and local/district municipalities, e.g.**
  - Gauteng Transport Commission (GTC)
  - KZN Roads Department
  - Cape Town Transport & Development Authority (TDA)
  - EThekwini Transport Authority (ETA) – Durban NMT Plan
  - Jo'Burg Roads Agency (JRA) & Jo'Burg Development Agency (JDA)
  - Cape Winelands District Municipality, etc.

7

2. Legislative/Policy support for NMT & Strategies

8

Legislative support for NMT – Base documents

- **Constitution**
  - In terms of the Constitution, *everybody is entitled to a safe and secure environment* (including the road environment and NMT users).

- **Moving South Africa, 1998**
  - Strategy for ensuring that the transportation system of South Africa meets the needs of the country in the 21st Century, to contribute to the country's growth and economic development.
  - The *importance of walking and cycling confirmed*.
  - Animal drawn transport and bicycles are seen as empowerment tools in rural areas (Rural Transport Strategy, Shova Kalula, SANS 1025 Animal Drawn Vehicles, etc.).

9

Legislative and Policy support for NMT – Base documents

National Transport Master Plan (NATMAP), 2016

- Vision: An integrated, smart and efficient transport system supporting a thriving economy that promotes sustainable economic growth, supports a healthier lifestyle, provides safe and accessible mobility options, socially includes all communities and preserves the environment.
- Transportation infrastructure should meet the following requirements:
  - Improve access and mobility for all users
  - Enhance the safety and security of all users
  - Minimize negative impacts on the environment
  - Support economic activities
  - Respond to the needs of all users
  - Be reliable and of an acceptable quality.

10

Legislative and Policy support for NMT – Base documents

National Transport Master Plan (NATMAP), 2016 (cont.)

- Improve access and mobility for all users

  The ability to reach and utilize a particular destination by all people, including pedestrians, cyclists, people with disabilities, and those who are dependent on public transport.

- Enhance the safety and security of all users

  Whether people are walking, cycling, using a wheelchair or mobility scooter, travelling by motor vehicle, making use of public transport, or any other mode of motorized or non-motorised, they should be and feel safe and secure.

- Minimize negative impacts on the environment

  Reducing the negative impact of transportation on the environment is to lessen people's dependence on fossil-fuelled private vehicles. Infrastructure should be provided at a neighbourhood level to support pedestrians, cyclists and users of other modes of non-motorised transport.

11

Legislative and Policy support for NMT – Base documents

National Transport Master Plan (NATMAP), 2016 (cont.)

- Support economic activities

  A large proportion of the South African population does not have access to private motor vehicles, there is a particular need for infrastructure that accommodates and supports public transport and non-motorised transport. Many people have to cycle, walk and/or make use of public transport to participate in economic activities.

- Respond to the needs of all users

  Streets should meet the needs of people, not just of motor vehicles. This means that streets should be designed to enable the movement not only of motor vehicles, but also non-motorised modes of transport.

- Be reliable and of an acceptable quality

  People depend on the infrastructure to travel to healthcare and education services, recreational facilities, to do shopping and to participate in employment activities. They need the infrastructure to be regularly maintained so as to allow them to be safe and secure when they travel, and to be universally accessible.

12

Legislative support for NMT

- National Road Traffic Act, 1993
- National Road Traffic Regulations, 2000
- Road Traffic Management Corporation Act, 1999
- Administrative Adjudication of Road Traffic Offences Act, 1998
- SA National Road Agency Limited Act, 1998
  - SANRAL Pedestrian Road Safety Strategy
- Gautrain Agency Management Act, 2006
- National Land Transport Act, 2009 (Article 32). "For the purposes of this Act, the following plans are required:
  - National Land Transport Strategic Framework prepared by the Minister
  - Provincial Land Transport Frameworks prepared by the MECs
  - Integrated transport plans prepared by planning authorities."

13

Legislative support for NMT

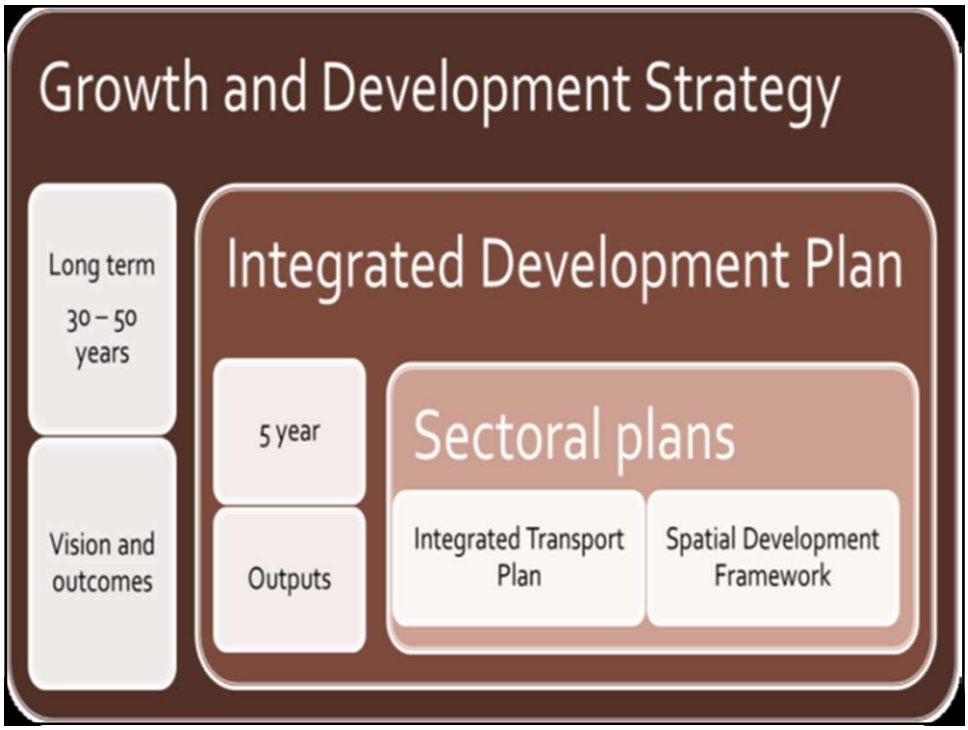
- National Environmental Management Act, 1998
- Municipal Systems Act, 2000
  - Integrated Development Planning (Chapter 5)
- Spatial Planning and Land Use Management Act, 2013 - SPLUMA
  - Spatial Development Frameworks
- Provincial Regulations, e.g. Western Cape Safety of Cyclists Regulations, 2013
- Municipal By-laws, e.g. Nelson Mandela MM & Polokwane
- Draft Non-Motorised Transport Generic By-laws, 2019 – Departments of Transport & Environmental Affairs

14

Municipal Systems Act, 2000

- The Local Government: Municipal Systems Act (2000) requires that *all municipalities draw up an Integrated Development Plan* (IDP) - a Strategic Plan, for all developments in a municipal area.
- An IDP adopted by the council of a municipality is *the principal strategic planning instrument* which guides and informs all planning and development, and all decisions with regard to planning, management and development, in the municipality.
- IDP's must reflect various operational needs including a *spatial development framework* which must include the provision of basic guidelines for a land use management system for the municipality; this *includes NMT policies, strategies and master plans.*

15



16

National Land Transport Act, 2009
Comprehensive Integrated Transport Plans (CITPs)

- **National Land Transport Act, 2009 (Section 36).** "All planning authorities must prepare and submit to the MEC, by the date determined by the Minister, ***Integrated Transport Plans*** for their respective areas for the five-year period commencing on the first day of the financial year determined by the MEC, and must update them in the prescribed manner and as frequently as prescribed".
- Many bigger cities have ***Comprehensive Integrated Transport Plans*** due to the complexity of the transport network they have to plan and operate.
- **Example:** The Comprehensive Integrated Transport Plan (CITP) for 2018 to 2023, for the City of Cape Town sets out how it will deliver *integrated, intermodal and interoperable* transport in Cape Town.
  - *Integrated*: The City's delivery of integrated transport is based on the IPTN Network Plan 2032.
  - *Intermodal*: Intermodal transport cannot be delivered in Cape Town unless all functions and modes are under the jurisdiction of a single authority.
  - *Interoperable*: In order to achieve an interoperable transport system, the City will be undertaking further work on the delivery of integrated ticketing and timetables.

17

Typical content of a Comprehensive Integrated Transport Plan (Tshwane)

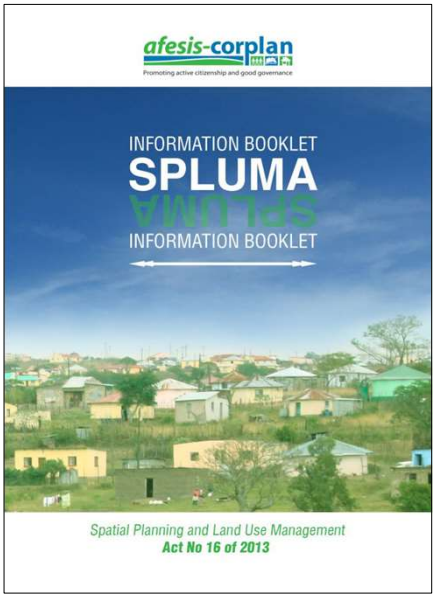
- Executive Summary
- Chapter 1: Introduction
- Chapter 2: Land Transport Vision, Mission, Goals & Objectives
- Chapter 3: Sustainable Transport
- Chapter 4: Transport Information Register
- Chapter 5: Spatial Development Framework
- Chapter 6: Transport Needs Assessment
- Chapter 7: Public Transport Operational Strategy
- Chapter 8: Transport Infrastructure Strategy
- Chapter 9: Travel (Transport) Demand Management
- Chapter 10: Freight & Logistics Strategy
- Chapter 11: Non-Motorised Transport
- Chapter 12: Parking
- Chapter 13: Intelligent Transportation Systems (ITS)
- Chapter 14: Road Safety
- Chapter 15: Public Transport Safety & Security
- Chapter 16: Aviation
- Chapter 17: Institutional Framework
- Chapter 18: Legal
- Chapter 19: Funding Strategy & Summary of Proposals & Programmes
- Chapter 20: Stakeholder Consultation
- Chapter 21: Monitoring & Evaluation
- Conclusions & Recommendations

18

Spatial Planning and Land Use Management Act, 2013

- A framework for spatial planning and land use management to address past spatial and regulatory imbalances.
- SPLUMA provides a coherent legislative framework for regulating spatial planning and land use management, based on the spatial vision captured in the NDP.
- Development principles include:
  - **'spatial justice'** to redress development imbalances by improving equitable access.
  - **'spatial sustainability'** which promotes socio-economic and environmentally sustainable planning approaches.
  - **'spatial resilience'** which allows for ecological systems to replenish and regenerate whilst protecting livelihoods in vulnerable communities.
- For more information see SPLUMA Booklet

http://www.incrementalsettlement.org.za/wiki/images/e/ea/SPLUMA_booklet_FINAL.pdf



19

Departments of Transport & Environmental Affairs Generic By-Laws for NMT, 2019

- Chapter 1: General Matters
  - Definitions, Objectives, Applications
- Chapter 2: NMT Infrastructure
  - Establishment and use of facilities
- Chapter 3: Registration and Licensing of Power-Assisted Pedal Cycles
- Chapter 4: Rules for the use of Power-Assisted Pedal Cycles
- Chapter 5: Duties of Pedestrians, Cyclists and Drivers

  Duties of drivers of motor vehicles in relation to pedestrians, joggers and cyclists & Duties of pedestrians, joggers & cyclists
- Chapter 6: Bicycle Renting System
  - Bicycle Rental Facility
- Chapter 7: Law Enforcement
  - Powers of officers, Offences & Penalties
- Chapter 8: Miscellaneous Provisions
  - Pedicabs, E-bikes, etc.

20

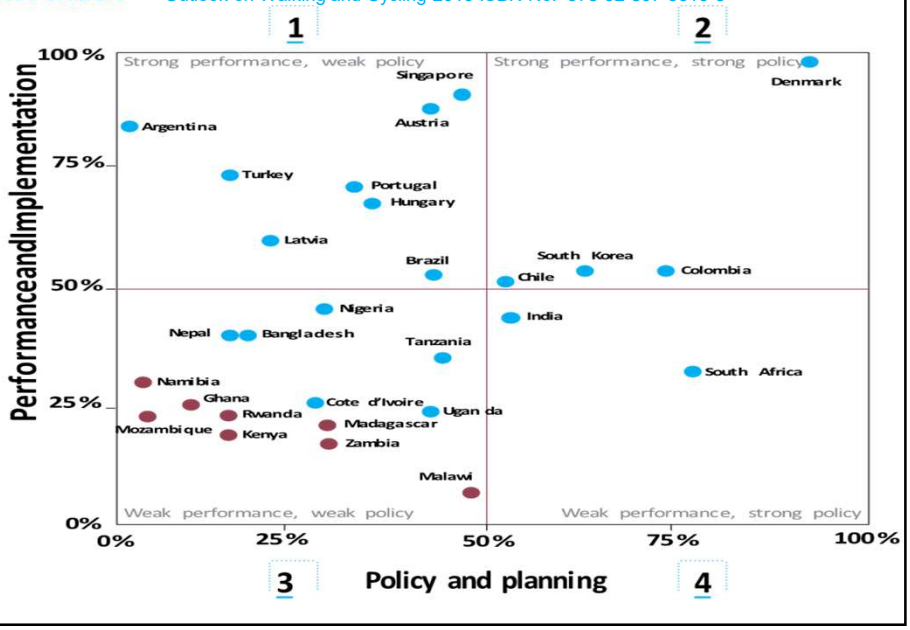
Policy & Strategy Support for NMT

21

Policy & Strategy Support for NMT

NMT Index

Source: UN Environment Programme (UNEP), September 2016 Publication: Global Outlook on Walking and Cycling 2016 ISBN No: 978-92-807-3616-8



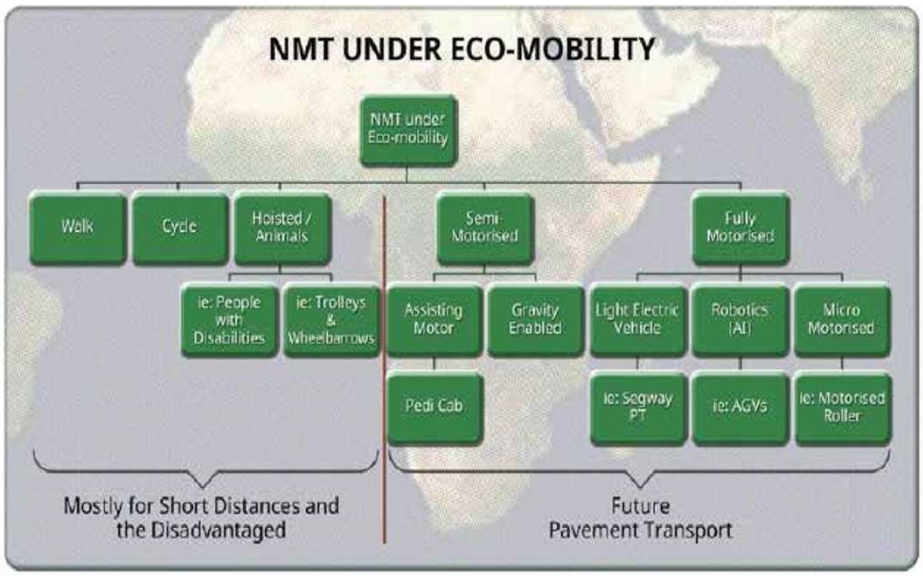
22

Policy & Strategy Support for NMT

- **Roads Policy for South Africa, 2017** (White Paper, DoT)
  - Road Infrastructure Chapter
  - Road Infrastructure Funding Chapter
  - Road Safety Chapter
  - Non- Motorised Transport Chapter
- **National Scholar Transport Policy**, February 2009, DoT
  - Bus transport for scholars living more than 5 km from school
  - Shova Kalula
- **Green Transport Strategy for South Africa**: (2018-2050)
  - The construction of low carbon climate resilient (LCR) road infrastructure, including bus lanes, railways and NMT infrastructure.
  - Promotion of NMT infrastructure to promote sustainable, carbon neutral modes of transport (e.g. cycling, walking).
- **Greening of Transport Policy** – Dept. of Environmental Affairs
  - Promotion of low carbon modes such as cycling & walking, electric vehicles (e.g. e-bikes).
- **SANRAL Horizon 2030 Strategy**
  - Completion of major construction projects & impact of COVID-19

23

Green Transport Strategy for South Africa: (2018-2050)



24

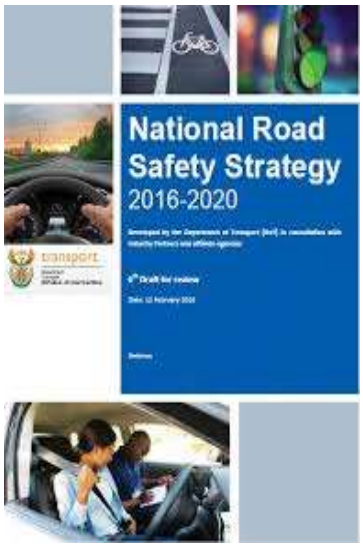
Eco-Mobility

- Eco-Mobility
  - Integrates environmentally sustainable forms of mobility.
  - Combines non-motorized means of transport with the use of public transport.
  - Allows everybody to move in their local environment.
  - Reduces the use of privately owned motorized vehicles.
- EcoMobility is “about creating cities where a short trip can be fulfilled without using a motorized mode.
- EcoMobility aims to create cities where the air is clean and the road is shared by bicycles, pedestrians, buses and cars in a safe and environmentally friendly way.
- EcoMobility creates cities that do not discriminate its people based on their age, social status or means of transport”

25

Policy & Strategy Support for NMT

- **National Road Safety Strategy** 2016-2030 & **Decade of Action for Road Safety** 2021- – 2030)
  - 5 Pillars of DOA
  - Pedestrian and cyclist safety one of the key outcomes
- **Committee of Transport Officials** (COTO) & **Road Infrastructure Strategic Framework for SA** (RISFSA)
  - SA Road Classification - Urban and Rural Road classes (incl. NMT) – TRH 26
    - Urban 6 Classes
    - Rural 3 Classes
- **Rural Transport Strategy for South Africa, 2016 Update,** DoT
  - Encompasses rural transport component of NLTSF
  - 13 Presidential nodes in which NMT is promoted
- **Extended Public Works Programme** – Dept. of Public Works
  - Labour based construction of NMT facilities



26

Roads Policy for South Africa, 2017
NMT guiding principles

- Non-motorised transport (NMT) should be promoted and developed with the aim of *reducing carbon emissions*, promoting a modal shift towards more sustainable modes, developing low-cost mobility options.
- NMT policy should recognise that *rural NMT* matters are different from those in urban environments.
- NMT policy should address the *needs of pedestrians* (currently the largest NMT mode), how to encourage people to cycle more, road safety matters, the role of NMT in *rural areas* and address the needs of *persons with disabilities*.
- Adequate and *sustainable funding* for the promotion, implementation and development of NMT will be made available.
- NMT modes will be endorsed and the use thereof facilitated.
- *Infrastructure* and *maintenance* standards will be developed and must recognise NMT as an essential mode of transport.

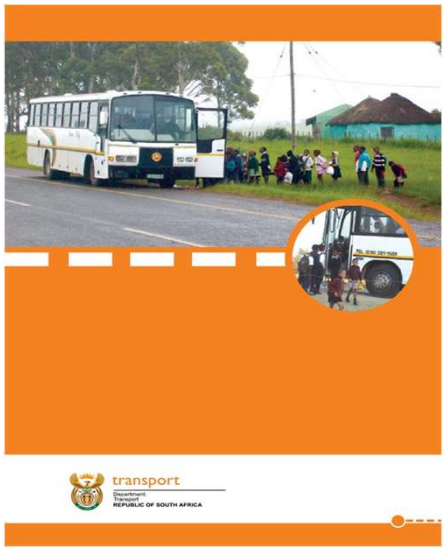
27

Roads Policy for South Africa, 2017
NMT guiding principles (cont.)

- Traffic *legislation* must be developed to recognising NMT as an alternative mode of transport including being a *feeder* to other modes of transport. Marginalised groups should be empowered including the promotion of SMMEs through NMT.
- Measures will be developed and implemented in order to reduce the number of *traffic fatalities* of *vulnerable* non-motorised road *users*.
- Corresponding measures should be developed and implemented to ensure *security* for non-motorised road users
- NMT will be integrated into the formal transport system through transport and spatial development strategies and planning, and be explicitly considered in land passenger transport.

28

National Department of Transport
National Scholar Transport Policy, 2009



29

National Scholar Transport Policy, 2009

- Various studies showed difficulties that *learners* are facing. The ability of scholars to access education is hampered by the *long distances involved, road safety, and cost of scholar transport*. Scholars have difficulty accessing educational institutions because of the unavailability of scholar transport.

- The primary objectives of the national scholar transport policy are to *provide national uniform norms and standards, promote co-ordination and co-operation amongst stakeholders, and provide a framework for monitoring and evaluation of scholar transport services.*

- Scholar transport *is provided on basis of number of principles, e.g. affordability, safety and security.* The target group of policy is scholars who attend schooling between Grade R to 12 and live more than 3km from the nearest school.

30

NATIONAL GREENING FRAMEWORK
Department of Environmental Affairs – 2010

- Improve transport efficiency and reduce emissions
- Maximize availability, accessibility and efficiency of public transport systems
- Reduce carbon emissions from public transport systems
- Maximize access for pedestrians and cyclists, and provide appropriate surfacing and lighting
- Projects supported
  - NMT Feasibility study of SWC 2010 host cities
  - Supported NMT Improvements in Johannesburg, eThekwini and Polokwane

31

National Road Safety Strategy 2016-2030 & Decade of Action for Road Safety and Arrive Alive

- Pedestrians account for 40% of road fatalities, especially children, young adults and economical active age group.

- Various contributory factors
  - Human behaviour
  - Road environment and infrastructure needs
  - Non compliance with traffic laws
  - Land use planning – past policies
  - Public transport planning

- Five Pillars and NMT Safety
  1. Road safety management
  2. Infrastructure
  3. Safe vehicles
  4. Road user behaviour
  5. Post crash care

32

National Road Safety Strategy 2016-2030; Decade of Action for Road Safety 2011-2030 & Arrive Alive

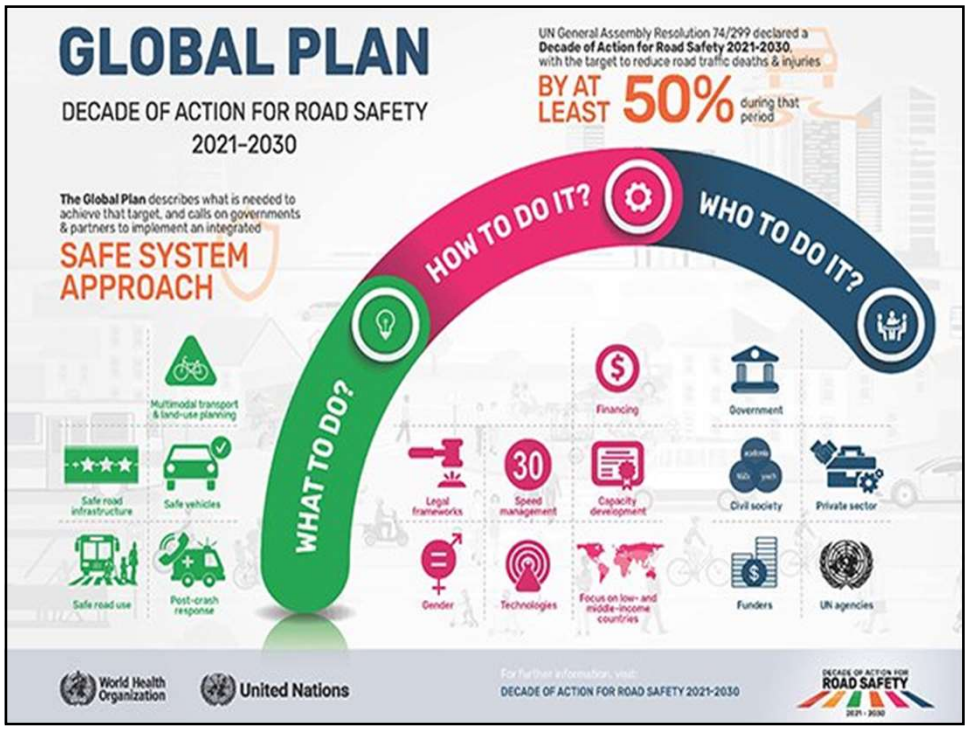
- Some of the issues identified impacting on NMT
  - Improve *road design*, particularly *to assist with pedestrian and cyclist safety*, in low-cost remediation's of identified hazardous locations.
  - *Vehicle safety technologies* should be developed and used to improve standards and safety.
  - Concentrate *media activities around high risk groups* – children, young men, the elderly, pedestrians and public transport (mini-taxis).
  - Priority pedestrian actions: High level public relations activities around pedestrian risks and driving (and lower speed limits enforced).
  - Public relations – road safety "voice" evident on daily basis on radio and television re pedestrian behaviour, visibility and appropriate speeds for vehicles.
  - Regular meetings of multi-sectoral consultative group.
  - Enforcement – rolling enforcement plan including pedestrians on freeways.
  - Community involvement (CRSC's).
  - Learner education in schools.

33

Second Decade of Action for Road Safety 2021 - 2030

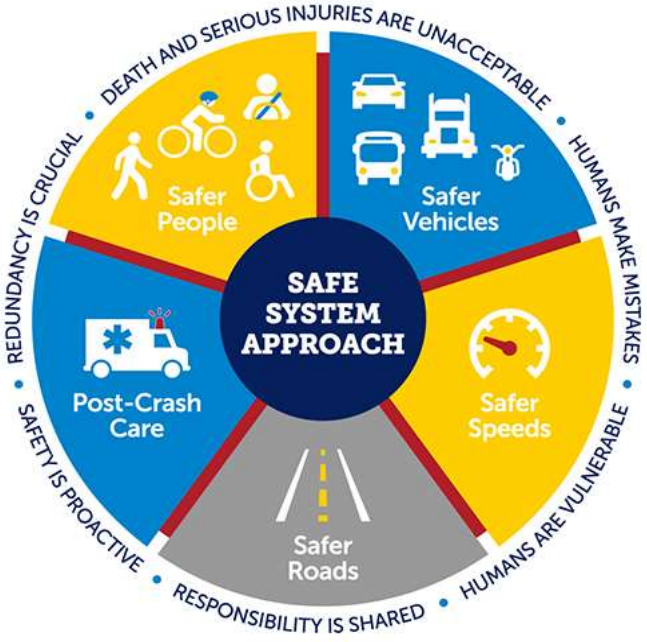
- "With an achievable strategy and commitment across the globe to reducing crash rates, substantial change can be achieved. While the 50% reduction aimed for in the First Decade was not achieved, the death rate did not increase either."
- The UN General Assembly adopted resolution A/74/L.86 "Improving global road safety", proclaiming the Second Decade of Action for Road Safety 2021-2030, with the ambitious target of halving the raw number of road traffic deaths and injuries by 2030.
- The resolution also endorses the *Stockholm Declaration*, approved during the Third Global Ministerial Conference on Road Safety held in February 2020, and encourages Member States to favour *policies* to *promote walking*, *cycling* and *using public transport* as inherently healthy and environmentally sound modes of transport.
- The Second Decade of Action for Road Safety 2021-2030 provides an opportunity for harnessing the successes and lessons of previous years and building upon them to save lives on the world's roads and facilitate achievement of the Sustainable Development Goals.

34



35

Safe System Approach and NMT road users



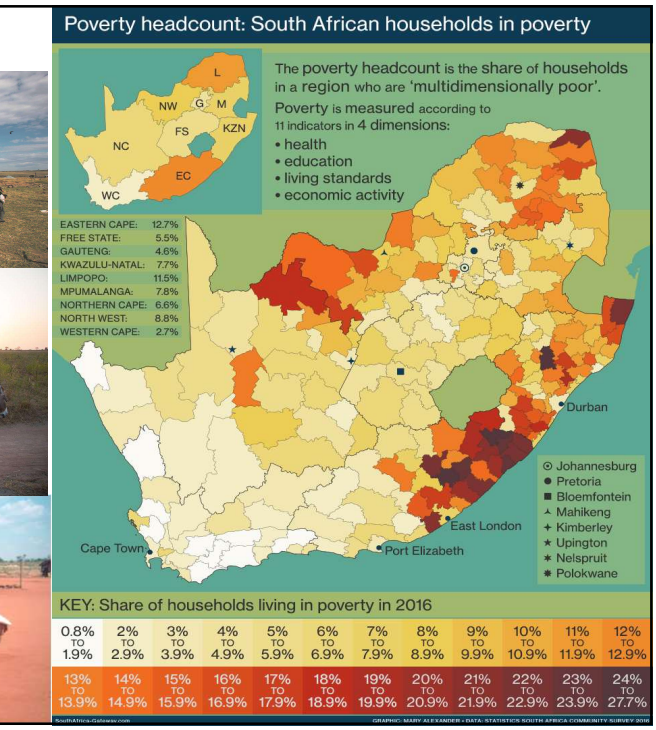
36

Rural Transport Strategy (2016 Update) and Implementation Guidelines, 2018

- The delivery of rural infrastructure and transport services:
  - *Rural transport infrastructure* – not only access roads, also district roads, tracks and other non-motorised transport infrastructure – provided mainly by provincial and local government, the National Department of Public Works (NDPW) and SANRAL – directly or indirectly involving communities and creating local construction-related jobs
  - *Village-level or intra-farm* transportation
  - *Communities* - women and farmers provide transport services that involve head loading, and use of NMT and intermediate means of transport (such as tractor-trailers), trucks and LDVs.
- Rural passenger and (small-volume) freight transport services to and from "deep", rural areas, where operators of LDVs and animal-drawn carts are the main service providers.
- Passenger transport services along the main connector routes (to towns, clinics and other facilities), served mainly by taxis, converted LDVs and bus services. Animal-drawn carts are also used.

37

Deep rural areas



38

SANRAL Strategic Plan 2015/16 to 2019/2020

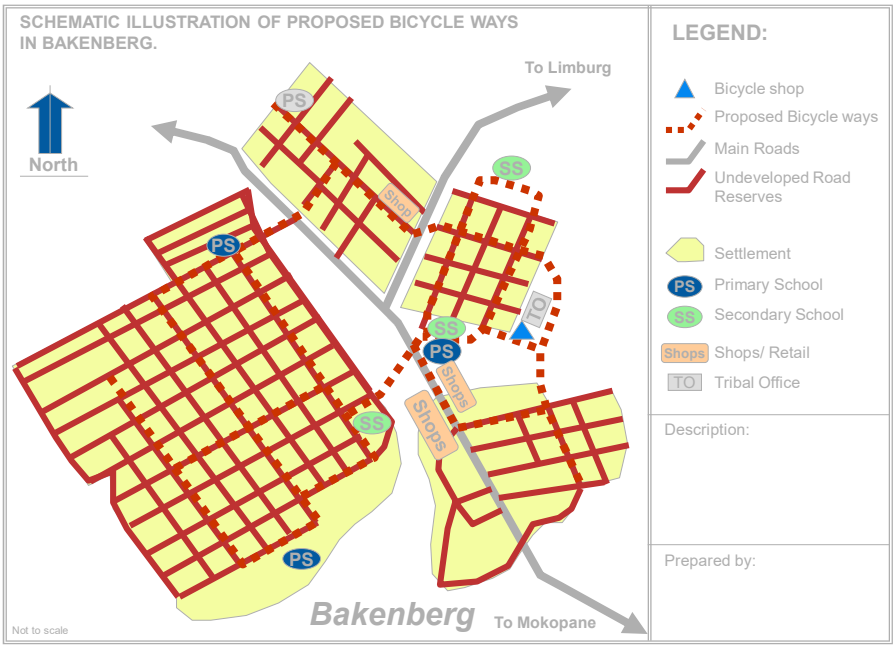
- SANRAL acknowledges that *non-motorised forms of transport such as pedestrians and cyclists, often have genuine needs to travel along or across higher order high speed roads*.
- SANRAL will w*here warranted, retrofit the road environment* to provide:
  - a safe place to walk/cycle; and
  - a safe place to cross.
- As part of its community development programme, SANRAL works to promote accessibility and mobility of non-motorised forms of transport, specifically pedestrians, by providing appropriate road infrastructure which focus on:
  - The construction of pedestrian/bicycle paths to safely accommodate non motorised modes of transport.
  - Effective traffic calming messages at locations with pedestrian activity.
  - Strategically located pedestrian bridges where warranted.
  - Providing safe access to communities living next to the national road network through parallel service roads and safe crossing points.

39

National Department of Transport Shova Kalula - Ride Easy

- DoT developed bicycle implementation strategy to advance aspirations of citizens to participate in social and economic life.
- Anticipated that the promotion and provision of bicycle transport services would facilitate mobility for *shorter distances at an affordable cost and would decrease the travel time*.
- Provision of *appropriate bicycle infrastructure and ongoing maintenance of bicycles and bicycle tracks* play a critical role in safeguarding the lives of the users. It is also important that complementary measures are implemented as outlined in the roll-out plan to ensure that the project is sustainable.
- Statistics issued by Statistics SA and findings of NHTS confirmed that *rural poor have little or no access to public transport*. This situation tends to perpetuate the *level of isolation from the economic mainstream and as a result exacerbates the extent of poverty and underdevelopment.*

40



41

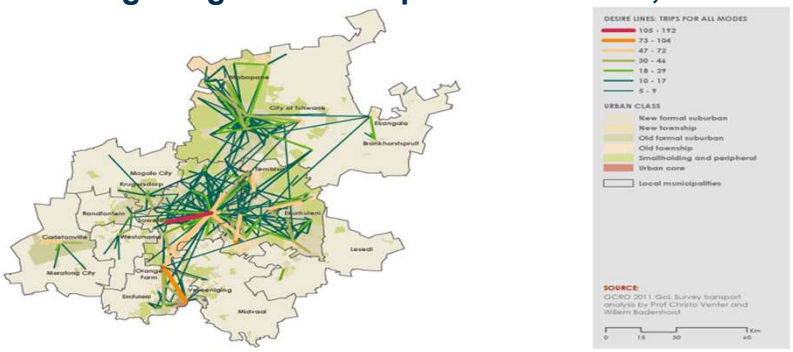
Shova Kalula Training and Bicycle shop

42

3. NMT Planning Documents (Provincial and local master plans)

43

Gauteng Integrated Transport Master Plan, 2037



44

Gauteng Integrated Transport Master Plan, 2037

- *Gauteng City Region* - ITMP 2037 to guide transport planning in the province including public transport, freight, aviation, road network, ITS, sustainable transport, NMT, institutional arrangements, funding & implementation

NMT Work stream

- The key departure points to provide for convenient and safe NMT, as well as promoting the greening and sustainability of the transport system as a whole, are:
  - Promoting the greening of transport and reducing traffic congestion through popularising of cycling and short distance walking trips to destinations.
  - Provide for non-motorised users on the Class 1 to 5 road network with the appropriate application of road safety principles and engineering standards (Complete Streets).
  - Using NMT modes (walking and cycling) as feeder systems to public transport and provide for the "last mile" access to public transport facilities and interchanges (Last Mile Concept).

2037 consortium

45

Gauteng Integrated Transport Master Plan, 2037

NMT, Job creation and Poverty relief

- *Construction and maintenance* of cycle routes and pedestrian walkways.
- *Security* at footbridges and subways, NMT routes through public open spaces and bicycle parking at stations.
- *Upgrading and maintenance* of green corridors.
- *Bike share* schemes.
- *Bike storage* and support centres at public transport terminals.
- *Local production of bicycles* for service provision, e.g. custom-built bicycles to assist people collecting recyclable items in communities.

2037 consortium

46

Gauteng Integrated Transport Master Plan, 2037

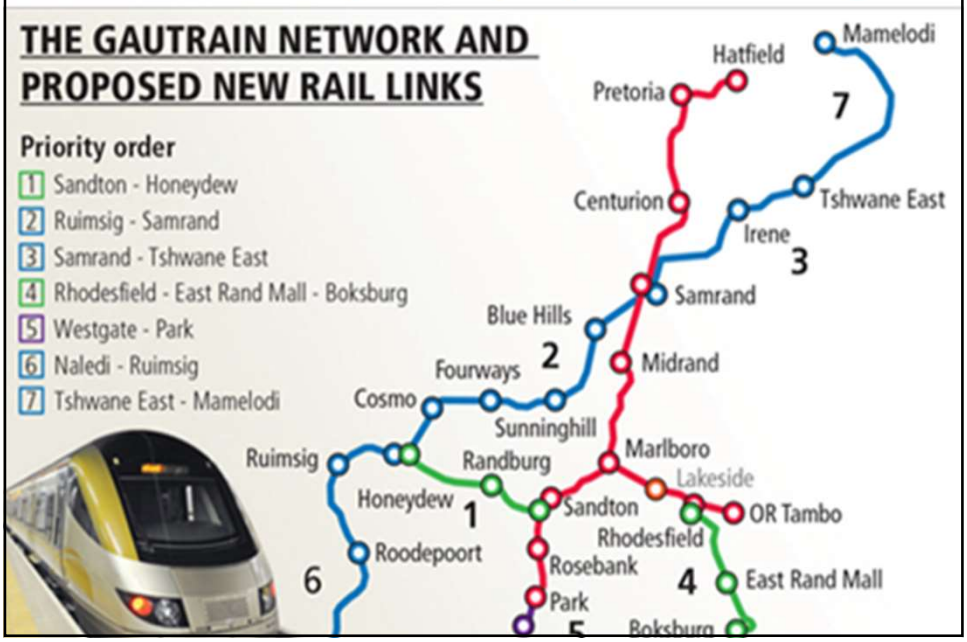
NMT Strategy – mainstreaming to be accomplish by:

- Gauteng Transport Commission to co-ordinate & integrate NMT
- Provincial NMT Policy to supplement strategies at local level
- More emphasis on NMT in integrated transport planning and integrated development planning
- Cycle master plan for province
- NMT infrastructure to be developed on on-going basis (e.g. Denmark, Netherlands, Germany, etc.)
- Cycling culture must be established
- NMT networks to be operated and managed in safe, secure way
- Involvement of all relevant role-players - politicians, officials and consumers
- Sufficient and sustainable funding streams on on-going basis, including private sector participation.

2037 consortium

47

Gautrain Management Agency – Future Planning



48

Gautrain and Interrelated Sustainable Development

- Efficient land use, to which public transport such as the Gautrain contributes, produces results far beyond the immediate benefit of increased use of public transport. It has the potential to change the way people live and travel significantly, reducing individual carbon footprints while preserving and enhancing mobility.
- It further encourages people to have a more active, healthy lifestyle, particularly if they are walking or cycling to the stations.
- The benefits to society of a dense city are:
  - Improved accessibility
  - Improved mobility
  - Improved integration

49

Gautrain Management Agency – Future Planning

Provision of First and Last Mile Master Plan; and Bicycle Sharing Scheme Feasibility Study, February 2017- Study outcomes

- A review of the land use, transport demand and supply patterns in the Hatfield node, the road and NMT infrastructure, NMT planning and policies of the City of Tshwane, indicated that there are many factors that would make a bike share scheme in Hatfield viable.
- Positive factors are the large number of high-demand nodes around the Hatfield Gautrain station, and particularly the University of Pretoria, as well as the cycling coverage, geography and topography. However, there is a lack of cycling lanes, and bicycle facilities at the Hatfield station will have to be upgraded and expanded to accommodate a bicycle sharing scheme.
- The CoT policy and planning supports and promotes the increased use of cycling as a mode of transport. The Hatfield CID also indicated the need for dedicated bicycle infrastructure.

50

Gautrain Management Agency – Future Planning

Provision of First and Last Mile Master Plan; and Bicycle Sharing Scheme Feasibility Study, February 2017- Study outcomes (cont.)

- A financial model was developed on a spreadsheet platform which was used to evaluate the financial feasibility of bicycle share schemes. A wide range of scenarios have been tested, and these indicated that a bike sharing scheme is not feasible without alternative revenue, such as advertising revenue, in addition to the bike rental income. With advertising revenue, the scheme is only feasible when there are 100 bikes, mostly manual bikes, which are much cheaper than e-bikes, more than four satellite stations, and with automatic docking, to save the cost of kiosk attendants.
- In view of the results of the scenario testing, a realistic bike sharing system was proposed for the Hatfield node and tested with the financial model. A scheme using 100 bikes, 20 e-bikes, six bike stations, with automatic docking and advertising revenue, is shown to be financially viable.

51

Examples of Current Metro/Municipal NMT Planning Frameworks

- Complete Streets Guideline Manual (Jo'Burg: Rea Vaja, JDA and JRA, 2013).
- Feasibility study for NMT facilities around Johannesburg's BRT stations, Rea Vaya (Phases 1A, B and C).
- Pre-feasibility study to enhance a Cycling Programme in the City of Johannesburg (COWI, 2013).
- Cape Town Strategic Transit Orientated Development (TOD) Framework, 2016.

52

Examples of other Metro/Municipal NMT Planning Frameworks

- **Tshwane**
  - *City of Tshwane's NMT Master Plan, 2010*
  - *City of Tshwane's NMT Framework, 2013*
  - *Tshwane Regional Spatial Development Framework, 2018* - NMT Plans for all 7 regions to integrate NMT user needs with the Areyeng BRT system.
  - Integrated Rapid Public Transport Network for Tshwane.
- **eTthekwini** Durban NMT Plan - review of designs and audit of the City of eThekwini's cycle and pedestrian 'connections' project, to improve NMT infrastructure, signage and other facilities, and facilitate better NMT connectivity and movement, also leisure and business tourism (including conferencing).

53

54

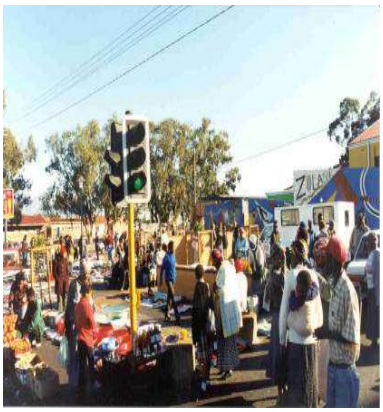
Examples of current Metro/Municipal NMT Planning Frameworks

- The **Ekurhuleni** Integrated Rapid Public Transport Network (IRPTN) – North/South Corridor, includes a comprehensive NMT infrastructure audit along the designated route in Tembisa.
- **Rustenburg** Rapid Transport (RRT) NMT facilities, including recommendations regarding NMT micro-enterprise, signage, street furniture (including bicycle parking) and lighting.
- **Polokwane**, City master plan and cycle track provided from Seshego to the Polokwane City Centre.

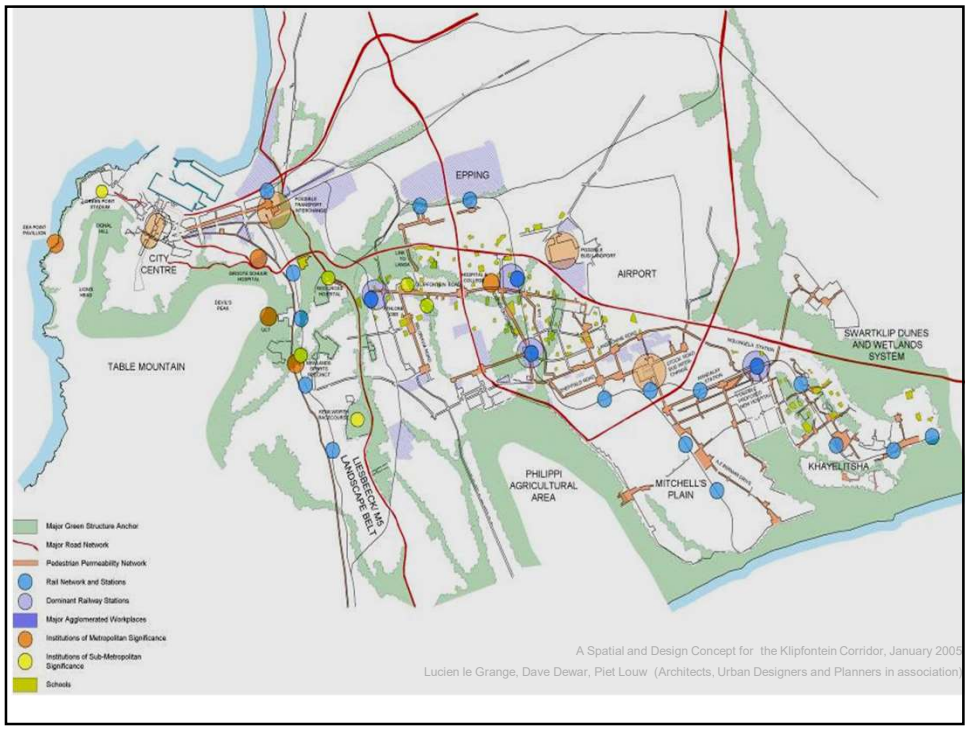
55

CITY OF CAPE TOWN: NMT POLICY AND STRATEGY

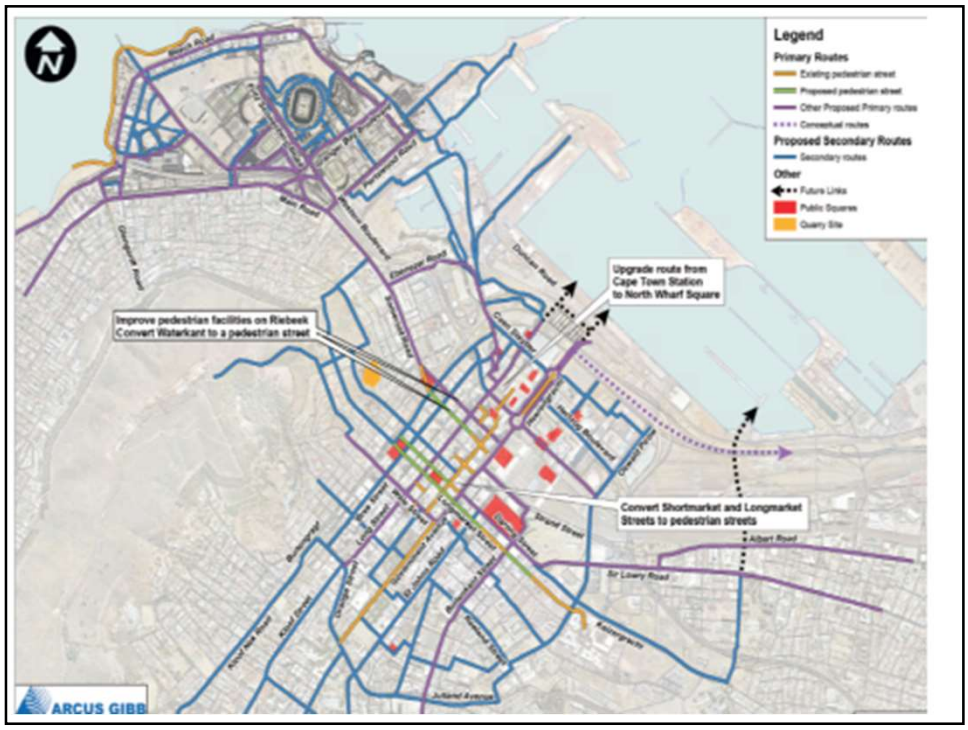
Volume 1: Status Quo Assessment
Volume 2: Policy Framework
OCTOBER 2005



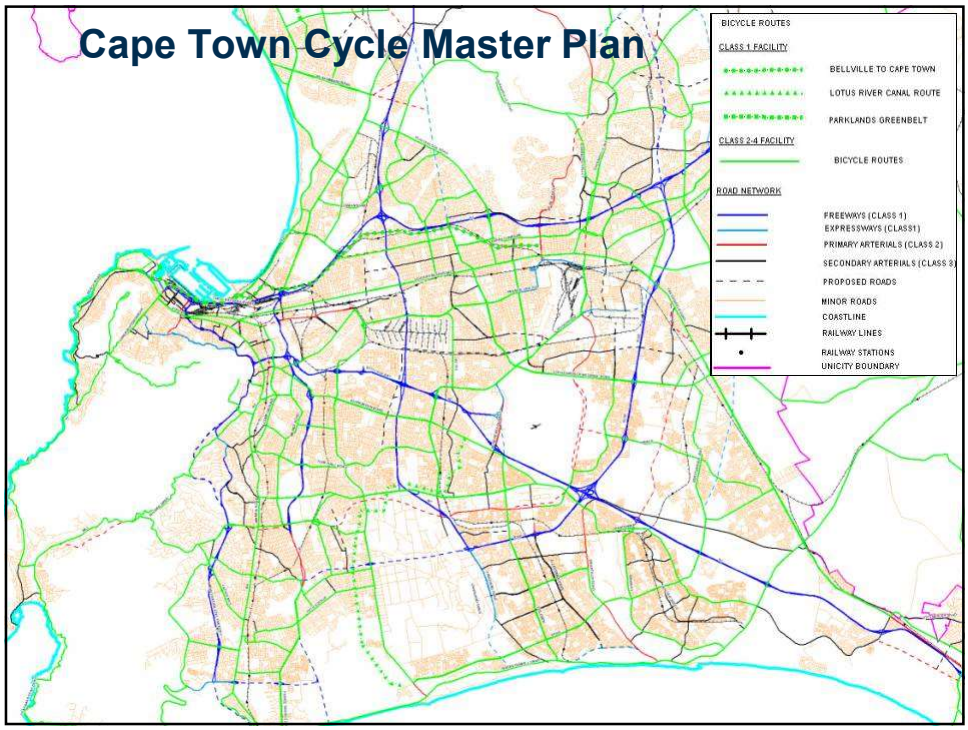
56


EPPING
CITY CENTRE
AIRPORT
TABLE MOUNTAIN
SWARTKLIP DUNES AND WETLANDS SYSTEM
KHAYELITSHA
MITCHELL'S PLAIN
PHILIPPI AGRICULTURAL AREA
LIESBEEK IM LANDSCAPE BELT
Major Green Structure Anchor
Major Road Network
Pedestrian Permeability Network
Rail Network and Stations
Dominant Railway Stations
Major Agglomerated Workplaces
Institutions of Metropolitan Significance
Institutions of Sub-Metropolitan Significance
Schools
A Spatial and Design Concept for the Klipfontein Corridor, January 2005
Lucien le Grange, Dave Dewar, Piet Louw (Architects, Urban Designers and Planners in association)

57


Legend
Primary Routes
Existing pedestrian street
Proposed pedestrian street
Other Proposed Primary routes
Conceptual routes
Proposed Secondary Routes
Secondary routes
Other
Future Links
Public Squares
Quarry Site
Upgrade route from Cape Town Station to North Wharf Square
Improve pedestrian facilities on Riebeek
Convert Waterkant to a pedestrian street
Convert Shortmarket and Longmarket Streets to pedestrian streets
ARCUS GIBB

58



59

Joburg

a world class African city

FRAMEWORK FOR
NON-MOTORISED TRANSPORT
JANUARY 2009
Integrated approach

60

Jo'burg NMT Plan: Strategic sector responses

COJ Transportation / Johannesburg Roads Agency	• Develop and technical design of a metropolitan NMT network and design local area networks for selected priority routes • Upgrade existing pedestrian facilities and public realm • Adapt and develop technical design guidelines and standards • Amend parking policy to include cycle parking and facilities • Implement traffic calming measures in strategic locations • Adopt NMT specific maintenance program
Gautrain & SARCC	• Make provision for cycle parking and lockers in stations • Allocate areas for public bike system within/ adjacent to stations • Implement directional signage / local area map per station
BRT	• Make provision for cycle parking and lockers in strategic stations • Implement directional signage / local area map per station
Education	• Safety and NMT promotion at schools • Promotion of cycle proficiency test for school children • Evaluate NMT requirements at schools and provision of cycle storage where appropriate
Environment	• NMT to be incorporated in Environmental Sector Plan and Air Quality Management Plans
City Parks	• Evaluate existing NMT network through public open spaces and upgrade and extend key routes to tie into local area NMT networks on roads.
JMPD	• CCTV to be installed and monitored along key routes, Law enforcement

61

Cape Town TOD Strategic Framework (March 2016)

TOD Objectives:

1. Maximise *"location efficiency"* so that people can walk, cycle and use public transport.
2. Boost ridership, minimize congestion ensuring public transport becomes more viable
3. Provide a rich *mix of housing, shopping, recreational and transportation* choices
4. Enable cost and operational efficiencies in the provision and design of urban infrastructure
5. Drive down the cost of the User Access Priority for both new and existing residents
6. Develop a *sense of place*.

62

Cape Town TOD Strategic Framework (March 2016)

- Scenario analyses
  - Poor spatial relationship between dense residential areas and employment opportunities
  - Resulting in long travel distances
  - High cost of access
  - The poorest people travel the longest distances
  - Inefficient network usage.
- The highest demand for public transport is between the south-east and CBD areas – need to densify transport corridors.
- Areas of Land Use Intensification (based on TOD principles)
  - Integration Zones (Metro-South East, Voortrekker Road, Blue Downs)

63

Voortrekker Road – Example of a transport corridor

64

TOD along Voortrekker Road in Cape Town

65

4. NMT Design Guideline Manuals & Standards

- Department of Transport: NMT Facility Guidelines, 2014
- Department of Transport: National Technical Requirement (NTR) Parts 1 & 2 - Pedestrian crossings 2018
- Department of Transport: Model Generic Bylaws for NMT, 2020
- SANRAL: Guidelines for Pedestrian and Public Transport Facilities on National Roads, 2017
- Department of Environmental Affairs: Green Cities: Promoting the NMT Agenda, 2014
- Jo'Burg Complete Streets Design Guidelines, 2013
- SABS NMT Design standards

66

Department of Transport: NMT Facility Guidelines, 2014

- "The main purpose of the new NMT Guideline is to provide guidance on the *planning and design for safe pedestrian, bicycle, and other alternative low carbon modes of transport, both across and alongside roads and streets*.
- Furthermore, the guideline will strengthen the *provision of well-designed bicycle and pedestrian facilities and infrastructure to improve the physical environment and safety of NMT users*".

Minister of Transport
Dipuo Peters, MP
February 2015

67

Department of Transport: NMT Facility Guidelines, 2014
Chapters Layout of Manual

- Introduction
- Policy and Legislation
- Planning for NMT modes
- NMT Road Design Details
- Safety & Guidance
- End of Trip Facilities
- Capacity
- NMT Pavement Design
- Maintenance
- Operations
- References

68

Department of Transport: NTR 1 Part 1 & 2

NTR1 Part 1: National Technical Requirements on the Design of Pedestrian Crossings

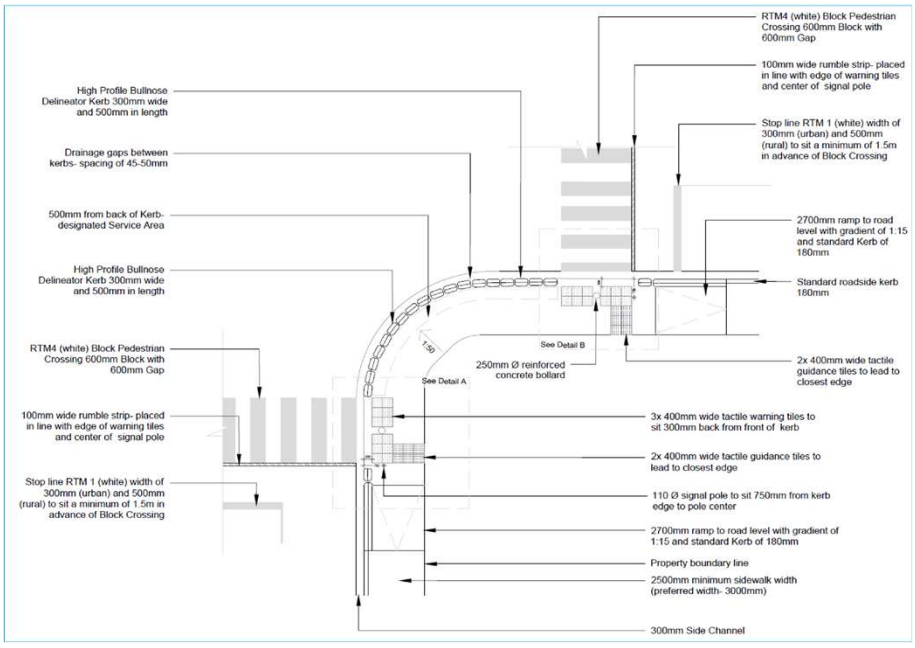
- It recognizes the need to develop the NMT Facility Guidelines, published by the National Department of Transport in March 2015, into more specific technical requirements.
- Provides an overview of the background research to inform the rationale and functional requirements, recognizing the value of applying universal design principles to improve performance, functionality and safety of pedestrian crossings in South Africa.

NTR1 Part 2: Technical drawings

- This document contains the technical component of the National Technical Requirement 1 for Pedestrian Crossings (NTR1), and is the product of the research and reviews undertaken to inform these National Technical Requirements.
- The research and reviews have been document in an Overview Research Report that should be read in conjunction with this technical component.

69

Department of Transport: NTR 1 Part 2 (Example)



70

Planning for bikeshare, pedicabs & e-bikes in South Africa

71

Department of Transport: Model Generic By-Laws on Non-Motorised Transport, 2020

- DoT with Department of Environmental Affairs involved in developing the Model Generic by-laws. DoT to spearhead process of introducing it to municipalities and promoting adoption once DoT's Legal Section has approved them.
- Contents
  - Chapter 1: General matters
  - Chapter 2: NMT Infrastructure
  - Chapter 3: Registration and licensing of power-assisted pedal cycles
  - Chapter 4: Rules for the use of power assisted pedal cycles
  - Chapter 5: Duties of pedestrians, cyclists and drivers
  - Chapter 6: Bicycle renting system
  - Chapter 7: Law enforcement
  - Chapter 8: Miscellaneous provisions, e.g.
    - *Pedicabs will only be allowed on urban routes, road networks or in areas that are designated by the Municipality either in the Municipality's integrated transport plan.*
    - *Municipality may develop standards and requirements for the use of e-bikes.*

72

SANRAL: Guidelines for Pedestrian and Public Transport Facilities on National Roads, 2017

- Objective of Guideline to address the *management* and *provision* of *pedestrian* and *public transport* facilities on SANRAL's road network, these issues cannot be ignored and need to be accommodated and mitigated to improve road safety and to contribute to the overall transport system.
- *The user is guided to develop an understanding of the problem, including the legal and policy implications. A systematic approach is given with which to determine the need for, and the type of facility to be provided.*
- Public transport facilities along freeway sections are not allowed with present guidelines, but due to passengers being loaded and off-loaded along freeways, there exists an obvious need for these facilities.
- *Intermodal transfer facilities* may be located at freeway interchanges where the demand is high enough and space requirements are met. Such a facility should have a controlled entry and exit road, with adequate pedestrian access design.

73

SANRAL: Guidelines for Pedestrian and Public Transport Facilities on National Roads, 2017

74

Safety Considerations – Typical Safety Issues

75

SANRAL: Guidelines for Pedestrian and Public Transport Facilities on National Roads, 2017

76

Mt Nicolas Pedestrian Bridge: N0239

77

Department of Environmental Affairs: Green Cities: Promoting the NMT Agenda, 2014

Chapter Layout

- Introduction
- Benefits of walking and cycling
- NMT-friendly policy and legislation
- Developing a cycle master plan
- Developing pedestrian master plans
- Designing NMT infrastructure
- Procuring the services of consultants and contractors
- Monitoring and evaluation
- Communication and awareness raising
- Conclusion
- References

78

Department of Environmental Affairs: Green Cities: Promoting the NMT Agenda, 2014

- Manual informed by experiences in developing and implementing NMT plans in response to the hosting of the 2010 Soccer World Cup, focusing on Johannesburg, eThekwini and Polokwane.
- Best Practice Manual vocalises the principle that in ensuring that there is *universal access*, the unique needs of particular users must be taken into consideration.
- Manual addresses the full life-cycle of NMT projects drawing on real-life experience to demonstrate and highlight best practice at each step of the way.
- National Greening Programme, May 2010. Demonstrate walking and cycling projects.
- Not to act as a comprehensive NMT guideline - the mandate of the National Department of Transport (DOT) and its provincial and local counterparts.

79

Jo'Burg Complete Streets Design Guidelines

http://reavaya.org.za/pdfs/strategy/pdf

Motivation for new design approach:

- Lack of paved sidewalks or very limited areas for sidewalks.
- Conflict between pedestrians and private vehicular movement in inner City.
- Lack of street lighting, unsafe at night for pedestrians.
- Poor storm water provision, open channels and blocked kerb inlets which exposes residents to risk of flooding and drowning.
- No dedicated cycling paths for cyclists.
- Potholes in the roads and holes in the pavement including open manholes.
- Unsynchronized and/or faulty traffic lights.
- Lack of clear road markings and signage.

80

Jo'Burg Complete Streets Design Guidelines

- The new approach proposed to conceptualise and begin to develop and re-develop the City's streets as Complete Streets.
- Complete Streets refers to roads designed to accommodate diverse modes, users and activities including walking, cycling, public transport, automobiles, nearby businesses and residents.
- Such street design helps create more multi-modal transport systems and more liveable communities.
- Cross sections (including NMT facilities) are provided for each road class. (Templates for different road classes) –

http://reavaya.co.za/tenders/219-tenders/942-complete-streets-design-guideline-manual (click on *Complete street templates)*

81

Class 4 Road

Class 3 Road

82

SABS NMT Design standards

- SANS 1031 Animal drawn vehicles
- SANS 1025 Hitching and Harnessing
- SANS 1542 Safety helmets for Cyclists
- SANS 10400 Universal Access

83