**National Treasury: Neighbourhood Development Partnership Grant Programme**

# IDENTIFICATION OF THE URBAN HUB

**DOCUMENT 1: METHODOLOGY DEVELOPMENT**

*Version 7*

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**National Treasury: Neighbourhood Development Partnership Grant Programme**

# IDENTIFICATION OF THE URBAN HUB

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# 1 Introduction

## 1.1 Background

The Neighbourhood Development Partnership Grant is a conditional grant consisting of medium-to long term funding commitment, paid to selected municipalities through the Division of Revenue Act. The fund is administered by the Neighbourhood Development Programme Unit in the National Treasury. The aim of the NDPG is to stimulate and accelerate investment in poor, underserved residential neighbourhoods by providing technical assistance and grant financing for municipal projects that includes a distinct private sector element.

"The NDPG is driven by the notion that public investment and funding can be used creatively to attract private and community investment to unlock the social and economic potential within neglected townships and neighbourhoods and that this in turn will contribute to South Africa's macro-economic performance and improve quality of life among its citizens.

The key principles forming the foundation of the NDPG are:

- Economic growth is a fundamental prerequisite for achieving other policy objectives including poverty alleviation and improving quality of life.
- Consequently, government spending on fixed investment should be focused on areas where growth opportunities and economic potential has been identified.
- This government investment ought to be aimed at attracting private sector investment, stimulating economic activities and creating long term employment opportunities.
- Government's efforts to address social inequalities should focus on people, not places. Where localities or areas have little development potential, government spending over and above the provision of basic services, ought to focus on providing social transfers, human resource development and labour market intelligence, thereby enabling those who wish to migrate to localities that are more likely to offer economic opportunities and sustainable employment.
- Future settlement and economic development opportunities should be channelled into activity corridors and nodes that are adjacent or linked to main growth centres. As such, infrastructure investment and development spending should primarily support localities that are earmarked to become major growth nodes.

The NDPG has been established with the ultimate objective of leveraging private sector investment in underserved residential neighbourhoods thereby unlocking the social and economic potential within these areas. It is anticipated that this can be achieved by accelerating investment in community amenities in these areas by providing a combination of technical support and capital financing for municipal projects that will leverage private sector investment at scale."[1]

[1] http://ndp.treasury.gov.za/default.aspx

## 1.2 Policy Direction and Problem Statement

### 1.2.1 Refocusing the NDPG: The Urban Network Model and Urban Hubs

To date, approximately R8.8 billion of NDPG funding has been committed over a 10 year period, of which more than R2 billion has been spent.[2] NDPG awards have been granted in the following municipalities, a mix of metropolitan, district and local municipalities in both urban and rural settings (August 2012):

- Eastern Cape: Amathole, Buffalo City, King Sabata Dalindyebo, Nelson Mandela Bay, Senqu.
- Free State: Matjhabeng, Dihlabeng.
- Gauteng: City of Johannesburg, City of Tshwane, Ekurhuleni, Mogale City, Sedibeng.
- KwaZulu Natal: eThekwini, Emnambithi/Ladysmith, KwaDukuza, Mandeni, Msunduzi, Ndwedwe, Newcastle, Nongoma, Sisonke, uMngeni, Umtshezi, Umzimkhulu, Zululand.
- Limpopo: Polokwane, Ba-Phalaborwa, Mogalakwena, Thulamela, Greater Tzaneen, Greater Tubatse.
- Mpumalanga: Mbombela, Bushbuckridge, Lekwa, Steve Tshwete.
- North West: Rustenburg, Greater Taung, Ramotshere Moiloa, Tlokwe, Matlosana.
- Northern Cape: Sol Plaatje, Ga-Segonyana.
- Western Cape: City of Cape Town, Beaufort West, Bitou, Cederberg, Knysna, Langeberg, Makana, Langeberg, Matzikama, Mossel Bay, Oudtshoorn, Overstrand, Theewaterskloof, Witzenberg.

In an assessment of the programme, a need was however identified for a more focussed approach to ensure that optimum long-term impact is achieved. This approach entails "the consolidation of the current interventions located throughout the townships into strategic locations that are easily accessible and offer a diverse land use, services and activities. The primary purpose is to achieve spatial transformation in order to optimise access to socio-economic opportunities of township residents whilst creating an enabling environment of private and other public sector investment."[3]

The proposed new strategic direction for the NDPG is based on a spatial development approach that builds on an urban network model, which is "a transit-orientated precinct investment planning, development and management approach aimed at strategic spatial transformation". The elements of this model are firstly the primary network stretching across an entire urban, consisting of primary nodes (including the typical CBD, established primary nodes and Urban Hubs to be supported / established in township areas) and the main movement lines / public transport linkages connecting the nodes. It also includes the secondary network that consists of lower order nodes connected to the primary nodes / Urban Hubs via secondary public transport linkages.

The main point of intervention of the NDPG will be to support the establishment and/or improvement of the Urban Hub, and in this way support the establishment and formalisation of anchor points in the primary urban structure in township areas where this is still lacking. The Urban Hub is envisaged to function as a town centre for a surrounding residential area (township of cluster of townships), and in addition provide access to the rest of the primary urban network. The Hubs should be located as such that they can act as gateway precincts, linking the secondary urban network within the townships with the established primary network of the rest of the urban area.

The concept of the primary network and current urban form is illustrated below:

[2] National Treasury, NDP
[3] National Treasury, NDP

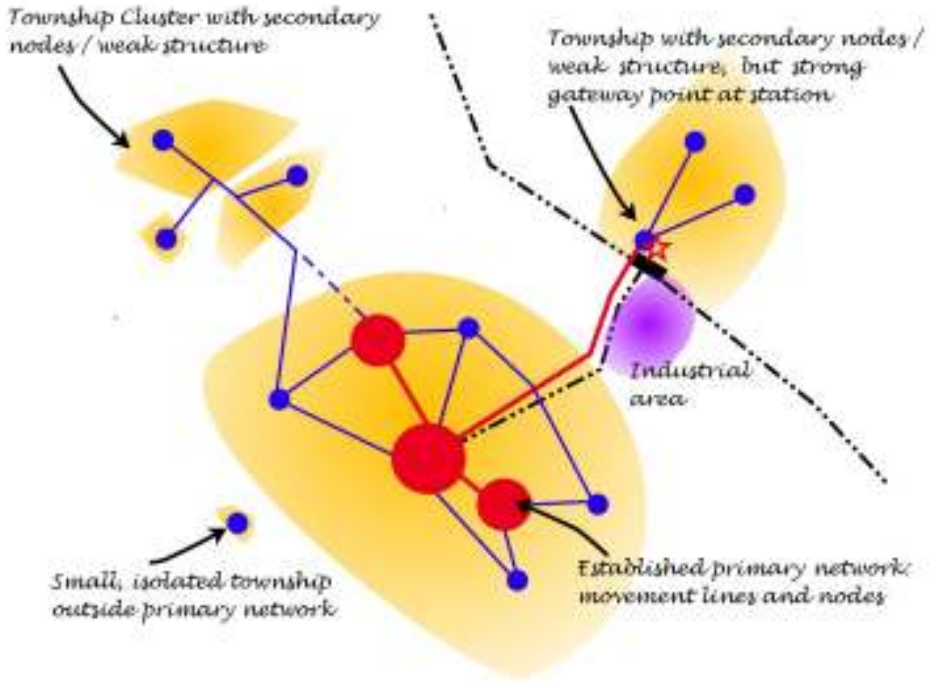



**Figure 1: Current Primary Network and Urban Form**

The following guidance has been provided by the Neighbourhood Development Programme Unit in terms of the envisaged location, role and composition of Urban Hubs:

> *"A Neighbourhood (Urban) Hub will function as the "town centre" for the surrounding township of cluster of townships and provide access to the rest of the wider urban area. It will be planned and developed as a high density, mixed use precinct that contains a variety of land uses, services and activities.*
>
> *At the core of the Neighbourhood (Urban) Hub will be an efficient intermodal public transport facility and a system of public spaces and walkways where people can experience a diverse range of activities. Land uses such as retail, recreation, offices, banking, community facilities and government services, hospitality / tourism, leisure and high density housing will be located around the core within an urban design framework that promotes a vibrant sense of place in which to live, work and play. A variety of tenant types and sizes and high levels of both public and private sector investment will define the Neighbourhood (Urban) Hub as a place of convergence and high connectivity.*
>
> *The location should be determined by criteria such as accessibility, proximity, connectivity, cost and/or effort to get to and from the Hub. It is premised on the notion that some places are of greater importance than other because they are more central. The key objective in this regard is to optimise public transport convergence."*

In order for the NDPG investment to be optimised in terms of long term impact, clear direction is required on identifying (1) the ideal composition and design of the Urban Hub and (2) the most suitable location / location criteria for these Hubs.

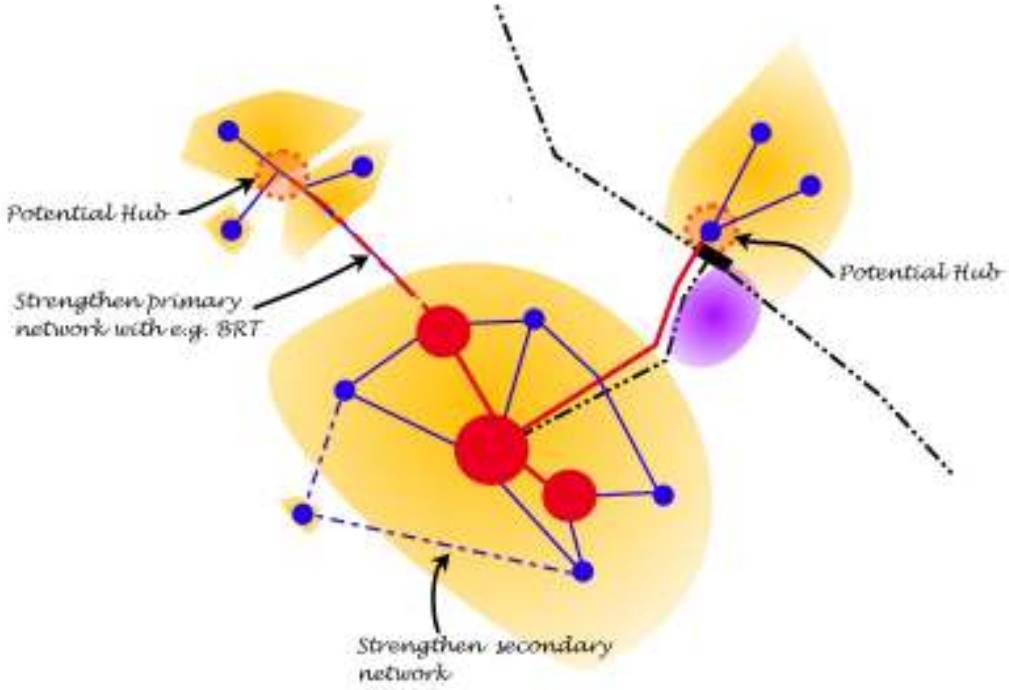



**Figure 2: Interventions to Strengthen Primary Network**

This report deals specifically with the location problem statement. A set of location criteria will be identified as part of a methodology to identify Urban Hubs, mostly in the form of existing nodes that will be prioritised to be developed as hubs. This methodology will be applied to audit existing NDPG projects, as well as identify new potential Urban Hubs.

## 1.3 Project Description

In the context of the above background, it must be noted that there are currently two parallel projects underway as part of the refocusing of the NDPG. The one project involves the compilation of design criteria / a design methodology Toolkit for the Urban Hubs. This Toolkit aims to give guidance in terms of:

- The structural typology of the Hub and its components
- Phasing of Hub development
- Key design concepts, e.g. urban design principles and guidelines and the typical composition / layout of the Hub.

The second project is the subject of this report, i.e. developing a location approach / methodology for Hubs.

***It must be noted that the work done in the other component of the refocusing of the NDPG, i.e. the Design Methodology Toolkit dealing with the structural typology, phasing and urban design guidelines for the Hubs, will also inform aspects of location criteria and site suitability. These two components of the refocusing of the NDPG are developed in parallel but with close interaction between the respective project teams to ensure alignment.***

## 1.4 Approach

The methodology to spatially identify Urban Hubs, will be approached in the following manner.

Firstly, the strategic location factors emerging from the specific policy direction and urban design criteria will be unpacked to ensure that the proposed methodology captures the direction given, and

to obtain stakeholder support for these strategic factors. Secondly, the concept upon which the technical methodology will be based will be described and verified. As a last step in methodology development the technical aspects, such as process and indicators, will be set out.

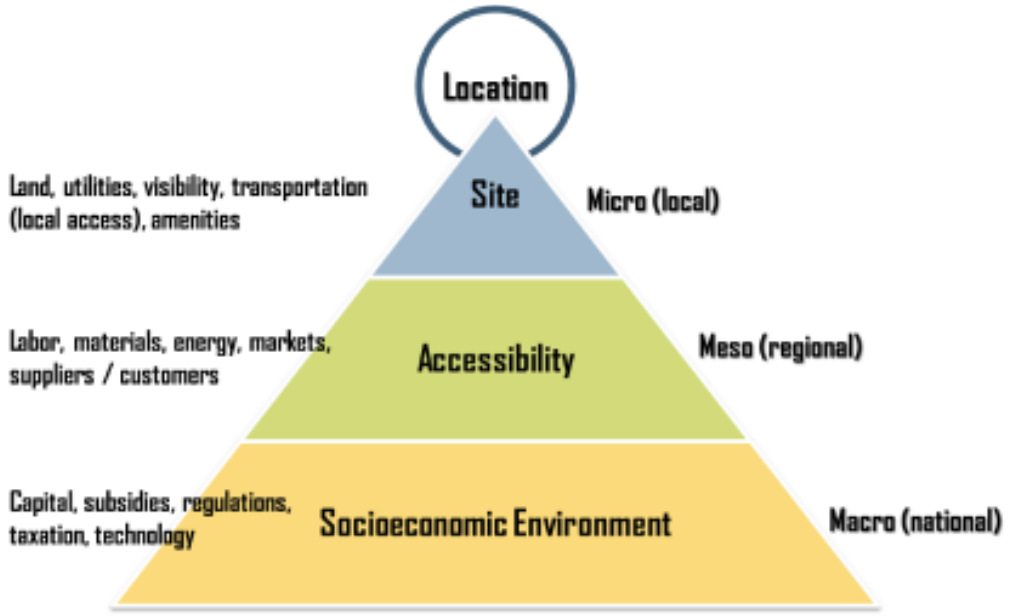
In the remainder of the document, these three aspects will be described.

## 2 Strategic Location Factors

A wide range of academic literature exists regarding location decisions and location criteria for different land uses or types of economic activity. Approaches include:

- location decisions based on cost and efficiency with the aim to maximise profit in choosing the optimal location (Von Thunen (1826) and Weber (1929));
- behavioural location theory that focuses on the decision making process of roleplayers such as individual business owners; and
- what (Brouwer et al, 2004: 337) defines as institutional location theory, based on the notion that economic activities are embedded in on-going social institutions or networks, and sees firm location behaviour as the result of the firm's investment strategies that represent the outcome of a firm's negotiation with suppliers, government, labour unions and other institutions about prices, wages, taxes, subsidies, infrastructure and other key factors in the production process of the firm.

Rodrigue (2012) gives another perspective on location theory, including local, regional and national scale considerations, which are useful in considering Hubs as not only local nodes but as regional gateways, established with national level co-investment:




(Copyright © 1998-2012, Dr. Jean-Paul Rodrigue, Dept. of Global Studies & Geography , Hofstra University, New York, USA.)

These factors are explained as follows in terms of three general functional categories:

- Site: Specific micro-geographical (local) characteristics of the site, including the availability of land, basic utilities, the visibility (for activities related to prestige such as head offices), amenities (quality of life) and the nature and level of access to local transportation (such as the proximity to a highway). These factors have an important effect on the costs associated with a location.
- Accessibility: Include a number of opportunity factors related to a location, mainly labour (wages, availability, level of qualification), materials (mainly for raw materials dependent

activities), energy, markets (local, regional and global) and accessibility to suppliers and customers (important for intermediate activities). These factors tend to have a meso (regional) connotation.

- Socio-economic environment: Specific macro-geographical characteristics that can to apply to jurisdictional units (nation, region, municipality). They consider the availability of capital (investment, venture capital), various subsidies and incentives, regulations, taxation and technology.

It is noted that the role and importance of each factor depends on the nature of the activity which locational behaviour is being investigated.

In the context of location choices for Hubs, these general factors should partially inform location suitability to ensure long term economic viability. However, the establishment of Urban Hubs also presents a socio-political intervention in the urban structure to correct historical disparities. For this reason, the specific strategic direction on the role of Hubs provided by the refocusing of the NPDG as described in the previous section, will be prioritised.

Inherent to this role is the strategic location factors that should guide the methodology of identifying Hubs. These factors are mostly spatial, but also contain a socio-economic component. Furthermore, the specific design criteria developed for the Hubs will have an impact on the consideration of location suitability.

The most critical spatial location factors emanating from the strategic direction described above are based on centrality and the urban network concept:

- The Hub should form a link between the existing primary network of the urban region and the secondary network of the township within which it is located, i.e. performing a **gateway function** between the township, the established urban network and areas of opportunity. Certain elements in the Hub should **serve the local population** in the township / township cluster, but other elements could / should also **draw people and activities in** from the wider region, and the Hub should serve as an **outward distribution point for people and services** to the rest of the region.
- The Hub should be located at a **central point with high accessibility**, addressing requirements such as connectivity to the surrounding area and primary network, and low cost and/or effort to get to and from the Hub.
- The Hub should be located at a point of **public transport convergence**, which will form the foundation of its accessibility and connectivity.

In addition to purely spatial location factors, critical socio-economic aspects also have to be considered:

- The Hub should facilitate not only spatial, but also **social and economic integration**. Here the potential link with longer term restructuring zones becomes a key consideration. Socio-economic integration also implies movement of people, goods and services between the Hub and other areas of the region, i.e. the presence or establishment of certain key regional services and amenities.
- The Hub should be **attractive to private sector investment**, i.e. the potential economic viability of the location in terms of target markets, economic clustering, visual exposure, access requirements, safety, etc. should be considered.

The specific criteria set out for Hubs in the toolkit that is being produced on the Urban Hub design methodology will have an impact on location in terms of both site suitability (e.g. location straddling vs. next to major intersection), and target market considerations (e.g. scale of community services or

retail will to an extent determine the spatial extent and/or population size to be served by a single Hub). The most critical design criteria and their implications are:

- **Composition** of Hub and required **size of catchment area / population**: the type and level of land uses, and as a result the population thresholds and optimum size of catchment area, are important not only for Hub location but also to identify the relevant townships / township clusters which will be the catchment areas.
- **Design criteria**: considerations would include e.g. which uses to be located in centre vs on edge of Hub, desirable street pattern, relation to public and private transport entry points, linear vs. concentric development, etc.

The draft design methodology toolkit (November 2012) also specifies the **following location / site criteria**:

- Has been acknowledged by the metropolitan authority as having the potential to be a significant secondary Hub after the CBD;
- Has been tested in terms of its capacity to be connected to a Primary Hub via the Urban Networks Programme principles described earlier;
- Handles a large number of people moving through it on a daily basis;
- Has a major transport facility (rail if not BRT) or the potential to accommodate a viable one;
- Has the potential to function as a town centre / economic Hub offering employment and larger scale retail possibilities;
- Has the potential to accommodate public facilities if it doesn't have them already;
- Has the potential to accommodate higher density housing options;
- Has sufficient capacity within the infrastructure networks to accommodate future development;
- Has sufficient vacant land to offer viable development options; and
- Is free of geotechnical, heritage, legal and or environmental constraints that would significantly restrict future development.

An initial scan of the typical contexts within which the Hubs will be located, highlighted a series of potential challenges:

- **Nature and extent of spatial divides** in the current urban form: the primary urban network does not in all cases provide a direct access points or viable rail stations into townships, meaning that "corrections" are required to primary and secondary networks to facilitate better flow and a stronger integrative network. In addition, there are cases where spatial divides are in the form of "hard" buffers e.g. industrial areas or topographical features, presenting a break in the primary network that will have to be bridged.
- **Long term restructuring aim vs. viability over short to medium term**: a current "town centre" may be well located as a central place in a township, but if the direction of growth and the overall urban form are to change over the long term, such a node may not be the optimum location for a neighbour Hub. At the same time, it may not be viable to develop a "new" Hub at the centre of possible future urban form, as none of the supporting urban fabric or movement of people exists at present.
- **Relationship with current nodes**, investment hot-spots, current form of development: the intervention of Hub development will be super-imposed on an existing urban form, whether it takes the shape of a new nodal development or (preferably) the upgrade / consolidation of an existing node or town centre. The existing urban form may however not be suitable in terms of design criteria, e.g. the most ideal location may already be developed with a mall type development and not walkable streets. There may also be high intensity current investment (public or private) in a non-ideal location that may affect the viability of a new Hub (e.g. already taking up large part of market share).

# 3 Methodology Development: Identification of Urban Hub

## 3.1 Methodology Concept

The approach for the identification of Hubs will focus on three levels of analysis to identify strategic investment areas. This approach has been designed in line with the notion that at different scales, different location criteria are relevant, as discussed earlier in the document:

- National Scale: Identify strategic urban areas to ensure maximum impact both in terms of number of people benefitting and potentially high return on investment to attract private sector investment.
- City Regional Scale: Identify critical townships and / or clusters of townships, with adequate population size to support viable Hubs.
- Local Scale: Identify suitable locations for specific Hubs in each township / township cluster.

The analysis will be based on national GIS data sets, aerial photography, as well as relevant municipal planning documents. This desktop analysis will be supplemented by the consideration of specific local factors and interaction with key municipal role-players where necessary. A combination of quantitative and qualitative analysis will be undertaken, and including measurement against specific indicators used in specialist areas such as retail planning and standards for community service provision.

The following elements will form part of the proposed methodology to identify the most suitable locations for Urban Hubs:

| | |
|---|---|
| ***Level 1: National Scale***<br>Nation-wide identification of high-potential areas | The new strategic direction of the NPDG entails a focus on urban areas.<br><br>These are the areas where investment has the potential to impact on the largest number of people, and where economies of scale and existing infrastructure contributes to a high potential for return on investment. The urban areas also experience the highest levels of growth, making it most critical to establish a sound urban structure to guide and consolidate future development.<br><br>A phased approach will be considered in the selection of key urban areas of NDPG investment, with the first round of funding earmarked for the highest potential / most strategic areas. Further rounds of funding will then be cascaded to other cities in subsequent phases. |
| ***Level 2: City / Regional Scale***<br>City-wide / regional clustering of townships | Once the priority urban regions have been identified, a more detailed analysis of each of these regions is conducted. This includes identifying the current primary network, and the townships or clusters of township that will have to be demarcated as the "catchment areas" for Urban Hubs. In township cluster identifications, factors to consider include the location of the townships in relation to the primary network, population / household numbers to ensure adequate thresholds to ensure viability of investment in Hubs, and physical and topographical barriers separating areas. |
| ***Level 3: Local Scale***<br>Identification of suitable locations for Urban Hubs within townships / township clusters | In this level of analysis, the focus shifts to the specific township / township clusters that have been demarcated in the previous phase. The most suitable location for an Urban Hub per township / township cluster will be identified, based on location criteria such as existing municipal planning and on-going initiatives, existing concentrations of activity, accessibility via public transport, linkages to primary and secondary urban network, etc. |

**Table 1: Methodology Concept**

This concept is presented in the figure below:

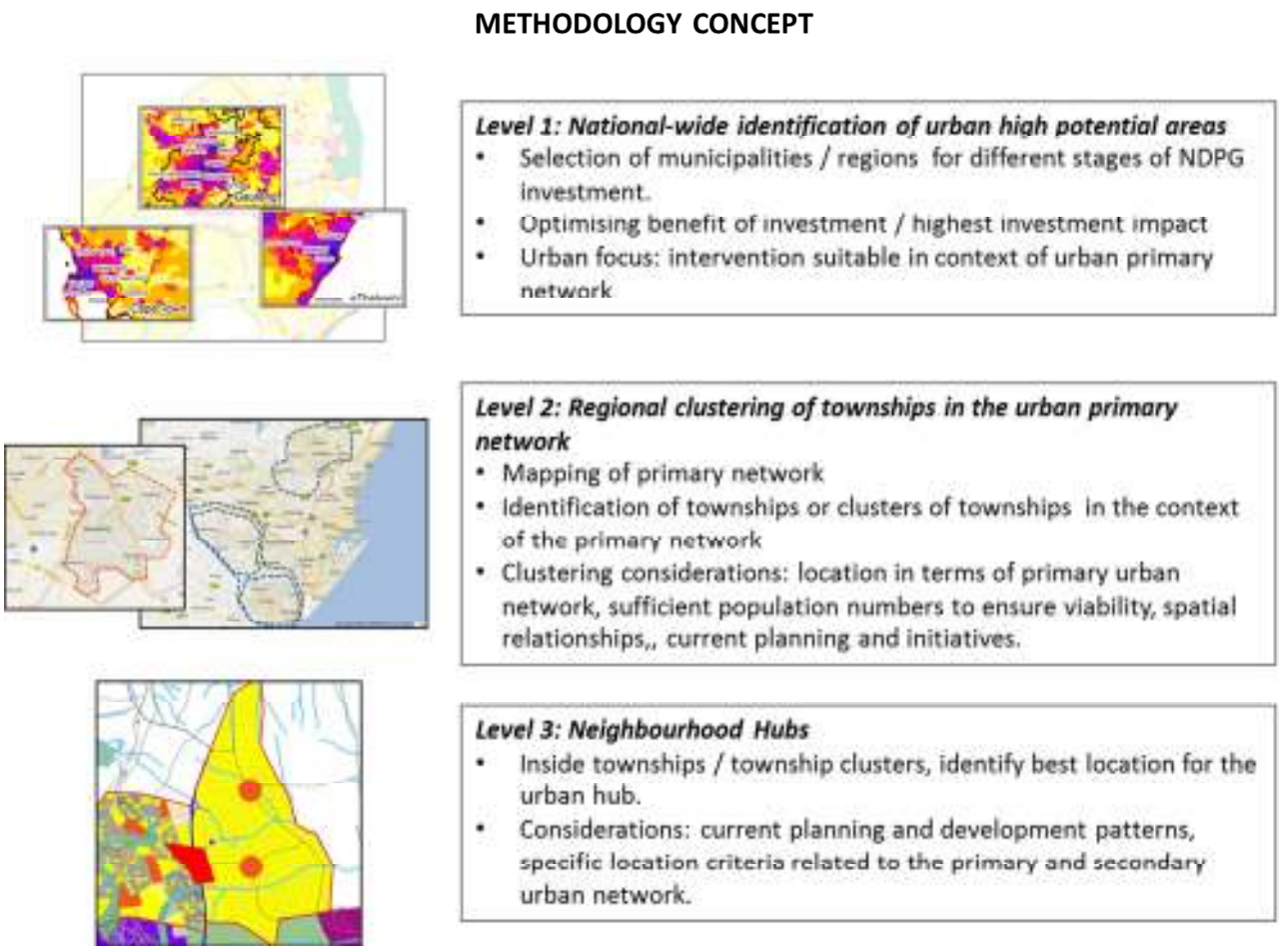



**Figure 3: Methodology Concept**

## 3.2 Detailed Methodology Description

In this section, a more detailed description of the proposed methodology will be presented, including proposed indicators and an illustrative example.

### 3.2.1 Level 1: Identification of Urban High-Potential Areas

In this level of analysis, the municipalities that will be the strategic areas for the first round of refocused NPDG funding will be identified.

The principle that will guide this level of analysis will be the optimisation of investment impact. This would include the following conditions:

- Potential to impact on a large population.
- Areas with a critical need for the establishment of a sound urban structure in order to manage high levels of growth and expansion, both in terms of population and economic activity.
- Areas where regional conditions exist to ensure viability of investment, e.g. established infrastructure and communication systems, established economic activity and population size and density that would provide sufficient economies of scale.
- Areas which are connected and accessible in a national and global context.

- Areas which are urban in nature i.e. have a formal urban network that will ensure access to a centralised concentration of activities and amenities in a hub. In contexts of dispersed rural villages and resultant low levels of accessibility to a central point, another type of intervention may be more appropriate.

An approach has been suggested at the outset of the project to focus the first round of investment in the three major city regions, comprising the areas of jurisdiction of the following metropolitan municipalities:

- Gauteng: City of Joburg, Ekurhuleni and City of Tshwane
- Western Cape: City of Cape Town
- KwaZulu Natal: eThekwini

The measures suggested below would be used in subsequent phases to identify the next level of priority area for investment. A suggested cascading of phases would be:

- Round 2: Metro's excluding the three city regions above, as well as high intensity urban areas surrounding the main city regions (e.g. potentially parts of the Sedibeng and West Rand District Municipalities in Gauteng, etc.).
- Round 3: Secondary cities and/or major regional service centres not included in first two phases.

The suggested measures and indictors that could be used to identify priority areas / regions beyond the first round (city regions), are summarised below:

| **Measures** | **Indicators** | **Potential Data Sources** |
|---|---|---|
| ***Option A: Existing urban classifications (preferred option)*** | | |
| Scale / intensity of urban activity | • Highest order urban areas in terms of classification system used.<br>• Excluded: rural areas; small towns and cities where CBD is only viable node and easily accessible from township areas. | • Direct: Urban Function Index or settlement hierarchy (StatsSA; UFI) risk - may be outdated)<br>• SACN classification of primary and secondary cities (2012 report)<br>• National Treasury NDPG classification |
| ***Option B: Spatial economic analysis*** | | |
| High concentrations of economic activity | • GVA / GDP per LM: top contributors to national economy | • CSIR based on Quantec, 2009 |
| Economic trends | • GVA / GDP growth or decline per LM: growth higher than national average | • CSIR based on Quantec, 2009 |
| High population concentrations | • Population 2011 per LM: top population concentrations nationally | • StatsSA (Census 2011) AND / OR<br>• Eskom spot building count 2009 |
| Population trends | • Population growth / decline 2001-2011: growth higher than national average | • StatsSA (Census 2011) |
| High in-migration | • In-migration key destination areas: medium to high levels of in-migration 1999-2009 | • CSIR (IEC summaries 1999-2009 on StepSA website |
| Poverty | • Unemployment 2011: lower than national average | • StatsSA (Census 2011) |
| Unserved urban population | • Population in urban township cluster wards 2011: 125 000 minimum threshold; structured, urban settlements not rural | • Estimate based on StatsSA (Census 2011) (Part of Level 2 analysis see below) |

| Measures | Indicators | Potential Data Sources |
|---|---|---|
| | villages | |
| Distance between township cluster and CBD | • Cluster within CBD spatial service threshold or not: 7.5 km radius around CBD / metropolitan nodes | • Spatial measure (GIS) |
| Regional role | • Major city in terms of all of the indicators above, but relative to the specific regional context (e.g. a "small city" compared to metropolitan areas, but the only urban centre in a wider region). | • SACN 2012 |

**Table 2: Level 1 Measures and Indicators**

The results of Level 1 of the analysis are attached as Annexure A to this report. These results represent an assessment of the top municipalities currently supported by the NDPG Programme, and a selection of potential / new recipients of NDPG funding.

### 3.2.2 Level 2: Regional Analysis of Primary Network and Clustering of Priority Townships

Once the focus municipalities / regions have been identified in the first level of analysis, the aim of the second level of analysis is to identify the primary urban network and the townships or clusters of townships that would each form the "catchment area" of an Urban Hub.

The main issues to be examined for this level include:

- Identifying the existing primary network, and areas served / unserved by this network, with a focus on the unserved township clusters.
- Ensuring that the selected areas have sufficient population numbers / density to ensure that community services and other facilities comprising the Hub would be viable. At the same time, some "single" townships may be so large that more than one Hub is required.
- Ensuring that the physical extent of the selected area is appropriate to support a Hub (e.g. maximum distance or travel time measures).
- Ensuring that the chosen area (single township or cluster of townships) forms a single, functional area (e.g. not divided by physical barriers, served by same primary movement network, linked to the same existing primary nodes, etc.).

The suggested measures and indicators to identify / demarcate townships and township clusters are summarised in the table below:

| Measures | Indicators | Potential Data Sources |
|---|---|---|
| Existing spatial development pattern | • Current spatial settlement pattern as observed, including primary movement network and existing nodes<br>• Service radius of primary nodes (7.5 km estimate for regional services).<br>• Links to and between main nodes / centres (prioritise public transport movement lines)<br>• Physical barriers or divides (e.g. highways / railways, topography, developed "buffer zones", mining, etc.) | • Aerial photos<br>• Local planning documents<br>• Road network GIS<br>• Topography GIS (20 m contour lines)<br>• Natural features GIS (e.g. rivers and dams, conservation areas, etc.) |
| Planned developments with impact on spatial development pattern | • Approved or planned housing projects.<br>• Major private sector initiatives. | • Local planning documents |

| Measures | Indicators | Potential Data Sources |
|---|---|---|
| Population thresholds | • Number of people / households appropriate to support designated government services and retail functions (minimum population between **125 000 and 200 000)** | • Eskom Building Count 2009 (proxy indicator for number of households)<br>• Community service thresholds (various sources e.g. Red Book, international sources, municipal planning).<br>• Retail thresholds (various sources). |
| Spatial extent | • Approximate radius measure or travel time measure (**7.5km radius** around hub, 15 minute travel time at average speed of 30 km / hr). | • Retail service distances (various sources, e.g. retail studies).<br>• Acceptable design standards for travel time (various sources, including municipal planning). |

**Table 3: Level 2 Measures and Indicators**

The quantitative indicators mentioned in the table above were calculated as follows:

The purpose of the quantitative measures is to determine if each broad township cluster is (1) viable as a catchment area for a hub and / or (2) is spatially too large or have a population that is too large to be served by a single hub. The desired result is to identify those township clusters that should not have a hub (that can be adequately served by a smaller local convenience node), and to subdivide large township clusters into sub-clusters that will each serve as a catchment area for a hub.

To achieve the sub-clustering, indicative population size and physical service radius, as well as local features such as urban structure and geographical features will be considered.

A minimum population size to be served per hub has been estimated by using the following indicative thresholds as input. This is based on the assumption that the hub will ideally be a regional / sub-regional node located at a modal transfer point on the primary network, connected to smaller local nodes within the township area. For this reason, higher order facilities thresholds have been used, as opposed to local service facilities. A mix of uses (e.g. retail, community services) has also been assumed.

| Type of Use | Description | Population Threshold | Source |
|---|---|---|---|
| Small Regional Retail Centre | • Large supermarket<br>• 1 or 2 large clothing anchors<br>• Boutiques<br>• Restaurants<br>• Entertainment<br>• Services | 62 500-125 000 (LSM 4-10)<br>within median vehicle travel time 10-16 minutes<br>or<br>5 km travel radius | SA Council of Shopping Centres. 2007. South African Shopping Centre Directory. |
| Regional Retail Centre | • Large supermarket / hyper<br>• 2 or more large clothing anchors<br>• Small clothing and boutiques<br>• Entertainment | 100 000 – 200 000 (LSM 4-10)<br>within median vehicle travel time 14-20 minutes<br>or<br>8 km travel radius | SA Council of Shopping Centres. 2007. South African Shopping Centre Directory. |

| Type of Use | Description | Population Threshold | Source |
|---|---|---|---|
| | • Restaurants<br>• Services<br>• Convenience | | |
| Sub-Regional Community Service Centre - More specialist and technical services mainly municipal | Provide information and services to communities and form a hub within communities at which a multitude of government services (local, provincial and national) and other community services can be accessed. | 100 000 | CSIR Built Environment. October 2011. Summary Guidelines and Standards for the Planning of Social Facilities and Recreational Spaces in Metropolitan Areas. |
| Thusong Community Services Centre Higher order service centre including provincial and national | Provide information and services to communities and form a hub within communities at which a multitude of government services (local, provincial and national) and other community services can be accessed. | 500 000 | CSIR Built Environment. October 2011. Summary Guidelines and Standards for the Planning of Social Facilities and Recreational Spaces in Metropolitan Areas. |
| District Hospital | Offers range of outpatient and inpatient services and operating theatre/s; received referrals from and provides generalist support to clinics and community health centres, e.g. Eerste River (Cape) and Osindisweni (eThekwini). | 450 000 within 30 minutes vehicle travel time | CSIR Built Environment. October 2011. Summary Guidelines and Standards for the Planning of Social Facilities and Recreational Spaces in Metropolitan Areas. |
| Municipal Offices | Municipal / satellite offices dealing with daily operational issues and needs. | 500 000 / 1 per sub-region | CSIR Built Environment. October 2011. Summary Guidelines and Standards for the Planning of Social Facilities and Recreational Spaces in Metropolitan Areas. |
| Sport Stadia | With athletics tract and 3000 spectator pavilion. | 300 000 | CSIR Built Environment. October 2011. Summary Guidelines and Standards for the Planning of Social Facilities and Recreational Spaces in Metropolitan Areas. |
| Regional Sports arenas (indoor sports halls) | Large scale indoor arena, may also host non-sporting events. | 250 000 – 500 000 | CSIR Built Environment. October 2011. Summary Guidelines and Standards for the Planning of Social Facilities and Recreational Spaces in Metropolitan Areas. |

**Table 4: Indicative Population Thresholds**

Based on the above, the following measures were identified to serve as a quantitative framework for sub-cluster identification:

- Physical extent: **7.5 km** radius around hub site. At an average speed of **30km/h** on sealed urban roads, this would result in an average estimated vehicle travel time of **15 minutes**. This is in line with standards for regional retail, and half the maximum travel time set for top level regional community services such as district hospitals.

- Population threshold: an indicative population threshold per hub catchment area has been set to be a **minimum of between 125 000 and 200 000** as a guideline. The threshold was set in line with the general thresholds for regional shopping facilities to cater for the retail component of the hubs. While an argument could be made that the threshold should be higher due to low income levels in many of the target areas, it must be kept in mind that the hubs will also contain higher order community services which may require higher population thresholds of up to 500 000. This upper limit has not been used, as not all of the hubs may contain such a service and/or hubs in a specific township cluster may share such facilities due to resource constraints (e.g. one hub in an area may have a hospital, the other a sports stadium). The higher population thresholds for regional community services may also be an indication that people from outside the township cluster will be drawn to make use of the facility, support the gateway role of the hub.

In terms of applying thresholds, the following has to be noted in terms of size / level of hub:

- Where the minimum population threshold is not met, the township cluster is excluded as an area for hub development. There are however instances where small townships may expand in future due to favourable regional locations and / or planned development in the area. In such cases, a nodal point was selected as a "**potential future hub**".
- In the case of smaller towns / smaller cities, levels of development potential, the existing urban structure and population size in the area may not warrant a fully-fledged hub as a primary node competing with the formal CBD of the town. In such cases, the CBD is regarded as the only primary node, and the nodal point selected in the township area is regarded as a **secondary node**, in relation to the CBD.
- No upper population threshold is used, implying that the size / development intensity of the hub will over the long term be shaped by the population (size, income levels over time, density, etc.) it is serving. For example, a hub in greater Soweto may eventually be much larger and more diverse than a hub in a much smaller township.

An iterative analysis process is suggested, combining qualitative and quantitative analysis:

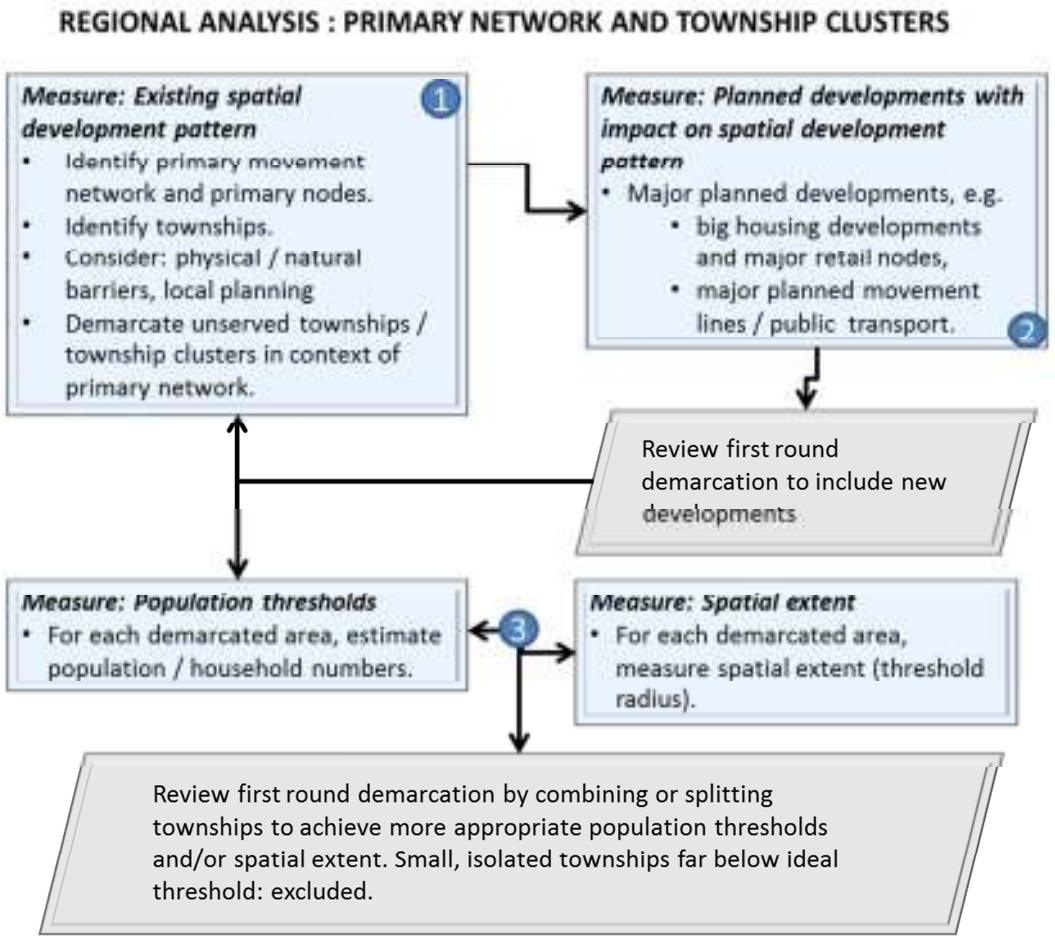



**Figure 4: Demarcation of Townships / Township Clusters in Primary Network**

### 3.2.3 Level 3: Urban Hubs in Priority Townships

The third level of analysis will zoom into each specific township / cluster of townships identified in the previous level.

Here, the focus will be on specific local factors and dynamics in order to identify a location for each Urban Hub. Although the focus is on the township itself, the findings of the previous level of analysis (specifically the primary network) are included in the indicators of this phase. The indicators will be divided into locational indicators and suitability indicators. The location indicators will be used to identify potentially suitable points for the location of Hubs, and the suitability indicators will be used as an additional tool to make a choice between suitable locations if necessary. The suitability indicators will also be used to indicate the benefits and potential challenges inherent to each proposed site.

Important to noted is that this analysis does not take place in isolation, but uses as input the results of the Level 2 (regional) analysis.

| Measure | Indicator | Data Source |
|---|---|---|
| ***Primary Location Indicators*** *(overall view of key points in current spatial structure)* | | |
| Nodes and key development areas identified in local planning and / or | Current spatial planning and development initiatives, including:<br>• Designated nodes (e.g. municipal SDFs).<br>• Major private sector initiatives. | • Planning documentation.<br>• Information obtained from municipal planners. |

| Measure | Indicator | Data Source |
|---|---|---|
| major exiting initiatives (public and private), regional key points | • Regional key points, e.g. major sports stadia, regional hospitals, tertiary education facilities, magistrates courts, etc. | |
| Existing local concentrations of economic activity | • Existing concentrations of formal and/or informal non-residential land uses | • Aerial photos<br>• Existing planning documents |
| Proximity to major public transport facility or modal transfer facility | • Presence of railway station and/or major regional taxi rank and/or BRT station where transfer occurs between regional and local trips and/or transport modes. | • Strategic road network / transport network GIS<br>• Aerial photos<br>• Existing planning documents (incl. Integrated Transport Plans) |
| Existing high intensity flow of people through area / point | • Area where large numbers of people pass through and/or converge on a daily basis (will in most cases coincide with above) | • Existing planning documents / transport planning / municipal info |
| ***Secondary Location Indicators*** *(linking critical elements of the primary and secondary network to key points)* | | |
| Proximity to major primary movement intersection / entry point into township | • Convergence point of primary movement network – public and private transport routes and/or major entry point into township area. | • Strategic road network / transport network GIS<br>• Aerial photos<br>• Existing planning documents (incl. Integrated Transport Plans) |
| Proximity to intersection of primary and secondary movement network | • Convergence point of secondary movement network - where major local roads disperse into local area to smaller nodes. | • Strategic road network / transport network GIS<br>• Aerial photos<br>• Existing planning documents |
| Potential contribution to spatial integration | • Locality that will assist in bridging spatial divides, e.g. located to "pull" new development towards centre of city regions.<br>• Issues – location central to existing township / central to desired future primary network and development pattern? | • Strategic road network / transport network GIS<br>• Aerial photos<br>• Existing planning documents |
| ***Suitability Indicators*** *(Choice between potential Hub sites / suitability of Hub sites)* | | |
| Land availability | • Areas with undeveloped or underdeveloped land | • Aerial photos<br>• Existing planning documents |
| Higher density housing in close proximity | • Medium to high density housing and/or designated restructuring zones within 2 km radius. | • Aerial photos<br>• Existing planning documents |
| Adaptable layout | • If already developed area, grid street pattern that is easily consolidated or divided | • Aerial photos<br>• Existing planning documents |
| No serious developmental constraints | • Ecological and cultural sensitivity, geological suitability, legal impediments, long term lack of bulk infrastructure capacity, etc. | • Regional scan of available national data sets.<br>• Existing planning documents. |

**Table 5: Level 3 Measures and Indicators**

An incremental spatial analysis process is proposed, building on the existing primary network:

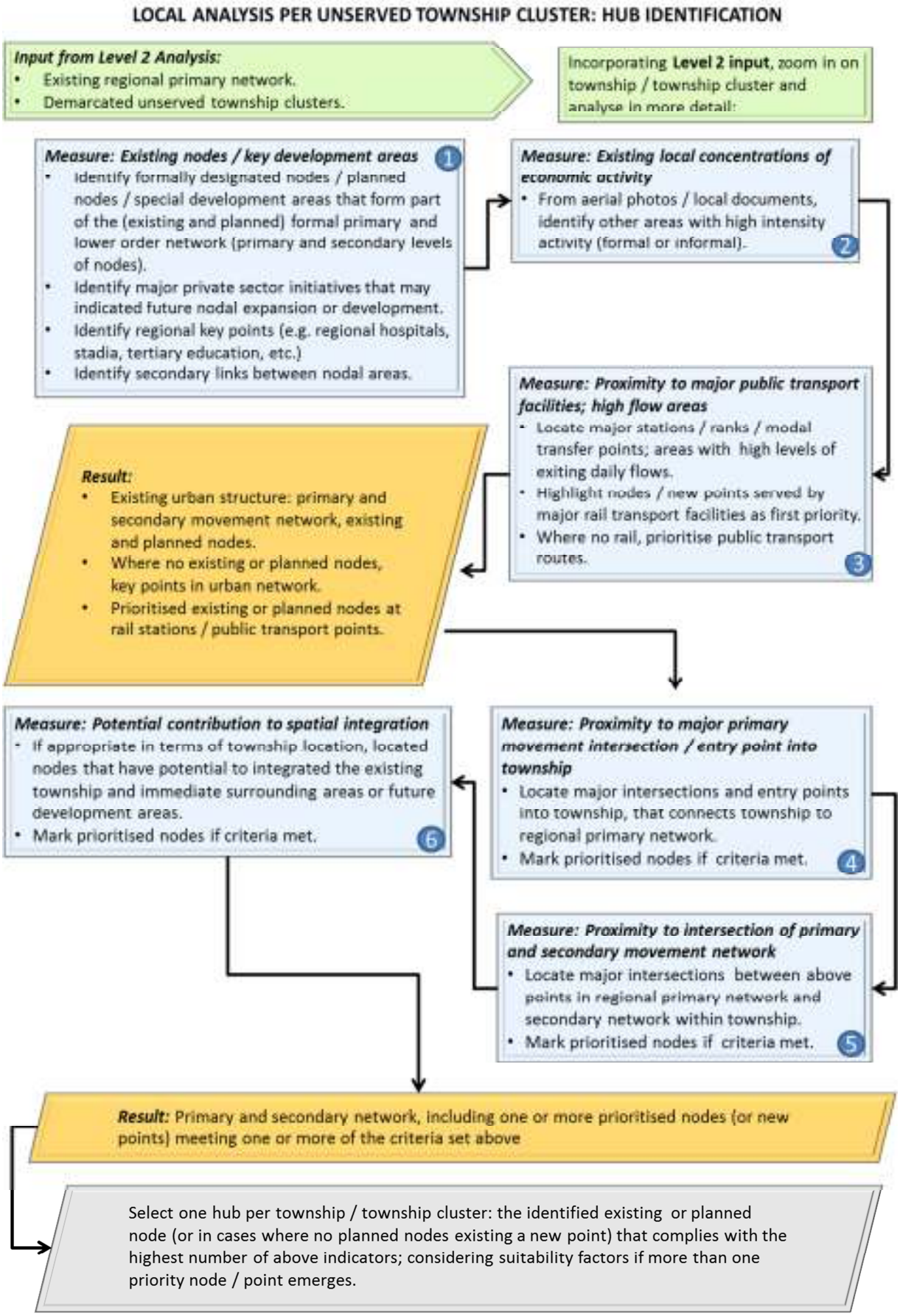



**Figure 5: Hub Identification**

The results for both Levels 2 and 3 of the analysis are presented in a report per municipality, attached as Annexure B to this report.

### 3.3 Participation in Methodology Development

While a substantial portion of the identification process will be conducted via a desktop analysis of existing data, input on local planning initiatives and existing nodal projects will have to be obtained from local government stakeholders.

The proposed points of consultation and input are summarised below:

**Figure 6: Input and Consultation**

The approach underlying this consultation process is to ultimately achieve a common understanding and agreement between the relevant municipalities and the Neighbourhood Development Programme on the designated locations for Urban Hubs.

## 4 Way Forward: Methodology Development

The concepts discussed in this document have been applied to the range of municipalities selected from Level 1 of the analysis, as presented in the attached reports. The suitability of each suggested hub site will have to be confirmed with the municipalities.

# ANNEXURE A: SELECTION OF MUNICIPALITIES (LEVEL 1)

# ANNEXURE B: MUNICIPAL RESULTS (LEVEL 2 AND 3)