

Redefining Urban Potential through a Morphological Perspective

by Ilaria Geddes
University of Cyprus

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Abstract: This paper presents the first research output of the project *Urban Potential in the Evolution of Nicosia's Public Realm*. This consists of a set of criteria and their relative importance, which identify the potential of the public realm to perform as a sustainable local centre. The set of criteria will be used in subsequent work to assess data requirements for a GIS-based model of Nicosia that will be analysed to identify local areas which have the greatest urban potential.

The problem addressed by the research is presented to explain the reasoning behind the need for a framework to identify urban potential. It is suggested that a new definition of urban potential, which goes beyond the limited scope of capacity to accommodate population growth and infrastructure, is needed to effectively assess the capability of the public realm to sustain a thriving urban life. Morphological characteristics of the public realm were identified as key elements of potential for sustainable development.

The research aims at developing an effective methodology to identify areas of the public realm which have the potential to develop into sustainable local centres. In Nicosia, local neighbourhoods have struggled not just to thrive but to even develop any structure due to poor planning regulation, ineffective assessment methods and the nature of the real estate market. The new definition and selected criteria can aid planning authorities devising a framework to support a hierarchy of sustainable local centres within the Nicosia metropolitan area.

1. Introduction

This paper presents the first research output of the project *Urban Potential in the Evolution of Nicosia's Public Realm*. The output consists of a set of criteria and their relative importance, which identify the potential of the public realm to perform as a sustainable local centre. The set of criteria will be used in subsequent work to assess data requirements for the development of a GIS-based model of Nicosia that will be analysed to identify local areas which have the greatest urban potential. It will then be used to evaluate the relevant strengths and weaknesses of each case study area to act as a sustainable neighbourhood centre and to propose the most effective interventions for their improvement.

The issue addressed by the research is the development of an effective methodology to iden-

tify areas of the public realm which have the potential to develop into sustainable local centres within the metropolitan urban area of Nicosia. The public realm as the place of social and economic exchange is a vital part of city life, which enables movement across the city, encounters between residents and visitors, as well as trade and enterprise, delivering goods and services to the community. As such, the public realm, comprising our streets, roads, squares, public spaces and sidewalks along with their related infrastructure, is the most important factor in sustaining thriving local neighbourhoods. However, in Cypriot cities, local neighbourhoods have struggled not just to thrive but to even develop any structure or identity due a lack of planning regulation, minimal stakeholders' involvement in planning, ineffective assessment methods and the structure of the real estate market (EUKN, no date; Ioannou, 2016; Geddes, 2017).

Urban sprawl is particularly acute in Cypriot cities and even more so in Nicosia due to its unique inland location on a plain. A variety of factors have led to this intense sprawling phenomenon in Cyprus: the lack of planning regulation until relatively recently, the structure of the real estate market, societal and cultural trends in terms of housing typologies, the dominance of car usage, the process of parcellation and land fragmentation all contributed to ribbon development (Ioannou, 2016). This in turn hindered the development of structured neighbourhoods and sub-centres within the city: outside of the historical centre, areas often lack a clear concentration of land uses which would form a local centre with secondary smaller concentrations of commercial activities and other facilities. Such a dispersed form with no clear sub-centres within the metropolitan area has also led to difficulty in planning and sustaining an effective public transport system due to low densities. Suburban development with its building typologies which do not provide continuous frontages of retail or other commercial and service uses, coupled with economic recession, significantly and negatively impacts street life and the vibrancy of streets (Ioannou, 2016).

Cypriot cities are dominated by the structure of their main vehicular roads and are characterized by a patchwork of residential areas. The main road network is highly congested and commercial uses peppered throughout it. This leads to a vicious circle by which, on the one hand, residential areas are dependent on car use to access commercial areas for supplies and circulation across the city. On the other hand, the main road network of the city and its commercial establishments are also dependent on car use and movement from far and wide in order to sustain themselves, as they cannot rely on surrounding residential densities or commercial concentrations to provide enough trade (Geddes, 2017).

Suburban development in Cyprus is characterized by sprawl and a decentralized environment, which lack the compactness associated with traditional European urban cores. In Cyprus, what sustainability means and how it can be achieved in a context where suburban environments are people's preferred lifestyle choice must be carefully evaluated. All urban fabric outside of the historical cores is low density and local suburban centres do not actually exist, though some areas show potential characteristics of this. If a hierarchy of centres is to develop, then these areas must be identified and provided with the capabilities to grow into effective, sustainable local centres if the benefits of contemporary suburban environments are to outweigh their negative socio-economic and environmental impacts.

Ioannou (2018) has highlighted how the degree of car dependency in Cyprus challenges not only scholars' common understanding of walkability and social interactions in the urban environment, but also how criteria for walkable neighbourhoods might need to be adapted to the specific context of Cyprus. Here compact environments with little provision for parking are seen as discouraging social contact and walking is often viewed as mandatory and unpleasant unless undertaken exclusively for leisure purposes in areas where walking facilities tend to

segregate pedestrians for safety rather than sharing the space with other modes of transport. Considering such challenge, it may be more promising to set criteria and to propose changes which not only minimize obstacles to pedestrians and reduce unpleasantness, but also impose little behavioural change – the idea suggested by Marshall of everyone doing only a little less than their perceived advantage for the benefit of the community (Marshall, 2006).

Planning regimes in Cyprus are now changing towards a direction conforming with the EU acquis, which includes a move towards greater sustainability through increased densities, the development of public transport systems, support for sustainable modes of transport, development of green areas, and stakeholders' consultation processes. While a variety of interventions and further changes to planning regulation might be required to aid the revitalisation of local neighbourhoods within cities, there are still no strategic plans, which prioritise, on an evidence base, firstly which areas should be the focus of revitalisation efforts and, secondly, what the interventions should involve.

The research project aims at identifying local centres within Nicosia's metropolitan area that have the greatest potential to develop into thriving sustainable neighbourhood centres, which can support social interaction and long-term economic exchanges. It does this through three research phases. The first phase, presented here, establishes criteria defining a sustainable local centre and selects those necessary to define potential; the second phase is a GIS-based analysis of urban data across the whole city to select areas with the greatest potential. The final, third phase analyses the case study areas in order to evaluate their assets and shortcomings, and to propose solutions for their improvement.

2. Defining urban potential for sustainable local centres

Along broad lines, there is general agreement in the literature as to what constitutes either a city centre or a local centre. Levels of residential density around a concentration of land use mix that includes commercial, service, civic and entertainment facilities as well as some form of landmark is the picture that one forms of a 'centre' while reading through the literature. Such a picture is populated with images of activity in the open spaces along which the various uses are allocated: people walking or cycling, cars and buses passing by, shoppers getting in out of stores, commuters heading to or coming back from work and the like. The size and extent of such concentrations and their relative importance as commercial hubs and locations of transport interchange is what differentiates centres across a hierarchy, which ranges from district centre, city centre, town centre and local centre depending on the size of the city within which they are embedded.

The idea of the urban neighbourhood as a spatially contained unit of meaningful social interactions has undergone a series of theorisations and reviews which continue to the present day and which have stereotyped it as the ideal level of city life and debunked it as a shallow, unrealistic concept of the complexity of urban interactions. Lynch's view is that city design can be enhanced "by means of separations, the placement of local centres, the diversion of main traffic ways, the exploitation of irregularities of terrain, and other differentiations of physical character" (Lynch, 1984, p. 248). The objective of setting a definition for the purposes of this research is not to identify or define existing or potential neighbourhoods, but to select areas which might become the focal point of a neighbourhood and support its development and the wider functioning of the whole city by providing and enhancing local social contacts and services, draw investment from businesses along with demand for housing in its vicinity, increase

legibility of the neighbourhood, mitigate adverse urban conditions, and increase local engagement with the built environment.

A broadly accepted definition of sustainability when it comes to urban environments does not actually exist (Griffiths *et al.*, 2008), therefore, when assessing sustainability, studies focus on a range of socio-spatial factors which are known to contribute to the long-term socio-economic success of the areas under study. Such areas might vary in scale and while some studies might consider whole neighbourhoods, most tend to focus on a localised area, which offers the concentration of retail and service activities. These areas might comprise a high-street and/or a public space along with street sections connecting to it and offering secondary concentrations of active land uses. While it is acknowledged here that a local neighbourhood centre often extends beyond the limited scope of a single street or public space, such a contained unit of study offers the opportunity to accurately measure its properties and thus its potential as the focal point of a larger centre within a residential neighbourhood. As such, the definition below sets the extent of the areas to be identified by this project and the basis for assessing their urban potential.

Sustainable Local Centre: an area comprising a street, a street section or a public space, or a combination of these, which has the capacity to sustain socio-economic interactions in the long term and to provide its user population with easy access to resources that meet their practical and social needs.

The term *urban potential* is rarely used within either academic or planning literature. When used it is often characterised by a specific factor of the urban environment. This might be growth in relation to population increase and its necessity for expansion of the built form, or it might be development in terms of the capacity of a specific urban unit to accommodate and support new housing, facilities and infrastructure (Adeel, 2010; Sabbar *et al.*, 2016). Assessment and evaluation of capacity and suitability for planned urban development, in particular housing development, is common within English planning practice (Cheshire East Council, 2015; Bristol City Council, 2018). The term *urban potential* by itself is also used to refer to the positive aspects of urbanisation and the benefits, especially economic ones, it might bring to communities at the national and local level when exploited through effective and sustainable means of enabling and supporting urbanisation (Asian Development Bank, 2015; Siba, 2016).

It remains, however, that the term is used loosely and without a formal definition. Interestingly, it tends to be applied to the process of and capacity for urbanisation - the potential of land and population to (be) urbanise(d) rather than to the capacity of the urban form to support its population and the socio-economic activities which are inherent to cities. This latter meaning is the one that we are concerned with and, while there are parallels in the literature, we are faced with a lack of a sound basis to understand, identify and appreciate *the potential of the urban*. This is at the core of the research project: to develop such a basis and to establish criteria which give researchers the means to understand *urban potential*. Such understanding is derived from existing knowledge about the characteristics that make a local centre lively, appreciated by its users and ultimately sustainable. There are many examples of vibrant local centres, which have a long history of performing successfully in meeting the needs of the local population; these have done so not through offering immutable, universal characteristic, but through adapting to change in the face of transport innovation, retail transformations and economic cycles. Identifying the factors which support this adaptability is key to assessing potential.

In order to focus the selection of criteria on the elements that may enable an area to perform sustainably in the future, a definition is set here which reflects the aims and objectives of this research. This definition, given below, is not meant to be exhaustive or to replace other, more technical or economic definitions, but rather to fill in a gap in how we identify and appreciate

what different urban areas have to offer and how they can be exploited to improve sustainability in cities.

Urban Potential: *the capability of an urban area to sustain socio-economic interactions in the long term and to provide its user population with access to resources that meet their practical and social needs.*

It must be highlighted here that core to this definition is the potential, future capability of the area rather than its existing capacity to meet required needs. The research is not concerned with identifying areas which are already sustainable and meeting all of the criteria, but those which, through planning and design interventions and investment, have the greatest chances to become sustainable local centre. This is vital in the case of Nicosia where, as discussed above, a hierarchy of local centres does not at present exist. Existing areas, which provide facilities commonly associated with local centres, could be easily identified through local knowledge by expert professionals or even by the general population. However, this would not guarantee that such areas hold the required potential. The research attempts to formally identify these areas through an empirical assessment of their characteristics.

3. Methodology

The methodology for setting the criteria comprised two parts: a literature review carried out by the author and a two-phase consultation process. The literature review aimed at researching current definitions of 'urban potential' and the state-of-the-art on what constitutes a sustainable local centre, with a particular focus on low-density urban environments and at establishing criteria which make a neighbourhood centre successful in social, economic and environmental terms. As the terminology 'urban potential' is not standard and the extent of a local centre is limited to a street, a street section, a public space or a combination of these, for the purposes of this project, the review of the literature focused on high streets, non-residential streets and public spaces. Research terms included: successful, sustainable, inclusive public realm, public spaces, local centres, commercial centres, commercial streets, high streets and neighbourhood centres. A comprehensive picture of the issues involved in local centres' sustainability was developed and a list of criteria, which the state-of-the-art indicates as defining a sustainable local centre was drawn. Particular attention was given to low-density contexts and how other studies apply to the case of Nicosia is discussed within the review.

The first phase of the consultation included a series of conversations with local planning professionals to discuss their views of what constitutes a sustainable local centre, the second was a questionnaire to assess the relative importance of different criteria in constituting a sustainable local centre. The conversations involved three planning officers at the Department of Town Planning and Housing (TPH), and the head of the Planning Board, which is in charge of developing the Local Plan for the Nicosia Metropolitan Area (NMA) and Area Plans, which address in more detail specific areas within the NMA. The conversations required the interviewees firstly to discuss whether there was a policy in place to establish a hierarchy of local centres within the NMA and more generally to develop and improve existing local centres. Secondly, interviewees were asked to state their views as to what constitutes a sustainable local centre and what specific characteristics they seek in an area to define it as a successful local centre.

The initial set of criteria based on the findings from the literature review was adjusted following the conversations. The criteria were then listed in a questionnaire for scoring by respondents on a scale of 1-5 and the results plotted on a grid to calculate the average importance of the criteria. The questionnaire received 79 responses. A final list of prioritised criteria was

then created according to whether they were deemed necessary (a score of 4 or above), desirable (a score of 3 to 4) or not essential (a score of under 3). The criteria were also scored for their 'implementability' from 1 (easy to implement) to 3 (hard to implement) according to whether they could be easily achieved through intervention or require significant time and infrastructure change. The final list comprises all criteria deemed necessary, which received a score of 4 or above, and are prioritised according to whether they are hard to implement (higher priority) or easy to implement (lower priority). The implementability scores were not based on an empirical assessment, but were set by the researcher simply on their professional understanding and assessment in order to inform prioritisation of criteria and the selection of the study areas based on a pragmatist approach to the research method.

4. The literature on sustainable local centres

The combined effort of the research on successful town centres, high streets and public spaces has seen the production of various design guidelines to achieve spaces which are not simply used as thoroughfares, but are desired destinations and foster social interaction (CABE Space, 2007; Department for Communities and Local Government, 2012). Good design of the public realm, its management and maintenance are all elements that contribute to the sustainability of local centres. However, as previously mentioned, there is no agreed definition of 'sustainability' when it comes to urban environments (Griffiths *et al.*, 2008). Researchers therefore tend to develop study-specific definitions, or shift their focus on other characteristics which encompass sustainability, for example 'adaptability' (Griffiths *et al.*, 2008) as the term which identifies generic socio-spatial factors that contribute to long-term socio-economic success of an area. Other terms which are often used and measured within academic and policy literature are 'vitality' and 'viability' (URBED (Urban and Economic Development Group), 1994; ODPM (Office of the Deputy Prime Minister), 2005). The former is often measured as the amount of activity in an area, often pedestrian activity, and the latter as the ability to attract investment.

Research shows that these two characteristics are inextricably linked as high rates of activity, especially pedestrian footfall, sustain commercial potential and thus businesses are attracted to invest in areas which are likely to provide passing trade (Griffiths *et al.*, 2008). It is the intensity, array and variety of activities taking place in the public realm that determine the extent to which an area functions as a 'centre' – a nodal point of trade exchanges, civic functions and transportation corridors. Hillier (1999) defines 'live centres' as those areas of the public realm which disproportionately attract pedestrian and/or vehicular movement because of their high level of spatial accessibility within the urban system. Furthermore, Hillier (2009) provides a definition of 'spatial sustainability' based on the configurational ordering of spaces in a city. He states that the generic form of the city is characterised by a foreground network of streets – the main circulation system within a city. This foreground network comprises centres and sub-centres across different scales and is embedded in the larger residential system. This structure influences the pattern of movement of people in the city and is a by-product of economic and social forces which attempt to minimise travel time and increase inter-accessibility between spaces. This pattern results in certain areas of the public realm being favoured as a route between other spaces at given scales or as destinations in their own right (Hillier *et al.*, 1993). As a consequence, land uses which are dependent on movement to sustain themselves – retail in particular – locate themselves in areas of high accessibility. In turn, such uses attract more

movement, creating a cyclical process by which the potential of certain areas to draw activity is created and reinforced by the configuration of the city's structure and the distribution of land uses. This process results in certain areas acting both as routes and destinations due their level of accessibility (Griffiths *et al.*, 2008).

The relevance of movement, and its relationship to land uses, in the ability of urban areas to adapt to changes and continually sustain urban life is also highlighted by Jones *et al.* (2007) who conceptualised the high street as both 'link' and 'place'. In their study and related design guide (Jones, Boujenko and Marshall, 2008), the authors point to the fact that streets should be embedded within an integrated urban structure and should incorporate a variety of uses which serve not only the local neighbourhood, but also provide resources at different urban scales. Much of the argument for sustainability of local, mixed-use streets is based on the catchment area of the residential neighbourhood for retail and commercial uses to rely on residents walking to the facilities. However, it has been recognised that economic viability can only be sustained when an area is easily accessible by a wider population from farther afield and that vitality of an area is also determined by the availability of other facilities, such as healthcare and education, within a greater radius than those usually assessed for walkability (Jones, Boujenko and Marshall, 2008; Vaughan and Geddes, 2014). The issue of scales is particularly important in the context of Cyprus, where much of the urban environment outside of historical centres is suburban in character, even in central locations, and levels of car dependency are particularly high. Research on suburban town centres' vitality shows that the provision of a wide range of uses at different scales supports activity levels (Vaughan and Geddes, 2014) and that achieving suburban sustainability requires an understanding of how the micro scale relates to larger scales of movement (Hall, 1997).

It is clear from the literature that sustainable town centres require certain structural characteristics that are often determined by their historical evolution as elements within the wider network of places in a city. These characteristics come down to different aspects of their accessibility at different scales and the related distribution of land uses influenced by the movement generated by the form of the city's network of spaces. Residential density in and around town centres also influences the viability of a place to become sustainable. While accessibility, land use mix and density seem like indispensable requirements for town centre sustainability, many other factors play a role in their success and provide planners with the means to strengthen and improve the public realm of local centres. Carmona (2015) suggests that a new normative is needed to design successful public spaces, which encompasses both design and governance. He summarises the characteristics of such places with the following criteria: evolving, balanced, diverse, delineated, social, free, engaging, meaningful, comfortable and robust; these concepts provide a baseline to develop a vision for local centres. When it comes to identifying whether the public realm truly has the potential to sustain socio-economic interactions, Gehl (2011) gives evidence regarding how social activities relate to the design of public spaces: these are dependent on whether the public realm offers desirable conditions for necessary outdoor activities, for optional, recreational activities, and for social activities. In order to achieve these conditions places must enable to move about easily, to linger in them, to take pleasure in them and to meet other people. Their design can foster social contact, as well as facilitate necessary and recreational activities, and is fundamental in creating spaces which are well-used and lively. Walking, standing and sitting, as well as seeing, hearing and talking are the key activities that take place in public space; they are the prerequisites for all other types of activities to take place (Gehl, 2011). Protection from crime, vehicular traffic and unpleasant weather, as well as access to good weather and aesthetic quality, also play a role in characterising public space as sustainable.

UK policy guidelines give further details and examples of the characteristics which make high streets and town centres well-used and pleasant spaces to visit (CABE Space, 2007; Department for Communities and Local Government, 2012). These highlight that spill-over from local businesses onto the public realm, such as shops' displays, outdoor seating areas of cafes and restaurant enhance outdoor activity, though they should be balanced with sufficient space for passers-by. Pedestrianisation in suitable areas can be an extremely powerful tool to improve the quality of spaces and their commercial potential. Interactive infrastructure from urban art, to water features and play areas provide users with experiences that go beyond simple shopping and necessary commutes. Green infrastructure, the temporary use of empty units and the presence of civic facilities increase a more varied social scene both during day and night. Where possible, historical heritage should be exploited and emphasized, while well-designed, uncluttered shared spaces can promote an open feel and more cooperative relationship between pedestrians, motorists and other road users. Furthermore, a key aspect to sustaining activity, but also of regenerating and improving spaces, attracting users and making the space known to potential visitors is a regular occurrence of events. This might comprise one-off or regular community projects and local businesses events, a regular market, street performances or more formal events such as festivals and concerts.

Many of the above requirements for successful spaces can be implemented through relatively minimal investment and management: certain types of events, urban art or primary seating for example are cost-effective ways of enhancing a local centre and are not necessarily required a priori in the identification of urban potential. Other infrastructural elements are somewhat more costly and require more resource and management input: the development of green or blue infrastructure, larger events, redesign and decluttering of pedestrian facilities, traffic-calming measures and so on. These are therefore a welcome existing asset in the public realm of areas which may be candidate for investment to be developed as a local centre. However, they can also be implemented if the area offers key characteristics and other resources which make it a viable sustainable centre. Finally, certain elements like the orientation of frontages, the units' size or the presence of historical heritage are hardly possible to create. These should therefore be considered extremely important assets for a sustainable centre. However, their lack should not completely preclude the selection of an area with potential in the context of Nicosia. In an environment where the areas under consideration are located outside of the historical centre in relatively recent neighbourhoods and most often only exclusively offer large units, historical heritage might not be present. The size of units should be assessed relatively to the average size in other commercial and mixed-use areas, while consideration should be given to more recent architectural heritage or to the possibility of creating new heritage through urban art or architectural developments.

5. Findings from the consultation and questionnaire

There was significant variety in what decision-makers thought were the most important characteristics of a sustainable local centre. In the case of the first interview with planning professionals from the Department of Town Planning and Housing (TPH), this was a group interview and thus the responses from the second and third interviewee were offering additional information rather than proposing alternative characteristics as more relevant to the ones mentioned by the first interviewee. Therefore, in this case, the primary characteristics are those reported by

the most senior planning officer, additional ones are those reported by the other two planning officers. Primary characteristics mentioned by senior planning officer at the TPH were:

- Accessibility potential from surrounding residential area
- Availability of services to residents
- Easiness of access to health services
- Easiness of access to educational services

The senior officer highlighted that, due to the situation in Cyprus of car-dependency and lack of effective public transport system, accessibility should be independent of public transport and should therefore focus on servicing other transport modes, such as driving, walking and cycling. Furthermore, the officer stressed that it is of particular importance that educational facilities should be easily accessible as they are the ones that provide the greatest opportunity for people to walk to and from them and also to facilitate families' schedules and their management. While job locations were viewed as potentially important, the senior officer's belief was that these could not be controlled and may therefore be dispensable in the identification of potentially sustainable local centres. Additional characteristics mentioned by planning officers at the TPH were:

- Walkable access to services
- Accessibility by public transport
- Density of facilities and residences to sustain access and commercial viability
- Continuity of pavements and ease of street crossing

While all officers were in general agreement as to the key characteristics which make up a sustainable local centre, the researcher noted that priorities differed among them, in particular in relation to accessibility by car or public transport. Dedicated parking was viewed as necessary by some while others proposed that greater effort should be put into facilitating public transport access and discouraging car use. This, as well as the focus given to the accessibility of educational facilities, seemed to be determined by the personal situation of the interviewee: even as planning professionals a level of prioritisation was likely to be influenced by individuals' age and childcare commitments.

Speaking with the head of the Planning Board, priorities for a sustainable local centre were viewed from a more strategic perspective. How the centre broadly related to the area, rather than its specific properties in terms of accessibility and facilities, was seen as the most important factor for sustainability. More specific, the following properties were mentioned:

- A multi-scalar relationship with the surrounding area
- A consistent typological character with the surrounding area
- It embeds community life and provides a range of uses, not just commerce
- It should comprise a public space
- It caters for the diversity of the population
- It should contain primary elements, such as a civic building, a landmark, etc.

The criteria included in the questionnaire were initially ordered simply according to their average score as given by respondents (table 1).

To be noted from these results are the fact that a combination of spheres (accessibility, de-

sign, services) involved in quality and performance of public spaces are comprised within the top ten criteria. However, services and facilities that are considered most important are those relating to children and public toilets rather than retail as it is most often thought. Accessibility on foot and by public transport feature much higher than accessibility by car and many design features are considered very important, in particular green infrastructure and characteristics that foster social identity, interaction and connectivity (public space, seating, linkage of key urban elements). Organised social activities (market, events, etc.) are also deemed important as sustaining a local centre. Further down the line, but still with high scores of 4 and above, services and facilities cluster together as important factors: a mix of uses, daily retail, leisure, entertainment and catering, as well as dedicated car-parking. Certain design characteristics are also found at this level of importance (forms of weather protection, consistency of area character).

Of medium importance, scoring between 3 and 4 points, are the remainder of services (night-time venues, occasional retail, service uses, educational and health infrastructure), along with other design features, such as public art, orientation and size of frontages, as well as accessibility by car.

The only two criteria, which could be considered not important scoring under 3 points, are high residential densities in the surroundings and on-street car parking. These are perhaps surprising, but their low score may be due to the specific context of Cyprus. On the one hand, while in the literature density is often seen as a pre-requisite for high levels of activity and vitality in the public realm, perhaps respondents in Cyprus feel that this is not necessary or that it should not be considered a requirement in a context where the urban environment is consist-

Table 1. *Criteria ordered by average score from 5 (extremely important) to 1 (not important at all).*

Criterion	Score
1 The area should be easily accessible on foot.	4.85
2 Some form of green infrastructure such as trees, flower pots, plant displays or a green space should be present in the area.	4.79
3 The area should provide safety from traffic, ease of walking and street crossing.	4.78
4 Public seating such as benches or architectural features should be available in the area.	4.77
5 The area should be easily accessible by public transport.	4.6
6 Public toilets and baby changing facilities should be available in the area.	4.53
7 The area should comprise a public space.	4.47
8 The area should provide facilities for children such as a garden, playground, public library or playroom, or private enterprise offering activities.	4.45
9 The area should connect two key elements of the urban environment, such as public spaces, civic buildings, entertainments venues, transport nodes, etc.	4.39
10 Some form of regular events, such as a market, festival, street performances or other initiatives should take place in the area.	4.38
11 The area should comprise a mix of uses and not be focused exclusively on one or another.	4.25
12 The area should comprise daily retail uses, such as food shops or convenience stores.	4.2
13 The area should comprise leisure and entertainment uses, such as cafes, restaurants, theaters, cinemas, etc.	4.13
14 A dedicated off-site car park should be available next to the area.	4.08
15 Some form of protection from weather conditions other than private units should be available in the area.	4.06
16 The area should have a consistent character (such as architectural styles, street typologies, a civic or cultural identity).	4.01
17 Some form of public art should be present in the space.	3.91
18 The area should provide uses which are available at night time, such as restaurants, bars, entertainment venues, etc.	3.86
19 Access to building units should be facing the public realm.	3.84
20 The area should provide services, facilities and resources which serve not only the local population but also other users residing farther away.	3.78
21 The area should comprise service uses, such as banks, pharmacies, offices, etc.	3.59
22 The area should have educational institutions within walking distance (400m).	3.27
23 The area should comprise at least a primary element such as a civic building or a landmark.	3.23
24 The area should be easily accessible by car.	3.22
25 The area should have health facilities, such as hospitals or clinics, within a short driving distance (1200m).	3.2
26 Building units of different uses should be small.	3.15
27 The area should comprise occasional retail uses, such as clothing or electronic shops.	3.1
28 The area should have educational institutions within a short driving distance (1200m).	3.01
29 The area should have high residential densities in its surroundings.	2.97
30 On-street car parking should be available in the area.	2.85

ently low-density and unlikely to change in the short to medium term. On the other hand, on-street car parking is widespread and considered simultaneously a benefit and a blight. In this case, the background and self-selection of respondents - being mostly from higher educational backgrounds and from fields related to urban planning or simply interested in improving the environment – may play a role as they may mostly belong to the group considering it a negative aspect of the Cypriot urban environment and not conducive to walkability and sustainability.

In terms of services and facilities, transport infrastructure (public transport, car parking, etc.) and daily retail uses (food shops, convenience stores, etc.) were classed as most important (figure 1) by the majority of respondents with transport scoring 30.4% and 26.6% as most important and second most important, and daily retail scoring 22.8% and 24.1% as most important and second most important.

Occasional retail uses were seen as least important, scoring 45.8% and 31.6% in the least important (figure 2) and second least important categories respectively.

The importance assigned to other services (catering uses, service uses, leisure uses and children services) were fairly evenly spread across the range of importance and could perhaps be clustered together as of medium importance, although leisure uses and children services scored quite high in the most important category (20.3% and 17.7% respectively).

6. Conclusions: urban potential criteria

As revealed by the literature on which the set of criteria for consultation was based, there are three key domains of local centre sustainability: accessibility, provision of services and facilities, and design characteristics. While covering all criteria would result in an ‘ideal’ or fully sustainable centre, here we are looking to identify what constitutes urban potential: what characteristics are a pre-requisite or most beneficial for an area to have the capability to be devel-

Most important (1st)

79 responses

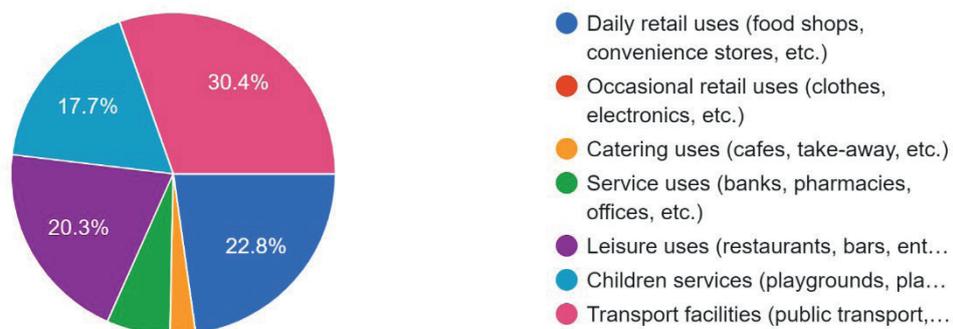


Figure 1. Proportion of services classed as most important.

Least important (7th)

72 responses

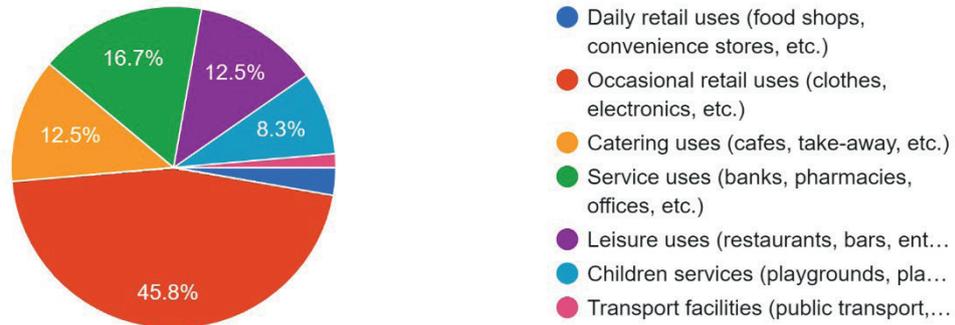


Figure 2. Proportion of services classed as least important.

oped into a sustainable local centre. As such, a model is proposed by which urban potential is constituted by combination of the most important criteria belonging to each sphere (figure 3).

Accordingly, the criteria within each sphere are presented in table 2 along with their score and the implementability value set by the researcher.

To draw the final list of urban potential criteria, it was decided that this should comprise all criteria deemed necessary, which received a score of 4 or above, and should be prioritised according to whether they are hard to implement (higher priority) or easy to implement (lower priority). The resulting list prioritised by implementability and score is shown in table 3.

The above list of criteria will form the basis to develop the spatial-analytical model of Greater Nicosia and will be used to select the areas of the public realm which have the greatest urban potential. Each criterium will be matched with a data set and the model analysed to assess which areas meet all or most of the criteria and ordered according to their level of urban potential based on a score, depending on the number of criteria, priority of criteria and relative value of their characteristics matching the criteria (e.g. how easily accessible, how great a mix of uses, how much green infrastructure, etc.). The details of the methodology to develop the spatial model and perform the analysis will be presented in an introductory document explaining the GIS-based model as part of next phase of the research project.

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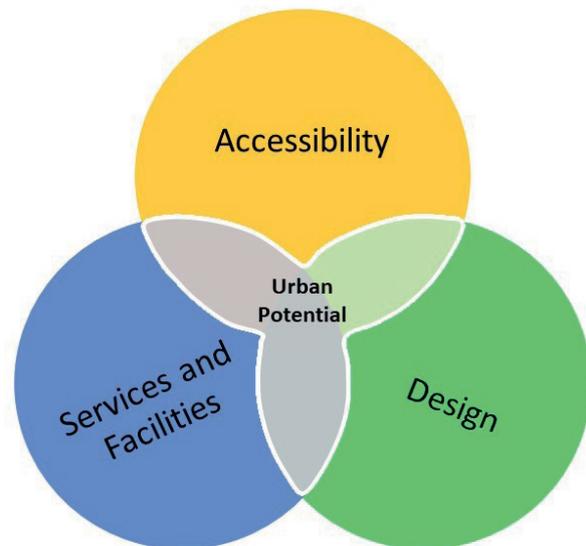


Figure 4. Spheres of sustainability and urban potential.

Table 2. Criteria grouped by sphere and ordered by average score from 5 (extremely important) to 1 (not important at all) with their level of implementability from 1 (easy to implement) to 3 (hard to implement).

Sphere	Criterion	Score	Implementability
Accessibility	The area should be easily accessible on foot.	4.85	3
	The area should be easily accessible by public transport.	4.6	3
	The area should be easily accessible by car.	3.22	3
Services/Facilities	Public toilets and baby changing facilities should be available in the area.	4.53	2
	The area should comprise a public space.	4.47	3
	The area should provide facilities for children such as a garden, playground, public library or playroom, or private enterprise offering activities.	4.45	2
	Some form of regular events, such as a market, festival, street performances or other initiatives should take place in the area.	4.38	1
	The area should comprise a mix of uses and not be focused exclusively on one or another.	4.25	3
	The area should comprise daily retail uses, such as food shops or convenience stores.	4.2	2
	The area should comprise leisure and entertainment uses, such as cafes, restaurants, theaters, cinemas, etc.	4.13	2
	A dedicated off-site car park should be available next to the area.	4.08	2
	The area should provide uses which are available at night time, such as restaurants, bars, entertainment venues, etc.	3.86	2
	The area should provide services, facilities and resources which serve not only the local population but also other users residing farther away.	3.78	2
	The area should comprise service uses, such as banks, pharmacies, offices, etc.	3.59	2
	The area should have educational institutions within walking distance (400m).	3.27	3
	The area should have health facilities, such as hospitals or clinics, within a short driving distance (1200m).	3.2	3
	The area should comprise occasional retail uses, such as clothing or electronic shops.	3.1	2
	The area should have educational institutions within a short driving distance (1200m).	3.04	3
On-street car parking should be available in the area.	2.85	2	
Design	Some form of green infrastructure such as trees, flower pots, plant displays or a green space should be present in the area.	4.79	1
	The area should provide safety from traffic, ease of walking and street crossing.	4.78	2
	Public seating such as benches or architectural features should be available in the area.	4.77	1
	The area should connect two key elements of the urban environment, such as public spaces, civic buildings, entertainment venues, transport nodes, etc.	4.39	3
	Some form of protection from weather conditions other than private units should be available in the area.	4.06	1
	The area should have a consistent character (such as architectural styles, street typologies, a civic or cultural identity).	4.01	2
	Some form of public art should be present in the space.	3.91	1
	Access to building units should be facing the public realm.	3.84	2
	The area should comprise at least a primary element such as a civic building or a landmark.	3.23	2
	Building units of different uses should be small.	3.15	2
	The area should have high residential densities in its surroundings.	2.97	2

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Table 3. List of urban potential criteria in order of importance.

No.	Criterion	Score	Implementability
1	The area should be easily accessible on foot.	4.85	3
2	The area should be easily accessible by public transport.	4.6	3
3	The area should comprise a public space.	4.47	3
4	The area should connect two key elements of the urban environment, such as public spaces, civic buildings, entertainments venues, transport nodes, etc.	4.39	3
5	The area should comprise a mix of uses and not be focused exclusively on one or another.	4.25	3
6	The area should provide safety from traffic, ease of walking and street crossing.	4.78	2
7	Public toilets and baby changing facilities should be available in the area.	4.53	2
8	The area should provide facilities for children such as a garden, playground, public library or playroom, or private enterprise offering activities.	4.45	2
9	The area should comprise daily retail uses, such as food shops or convenience stores.	4.2	2
10	The area should comprise leisure and entertainment uses, such as cafes, restaurants, theaters, cinemas, etc.	4.13	2
11	A dedicated off-site car park should be available next to the area.	4.08	2
12	The area should have a consistent character (such as architectural styles, street typologies, a civic or cultural identity).	4.01	2
13	Some form of green infrastructure such as trees, flower pots, plant displays or a green space should be present in the area.	4.79	1
14	Public seating such as benches or architectural features should be available in the area.	4.77	1
15	Some form of regular events, such as a market, festival, street performances or other initiatives should take place in the area.	4.38	1
16	Some form of protection from weather conditions other than private units should be available in the area.	4.06	1

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