CITY OF JOHANNESBURG

OPEN STREETS EXCHANGE: PROJECT EXAMPLES
23 OCTOBER 2018
SPATIAL MANDATE: Challenges

**Urban Sprawl and Limiting Densities**

- Sprawl polarises society and increases inequality; limits access to city amenities and services; makes service delivery more expensive; reduces walkability, non-motorised and public transport use; uses up natural land and increases carbon emissions per person.

**Job-housing Mismatch**

- Majority of the population must travel long distances at high cost to get to work or indeed look for jobs.

- **3%** of the metropolitan area hosts 1/3 of the jobs

- **5%** of the metropolitan area hosts 1/3 of the inhabitants

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**Job-density Categories**

- 0-300 jobs/km²
- 301-800 jobs/km²
- 801-1500 jobs/km²
- 1501-3000 jobs/km²
- 3001-5000 jobs/km²
- 5001-10000 jobs/km²
- 10001-50000 jobs/km²
SPATIAL MANDATE: Challenges

High Levels of Spatial Inequality & Deprivation

BASED ON 5 INDICATORS:

- Income
- Employment
- Health
- Education
- Living Environment

- Peripheral areas are physically disconnected from the rest of the city.
- These areas are often poorly serviced in terms of health and education, and services such as water and electricity.
- The areas with the highest population concentrations are the most deprived areas in the City.
Limited Diversity and Inefficient Land Use Patterns

- Urban living should allow residents to access everything they need close to where they live.

- Historically, we have separated land uses (like houses, shops, offices and schools) so we have to travel long distances to access and distances are usually too far to walk.
SPATIAL MANDATE: Challenges

Fragmentation and Spatial Disconnection

- The City’s fragmented character directly contributes to increased carbon footprint
CITY TRANSFORMATION AND SPATIAL PLANNING

SPATIAL MANDATE: Challenges

Access to Transport

- More than 2km: 83%
- 1km-2km: 7%
- 500m-1km: 5%
- Less than 500m: 6%

New York
- 28%
- 24%
- 23%
- 25%

London
- 18%
- 29%
- 31%
- 22%

Joburg now
- 16%
- 27%
- 32%
- 25%

Copenhagen
- 27%
- 32%
- 25%
The SDF seeks to address five major issues in Johannesburg’s spatial and social landscape:

- Spatial inequalities and the job-housing mismatch,
- Increasing pressure on the natural environment
- Urban sprawl and fragmentation,
- Exclusion and disconnection
- Inefficient residential densities and land use patterns
TRANSIT ORIENTED DEVELOPMENT PRINCIPLES

1. ENHANCED PEDESTRIAN MOVEMENT

The ‘walkability’ of a city refers to extent to which people can access places and parts of the city using alternative forms of movement and transit other than motor vehicles. Therefore the objective is to create a city that constitutes of various networks of movement hierarchies that allows for dedicated walking and cycling. To achieve enhanced pedestrian movement, the lengths of paths and number of openings need to be considered. Such an consideration will result in shorter street blocks, more pedestrian crossings and connections, and, integration with other uses and forms of transit.
TRANSIT ORIENTED DEVELOPMENT PRINCIPLES

2. BUILDINGS TO FACE STREETS + OPEN SPACES

In order to enhance the overall sense of safety and security along pedestrian routes and public spaces, buildings ought to be oriented towards these movement networks and open spaces to increase surveillance. Whereas some building edges can be activated and animated to enhance use during specific periods - public entrances, balconies and side windows ought to open up onto the spaces to create additional access and surveillance points. This together with land use mix is known as ‘passive surveillance’ and is an important principle for transit oriented development.

In addition to this, buildings ought to be placed on property corners without large parking areas separating the pedestrian path from the building itself. This reduces pedestrian exposure en enhances access, linkage and connectivity.
Mixing of land uses refers to the degree to which facilities, amenities, and different ‘purpose’ areas are placed within a reasonable walking and/or cycling distance from one another and the public transit station and/or node. Apart from horizontal land use mix, buildings should also be designed to house a variety of uses and functions on various floors. Here ground floors could typically include retail, urban manufacturing, and other public uses. Middle floors could include offices and institutions, and, top floor residential. Open spaces in between buildings should become public spaces such as parks and squares and parking should be limited in these areas.
TRANSIT ORIENTED DEVELOPMENT PRINCIPLES

4. PARKING BEHIND OR BELOW BUILDINGS

By placing parking spaces behind or below buildings significant additional pedestrian and other public spaces are created, thereby ensuring greater connectivity and ease of movement. Therefore parking should be provided off-street, behind buildings or in basement structures. However, in the case where these two options are not obtainable, urban features such as trees, bollards and other demarcations ought to be used to restrict and control on-street parking. Here it is essential that parking do not encroach onto sidewalks or obstruct pedestrian or other public transit points.
The principle of Human Scale relates to the scalar and functional relationship between the city and people. Where large buildings are clustered closely to one another the degree of place attachment and legibility becomes somewhat lost. However, where buildings are placed too far from one another the space in between creates a feeling of greater exposure and vulnerability. Therefore this principle seeks to arrive at a more spatially balanced approach to dealing with the built form and emphasizes the importance of the on-foot movement experience of people when designing cities.

Some implications entail height transition zones, building set-backs, ground floor activation, views and essential vistas. The consideration of what becomes ‘built areas’ and what remain ‘open spaces’ are therefore the resulting spatial and structural outcomes.
6. PROVIDE UNOBSCTURED PEDESTRIAN ACCESS

Unobstructed pedestrian access and movement is a critical component of transit-oriented development and relates to how safely and efficiently pedestrians can gain access to buildings. Wide sidewalks, sufficient street crossings, signalized intersections, and speed-reduction mechanisms are all elements that contribute towards the creation of unobstructed pedestrian movement and access. These elements also facilitate linkages and direct door-to-door access across streets. Other elements such as street and pedestrian path lighting, seating, landscaping and trees add to the quality of these networks.
TRANSIT ORIENTED DEVELOPMENT PRINCIPLES

7. CREATE COMPLETE STREETS

Streets are an essential component of the public realm and play a vital economic as well as social function in cities. To this extent it is therefore necessary to plan and design streets to facilitate this role.

Smaller streets can achieve slower vehicular speeds that in turn creates safer non-transit networks. In addition several traffic management features should be considered that will contribute to and facilitate the desired non-motorized transit networks. However, complete streets need to offer dedicated lanes and networks for all forms of transit including: public buses, cycling, walking, and, private vehicular movement. The transition between these modes are also critical and therefore features such as planters, bollards and curbs can be useful to delineate uses.
TRANSIT ORIENTED DEVELOPMENT PRINCIPLES

In order for transit oriented development to be effective and feasible, a denser population is required around the focal transit points. Therefore a more compact city could be achieved by significantly increasing densities in areas to obtain the critical mass. Strategies include infill development, redevelopment and even conversion of buildings.
TRANSIT ORIENTED DEVELOPMENT PRINCIPLES

9. QUALITY COMMUNITY FACILITIES + PUBLIC OPEN SPACES

Quality multi-purpose community facilities and public open spaces can significantly contribute towards more vibrant communities. Therefore such facilities need to be included within the movement network and should be accessible by pedestrians. Facilities can include recreational uses, educational and training facilities, childcare, civic services, health care, informal trading, and public open spaces.
The CoJ 2030 Spatial Development Framework (SDF 2030, approved September 2016) sets out the City’s development trajectory and area prioritisation.

The SDF seeks to address five major issues in Johannesburg’s spatial and social landscape:

- Spatial inequalities and the job-housing mismatch,
- Increasing pressure on the natural environment
- Urban sprawl and fragmentation,
- Exclusion and disconnection
- Inefficient residential densities and land use patterns
• NODAL REVIEW
**Progress:**

*Essential to note external international funding for projects located in Corridors – re-emphasizes commitment to COF*

- We are here
  - Implementation Projects (Detailed Planning; Design; Construction)
  - Private Sector Development Facilitation
  - Continuous community + stakeholder engagement and alignment
  - Property Acquisition for inclusionary housing
  - Land packaging
INNER CITY EASTERN GATEWAY

Interventions

Northern Edge
- Observatory Ridge

SOUTHERN EDGE
- Southern JHB/Germiston Line

Eastern Edge
- Kensington

Western Edge
- John Slovo Drive
Fordsburg Public Environment Upgrades
Ghandi Square East Public Environment and Traffic Improvement Upgrade

PROJECTS IDENTIFIED

1. Project 1: Main Street [Elloff Street to Von Brandis Street]
   - Option 3 (A) Reduced Mobility
     - Main Street [Von Brandis Street to Kruis Street]
   - Option 3 (B) Reduced Mobility
     - Project 2: Main Street [Kruis Street to Von Wieligh]
       - Option 3 (A + B) Reduced Mobility
     - Project 3: Main Street [Von Wieligh to Delvers and Polly to Mooi Street]
       - Option 3 (C) Reduced Mobility
     - Project 4: Main Street [Mooi Street to End Street]
       - Option 4: Vehicular Mobility with Improved Pedestrian Mobility

2. Project 5: Goud Street [Fox to Marshall Street]
   - Option 2: Restricted Vehicle Access

3. Project 6: Delves Street [Fox to Main Street]
   - Option 2: Restricted Vehicle Access

4. Project 7: End Street [Fox to Marshall Street]
CITY TRANSFORMATION AND SPATIAL PLANNING

PROGRAMME / PROJECT SUMMARIES

WESTBURY CLINIC
NOORDGESIG SOCIAL CLUSTER
NOORDGESIG SOCIAL CLUSTER
CITY TRANSFORMATION AND SPATIAL PLANNING

PROGRAMME / PROJECT SUMMARIES

NOORDGESIG SOCIAL CLUSTER
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CITY TRANSFORMATION AND SPATIAL PLANNING

Linear Park

KIDS PLAY AREA

TODDLER PLAY AREAS

SITTING AREAS

LINEAR PARK & ECONOMIC GATEWAY

MARKET STALLS

PARKING

BIO-SWALE

OUTDOOR ACTIVITY ZONE

MAIN STREET

de VILLERS STREET

PARKING
MILPARK

- Frank Brown Park Upgrade complete;
- NMT upgrades & implementation;
- Social Housing opportunities (JOSHCO, Housing);
- Additional projects ongoing, including pedestrian bridge.
4.2_PRIORITY 2: Consolidating the Public Transport Backbone
COLLABORATIVE, CONTEXT SPECIFIC & COMMUNITY INTENSIVE APPROACH

- Rather than a community adapting to a road, a road should adapt to the community it passes through = **dispelling** the notion that ‘**one size fits all**’;

‘**TACTICAL URBANISM**’ a vital planning & design tool

Balanced allocation of street space = multiplicity of use
WATT STREET INTERCHANGE

LEGEND
- Impact Area
- Sub-Regional Study
- Detailed Precinct Development Plan

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PROGRAMME / PROJECT SUMMARIES
WATT STREET INTERCHANGE
WATT STREET INTERCHANGE

LINKING MARKET STUDIES RECOMMENDATIONS TO VISION 2

- **Public Hospital (3 storey)**
  - Market studies: 11 497sqm
  - Proposed: 13 563.49sqm

- **Retail (1 Storey)**
  - Market studies: 43 280sqm
  - Proposed: 27 551.03sqm

- **Offices (5 storey)**
  - Market studies: 9 438sqm
  - Proposed: 10 449.33sqm

- **FET college (3 storey)**
  - Market studies: 1 248sqm
  - Proposed: 3 318.21sqm

- **CoJ Offices**
  - Target: 5294sqm
  - Proposed: 5330sqm

- **Short Stay (3 storey)**
  - Market studies: 2 325sqm
  - Proposed: 2567.82sqm

- **Residential (3 storey)**
  - Market studies: approx. 3000 sqm
  - Proposed: 5889.74sqm
PROGRAMME / PROJECT SUMMARIES

GREAT WALK
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PROGRAMME / PROJECT SUMMARIES

PATTERSON PARK & GRANT AVENUE
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PROGRAMME / PROJECT SUMMARIES

BALFOUR PARK UDF
Intersection Athol and L. Botha streets.

Provision for a Proposed corner piazzas

Mc Donald's site

BRT

Proposed Service lane

Renewel Commercial

Existing

BRT

Existing Service lane
4_PROGRAMME / PROJECT SUMMARIES

• ORANGE GROVE + KNOWLEDGE PRECINCT SPECIAL DEVELOPMENT ZONES (SDZ):
4_PROGRAMME / PROJECT SUMMARIES

• ORANGE GROVE + KNOWLEDGE PRECINCT SPECIAL DEVELOPMENT ZONES (SDZ):
FORM BASED CODES & GUIDES

- Where existing, apply. Where not existing, create;
- Transit facilities not merely infrastructural installations, but rather spatial structuring elements that serve a social, economic and place making role;
- Hence Form Based Codes / Guides would force a more contextual transit response;
- This would in turn greatly influence and inform Spatial and Urban Design Policies – particularly around transit nodes.

Properties adjacent to and within 100m from the transit stations have additional guidelines to direct development towards transit stations and ensure the optimal functioning of the transit station areas as Transit Oriented Development (TOD).
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PROGRAMME / PROJECT SUMMARIES

- TSOLO ROAD
- PVT DEV OPPORTUNITY
- TAXI FACILITY
- JOSHCO HOUSING
- NEW PARK & LINK
- PROVINCIAL HOUSING
- HOSTEL LINK & MARKET AREA
- MOROKO NANCEFIELD ROAD & HERITAGE WALK
- NANCEFIELD TRIANGLE
- COMMUNITY CENTRE & PEDESTRIAN LINK