

LOCAL LIVEABILITY STUDY

ESTABLISHING A PLATFORM OF EVIDENCE TO SHAPE MELBOURNE'S FUTURE

2015



CITY OF MELBOURNE



A CITY FOR PEOPLE

We support our community members - whatever their age, sex, physical ability, socio-economic status, sexuality or cultural background - to feel like they can be active, healthy and valued. We plan and design for our growing city, including safe, healthy and high-quality public spaces.

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Local Liveability Study

Published July 2016

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1. FOREWORD

The Local Liveability 2015 Study provides a comprehensive and integrated understanding of how the city performs at a local, everyday level for people.

The Local Liveability 2015 Study challenges our thinking, poses new questions, and seeks to revitalise our approach to planning and design so that Melbourne can continue its growth and development as a resilient and accessible city.

Over the last three decades, City of Melbourne strategies and programs have worked towards creating a city that attracts people. These have been profoundly successful in reversing the exodus of residents, workers and shoppers to the suburbs, which became evident by the 1980s when the centre of Melbourne was abandoned after work hours. Over the last 20 years Melbourne's accelerated growth has created new challenges relating to the quality of life the city offers. How can Melbourne be sustained and improved while population densities continue to rise, and relatively homogenous residential tower and podium development models dominate?

While the traditional survey methods of Places for People capture the number of people attracted to the city's public spaces, they are unable to reveal the quality of life for locals or visitors. To address this limitation, the Local Liveability 2015 Study takes an expanded approach to investigating Melbourne. It introduces a new methodology that enables some of the more complex elements and nuanced relationships within the city to emerge. It is grounded in best-practice urban design and planning for achieving realistic, democratic and sustainable outcomes.

Quality of life in the Central City is significantly shaped by the ease of access to civic and commercial services for residents, workers and visitors. The Local Liveability 2015 Study investigates the city from a user and performance perspective. It asks to what extent do different parts of our city serve our daily needs? Central Melbourne's current liveability is explored as it is experienced in everyday terms. It sets out a series of evidence-based recommendations to provide a platform to further develop performance-based planning and design. Potential for enabling a city that performs for everyone is mapped, drawing out some of the complex correlations and interdependencies involved in shaping the city.

In generating and analysing compelling compounds of data, the Local Liveability 2015 Study applies an integrated and dynamic lens that allows the urban specialist as well as a general audience to readily comprehend the Melbourne condition. This study presents a clear framework for future recommendations to improve the quality of life in our city, and establishes a comprehensive evidence base to inform future thinking, planning and design.

2. BACKGROUND

The premise of the Places for People Study is that people are drawn to places of high-quality design that feature attractions and other people. A growing number of people over time is an indicator of success. Since 1994, Places for People has collected information each decade to produce longitudinal data to monitor use and qualities of urban space.

Places for People measures particular urban conditions over time, documenting how the city is changing. The first Places for People (1994) focused on attracting people back to the city after a long-term exodus of residents, workers and shoppers to the expanding suburbs, which was compounded by the economic recession at this time. A decade after this, Places for People 2004 documented the city's revitalisation as it redefined its regional and global identity and functions, attracting people back through residential, commercial and retail development and with regional attractions.

Places for People has traditionally measured the extraordinary rather than the ordinary—the special rather than the everyday and the regional rather than the local. Urban surveys have concentrated on prominent streets and public spaces in the retail core, followed by the commercial district and Southgate and later extended to the growth areas of Southbank and Docklands.

While it remains valid to measure and monitor the city's public environment and public life, the challenge of a declining population has now reversed, with substantial population growth projected to continue. Measuring success simply on the number of people who live in, work in and visit the municipality is no longer enough. Ensuring that Melbourne remains a functional city that performs for all is now vital. A different set of issues demand a different method of urban investigation.

The Local Liveability 2015 Study expands beyond the traditional focus on the public realm and considers how the city has rapidly changed in its urban form and structure, and the impact these changes have on the daily lives of Melbourne's people.

A review of international best practice and experience gained from previous Places for People studies highlighted the need to research a broader range of urban components in order to understand the conditions that shape Melbourne. The interdependencies of these components, which influence the intricate complexities of daily life, are examined in the Local Liveability 2015 Study. For example: urban structure influences movement and connectivity; urban form accommodates the many uses characteristic of cities; land uses embed activity generators into the city's fabric and generate economic, cultural and social networks; and population density is vital for viable economies and services. The Local Liveability 2015 Study explores the correlations between these fundamental urban components to identify the conditions that enrich or compromise city living.

Results show that urban structure and the relationship of buildings to open space determines the proximity of and accessibility to local land uses. A permeable urban structure (with small blocks) results in larger walking catchments which cultivates greater walkability. Fine grain, smaller scale buildings enable a greater number of land uses and give purpose for walking and alleviating car use. Consolidating

land parcels stifle the accrued benefits of proximity and connectivity. Buildings that better knit themselves into the wider urban fabrics by integrating population density with mixed land-use and permeability generate better holistic outcomes. It is apparent that private development has rapidly changed the urban structure with an unfavourable impact on land use, local movement patterns and how communities access the city.

In addition to assessing the impact of built form on land use, urban structure and walkability, the Local Liveability 2015 Study introduces an investigation to build understanding of local living. It questions to what extent does the city perform for its people in terms of servicing everyday needs? What potential exists for optimising better outcomes in health, the environment and resilient local economies? The local neighbourhood concept requires compact, walkable, highly connected areas where essential everyday needs are on your doorstep and the people, knowledge, skills and culture you want to connect with are just a stroll or tram ride away.

Neighbourhoods do not necessarily exist on maps; they exist in the minds of the individual city user. However, the functionality of areas in terms of their provision of services, their nature and density, can be assessed through a series of survey points and related catchments. This is the approach the Local Liveability 2015 Study takes for the study area in the Central City, Docklands and Southbank.

The Local Liveability 2015 Study builds on past successes and maps a series of conditions to identify potential for improvement. From these, a set of new key recommendations were developed. In considering urban design as a platform for integration, the recommendations reflect the intricate interdependencies that underpin the development and adaptability of cities. They propose a suite of actions and considerations linking the spheres of policy, planning and performance-based assessment.

3. PREMISE AND APPROACH

This section outlines the project premise and details the urban components researched at a local scale by applying the newly defined method of the Local Liveability 2015 Study.

The scope and complexity of the Local Liveability 2015 Study investigates those urban conditions considered essential to the quality of our daily lives.

While the project premise is founded on international best practice, the Local Liveability 2015 Study was tailored to capture the Melbourne condition relating to how the city has changed and how it currently performs for people at a local level.

Introduction

As with other cities across the world, Melbourne's city provides a centralised and common geography of exchange, offering the promise of a good life with opportunities and choice. Cities like Melbourne exist to generate broad forms of wealth for all people. They do this by facilitating the exchange of culture, commerce, knowledge, ideas and skills, fostered by the proximity and connectivity of its component parts: the most vital being people, buildings, land uses, movement networks, and open spaces.

The Local Liveability 2015 Study seeks to test the established premise that mixed used neighbourhoods are the foundation of a sustainable city, as a way of life and also as an organising principle.

A series of questions guided the framing of The Local Liveability 2015 Study research:

- Which areas of the city are well used? Do we know why?
- To what degree has the city changed?
- What, if any, impact do these changes have on the everyday life of its citizens?
- Does the city serve the everyday needs of its people? Where and how?
- What is the nature of the relationship between the vital urban components?
- What combination and configurations of urban components generate compact walkable and highly connected areas, which enable more localised living?
- How can the City of Melbourne guide sustainable growth and enable a basic quality of life for its locals and visitors?

Informed by these questions, The Local Liveability 2015 Study introduced the local level to the spatial hierarchy of research which is applied for the first time in recognition that some issues do not reveal themselves at a district level, nor at an individual building scale. Principal findings are outlined in Section 5.

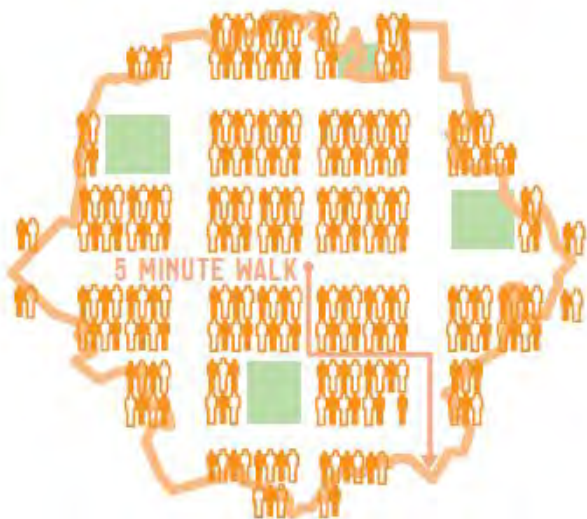
Research Evolution

As the Local Liveability 2015 Study developed, it became clear that some issues do not reveal themselves at a district level, nor at an individual building scale.

A method for investigating the city at the local level was developed through the refinement of the urban lenses to examine the Melbourne condition for those urban components considered as shaping the 'essence' of the city and influencing its success in meeting essential needs and expectations of city users. The methodology's primary concern was to capture the integrated nature of the urban components at a local level. Cities are not just buildings, roads, people or land uses in isolation. They are an assemblage of all these things, comprised of interdependencies and flows between each that together determine the socio-spatial composition of local neighbourhoods and the quality of people's lives. The refined series of lenses are outlined below.



FIG. 1. The integrated lens of the neighbourhood



Population Density

What is it?

Population density is the number of residents and workers that occupy a research catchment. In the Local Liveability 2015 Study each research catchment represents a 5-minute walk, determined by the true walkability of 500m from its centre. Using this spatial measure, the area and shape of each research catchment varies according to the permeability and granularity of the urban structure.

The ratio of residential to employment populations provides an understanding of who inhabits the catchment at different times of the day, and by what proportions.

Why is it important?

Population density as a standard of people per hectare has been evaluated to take into account more complex inter-relationships such as accessibility, car use, parking, open space, and distribution of facilities per capita.



Urban Structure and Built Form

What is it?

Urban structure is the spatial arrangement of a city's primary organising components: the blocks, open spaces, street network, land parcels, and natural physical features such as rivers, floodplains and topography. The built form and land uses contribute to and influence the city's urban structure.

Why is it important?

The urban structure shapes how people live, connect and draw wealth from local areas. The scale and arrangement of a city's urban structure influences the scale and granularity of the buildings and connectivity between the buildings, their uses, and open spaces, public and private.



External Space

What is it?

Typically, external space is referred to as 'open space'. However to avoid confusion with the City of Melbourne Open Space Strategy, open space is referred to as external space. External space refers to those places at ground level that are open to the sky. External space that is publicly or privately owned and managed is considered, regardless of whether it is accessible to the public. This includes movement networks such as pedestrian streets, civic spaces such as squares, green spaces such as parks and gardens, outdoor sports facilities, children and teenager play areas, spiritual places, productive landscapes, amenity spaces such as courtyards, and undefined spaces including vacant land.

Why is it important?

Through its design, function, distribution and accessibility, external space is an important functional and cultural requirement of the city, offering places that are distinctive and meaningful to people. External space has value in providing communal venues for social exchange and physical exercise that benefit our physical and mental wellbeing. External space may be designed for the protection and rehabilitation of biodiversity and natural habitats and mitigating the effects of the urban heat island effect.



Local Land Use

What is it?

Individual land parcels influence local outcomes according to the type of activity they house and the degree of mixed use fostered. Land uses give purpose to local trips, fostering economic exchange, social interaction, sense of community and connection to place, determining the ability of people to locally meet their everyday needs.

Why is it important?

The degree of land use mix has a larger bearing on the quality of local liveability. People have a need to access goods and services essential to their everyday lives (although varying from person to person, there are land uses in common to all). Places deficient in the essential everyday land uses necessitate travel beyond the immediate area, imposing a range of long-recognised costs on the individual and society: less free time, greater dislocation from local neighbourhoods, more motorised travel and the environmental and health implications that follow, to name just a few. These costs profoundly diminish the quality of life.

Local Movement

What is it?

Local movement considers active modes of transport including walking, cycling as well as public transport to access everyday needs, including work, school and leisure.

Why is it important?

Compact, mix use local areas with highly-connected streets that support a variety of active modes are considered to provide multiple benefits. Walkable proximity supports a range of tangible, and long-proven social, economic and environmental benefits including: the enabling of propinquity (the physical and psychological proximity between people) and more physical exercise, helping to reduce obesity rates and associated health complications as well as pollution, carbon emissions and traffic congestion.

4. KEY RECOMMENDATIONS

This section presents the principal recommendations formulated in response to the research findings.

These evidence-based recommendations are intended as a starting point for a conversation with Melbourne's people, and to guide the City of Melbourne's ongoing and future work.

Through studying the Melbourne condition we know the recommendations are practical and realistic and will support our city to continue its evolution as an exceptional place for its people.

An integrated toolkit

The Local Liveability 2015 Study generates a new platform of evidence to shape Melbourne’s future. This will facilitate an assessment framework enabling an integrated, more equitable, performance-based approach to urban planning and design.

The research study introduces Liveability Indicators, which could be transformed into a guidance and monitoring tool for achieving integrated and sustainable local neighbourhoods. The optimisation of such Liveability Indicators provides scope and direction for future urban growth.

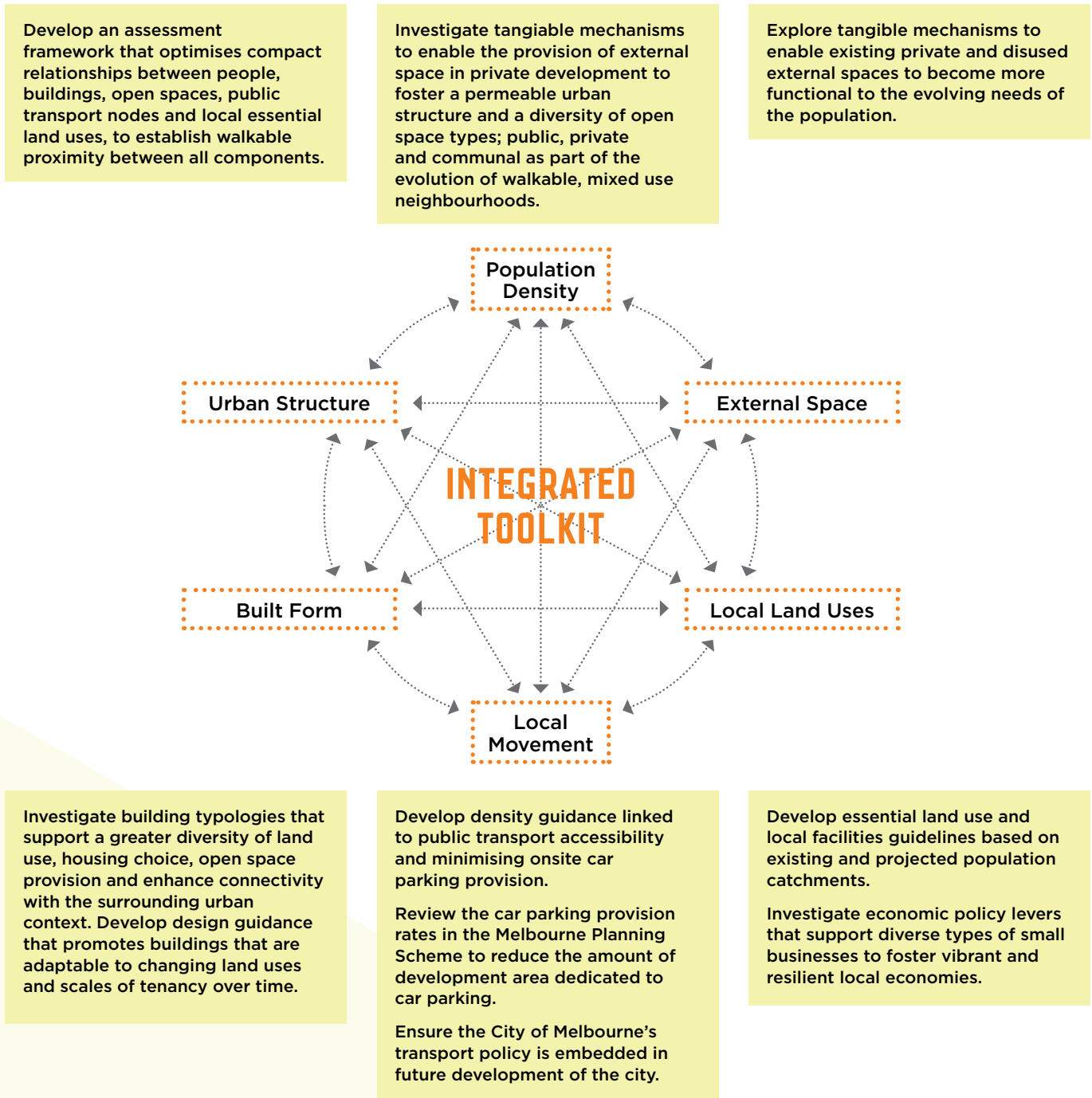


FIG. 2. The integrated toolkit could provide a performance-based assessment framework providing direction for future optimisation of urban growth.

5. KEY FINDINGS OF LOCAL LIVEABILITY

This section outlines the principal findings of the Local Liveability 2015 Study. It outlines key observations before detailing what the data reveals about the performance of and interrelationships between urban components.

Introduction

- The neighbourhood concept
- Research catchment selection
- Neighbourhood liveability indicators

Local Liveability indicators

- Catchments matrix
- Key correlations
- Performance

Research with the community

- Introduction
- Preliminary findings

INTRODUCTION

The Neighbourhood Concept

Cities provide the locus for the exchange of culture, commerce, knowledge, ideas and skills. This exchange is fostered by proximity and connectivity to and between people, buildings, land uses, open space, transport routes, nodes and so on. These exchanges define the ‘essence’ of cities. A review of international best practice undertaken as part of this study highlights this ‘essence’ is best optimised by local living where people reside in compact, walkable, mixed use and highly-connected neighbourhoods, where essential everyday needs are on your doorstep and the people, knowledge, skills and culture that you connect with to generate wealth, are just a walk or tram ride away. Where you live, work and relax, are all contained within a local area.

Walkable mixed use neighbourhoods enable local living. They are the foundation of the sustainable city, as both an organising principle and a way of life. In order to achieve sustainable urban growth, Melbourne will need to explore the local neighbourhood as the locus of social cohesion, and as a means of planning for proximity. Walkable neighbourhoods provide individuals and communities with a range of tangible health, economic and environmental benefits by: increasing physical activity levels that reduce the risk of obesity; improving neighbourhood social capital and sense of community; lowering the risk of traffic incidents; increasing local economic spend, and reducing greenhouse gas emissions (Giles-Corti 2014:9). The Local Liveability Study assesses the correlations between urban structure (as expressed by walkable catchment areas), population density and the accessibility and availability of a variety of services, facilities and community goods that are essential to daily life in the city.

Local-level research seeks to understand the neighbourhoods we have, the neighbourhoods we need, how physical neighbourhoods form community life, and how our communities shape local neighbourhoods.

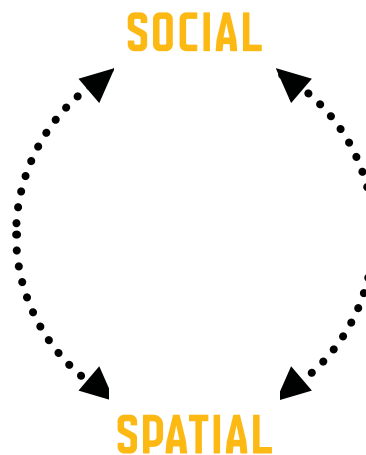


FIG. 3. The Local Liveability Study seeks to assess local social and spatial relationships to understand how the study area’s changing form influences the daily lives of its people.

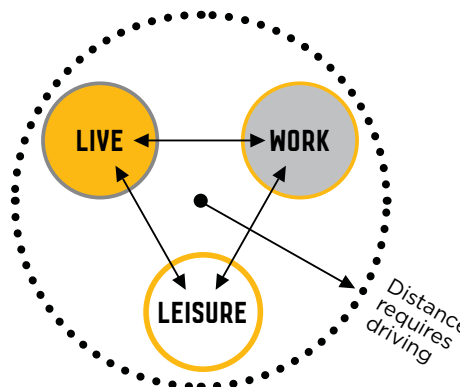


FIG. 4. Zoning separation of activities leads to reliance on the private car.

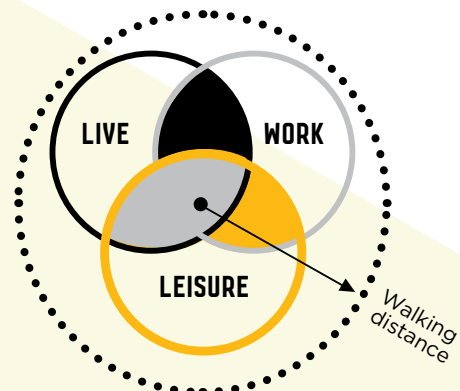


FIG. 5. Optimisation of ‘Local Living’ where the exchange of knowledge, culture and skills is based on proximity and connectivity.

The local neighbourhoods study seeks to demonstrate the relationship between denser urban structures and the accessibility and availability of a variety of services, facilities and community goods that are essential to daily life in the city. This is to gain a greater understanding of the conditions that best facilitate sustainable walkable neighbourhoods such that future urban design and planning initiatives foster optimal urban relationships in the most targeted, integrated and nimble means possible.

The local neighbourhoods study seeks to understand local living and its optimisation for better outcomes in health, the environment and resilient local economies. In understanding the 20 Minute Neighbourhood concept of Plan Melbourne, and its application to the city, neighbourhoods are fundamental building blocks for a strong and resilient city (State Government of Victoria, May 2014).

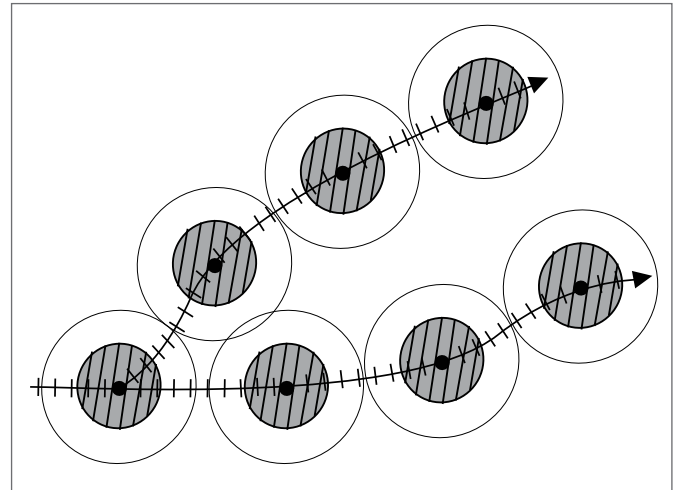


FIG. 6. Indicative arrangement of 400m and 800m walking catchments as per Plan Melbourne's 20 Minute Neighbourhood concept.

The inner city blurs the traditional understanding of the neighbourhood. The intensity of land uses breaks down easily discernible segregations of civic, commercial and residential use. That is not to say that neighbourhoods do not exist, or that people do not require compact local living to fulfil their needs and expectations.

The study seeks to explore how the inner city density drives requirements in civic use, commercial use and open space, and how a hierarchy of need determines proximity of civic use, commercial use and open space by foot, bike and public transport.

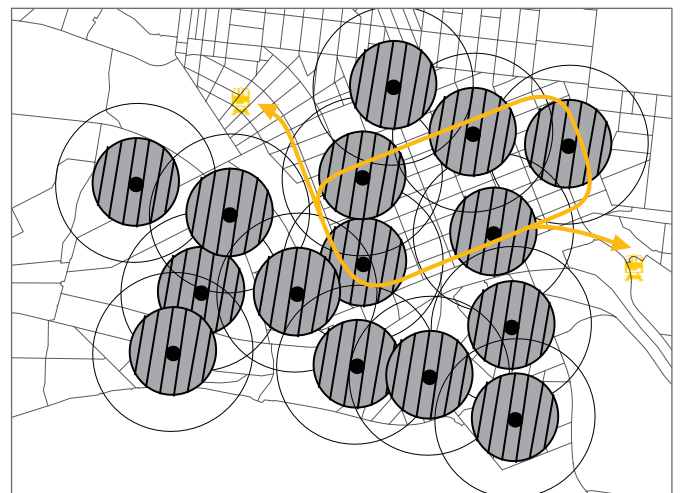


FIG. 7. The inner city blurs the traditional neighbourhood concept. With the high densities of the inner city, our access to essential daily needs focuses the study on the 5-minute walk (400m) whilst the 800m walk overlaps with adjoining neighbourhoods.

A hierarchy of local land uses span a 400m–800m range reflecting people’s daily needs and economies of scale in relation to population thresholds.

A diversity of land uses within a 400m walking catchment benefit from mutual proximity and clusterings that promote economic viability through multi-purpose trips and networks of exchange.

Accessibility levels of 800m serve a wider district function for economies of scale and frequencies of use, but 200m–400m accessibility facilitates higher frequency of use to a wider population.

“The average threshold for walking is 5 minutes (400m). When most daily needs of residents and workers can be met within walking distance, not only do they walk more but they use the car significantly less”

(Condon 2010:68-9).

The “ability of residents to walk locally depends on the way their neighbourhood is designed. Walking is more likely if neighbourhoods have well-connected street networks, a variety of local destinations including public transport, and there is adequate residential and employment density to support local shops, services and public transport”

(Giles-Corti 2014:9).



FIG. 8. Indicative Essential Landuse Population Thresholds, based on international best practice.

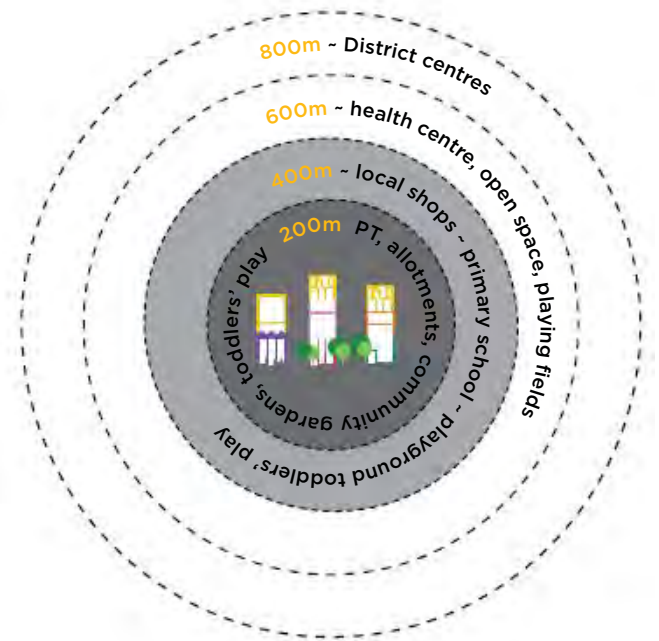


FIG. 9. Proximity of land uses based on international best practice.

Research Catchment Selection

To understand the **Local Liveability 2015 Study** area at a local level, 5-minute walking catchments were identified across the study area to effectively act as a sieve and allow for disparate urban geographies and their components to be compared 'apples for apples'. For greater rigour and to reflect the true local urban conditions, real 5-minute walking catchments were determined rather than standard 'as-the-crow-flies' walking radii.

The standard convention of the 5-minute walk is 400m. This is an international convention that averages a diverse range of human capabilities. In assessing the real walking catchments across the city an additional 100m radius central to each catchment was accommodated to represent a conceptual spatial component from which to measure the 400m from (Fig. 10).

Neighbourhoods are utilised as the defining concept to measure the performance of different parts of the city 'apples for apples'. The survey points in the Central City area based on the City Loop stations, not necessarily as the centre of a community but merely a series of places distributed evenly around the city from which distances could be measured. The 1974 Strategy Plan showing the stations distributed to ensure there was no gaps reinforces this justification. (Fig. 11).

Outside the Central City, the survey points are distributed to provide an even coverage and are, by and large edged by natural boundaries such as the River Yarra and Docklands Harbour.



FIG. 10. Real walking catchments were spatially determined across the city reflecting true walkability rather than standard 'as-the-crow-flies' radii.

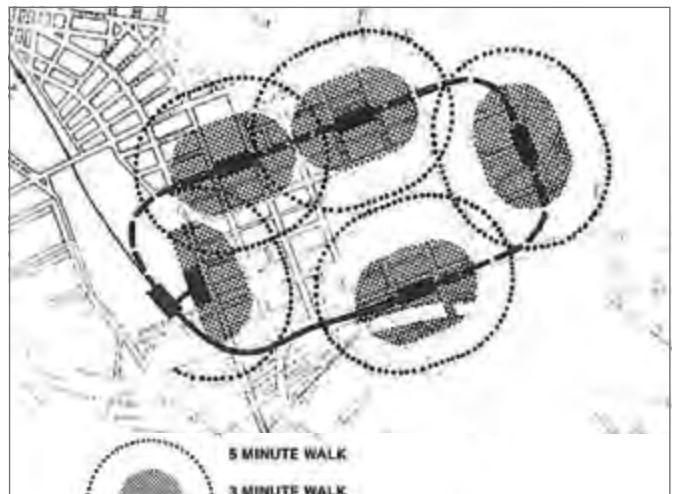


FIG. 11. City Loop Station Walking Catchments in City of Melbourne's 1974 Strategy Plan.

(SOURCE: InterPlan for City of Melbourne, 1974, City of Melbourne Strategy Plan)

Real walking catchments were spatially determined across the city reflecting true walkability rather than standard 'as-the-crow-flies' radii. Every catchment selected was within 200m from a public transport node and was located to maximise the population within. There were 15 catchments selected to cover maximum walkable areas of the study area:-

Central City

- Primarily informed by the five City Loop train stations, as originally conceived in the City of Melbourne's 1974 Strategy Plan (Fig. 11).

Queen Victoria Market

- To reflect the City North Structure Plan (City of Melbourne 2012), which identified the Queen Victoria Market as a local centre.

Southbank

- Informed by City of Melbourne structure plans.
- Further adjustments made for optimal coverage of Southbank.

Docklands

- According to existing private development hubs.
- Additional catchments to cover in-between areas to permit observations to be drawn from the widest expanse of the area possible.

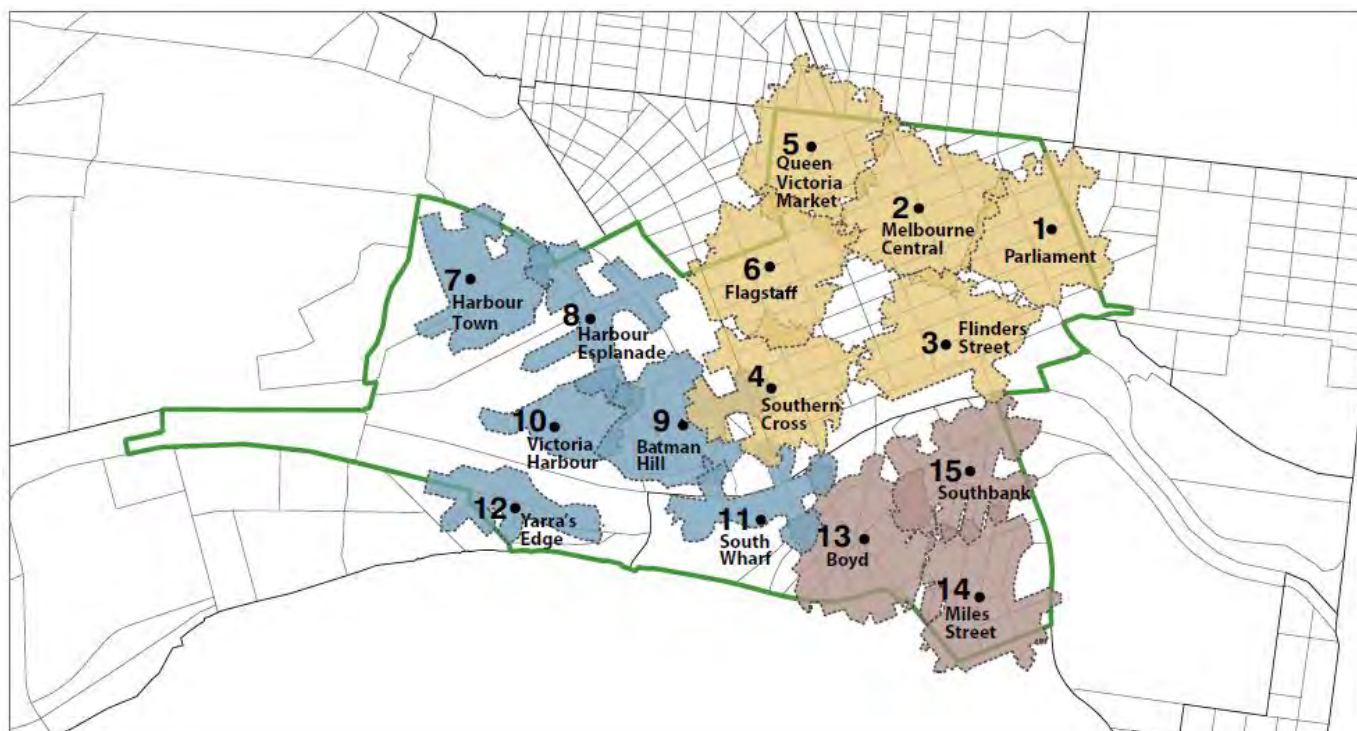


FIG. 12. Fifteen catchments were selected to cover maximum walkable areas of the study area

LOCAL LIVEABILITY INDICATORS

The following Liveability Indicators were compared across the 15 catchments to measure their comparative performance. The Liveability Indicators are derived from the neighbourhood concept in relation to the Urban Components.

Population density

Residential Population

(No. People per Catchment)

The number of people living in the research catchment and the proportion of residents in relation to the number of workers.

Employment Population

(No. People per Catchment)

The number of people working in the research catchment and the proportion of workers in relation to the number of residents.

Total Population

(No. People per Catchment)

The combined number of people living and working in the research catchment.

Residential Gross Density

(No. People per Hectare)

A common unit of measurement for assessing the spatial distribution of people to make like-for-like comparisons with other parts of the city. Residential gross density calculates the whole catchment area including streets and open space.

Residential Net Density

(No. People per Hectare)

A common unit of measurement for assessing the spatial distribution of people to make like-for-like comparisons with other parts of the city. Residential net density calculates the portion of the catchment area excluding streets and open space.

Employment Gross Density

A standard unit of measurement for assessing the spatial distribution of people to make like-for-like comparisons with other parts of the city. Employment gross density calculates the whole catchment area including streets and open space.

Employment Net Density

A standard unit of measurement for assessing the spatial distribution of people to make like-for-like comparisons with other parts of the city. Employment net density calculates the portion of the catchment area excluding streets and open space.

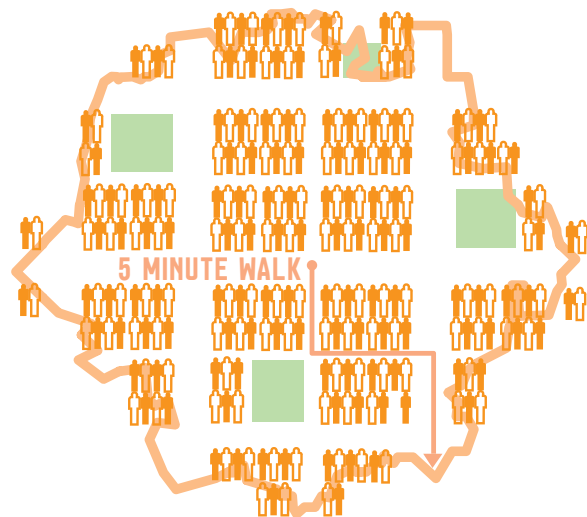


FIG. 13. Population density

Urban structure and built form

Number of Blocks

An indicator for the scale of urban structure, with a greater number of blocks generally correlating with smaller block sizes and a larger number of intersections.

Average Length of Blocks

Closely related to the number of blocks as an indicator of spatial scale, average block length determines the location of intersections, and so the permeability of the urban structure.

Number of Intersections

Determined by the size and shape of blocks and the width of streets, the number of intersections indicates the degree of permeability and connectivity within the urban structure.

Number of Land Parcels

An indicator for the scale of the built form and land use patterns within blocks, the number of land parcels provides a sense of the degree of granularity that may be experienced.

Land Parcel Sizes [S, M, L, XL, XXL, Super]

The number of land parcels may or may not correlate with the number of blocks; the proportion of different parcel sizes contributes to a clearer understanding of the scale of built form and land use patterns.

Gross Catchment Area (Sq.M)

Gross catchment area includes land parcels, streets and open space.

Net Catchment Area (Sq.M)

The net catchment area includes land parcels but excludes streets and open space.

Unbuilt Space (%)

The area of unbuilt space is the opposite of net catchment area: the total catchment area excluding land parcels but including streets and open space. This is measured as a percentage of the gross catchment area.

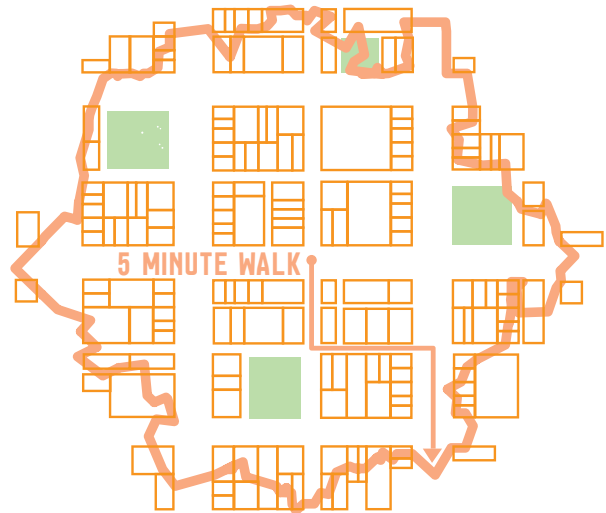


FIG. 14. Urban Structure

Local movement

Car Spaces per Resident

The number of residential car parking spaces is an indication of residential car dependency, and so symptomatic of how walkable the research catchment is in its urban structure, types of land uses, and the provision of public transport to connect to other areas.

Car Spaces per Employment

The number of worker and commercial car parking spaces is an indication of employee car dependency, and as for residential car dependency, symptomatic of how walkable the research catchment is in its urban structure, types of land uses, and the provision of public transport to connect to other areas.

Number of Train Stations

The number of train stations is an indication of train accessibility within the catchment, and train connectivity to external destinations to other catchments.

Number of Tram Stops

The number of tram stops is an indication of tram accessibility within the catchment.

Number of Tram Routes

The number of tram routes is an indication of tram connectivity within the catchment and to other catchments.

Number of Bus Stops

The number of bus stops is an indication of bus accessibility within the catchment.

Number of Bus Routes

The number of bus routes is an indication of bus connectivity within the catchment and to other catchments.

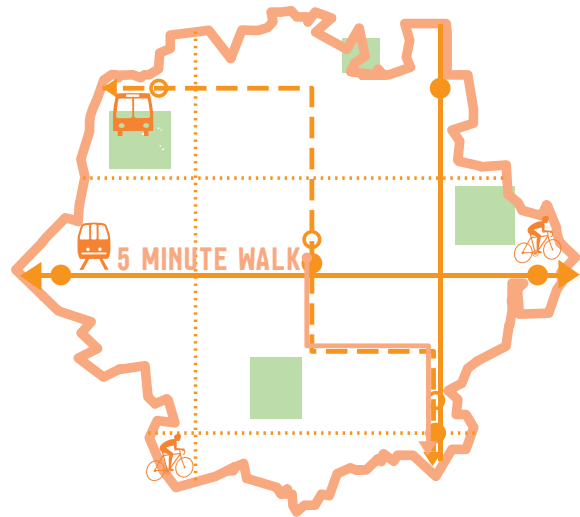


FIG. 15. Local movement

Local land uses

Number of Essential Land Uses* per Neighbourhood

The number of essential land uses accessible within the research catchment (i.e. a 5 minute walk).

Number of Total Land Uses* per Neighbourhood

The total number of land uses accessible within the research catchment (i.e. a 5-minute walk).

Number of Residents per Essential Land Use

To understand the distribution and accessibility of essential facilities and services for residents.

Number of Employees per Essential Land Use

To understand the distribution and accessibility of essential facilities and services for workers.

* For definition of Essential Land Uses see Section 7: Methodology



FIG. 16. Local Land Uses

External spaces

Diversity (No. External Space Types Available)

The diversity of external space types offers an indicator of the degree of choice in locally accessible spaces, and so to what extent external spaces may function to an optimum.

Quantity of Provision (External Space sp.m per Capita)

Quantity of provision per resident and worker was measured to assess the sufficiency of external space provision to fulfil social, environment and economic benefits locally.

Quantity Distribution

This indicator tests how balanced the quantity distribution of all external space types are within walking proximity, and so to what extent external spaces as a system may function to an optimum.

Spatial Distribution

This indicator determines how balanced the spatial distribution of all types of external space are within a 500m walking catchment.

Potential Provision through Future Development

The potential for external space provision through future development (20% of the total area of each potential development site in next 5 years, 2015-2019).



FIG. 17. External Spaces

This measure is unlike all other indicators in the audit; it quantifies the latent potential of existing land to meet local external space needs if policy change was to occur.

The area of unbuilt space is the opposite of net catchment area: the total catchment area excluding land parcels but including streets and open space. This is measured as a percentage of the gross catchment area.

CATCHMENTS

Local Liveability Indicators: Catchments Matrix

The Local Liveability Indicators Catchments Matrix (on the following page) illustrates how the Liveability Indicators relate and compare with each other across the 15 research catchments.

To assess trends and correlations spatially, each individual data set was ranked from highest to lowest performance (green to red) across all catchments (e.g. higher quantity of land uses rank higher; greater number of public transport connections ranks higher).

The colour range reflects the Liveability Indicator's performance spectrum where green indicates HIGHEST PERFORMANCE outcomes and red indicates LOWEST PERFORMANCE outcomes.

The grouping of similar colour shades within similar geographic areas suggests that individual indicators may be correlated, meaning the variability in one indicator informs the variability of another indicator. As shown in the matrix, different geographic areas tend to inform similar colour schemes (degrees of performance) or most urban structure, land use, local movement and car parking indicators.

The optimisation of the Liveability Indicators as outlined in the Recommendations set out in Section 4 provides scope and direction for future urban growth. The Liveability Indicators could be transformed into a guidance and monitoring tool for achieving integrated, sustainable local neighbourhoods.

INDICATOR PERFORMANCE	CENTRAL CITY CATCHMENTS						DOCKLANDS CATCHMENTS						SOUTHBANK CATCHMENTS		
	1 Parliament	2 Melbourne Central	3 Flinders Street	4 Southern Cross	5 Queen Victoria Market	6 Flagstaff	7 Harbour Town	8 Harbour Esplanade	9 Batman Hill	10 Victoria Harbour	11 South Wharf	12 Yarra's Edge	13 Boyd	14 Miles Street	15 Southbank
POPULATION DENSITY															
Residential population	3972	6768	3063	4107	6898	6216	1962	2614	2596	1884	1028	554	6200	4205	6542
Employee population	57436	46509	51319	56801	13955	38813	4257	11386	27559	23093	16582	1159	18181	7299	21450
Ratio of residents to workers (% of total population)	6%	13%	6%	7%	33%	14%	32%	19%	9%	8%	6%	32%	25%	37%	23%
Resident Worker															
Total population	61508	53277	54382	60908	20853	45029	6219	14000	30155	24977	17610	1713	24381	11504	27992
Residential gross density (people/hectare)	102	145	77	101	155	140	60	93	69	88	46	28	136	106	180
Residential net density (people/hectare)	157	220	118	163	257	209	89	190	120	133	72	43	259	213	270
Employment gross density (people/hectare)	1506	100	1294	1376	314	875	130	406	731	1077	740	60	398	184	590
Employment net density (people/hectare)	2335	1511	1981	2222	519	1307	192	827	1276	1632	1157	90	759	396	886
URBAN STRUCTURE															
Gross catchment area (square metres)	381323	465322	396512	407583	444763	443389	326586	280759	377051	214336	224058	194716	457003	396302	363645
Net catchment area (square metres)	245988	307796	259032	252414	268788	296972	221491	137669	215905	141495	143265	128388	239457	197575	242065
Public Open Space (%)	65	66	65	62	60	67	68	49	57	66	64	66	52	50	61
Number of blocks	48	70	44	48	52	56	24	12	25	22	13	24	41	33	21
Average length of blocks (m)	83.1	83.1	92.2	90.9	86.7	84.2	102.4	133.8	124.8	78.2	147.6	74.3	102.0	109.5	127.0
Number of intersections	96	109	93	65	83	100	40	18	30	33	14	35	56	39	29
Number of land parcels	297	441	289	156	331	242	52	30	49	23	17	71	119	57	66
LAND USE															
Number of essential land uses	354	361	471	148	151	98	13	25	75	60	15	2	32	38	51
Number of residents per essential land use	11	19	7	28	46	63	151	105	35	31	69	277	194	111	128
Number of workers per essential land use	162	129	109	379	92	396	327	455	367	385	1105	580	568	192	421
Number of essential and total land uses	999	1379	1383	360	339	472	100	85	238	184	102	12	291	62	160
Essential uses / Total uses (%)	35	26	34	41	45	21	13	29	32	33	15	17	11	61	32
LOCAL MOVEMENT															
Number of train stations	1	1	1	1	0	1	0	0	1	0	0	0	0	0	0
Number of tram stops	5	8	16	14	7	9	2	3	10	3	5	0	7	6	4
Number of tram routes	7	16	21	6	16	6	3	5	8	5	6	0	5	10	10
Number of bus stops	6	9	7	3	7	14	2	1	2	0	0	6	4	0	4
Number of bus routes	12	20	12	4	3	12	1	1	3	0	0	3	3	0	3
Car parks to residents	0.5	0.2	0.1	0.4	0.2	0.4	0.9	0.6	0.5	0.5	0.7	0.8	0.7	0.6	0.8
Car parks to workers	0.2	0.2	0.2	0.2	0.4	0.2	0.7	0.4	0.3	0.2	0.3	1.2	0.2	0.4	0.3
EXTERNAL SPACE															
Diversity of external space (from total of 9 categories)	6	8	3	6	6	5	5	5	7	6	5	3	5	5	5
Total number of public external spaces	9	7	7	9	12	7	5	8	11	12	6	4	3	5	5
Total number of private external spaces	17	23	12	12	8	13	7	9	16	3	10	3	14	14	14

FIG. 18. Local Liveability Indicators Catchments Matrix

Local Liveability Indicators: Key Correlations

The key observations are as follows:

1. Larger walking catchments have a greater number of blocks and number of intersections within them.
2. Larger walking catchments have a greater number of essential and total land uses within them.
3. Larger walking catchments have greater access to public transport nodes and routes.
4. The ratio of car spaces to residents is observed to be smaller in larger walking catchments.

High Performance Catchment (Positive)

The Central City has a more permeable urban structure enabling a larger walking catchment. This enables access to a larger area on foot in a given period, cultivating greater walkability and thus determining the proximity of and accessibility to local land uses.

The finer granularity (the size/quantum of blocks and intersections) of the central city's urban structure allows for smaller-scale buildings, resulting in greater opportunities for multiple tenancies and a greater number of land uses. This gives purpose to walking and alleviates the need for car use.

Buildings that better knit themselves into wider urban fabrics by integrating population density with 'granularity' (to hold mixed use) and 'permeability' (to connect land uses) are those generating better holistic outcomes.

There is a significant amount of existing private external spaces with potential to be made accessible to the public, increasing the amount and diversity of external space types within local areas.

There is much 'undefined' external space that holds significant latent potential for establishing future external space.



Smaller/more diverse open spaces



More land uses, less car parking per capita



Fine urban structure, larger walking catchment

FIG. 19. Illustrative diagrams of key correlations (high performance catchments)

Low Performance Catchment (Negative)

There is a poor relationship between high concentrations of where people live or work and low concentrations of walkable (essential) land uses (particularly in Docklands and Southbank).

There is a mismatch between high concentrations of where people live or work (particularly in Docklands and Southbank), with high levels of car parking provision. This discrepancy suggests an inappropriate allocation of car parking rather than a lack of other viable transport options.

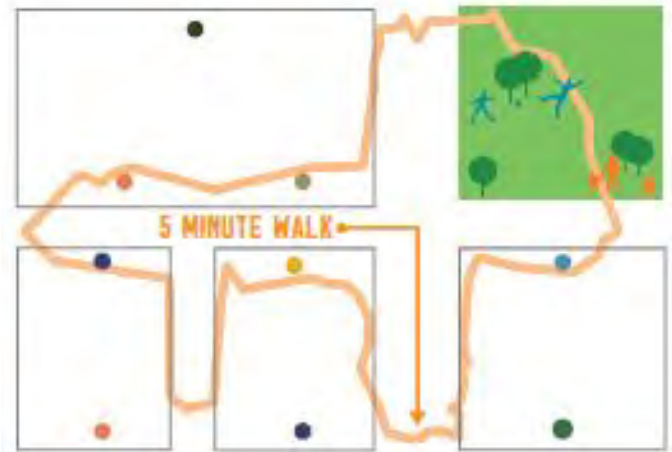
Private development has maximised site coverage resulting in an absence of external spaces that integrate with development sites (e.g. pocket parks, squares, streets, laneways, public, private or communal). This has created an impermeable urban structure, proportionately greater depending on the size of the site.

Development that consolidates large tracts of land featuring oversized building footprints, stifle the potential for accrued benefits of proximity, fine granularity and connectedness.

Buildings that accommodate car parking rather than mixed land uses, undermine the purpose for walking and impose car dependency.

Buildings that accommodate single occupants rather than multiple tenancies disable opportunities for mixed land uses and so undermine the purpose for walking and imposing car dependency.

There is a shortage of small to medium-sized external spaces in Docklands and Southbank, with existing parks very large and functioning at a wider district rather than local level.



Course urban structure, smaller walking catchment



Smaller quantity and diversity of open spaces



Smaller quantity of land uses, higher quantity of car parking per capita

FIG.20. Illustrative diagrams of key correlations (low performance)

Local Liveability Indicators: Performance

The following pages show the urban conditions that are found in a HIGH PERFORMING research catchment - Catchment 2 (Melbourne Central) and a LOW PERFORMING catchment - Catchment 12 (Yarra's Edge).



FIG. 21. Catchment examples 2 (Melbourne Central) and 12 (Yarra's Edge)

Local Liveability Indicators: High Performance

Catchment 2: Melbourne Central

The key correlations are illustrated in Catchment 2 (Melbourne Central) as an example of a catchment with high performance Liveability Indicators.



Urban structure indicators (number of blocks, intersections and land parcels) inform the size of real walking catchments.



Urban structure indicators (number of blocks, intersections and land parcels) inform land use quantity and intensity found within real walking catchments.

No. Blocks



No. Blocks



No. Intersections



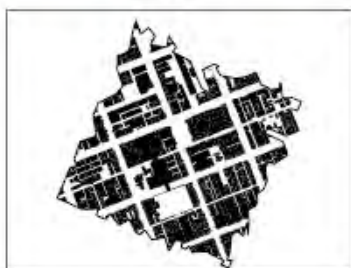
No. Intersections



No. Land Parcels



No. Land Parcels



Walking Catchment

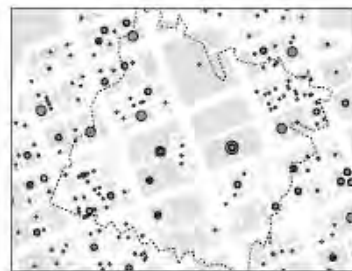


Land Use Intensity



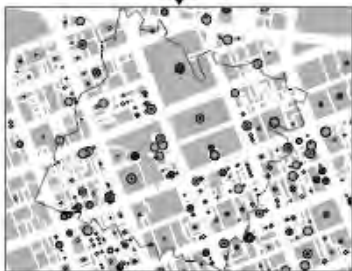
Public Transport Nodes & Routes

Local movement indicators (public transport nodes and routes) inform land use quantity and intensity within finite geographies.



No. Blocks

Ratios of car spaces to people within finite geographies inform urban structure measures, the size of real walking catchments, and quantity of land use within finite areas.

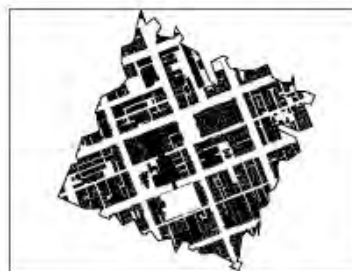


Land Use Intensity



No. Intersections

+



Walking Catchment

+



Land Use Intensity

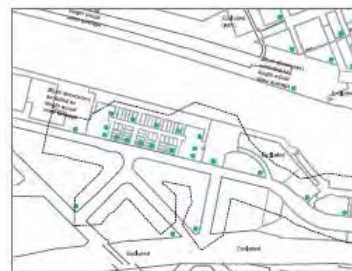
Local Liveability Indicators: Low Performance

Catchment 12: Yarra's Edge

The key correlations are illustrated in Catchment 12 (Yarra's Edge) as an example of a catchment with low performance Liveability Indicators.



Urban structure indicators (number of blocks, intersections and land parcels) inform the size of real walking catchments.

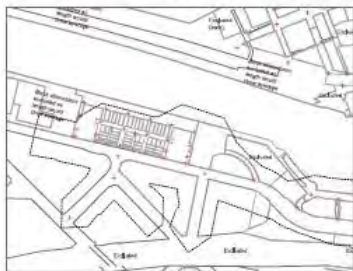


Urban structure indicators (number of blocks, intersections and land parcels) inform land use quantity and intensity found within real walking catchments.

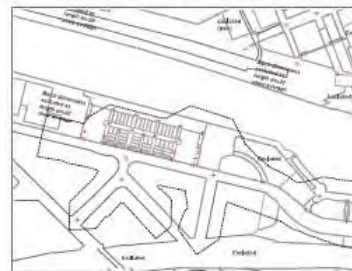
No. Blocks



Ratios Of Car Spaces To Residents



No. Intersections



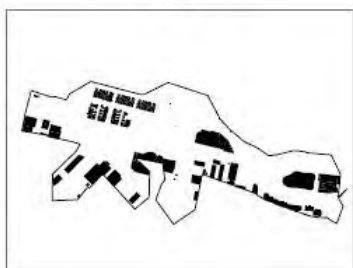
No. Intersections



No. Land Parcels



No. Land Parcels



Walking Catchment



Land Use Intensity



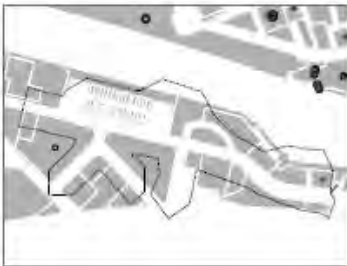
Local movement indicators (public transport nodes and routes) inform land use quantity and intensity within finite geographies.



Ratios of car spaces to people within finite geographies inform urban structure measures, the size of real walking catchments, and quantity of land use within finite areas.

Public Transport Nodes & Routes

Ratios Of Car Spaces To Residents

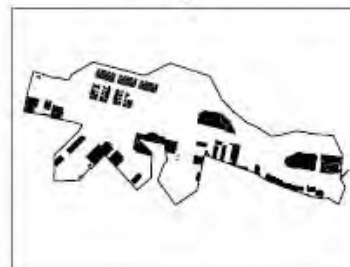


Land Use Intensity



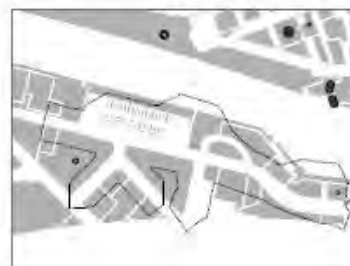
No. Intersections

+



Walking Catchment

+



Land Use Intensity

Local Liveability Indicators: High Performance

Catchment 2: Melbourne Central

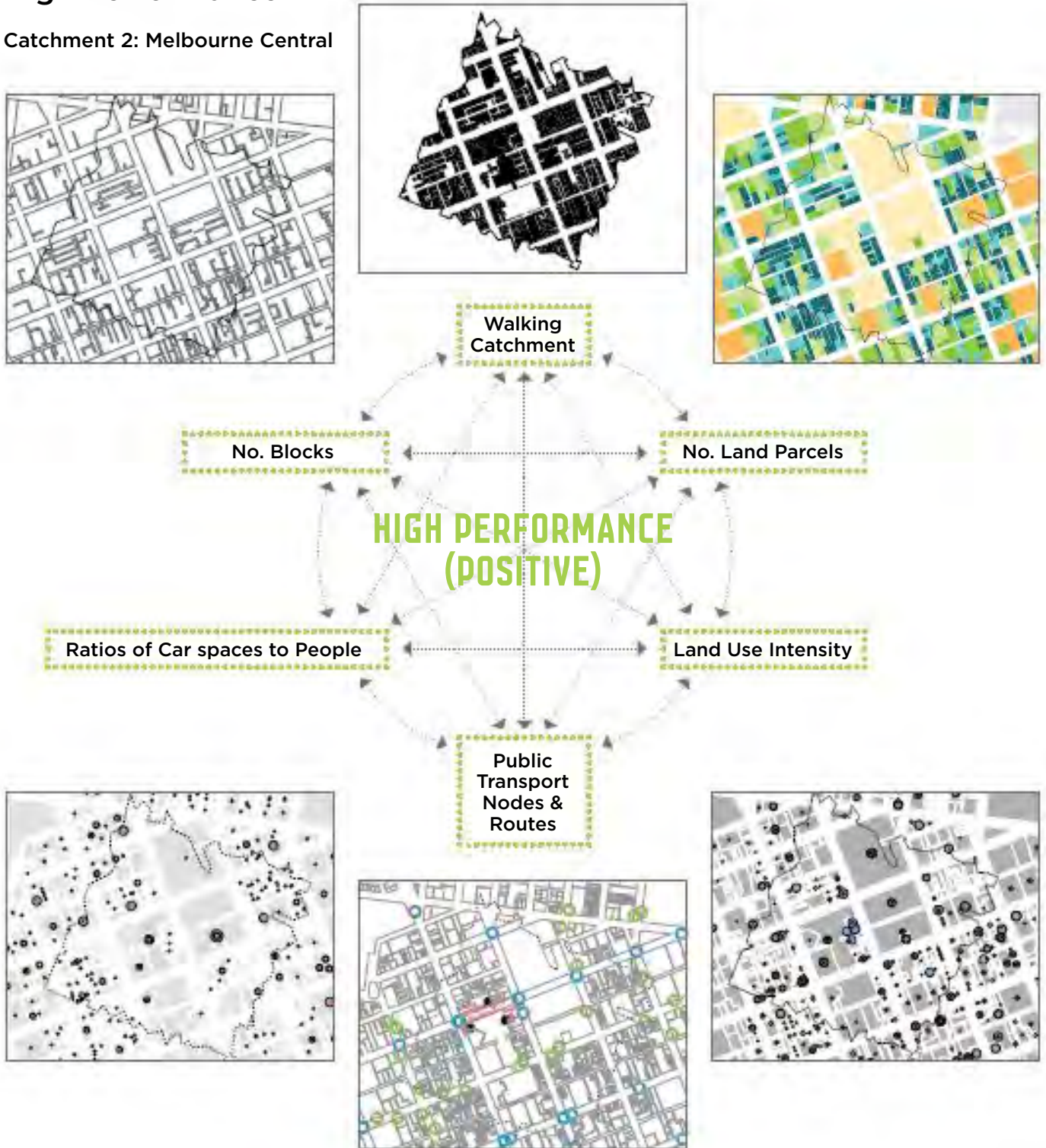


FIG. 22. The key correlations are illustrated in Catchment 2 (Melbourne Central) as an example of a catchment with high performance Liveability Indicators.

Local Liveability Indicators: Low Performance

Catchment 12: Yarra's Edge

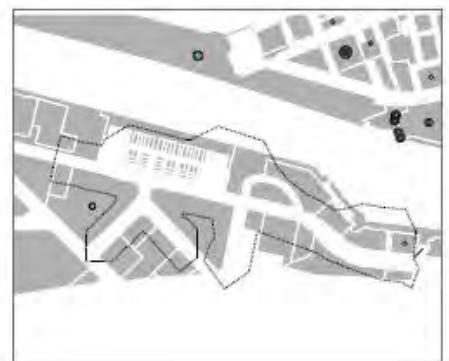
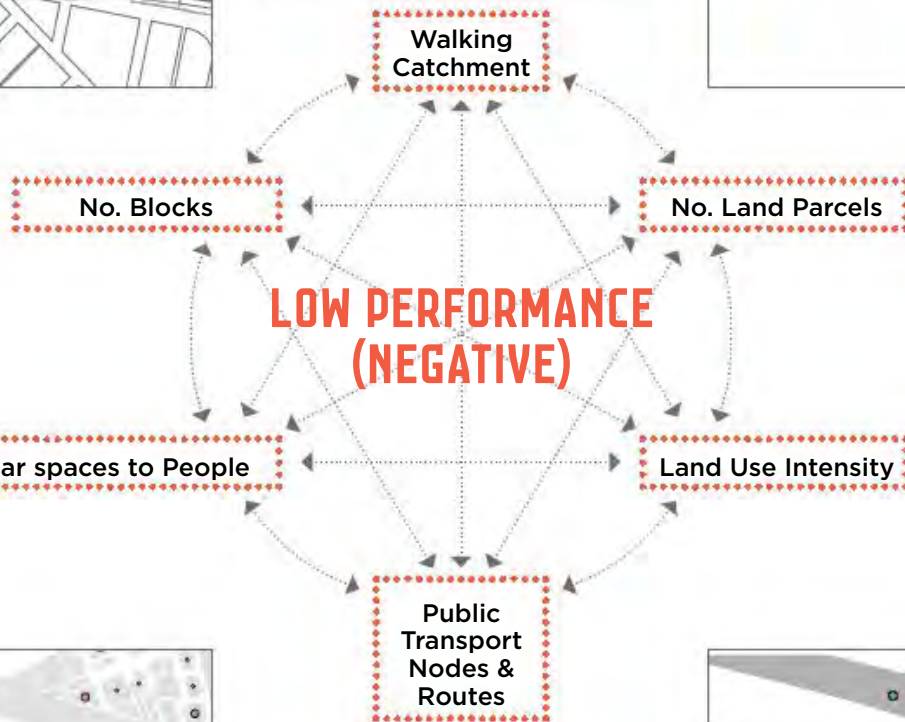
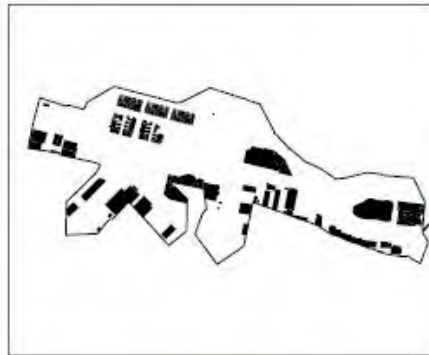


FIG. 23. The key correlations are illustrated in Catchment 12 (Yarra's Edge) as an example of a catchment with low performance Liveability Indicators.

RESEARCH WITH THE COMMUNITY

Introduction

Over a period of five weeks in March/April 2015, the Local Liveability Study conducted research with the community to collect unique and valuable data from a city user perspective. The online engagement via Participate Melbourne, a key component of the program, recorded 6068 page visits; 848 participants filled in a detailed survey that was designed to capture the people's experience in accessing their daily needs being a selected number of key services and facilities a city should provide.

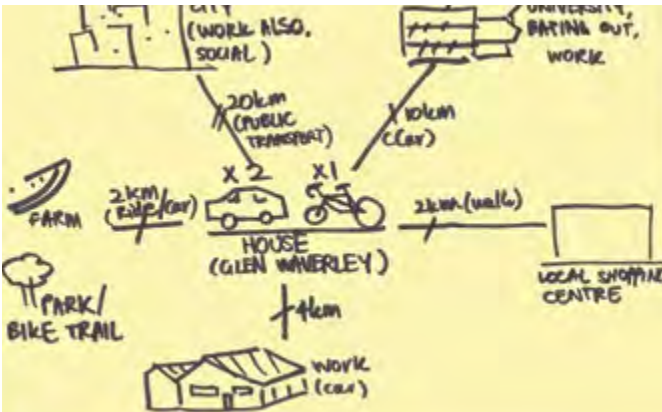
The following provides a snapshot of the feedback received. It will be further analysed in conjunction with the significant amount of spatial data obtained through this engagement program.

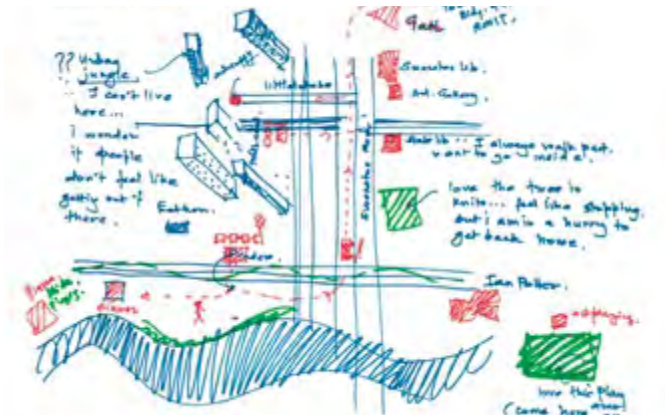
For illustration purposes we are also including a selected number of mind maps created by the participants as they capture eloquently the very personal nature of experiencing the city, while highlighting common needs.



FIG. 24. A selection of photos from Community Engagement pop-ups around the city as part of the Local Liveability research with the community.

(SOURCES: All pp. 104-105 - City of Melbourne, 2015).





Research with the Community: Preliminary Findings

Workers

A total of 198 workers responded to the Local Liveability Neighbourhoods Online Survey; 130 from the Central City, 22 from Docklands, 9 from Southbank, 30 from within the remainder of the municipality, and 7 workers from just outside the municipality.

Of 130 workers from the Central City, 83 accessed fresh food, 86 accessed their groceries, 80 accessed medical services and 89 accessed cultural services.

Whilst 9 workers from Southbank responded to the online survey, none accessed fresh food or general services in the area locally. Of the 22 workers in Docklands, none accessed cultural services there.

Of the three districts, Southbank had the lowest percentage of workers who accessed daily needs locally; with fresh food 0%, groceries 22%, medical services 11%, general services 0% and community services 11%.

Of the workers who accessed open space locally, the highest percentage was in Docklands (45%) followed by the Central City (27%) and Southbank (11%).

A high proportion (77-91%) of workers in all three districts did not access education locally.

'... Assuming where I work i.e city is my neighbourhood I'd say almost everything important to me is missing such as affordable housing, affordable & good medical service, affordable fresh food etc...'

Central City Worker

'... It is disappointing that there is not closer access to fresh food and groceries. I would buy fresh supplies for lunch etc. at work if I could access it more quickly rather than from a cafe. I would also do food/grocery shopping on the way home if there was any facility for this between my work location and Flagstaff Station. Unfortunately there isn't...'

Central City Worker

'... More small businesses. Please don't build any more shopping centres or Coles or Woollies...'

Parkville Worker

'... Affordable and accessible fruit and veg not just buried away in the corners of supermarkets!! An initiative on spreading awareness of ethical/sustainable cafe locations and incentives to visit them...'

Central City Worker

Residents

A total of 324 residents responded to the local neighbourhoods online survey; 62 from the Central City, 20 from Docklands, 49 from Southbank, 187 from within the remainder of the municipality, and 6 residents from just outside the municipality.

Whilst only 6 residents who responded lived outside of the municipality, 107 residents accessed their groceries outside the municipality. A total of 97 accessed fresh food outside the municipality. Approximately half of these residents travelled by car to access these services.

While 49 residents from Southbank responded to the online survey, only 7 residents accessed fresh food there.

A high proportion of Docklands residents accessed open space in their local area (90%), compared with just 31% of residents in the Central City and 18% in Southbank.

A high proportion (71%) of Central City residents socialised in their local space compared with those living in Docklands (40%) and Southbank (49%).

Just 11% of Central City residents accessed community facilities locally, compared with 35% in Docklands and 41% in Southbank.

A high proportion of residents (73-81%) from the three districts do not access education locally.

'... Good neighbourhood (with) many close by facilities and community spirit. Neighbourhood is in danger from over development of the area. Too many high rise developments (residential and commercial putting strain on infrastructure traffic and blocking out light creating wind tunnel and canyon effect. Historic buildings and character are being destroyed turning the area into a bland ugly soulless place - not "most liveable city". Poor development is destroying the quality of life of the area. Small business will suffer if residents are driven out by the poor development (residents contribute the most to the local economy - more than tourists or workers). The area will become a slum if action is not taken to improve planning and planning controls - already area is super dense -far in excess of residentially density permitted in other large cities...'

Central City Resident

'... The thing I dislike about our area is that the local convenience stores are too expensive and low quality so we have to drive to do our shopping in South Melbourne. If we need to pick up a parcel from the post office we also need to drive to South Melbourne and it would be nice to have a post office closer...'

Southbank Resident

'... I live in the 'law district' and it is dead on the weekends and after lunch during the week. There are no community services within close proximity and you can't even go out for coffee/brunch on the weekend. I usually travel to South Melbourne for fresh food groceries coffee and socialising on the weekends because there is no life or soul in my neighbourhood. This seems out of touch to me because there are so many residential towers in the area and many more under construction but this isn't a neighbourhood that caters to residents. It is a permanent construction site that is unwelcoming for pedestrians and businesses don't operate outside week-day mornings. There is one supermarket and it is overcrowded to the point of being unbearable but there are no other options except convenience stores (which are too expensive). This end of the city is in desperate need of life soul green and pedestrian-friendly projects. After living in this location for almost a decade my partner and I are currently looking to move elsewhere as a result of the lack of character detailed above...'

Central City Resident

'... I would like more low-priced and quality doctor and chemist services. It is very expensive. I find that I have to travel far for these services. I would would like more cafes and restaurants to open after hours on the weekend especially Sunday. It is very frustrating - you want to support local but the only places that are open are big chains! Makes it impossible!...'

Central City Resident

'What's missing: ...resident community, social activities-facilities for families kids seniors to broaden the demographic in the city more like other international cities, a school, another large super market, a city wide compost collection program (I see other cities have them), a rail link to the airport, more dedicated bike lanes in the city and bike paths out to the suburbs...'

CBD Resident

Research with the Community: Preliminary Findings

The maps provide a sample of the breadth of data collected through online engagement via Participate Melbourne. There were 848 participants who filled in a detailed survey that was designed to capture the people's experience in accessing their daily needs, key services and facilities in their local neighbourhood. These maps capture the percentage of daily needs met per travel mode for local residents only. Further analysis of the breadth of findings and correlations has yet to be conducted.

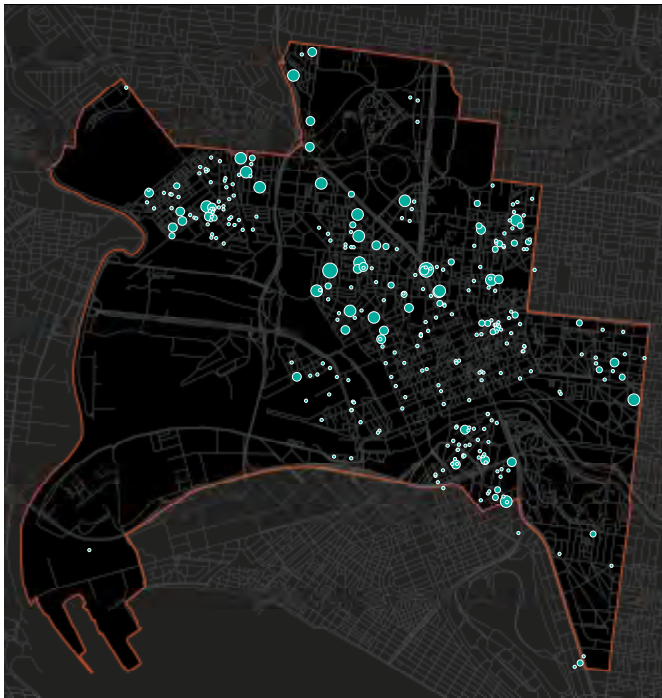


FIG. 25. Percentage of local residents cycling to access their daily needs.

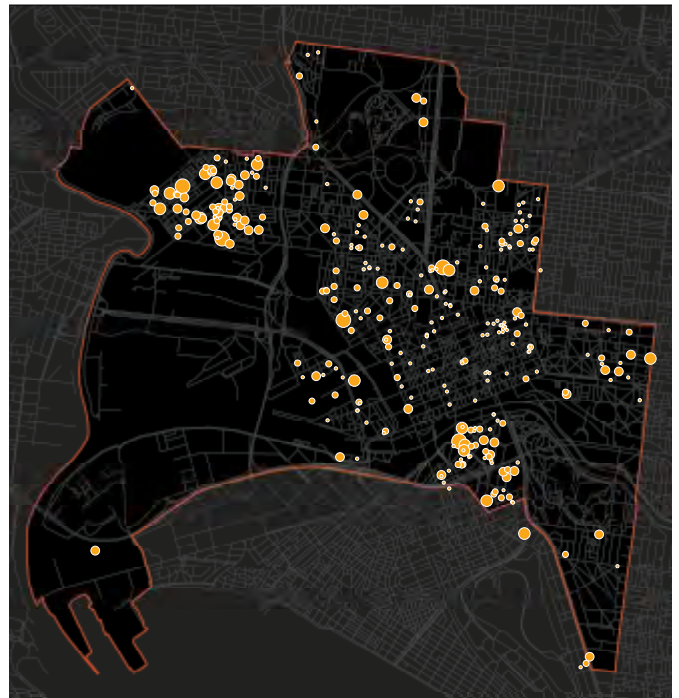
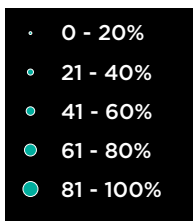
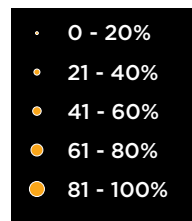


FIG. 26. Percentage of local residents driving to access their daily needs.



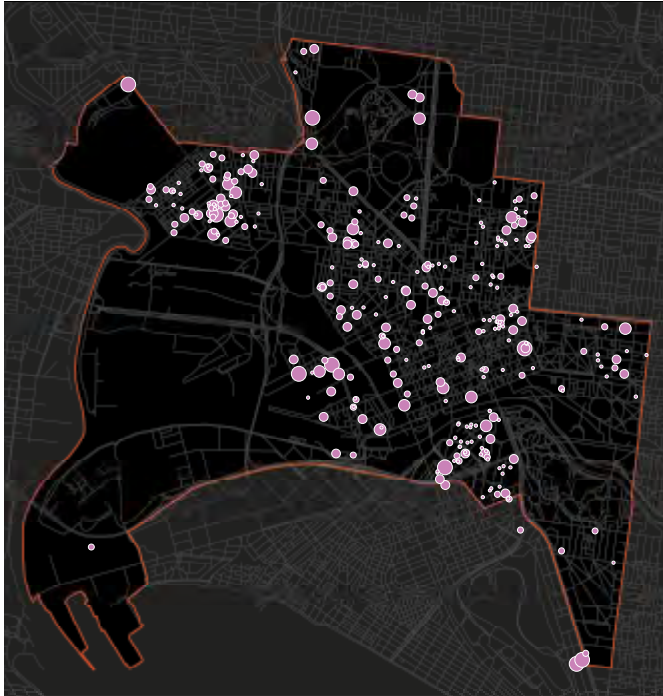


FIG. 27. Percentage of local residents travelling via public transport to access their daily needs.

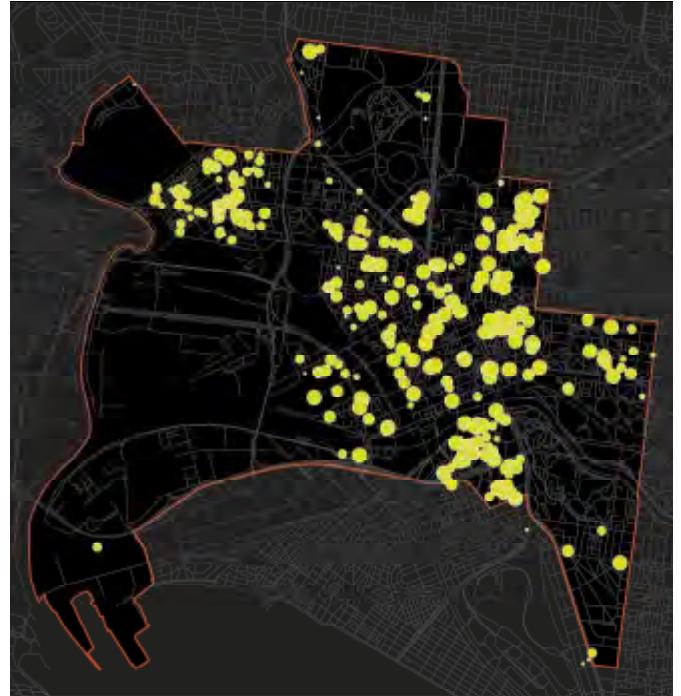
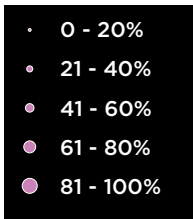
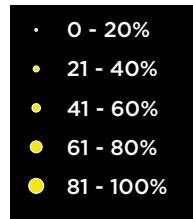


FIG. 28. Percentage of local residents walking to access their daily needs.



6. LOCAL LIVEABILITY CATCHMENT PROFILES

Real walking catchments were spatially determined across the city reflecting true walkability rather than standard 'as-the-crow-flies' radii. Every catchment selected was within 200m from a public transport node and was located to maximise the population within.

There were 15 catchments selected to cover maximum walkable areas of the study area:-

Central City

- Primarily informed by the five City Loop train stations, as originally conceived in the City of Melbourne's 1974 Strategy Plan (Fig. 11).

Queen Victoria Market

- To reflect the City North Structure Plan (City of Melbourne 2012), which identified the Queen Victoria Market as a local centre.

Southbank

- Informed by City of Melbourne structure plans.
- Further adjustments made for optimal coverage of Southbank.

Docklands

- According to existing private development hubs.
- Additional catchments to cover in-between areas to permit observations to be drawn from the widest expanse of the area possible.

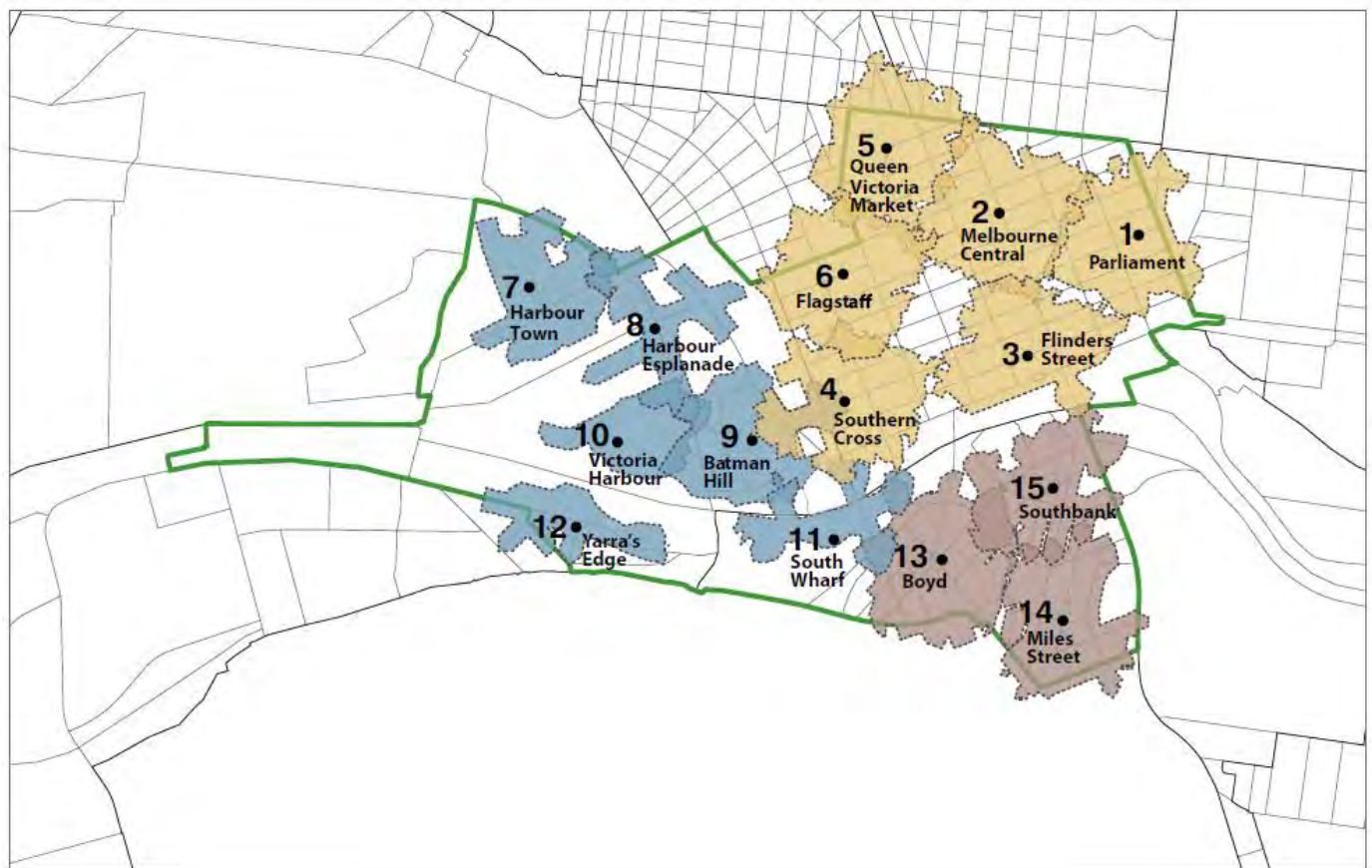
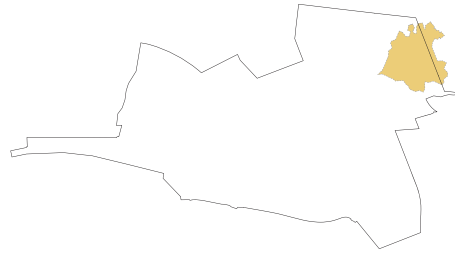
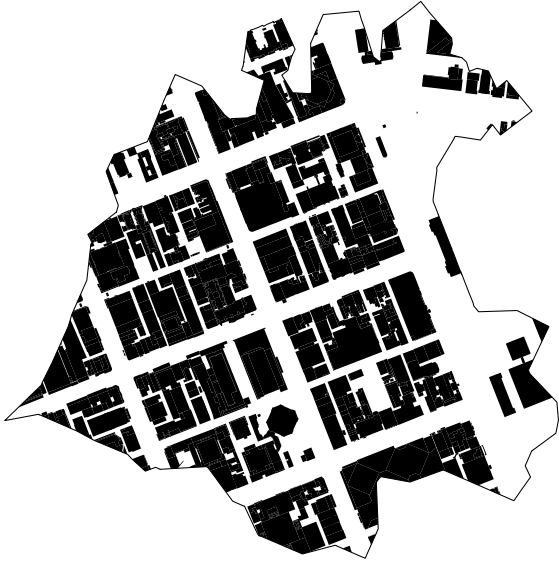


FIG. 29. Local Liveability was assessed across 15 catchments.

POPULATION DENSITY

01 PARLIAMENT

Area



Gross Catchment Area

381,323 SQ.M

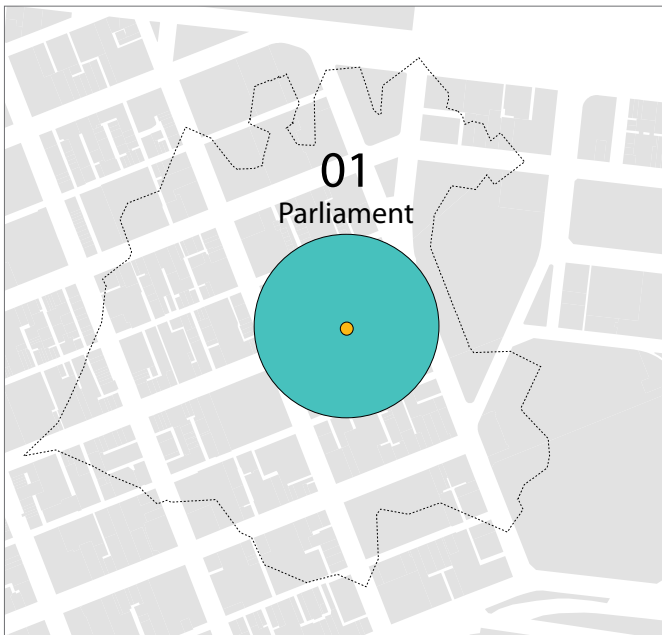
Net catchment area

245,988 SQ.M

Public open space %

35%

Population / Density



Total Population

61,308

No. of residents / % of total

3,872 (6%)

No. of workers / % of total

57,436 (94%)

Residential gross density

102 PEOPLE/HA

Residential net density

157 PEOPLE/HA

Employment gross density

1,506 PEOPLE/HA

Employment net density

2,335 PEOPLE/HA

URBAN STRUCTURE

01 PARLIAMENT



No. Blocks

48



Ave. Block Length

83.1m

- Below 10m
- 10-50m
- 51-100m
- 101-150m
- 151-200m
- 201-250m
- 251-300m
- >301m



No. Intersections

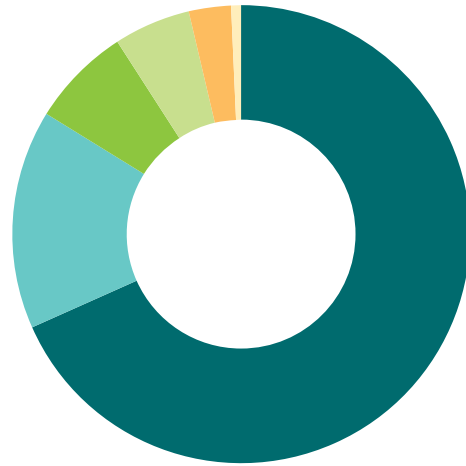
96

URBAN STRUCTURE









01 PARLIAMENT



No. Parcels
297



No. Parcels
%

	Small	68.4
	Medium	15.5
	Large	7.1
	Extra Large	5.4
	Extra Extra Large	3.0
	Super	0.7
	Excluded	
	Partially Excluded	

LOCAL LAND USES

01 PARLIAMENT

Essential Land Uses

354 (19%)

Essential / Total Land Uses

35%

No. workers / essential use

162

Total Land Uses

999 (16%)

No. residents / essential use

11

Essential land uses



Total land uses



Arts, Culture, Religion	25	(8%)
Retail Goods	68	(19%)
Retail Services	92	(26%)
Medical	143	(40%)
Health + Fitness	7	(2%)
Education	5	(1%)
Community	14	(4%)

Arts, Culture, Religion	25	(3%)
Retail Goods	216	(22%)
Retail Services	149	(15%)
Hospitality	416	(42%)
Medical	143	(14%)
Health + Fitness	10	(1%)
Education	26	(3%)
Community	14	(1%)

LOCAL MOVEMENT

01 PARLIAMENT

Car parking



Commercial

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Private

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Residential

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Total car spaces

12,132

Commercial car spaces

6,029 (50%)

Private car spaces

4,216 (35%)

Residential car spaces

1,887 (15%)

Car spaces / resident

0.5

Car spaces / employee


0.2

Transport



 Railway station

 Tram stop

 Bus stop

No. train stops **1**

No. tram stops **5**

No. tram stops **7**

No. bus stops **6**

No. bus routes **12**

EXTERNAL SPACES

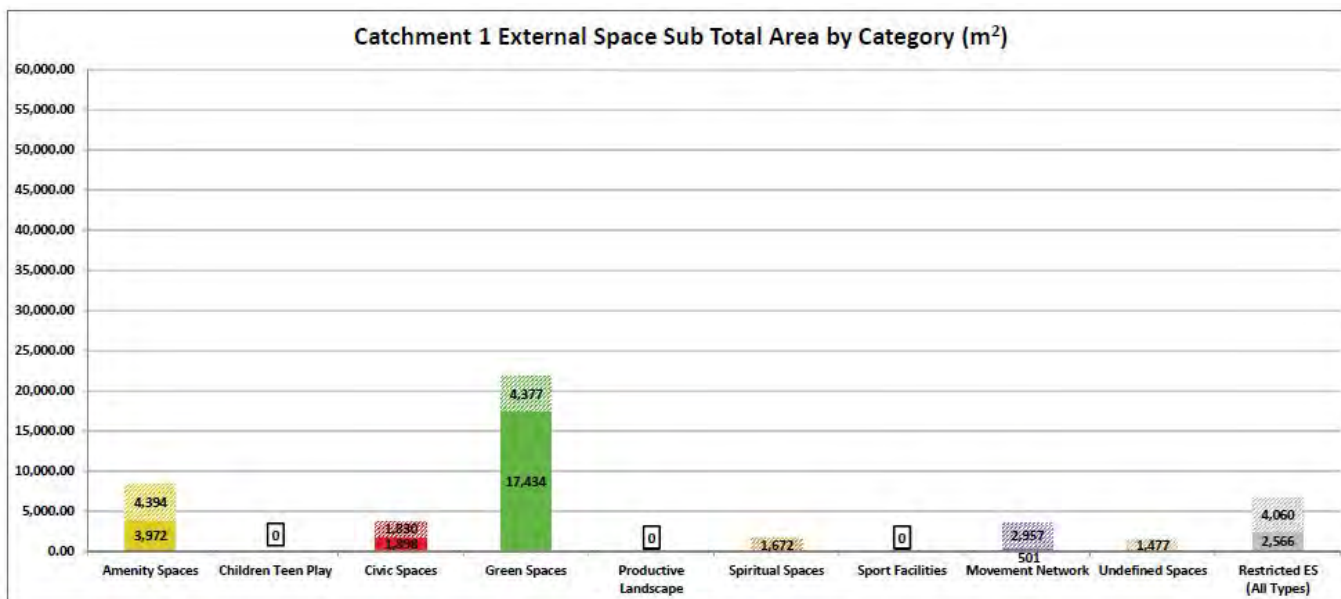
01 PARLIAMENT

Spatial Distribution



Public	Private	Category	Area (sq.M)
Yes	No	Amenity Space	8,366
No	No	Children/Teen Play	0
Yes	No	Civic Space	3,728
Yes	No	Green Space	21,811
No	No	Productive Landscape	0
Yes	No	Spiritual Space	1,672
No	No	Sport Facilities	0
Yes	No	Movement Network	3,457
Yes	No	Undefined Space	1,477
No	No	Not Accessible To Public	6,626
Yes	No	Catchment Centre	0
500m Catchment			

Quantity Distribution



Diversity

No. of Public Accessible External Space Types Available Among Total of 9 Classifications

6

Quantity Provision

Total Public Accessible External Space Per Capita

0.7 sq.M Ranking **11**

Potential Provision Through Future Development

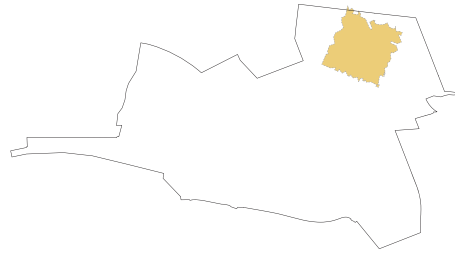
20% total area of the future development site in next 5 years

4,337 sq.M Ranking **14**

POPULATION DENSITY

02 MELBOURNE CENTRAL

Area



Gross Catchment Area

465,322 SQ.M

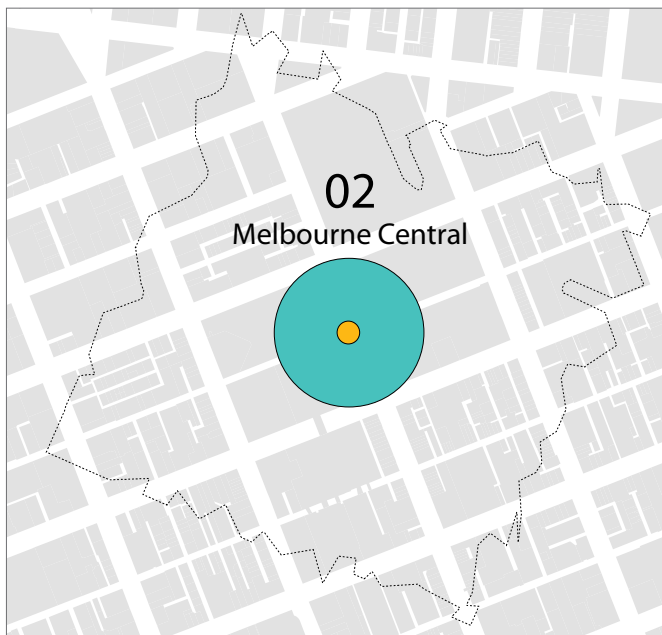
Net catchment area

307,796 SQ.M

Public open space %

34%

Population / Density



Total Population

53,227

No. of residents / % of total

6,768 (13%)

No. of workers / % of total

46,509 (87%)

Residential gross density

145 PEOPLE/HA

Residential net density

220 PEOPLE/HA

Employment gross density

1,000 PEOPLE/HA

Employment net density

1,511 PEOPLE/HA

URBAN STRUCTURE

02 MELBOURNE CENTRAL



No. Blocks
70



Ave. Block Length
83.1m

- Below 10m
- 10-50m
- 51-100m
- 101-150m
- 151-200m
- 201-250m
- 251-300m
- >301m



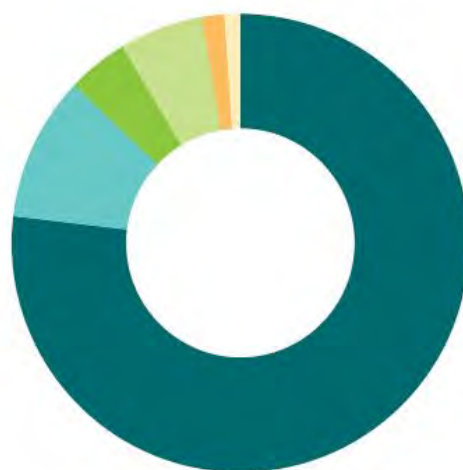
No. Intersections
109

URBAN STRUCTURE









02 MELBOURNE CENTRAL



No. Parcels
441



No. Parcels
%

	Small	76.9
	Medium	10.2
	Large	4.3
	Extra Large	5.9
	Extra Extra Large	1.6
	Super	1.1
	Excluded	
	Partially Excluded	

LOCAL LAND USES

02 MELBOURNE CENTRAL

Essential Land Uses

361 (19%)

Essential / Total Land Uses

26%

No. workers / essential use

129

Total Land Uses

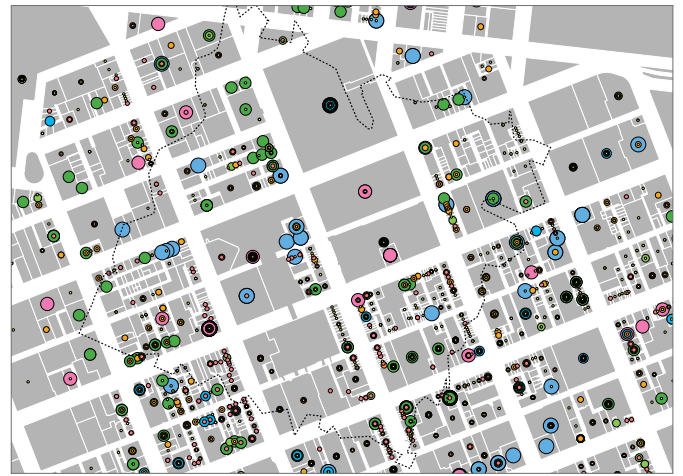
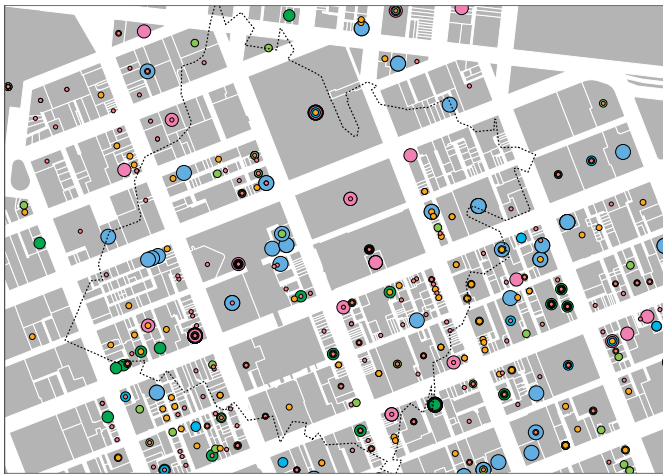
1,379 (2%)

No. residents / essential use

19

Essential land uses

Total land uses



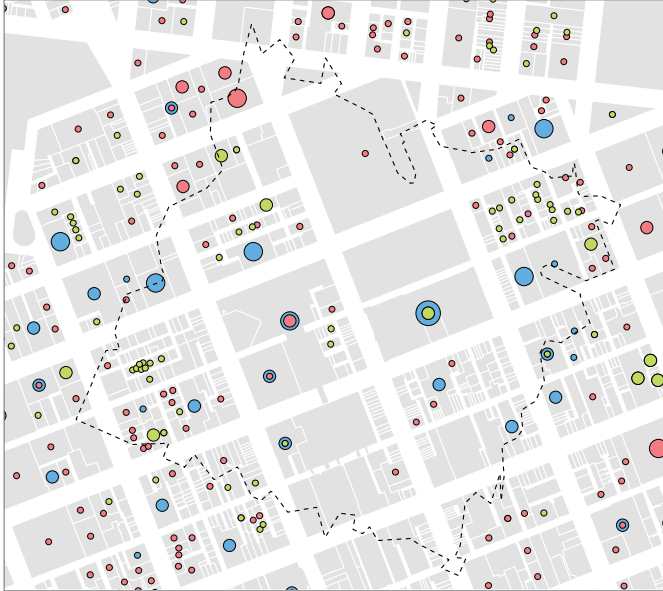
Arts, Culture, Religion	42	(12%)
Retail Goods	139	(38%)
Retail Services	95	(26%)
Medical	48	(13%)
Health + Fitness	3	(1%)
Education	9	(3%)
Community	25	(7%)

Arts, Culture, Religion	42	(3%)
Retail Goods	515	(37%)
Retail Services	166	(12%)
Hospitality	507	(37%)
Medical	48	(4%)
Health + Fitness	4	(0%)
Education	72	(5%)
Community	25	(2%)

LOCAL MOVEMENT

02 MELBOURNE CENTRAL

Car parking



Commercial

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Private

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Residential

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Total car spaces

9,863

Commercial car spaces

6,361 (65%)

Private car spaces

2,059 (21%)

Residential car spaces

1,443 (14%)

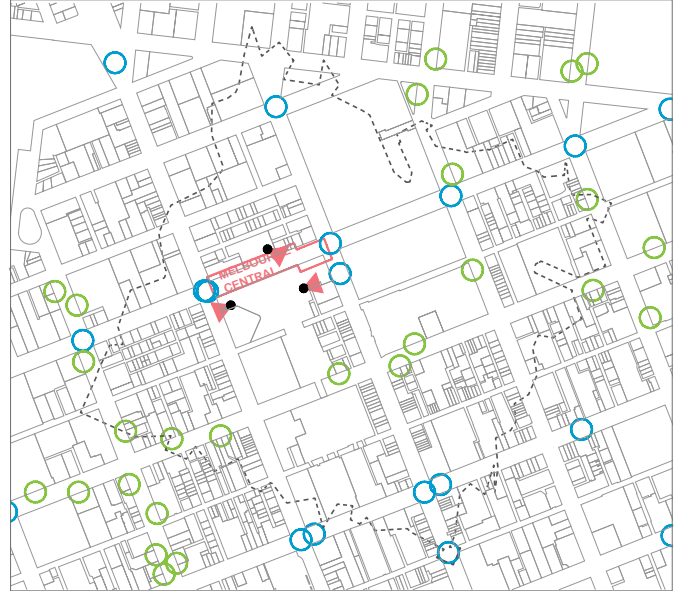
Car spaces / resident

0.2

Car spaces / employee

0.2

Transport



□ Railway station

○ Tram stop

○ Bus stop

No. train stops **1**

No. tram stops **8**

No. tram stops **16**

No. bus stops **9**

No. bus routes **20**

EXTERNAL SPACES

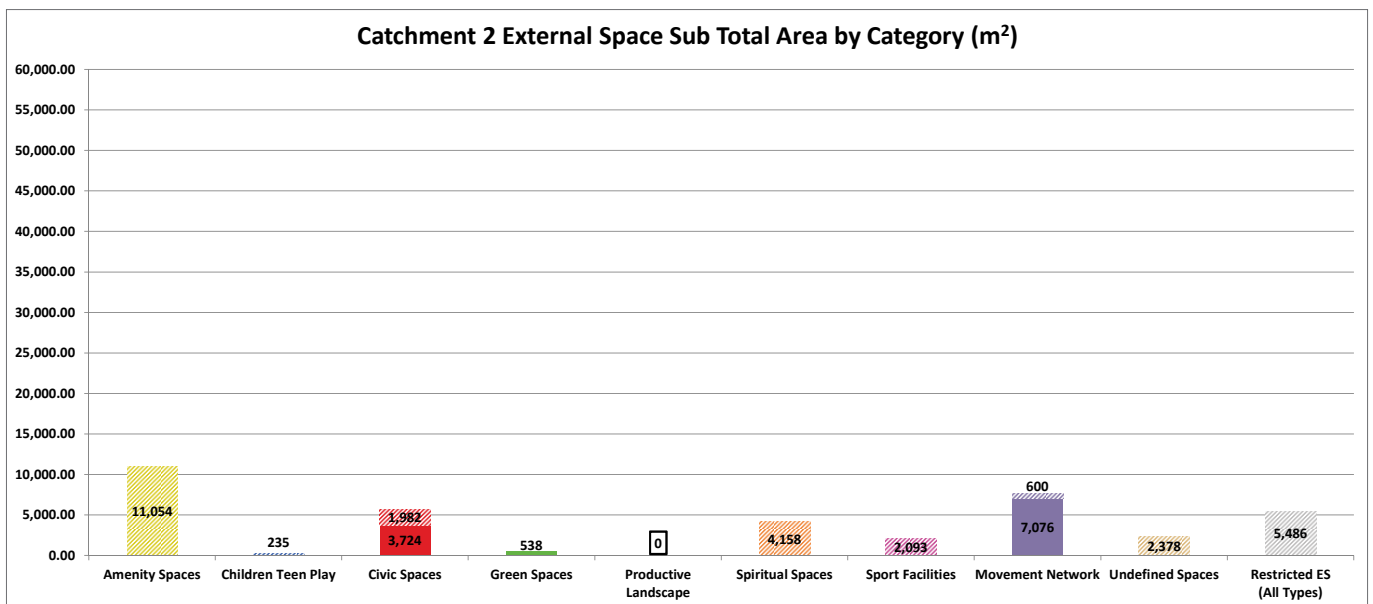
02 MELBOURNE CENTRAL

Spatial Distribution



Public	Private	Category	Area (sq.m)
Public	Private	Amenity Space	11,504 sq.m
Public	Private	Children/Teen Play	235 sq.m
Public	Private	Civic Space	5,706 sq.m
Public	Private	Green Space	538 sq.m
Public	Private	Productive Landscape	0 sq.m
Public	Private	Spiritual Space	4,158 sq.m
Public	Private	Sport Facilities	2,093 sq.m
Public	Private	Movement Network	7,677 sq.m
Public	Private	Undefined Space	2,378 sq.m
Public	Private	Not Accessible To Public	5,486 sq.m
Public	Private	Catchment Centre	
Public	Private	500m Catchment	

Quantity Distribution



Diversity

No. of Public Accessible External Space Types Available Among Total of 9 Classifications

8

Quantity Provision

Total Public Accessible External Space Per Capita

0.6 sq.m Ranking **12**

Potential Provision Through Future Development

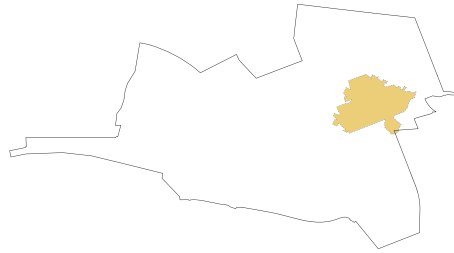
20% total area of the future development site in next 5 years

4,871 sq.m Ranking **12**

POPULATION DENSITY

03 FLINDERS ST

Area



Gross Catchment Area

396,512 SQ.M

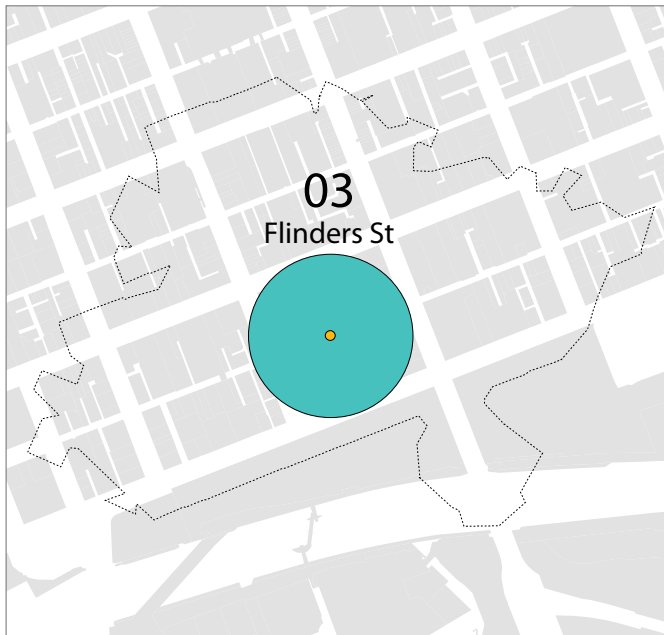
Net catchment area

259,032 SQ.M

Public open space %

35%

Population / Density



Total Population

54,382

No. of residents / % of total

3,063 (6%)

No. of workers / % of total

51,319 (94%)

Residential gross density

77 PEOPLE/HA

Residential net density

118 PEOPLE/HA

Employment gross density

1,294 PEOPLE/HA

Employment net density

1,981 PEOPLE/HA

URBAN STRUCTURE

03 FLINDERS ST



No. Blocks

44



Ave. Block Length

92.2M

- Below 10m
- 10-50m
- 51-100m
- 101-150m
- 151-200m
- 201-250m
- 251-300m
- >301m



No. Intersections

93

URBAN STRUCTURE









03 FLINDERS ST



No. Parcels
289



No. Parcels
%

	Small	60.6
	Medium	18.0
	Large	12.1
	Extra Large	5.4
	Extra Extra Large	3.1
	Super	0.7
	Excluded	
	Partially Excluded	

LOCAL LAND USES

03 FLINDERS ST

Essential Land Uses

471 (25%)

Essential / Total Land Uses

34%

No. workers / essential use

109

Total Land Uses

1383 (22%)

No. residents / essential use

7

Essential land uses



Arts, Culture, Religion	108	(23%)
Retail Goods	126	(27%)
Retail Services	116	(25%)
Medical	87	(18%)
Health + Fitness	5	(1%)
Education	11	(2%)
Community	18	(4%)

Total land uses

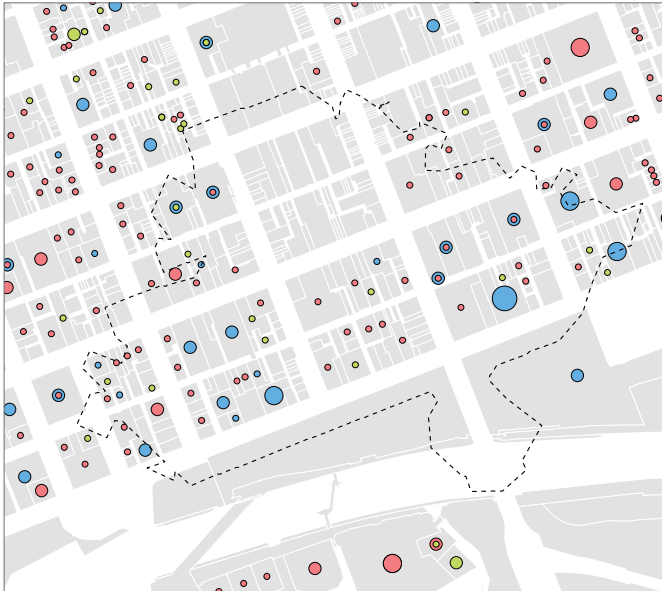


Arts, Culture, Religion	108	(8%)
Retail Goods	514	(37%)
Retail Services	204	(15%)
Hospitality	377	(27%)
Medical	87	(6%)
Health + Fitness	8	(1%)
Education	65	(5%)
Community	20	(1%)

LOCAL MOVEMENT

03 FLINDERS ST

Car parking



Commercial

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Private

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Residential

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Total car spaces

8,552

Commercial car spaces

6,856 (80%)

Private car spaces

1,425 (17%)

Residential car spaces

271 (3%)

Car spaces / resident

0.1

Car spaces / employee

0.2

Transport



Railway station

Tram stop

Bus stop

No. train stops **1**

No. tram stops **16**

No. tram stops **21**

No. bus stops **7**

No. bus routes **12**

EXTERNAL SPACES

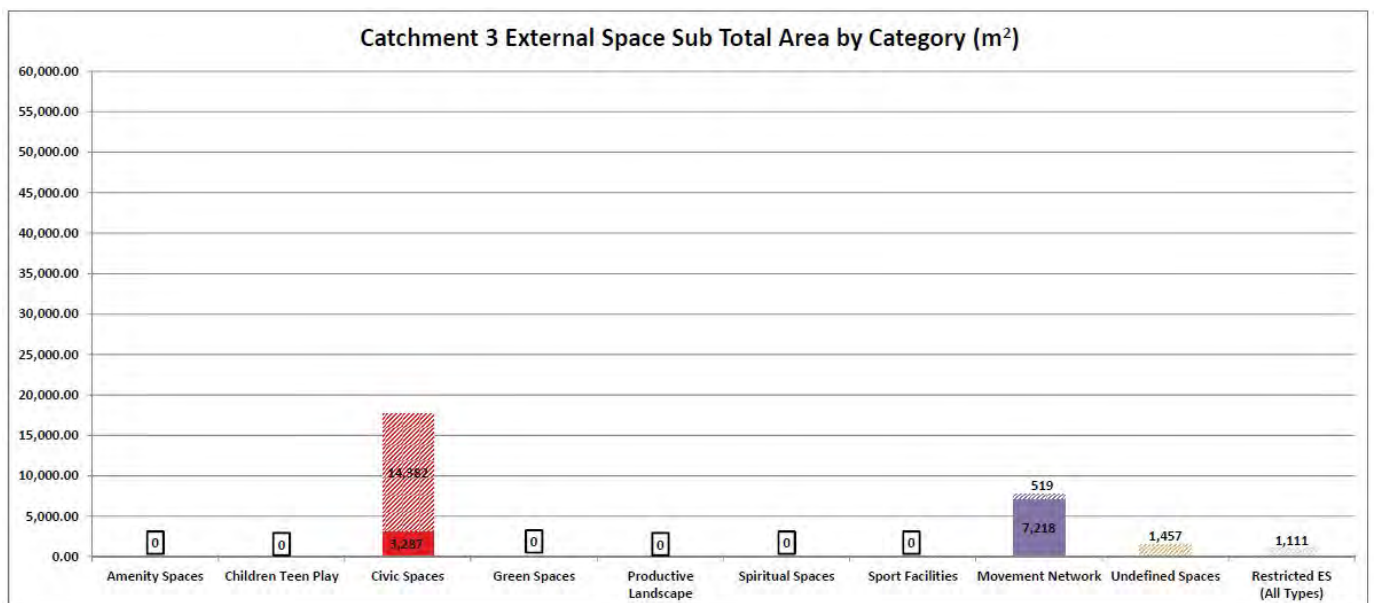
03 FLINDERS ST

Spatial Distribution



Public	Private	Category	Area (sq.M)
		Amenity Space	0
		Children/Teen Play	0
		Civic Space	17,669
		Green Space	0
		Productive Landscape	0
		Spiritual Space	0
		Sport Facilities	0
		Movement Network	7,737
		Undefined Space	1,457
		Not Accessible To Public	1,111
		Catchment Centre	
		500m Catchment	

Quantity Distribution



Diversity

No. of Public Accessible External Space Types Available Among Total of 9 Classifications

3

Quantity Provision

Total Public Accessible External Space Per Capita

0.5 sq.M Ranking **13**

Potential Provision Through Future Development

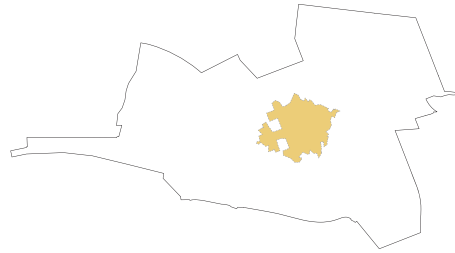
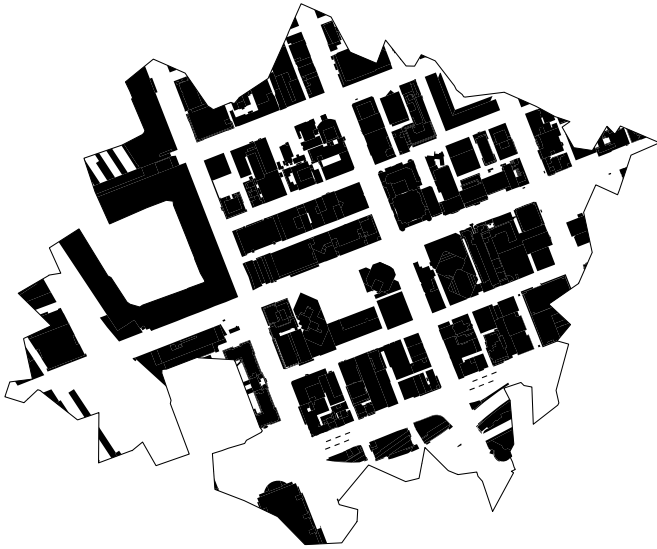
20% total area of the future development site in next 5 years

5,548 sq.M Ranking **10**

POPULATION DENSITY

04 SOUTHERN CROSS

Area



Gross Catchment Area

407,583 SQ.M

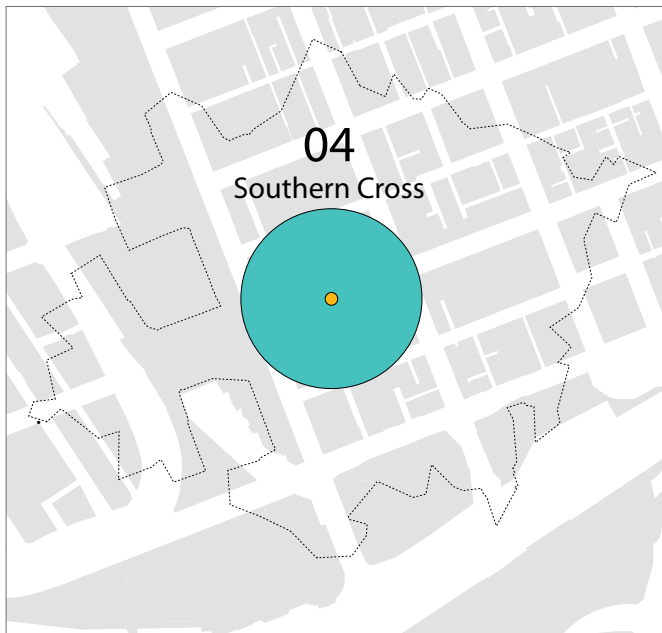
Net catchment area

252,414 SQ.M

Public open space %

38%

Population / Density



Total Population

60,908

No. of residents / % of total

2,875 (7%)

No. of workers / % of total

47,124 (93%)

Residential gross density

101 PEOPLE/HA

Residential net density

163 PEOPLE/HA

Employment gross density

1,376 PEOPLE/H

Employment net density

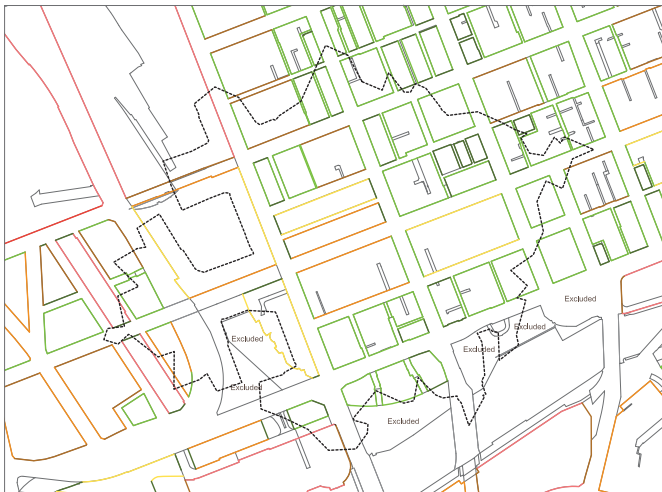
2,222 PEOPLE/HA

URBAN STRUCTURE

04 SOUTHERN CROSS



No. Blocks
48



Ave. Block Length
90.9M

- Below 10m
- 10-50m
- 51-100m
- 101-150m
- 151-200m
- 201-250m
- 251-300m
- >301m



No. Intersections
65

URBAN STRUCTURE









04 SOUTHERN CROSS



No. Parcels
156



No. Parcels
%

	Small	35.9
	Medium	23.1
	Large	18.6
	Extra Large	13.5
	Extra Extra Large	7.7
	Super	1.3
	Excluded	
	Partially Excluded	

LOCAL LAND USES

04 SOUTHERN CROSS

Essential Land Uses

148 (8%)

Essential / Total Land Uses

41%

No. workers / essential use

379

Total Land Uses

360 (6%)

No. residents / essential use

28

Essential land uses

Total land uses



Arts, Culture, Religion	3	(2%)
Retail Goods	45	(30%)
Retail Services	61	(41%)
Medical	22	(15%)
Health + Fitness	6	(4%)
Education	4	(3%)
Community	7	(5%)

Arts, Culture, Religion	3	(1%)
Retail Goods	45	(13%)
Retail Services	68	(19%)
Hospitality	187	(52%)
Medical	22	(6%)
Health + Fitness	7	(2%)
Education	15	(3%)
Community	13	(4%)

LOCAL MOVEMENT

04 SOUTHERN CROSS

Car parking



Commercial

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Private

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Residential

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Total car spaces

10,385

Commercial car spaces

5,460 (53%)

Private car spaces

3,458 (33%)

Residential car spaces

1,467 (14%)

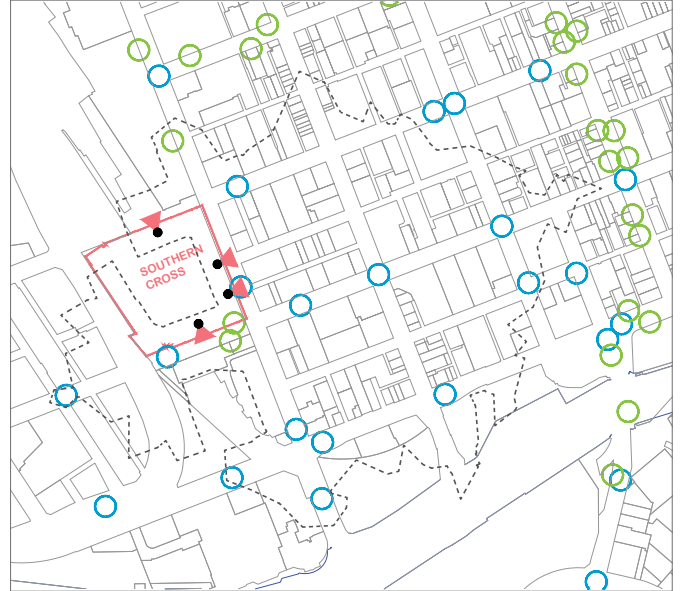
Car spaces / resident

0.4

Car spaces / employee

0.2

Transport



 Railway station

 Tram stop

 Bus stop

No. train stops **1**

No. tram stops **14**

No. tram stops **6**

No. bus stops **3**

No. bus routes **4**

EXTERNAL SPACES

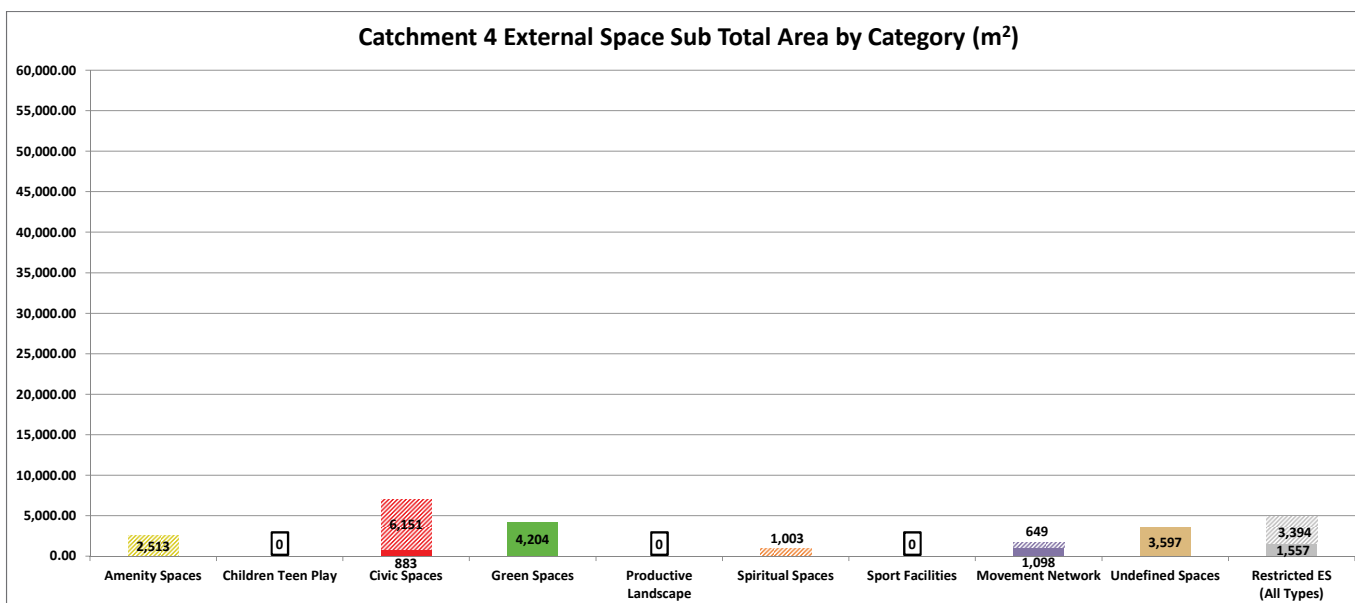
04 SOUTHERN CROSS

Spatial Distribution



Public	Private	Category	Area (sq.M)
	Diagonal Hatching	Amenity Space	2,513 sq.M
	Blue Diagonal Hatching	Children/Teen Play	0 sq.M
	Red Diagonal Hatching	Civic Space	7,034 sq.M
	Green Diagonal Hatching	Green Space	4,204 sq.M
	Light Blue Diagonal Hatching	Productive Landscape	0 sq.M
	Orange Diagonal Hatching	Spiritual Space	1,003 sq.M
	Purple Diagonal Hatching	Sport Facilities	0 sq.M
	Dark Blue Diagonal Hatching	Movement Network	1,747 sq.M
	Brown Diagonal Hatching	Undefined Space	3,597 sq.M
	*	Not Accessible To Public	4,951 sq.M
Circle with N		Catchment Centre	
Dashed Line		500m Catchment	

Quantity Distribution



Diversity

No. of Public Accessible External Space Types Available Among Total of 9 Classifications

6

Quantity Provision

Total Public Accessible External Space Per Capita

0.3 sq.M Ranking **15**

Potential Provision Through Future Development

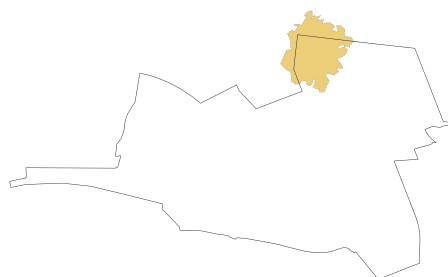
20% total area of the future development site in next 5 years

9,576 sq.M Ranking **3**

POPULATION DENSITY

05 QUEEN VICTORIA MARKET

Area



Gross Catchment Area

444,763 SQ.M

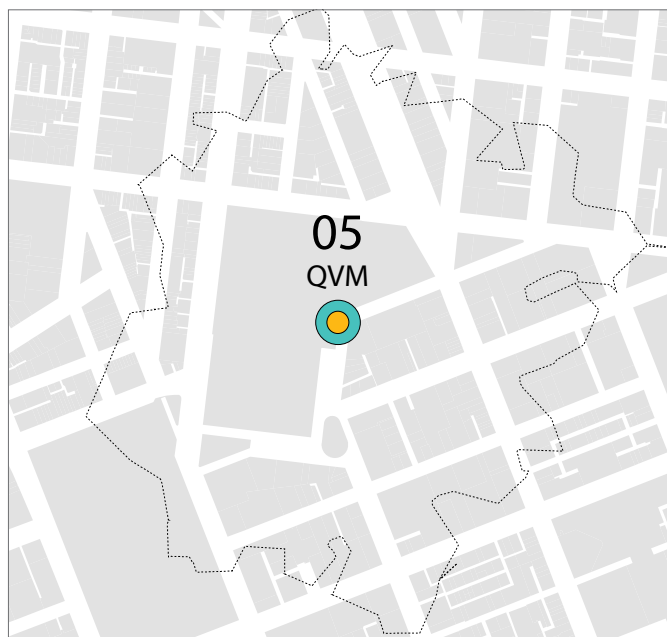
Net catchment area

268,788 SQ.M

Public open space %

40%

Population / Density



Total Population

20,853

No. of residents / % of total

36,898 (33%)

No. of workers / % of total

13,955 (67%)

Residential gross density

155 PEOPLE/HA

Residential net density

257 PEOPLE/HA

Employment gross density

314 PEOPLE/HA

Employment net density

519 PEOPLE/HA

URBAN STRUCTURE

05 QUEEN VICTORIA MARKET



No. Blocks
52



Ave. Block Length
86.7M

- Below 10m
- 10-50m
- 51-100m
- 101-150m
- 151-200m
- 201-250m
- 251-300m
- >301m



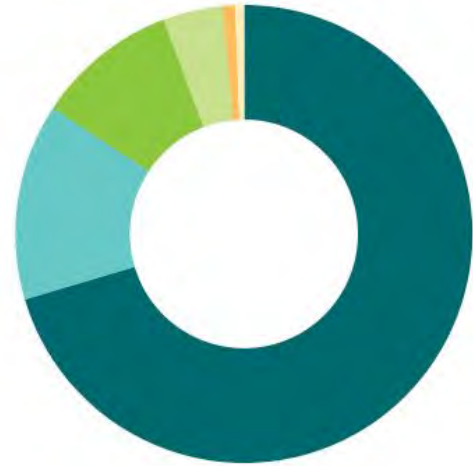
No. Intersections
83

URBAN STRUCTURE









05 QUEEN VICTORIA MARKET



No. Parcels
331



No. Parcels
%

	Small	70.4
	Medium	13.9
	Large	10.0
	Extra Large	4.2
	Extra Extra Large	0.9
	Super	0.6
	Excluded	
	Partially Excluded	

LOCAL LAND USES

05 QUEEN VICTORIA MARKET

Essential Land Uses

151 (8%)

Essential / Total Land Uses

45%

No. workers / essential use

92

Total Land Uses

339 (6%)

No. residents / essential use

46

Essential land uses

Total land uses



■ Arts, Culture, Religion	6	(4%)
■ Retail Goods	120	(79%)
■ Retail Services	13	(9%)
■ Medical	6	(4%)
■ Health + Fitness	0	(0%)
■ Education	2	(1%)
■ Community	4	(3%)

■ Arts, Culture, Religion	6	(2%)
■ Retail Goods	156	(46%)
■ Retail Services	32	(9%)
■ Hospitality	112	(33%)
■ Medical	6	(2%)
■ Health + Fitness	1	(0%)
■ Education	20	(6%)
■ Community	6	(2%)

LOCAL MOVEMENT

05 QUEEN VICTORIA MARKET

Car parking



Commercial

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Private

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Residential

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Total car spaces

7,080

Commercial car spaces

3,593 (51%)

Private car spaces

1,864 (26%)

Residential car spaces

1,632 (23%)

Car spaces / resident

0.2

Car spaces / employee


0.4

Transport



 Railway station

 Tram stop

 Bus stop

No. train stops **0**

No. tram stops **7**

No. tram stops **16**

No. bus stops **7**

No. bus routes **3**

EXTERNAL SPACES

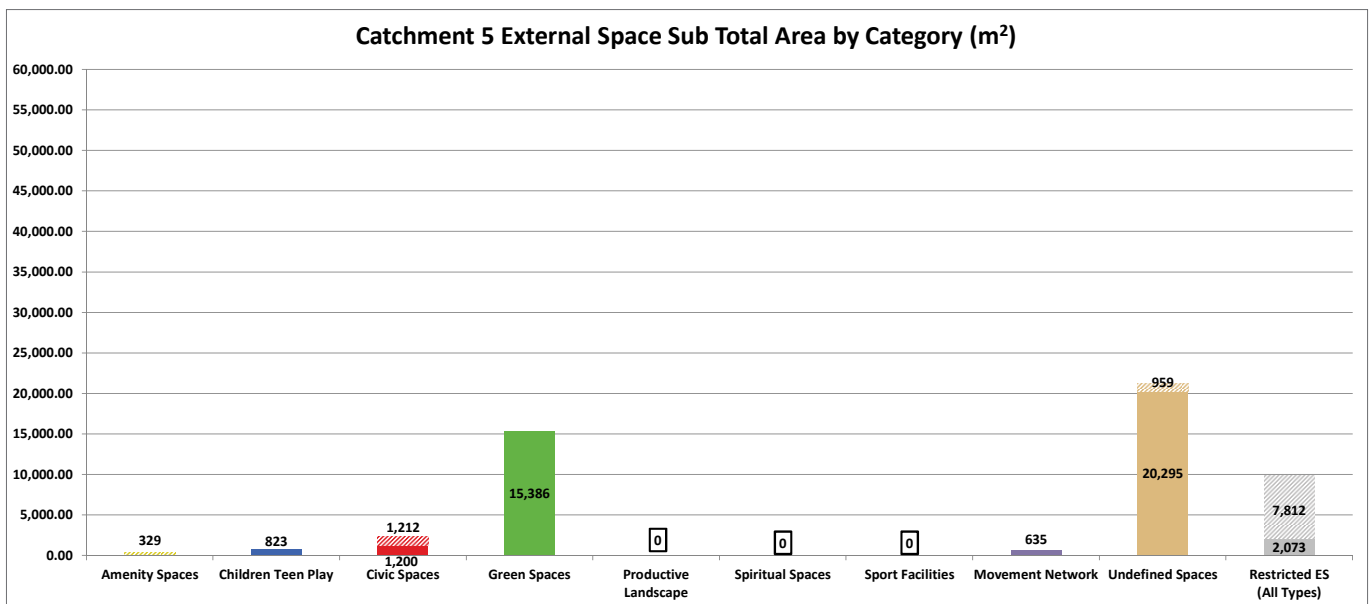
05 QUEEN VICTORIA MARKET

Spatial Distribution



Public	Private	Category	Area (sq.M)
Yellow		Amenity Space	329
Blue		Children/Teen Play	823
Red		Civic Space	2,411
Green		Green Space	15,386
Light Blue		Productive Landscape	0
Orange		Spiritual Space	0
Purple		Sport Facilities	0
Dark Blue		Movement Network	635
Brown		Undefined Space	21,254
*		Not Accessible To Public	9,885
Circle with N7		Catchment Centre	
Dashed Box		500m Catchment	

Quantity Distribution



Diversity

No. of Public Accessible External Space Types Available Among Total of 9 Classifications

6

Quantity Provision

Total Public Accessible External Space Per Capita

2.0 sq.M Ranking **6**

Potential Provision Through Future Development

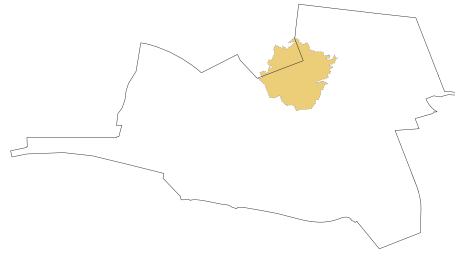
20% total area of the future development site in next 5 years

5,943 sq.M Ranking **8**

POPULATION DENSITY

06 FLAGSTAFF

Area



Gross Catchment Area

443,389 SQ.M

Net catchment area

296,972 SQ.M

Public open space %

33%

Population / Density



Total Population

45,029

No. of residents / % of total

6,216 (14%)

No. of workers / % of total

38,813 (86%)

Residential gross density

140 PEOPLE/HA

Residential net density

209 PEOPLE/HA

Employment gross density

875 PEOPLE/HA

Employment net density

1,307 PEOPLE/HA

URBAN STRUCTURE

06 FLAGSTAFF



No. Blocks

56



Ave. Block Length

84.2M

- Below 10m
- 10-50m
- 51-100m
- 101-150m
- 151-200m
- 201-250m
- 251-300m
- >301m



No. Intersections

100

URBAN STRUCTURE









06 FLAGSTAFF



No. Parcels
242



No. Parcels
%

	Small	50.4
	Medium	18.6
	Large	18.2
	Extra Large	7.4
	Extra Extra Large	3.3
	Super	2.1
	Excluded	
	Partially Excluded	

LOCAL LAND USES

06 FLAGSTAFF

Essential Land Uses

98 (5%)

Essential / Total Land Uses

21%

No. workers / essential use

396

Total Land Uses

472 (8%)

No. residents / essential use

63

Essential land uses

Total land uses



■ Arts, Culture, Religion	4	(4%)
■ Retail Goods	35	(36%)
■ Retail Services	26	(27%)
■ Medical	17	(17%)
■ Health + Fitness	2	(2%)
■ Education	7	(7%)
■ Community	7	(7%)

■ Arts, Culture, Religion	4	(1%)
■ Retail Goods	142	(30%)
■ Retail Services	51	(11%)
■ Hospitality	215	(45%)
■ Medical	17	(4%)
■ Health + Fitness	2	(0%)
■ Education	31	(7%)
■ Community	10	(2%)

LOCAL MOVEMENT

06 FLAGSTAFF

Car parking



Commercial

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Private

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Residential

- 1 - 100
- 101 - 500
- 501 - 1000
- 1001 - 3000
- 3001 - 6000

Total car spaces

10,193

Commercial car spaces

4,153 (44%)

Private car spaces

3,193 (31%)

Residential car spaces

2,487 (25%)

Car spaces / resident

0.4

Car spaces / employee

0.2

Transport



Railway station

Tram stop

Bus stop

No. train stops **1**

No. tram stops **9**

No. tram stops **6**

No. bus stops **14**

No. bus routes **12**

EXTERNAL SPACES

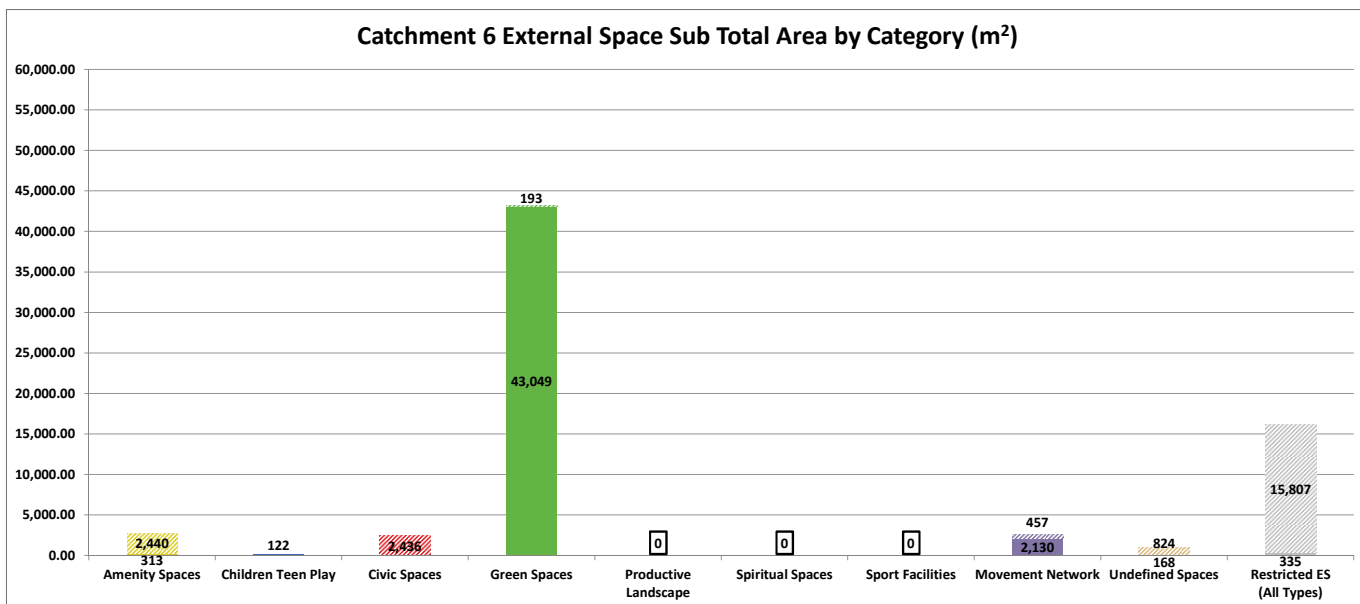
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Spatial Distribution



Public	Private	Category	Area (sq.M)
Yes	No	Amenity Space	2,753
Yes	No	Children/Teen Play	122
Yes	No	Civic Space	2,436
Yes	No	Green Space	43,242
Yes	No	Productive Landscape	0
Yes	No	Spiritual Space	0
Yes	No	Sport Facilities	0
Yes	No	Movement Network	2,587
Yes	No	Undefined Space	991
No	Yes	Not Accessible To Public	16,142
Yes	No	Catchment Centre	
500m Catchment			

Quantity Distribution



Diversity

No. of Public Accessible External Space Types Available Among Total of 9 Classifications

5

Quantity Provision

Total Public Accessible External Space Per Capita

1.2 sq.M Ranking **10**

Potential Provision Through Future Development

20% total area of the future development site in next 5 years

10,871 sq.M Ranking **2**