COOPERATIVE GOVERANCE AND TRADITIONAL AFFAIRS KWAZULU-NATAL PROVINCE

I, MR S. E. HLOMUKA, MEMBER OF THE EXECUTIVE COUNCIL FOR COOPERATIVE GOVERNANCE AND TRADITIONAL AFFAIRS, KWAZULU-NATAL, HEREBY PUBLISHES THE DRAFT CONSULTATION PAPER AND DRAFT NORMS AND STANDARDS FOR SPATIAL IMPERATIVES FOR PUBLIC SERVICE INFRASTRUCTURE, IN TERMS OF SECTION 144(2) OF THE KWAZULU-NATAL PLANNING AND DEVELOPMENT ACT, 2008 (ACT NO. 6 OF 2008).

DATE OF APPROVAL: 7 JANUARY 2020

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KWAZULU-NATAL PLANNING AND DEVELOPMENT NORMS AND STANDARDS STEERING COMMITTEE: SPATIAL IMPERATIVES FOR PUBLIC SERVICE INFRASTRUCTURE

PUBLIC SOCIAL FACILITIES

FINAL DRAFT CONSULTATION PAPER

APPROVED : 7 JANUARY 2020

In terms of the Constitution of the Republic of South Africa municipalities are responsible for child care facilities, municipal health facilities, cemeteries, funeral parlours, crematoria, local amenities, local sport facilities, municipal parks and recreation and public places, provincial government is responsible for education, health, welfare services, libraries and provincial recreation and amenity facilities and national government is responsible for public social services like policing, social grant payout points etc.

The purpose of the norms and standards on public social facilities is to ensure that all inhabitants of South Africa enjoy equitable and sustainable access to public social services, taking into account the financial and administrative capacity of government, by ensuring that public social facilities are located optimally within the Province of KwaZulu-Natal, the municipality and locally.

The methodology that is followed to ensure that Province of KwaZulu-Natal are located optimally within the Province of KwaZulu-Natal is to locate public social facilities, like a regional hospital, that have to serve a large population in a large area on a periodic basis in central places where there are a high concentrations of people so that they are accessible to as many people as possible and to locate public social facilities that serve a small population in a small area on a daily basis, like a school, in smaller places that are easily accessible by the local population. A hierarchy of central places has therefore been identified which ranges from a regional city (eThekwini) to rural nodes matched to a hierarchy of public social facilities based on the population size and area that the public social facility has to serve.

Clustering and sharing is encouraged to ensure the optimal location of public social facilities within a municipality.Site specific requirements, like minimum lot size, have been identified to ensure that a public social facility can operate optimally in its chosen location.

By law, municipalities must consider the norms and standards on public social facilities when they prepares their land use scheme or determine applications for planning approval which may impact on public social facilities.

Although not required by law at this stage, municipalities are also encouraged to consider the norms and standards on public social facilities when they compile their Integrated Development Plans and Spatial Development Frameworks and provincial and national government are encouraged to consider the norms and standards on public social facilities when they compile their plans and Spatial Development Frameworks.

A municipality may apply to the MEC for Cooperative Governance and Traditional Affairs for exemption from the norms and standards. Unless a municipality has obtained exemption from the norms and standards, they will prevail over a municipality's own norms and standards or a policy or other official document public social facilities in the event of an irreconcilable conflict.

2.1   OBJECTIVES

As part of the systematic development of a wide variety of Provincial Spatial Norms and Standards, the current study aims to:

- To undertake a literature scoping and assessment of available information;

- To Identify key issues in Public Service Infrastructure to be considered;

- To prepare a draft Consultation Paper and recommendation toward Norms and Standards;

- To undertake preliminary Consultations with relevant key stakeholders, and

- To outline draft Norms and Standards and the context of their application.

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2.2   APPROACH

In providing input for the drafting of Norms and Standards for Public Service Infrastructure Investment the approach will take the form of a review and adaptation of existing information and will focus on the accessibility, location and distribution of identified place-based infrastructure.

Focus will be on public investment in services but will exclude linear utility-based services such as roads, rail, water pipelines, electricity networks, telecommunication and internet services.

There will be a focus on the integration of and spatial alignment of government infrastructure and the identifications of key settlements for the investment and development of government precincts of different levels of service offerings. There will also be a clear goal of shared used of built form or co-location of facilities in both space and periodicity where mobile services are indicated.

The project will be based on suitable agreed and existing provincial hierarchy of nodal places and towns in KZN what will be linked to a hierarchy of service types with similar access distance thresholds and population demand thresholds. In the development of the key public service investment points for KZN the focus will be on servicing the most people from the least number of service points. The service hierarchy will thus take population density and access into consideration following the same location principles as those included in the identification of priority investment towns developed as part of Social Facility Provision Toolkit for DRDLR. The analytical GIS based approach will be adapted and informed by more detailed knowledge of the KZN local context. The hierarchy will be KZN specific and will be modified to accommodate inputs with respect to public transport accessibility, modal availability and service levels as well as existing economic development intensity. The intent will be to develop a public service investment hierarchy that is spatially specific and can contribute to economic growth of areas but that is informed by population need and development trends.

2.2.1 Public Social Facilities to be considered

A number of relevant studies have been undertaken in recent years which have to various degrees contributed to the understanding of the planning and development of public service infrastructure. These studies will thus form the basis of the literature review and will be collated into a framework for proper associated Norms and Standards.

Although there are an extensive variety of Public Services Infrastructure and Facilities, this study will focus on following list of social facilities—

- **Health,** including hospitals, clinics and community health centres;

- **Safety & Security,** including police stations and contact points as well as fire stations,

- **Education**, including libraries, early childhood development, primary and secondary schools as well as tertiary education facilities;

- **Public Transport**, including taxi and bus ranks;

- **Social Grant Paypoints** for a variety of grants and mobile services;

- **Community Halls** and social event facilities; and

- **Public Open Space,** including sport fields and parks

The level of detail contains in the Norms and Standards for each of these facilities will relate to aspects of—

- Average Population Threshold for provision;

- Acceptable Travel Distance;

- Provision Criteria;

- Identification within Spatial Development Frameworks, and

- Land Use Management Considerations.

The resulting Norms and Standards will thus not address aspects of architectural facility designs or management and operational functions of these facilities as it firstly does not fall under the ambit of spatial planning and land use management, and secondly is typically dealt with separately by the various custodians (ie. authorising and funding agents) of these facilities. Apart from the proposed norms and standards for the individual social facilities, the viability associated with **clustering or sharing such facilities** will also be explored during the study. This will be done through research into previous strategies aimed at clustering and the establishment of nodal points and then formulating proposed norms and standards of a few nodal level and the anticipated clustering of complimentary facilities at such nodes.

2.3   NEED FOR NORMS AND STANDARDS

The South African constitution requires every citizen to have access to basic services. In this respect it has become a legislated requirement that local authorities in South Africa prepare Integrated Development Plans and develop performance management systems to deliver services and promote development. Reporting requirements flowing from this occur in an environment full of pressures relating to insufficient resources to deal with the quantum of the development challenges competing political and administrative priorities, the need to maintain existing infrastructure and at the same time "build new" to eradicate backlogs.Green, CA, Breetzke, K & Argue,T.(2008)

Sustainable human settlements cannot be achieved without adequate social facilities that are differentiated according to varying development densities, community size mobility levels and socio-economic variation. Social facility guidelines will allow metropolitan, district, provincial and national governments to improve investment decisions about the number, size, type, location and space requirements of social facilities based on technical information rather than political advocacy.Green and Argue(2012)

While facility provision of settlements in South Africa was influenced by the British New Town development in the 1970s there emerged an era of so-called 'blue print planning' which was influenced by apartheid planning and where provision for different racial groups was highly unequal. In the 1980 and 90's the trend to service provisions was became more consultation based, allowing residents to influenced and inform how their settlements should look. While in

principle this is a good approach due to funding disparity and political biase or influence what emerged was service provision that was highly inadequate for many people and where service was poorly distributed. Even after 1994 the disparities continued; now influenced by ward-based planning approaches, political affiliation, lack of finance and poor management. Backlogs continued to increase and not all investment in new facilities could be seen as rationally contributing to backlog reduction in the most efficient way.

Standards and guidelines with respect to the provision, management and monitoring of publicly provided facilities and services becomes vitally important in such an environment. Appropriate and meaningful standards and guidelines would facilitate and make the service provision and backlog determination processes more easily quantifiable and transparent. The importance of standards and guidelines also lies in their being able to support the development of systems and processes and the performance indicators required for reporting on progress towards the achievement of service delivery goals. Standards are thus required for improved governance and performance measurement in the provision of social services and public facilities.Green,CA, Breetzke, K & Argue, T. (2008)

Smith (1995) in his article on Geography, social justice and the new South Africa highlighted the need to achieve social justice within the spatial and geographical arena. To achieve this, measurement of equity or equality across space is

required and this is where the development of standards is so critically important.Green, CA, Breetzke, K & Argue, T. (2008)

2.3.1   Spatial Equality and Social Well- Being and Quality of Life

Improving service delivery continues to be a government priority in 2018 and while government is moving towards providing more services through the internet and other electronic means many social services will continue to require a physical customer interface. Furthermore with respect to the development of quality living environments and well-functioning human settlements there is a key requirement that suburbs, cities, towns, villages and 'dorps' are internally well provisioned or have access within a reasonable distance to all the government services needed to live a productive life such as schools, health services and recreational spaces in our immediate environment as well as at a somewhat further distance to services such as hospitals, community halls, Home Affairs Office as well as other government services such as SASSA. Owing to the nature of how people are distributed over the landscape not all services can be viably provided at all locations and guidance is required on the maximum services that can viable be provided in different contexts.

Discrimination based on colour, creed or race is not acceptable thus neither should discrimination be practiced on the basis of place of residence ,Amer (2007). In the development of urban and rural areas people should not, as far as is possible, be discriminated against because of where they live. Irrespective of residency, the right to access certain basic services needs to be recognised and some effort made to provide access within the restrictions of the budget. The issue of course remains that the more sparsely populated an area is the more difficult and costly it proves to provide communal services and sometimes mobile or periodic services are the only options. Furthermore, in the context of budget constraints services are more likely to be provided where they can have an impact on the largest number of people at the same or lower cost. Green, CA, Breetzke, K & Argue, T. (2008)

Both suppliers and users will tend to minimise their costs and that the service outlet will locate where the provision of goods and services, including transport, is optimised. Hence, travel cost and time is critical in facility location planning. In most cases the assumption is made of perfectly informed citizens living on a uniform plain at uniform density. However, this is unrealistic as people live at different densities and at different distances from facilities and the actual utility experienced by each individual differs. By introducing the concept of facility thresholds to facilities and attempting to implement the similar threshold (or population ratios) relative to facility size across an area, one can start to ensure some equity in the "what" – the service being provided. By looking at the "who", planning for a specific target group to use the service based on the threshold, and by examining "where" demand is located relative to facility location, and by setting a maximum access time or cost limit better progress towards some form of equity and balance in service provision can be made. Green, CA, Breetzke, K & Argue, T. (2008)

Norms are shared rules or guidelines that define how people ought to conduct themselves in certain circumstances[1]. Gibbs also posits that norms are "…rules of conduct; they specify what should and should not be done by various kinds of social actors in various kinds of situations"[2]

Table 1: Various definitions of Norms from a number of Disciplines.

Discipline	Use of norm concept	Example of a definition
Sociology	Norms play an important role in understanding how societies work (Opp, 1979)	"A norm is an abstract pattern, held in the mind that sets certain limits for behavior. An 'operative' norm is one that is not merely entertained in the mind but is considered worthy of following in actual behavior; thus, one feels that one ought to conform to it". (Johnson, 1960, p. 8)
Political science	Civil rights and civil liberties are as much protected by informal norms of what is acceptable as they are by the powers of the formal legal system (Axelrod, 1986)	"A norm exists in a given social setting to the extent that individuals usually act in a certain way and are often punished when seen not to be acting in this way" (Axelrod, 1986, p. 1097)
Anthropology	Norms offer a firm framework to describe practices and values of different people such as in the case of feuding (Black-Michaud, 1975)	"Norms are generally accepted, sanctioned prescriptions for, or prohibitions against, others' behavior, belief, or feeling, i.e. what others ought to do, believe, feel or else. … Norms always include sanctions". (Morris, 1956, p. 610)
Psychology	Norms can help explain how people influence one another, become socialized and establish behavioral norms in their group (Feldman, 1984)	"Norms regularize group member's behavior" (Feldman, 1984, p. 47)
Economics	Economists have come to realize that markets involve a great deal of behavior based on standards that no one individual can determine alone (Schotter, 1981)	"Norms (…) are understood as prescriptive rules regarding behavior that are shared among a group of people and are partly sustained by the approval and disapproval of others" (Elster, 1989, p. 113)
Legal theory	Agreements between parties comprise explicit (written) as well as implicit (expectations) aspects (Macneil, 1980)	"A norm is a principle of right action bringing upon of a group and serving to guide control or regulate proper and acceptable behavior" (Macneil, 1980, p. 14).

Source: Ott and Ivens (2009:4)[3]

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[1] Williams, A.D., 2015. A framework for a sustainable land use management system in traditional Xhosa cultural geo-social zone of the rural Eastern Cape South Africa (Doctoral dissertation, University of the Free State).

[2] Norms: The problem of definition and classification. American Journal of Sociology, 586-594

[3] Revisiting the norm concept in relational governance. Industrial Marketing Management, 38(6), 577-583.

Williams (2015) notes that norms are connected to values, beliefs and ideologies. He clarifies this by focusing his attention on the United States culture, where individualism is a basic value and hence in that part of the world, many norms have been derived or based upon the concept of individual initiative and responsibility. In this regard, individuals are admonished to work for their own self-interest and not to become a burden to their families and community (ibid).

2.3.3   Standards

A standard, on the other hand, is a mandatory legal requirement or a recommendation that one is expected to follow to obtain the desired norm outcome. It is a statement of an expected level of quality, which reflects the ideal performance level. The ISO/ IEC Guide (1996:2) defines a standard as "A document established by consensus and approved by a recognized body that provides for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context".In view of the above, it is noticeable that defining norms and standards is a highly contentious issue which is influenced largely by the context in which the terms are used. For the purpose of this research, "Norms" relate to the acceptable expectations with regard to spatial and land use management while "Standards" define the quantities of inputs needed to effectively and sustainably achieve these expectations. Norms and standards in this research are therefore 'statements of the input that is necessary to ensure efficient, effective, and sustainable spatial planning and land use management'. In the South African context, the concept of norms and standards was first introduced in the White Paper on Spatial Planning and Land Use Management. In this regard, the White Paper proposes a normative approach to spatial planning and land use management, in the form of principles and norms which must guide decision making across all spheres of government as well as various other planning authorities to ensure consistence and integration.

The incorporation of comparable and benchmarked standards and guidelines within governance and delivery mechanisms to ensure the equitable, efficient and sustainable provision of publicly provided facilities and services is essential to enable auditable and defensible measurement of progress with respect to service delivery. Standards should be incorporated into the processes for identifying current backlogs that are linked to funding streams such as the MIG (Municipal Infrastructure Grant) programme to ensure the equitable delivery of community facilities. Without readily available and generally accepted development norms and standards sustainable development may be compromised and certain communities disadvantaged in the allocation of facilities. Green, CA, Breetzke, K & Argue, T. (2008)

In evaluating the delivery of municipal and other public services the concepts of range and threshold (of a target population) are extremely relevant and can be used in the formulation of the indicators that serve to measure progress with respect to service delivery. If indicators such as threshold and range are employed this allows for an accurate, "scientific" approach to be taken in determining social services backlogs and in measuring performance in addressing backlogs.

In addition to supporting planning aimed at eradicating backlogs in service provision, standards are extremely useful in allocating and reserving land for various uses including open space and facilities within a planning area. A set of comprehensive standards acts as an aid for planners with less experience (as is increasingly the case in local government due to loss of skills) and is a firm guide when communicating with private developers and other tiers of government regarding local planning needs. This is particularly true of many community facilities such as clinics, libraries, etc. which are generally not provided by private developers. Green, CA, Breetzke, K & Argue, T.(2008)

If there is general agreement on facility standards and guidelines, community meetings and other planning processes are likely to be less conflict-ridden and more productive resulting in informed decision-making which is compatible with development processes in the wider context. This allows one to move closer to creating community-owned and councillor-endorsed local area service delivery plans. Green, CA, Breetzke, K & Argue, T.(2008)

Experience by CSIR in evaluating service provision nationally as well as for selected provinces (Limpopo and Western Cape) and cities such as eThekwini, Cape Town and Johannesburg reveal very unequal development patterns with respect to population and the provision of certain types of facilities and certain areas in contrast to others. The pattern of development sometimes follows historical settlement patterns or income trends. In some there is little rationality, while in others the ward leadership (or lack thereof) has influenced the pattern of social facility provision.

3.1   Overview and General Approaches

3.1.1 Understanding the Evolution 0f Planning Standards

"….since the rise of the city, with its division of labour and complex, stratified social and spatial structures, public-private distinction has been a key organising principle, shaping the physical space of the cities and the social life of their citizens."

(Madanipour, 2003: p.1)

In determining the design criteria for public spaces, the separation between public and private has been a key informant in understanding the interplay between individuals, communities and how they interact in the public realm. As cities have evolved, this distinction has become more complex, especially within the context of developing countries (when one considers the nature of informal settlements for example). Yet much of how we approach the design of public space is informed by a very clear dichotomy between public and private; in mediating that relationship through the design of public and social spaces, we make assumptions with regards to how people live and organise themselves. We make assumptions about the 'private' in order to inform how we plan and design the 'public'. Yet the design of the 'public' is not a straightforward allocation of space since public spaces are becoming less definable as entities into themselves; streets become temporary playgrounds, halls get used for private functions such as weddings yet also function as community forums; parks can be privatised, gated communities offer limited public functions whilst private homes may become daily childcare centres. How we define the 'public' therefore, impacts on the assumptions we make with regards to the definition and allocation of public space. Madanipour (2003) distinguishes between 'public space' (place) and the 'public sphere' (realm) in defining the former as the physical environment associated with public meanings and functions, whilst the latter is a broader concept referring to the range of places, people and activities that constitute the public dimension of human social life. In follows therefore, that an understanding of the public sphere will lead to more relevant and representational design of public space.

In engaging with how people live and interact in public, planners have typically relied on the concept of 'neighbourhood' as the building block for physical planning. This has informed the location and thresholds determining public space design and planning. Dimensions of spaces have been more context-specific but have generally been informed by building standards as well as assumptions with regards to the utilisation of space. The types of facilities provided for are based upon assumptions with regards to population composition, size and profiles as well as socio-cultural factors that determine the activities provided for.

As one of the earliest organising principles in urban planning, the neighbourhood unit was informed by the work of Lewis Mumford and Perry as reflected in the design of New Towns such as Harlow. A neighbourhood was essentially defined by its spatial limits, by a focal point such as a primary school, park or the public square and a generally defined population of around 5 000. As an example of early New Towns Harlow represented a hierarchical organisation of space organised into clusters that were then organised into neighbourhoods. Two to three housing groups of 200 –

250 houses each justified the positioning of a primary school and some local shops, a population of 7 000 justified the establishment of a shopping centre, whilst a town of 80 000 people required a public square. Social facilities therefore provided the public foci and facilitated the interaction between the public and private.Early planning by neighbourhoods was criticised for emphasizing the physical rather than the social environment, and attempting an unsuccessful physical determinism, which often destroyed rather than created communities (Ibid.). Neighbourhood planning also emphasised pedestrian movement; walking times and distances were key informants in locating social facilities whilst numbers of facilities provided was often based on an inward-looking view that people chose to live, recreate and educate their children within the realms of their neighbourhoods and precincts. This has certainly informed the first generation of New Towns that were planned in the earlier part of the 20th Century. However, the mass production of the motor vehicle, together with the emergence of Modernism as the guiding paradigm for design and planning in the first half of the 20th Century, profoundly undermined the principle of neighbourhood design. Modernist design principles, middle-class access to the motor vehicle and highway planning ensured that the 'dimension of utility' took over in understanding public space; the 'space of the city was no longer to be experienced on foot' – the functionalism of modernism gave priority to cars as opposed to people. Madanipour (2003)

The Modernist emphasis on functionality and efficiency led to the subdivision of the city into functional zones, which some argue, eroded public space, and limited the diversity of people's experiences in the public sphere. One-dimensional zoning systems ignored the complexity of everyday living, separating land uses and functions. Social and public spaces were seen as distinctly separate from residential space. The split between public and private was absolute; order was asserted through zoning and building codes. From a design perspective, public space became monumental as bigger spaces were created between buildings to emphasise the monumentality of public buildings and to accommodate the motor vehicle. It created what Tranak refers to as 'lost spaces', alienating the pedestrian. This emphasis on order and functional separation entailed a:

"*Redefinition of the relationship between public and private space, which would reshape the urban space, creating large quantities of open space for hygienic as well as aesthetic reasons. What resulted were vast expanses of space which could have little or no connection with the other space of the city and could be left under-used, only to be watched from the top of high-rise buildings or from the car windows*."
(Madanipour, 2003: p.202).

Madanipour, provides a useful urban design perspective that reminds us that the allocation of land for schools, community halls and parks is an activity informed by a functional, modernist perspective where these facilities are often treated as stand-alone entities unrelated
– from a design perspective – to the surrounding residential fabric. Maximum standards used in the past and present have led to many instances of over-design and over-allocation of land. The legacy of this approach can be seen in the sterile environments where school sites are not yet used, where community halls are empty and over-sized parks

perceived as alienating. Secondly, whilst the location of social facilities has traditionally assumed pedestrian movement, car use is more ubiquitous with the emphasis on road design and parking allocation. Thirdly, much of public interaction occurs in streets, yet modernist road design principles favour the car over the individual; again, creating sterile living environments dominated by the motor vehicle and losing the opportunity for social interaction within neighbourhoods. The legacy of traditional approaches to planning standards has therefore contributed to many of the one-dimensional living environments that we now seek to address yet has also had positive outcomes. Standards have played an important role in ensuring some form of equitable access to public facilities. It is the design of these spaces, and the relevance of facilities provided that has been questioned.

The environmental cost of urban sprawl and the documented social impact of suburban life on individuals have led to a revival of the consideration of community in design .Madanipour (2003)

Alexander's promotion of a pattern language in urban design, Lynch's call for legible public environments, the promotion of New Urbanism (discussed in detail below) and the planning of neo-traditional settlements (small contained communities on the outskirts of cities) in the United States (US) (Banai, 1996) have all contributed to a more qualitative approach to planning that embraces nature and reintroduces the neighbourhood concept. The emphasis on pedestrian movement, public transport and densification favoured by New Urbanism in particular, is seen as encouraging a more environmentally sustainable urban form. The notion of sustainability has informed the promotion of public transport as a reaction to sprawl.At a more detailed level, the emphasis on sustainable living has placed emphasis on the performance of public spaces in terms of design as well as function, which has made agencies more circumspect in the design and allocation of public space. There are a number of dimensions to be considered here. Firstly, open spaces are seen to play a role in environmental servicing, and thereby contribute to overall function of the urban environment which also yields a broader range of open space types. Secondly, reduced public spending on social services (within a context of market-driven development and neo-liberalist economic policy) has led to a more cautionary allocation of social space. Budget cuts in terms of maintenance and the need for higher threshold densities implies that land needs to be optimally used whilst public facilities need to perform to certain criteria in terms of intensity of use and long-term maintenance. An international shift towards more performance-based approaches to planning means that the allocation of space for public facilities can no longer be assumed to be enough in creating a liveable urban environment. Maintenance implications, relevance and intensity of use are now factors considered more carefully.

Globalisation and the ubiquitous use of Information and Communication Technologies (ICT) as well as the economic restructuring of cities informed by these forces, led to many cities having to reinvent themselves as places worthy of investment and tourism. The growth of the service sector, in particular the leisure industry, has seen the re-emergence of the importance of place. On the one hand, attractive spaces are seen as draw cards for the image-conscious service sector, whilst public utilities such as museums, exhibition spaces and sports stadiums, flanked and

enhanced by attractive public spaces were, and are, seen as promoters of tourism. Economic restructuring saw a number of cities reinventing themselves by creating attractive city centres and squares in order to combine utility and display and therefore making space more attractive. For example, Birmingham, once dominated by motorways, transformed its city centre by creating public art, recreating public spaces and enabling pedestrianisation. With globalisation new service industries have become far less attached to place and emphasis has been placed on the image engendered through the quality of infrastructure and design of public environments. Space has become a commodity, stripped of its emotional and cultural value whilst the fear of crime has also impacted on design. Madanipour (2003).

At the neighbourhood level, recognition that good design of the public environment and the availability of social services can enhance human settlements remains a guiding principle but emphases on sustainability and performance have led to a more circumspect approach. The following section looks at specific standards used over the years internationally.

3.1.2   General Planning Standards and Classifications

Early textbooks on urban planning follow fairly prescriptive lines for the provision of social facilities in residential layouts. The 1960s saw computer modelling emerge in town planning practice with 'the numbers game' fairly entrenched in the teaching of planning students. Three issues determine social services provision—

- Existing facilities – their location and capacities;

- Existing population densities;

- Locational criteria that generally prescribe optimal walking distances and public transport requirements;

- Site dimensions are also informed by building design and functional requirements; and

- the correct size of a football field is fairly standard whilst play fields may be subject to more   flexibility.

The use of Geographic Information Systems (GIS) has more recently provided planners with the tools to use spatial data modelling to determine optimal site sizes and location given existing site characteristics and constraints. Randall et al., 2003; Luo & Wang, 2003; Densam & Rushton, (1996).

Site standards are normally based upon zoning ordinances or local authority guidelines and normally formulated in Structure Plans, Development Plans, Community Plans or earlier Master Plans.A review of the specific sources on standards indicates a dominance of literature on open space and recreation in particular. Using public space as a structuring element has been fairly common in neighbourhood planning and design. In later years the sustainability underpinnings of public space have become more important: passive spaces provide breeding grounds for fauna and flora, whilst active spaces provide a welcome relief from dense living environments.

- Private open space: land adjacent to individual dwellings owned by residents – essentially gardens – the extent of which is facilitated through development control mechanisms that encourage low density development;

- Public Open Space: common open space under public ownership; and

- Common Open Space: common open space under communal ownership such as a community association.

The ULI (Ibid.) argues for standards of quality to ensure use and amenity. Physical characteristics, dimensions, location, slope, and physical improvements are all contributing factors to the success or failure of open space. It should be properly designed, be provided with the appropriate facilities and have a programme of ongoing maintenance. Scale is important: too big may be seen as too threatening, too small may be seen as falling short of environmental demands.Gold (1980) takes a more functional approach in recommending classifications that relate to the environmental function of open spaces:

- **Managed Resource Production:** Agricultural production, mineral production, forest production and energy production;

- **Environmental and Ecological Balance:** Fish and wildlife refuges, watershed areas, significant geographic features, visual corridors and viewpoints;

- **Public Health and Safety:** Flood control and water supply, waste disposal areas, air shed quality management, geological hazard zones, fire hazard zones, airport flight path zones, hazardous storage zones;

- **Community development and welfare:** Parks and recreation areas, historic preservation districts, cultural and archaeological sites, public and institutional building sites, land use buffers; and

- **Urban form:** Growth control, circulation corridors, utility corridors, future expansion reserves.

In understanding recreational needs, Gold (Ibid.) documents a number of measures commonly used to determine local needs. In a welcome departure from the traditional threshold approach, he suggests supplementing the use of common standards across developments with qualitative measures to inform contextually-specific standards. These are useful guidelines for ensuring the supply of enough relevant recreational spaces.

Whilst there is not as extensive a literature on public facilities, there is nevertheless some discussion on schools, community halls, libraries and worship sites. These are often considered together as general public facilities. Standards vary, often in terms of context and institutional provisions. Private commercial facilities, on the other hand, are guided by formulation of hierarchies and order of facilities needed, their site sizes and catchment areas; as well as accessibility and market demand. Accessibility does appear to be the strongest determinant in the allocation of space for social facilities. How this access is measured, varies. Barton et al. (2003) writing in the British context argue for understanding access in terms of direct and 'bendy' routes as guidelines, whilst using density as a guideline in

Calculating catchment radii for facilities. Tables 5 and 6 illustrate this.In relation to schools in particular, Barton et al. (2003) recommend that school sites be kept as small as is feasible, yet also accommodate possible increases in densities. The authors recommend a permeable residential pattern that gives a range of choices with regards to walking routes; opening access to school sites from different directions will also improve permeability. In terms of health services, the authors recommend an even spread of health services where all dwellings should be within 800m of a health facility. Where access is poor, mobile and branch services should be investigated whilst larger – higher order – services should be close to transport routes.The relationship between order of facilities and locational criteria has evolved over time as transport modes have changed and market demands have fluctuated with regards to commercial facilities in particular. The multi-cultural nature of urban areas has no doubt led to religious facilities that entail more divergent criteria in design, many of which need to be considered in context. The contextual elements that inform planning standards are considered in more detail when looking at conditions in developing countries and South Africa.

3.2   PLANNING STANDARDS IN SOUTH AFRICA

3.2.1   Overview

3.2.1.1 An assessment of Planning Standards in KwaZulu-Natal (KZN PPDC, 2008)

The KwaZulu-Natal Planning and Development Commission (KZN PPDC, 2008) undertook an Assessment of Planning Standards in KwaZulu-Natal and provided contextual overview of planning standards based historical and then current assessments of the use of standards in developing countries and found that many African countries, especially in Anglophone Africa, have inherited the Anglo-American traditions of urban planning and design. The study further found that modernist notions of order and efficiency with regards to vehicular traffic are particularly discernable   in zoning approaches that favour land use separation as well as a threshold-based approach to the provision of planning standards where population densities determine a fairly uniform approach to the provision of social facilities. Clearly these approaches are based upon assumptions formulated in developed countries, which assume vehicular ownership, and an income that facilitates access to health care, education and social recreation. Yet, many African cities contain large informal settlements, huge income inequalities and a breakdown in infrastructural provision caused by capacity and funding constraints.

The UN HABITAT Agenda calls for a form of governance that recognises the realities of developing cities whilst understanding the value of controls and standards in the provision of housing and social facilities. An argument is made for creating sustainable human settlements within the context of economic, social and environmental policies. Given the proliferation of informal settlements and informal sector economic activities, an argument is made for a departure from "inadequate and incompetent development control mechanisms, poor and outdated planning standards and planning laws" (UN HABITAT). Not only is the appropriateness of planning standards questioned, but also the capacity required to enforce them. The inability to approve applications, enforce development control or

police regulations, due to staff shortages, have commonly been cited as problems in cities such as Nairobi, Lusaka and Lagos.

The inadequacy of the 'master planning' approach is essentially identifiable in the extent of urban sprawl, lack of basic infrastructural services, rapid growth of small scale and 'jua kali' enterprises whose development is hampered by restrictive regulations and distorted development in urban centres juxtaposed by inadequate living standards (Ibid.) The 'master planning' approach is essentially seen as too complex (and therefore time-consuming to prepare and update), excessively bureaucratic and too static in responding to the rapid change experienced by developing cities. The structure planning tradition is considered to be more successful in this regard since a broader socio-economic perspective allows for a more flexible base for preparation of local plans. The argument is made for a performance-based approach that links planning with budgeting and sectoral priorities. Clearly this would impact on the designation of public facilities given the sector actors involved in their delivery and maintenance. In the South African context, the Integrated Development Plan (IDP) preparation process is intended to address this.Town and Country Planning Acts (generally informed by the Town and Country Planning Act of 1947 in the UK) have informed the formulation of physical planning standards in Botswana, Kenya, Nigeria, Tanzania, Zambia and Zimbabwe. Physical planning standards are therefore based upon British building regulations, use class regulations and township rules; this includes standards for health and education facilities, public facilities by public levels and population size.

3.2.2   Project-based approaches

Planning standards have been, and still are, often dictated by upgrade projects, driven by multi-lateral agencies and donors. Whilst local standards may have been used as guidelines, recognition of capacity constraints and lack of availability of suitable land in crowded informal settlements have led to a reassessment of space designation for public facilities.The involvement of development agencies from the North has seen some speculation in the academic literature on the methodology to be adopted in planning public facilities. The project- based approach is typical of many World Bank funded projects where funding is determined by project feasibility and on-the-ground need. Site and services projects were fairly common in the 1980s – often criticised for yielding sterile human environments often devoid of the necessary public spaces and facilities that contribute to more liveable spaces.

Provision may have typically been made for these, but again, often based upon outdated codes and standards , Van der Linden (1986). The view that professionals know best, much of the literature concerns itself with appropriate infrastructure standards.The principles that have generally informed projects were: access to tenure, access to unpolluted water and location near work .The British literature on urban development projects that apply to the issue of standards seems to be dominated by authors such as Goethert (from MIT), Hamdi (Oxford Brookes University), and Payne (closely associated with the erstwhile UK ODA – now DFID). These authors have contributed to many manuals and text books that seek to give input into urban development in developing countries, often co-funded by agencies such as the World Bank.

Generally, a case by case approach is taken, with initial analysis required to gauge public policy as well as capacity and funding constraints; provisions are that analysis of the site should take into account the following:

- **Schools**: existing capacity and location, types of schools required, capacity of expanding existing facilities, walking distances of existing facilities;

- **Health Services**: nature of services required compared to population density, water supply, waste disposal, hygienic conditions of housing stock; and

- **Recreation**: types of facilities available and demanded by local population, walking distances of existing facilities and facility capacities.

Caminos and Goethert (1978) recommend that optimal walking distances for facilities be adhered to (list of standards included in Annexure D). The experience of pedestrians should also be considered in designating space for spontaneous social gatherings, not necessarily provided for through standards. An example is made of public courts that accommodate multiple uses such as social activities, children's play, drying clothes, drying seeds, limited parking of vehicles, etc. Goethert and Caminos (1978) note the importance of these spaces in enhancing social networks and participation in community affairs; many facilitate the creation of small economic co-operatives whilst permitting the reduction of land from public streets and promotion a shared administrative function for communities in managing these semi-private spaces.

In the Urban Projects Manual edited by Davidson and Payne (for the ODA, 1983), the authors identify the usual methodology of assessing existing facilities and their capacities. Comparison of what exists with what 'should be' in terms of standards, gives an estimate of backlogs in terms of social facilities. The Manual argues for forward planning: where facilities cannot be provided, land should be made available. The Manual gives useful input into location of facilities, arguing mainly for an internalised system that makes optimum use of land. Schools should be near the neighbourhoods they serve, yet need not take up street frontage, more suitable for "revenue generating uses such as commerce or housing" (p.47) (see Figure 6 on page 22).

Recreational uses are categorised as either formal or informal. Formal entails space determined by official standards – formal parks for example. These, according to the Manual, should be located centrally, with access important but optimal use of land will require location behind an existing public facility. Land should be level. Informal areas, such as 'kick about' areas, public squares, should be more pragmatically designated, entailing small parks for housing clusters or local access roads with sufficient surveillance from surrounding homes (see Figure 7).

Clearly what informs the Manual is the need for optimisation of land, an emphasis in the local and determining local need. The site and services schemes that these manuals guided were informed by the need to be cost-efficient and official capacity contestants in maintenance and delivery of public services were recognised. The extent of public

In exploring a participatory methodology for urban development, authors such as Hamdi and Goethert argue for an action planning, highly participatory approach that is entirely community- based. Worth noting in terms of the provision of public facilities are the following, taken from their case studies in two books and research done in South-East Asia, India and the Pacific (Goethert and Hamdi, 1988 & 1997)—

- The high value attached to community halls in deprived areas – for providing a venue for delivery at an early stage of the development process and serving as a model of innovative construction methods perhaps as well as serving as a communal focal point;

- Poor people attach the highest priority to housing and security of tenure as well as the basic service infrastructure that serves that; and

- Given the limited availability of cars, walking distances should inform location.

The action-planning paradigm, as promoted by these authors argues against standardisation, promotion of appropriate technology, decentralised decision-making, accommodation of small enterprises and localised facilities. Rather than defined standards, it is suggested that existing tools and frameworks be questioned in terms of their applicability, flexibility, representative of local interests and profiles.

3.2.3   South Africa

Measures to regulate the use of land in South Africa date back to the 1830s, which included restrictive covenants inherited from Britain, as well as 'official conditions' aimed at ensuring good order, dignified conduct and enjoyment of property in villages and small towns. There was no need for any further regulation as the State and the Dutch Reformed Church were the only two entities that could establish towns.

Citing Mark Oranje (1998), Van Wyk states that this situation remained largely unchanged until the 1870s, when the then South African Republic enacted a series of 15 Gold Laws to bring order and prevent a recurrence of earlier uncontrolled and haphazard mining activities on the Witwatersrand gold fields. These laws restricted the right to mine and settle in these areas to Europeans only and effectively represented the beginning of the tie between economic exclusion and spatial separation based on race that would reach its pinnacle in the high-apartheid model of the 1960s .Citing Harrison et al., (2008).

Early planning approaches in KwaZulu-Natal date back to the 1880's when the towns of Weenen and Pietermaritzburg were surveyed and designed according to Dutch principles by the Voortrekkers. The emphasis was on order rather than land use amenity; land uses were essentially regulated by restrictive covenants in title deeds .Harrison and Williamson, (2000).

Two planning systems emerged in Natal – the Provincial Administration through the Commission played an important role in formulating standards and guidelines, whilst the various central government administrations responsible for KwaZulu formulated their own guidelines Harrison,(1999). The Department of Development Aid was particularly active in the 1980s in developing 'township design standards' that evolved through much iteration. KwaZulu-Natal therefore inherited a range of standards and guidelines emanating from varying sources and informed by various institutional histories.Thus, the formulation of standards in South Africa has been informed by local authority standards, provincial guidelines and individual agency initiatives (such as the CMDA) that have been instrumental in allocating space for social facilities. Behrens and Watson (1996) provide a useful critique of these, in arguing for a process-based approach that examines community needs over time, rather than designing an end-product at the outset. They argue for a contextual approach that 22nderutili that community needs may change over time: for example, the need for more pre-school facilities initially and then more emphasis on primary and secondary schooling later. The authors distinguish between space and threshold standards, time and distance standards and public places and public space design. Recommended standards are discussed in Section 4.

With regards to space and threshold standards, it is argued that determining the optimal space for each facility in isolation from one another is problematic. When a range of facilities are brought together spatially, the land requirement is excessively large, leading to reduction in land available for residential development and decreased thresholds, thereby affecting the sustainability of facilities. Over-designed spatial standards often lead to land sitting vacant for a number of years as authorities do not necessarily have the funding for facilities. The assessment of Planning Standards in KwaZulu-Natal ,KZN PPDC (2008), suggested that spatial standards be underutilize to a more realistic standard, and that multi-use precincts be investigated. Standards should relate more to distance (location) and performance. Community needs also differ from, for example, inner city areas (small designated spaces) to peri-urban areas for example. Population profiles and needs vary, and one set of standards cannot necessary apply everywhere.Time and distance standards require consideration of walking distances, access to public transport networks as well as motor vehicles. Public places and public space design underutalised that public places, like community halls, often have a number of uses and functions. In order to enhance their quality and value, Behrens and Watson (1996) argue for the following:

- Multi-functionality in design allow for a variety of functions to occur within them.

- Large spaces are often 22nderutilized, alienating and unsafe whilst small overcrowded spaces are stress-inducing. The size and character of public spaces should be informed by locational context, the immediate physical environment and local needs.

- Role and access to space should be clear; if this is ambiguous, problems arise with regards to responsibility and maintenance.

- Treatment of edges to spaces will impact on surveillance and safety as well as the degree to which these spaces are used.

In the post-apartheid era, a number of various state departments and institutions including non-government institutions that have an influence on spatial development and planning have formulated their own norms and guidelines pertaining to spatial development and land use management. Since the planning system in South Africa lacks coordination, the majority of norms and standard guidelines are not integrated with one another, and they are not responsive to the needs of the targeted populations and their respective environments.

3.2.4   Spatial Planning and Land Use Management Act

The Spatial Planning and Land Use Management Act (SPLUMA) was assented to by the president on 05 August 2013 and implemented since 01 July 2015. It is a legislative framework that focuses planning on an all-inclusive process relying heavily on Spatial Development Frameworks and Land Use Management Schemes. In addition to providing an integrative approach for comprehensive solutions to eradicate the spatial injustices of the past, the overall purpose of the SPLUMA is to provide a legislative framework for spatial planning and land use management planning regulation across all spheres of government.

Section 8 of the Act requires that national norms and standards be developed reflecting national policy, promoting social inclusion, spatial equity, and desirable settlement patterns, maximising efficiency, analysing existing spatial trends and proposing alternatives, identifying strategic under-utilised land, standardising symbology and differentiating between areas, needs and types of land use where appropriate.

3.2.5 National Development Plan

"Spatial Planning in South Africa will be guided by a set of normative principles to create spaces that are liveable, equitable, sustainable, resilient and efficient, and support economic opportunities and social cohesion."- National Development Plan (NDP) 2030

In August 2012, the National Planning Commission (NPC) presented the National Development Plan (NDP) 2030. The Plan proposes a series of actions to eliminate poverty and reduce inequality by 2030. Chapter 8 of the NDP addresses the Transformation of Human Settlements; it proposes a national focus on spatial transformation across all geographic scales through an incremental approach within a long-term strategic vision as it will prevent organizational overload and political failure. The NDP pronounces a range of actions that need to be taken to transform human settlements and spatial planning pattern of the country.

Similar to the White Paper on Spatial Planning and Land Use Management (2001), it also proposes a normative approach for spatial planning flowing from a set of development principles. The development principles are briefly described below—

- Spatial justice- The historic policy of confining particular groups to limited space, and the unfair allocation of public resources between areas should be reversed and needs of the poor are addressed on priority basis;

- Spatial sustainability- Sustainable patterns of consumption and production should be supported, and ways of living promoted that do not damage the natural environment;

- Spatial resilience- Vulnerability to environmental degradation, resource scarcity, and climatic shocks must be reduced. Ecological systems should be protected and replenished;

- Spatial quality- The aesthetic and functional features of housing and the built environment need to be improved to create liveable, vibrant and valued places that allow for access and inclusion of people with disabilities; and

- Spatial efficiency- Productive activity and jobs should be supported, and burdens on business minimised. Efficient commuting patterns and circulation of goods and services should be encouraged, with regulatory procedures that do not impose unnecessary costs on development.

The NDP also clearly articulates the importance of norms and standards in relation to spatial planning and land development to reverse the apartheid geography. In fact, development of the spatial norms and standards has been identified as one of the key actions of the plan. The plan proposes that norms and standards should be developed for a range of spatial transformation activities such as densifying cities, improving transport, locating jobs where people live, upgrading informal settlements and fixing housing market gaps.

The development principles need to be translated into operational norms and standards that would guide the spatial planning process, contents of spatial plans, land development, and land use management activities. The norms and standards should support the overarching spatial vision of the NDP, specifically to—

- Tackle inherited spatial divisions

- Unlock development potential

- Guide and inform infrastructure investment and prioritisation

- Manage contemporary economic and demographic shifts

- Facilitate coordination between parts of government and other agents

3.3   CLASSIFICATION OF SETTLEMENT FOR SOCIAL FACILITIES PROVISION

Sustainable human settlements can only be achieved through the provision of adequate Public Service Infrastructure and specifically social facilities that are differentiated according to varying development densities, community size, mobility levels and socio-economic variation. Provincial facility norms and standards will allow metropolitan, district, provincial and national governments to improve investment decisions about the number, size, type, location and space requirements of social facilities based on technical information rather than political advocacy. Thus, this consultation paper will aim to explore various aspects of social facility provision guidelines which will support all tiers of government in providing facility networks of libraries, clinics, community halls, parks, sports fields, fire stations as well as other social facilities, and further express those as KwaZulu-Natal Norms and Standards. These standards

3.3.1   Why do we need a hierarchy of provision?

To provide an effective distribution network for a range of social services it is essential that facilities be clustered at central locations. Most facilities by their very nature have a range of sizes and thus population threshold levels (the size of the population for which they are provided). For most of the facility types, the threshold size increases with the level of specialisation provided by the facility, as not all issues need to be dealt with by specialists. Thus, a system of referral from lower-order facilities to the higher-order facilities may be used and accordingly incremental increases in the size of the facilities occurs along with longer acceptable access distances.In addition, facilities frequently visited by many community members would be provided at a lower population threshold than those used more infrequently. Thus, those facilities used almost daily should ideally be sited in close proximity to their users to reduce the average travel time and cost to access these local facilities. By implication, there are higher costs associated with visiting higher- order, more distant facilities, albeit infrequently.

The hierarchical nature of social service delivery thus ideally relates to a hierarchy of social facility delivery centres. This facilitates and promotes clustering in line with government policy to create service delivery precincts or zones.It should also be accepted that, notwithstanding a right to basic services, not all citizens (especially those living in remote areas) are able to enjoy the same levels of access to all services. The economies of scale and inefficiencies of providing remote services need to be acknowledged and special measures applied in these cases, i.e. the use of periodic and mobile service provision to meet basic needs.Establishing a hierarchy assists in allocating facilities of various types to their most appropriate locations based on the facility threshold and the appropriate number of people required within the distance catchment of that facility. By implication, government services which have a similar level of importance and alignment in provision, i.e. the departments of Home Affairs, Social Development and of Justice and Constitutional Development are likely to have, or should have, similar standards relating to access distances and thresholds and should consequently be located at the same level within a town or settlement hierarchy. These facilities should mostly form the nuclei of Thusong Centres as envisaged by government's integrated service delivery concept.

A hierarchy streamlines location decisions regarding provision and facilitates alignment across different government sectors and service providers. Likewise, municipal facilities with large thresholds such as stadiums require many more people within their catchment than, for example,
a community hall, to operate viably. Large towns will thus be able to afford and support a larger range of facilities as well as those of a higher-order. Not all towns can support or afford to maintain all higher-order facilitiesThe CSIR's Guidelines for the Provision of Social Facilities in South African settlements, CSIR (2015) identified a classification of settlements which was drawn up to act as the basis from which a set of social facility provision guidelines could be determined for each settlement type and size. The most suitable set of social facilities to meet the needs of residents

(both constitutionally and in humanitarian terms) was then established in terms of those social facilities that can be viably provided at each type of settlement, while economic and administrative factors, although important, played a subsidiary role in the classification. The final categories (see Table 1) are defined based on the modification of previous typologies (including the 2002 CSIR typology, the Cities Network 2005, the Classification of Settlement Typology for Economic Evaluation, the Census classification of settlements and Municipal Services Finance model), intuitive knowledge of cities and towns, and taking into account issues such as facility provision thresholds of various facility types as well as operational and administrative requirements for government service provision.

The examples given here are broadly indicative of the settlement types represented by each category and will need to be reviewed once the town boundary determination is completed.

	HIERARCHY OF SETTLEMENTS	CATCHMENT SIZE (NO. OF PEOPLE)	EXAMPLES OF SETTLEMENT TYPES
A	Metropolitan cities/regions	> 1 000 000	Johannesburg, eThekwini, Cape Town
B	Large cities/small metros	350 000 - 1 000 000	Port Elizabeth, Bloemfontein, Pietermaritzburg, Welkom
C	Large towns/regional service centres	100 000 - 350 000	Nelspruit, Witbank, Krugersdorp, Newcastle, George, Stellenbosch
D	Small to medium towns/regional service centres	60 000 - 100 000	Ermelo, Harrismith, Mossel Bay, Bethlehem, Bronkhorspruit, Grahamstown
E	Small towns/isolated regional service centres	25 000 - 60 000	Mount Fletcher, Delareyville, Beaufort West, Graaff-Reinet, Kokstad
F	Dense dispersed settlements (*Large continuous development with 10+ persons per hectare and up to 10 km² in extent*)	10 000 - 100 000	Ingwavuma, Jozini, Acornhoek
G	Villages	5 000 - 25 000	Merweville, Stella
H	Remote villages (*Villages more than 20 km from larger settlements*)	500 - 5 000	Prieska, Pofadder, Loxton, Keiskammahoek

NB: Villages with less than 500 inhabitants have not been formally considered as they are a separate category and would be provided mostly with mobile services on a needs basis.

3.3.2 South African Function Town Typology and its relationship to Social Facility Service Norms and Standards

For the purpose of macro level planning, comparison and reporting with respect to population and economic development, the CSIR has developed a typology of towns based on groupings of functionally linked places. The resultant typology can also be used as the basis for clarifying the roles of different towns and settlements with the
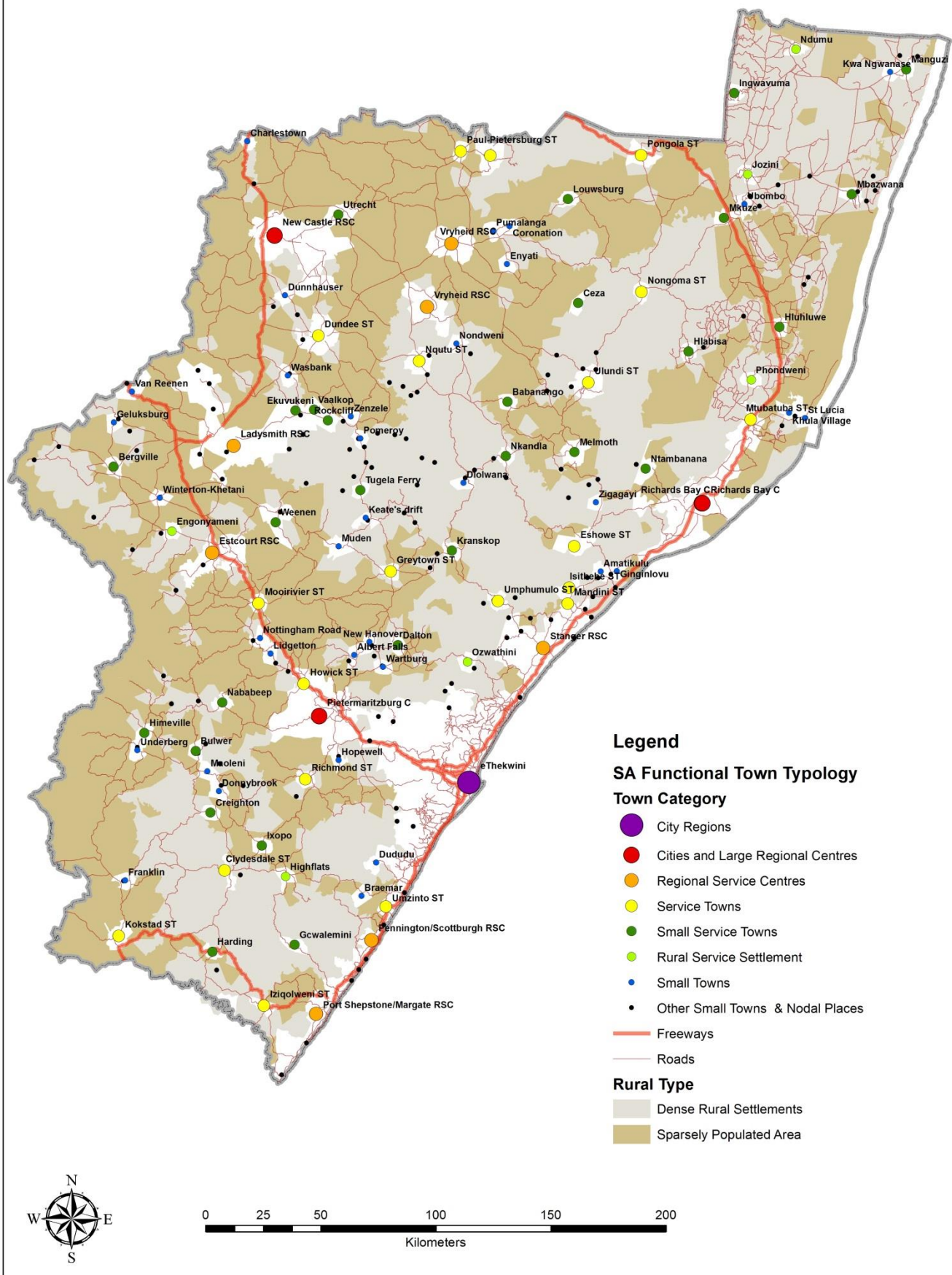
For the purpose of a national level typology and associated analysis, places such as eThekwini or Gauteng city regions, while comprising several nodes and even towns, are considered as a single functional unit. Similarly, most Regional Service Centre s are also polycentric as regards their morphology and many Service Towns are bi-centric reflecting the apartheid legacy of separated CBD, former white town and township areas. Irrespective of spatial distance such places function as a unit linked by economic tension between the component parts. Thus, these are considered as functionally linked for purposes of economic functioning, agglomeration or prioritisation of investment or even for higher order service location and this grouping of settlements is essential to better understand the morphology of South African Settlements. However, at a lower level, the identification and analysis of the component sub-nodes is critical with respect to urban identity and with respect to the middle to lower level social service provision. The map and table that follow represent a summary of the South African Functional Typology as applied to Kwa Zulu Natal.

In the allocation of social services, the functional role of a city or town with respect to the provision of services to people and smaller places in its immediate vicinity are critical, however, the ultimate size or grade of facility, the number of facilities and the selection of services on offer will largely be impacted by the number of people who live within the service catchment area of the facility and the town within which it is located. Thus, every village, small town, Rural Service Settlement or Regional Service Centre has a different role to play with respect to service provision and the level of service specialization. Although the settlement typology described here is not strictly a hierarchy of places, the fact that the number of people and the size of the economy were used to develop the typology the latter by implication displays many elements of a hierarchy. That being said social service provision, especially to those who cannot afford private services should be provided based on principals of equity and spatial justice. Thus, facility provision for health and education services should be strongly influences to provide services based mainly on the population demand for services within a specified distance. The equity of services is also impacted with respect to efficiency of service provision and that in turn is impacted by the settlement density within certain critical distances for different service types. Furthermore, there is a requirement to provide alternative ways of servicing those living to beyond an acceptable distance where possible.

SA Functional Town Typology
KwaZulu-Natal

Legend

SA Functional Town Typology

Town Category

- 🟣 City Regions
- 🔴 Cities and Large Regional Centres
- 🟠 Regional Service Centres
- 🟡 Service Towns
- 🟢 Small Service Towns
- 🟢 Rural Service Settlement
- 🔵 Small Towns
- ⚫ Other Small Towns & Nodal Places
- ▬ Freeways
- ▬ Roads

Rural Type

- Dense Rural Settlements
- Sparsely Populated Area

South African Functional Town Typology (SAFTT) - CSIR 2018		
RSA Settlement Landscape	**SA Functional Town Type**	***Description of Functional Town Area Types / Sub-types Based on urban function in surrounding region and urban area size***
Metropolitan Areas & Cities	**City Regions**	*Metro's and cities with more than 1 million people in large conurbations. Service related economic output estimated as average R188 000 mill and total economic output above R40 816mill in 2013.*
	Cities and Large Regional Centres	*City Area (City) - More than 500 000 people in city and functional hinterland areas. Service related economic output estimated as average R14 192mill and total economic output above R7 900mill in 2013 for team understanding.*
		Large Regional Centre (RC1) Cities and large regional nodes with more than 300 000 people in interconnected settlements and direct hinterland. Service related economic output estimated as average R5 500mill and total economic output above R4 000mill in 2013.
Regional Service Centres & Service Towns (Urban core areas and surrounding functional town areas)	**Regional Service Centres**	*Big Regional Service Centre (RC2) - Regional nodes and corridors with 100 000-300 000 people in interconnected settlements and hinterland, playing a significant social and economic service role in region. Service related economic output estimated as average R3 400mill and total economic output above R 1400mill in 2013.*
		Regional Service Centre (RC3) - Smaller Regional nodes and corridors with less than 100 000 people in interconnected settlements and hinterland, playing a significant social and economic service role in region. Total economic output in all cases above R1 100mill (2013) but service related economic output estimated as average R1 660mill.
	Service Town	*Service Town - Towns of various sizes, providing an economic and social service anchor role in hinterland. Population variation between 15 000 to 100 000 population, with total economic output more than R270mill (2013) in all cases. Service related economic output estimated as average R670mill per town.*
Small Towns (Monocentric small towns)	**Small Service Town**	*Small Service Town - Towns of which economies and/or population smaller than that of Service towns. Playing an* **anchor role as social service poin** *t, serving a large number of people within 30km from the town in denser areas and within 50km from the town in sparser areas.*
	Small Town	*Small Town - Small towns of which economies and/or population smaller than that of Service towns. Primarily serve local population and/or economic activity such as mining, tourism or fisheries.*
Small nodal places (any- not forming part of above)	**Smaller towns/ villages/ dorpies & nodal places in rural areas**	*Nodal settlement with limited population and economy but forming part of the South African group of towns. May be found in both sparse or densely settled areas.*
Densely Settled Areas (rural settlement areas & nodes)	**Rural Service Settlement**	*Rural Service Settlement - Dense Rural Settlements that are strategically located to play an* **anchor role as social service point,** *serving a large number of people within 30km from the town in denser areas and within 50km from the town in sparser areas.*
	Dense Rural Settlements	*This area incroporates both (i) Formal Rural settlement area - EA's and Settlements Footprint classified as formal as well as (ii) Traditional Authority Rural Settlement Area - EA's and Settlement Footprint areas classified as traditional. Both have very small formal service economy activities. Within such areas Rural Service Settlements and smaller nodal places have been identified for location of socail services as applicable based on the population threshold and characteristsics.*
Sparsely Populated Areas	**Sparsely Populated Areas**	*Sparsely populated areas (meso zone areas without settlements). Sparse East (more than 10 persons per sq km) while in the Sparse West this is defined as less than 10 persons per sq km and has an impact on the accestable travel access distance and threshold of certain social services. The latter category is not found in KZN.*

3.3.3 The development of service delivery catchments to improve rural service provision

During 2015/ 2016 a project for the National Department of Rural Development that focused on Differentiated Provision Standards for Social Facilities in rural areas was conducted. As part of the project social facility service catchments for the entire RSA were demarcated around the hinterland of 1328 identified cities, towns and villages that constituted SA settlements with a minimum economic function.

Past projects for the Department of Public Service and Administration, City of Cape Town and City of eThekwini amongst others .Green et al.,(2012) have proved that accessibility analysis is an extremely useful tool to sustainably locate facilities in a way that incorporates principles of service equity based on access distance, service threshold and centrality. If such a process were to be undertaken at national level and based on detail facility location supply-demand access modelling, the process would prove too time consuming, data intensive and costly to achieve for all municipalities. Thus, a strategic high-level approach to facility location was defined, developed tested and applied to better guide facility demand planning across a wide range of public service sectors for the entire country. The principles of accessibility-based planning were used to develop a spatial logic for the efficient and equitable allocation of a range of different social facilities. Service catchments were demarcated around all identified towns and villages and nodes of various levels with the aim of establishing a hierarchy of social service provision points for South Africa. The latter formed the basis for differentiated facility provision standards and guidelines that took into consideration population distribution, density and demographic characteristic and settlement morphology.

The service catchment demarcation approach was informed by Walter Christaller's concept of central place Theory. Although Christaller's assumptions regarding an isotropic surface and evenly distributed population are invalid for South African rural development, the concept of a central place providing services to those living in the surrounding hinterland remains relevant. The theory incorporates two basic principles: that of threshold (minimum population required to provide goods or services at a place); and, the range or maximum distance people will travel for such services ,Christaller(1933). The area included within the maximum travel distance is often referred to as the sphere of influence of the place and or service.The allocation of all areas (people) of South Africa to the closest place of any significance and the demarcation of the area so defined into service catchments was the point of departure for demarcation of catchments. Once demarcated, the catchments were profiled with respect to economic and demographic factors before being ordered into a service hierarchy. The latter was based on both the role of the settlement within the surrounding hinterland and the number of people in the defined service catchment. With respect to the larger settlement types there were certain overlaps in the ranking or hierarchy with the CSIR/ SACN settlement typology 2015 which was the earlier version of the South African Functional Town Typology 2018 described above (specifically as it related to larger cities, metros and service towns). The final result of the project was a web-based toolkit that combined a set of service catchments that were profiled with respect to population and economic factors that could be linked to differentiated provision norms and standards though an on-line calculator. The latter can provide an estimate of total facility requirements for reach area and this "benchmark demand' can then be used to estimate the facility backlog or even potential oversupply against a current facility supply audit and usage assessment.
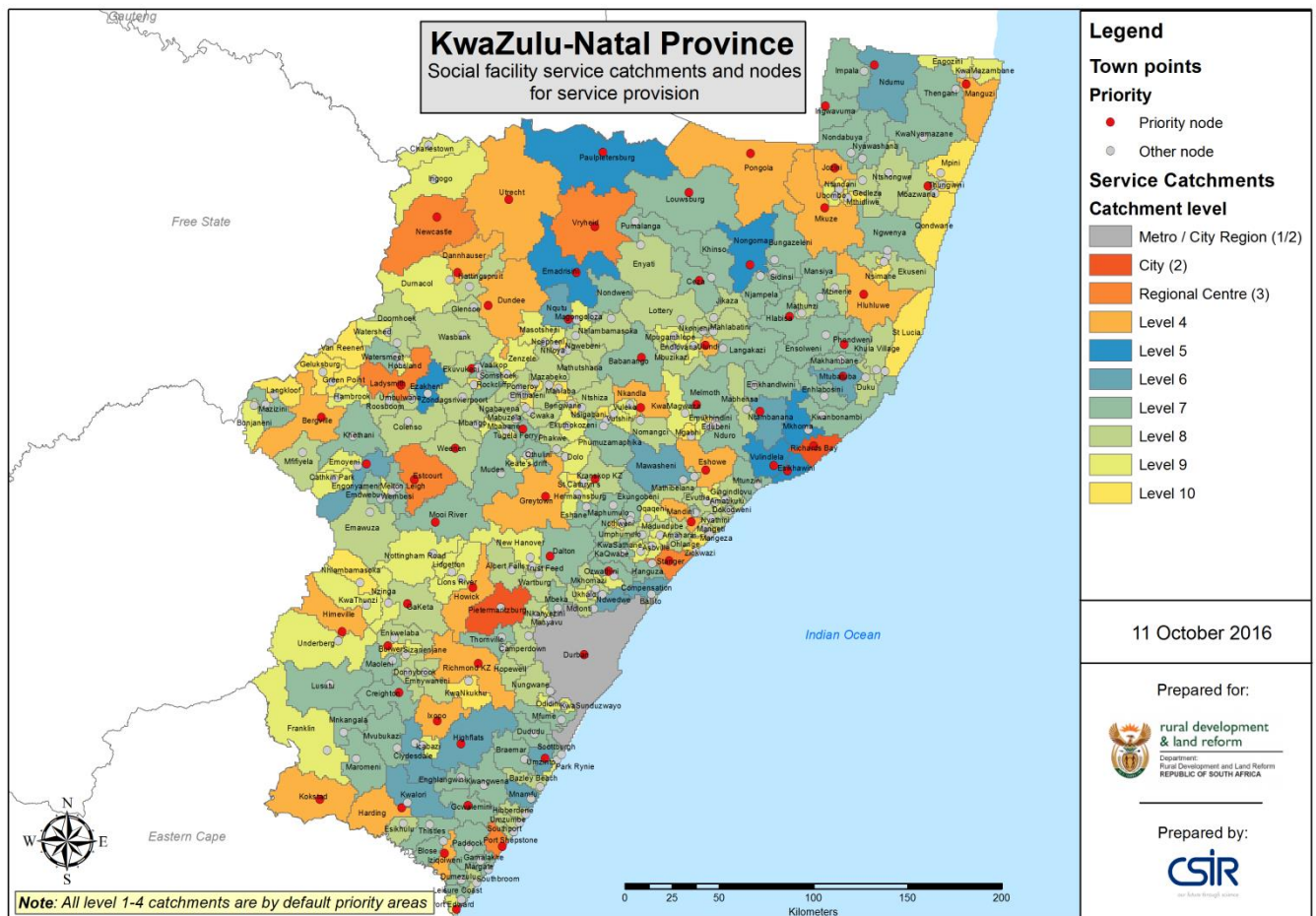
As indicated earlier, accessibility-based service catchment analysis for facility location planning incorporates and is dependent on two key economic mechanisms, namely access distance (range) and threshold; both concepts form part of Central Place Theory. These concepts are defined below

Threshold is the minimum market (population or income) needed to bring about the selling or provision of a particular good or service. In the provision of communal free services, the minimal value will not be measured in respect of income or profit but will relate more to the efficiency of providing the service to at least a minimum (viable) number of clients;

Range (access distance) is the maximum distance consumers are prepared or able to travel to acquire goods/ services since at some point the cost or inconvenience will outweigh the need for the good/service.

A further refinement of the approach was to apply spatial targeting within each level of catchments to select the top set of places where middle order services can be optimally provided at central service points to serve the most people from the least number of towns without the service areas overlapping. A prioritisation analysis based on ranking of towns and villages was undertaken. This resulted in the iterative selection of places that can be used for optimal location of middle order services that should be located within 30km (or 50 in very sparse areas) from most people. Optimal location of places was based on limiting the overlap of service areas, population density and total number of people within the specified distance. The result is a double ranking of places that can be used as a focus for middle to higher order facilities. The result was a list of identified Priority places for social investment nodes. The latter was used to inform the 2018 South African Functional Town Typology with regard to smaller towns and service points that can be used as anchor towns in rural areas. In this way the identified Priority places informed the functional type of certain Service Centres, Rural Service Settlements and Small Towns. Any of the 1328 places not included in the typology of towns are designated as 'smaller towns, villages and dorpies' and this category of small places is likely to require further refinement in future.

The catchment demarcation for KZN and ranking of the central places which is based mainly on population size is shown in the following graphic. Priority places are also indicated, and this map can form the focus for this project with respect to defining norms and standards for different levels of settlement in KZN.

KwaZulu-Natal Province
Social facility service catchments and nodes
for service provision

Note: All level 1-4 catchments are by default priority areas

3.3.4 Spatial equality and social well-being and facility provision norms

The provision of services to citizens should, as far as is possible, not discriminate based on where people choose to live (within reason) and the right for all citizens to access basic services is recognised in South Africa and Smith (1995) highlights the need to achieve social justice within the spatial and geographical realm. Thus, efforts must be made to provide access to identified services (even if infrequently or periodically) within the restrictions of the available funding (SPLUMA). The distribution and density of population are key factors in the efficient and cost-effective provision of most services; the more sparsely populated an area' the more difficult and costlier it is to provide communal services. In some cases, mobile, periodic or electronic based services are the only options, while in others it may even be necessary to withhold services and allow residents to provide as best, they can for themselves (Green 2016).

The norms and standards that have been developed to date,broadly informed by user needs, expectations and affordability and the operational requirements of services, as well as facility location planning theory. Economic location theory informs the "where" of facility location and the assumption is that both suppliers and users will tend to minimise their costs and that the service will locate "where" the provision of goods and services, including transport time or cost, is optimised. Thus, travel access distance or related cost is critical in facility location planning (Green 2019 – forthcoming). While people live at different densities and at different distances from facilities and their reasons for selecting a particular facility may include factors such as transport routes, waiting time and staff and

facility quality, ultimately it is the density and number of people living within the identified access distance standards that will impact on how much of the service needs to be provided and where. This may either be provided as one large facility or distributed across several locations. How the service capacity is provided and distributed will depend on both user needs and operational factors such as maximum or minimum facility size, staff and population distribution or settlement morphology.Facility location planning science typically includes three key questions namely: 'What' facility; 'Where' to locate and "Who" to service. Demand targeting and estimation in the provision of social facilities is critical for correctly calculating the size of the service while cultural, economic and social factors are also important considerations. A key output of the research undertaken was to demarcate and profile 'wall to wall' service catchments for South Africa and to calculate the demand within each service catchment and within a 30km distance of the central node of each catchment. This data informed a better understanding of "where" services are needed and can best be located.

By applying the concept of common facility thresholds values (population provision ratios) relative to facility size and using some common or similar distance limits for different contexts it is possible to work towards achieving norms and standards that can address service equity across a region for any service type. The use of the threshold and access distance within the standard as well as the identification of the target group addresses the 'what', the 'where', the 'whom' and also enables a calculation of 'how much'. The results at a strategic intervention level when applying such standards, will be valid even, if some citizens choose to make alternative choices based on various social, economic or cultural factors, perceptions or availability of public transport. While planning facility location based on the assumption of the informed citizens making a rational choice to visit the closest facility may not always be universally realistic; when the models and assumptions when applied at a strategic level provides substantial evidence for informed decision making that can contribute to achieving greater equity in meeting service delivery backlogs.

3.3.5   Principles of hierarchies in service delivery

Different services have different operational requirements and population thresholds that make a service viable from a service provider perspective. While users will be prepared to travel different distances to meet different service needs, I.e. longer distances for health care as opposed to primary school education. The latter is mostly impacted on by the frequency at which the service is required as well as the value of the service to the users. To develop or review service access norms and standards requires a clear understanding of the typical access and threshold values for different services and forms the basis of facility provision standards. Knowledge of operational requirements of different facilities indicated the possibility of grouping facilities having similar threshold and access requirements. These can broadly be divided into three categories namely: low-order or basic services; middle order services and high-order services. Lower-order facilities are accessed frequently, such as schools and should be located as close as possible to communities, while middle-order facilities, such as 24-hour clinics and Home Affairs offices, that serve more people but on a more infrequent basis can be located further apart and located in more established places. Higher order facilities, such as universities and large hospitals require many more people to be viable and can be

placed a fairly long distance from people and must be located in places of high population and densities to be sustainable, Green (2017)

The hierarchical nature of social service delivery can ideally be linked to a hierarchy of centres such as that reflected in the SA Functional Typology. However, note must be taken of the Social Facility Catchments for South Africa defined around each identified functional town or in some cases nodes within the defined functional town. The number of people in each catchment and any current facilities must be used to adjust the capacity requirement for any new facilities.

3.3.6   Dealing with exceptions:

Cases where smaller settlements may be provided with higher-order facilities than warranted by their population numbers Some of the towns or smaller settlement types may need to be provided
with higher-order facilities than their population threshold demand initially entitles them to. These facilities will of necessity be smaller in scale than those provided in larger settlements, albeit with the same range of services. This is warranted where smaller settlements play an important role as a service provider to other settlements in their hinterland, in addition to serving those in their own immediate vicinity.

A settlement may "bat above itself in the order" (as described) if:

- It is a district or local municipality the capital or it plays a major role in regional service delivery in the area;

- It is an isolated community of some significance (e.g. 5 000 people who are more than 150 km from the nearest town);

- There is a historical provision of service, i.e. a cluster of schools or a university town which thus requires a greater level of service than the permanent population may require; or
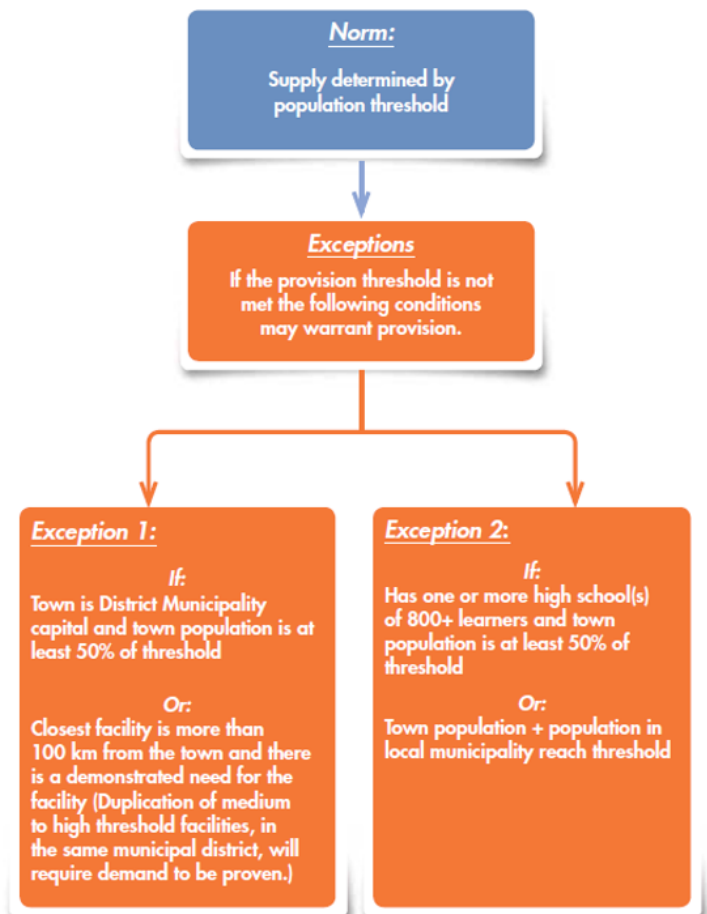
- Its population profiles are different from the norm and thus require a greater or different level of service.

Facility planning of most government services should largely cater to the permanent population and should focus strongly on providing local services to those with limited mobility. Affluent communities have the means to travel to higher-order facilities or access private facilities. In towns with a large retired community the local demand needs to be adjusted for the type of

facilities required, i.e. fewer schools and more emphasis on leisure and health. In terms of differing population profiles, some towns attract many retired people, while others are niche towns of craft people and artists or may be coastal towns with fluctuating populations – all of which require adjustments to facility provision.

The adjacent figure provides an example of how these exceptions may be applied in terms of the provision for sports facilities. This specific example relates to the provision of sports facilities in small to medium towns. Examples of facilities that may be provided above threshold demand could include hard surface combi courts (2 surfaces), 2-field equivalent grassed fields with a 500-seat stand, cricket oval, athletics track with a 3 000-seat stand, indoor hall and pool, etc.

Norm:
Supply determined by population threshold

Exceptions
If the provision threshold is not met the following conditions may warrant provision.

Exception 1:
If:
Town is District Municipality capital and town population is at least 50% of threshold

Or:
Closest facility is more than 100 km from the town and there is a demonstrated need for the facility (Duplication of medium to high threshold facilities, in the same municipal district, will require demand to be proven.)

Exception 2:
If:
Has one or more high school(s) of 800+ learners and town population is at least 50% of threshold

Or:
Town population + population in local municipality reach threshold

3.4 DENSIFICATION AND THE CLUSTERING OF FACILITIES

Settlement Densification and the development of Nodes through the clustering of public service infrastructure are closely linked to each other and both aimed at providing more cost-effective and accessible services to communities towards sustainable settlements. The landscape of KwaZulu-Natal has been severely impacted by the past apartheid planning policies, giving rise to spatial disparities, distorted settlement patterns and unequal development. In addition, a number of factors have significantly influenced settlement patterns. These include large-scale population migration from rural areas and the associated urbanisation, extensive peripheral growth (low-density urban sprawl), road network and access to basic services and public facilities. Considering the effect of the above, the Province is facing some critical challenges in respect of growing informal settlements, sustainable growth, compaction and reducing sprawl.

In the context of KZN, policies to support densification are quite recent and have focused on nodes and corridors with a broader perspective oriented towards formal employment to the exclusion of how there is a growing trend among higher income groups to relocate away from cities (Todes, n.d.). A glean into local literature indicates how, in some parts of the KZN municipalities, for example the Msunduzi municipality, the SDF is taking three forms that include but

is in no way limited to densification. These include compaction, (creating new Infill development focused to create a coherent city system), integration (integrating low income residential areas to the city), and urban densification (conducted in the periphery of CBD and near nodes) ,Msunduzi SDF (2012)

In the Durban Metropolitan area there has been proposals for infill and densification ,DMA Spatial Development Plan (1998). In the DMA Spatial Development plan, there are proposals for identifying vacant land within central areas that can be used for infill. The other approach is based on proximity and location to CBDs. Examples of this approach is in Berea, Durban and at a smaller scale the streets around the Empangeni CBD in uMhlathuze. However, in KwaMashu area, a research by Godehart (2007) shows that emphasis is placed on larger scale nodes and corridors. This approach has its own failures in that it does not take into cognizance that informal activities can be more fully organized spatially at a more local level. In Cato Manor, taxi routes bypassed the planned corridors, undermining their viability.

Another model is to identify closed down industries. One example is Hammarsdale – a once- thriving industrial township, but now the factories are almost dysfunctional or even defunct, even though there are few industries still working at scaled down operations. The textile industries of this area are competitive enough to match products from other countries with competitive industries such as China, India, Pakistan, Brazil, etc.

3.4.1 Clustering of Facilities as Service Centres

At the start of the identification of key spatial parameters to identify optimal localities of Community Service Centres it became evident that the concept of a hierarchy of centres to serve communities is similar to that of Chrystaller's Concept of Central Place Theory as simplified by the conceptual illustrations below.
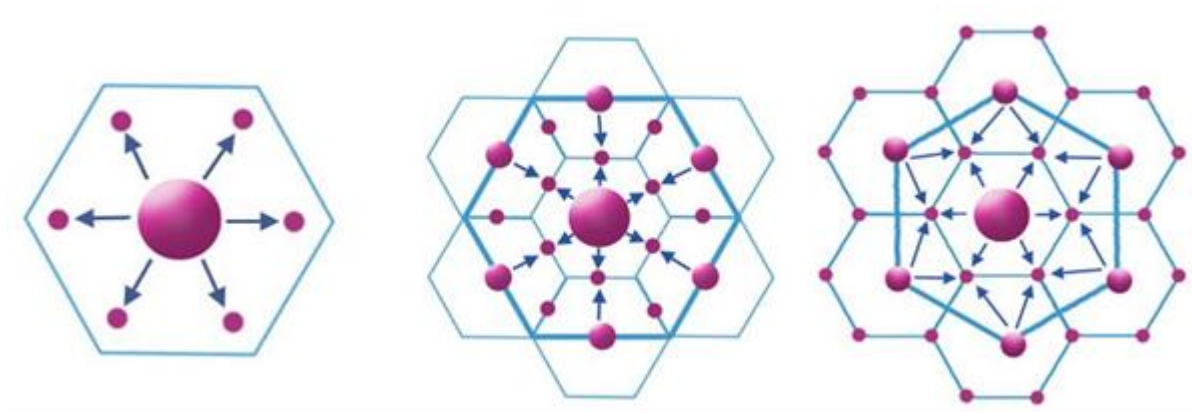
The central place theory suggests that a hierarchy of services (economic or social) with higher order services requiring larger thresholds to sustain. Similarly, lower order services will require smaller thresholds to viably sustain them. The result is a Network of Service Centres in support of each other and interconnected to each other.

A crucial part of this approach is the concept of accessibility through geographical and transport linkages between the hierarchy of centres or nodes. Thus, accessibility and the threshold of impact need to be considered.From previous

sections highlighting the guidance by national and provincial policy, it is evident that the current development focus of the National Development Plan and the KwaZulu-Natal Growth and Development Strategy (PGDS) is to identify those areas where Social Need and Economic Potential intersect as areas for most viable immediate public investment as illustrated below:

Typically, the areas of greatest social need would be those areas where social interventions (based on poverty and dependency ratios) are required as expressed within the PGDS as well as areas where a general lack of facilities occur. Economic potential has also been defined by the PGDS as areas where a number of economic sectors are active. The identification of these areas should ideally further coincide with areas of highest accessibility, where existing public capital investment is concentrated, and not focus on areas which are environmentally sensitive.

3.4.2 Clustering and Sharing

Clustering and sharing have a two-fold purpose. Firstly, they can achieve land saving with respect to facility provision requirements, and secondly, clusters of facilities create significant spaces and special places in a city which gives it structure and a sense of place. Green C. and Argue T. (2007)

Clustering of facilities relates to the linking and spatial closeness of a group of facilities. These facilities may be sited within the same building, site or precinct. To enable clustering, the services provided at the relevant facilities need to be compatible. In some cases, health or cultural differences may give rise to incompatibility issues and thus local consultation is desirable before significant clusters are developed. Clustering is intended to enable the sharing of certain common activities and requirements to save space and operational costs. Parking, security, administration, gardening and maintenance are areas where savings can be achieved. The sharing of parking space is especially relevant, given its extensive and often wasteful nature. An example may be an adjacent school and religious site. Since these facilities

The purpose of clustering of facilities is multi-fold and can have the following benefits:

- Reduces number of trips;

- Focuses public transport services on a limited number of destinations;

- Creates focal points for development and infrastructure provisions, i.e. lighting, power and IT networks; and

- Space and operational savings with the sharing of certain communal services such as parking, meeting rooms, halls, security and reception. Densities consequently increase and the ratio of public facility area to developed residential land area increases. Green C. and Argue T. (2007).

To effectively develop facility clusters, the facilities in question should be compatible and have a similar hierarchy or scale and population threshold. It is accepted that some lower-order facilities may – for the sake of convenience – form part of a higher-order facility cluster, but the distribution, access criteria and spacing must fall within the general pattern for that facility type. The accessibility factors such as travel mode and access distance should also be common for the main facilities in the cluster. Compatibility further speaks to the desirability for clustering from the perspective of safety and security, cultural norms and general mores (e.g. age appropriateness). Green C. and Argue T. (2007)

The clustering of public sports fields with school facilities provides a most suitable combination that compensates for the reduction of dedicated educational space with the nearness of public sports spaces and facilities. These can be used for mini-tournaments and derby days hosted at schools. On the other hand, the clustering of schools with higher-order health facilities (where emergency cases are treated) is not desirable, although clustering of schools with planned parenthood and STD clinics is required. Because of the high-risk nature of police stations, they cannot easily be clustered with other social facilities. Green C. and Argue T. (2007)

Some facilities can be clustered with general business premises, but this is not included in the matrix of compatible land uses. Facilities that are generally compatible with neighbourhood business centres include religious sites, post offices, libraries, government institutions, and in some cases primary health care facilities.

3.4.3   Facility clustering and multi-use of buildings (Green and Argue 2012)

National government promotes the sharing and clustering of facilities, through Thusong Centres. Similarly, the sharing of halls, sports fields and other facilities by different stakeholders should be encouraged where possible in all towns and villages. The clustering of facilities creates opportunities for facility multi-use, sharing, etc. and should result in land savings and trip reductions. Also important is the contribution that this type of investment can make to creating islands of development and structure for city or town building. The successful sharing between departments and multi-use of buildings is largely dependent on excellence in design and management and also requires co-operation and joint financial planning between the departments that form part of the multi-purpose centre or cluster and may therefore

share buildings. If this is achieved within all towns, particularly within the higher-order towns where a larger range of facilities are being provided, it can contribute positively to service delivery and to financial sustainability. Tables listing the local facility types that can be successfully clustered together and the multiple uses of social facilities are given in the tables below.It is stressed that in providing for a set of social facilities, good design – together with the sharing and multi-use of facilities – can lead to space saving for almost all facility types. However, land budgets and site sizes

in this publication are all provided for single-use buildings only, since there are limited examples which can be used to illustrate optimal site sizes of good multi-use buildings. Green and Argue (2012)

Table 2: Matrix of cluster potential of mainly local facilities

Matrix of cluster potential of mainly local facilities

Nature conservation area	Worship centre	Fire station	Police station	L1 Hospital	Primary health care centre	Cemetery/Crematorium	Urban agriculture	Swimming pool (25 m - 50 m)	Parks: Regional	Parks: District	Parks: Neighbourhood	Local sports field including multi-purpose outdoor courts	Sports stadium	Indoor sports hall	Community centre	Tertiary education/Trade schools	Secondary school	Primary school	Library	Compatible facilities
	●				●						●				●	●	●	●	■	Library
	●				●		●	●		●	●	●			●		●	■	●	Primary school
	●				●		●	●	●	●	●	●	●		●	●	■	●	●	Secondary school
					●		●	●	●	●	●	●	●	●	●	■	●		●	Tertiary education/trade schools
	●	●			●		●	●	●	●	●	●	●	●	■	●	●	●	●	Community centre
					●			●	●	●		●	●	■	●	●				Indoor sports hall
							●	●	●			●	■	●	●	●	●			Sports stadium
							●	●	●	●	●	■	●	●	●	●	●	●		Local sports field incl. multi-purpose outdoor courts
●	●	●			●		●	●	●	●	■	●			●	●	●	●	●	Parks: Neighbourhood
●		●					●	●	●	■	●	●		●	●	●	●	●		Parks: District
●		●					●	●	■	●	●	●	●	●	●	●	●			Parks: Regional
								■	●	●	●	●	●	●	●	●	●	●		Swimming pool (25 m - 50 m)
●						●	■		●	●	●	●	●		●	●	●	●		Urban agriculture
●		●	●	●		■	●													Cemetery/Crematorium
				●	■						●			●	●	●	●	●	●	Primary health care centre
				■	●	●														L1 Hospital
		●	■			●														Police station
		■	●			●			●	●	●				●					Fire station
	■										●				●		●	●	●	Worship centre
■						●	●		●	●	●									Nature conservation area

(CSIR Guidelines for the Provision of Social Facilities in South African Settlements, August 2012)

Matrix of functional potential for multiple-use of social facilities

Primary health care centre	Nature conservation	Multi-purpose outdoor court	Local sports field	Sports stadium	Sports hall	School	Worship centre	Community centre	Library	Primary function of the facility ← / Potential secondary functions ↓
						●		●	●	Place to study
●						●	●	●	●	Meetings/social – small group
				●	●		●	●		Gatherings – large group
								●	●	Pension pay out
					●	●		●	●	Adult training facilities
●						●	●	●	●	Counselling centre
●				●	●	●	●	●	●	Municipal information sessions
				●	●	●	●	●		Religious services
						●	●	●	●	Prayer meetings
								●		Home Affairs (periodic)
●								●		Social Welfare (periodic)
●						●		●		Child Welfare (periodic)
●						●	●	●		Feeding scheme
●							●	●	●	Legal aid
		●	●	●	●					Overflow sports for schools
		●	●	●	●					Inter-school events
		●	●	●	●	●	●	●		Bazaars and fetes
●					●	●		●	●	ICT access
●						●		●	●	Play equipment

(CSIR

Guidelines for the Provision of Social Facilities in South African Settlements, August 2012)

3.4.4   Facility Clustering and Multi-Use of Buildings

The clustering of facilities creates opportunities for facility multi-use, sharing, etc. and should result in land savings and trip reductions. Also important is the contribution that this type of investment can make to creating islands of development and structure for city or town building.

National government promotes the sharing and clustering of facilities, through Thusong Centres. Similarly, the sharing of halls, sports fields and other facilities by different stakeholders should be encouraged where possible in all towns and villages.

The successful sharing between departments and the multi-use of buildings is largely dependent on excellence in design and management and also requires cooperation and joint financial planning between the departments that form part of the multi-purpose centre or cluster. If this is achieved within all towns, particularly within the identified priority nodes where a range of facilities need to be provided, it can contribute positively to service delivery and to financial sustainability. Thusong centres or government precincts should ideally comprise services for the departments of Home Affairs, and of Labour and Social Development (including SASSA), as a minimum requirement, but have the potential to incorporate a range of other national and local services such as SAPS, Health and Justice.

It is stressed that in providing for a set of social facilities, good design – together with the sharing and multi-use of facilities – can lead to space saving for almost all facility types and contributes positively to rural communities where a single trip to town can serve to meet multiple needs. Clustering also has benefits for staff located in these areas as they can provide a complimentary support structure. Argue, T., Green, C., & Pieterse, A. (2016)

3.4.5   Setting Up a Nodal Hierarchy to Assist in Clustering

Facilities have a range of threshold values that increases with their level of 42pecialization. The hierarchical nature of social service delivery can thus ideally relate to a hierarchy of social facility delivery centres.Establishing a hierarchy assists in allocating facilities of various types to their most appropriate locations, based on the facility threshold and the appropriate number of people required within the catchment of that facility.

While clustering creates opportunities for facility multi-use, sharing and land savings, cooperation and joint financial planning between the departments enables development of multi-purpose clusters and sharing of buildings. If this is achieved within nodes (and particularly within the higher-order nodes where a larger range of facilities are provided) it can contribute positively to service delivery, city structure and financial sustainability.Argue, T., Green, C., & Pieterse, A(2016)

Central facilities at core nodes or CBD		Local or neighbourhood facilities
Facilities to be situated within a core zone not further than 1 km from each other	*Facilities situated near to core zone*	*Local provision at neighbourhood nodes*
Home Affairs Offices SASSA Offices Labour Offices Municipal Offices Magistrates Courts National Youth Development Centres	Primary Health Clinics Sports complexes Libraries Police Stations Post Offices	Social grant pay points Children's Homes Homes for the Aged Sports fields Parks Schools
(Irrespective of thresholds, some measure of the above social services (i.e. a periodic mobile service at minimum) needs to be provided in all towns where there is no alternative supply that can be reached by residents within 40 km or in the case of the Northern Cape – 100 km)	Community Halls	

3.5   KEY ISSUES TO CONSIDER

3.5.1   Catering for special interest groups and special needs

The emphasis, in planning theory debates in particular, on the notion of 43arginalization, has reminded planners that community unity cannot be assumed and that the small groups that sit on the fringes of planning endeavours (such as immigrants, the disabled, minority groups) require attention. Greed (1999) argues for a 'social planning' agenda: planning for 'the other' actually means planning for 'all' in ensuring an inclusive approach that yields more representative environments for everyone.

Taylor (1999) argues that the numbers approach (typical of standards formulation in urban planning) tends to be too physically deterministic and ignores the social-cultural dimensions of communities. As noted before, Behrens and Watson (1996) are particularly critical of the quantitative approach, arguing that its friezes communities in time in its assumptions of community profiles, and are not mindful enough of the fact that facility needs may change over time.It follows that a more careful analysis of demographic profiles is necessary in order to understand the true facility needs of communities. In doing that, the needs of special groups should be considered if planning is to be the inclusive activity it purports to be. Some of these groups and needs are discussed in more detail below.

3.5.1.1   The Aged

The Royal Town Planning Institute of Britain recently issued a policy document with regards to planning for an ageing population. Whilst the demographic may not be similar, it is nevertheless worthy of noting, specifically as it may apply

the RTPI document (2004) are:

- The nature of demographic change is fairly predictable in terms of births and deaths, yet other factors such as migration and household formation are linked to economic factors and can alter significantly in a short period;

- Shortage of funding for retirement has resulted in people opting to work for longer.

- Special needs of elderly people are often not considered: their transport needs, specific recreation requirements, etc.;

- The elderly represents a diverse population group – people from ethnic minorities will increase in developed countries; and

- In-migration from other countries has a significant impact on population demographics.

In the South African context, public requirements for the aged include the design of pension pay-points, retirement facilities that cater for those that cannot afford private care and adequate recreation facilities. Standards need to consider the mobility needs of older people and access requirements.

3.5.1.2   The Disabled

The Disabled have their own needs in terms of access, types of services needed as well as mobility. The definition of disability is often narrow and limited to physical disabilities. The RTPI (in Davies, 1999: p.75) defines disability as including a range of conditions: "Breathlessness, pain, the need to walk with a stick, difficulty in gripping because of paralysis or arthritis, lack of physical co-ordination, partial sight, deafness and pregnancy…".Given the poverty levels in South Africa, as well as the impact of TB, HIV/AIDS and other diseases, the design of the public environment requires attention to access requirements at the very least. Mobility needs can also be addressed through locational decisions with regards to the clustering of facilities and design of the public environment.

3.5.1.3   Women

The public needs of women relate to mobility, given the complexity of their daily trips (work, childcare, after-school care, etc.), access as well as safety. Public open space design in particular requires attention with regards to surveillance and defensible spaces. Integration of public transport with land use design is important also.

3.5.1.4   Home-based child care

Family day care homes are becoming more prolific as stay-at-home parents look for supplementary income and working parents require facilities within walking distance of homes. The American Planning Association (www.planning.org), argue that planners can facilitate this by permitting child care at home with regards to zoning; and by providing spaces that facilitate this more effectively. Design of small play-lots instead of sparsely located parks, in order to provide some complimentary land use, can assist also.

The ubiquitous incidence of crime and loss of confidence in public agencies in providing safe living environments has led to a proliferation of gated communities worldwide. Gated communities range from security villages and neighbourhood enclosures in South Africa, Common Interest Developments (CIDs) in the US, state-led private neighbourhoods in China, low to middle income condominiums in Asian cities, traditional gating in the Middle and Far East and enclaves for transnational elites in other countries ,Dixon et al. (2004).

Whilst much of this development is driven by fear of crime and the need for private control of the public environment, the demand for specific amenities such as golf courses and clubhouses certainly impact also. Thus, many of these communities do include social facilities, 45rivatized, and specifically related to the community concerned and therefore of limited public use.The need for security has sparked a debate with regards to the legality of street closures and private control of public spaces Jurgens and Gnad, (2002). This impacts on general demands for communal facilities outside these gated enclosures also.

3.5.3   Public Transportation

The relationship between public transport and land use is one that should be synergous, according to transportation policy. The APA advocates policy changes that:

- Place emphasis on smooth intermodal connections throughout the transportation system;
- Legitimises pedestrian and bicycle travel as serious modes of transportation rather than recreation; and
- Explicitly recognizes the relationship between transportation and land use.

The requirement for denser living environments and environmental considerations has placed public transportation policy at the forefront of many spatial frameworks. Planning standards require a consideration of design requirements for certain facilities – clustering may assist in greater access at transport modal points whilst some recognition of pedestrian movement is also required.

3.5.4   Public Housing

The reaction to the many sterile environment created under the previous housing policy has led to the formulation of 'Breaking New Ground' – a new emphasis that focuses on a sustainable living environment of which housing is part.Sustainable human settlements are defined as: "*well-managed entities in which economic growth and social development are in balance with the carrying capacity of the natural systems on which they depend for their existence and result in sustainable development, wealth creation, poverty alleviation and equity.*" Department of Housing, (2004). The policy notes the need to move away from a housing-only approach towards the more holistic development of human settlements, including the provision of social and economic infrastructure.

- **Construction of social and economic infrastructure**: Municipalities must determine the need for social community facilities through a community profile and facilities audit to ensure that facilities are appropriately targeted. It is likely that a multi-purpose cluster concept will be applied in providing primary municipal facilities such as parks, playgrounds, sport fields, crèches, community halls, taxi ranks, satellite police stations, municipal clinics and informal trading facilities.

- **New funding mechanism**: A new funding mechanism will be introduced for the development of the primary social community facilities, focusing on informal   settlement   upgrading projects, completed housing projects still lacking social facilities and new housing projects. The programme will provide funding assistance of 50% of the primary, social community facility development costs of projects implemented by district councils, while 100% of the development costs of projects implemented by local municipalities will funded.

- **Municipal implementation:** Municipalities will be the primary implementation agencies and will submit business plans for approval to Provincial Housing Departments. Municipalities will be responsible for the operational and maintenance costs, but facilities may be managed or operated by Community Based Organisations (CBOs) and Non-governmental Organisations (NGOs) active within the beneficiary communities. Implementation will commence on

Also important is the delivery of social (medium-density) housing, which could make a big contribution to the densities required to improve thresholds for social facilities and public transport. Social housing may also incorporate co-operative   group housing, transitional housing for destitute households and communal housing with a combination of family and single room accommodation with shared facilities and hostels. Business Plan 2 of 'Breaking New Ground' (Spatial Restructuring and Sustainable Human Settlements) aims to facilitate the move beyond the provision of basic shelter towards achieving a broader notion of sustainable settlements and more efficient cities, towns and regions.

3.5.5   Information and Communication Technology (ICT)

The impact of ICT has been three-fold in terms of public facilities—

- ICT has accommodated and led to the increase in home-based work more readily (Graham, 2001) leading to more complex residential patterns and parking needs as well as the need for meeting spaces in residential areas;

- Public buildings now need to be designed with ICT access in mind led by the demand for Smart Buildings and availability of computers in, for example, public libraries; and

- ICT has led to new forms of entertainment that may make some functions in public facilities obsolete whilst creating new facilities such as Tele-centres.

Authors such as Mitchell (1996, 2000 and 2003) have meditated on the notion of cyberspace and its relationship to real spaces. The concept of recombinant design has become increasingly popular as an augmentation process whereby digital demands are incorporated into physical design, firstly, and secondly where hybrid spaces – electronic-physical spaces – are accommodated through architecture and urban design. Given the demand for digital technology, the ubiquitous tele-centres and internet cafes and electronic games rooms that appeal to children, an opportunity exists in combining open spaces with these functions to truly create 'digital places' Horan, (2000).

The dimensions of recombinant design include the following:

- The need to create meaningful places – the meaning and value of physical places need to be maintained;

- Fluid location – understanding that the electronic media may change the spatial glue between activities and their spatial location;

- Digital thresholds – the need to recognise design elements in parallel physical and electronic design and the thresholds that connect them in terms of demand and population types; and

- The need for democratic design – incorporating a range of decision makers in the design process.

The other by-product of the ICT revolution has been the ubiquitous use of CCTV technology to monitor public spaces and thereby provide some means to prevent crime. Some argue that this has impacted on privacy of the individual however ,Graham (2001), but nevertheless provide the means for surveillance of public spaces within a context of increasing crime.

3.6   CONCLUSION TO THE LITERATURE REVIEW

The review has given an overview of broad and specific debates with regards to planning standards and issues that impact on the formulation of norms. In understanding the three dimensions of standards that inform the conceptual framework of this study, the following can be noted in summary:

3.6.1.1 Thresholds and population catchments

It is becoming increasingly clear that demographic profiles vary across the built environment and this has an impact on the nature of facilities needed. Spaces change over time in terms of the demand for facility types and their distribution. The impact of HIV/AIDS will no doubt continue, whilst the needs of older people in some contexts will increase in importance. The needs of special groups such as the disabled would need to be considered as well as the special needs of women and children.

3.6.1.2 Locational Criteria

A move away from modernist design approaches has placed emphasis on mixed-use, more attentive neighbourhood design and the performance of public spaces. Safety in design is becoming more important whilst the interface between public transport and land use becomes increasingly important within the context of sustainability.

6.1.3 Site Dimensions

A design approach pays more attention to the relationship between spaces and the human scale element. Rather than having blanket standards there is generally recognition that optimal use of land will enable a more sustainable built form. The sharing of facilities is becoming more commonplace, while multiple uses within spaces is also possible. New spaces have emerged (e.g. Tele-centres) whilst 'old' space such as roads and open space get used for new uses.

In the South African context, the demands of continued urban growth need to be balanced with understanding the planning demands of rural areas that now form part of most of our municipal areas. Increasing informality in cities poses challenges for planners in terms of equitable distribution of services whilst rural areas provide their own challenges in terms of sparse settlements distributions and limited public transportation.

The application of planning standards in the very poor urban context demands an approach that acknowledges equity within land and budgetary constraints. In rural areas other challenges make public service provision difficult.

This section of the report provides a summary of the current general facility provision standards which will form the basis of the emerging provincial Norms and Standards.

4.1   SPHERES OF GOVERNMENT AND DECISION MAKING

Each of the three spheres of government has a legitimate role to play in regulating land use and spatial planning. Municipal planning, provincial planning, and national planning are the three categories set out by SPLUMA. The Act bestows most responsibilities on municipalities. Therefore, municipalities play the role of implementer whereas higher-level governments viz. national and provincial governments have the responsibility to monitor activities of local municipalities pertaining to implementation of the SPLUMA. The national government's role in monitoring and enforcing the SPLUMA consists of three main activities:

- Examination of the outcomes from the Act against targets and indicators based on national priorities;

- Monitor provincial SDFs; and

- Monitor spatial development around sites denoted as "of national interest".

Provincial governments' role in monitoring and enforcing of the SPLUMA consists of the following main activities:

- Monitor process of land use management;

- Ensure there is a planning tribunal for every municipality;

- Monitor activities of planning tribunals;

- Examine municipal capacities to support planning tribunals;

- Ensure there is an appropriate appeal authority for every municipality

- Monitor activities of the appeal authority

- Examine municipal capacities to support the appeal authority

- Monitor the quality of municipal SDFs and by-laws; and

- Examine whether municipal SDFs are aligned to National, Provincial and Regional SDF.

In terms of Section 9(2) of the SPLUMA, the government must in accordance with SPLUMA and the Intergovernmental Relations Framework Act, 2005 develop mechanisms to support and strengthen the capacity of provinces and municipalities to adopt and implement effective spatial planning and land use management. In addition, Section 5(2)(b) of SPLUMA, the provincial planning must consist of monitoring compliance by municipalities with this Act and provincial legislation in relation to the preparation, approval, review, and implementation of the land use management systems.

The respective components for each of the three categories aforementioned are articulated in Section 5 of the Act while the development principles and norms are set out in Chapter 2. The Act mandates municipalities to receive land use planning applications as well as the newly established Municipal Planning Tribunals to decide on such applications[4]. In recognition of the local municipality's planning competence in this regard, the SPLUMA ensures that appeal proceedings are exclusively dealt with by the local authority and not the provincial authority. In certain cases where a land development application has a bearing on the national interest, the SPLUMA advocates that it be referred to the National Minister of Rural Development and Land Reform for comment in addition to the relevant Municipal Planning Tribunals[5] or to be called in by the Minister.

In monitoring and supporting local municipalities, the SPLUMA provisions that national and provincial government must consider the unique circumstances of each municipality as well as the necessary factors thereof. The rationale behind this is particularly to avoid a 'one size fits all' approach as illustrated in the example from Michael Kidd:

"Metropolitan municipalities which have been carrying out municipal planning very effectively (as was the case with Johannesburg and eThekwini in the Gauteng Development Tribunal case) and poorly-resourced largely rural municipalities with little or no historic planning capacity and experience."

The exclusive competence of local government in planning was also indicated by the Constitutional Court in the case of City of Johannesburg Metropolitan Municipality versus the Gauteng Development Tribunal and others, also known as the DFA judgment. There are however instances where this can be limited by provincial legislation. For instance, housing, agriculture, and environment are some of the areas of land use where provincial executive decision making is paramount, and as such, there is some degree of municipal compromise. A summary of the respective spheres of government as per SPLUMA is provided below:

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[4] South African Cities Network. 2012. Important legal issues for provincial legislation dealing with Spatial Planning and Land Use Management

[5] Brand, J. 2014. Not in my backyard: Strategic Infrastructure Projects and the decision making criteria to be applied to land-use planning applications.

Table 4 Summary of Planning Functions

MUNICIPAL	PROVINCIAL	NATIONAL
• **The compilation, approval,** and review of integrated development plans; • The compilation, approval, and review of the components of an integrated development plan prescribed by legislation and falling within the competence of a municipality, including a spatial development framework and a land use scheme; and • The control and regulation of the use of land within the municipal area where the nature, scale, and intensity of the land use do not affect the provincial planning mandate of provincial government or the national interest.	• The compilation, approval, and review of a provincial spatial development framework; • Monitoring compliance by municipalities with this Act and provincial legislation in relation to the preparation, approval, review, and implementation of land use management systems; • The planning by a province for the efficient and sustainable execution of its legislative and executive powers insofar as they relate to the development of land and the change of land use; and • The making and review of policies and laws necessary to implement provincial planning.	• The compilation, approval, and review of spatial development plans and policies or similar instruments, including a national spatial development framework; • The planning by the national sphere for the efficient and sustainable execution of its legislative and executive powers insofar as they relate to the development of land and the change of land use; and • The making and review of policies and laws necessary to implement national planning, including the measures designed to monitor and support other spheres in the performance of their spatial planning, land use management, and land development functions

Sets of access distance norms and population threshold provision values for a range of settlement types have been summarised in the guidelines that follow. The values are based on the spatial provision and development of social facilities and public open spaces at different scales, with some variation in contexts. Guidelines are provided mainly in terms of demand thresholds, access and service level targets (defined as travel time or distance) and provide a framework for negotiating appropriate facility sizes within a range of contexts. More detail on each individual social facility type is given in the sections below.

4.2.1 Draft Norms and Standards for Public Social Facilities …….Annexure A

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