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Pedestrianization Challenges around Future Transit Oriented Development Area in Dhaka, Bangladesh

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Pedestrianization Challenges around Future Transit Oriented Development Area in Dhaka, Bangladesh

ABSTRACT: Dhaka is the densest and one of the rapidly urbanizing megacities in the world. Like other developing contexts the city is struggling with a massive population which creates huge traffic congestion on roads. Addressing this issue the first ever mass rapid transit project MRT-Line 6 has been initiated that is expected to be completed by 2021. Besides, the government holds a plan of making Transit Oriented Development (TOD) surrounding the future 16 station areas. TOD is a popular and recognized planning and design tool to achieve a dense, mix-used, walkingable living neighborhood around a station. Although apparently, the strategy of executing TOD looks appropriate and promising but, pedestrianization, a core element of TOD, has been heavily overlooked in the current planning process. Particularly, in an unplanned, almost developed city with only 600km of sidewalk, ensuring pedestrianization will not only be difficult but also utmost challenging. Moreover, obstructions and encroachment by vendors and others making this situation more complex. Therefore, it was essential to critically consider pedestrianization in the mainstream planning process for making TOD sustainable in the context of Dhaka. This paper will attempt to identify the constraints of promoting pedestrianization around a future station area. Doing so, the study has been carried out on Motijheel, central business district of Dhaka, which is considered as one of the most challenging station areas. Within this area of investigation, with a physical survey, the existing scenario of pedestrian space and its adjacent road conditions are explored. Following that, a Geographic Information System (GIS) based analysis has been conducted to measure the level of obstructions within the 500 meter radius of Motijheel. Finally, based on the findings, the paper will also provide an overview of how dissimilar the pedestrian characteristics are compared to the developed countries that implemented TOD.

Keyword: Transit Oriented Development (TOD), Pedestrianization, Level of Obstructions, Dhaka City.
Introduction

Dhaka is the capital of Bangladesh and the densest city in the planet where approximately 47000 people are living in per square kilometers (Amin, 2018). The city is also the heart of country's political and economic activities. On an average working day, an enormous 21 million trips occur within the city (Dhaka City Corporation, 2016). Having no effective planning or transport policies Dhaka is already struggling with its massive population and huge trip numbers as congestion decreased traffic mobility to 8 km per hour which is slightly higher than the walking speed. In such situation, the government once reluctant of promoting public transport system is now seriously considering to shift the mobility from private vehicle to public transit as Bangladesh’s first Mass Rapid Transit (MRT) and Bus Rapid Transit (BRT) are currently in progress. It is expected that the first ever transit MRT-Line 6 will start its operation from 2021. Moreover, with the establishment of transit, there are plans to apply Transit Oriented Development (TOD) principles along the transit corridor. Globally TOD is a popular and recognized planning and design tool whereby many countries around the world achieved a dense, efficient, diversified, walkable living neighborhood. According to the definitions provided by Calthorpe (1993), Parker et al. (2002), Cervero et al. (2004), CTOD (2009) and by many others at different times, the core purpose of TOD is to create a pedestrian-friendly walkable and cyclable neighborhood. However, the entire Dhaka city is already built in an unplanned organic manner therefore, unlike other countries transit are being implemented after its development which requires more critical attention.

In this problem context, this paper will attempt to concentrate on walkability, one of the vital aspects of TOD, particularly for Dhaka City with a notion to identify possible major constraints of pedestrianization around the future station areas. Doing so, the research specifically focuses on the central business district Motijheel which is often considered as one of the most challenging MRT stations. Firstly the paper examines the existing scenario of Motijheel and future proposals regarding transit and station area development. After collecting primary data via physical survey and examining available secondary resources a quantitative analysis has been done for achieving specific findings associated with pedestrian walkability around the proposed TOD areas.
Methodology

The research is mostly quantitative and based on both primary and secondary data to measure the level of obstruction around Motijheel station area. Collected geo-referenced data have been analyzed via Geographic Information System (GIS) software ArchGIS 10.5. Overall, the analysis can be divided into two parts where the first one determines the exact area for analysis and the second one measures the level of obstruction in that particular action area. The methodological procedure has been illustrated via the following flowchart.

### Figure 1: Methodological framework.

![Flowchart](image)

The Problem Context

Alike many developing countries Dhaka City’s infrastructure is not compatible with its massive population. Both from vehicular and pedestrian point of view the amount of road network and walkable pedestrian space are significantly scarce. Statistics say in Dhaka among its all buildup area only 7% are road surface area whilst TOD’s principle executed in cities like Paris and Chicago have road surface area of 25% and 40% respectively (Mahmud and Rabbani, 2012; Hobbes, 2014). Considering the pedestrian space, based on the information of Dhaka City Corporation (2016), only 600km footpath exists in the central region of Dhaka City and among them a substantial portion is being occupied in different forms like vendors and illegal parking for instance. Concentrating on Motijheel, it is basically a business district of 4 square kilometers area with a population over two hundred thousand people (BBS, 2011). Around 8634 establishments are located here including headquarters of several major public and
private organizations (BBS, 2013). Being the core of city’s commercial and economic activities this district has a significant impact on the capital’s travel trip as in a single working day, numerous number of people travel here for various trade and services from all over the country.

According to plan Motijheel will be a terminus station where on an average almost 113,000 passengers will travel per day through this station after the completion of MRT (JICA, 2011). However, regarding pedestrian accessibility the area is no different than any other parts of the city as pedestrian obstructions are noticeable. Without properly addressing such conditions the mega infrastructure MRT line-6 is in process which may contribute negatively on pedestrian or walking behaviors. Proposals regarding station area development and street level drawing apparently indicate possible future complication on pedestrians.
Figure 3. Proposed street level plan layout of Motijheel station and the scenario of pedestrian obstruction (Source: Dhaka Mass Rapid Transit Project by NKDM Association).

From the street level plan (Figure 3) it can be found that the station’s structural components like columns and service facilities like elevators, escalators, and staircases are standing in the middle of the footpath. Provisions of universal access are absent moreover, none of the station's entry and exit points have been designed or guided through any spacious indoor or outdoor open space rather directly positioned on nearby pedestrians. In a station where more than a hundred thousand people will travel everyday overlooking a vital issue like walkability may bring added complexity and pose threats to the efficiency of the transit system. Similar issues can be found in surrounding pedestrians as well where the pedestrian flow is being interrupted by both physical and man-made obstructions. The context that is already facing a high volume of traveling population, insufficient infrastructures, and encroachment problems, inclusion of additional transit population without considering proper pedestrian accessibility within and around the station area will certainly make the condition worse.
Analysis

In this paper, the main purpose is to identify the future challenges of pedestrianization in Dhaka’s transits node where TOD’s principles are going to be applied. From the previous discussion, pedestrian obstructions at Motijheel can be divided into two major categories - physical obstruction and man-made or human driven causes of obstructions. Obstructions associated with poor infrastructures, physical barriers or components belongs to the physical obstruction category and obstructions due to hawkers, vendors, parking have been considered as man-made obstruction. In the analysis, only manmade obstructions are taken into consideration because poor quality infrastructures or physical obstacles can be solved during the new transit development whereas man-made obstructions cannot be changed immediately as it has become a social practice. Massive informal economy is running based on the pedestrians of Motijheel area and requires a special attention as livelihood of a vast number of population depends on it. Furthermore, this type of obstructions also have an inner relationship with surrounding urban areas and circulation networks.

Determining TOD area

In case of defining station node, researches from Calthrope (1993) to ITDP (2017) suggest that typically TOD or the transit catchment area should be determined based on the range or timespan of the comfortable walk. Generally, no certain radius is followed strictly because of the demographics and geographic variation of contexts. For instance, in the case of American cities, TOD area appears as both 400m or ¼ mile (5-minute comfortable walk) and 800m or ½
mile (10-minute comfortable walk). However, for Dhaka, there is no such exact figure but according to The Revised Strategic Transport Plan (RSTP), 400m to 1 km has been considered as a highly assessable zone (JICA and DTCA, 2015). Selecting analysis area for this research two additional factors were considered. First one is the city’s geographic location, high density, and climatic condition. Usually, it is a hot and humid region with a high level of temperature throughout the year and due to population density bulk of people will move within the transit area. The second factor is that, in the proposal, all stations are located within or less than 1 km distance from each other which means considering a larger radius from any station points will overlap with the other stations (Figure 2). Therefore, considering the high dense, hot and humid condition and to avoid the double count, 500m radius has been selected as a TOD zone where the level of obstructions will be analyzed using GIS.

**Calculation of obstruction**

Calculating the level of obstruction firstly primary data were collected via direct observation and a geo-referenced physical survey at the entire 500m radius of proposed Motijheel station area. Additionally, documentation was done by filming and note-taking. Physical surveys were done during the working day within the office hours and during this time period, all types of permanent, semi-permanent, and temporary vendors and amount of illegal parking were counted, marked, and recorded. Utilizing GPS, the survey notes, and photo and video evidence all the vendors and illegal parking location points were transferred into ArcGIS 10.5 software by creating a dot on the building use map of Motijheel area. Every dot represents an obstruction point on pedestrian and its adjacent road. Then a model has been run in ArcGIS (Figure 5) to find out obstruction scenario and also to draw some relationship between the building use and the pedestrian obstruction level.
Findings

The overall findings help to characterize pedestrian walkability of Motijheel area and provides future TOD challenges of this commercially important area. Considering the characteristics, the analysis draws connection between informal economic activities and level of obstruction. For instance, a huge number of, 4673 to be exact, obstructions including vendors and parking lots has been found within the 500m radius area of the Motijheel station and surprisingly all of them are illegal. Analysis also finds that the entire 500m future TOD zone combinedly got 155km of roads and pedestrians of which 16% circulation area is already occupied by the vendors and illegal parking hampering pedestrian flow and contributing in traffic congestion (Figure 6).
Moreover, in the GIS model, investigating the obstacle positions it can be identified that most of the obstructions are happening alongside the arterial roads more specifically where commercial concentration is high (Figure 7). Such scenario indicates pedestrian obstructions or obstruction points also have relationship with its adjacent building use. For example, Figure 7 demonstrates that the commercial and institutional buildings attracting more obstruction than others. Another core features of Dhaka city streets are non-motorized vehicles locally known as ‘rickshaw’. Due to pedestrian obstruction and unfavorable walking environment this mode of transport is also popular for shorter distance travel like less than 3.6km. From the GIS model the presence of rickshaw is significantly noticeable at every nodes or intersection points which
also contributes in traffic congestion. However, promoting a healthy walkable pedestrians space could easily replace this non-motorized vehicle and reduce traffic congestion in this area. Ultimately, poor walkable condition promoting use of non-motorized vehicle and also allowing to occupy less used pedestrians areas and altogether working as a feedback loop in Motijheel area. These have already turned in to social practice in that area and presumably will be challenging to change this situation overnight. So planning policies and pragmatic design proposal are necessary to transform this condition in future TOD development. Just implementing MRT and adopting conventional TOD principles without addressing the context’s vital socio-economic issue will definitely pose threats to the sustainability and efficiency of the transit system.

Figure 8: Commercial built use and land use centric obstruction position in Motijheel station area.

From this study it can also be said that the characteristics of the pedestrian are so different there in Dhaka according to the other developed countries that adopted transit-oriented development. In developed context TOD area, they are making policies to create the transit area more vibrant by putting more people-oriented activity on the ground level, in Dhaka, the context is already vibrant and active. Challenging fact is the CBD area is already built and after implementation of MRT a bulk population will move simultaneously in various destinations. However, unlike the developed context where there are significant percentages of public space around the transit node the condition of Motijheel is opposite. From the GIS map only 3 existing open spaces can be identified but none of them are publicly accessible and surprisingly in the future station area
planning and design those spaces have been totally overlooked. Therefore, the pressure on the pedestrians will increase undoubtedly. Not only providing enough space for parking facilities and pedestrian will not solve the problem. A proper, holistic approach is necessary and blindly following the globally used TOD’s walkability and cyclability principal needs to be modified by adding or removing policies according to the necessity of the context.

Conclusion

In the paper, findings distinctly demonstrate the obstruction level on pedestrian and its adjacent road in the station node of central business district Motijheel. Due to inadequate and poor pedestrian infrastructure as well as the different man-made obstructions people are being forced to use other modes of transportation instead of walking specifically for the shorter travel distance. In Dhaka currently, 8 million trips happen within 2 km distance and among them, 5 million are happening on the non-motorized vehicle like rickshaw. So, only by ensuring the proper pedestrian walkable environment and cyclability can bring a significant improvement in city’s traffic system. Additionally, from the findings, it has been understood that there are some distinct differences in both TOD’s purposes and characteristics between the developed and developing context. By acknowledging contextual specialties more pragmatic and effective planning and design proposals needs to be developed. Through the analysis this paper just attempted to bring out how pedestrian obstructions are associated with adjacent land use and building use and also how important it is to understand such relationships in order to develop proper TOD strategies which will ensure walkability. The research also recognizes that there are also scopes of further research to investigate these relationship and pedestrian behaviors of Dhaka City from different points of view.
References


The Empowering Potential of Community Organising in Australia: A Regional City Case Study

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The Empowering Potential of Community Organising in Australia: A Regional City Case Study

ABSTRACT: Building liveable cities that are just and sustainable depends heavily on the transformative potential of empowered communities. Community organising is one empowerment strategy that is resurging in many countries. Broadly speaking, it refers to the coordinated efforts of residents to collectively empower themselves to advance their socio-cultural, political, economic and environmental needs and interests. The articulation of a body of community organising theory and practice emerged from the US civil rights movement in the 1960s, especially through the work of Saul Alinksy. However, community organising has attracted limited and belated interest in Australia, most notably through the Sydney Alliance project in recent years. This case study contributes to the embryonic Australian scholarship in this field. It examines the possibilities and challenges of community organising experienced by a grassroots community building organisation based in disadvantaged neighbourhoods of the regional city of Albury-Wodonga. Interview and autoethnographic data from participants is analysed to convey the lived experience and wider implications of the under-development of community organising in Australia. The paper finds that while government and NGO support for community organising in the US and the UK, for example, have been pivotal features of prominent democratisation and community renewal initiatives, there is no similarly systematic approach to community organising across Australia as yet. This case study suggests that the neglect of community organising in Australia is sapping the appetite and capacity of many residents who wish to help build socially and ecologically just cities, independently or collaboratively with government and non-government agencies. On the other hand, the Albury-Wodonga experience indicates the significant impact that modest public investment in community organising can produce. It is contended that public investment in relevant education, skills, resources and partnerships warrants closer consideration as a possible pathway to more community-driven liveable cities.

Keywords: Community organising; Community governance; Disadvantaged communities, Rural Communities; Australia
Introduction

Building liveable cities that are just and sustainable depends heavily on the transformative potential of empowered communities. Community organising (CO) is one empowerment strategy that is gaining increasing momentum around the world, but is under-developed in the Australian context. Broadly speaking, CO refers to the coordinated efforts of community members to collectively empower themselves to advance their socio-cultural, political, economic, and environmental interests. Grassroots forms of community organising have been practiced for centuries to counteract oppression in its many guises. However, the articulation of CO theory and practice did not fully emerge until the US civils rights movement in the 1960s, most notably from the work of Saul Alinksy and the Industrial Areas Foundation (Alinsky, 1971). Negligible government, NGO and educational support have contributed to the comparably weak state of CO in Australia, leading to missed opportunities for more empowered communities. The paper begins with a brief note on the research approach before outlining the significance and meaning of CO to help contextualise an Albury-Wodonga case study. The ensuing discussion considers some areas for improving CO in Australia so that disadvantaged people can better participate in the creation of more equitable and liveable cities and neighbourhoods.

Research Approach

This case study examines the experiences of a grassroots community organisation, the Global Village Community Co-operative (the Village, for brevity), which is based in disadvantaged neighbourhoods of the regional city of Albury-Wodonga. The possibilities and challenges for CO are examined through the autoethnographic eyes of the author (Ellis et al., 2011) and thematic insights from an in-depth interview with a key Global Village participant (pseudonym David).

Autoethnography contributes the perspectives and experiences of social phenomena and organisations from the standpoint of insiders, sometimes retrospectively, that are analysed against relevant fields of inquiry. While there are many different kinds of autoethnography, the approach taken here most closely resembles community autoethnography which uses the personal experience of researchers-in-collaboration to illustrate how a community manifests particular social/cultural issues. … Community autoethnographies thus not only facilitate “community-building” research practices but also make opportunities for “cultural and social intervention” possible (Ellis et al., 2011, p. 279).
My roles in relation to the Village have changed over the past three years from a mentor of the founders, a coordinator of a university program co-housed at the Village, a community volunteer and most recently an unpaid Co-op director. Apart from my spare time, I have shared what knowledge and skills I have been privileged to acquire with the Village community when useful. Throughout this time I kept a self-reflective journal of my impressions of the evolution of the Village, my role within it, and how it connected to the fields of community development and community organising. Although I am the only participant in this data collection method, I routinely advised Co-op members and visitors of my multiple roles within it, including my research interest in the organisation’s development. In this paper, these reflections inform the explanation of how the Global Village emerged, its general features and activities, and the community organising significance, rather than comments on any individual involvement.

Insights on individual experiences of the Village were collected as part of a wider ethics approved university research project on the theme of sustainable communities. It included a community survey (n=200) and purposive interviews (n=5). The interviews were conducted with Albury-Wodonga residents with an active interest in community building, some of whom were connected to the Global Village as visitors or volunteers. The interviews focussed on the topic of building sustainable communities, including the organisational landscape through which this might be advanced. This paper gives in-depth attention to an interview with a key Global Village participant, David, who originally visited the place several months into its commencement. He soon became a volunteer and within a year had become an unpaid Co-op director and volunteer coordinator. His experience provides useful insights into the Village from the perspective of a disadvantaged community member. Despite being university educated, David’s advanced study and career plans were derailed following a near-fatal road accident and the need to care for his elderly mother in a regional city with limited job prospects. These misfortunes plunged David back into the working class life from which he thought he had escaped. His invaluable daily contribution to the Village is made in his capacity as a socially conscious community member and to satisfy occasional mutual obligation requirements. David is a quintessential member of the precariat (Standing, 2011), as are many other Co-op participants.
Background

In community development and related fields of practice, rebuilding community power is seen as a crucial element in the systemic transformations needed to resolve many of our human-made crises (Ledwith, 2011, Taylor and Wilson, 2016, Ife, 2016). The field recognises that these crises largely result from social, economic, political, and cultural systems that are increasingly harmful for people and the planet. The historical seeds of our current social systems, including democracy, social security, mass education and human services, arose in part from disadvantaged communities organising themselves to address their disempowerment (Thompson, 1966). In times when neither governments nor industry were interested in alleviating the plight of the poor, disadvantaged communities were compelled to pool their knowledge, skills, wisdom and limited resources and to build new vehicles to advance their interests. The rich tapestry of middle and working class organisations included friendly societies, mutual associations, box clubs, Sunday schools, libraries, co-operatives, Mechanics Institutes, trade unions and political parties (Southall, 1995, Wallace, 2000, Carroll, 2014). They represented an early form of competent, creative and transformative community governance. Gradually, through their political organising, many of the essential provisions of this community-based social infrastructure were incorporated into the public infrastructure of social democracies.

From the 20th century, as the welfare state evolved to take responsibility for aspects of social provisioning such as unemployment entitlements, the participation of community members in advancing their own social development was sidelined. Over time this transition restricted community members’ opportunities to manage their collective affairs on the basis of mutualism. This process recast subsequent generations as passive bystanders and disconnected beneficiaries of public goods and services, instead of knowledgeable, experienced, skilled and organised leaders within social institutions, communities and civil society (Skillen, 1985, Rodger, 2000, Skocpol, 2003). The practical and relational bonds of solidarity that underpinned earlier welfare arrangements were replaced by an impersonal, bureaucratic and individualistic framing of social justice within the emergent welfare state. More recently, the privatisation and shrinking of the public sector has pushed community participation in social provisioning and governance further aside (Smyth et al., 2004). These trends towards community disempowerment are important pieces of the story of systemic crises we face today.
The ray of hope from this situation is that disadvantaged communities have it within their power to rebuild just and sustainable social systems. The contemporary erosion of public infrastructure and the failure of the market to step into the breach, particularly to meet vital social and environmental needs, are both an unsustainable injustice and an opportunity for communities (Alinsky, 1971). Indeed, Ife contends that as the welfare state continues to recede, community governance frameworks and approaches will increasingly come to the fore once more. He observes that

...local communities will have to assume extra responsibility for the planning, organisation and delivery of their own human services, such as health, education, financial assistance and care of people with special needs. To do this, local management structures will need to be established, and they will need to be integrated into an overall form of community governance. ... This approach requires the active participation of a large number of people (Ife, 2016, p. 220).

A crucial question is: How might this opportunity for the reinvigoration of community based social infrastructure be seized upon?

CO is an important vehicle through which social power for positive transformation can be developed (Fisher and Defilippis, 2015). It can help surmount the long-running erosion of civil society, which has stripped disadvantaged communities of many avenues to learn how to organise themselves democratically and sustainably (financial, social and environmental) and how to build and resource organisations that advance their interests. Just as importantly, CO can help to overcome entrenched disempowerment by framing transformative leadership as a shared, collective, or distributed practice, rather than an individual responsibility. However, if the empowering potential of communities is to be realised at optimal levels, CO principles and practices need to be consciously nurtured and shared. For Ife, CO has the goal of ‘increasing the power both of the community as a whole in its relation to the wider society, and of individuals and groups within the community to contribute to community processes, activities and decisions’ (Ife, 2016, p. 218). Some common elements emerge from the various CO models available, including social context and issue analysis/exploration, understanding power and social change, action planning and preparation (including training), implementation (e.g. action/mobilisation, structure testing), reflection, organisational development, nurturing leaders, and building alliances (Han 2014, McAlevey, 2016). Each element employs ways of working and repertoires of action that consciously address barriers to participation and build capabilities and capacities. For example, less exclusionary, alienating, and hierarchical forms of communication and decision-making are often adopted. This can involve ‘deep listening’, interpersonal relational conversations, and consensus-based or deliberative decision-making.
Community organising has often focussed, initially at least, on local issues like poverty or substandard housing or health (Battle, 2017). Once a community has established some confidence and organisational capacity, it is well-placed to join with other communities to address larger problems.

The spark for CO in disadvantaged communities often arises from small groups of community members with organising experience or from external CO professionals. A central tenet of CO practice is that actors should not do for people those tasks that they have the capability and capacity to do for themselves. Regardless of whether community organisers are internal or external to the community in question, assisting in the sharing of knowledge, skills and experience to help improve capabilities or unlock capacities is crucial. This perspective is based on a basic community development principle

...that wisdom comes from ‘below’ rather than from ‘above’. ... people are assisted to articulate their own needs and to develop their own strategies of action in order to have those needs met. Rather than being the source of wisdom, the ‘expert’ is simply a resource that may be used by the people to help them articulate and meet their own perceived needs (Ife, 2016, p. 110).

Community organisers aim to help create a community full of capable or ganisers. This approach lays the foundations for maximum empowerment and strong distributed leadership and governance structures within communities.

**A Regional City Case Study**

Many local services and charities exist to help the disadvantaged people of Albury-Wodonga, a regional city of over 90,000 residents. Some of these agencies pay attention to advocacy and empowerment activities, typically through programs focused on families and individuals. Community programs lean towards building social capital, but often without any system changing goals in mind. Hence, there is a dearth of social infrastructure that promotes or enables collective efforts to address the structural disadvantages families and individuals are enduring.

The local absence of grassroots community development or mutual aid organisations was one of the prompts for the establishment of The Global Village in 2016. It focuses on community building, ad-hoc CO, and social action by mainly working class residents. It was created by a handful of community members looking for new ways and spaces to make a difference to the structural causes of social and environmental challenges. It evolved as a
grassroots social experiment alongside a community engagement program involving conventional ‘sustainable communities’ events (e.g. art exhibitions, community forums) funded by the NSW Office of Environment and Heritage (OEH). The OEH program, managed by sociology and environmental academics at Charles Sturt University (including the author), provided a partnership opportunity and modest funds ($15,000) towards a shared new space in the city’s working-class northern suburbs. David described how stultifying life seemed in northern Albury before the Village formed:

To me, it seemed so empty of anything worth doing or places worth going ... the options for getting to know people were pretty limited. ... the opportunity [through the Village] to do something other than sitting at home was a big drawcard for a lot of people.

Many people like David, who longed for meaningful participation in their own community, have sustained the Village to the present day.

The Village founders aimed to create a public and non-commercial space that was particularly welcoming to local residents and encouraged them to explore ways to transform their communities, their relationships with each other, and themselves. From the outset, the founders deliberately included norm-challenging features within the space based on sharing economy and mutualism principles. It included a free homewares section, a lounge area, free computers/internet, ‘play me’ musical instruments and a free food pantry self-managed by people experiencing food insecurity. David notes: “The model of a free store was a novelty in the area and did create a lot of interest and talk about more system-wide problems. It was an exciting venture, particularly for that area where nothing usually happens.” Given there are no employees, bosses or authority figures, the Village rapidly became self-organised by dozens of volunteers who grabbed the chance to take responsibility for decision-making. David observed:

One of the points of difference with the Village is the idea of trying to have a very flat organisational structure where everybody who’s involved gets a say in the decision-making. ... It’s an example of one of those small, but significant, achievements of the place. It’s something that people really have appreciated; that we’re a place where their point of view is valued. [Decision-making] isn’t a codified or rigid process, but there is ... a deliberative and consultative process that tries to take into account the people that are most affected by any decision.

This open, non-judgemental and self-directed space was quickly seized upon by hundreds of people eager for social connection, personal meaning, collective autonomy and the restoration of a sometimes flagging faith in humanity. In David’s view,

We were providing a bit of a counter-narrative to what people would go home and see on the TV or read in the newspapers ... people found that interesting and thought provoking and an opportunity for them to open up a bit about their perspective on things... That was part of the appeal ... that desire to find people who could talk about issues and problems and offer a bit of a different view ... it was just nice to share thoughts and toss things around.
A flood of residents at the Village also jumped at the chance to develop new activities like a plant nursery at the back of the shopfront, regular music sessions, fundraising activities, social events, excursions, support groups and workshops. It is impossible to do justice here to the full extent and complexities of Village achievements and the outpouring of local effort and support (Masterman-Smith, 2018, Bunn, 2016). However, in general, the experimental Co-op quickly came to resemble a cross between a neighbourhood house, a friendly society, an activist centre and a surrogate family.

Many transformative understandings emerged through this initial community building phase. The de-commodification of useful items (homewares, food, IT services) and human relationships was fundamental. As David noted, it is difficult to connect with people today in ways that do not involve monetary transactions. The Village enabled a more equitable and meaningful basis for people to rebuild trust and connection with fellow community members through gifting and sharing material goods and helping each other with practical (e.g. moving house, clothes repairs) and emotional needs (e.g. distress, anxiety and trauma). This approach quickly transformed isolated and wary strangers into cohesive friends and neighbours. According to David, these experiences changed many people’s understanding of power and powerlessness.

Sure we might not be listened to [by the powerful], but I thought nobody really listens to anybody, do they? But of course, they do. So becoming involved in the Global Village reawakened that sense that there’s a huge inequality there with the people who have the ears of government and the increasing push towards privatisation and so on. These are all concepts that you can glean and come to some understanding of independently in your own way, but fitting the pieces together has been facilitated by being involved in the Village because you hear different perspectives and insights from people who know what they’re talking about. It’s stuff you don’t read or hear about in the mainstream press - it’s difficult to get that kind of information. …A lot of people who come into the Village bemoan the fact that there’s nothing you can do about anything. So that’s the definition of disempowerment … Just that feeling that they don’t get listened to. … whether its housing or the bus service (such that is) … things just happen to them, rather than them having any role in it. … [At the Village] you can see how people did get a chance to get involved in things, whether that’s the public talk on the future of transport (having people being able to consider going along to that was an opportunity they wouldn’t have considered previously), some of the petitions or workshops or community assemblies. Things like that were new and innovative in our area.

Similarly, an unemployed single mother at the Village asserted: “One of the most important things about the Global Village is it shows we don’t have to accept how things are or wait for someone else to fix stuff. There are things we can do about it if we get together.” The sheer longevity of the Village, against all expectations, and its practical achievements, provide tangible proof to community members that they are capable of overcoming disempowerment and making a positive difference in the world.
The overwhelming volume of interest in the Village meant that the anticipated slow start-up period, during which a gradual development of resources and capabilities was planned, never eventuated. From the day the doors opened, time for this vital foundational work has proved elusive, while the possibilities of a critical mass of people to work on public issues, like poverty and food insecurity, became tantalisingly apparent. David captures this dilemma:

I always felt overcoming the roadblocks to participation was going to be difficult and not really knowing what would work locally, I felt we needed to give everything a couple of goes because I felt there was potential there. I think that was borne out to some extent. … I became pretty comfortable with giving people a general introduction, but taking it beyond that step was challenging. I guess partly it was a lack of knowledge, lack of skills in terms of that kind of community organising skill set, but also feeling like we didn’t have the capacity to move beyond that yet. It was like a catch-22. …We achieved a fair bit on an ad-hoc basis, but having a more structured opportunity for people to pick up skills is something that would be helpful for the organisation and themselves in terms of job seeking or career progression. … We’ve done some amazing things locally and it is hard to see that sometimes. With a few tweaks another stage in that longer term program will have a lot more impact.

The first three years of the Village’s life clearly tapped into a strong local appetite to build an empowering people’s organisation, but also highlighted the constraints of a shortage of experience and training opportunities to bring this vision fully to life.

The challenge was finding the capacity to organise the rich and diverse sea of humanity that poured into the Village. In response, the Village has recently entered a new chapter in its organisational evolution with a focus on building a stronger foundation to overcome some of the capacity challenges experienced to date. Making more of its vast network of support is central to the task. This has begun with a new space being made available by a local social justice-oriented church for a token fee, consequentially removing the financial burdens and distractions from the Village’s long-delayed foundational work. A difficult and distressing decision was also made to temporarily suspend the public provision of food relief, due to a shortage of coordinators, drivers and vehicles for this work. Co-op participants still have access to food on an as-needs basis. The break from this work allows time for community members to equip themselves in the art of CO, which will be vital for the Village’s future, including the prospects of tackling food insecurity in a more systemic and sustainable way. In the absence of local CO training, the Village is developing its own in-house program with the help of local academics, including the author. Improved versions of the community assemblies and experiential learning opportunities are also to have a more central place in the Village’s operations.
These reflections provide a window into the lived realities of a disempowered community trying to organise itself from a limited knowledge, experience and resource base. Apart from some venue hire fees and modest donations from two trade unions, the Village was largely self-funded through small weekly donations from mainly disadvantaged residents. While some sections of the existing human services landscape have been very supportive, others including sections of local Council, have been disinterested. In part, this may reflect what appears to be limited awareness, interest or experience in CO among local human service professionals. Tellingly, the strongest local support has emerged from educators, social justice advocates and union organisers. These latter groups have also been pivotal in CO efforts abroad.

Discussion

Community organising has long been recognised as a vital, perhaps even a defining, element of civil society in the UK, particularly as an approach for political empowerment and grassroots action (Bunyan, 2010). However, over the last twenty years governments have adapted CO philosophy and methods to foster citizen participation in urban renewal and community governance in general (Mayo et al., 2012). This trend became most evident in 2010, when the Conservative government under David Cameron launched the Big Society policy program, which sought to empower communities, strengthen their participation in governance, open up public services, transfer power from central to local authorities, and promote wider transparency (Cabinet Office, 2010). The Big Society program included amongst its central elements the Community Organisers Programme (COP) to hire, train, place, and support 5,000 community organisers – the so-called "Neighbourhood Army" – across hundreds of community organisations, charities, and social enterprises (King et al., 2010). Community organisers mobilised volunteers, engaged stakeholders, implemented projects, and raised funds in support of community-level initiatives and system-wide priorities. As yet, insufficient attention has been paid to the empowering potential of similar initiatives in Australia.

In the course of implementation, the COP experienced numerous challenges, not least of which was the dual accountability of community organisers to governments and communities (Fisher et al., 2013). Host organisations and their community organisers experienced various logistical and administrative difficulties, due to a mismatch between initial ambitions and available resources (Fisher et al., 2016). Notwithstanding these problems,
however, stakeholders praised the COP and credited it with many successes at the community level, in stark contrast to the sceptical and critical assessments of the Big Society programme as a whole (Alcock, 2010, Coote, 2010, Taylor, 2011). Critics emphasised the inherent contradiction between continuing austerity and community empowerment, market capture of public services by large companies, the lack of meaningful progress towards decentralisation to local authorities, and lack of attention to underlying structural inequalities (north/south and rural/urban). More positively, the COP and the performance of community organisers were cited by the Big Society Audit (Civil Exchange, 2015) for increasing social capital and strengthening community connections. In addition, US observers (Fisher and Dimberg, 2016) have noted that the COP as a publicly funded model can help improve the viability, sustainability, and impact of CO in the United States. Drawing on the international field would help develop CO models that can sustain the long-term reconnection of Australia’s disadvantaged community members with social change processes.

Incubators have emerged as an important piece of the international CO field during this time. For example, Citizens UK (2019) explains CO as being

...about returning power to people. It prioritises personal relationships, membership of institutions rooted within the community and a pragmatic approach to influencing people who hold power in government, business or public life. Citizens UK works with a diverse group of leaders from these institutions; schools, universities, hospitals, mosques, churches, synagogues, charities and other community groups. We teach them a method of community organising so they can take power and achieve change on the issues that matter to them.

This organisation is renowned for many successful initiatives, such as the London Living Wage, City Safe Havens, Strangers into Citizens and Community Land Trust campaigns. These sorts of incubators emerged in recognition of the lack of CO opportunities and skills among the wider population and even among community workers. This is a crucial missing piece in the Australian field, which is hindering community empowerment.

Broadly speaking, incubators like Citizens UK and the US Industrial Areas Foundation, act as catalysts of knowledge sharing, training, and support for communities seeking assistance to revitalise or build local organisations and actions for social change. They provide training in-house and through partnerships with educational institutions. Examples include a Professional Graduate Certificate in Community Leadership at Newman University and a Masters in Community Organising at the University of London (Citizens UK, 2019, Masterinfo.eu, 2019). These courses provide student placements as organisers with Citizens UK. The Master of Arts teaches CO theory, research and practice including topics on
citizenship, democratic renewal, contexts of local power and governance, social and community movements, and developing local relationships, leaders, projects, actions and campaigns. Such incubators and educational partnerships are crucial features of UK efforts to grow CO capabilities and capacities.

In Australia, there have been no government initiatives to help grow CO to date, and contemporary scholarship on this subject matter is embryonic compared to the US and the UK. A nascent movement for CO has emerged through, for example, the Sydney Alliance, environmental campaigns by the NSW Nature Conservation Council and others, and several community unions (Tattersall, 2015). The Change Agency, an independent social movement education organisation, offers a small number of CO fellowships. Australian Progress (2019a) similarly offers a professional development fellowship including a number of free places. The charity entails an ‘inner circle’ of leading non-profit bodies from the environmental, social justice and union sectors (Australian Progress, 2019b). A preliminary search of Australian university websites suggests only a handful of universities appear to offer single subjects in CO. These include Wollongong University, Federation University, the University of Technology Sydney, and Victoria University. This indicates that community worker graduates may not be acquiring sufficient CO awareness let alone skill sets and may not be well-equipped conduits of this knowledge into disadvantaged communities. Recognising this educational gap, Charles Sturt University will be offering short CO and participatory governance modules within a new Graduate Certificate of Community Leadership and Resilience from 2020. In Australia, few opportunities currently exist to access training in CO or to encounter professionals who can disseminate this knowledge locally. The few avenues that do exist assume a level of resources, connections, knowledge and pre-existing organisations that are uncommon in disadvantaged communities.

Disadvantaged communities need opportunities to equip themselves to build their own local organisations for social transformation. Much of the existing CO training appears to be aimed at those already working in well-established NGOs, social movements, and campaigns. There are growing concerns that the field is moving away from the goal of internally organising communities and the social relationships that sustain them, to one of big-data driven mobilisations of communities by external actors (Speer and Han, 2018, Battle, 2017). Unleashing the potential of empowered communities requires approaches that enable all community members and neighbourhoods to become transformative.
Conclusion

The paper finds that while government and NGO support for CO in the US and the UK, for example, have been pivotal features of prominent democratisation and community renewal initiatives, there is no similarly systematic approach to CO across Australia as yet. The Global Village case study suggests that the neglect of CO in Australia is sapping the appetite and capacity of many residents who wish to help build socially and ecologically just cities, independently or collaboratively with government and non-government agencies. On the other hand, the Global Village experience indicates the significant impact that modest public investment in CO can produce. It is contended that public and community investment in relevant education, skills, resources and partnerships warrants closer consideration as a possible pathway to more community-driven liveable cities.
References


Urban environment characteristics and their implications on Emotional Happiness and Well-being: Proposal of a Theoretical and Conceptual Framework

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Urban environment characteristics and their implications on Emotional Happiness and Well-being: Proposal of a Theoretical and Conceptual Framework

ABSTRACT: Cities, towns, streets and urban places are comprised of urban features arranged according to an array of planning rules, economic, political, social and community needs. From a macro scale, they are a patchwork of land uses, roads, and infrastructure integrated, in some ways flawlessly, but at a finer scale the very fabric of this intricate patchwork has a profound impact and influences the lives of people on a daily basis. Often, unbeknownst to the user. Urban places can have positive effects, such as boosting individual happiness, when they are comprised of visually pleasing aesthetic qualities (Seresinhe et al., 2019). Or, they can also have negative effects, such as increasing the likelihood of developing mental illnesses (Kelly et al., 2010, van Os et al., 2010). Since the new millennium studies have increasingly investigated the relationship between environment factors and mental health, well-being and happiness (Seresinhe et al., 2019, Bratman et al., 2015, Hartig et al., 2003, MacKerron and Mourato, 2013, Van den berg et al., 2010, White et al., 2013, Okulicz-Kozaryn and Mazelis, 2016, Abdullah and Zulkifli, 2016). Some of these studies have found that urban dwelling (Srivastava, 2009, Gruebner et al., 2017) and the actual physical fabric of the environment (urban design) impacts upon mental health (Golembiewski, 2017, Golembiewski, 2016, Gharib et al., 2017). Happiness can also be adversely impacted by urban environments (Pringle and Guaralda, 2018, Samavati and Ranjbar, 2017, Abdullah and Zulkifli, 2016).

It is important to understand how these notions of happiness and well-being are impacted by environmental factors, such as the designed environment, because they are components of mental health (World Health Organization, 2004, Galderisi et al., 2015, Lamers et al., 2011). The designed environment is where a vast majority of the population, currently, and will continue to live. The rapid increase in urban population is amongst the most important global health issues this century (Srivastava, 2009). Therefore, maintaining public health is increasingly important for developed nations, that are experiencing high rates of population growth within urban areas, because they are exposing more people to urban dwelling, which can adversely impact upon the various components of mental health. Thus, investigating ways in which planning and design could mitigate or reduce such impacts is essential.

Whilst that is an aim for future research, within this article, the authors explore an overview of literature on mental health and environmental factors, the concepts of happiness and well-being, in relation to the environment, including the theories which are referenced in
literature from a variety of medical, planning, architecture and design fields, to arrive at an understanding of how these concepts may be applied to the urban context. This is proposed through the development of the theoretical and conceptual framework which is formed as a result of reviewing a range of literature and theories that discuss mental health, happiness, well-being, and the physical environment (both nature and urban). The aim of this paper is to present the theoretical and conceptual framework used to guide the research process, so that reliable, empirical evidence can be developed in subsequent studies.

**Keywords:** Affective state, happiness, positive emotion, urban design, urban planning, well-being, health

1. **Introduction**

This century is witness to an unprecedented global trend of urbanisation, where population is moving from rural to urban areas (United Nations, 2018). This phenomenon is relatively new in human history – never before have humans lived in such an urbanised manner (Ritchie and Roser, 2019). One reason for the continued increase in urban population is economic changes, where jobs have been increasingly available in urban areas due to technological advancements. Some further causes of population growth in urban areas is due to improved education, employment and healthcare opportunities (Østby, 2016), the need to achieve sustainable living for the survival of both planet and human race, and also in some way due to climate change issues (Satterthwaite et al., 2007). Urbanisation has advantages, such as economic growth, innovation and improved education, (Okulicz-Kozaryn and Mazelis, 2016, Bettencourt and West, 2010, Schnell et al., 2012), but it also has disadvantages, which include public health issues (Srivastava, 2009), disease dispersal, stress, cognitive issues and is even associated with unhappiness (Okulicz-Kozaryn and Mazelis, 2016). Furthermore, economic growth does not result in happiness growth (Easterlin, 1974). Rapid increase in urban population is amongst the most important global health issues this century (Srivastava, 2009).

Increasing urban population can have side effects, which are systematic and mental health related (Srivastava, 2009, Gruebner et al., 2017, Anakwenze and Zuberi, 2013). Some studies have begun to establish a link between built form and mental health (Golembiewski, 2017, Golembiewski, 2016, Gharib et al., 2017) and that design features in urban environments can impact happiness (Pringle and Guaralda, 2018, Samavati and Ranjbar, 2017, Abdullah and Zulkifli, 2016). Urban problems, such as crime or poverty, are not solely responsible for urban unhappiness. It is also partially due to the population size and density, and because of other
defining features of the city (Okulicz-Kozaryn and Mazelis, 2016). Therefore, investigating how to alleviate the adverse urbanisation impacts on mental health is important, especially for urban areas experiencing burgeoning population. This is partially the reason for focusing on happiness and well-being. Happiness and well-being is part of mental health (World Health Organization, 2004, Galderisi et al., 2015, Lamers et al., 2011), and if it is possible to positively impact happiness and well-being through urban design then this may contribute to mitigating some of the mental health impacts that urban living imparts upon people. Research on this topic could generate valuable insights which might contribute to public health policy.

The paper begins with an overview of the broader research problem. It then reviews literature and current empirical evidence about the linkages between mental health and urban living, as well as the literature which makes an argument for the connection between mental health, well-being and happiness. Further literature is also reviewed to define some of the concepts and theories of well-being and happiness that are presented mostly from the field of psychology. Following this, the article reviews literature that discusses these concepts of ‘well-being’ and ‘happiness’ alongside nature and urban environments, which present some preliminary findings about the relationships between these. The remainder of the article discusses the theoretical and conceptual framework, including the concepts or constructs of interest and the theories which are used to measure or guide these. As aforementioned, the overall aim of this paper is to present a theoretical and conceptual framework, which can be used to guide the research process, so that reliable, empirical evidence can be developed. This paper presents an argument for the importance of place quality for well-being and happiness in urban areas, including the visually appealing ‘beauty’ of urban settings.

This article was developed through a systematic review of literature, which was guided by the research questions and the key concepts under investigation. The method used to acquire knowledge to construct an appropriate theoretical and conceptual framework was recent scientific journal articles, books and seminal works that centred on the topic of mental health and constructs of happiness, well-being, place, urban environments, cities, and also studies and empirical evidence from the disciplines of psychology, neuroscience, urban planning and design. The main research question guiding this investigation is ‘what are positive emotional (affective) responses that people have in relation to urban environment characteristics?’. Throughout the literature review process, primary and secondary sources informed the frameworks. The research gaps were established through this wide ranging review of existing
information, theories, constructs and empirical evidence. This article develops upon the research that was piloted in a study about urban happiness, which provided preliminary results and insights about the link between happiness and characteristics of place (Pringle and Gualalda, 2018). The research contributes to improving cities through urban design, with the intention to create happier, healthier places for people.

2. Literature Review

1.1. Mental Health and Urban Environments

The review of literature which discusses mental health and urban environments highlights that there is empirical evidence which supports the argument that mental health is affected by urban living. Studies have found that urban environment factors and urban living can increase the occurrence of serious mental health illness such as schizophrenia (Lederbogen et al., 2013, Gruebner et al., 2017, Haddad et al., 2015, Lederbogen et al., 2011, van Os et al., 2010), psychiatric morbidity (Lewis and Booth, 1994, Peen et al., 2010), psychosis (Golembiewski, 2016, Golembiewski, 2017), as well as stress from population density (Yates, 2011, Okulicz-Kozaryn and Mazelis, 2016). This reaffirms that there are particular environmental factors within urban areas that can increase the chance of developing a serious mental health condition.

There is a body of literature from a variety of disciplines which establishes the links between urban living and mental illness development, as well as built form and components of mental health, i.e. happiness and well-being. These mental states are affected by urban characteristics, or place characteristics and the perceived beauty of environment settings (Van den Berg et al., 2003). There are studies which have observed connections between urban life and increased development of severe mental disorders such as schizophrenia (Haddad et al., 2015, Jim Van et al., 2010, Kelly et al., 2010, Lederbogen et al., 2013, Pedersen and Mortensen, 2001), mood related disorders and depression and anxiety (Gruebner et al., 2017, Lederbogen et al., 2013, Peen et al., 2010). Whilst natural environments can have aesthetic and affective responses for people (Ulrich, 1983). This is thought to be explained by the biophilia hypothesis, made popular by Wilson in the book Biophilia which describes feelings of connection to nature during periods of immersion in nature (Jana and Peter, 2015, Wilson, 1984). Natural and urban areas have also been known to have impact on physiological responses (Ulrich et al., 1991).

Natural environments refers to naturally occurring landscapes that are untouched, i.e. bushlands or rainforest. Whereas, environments which include components of nature, such as
green space, trees or water, are part of a man made setting such as gardens, parklands and public spaces.

Mental health is an important part of the overall health of the public and thus an important factor to consider in the course of developing public policy. Enabling or managing the positive mental health of the population is not just a matter of managing individual or societal living conditions, as there are a range of other biological, heritable, genetic and trauma factors which contribute to the development of such illnesses. However, what the evidence highlights is that there is a relationship between mental health, urban living and urban environments. Therefore, investigation into how the planning and designing of the urban environment impacts individual and societal mental health, either positively or negatively, is important. That is, however, for another article. Although it is an immensely important topic in itself, mental health is not the topic in question here, but it is useful as contextual research and identifying the problem for public health within urban areas, particularly those which are continuing to urbanise. The topic in question here is a component of mental health, known as emotional happiness and well-being.

1.2. Mental Health, Well-Being and Happiness

Mental health includes our emotional, psychological and social well-being, it affects how people feel, think and behave (U.S. Department of Health & Human Services, 2019). Positive feelings, or in other words ‘happiness’, and well-being is described as being part of mental health by a variety of authors. Previously, mental health was known as the absence of mental illness. Now, it has been conceptualised as “purely positive affect, marked by feelings of happiness and sense of mastery over the environment” (Galderisi et al., 2015). According to the World Health Organization (2004):

_Mental health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community._

The World Health Organisation definition focuses on mental health as being a positive state. Three core components of this definition are the presence of positive feelings or affect (emotional well-being), positive functioning in individual life (psychological well-being) and community life (social well-being) (Lamers et al., 2011). This definition builds upon two traditions within well-being and happiness studies known as _hedonic_ and _eudaimonic_ (Deci and Ryan, 2008). Where, the _hedonistic_ tradition – focuses on happiness, generally defined as
the presence of positive affect and the absence of negative affect. This is the definition the authors use to define happiness. Whilst, *eudaimonic* tradition – focuses on living life in a fully deeply satisfying way (Deci and Ryan, 2008). Therefore, according to a range of sources, emotional well-being is part of mental health. Hence, it is proposed that individual happiness and well-being is an important topic to question in the context of an urban environment, given that a range of empirical data has identified links between urban living and mental health.

1.3. **Key concepts and theories of well-being and happiness**

There is not any one ultimate or correct way to define happiness and well-being. The two terms are multi-faceted constructs, invariably dependent upon the perspective or theory used to define them. For simplicities sake, the dictionary defines well-being as “a state of being happy, healthy or prosperous” (Merriam-Webster (2019), which means that well-being is dependent upon happiness, whilst happiness is defined as “a state of well-being and contentment”, or, “a pleasurable or satisfying experience” (Merriam-Webster 2019). From this, happiness is understood to be dependent upon well-being and vice versa. Happiness can also be achieved if an individual has a *pleasurable or satisfying experience*, which is in line with the *hedonistic* tradition (Lamers et al., 2011, Deci and Ryan, 2008). Both of these terms are taken as being interconnected, not independent of one another, or not mutually exclusive. Building on these definitions of the two terms, **Figure 1** depicts the linkages between well-being, happiness, and the related dominion of investigation.

![Figure 1: Portrays the definition of well-being and happiness, as well as the meanings which are used in this study.](image)

Emotional happiness and well-being (emotional well-being) is the presence of positive feelings or an affective state. This aligns with the aforementioned definition of mental health (World Health Organization, 2004, Lamers et al., 2011, Galderisi et al., 2015). This definition of happiness differs from other definitions, in that it focuses only on the *emotion of happiness*. 
**Emotional, affective and hedonic well-being**

People experience a variety of emotions on a day to day basis, which are often a response to external factors. Emotional well-being (EWB) comprises both positive or negative feelings, or an affective state. The affective state could be happiness, sadness, joy or anger. Emotional well-being is linked to health, as the term health is synonymous with well-being (Merriam-Webster 2019; Peterson 2018) and it is part of mental health (Lamers et al., 2011, Galderisi et al., 2015, U.S. Department of Health & Human Services, 2019, Deci and Ryan, 2008, World Health Organization, 2004). The affective component of EWB is part of subjective well-being (SWB), which is another well-being and happiness theory, and also comprises a cognitive component. Emotional well-being is defined by Kahneman and Deaton (2010) as “...the frequency and intensity of experiences of joy, stress, sadness, anger, and affection that make one's life pleasant or unpleasant.” Hedonic well-being (HWB) and hedonic happiness share similarities with EWB, in that EWB is comprised of the frequency and intensity of experiences of positive emotions (joy, etc.) and negative emotions (stress, sadness, anger) that makes an individual’s life pleasant or unpleasant. This could be interpreted as the same, or similar to HWB, often because it is used interchangeably with emotional well-being (Kahneman and Deaton, 2010). Whereas, affective well-being (AWB) differs slightly.

The term affective well-being (AWB) is used more regularly in the health and psychology literature. According to Luhmann et al. (2012a) affective well-being (AWB) can be described as the “frequency and intensity of positive and negative emotions and mood”. Based on this notion, a conclusion can be drawn that emotional and affective well-being are quite similar. However there is one difference, highlighted in Figure 2, where EWB has an individual experience component, and affective well-being has a frequency of position emotion and mood. Current measures used for AWB include the Positive Affect Negative Affective Schedule (PANAS) which was developed by Watson et al. (1988), which measures individual frequency of positive and negative affect over specified time periods. It can be surmised that EWB is relevant to the theoretical and conceptual framework more so than AWB, because EWB incorporates the individuals’ experience, as well as negative and positive emotion.
**Figure 2: Comparison of emotional well-being and affective well-being theories, including the comparative variables.**

**Emotions, affective states and the circumplex model of affect**

Affective state theory is an individual’s internal mental ‘emotional condition’ and incorporates emotions, moods and the positive or negative affective state. Affective state theory of happiness emphasizes ‘non-trivial’ emotions, i.e. not only pleasure, as the defining ingredient for happiness (Haybron, 2000) and therefore it is more consistent than hedonic happiness. Positive affect is an important ingredient of happiness, however it is not the only component, but for the purposes of defining and understanding the positive affect in relation to environments this theory is relevant. Generally, positive affect, much like affective well-being (AWB), is measured with the Positive and Negative Affect Scale (PANAS) (Keltner, 2019).

Emotions are a range of feelings an individual experiences in response to external stimulus. They are said to be a “complex set of interrelated sub-events concerned with a specific object” (Barrett and Russell, 1999). This can be related to an event, an object, or a thing in the past, present or future (Ekkekakis, 2012). Sizer (2010) supports the theory that emotions are intentional states, directed towards or about determinate objects, events or states of affairs. Emotions involve the appraisal of the ‘object’ in light of the individual’s goals and desires or its’ bearing on our well-being (Sizer, 2010). Emotional episodes are elicited by, reactions to or generally about something (Ekkekakis, 2012). Consistent with the emotional literature and information reviewed earlier, emotions are not just psychological states, they also cause or have different physical bodily changes (physiological), i.e. changes in respiration and heart rate, as well as fluctuations in neurochemical and hormone levels (Sizer, 2010). Sizer (2010) posits that emotions do this to help people to respond efficiently to objects and events within an environment that are important to personal goals, desires and well-being. To summarise, emotions are a process which involves synchronized feelings, cognitive, bodily and behavioural changes.
A model known as the circumplex model of affect, arranges these affective states or emotions in a two dimensional fashion according to the level of arousal and if the feeling is positive or negative. An affective state is comprised of (a) core affect, (b) emotion and (c) mood (Ekkekakis, 2012). Where core affect is the subjective experiential aspect of emotion identified on the circumplex, which is experienced by a person constantly, however the nature and intensity of this can change over time (Ekkekakis, 2012). Affective state is important in the context of this research inquiry as it is concerned with the interface between emotions and urban characteristics. Hence, the circumplex model of affect is relevant to developing and inclusion within the frameworks.

**Circumplex Model of Affect**

This model was originally developed by Russell (1980) for psychologists to use to represent the structure and location of affective experiences that were assessed through self-reporting tools. Using factor-analysis it was determined that words (adjectives) formed a circular path, based on two dimensions – the pleasure axis (horizontal), and the arousal axis (vertical). Figure 3 is an example of this model, where Russell (1980) proposed that the two dimensions of emotions are universally felt in all cultures. The circumplex model characterises the subjective and experiential aspects of emotion, rather than the cognitive, behavioural or biological components. Therefore, this model is relevant to the theoretical framework, in that it identifies where emotions sit in respect to positive or negative experience.

![Circumplex Model of Affect](image)

**Figure 3:** The circle on the right hand side depicts the Circumplex Model of Affect, which groups the eight affect concepts in circular order (Russell, 1980).
There have been a variety of other models which have evolved since its’ inception. Some of which include valence, which is essentially a positive or negative emotional response to stimulus, and arousal, which is the level of arousal that the emotion elicits, either high or low arousal. As depicted in Figure 4, emotions are distributed according to their positive or negative (valence) emotion, in a high or low arousal state. Emotions are elicited in response to external environmental stimulus, which could be an object, event or person. According to Watson et al. (1988) positive affect refers to the pleasurable engagement with the environment, evoking feelings such as happiness, joy and excitement. This definition is in line with the view that this study takes. Aroused or not aroused essentially means the state to which an emotion energises or prompts the individual to take action. Positive or negative valence are terms used in psychology when discussing emotions and describes the essential attractiveness (positive valence) or the aversiveness (negative valence) of an object, event or situation (Frijda, 1986).

![Circumplex model of affect](image)

**Figure 4:** Circumplex model of affect, *map of emotions which is categorised by level of valence and also level of arousal.*

Another variation of this model is by Knez (2006) which has eight affective states distributed according to their level of pleasantness or unpleasantness as well as activation or inactivation. Each of these states are comprised of moods, detailed in Figure 5. Positive moods such as ‘happiness’ are characterised by a feeling of pleasure or thrill, ranging from mild to extremely intense (Sizer, 2010), which is highlighted in the model on the right hand side (Knez, 2006, Knez, 2014). There are variations of happiness, in terms of meaning, theory and associations between different cultures. Within western culture it is more prevalent to associate happiness with experiences that are “…a highly desirable and positive emotional state defined in terms of a high arousal state such as excitement and a sense of personal achievement” (Uchida and Oghara, 2012). Whereas, within eastern culture, happiness would generally be seen as
including the experiences of positive and the negative emotional states, but they would not be mutually exclusive (Uchida and Ogihara, 2012). According to this, eastern happiness would be associated with the low arousal state, such as calmness, while western happiness would be associated more so with positive emotional states that have high arousal, i.e. happiness or excitement.

**Figure 5**: The ‘Circumplex’ model of affective states, applied to moods. Adapted from (Knez, 2006, Knez, 2014, Russell, 1980). HA = High Activation; AP = Activated Pleasant; P = Pleasant; UAP = UnActivated Pleasant; LA = Low Activation; UAUP = UnActivated UnPleasant; UP = UnPleasant; AUP = Activated UnPleasant

1.4. Other definitions, concepts and theories of happiness and well-being

Other definitions, concepts and theories of happiness and well-being are wide ranging and are threaded through a range of literature, from a variety of disciplines and fields. Well-being is a construct which has stimulated a variety of theories and discussions through the literature. All of which serve their own specific purpose, relevance and importance when needing to measure human well-being and functioning. The more widely known theories of happiness and well-being are reviewed below. Some of the more notable happiness theories include hedonism, eudaimonia, and life satisfaction. Whilst the notable well-being theories are psychological well-being (PWB) (Ryff, 1989), PERMA, and the hybridised theory subjective well-being (SWB), which is comprised of aspects of hedonism, eudaimonia and life satisfaction.

**Hedonism**

More relevant to this line of research is hedonism, a theory of happiness that is sometimes known as hedonic well-being (HWB). Fundamentally, hedonism is the balance of pleasant over and unpleasant experiences, where happiness is achieved when pleasant experiences outweigh
the unpleasant. A variety of authors describe this as being linked to how one feels in the moment and past states (Haybron, 2011, Haybron, 2000, Feldman, 2004), but also experiencing a variety of emotions varying from positive to negative (Pohlmeyer, 2012, Ryan and Deci, 2001). HWB is sometimes even called emotional well-being (Kahneman and Deaton, 2010), therefore much the same as EWB.

**Eudaimonia**

Another theory is called eudaimonic happiness, which originated from Aristotle. Within the *Nichomachean Ethics, Book X*, eudaimonia implies ‘flourishing’ or ‘well-being’, and defines happiness as an “activity according to virtue” (Aristotle, 2008) which means that happiness can be found in the activities and conditions of an individual’s life. It is comprised of a broader range of indicators which are proposed to represent objective human needs, allowing for good living and ultimately human flourishing (Hursthouse, 2007). It has many similarities to life satisfaction, which is defined as an individual judging their quality of life favourably (Veenhoven, 1995), is satisfied with their life overall (Haybron, 2011) and evaluates if life is good and worth living (Keltner, 2019). Life satisfaction is generally measured with the Satisfaction with Life Scale (SWLS) (Keltner, 2019). Both of these theories are less relevant to the research in question, because they focus on overall quality of life judgements and evaluation of life as a whole.

**PERMA, Psychological Well-Being**

PERMA is a theory and model developed by Seligman (2018) that comprises of five measurable elements to understand happiness and well-being. The acronym stands for Positive emotions, Engagement, positive Relationships, Meaning and Accomplishment. Psychological well-being (PWB) is another, developed by Carol Ryff (Ryff and Keyes, 1995), which is a six domain model consisting of those elements depicted in Figure 6. Whilst there are advantages to PWB, it is not suitable in the theoretical framework as it does not measure positive emotions, but a range of other factors which correlate with other domains of an individual’s life which may or may not be related and dependent upon their urban environment. Similarly, PWB is valid for use when reviewing and analysing the overall well-being of an individual’s life, and is one of the most rigorously tested. However, it has less relevance to the line of inquiry and constructs which this study focuses on.
Figure 6: the theory and model of Psychological Well-Being

Subjective well-being

Subjective well-being (SWB) is a multi-faceted construct comprising of affective (emotional) and cognitive (evaluative) components (Diener, 2000, Yap et al., 2014), as well as aspects of hedonic and eudaimonic theories (Haybron, 2000), including evaluations of quality of life (Keltner, 2019). Luhmann et al. (2012b) asserts that there are different types of SWB, namely cognitive well-being (evaluative or life satisfaction) and affective well-being (moods and emotions), and that individual personality can have an effect on reactions to particular events.

An overview of the components of SWB are portrayed in Figure 7. Therefore, it can be surmised that SWB is an emotional and mental evaluation of an individual’s situation in life. SWB is interpreted as a positive emotional or mental state that is created by people through their lives and their reaction to the experiences they are exposed to (Diener, 2000). Subjective well-being is measured by asking people to report how satisfied they feel with their own lives and how much positive and negative emotion they are experiencing (Keltner, 2019). This well-being theory is important in the context of this research inquiry, because it comprises of a sub-component which measures the positive and negative affects that a person is experiencing through self-reporting mechanisms.

Figure 7: the components of Subjective Well-Being (Diener et al., 2009)
1.5. Well-being, Happiness and the Environment

The terms well-being and happiness have been researched in relation to the environment throughout a range of articles, from a variety of disciplines. However, within urban planning and design disciplines there has been limited research conducted into the links between urban features, urban environment factors and well-being or happiness, in particular which urban design or built environment features have a positive impact on human happiness and well-being (Sepe, 2015, Pringle and Guaralda, 2018). Happiness and well-being are important components for mental health, as mental health has a strong connection to happiness (Samavati and Ranjbar, 2017), whilst individual happiness or joy is very much part of well-being (Abdullah and Lyana Zulkifli, 2016). Empirical evidence that identifies the urban characteristics which impact people’s happiness is lacking, but it is believed that the physical environment and happiness are linked (Abdullah and Zulkifli, 2016). Therefore, research on this topic is important, especially for places which are experiencing rapid urbanisation and population growth within their existing urban areas, such as developed countries like Australia.

Heritability and happiness

According to some studies, happiness results from a continuous interplay between genes and environments. An interesting article by Røysamb et al. (2014), explores how well-being is changeable through environmental factors, and it is also heritable (genetic). They propose there is an opportunity for a gene-environment interplay whereby “gene-environment matchmaking implies creating environments and activities that allow for flourishing of genetic potentials…” which could increase and sustain happiness. Bartels and Boomsma (2009) study adolescent twins and their siblings, measuring SWB with four measures, they find individual differences in SWB are due to both genetic and non-shared environmental influences. Further supporting the link between SWB and environment factors is a study by Sadler et al. (2011). This used a controlled study of SWB in twins and found that particular environmental exposures accounted for an increase in well-being. Overall, the authors propose that there is a complex interplay between the environment and gene, which reinforces that genetics and environmental factors influence individual subjective happiness. Hence, there is a measured relationship between environment and emotion.
Attachment with place and restoration of states (affective and cognitive) through the environment

People relate to environments emotionally (Burns, 2000), and a variety of theories and studies there is a connection between peoples’ emotions and their environment (Giuliani, 2003). Place Attachment Theory (PAT) is essentially the bond between people and a place (Scannell and Gifford, 2014), and stems from environmental psychology (Giuliani, 2003). It is also known as Theory of Attachment, or simply Place Attachment, where attachment it is defined as “a positive affective bond or association between individuals and their residential environment” (Stokols and Shumaker, 1981). Freid (1963) first mentions the findings between emotional bonds and places within the survey of displaced residents from West End within Boston due to urban redevelopment, where forced relocation resulted in people being in a state of morning over the loss of place. Aside from theories which deliberate the bonds between emotions and place, there are also many studies which have explored and investigated the relationship between restoration and place, or environment features.

Stress restoration (SRT), affective restoration (ART), and attention restoration theories have also arisen from the discipline of environmental psychology. Broadly, these theories investigate the relationship between natural environments and their effect on individual emotional, psychological and physiological states. Hartig et al. (1991) proposes that there are restorative effects from natural environment experiences. Such restorative effects can be on affective states (emotions), cognitive performance, and also physiological measures. Within this study, self-report data on affect and mood indicates general patterns of restoration in natural settings (Hartig et al., 1991). Further studies have also explored this and find that natural features within an environment can have positive effects on stress reduction (SRT) and attention restoration (Ulrich et al., 1991, Sullivan, 2014, Jana and Peter, 2015, White et al., 2016, Kaplan, 2001, Kaplan and Kaplan, 1989, Kaplan, 1987). These studies assert that there are positive impacts that our environment can have upon emotions, affective states, cognition and even physiological responses. In particular, nature settings or features typically found in nature such as green space or trees, impart positive impact. However, it is unknow as to which types of urban places, including the built features, that could have positive effects on emotional happiness and well-being. Particularly, the characteristics within those environments which impact human emotion positively.
In the study by Ulrich (1993), affective restoration theory (ART) is explored, which measures the exposure of subjects to natural environments and the effect on this on emotion. Ulrich (1993) posits that such exposure reduces negative emotions and increases positive emotions. Other research also supports this, which find that there are increased positive emotional effects from nature environments, more so than built environments (Van den Berg et al., 2003, Hartig et al., 2003). Van den Berg et al. (2003) discovers that being exposed to a video of a natural environment, after watching a frightening movie, improves mood more so than a video of a built environment setting. Hartig et al. (2003) uncovers that after people have walked in nature their positive affect increases, whilst feelings of anger decrease. But, the opposite pattern emerges within an urban environment.

It is well known that green space can have positive impacts on happiness and health in both rural and urban areas (Seresinhe et al., 2019, Qin et al., 2013, Maas et al., 2006, Lee and Maheswaran, 2011, Ambrey and Fleming, 2013, Sullivan, 2014). Natural environments have an impact on emotion regulation, positive feelings, and can even decrease rumination, which is a known risk factor for mental illness. Johnsen and Rydstedt (2013) supports the notion of using nature to regulate individual emotion. Bratman et al. (2015) finds that after a 90-minute walk through a natural environment, participants report lower levels of rumination, which is a repetitive thought focused on negative aspects of self. Whilst, Korpela (2003) presents findings that positive feelings dominate after people have visited their favourite places, which are mostly natural areas. What this begins to convey is that there are particular environment preferences, and there are key features within physical environments that can positive impact upon human emotion, psychological and physiological states. These findings of natural or nature settings preference over built settings is in line with a theory known as environmental preference.

Environment preference

Environmental preference of nature over built settings is a theory that has been empirically proven in a variety of studies since inception in the ‘80s. This originated largely from the review by Kaplan (1983). In this, Kaplan (1983) concludes that (a) natural settings are generally strongly preferred over urban settings, whilst (b) urban settings containing nature is the next preferred, (c) ‘unmanaged’ nature is less preferred than landscapes areas and finally (d) trees are valued components of urban nature. Herzog (1989) builds upon these conclusions and reports that there is a preference for urban environments which contain natural elements.
More recently, in the study by Van den Berg et al. (2003), participants rated the beauty of the built or natural environment to indicate their preference. Natural environments were found to be rated as more beautiful than the built environments. This highlights the need to understand if the perceived quality and beauty of urban settings has a relationship with positive emotion. Environment preference is important and part of informing the theoretical framework of this study, as it further supports the notion of emotion and emotion and environment.

Thus far, a range of research has established that being in nature, and even the inclusion of natural elements within a physical environment, have measured positive effect on human emotion, cognition, function and mental health (Bratman et al., 2012, Bratman et al., 2015). This empirical evidence is important to the study as it informs the theoretical framework and also highlights the importance of considered design of the physical environment because it impacts upon human emotion. This helps to develop an understanding of happiness and its’ relationship to environment features. However, within these studies, the relationship between emotion (positive affect) and specific built environment characteristics are not measured. They focus on natural elements, but not the other built environment characteristics that may have positive impacts on peoples emotion state.

1.6. Concepts, theories and empirical evidence relevant to the frameworks

In the interest of establishing a relevant and useful theoretical and conceptual framework, key concepts and theories of well-being and happiness have been explored. Through a review of relevant literature from a variety of sources, the key concepts, theories and empirical findings to guide and underpin the subsequent research have been identified. This is useful to guide and underpin research into the effects that particular urban characteristics have upon some of the components of mental health; namely happiness and well-being. Particular happiness theories have been found to be more relevant and applicable than others. Those which have been identified to be relevant, have ultimately been dependent upon the parameters of the study – the research questions and topic of inquiry. Which, in the case of developing this framework, has been the effects of urban characteristics on happiness and well-being.

It appears that hedonic well-being (HWB), emotional well-being (EWB), affective well-being (AWB), although much the same, are theories which could guide the investigation and measurement of emotional responses in relation to urban characteristics. AWB is relevant to this as it focuses on positive emotion and mood, whilst EWB is relevant due to the individual experience, emotion and pleasant or unpleasant. Also important for the frameworks are
affective state view, the circumplex model of affect, environmental preference theory, stress reduction theory, affective restoration theory, attention restoration theory and place attachment. Furthermore, SWB is also applicable as it is interconnected with the HWB, EWB and AWB. The other theories listed would be useful in investigating and measuring happiness if the topic was not interested in understanding emotions and urban environments. However, because the topic focuses on happiness and well-being, as part of mental health, in relation to urban contexts, the most relevant are those which investigate and theorise the relationships between these two components.

Theories such as PERMA, PWB, life satisfaction, and economics of happiness, which do not explicitly investigate and measure emotions, are not pertinent to this research inquiry. They investigate and measure components of well-being and happiness that are not aligned with the topic in question. For instance, PWB measures personal growth, self-acceptance, autonomy, purpose in life, and is therefore not relevant to a topic which is interested in understanding the effects that urban characteristics have on emotional well-being and happiness. From this review it can be established that there are a variety of happiness and well-being theories, though not all are useful for the establishment of the frameworks.

2. Theoretical and Conceptual framework

The theoretical framework explains the path of a particular research topic and grounds it in the theoretical constructs which exist within the literature. The aim of the theoretical and conceptual frameworks is to make the research findings more meaningful (Adom et al., 2018). The first section discussed the theories, concepts and empirical evidence which were relevant to this topic of research, whilst this portion discusses the suitable theories which form the theoretical framework. As has been defined earlier, there are a variety of theoretical constructs which exist in the literature. Due to the complex and multi-faceted nature of the concepts under question, the theoretical and conceptual framework has evolved to be quite complex, based on a variety of theories from a range of disciplines and fields. The purpose of creating such a comprehensive theoretical framework is so that the research can be best guided and approached through the subsequent phases of data collection and analysis. The diagram on the next page (Figure 8) is an illustration of the concept map which depicts the constructs in question, as well as the theories.
Figure 8: Concept map of the constructs and theories in question
The most appropriate theoretical constructs are from the environmental psychology, design and planning disciplines. Table 1 summarises these theoretical constructs, including the components that each theory is comprised of, and then highlights which parts are used within the theoretical framework. Not all components of each are exactly applicable to the constructs in question, however they have provided background knowledge and underpinned the framework used to define and guide the study. The third column in the table portrays that not all parts of these theories are relevant.

Table 1: Summary of concepts and theories that are relevant to the development of the theoretical framework

<table>
<thead>
<tr>
<th>Theory or concept name</th>
<th>Components of theory</th>
<th>Relevant components used in theoretical framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hedonic happiness or well-being (HWB)</td>
<td>Pleasurable experiences over unpleasurable</td>
<td>Pleasurable experience over unpleasurable</td>
</tr>
<tr>
<td>Affective well-being (AWB)</td>
<td>Frequency of position emotion and mood</td>
<td>Frequency and intensity measures of positive emotion and moods</td>
</tr>
<tr>
<td>Emotional well-being (EWB)</td>
<td>Individual experience</td>
<td>Individual experience</td>
</tr>
<tr>
<td>Affective state theory (AST)</td>
<td>Core affect</td>
<td>Core affect</td>
</tr>
<tr>
<td>Circumplex model of affect</td>
<td>Distributed emotions on two dimensional model according to level of valence and arousal</td>
<td>Valence (+) or (-) (unpleasant or pleasant) Arousal state (high) or (low) (activated or inactivated)</td>
</tr>
<tr>
<td>Subjective well-being (SWB)</td>
<td>Hedonic happiness (pleasurable experiences over unpleasurable) Affective (emotional) state Life satisfaction (eudaimonic)</td>
<td>Pleasurable experiences over unpleasurable Affective (emotional) state</td>
</tr>
<tr>
<td>Automatic affect (AA)</td>
<td>Low order process Senses and automated processes Automatic affective (emotional) response to stimulus (like or dislike) Subconscious / involuntary</td>
<td>Automatic emotional response to stimulus.</td>
</tr>
<tr>
<td>Conscious emotion (CE)</td>
<td>High order process</td>
<td>The process which is described in this theory is relevant.</td>
</tr>
<tr>
<td>Stress reduction theory (SRT)</td>
<td>Positive emotional, cognitive, physiological and behavioural responses to natural environment stimulus</td>
<td>Positive emotional and cognitive response to environment stimulus</td>
</tr>
<tr>
<td>Affective restoration theory (ART)</td>
<td>Restoration of affective states when exposed to nature settings</td>
<td>Restoration of affective state (happiness) when exposed to natural elements</td>
</tr>
<tr>
<td>Environment or aesthetic preference</td>
<td>Preference for natural settings or environments</td>
<td>Empirical evidence</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>------------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Environment restoration</td>
<td>Natural environments or natural elements have restoration qualities for cognition, emotion, and even mental health</td>
<td>Restorative qualities Empirical evidence</td>
</tr>
<tr>
<td>Place attachment theory (PAT)</td>
<td>Emotional bond between people and place</td>
<td>Emotions between people and place</td>
</tr>
</tbody>
</table>

Hedonism or HWB theorises that happiness can be achieved through having more pleasurable than unpleasurable experiences and therefore is useful as a theory to guide the understanding of an individual’s positive and negative experiences. Whilst the theory of hedonic well-being or happiness is important, this is not as imperative as affective state theory (AST) is to this investigation as hedonism focuses only on pleasurable or unpleasurable experience. AST is vital as it encompasses emotions, moods as well as positive or negative affective state and is instrumental in guiding the research investigation as it theorises the linkages between emotions, moods, and events, objects and environments, which is the subject of study. Also relevant is the circumplex model of affect, as part of the research focus is understanding the affective experience people have in urban settings in response to a variety of man-made or natural features. The model of affect is useful in defining the emotional state, which will be measured according to its valence and arousal.

Affective well-being (AWB) is beneficial for the study too, as it can aid in explaining the frequency and intensity of people’s positive emotion and moods in relation to particular stimulus. Whilst, emotional well-being can be used to guide the study to understand the individual experience in relation to emotion (according to valence). Subjective well-being (SWB) on the other hand, is useful to establish the baseline understanding of happiness or well-being in relation to an environment, due to the volume of empirical data that has been developed under this theory. However, not all components of this are important to this study. For instance the life satisfaction component, as this study is not investigating how satisfied an individual is with their life in relation to an urban environment.

Other theories which prove useful for are automatic affect (AA) and conscious emotion (CE) (Schreuder et al., 2016). These two are beneficial are they describe two processes involved in the creation of an emotional response to stimulus. Automatic affect proposes that there is an automatic affective response which occurs subconsciously, a high order brain function, almost immediately to an external stimulus (much like fight or flight response). This
theory explains the relationship between stimulus and an automatic like or dislike response from an individual when viewing an urban setting. Whereas, CE is a more involved process that has cognitive appraisal to create emotion, which is also important for the investigation to describe the process that occurs after the initial reaction to an urban environment. This phase of the overall experience starts to cognitively evaluate the environment and recall memory of similar experiences, places, and other variables which may set an individual’s experience apart from another.

The remaining theories of environment restoration, including stress reduction theory, affective restoration theory and environment or aesthetic preference theory are crucial as the foundation studies. These include a range of empirical studies and observations which support the relationships between natural environment features, natural settings or nature exposure in general with stress reduction, attention restoration, affective restoration, and even emotional regulation. For the purposes of this framework, the affective, emotional and cognitive responses are only focused on. Furthermore, the environment or aesthetic preference studies provide evidence of the preferences that people have of particular environments. These shape the direction and identify key gaps in this body of knowledge. Whilst, these do not provide evidence for the links between urban environment features and happiness, or that urban beauty is linked to happiness, they do underpin the study and help to identify which natural features have been typically associated with happiness, or positive emotional impact or responses.

Part of the framework that was adopted in the Pringle and Guaralda (2018) study is used. This framework was originally adapted from the paper People needs in the urban landscape: Analysis of Landscape and Urban Planning contributions by Matsuoka and Kaplan (2008). This article has provided input into the conceptual framework, as it focuses on the aesthetic preference nature needs component, and the citizen participation human interaction needs category. This study provides a base level of information about which characteristics and elements people associate with people needs, and therefore which elements to look for when analysing urban environments. As illustrated below in Figure 9 there are a variety of theories which are relevant to the topics in question within this investigation. This forms a visual representation of the research topic, concepts, relationships between these and combines the relevant theories. Some theories are relevant to certain constructs more than others. For instance, automatic affect is an emotional theory which asserts that an individual has an
automatic affective response to stimulus, this could be an object or environment. Whilst automatic affect is not relevant to the cognitive emotional response portion of the framework.

**Theoretical Framework**

![Theoretical Framework Diagram]

*Figure 9: The proposed theoretical framework*

This framework is used to identify which urban environments people prefer, in terms of aesthetic preference or which they deem as more visually pleasing. Then, it will be used to understand the emotional response (affective and cognitive) that people have to particular urban environment characteristics, either natural or built. In order to identify, in general, the characteristics which have a positive impact on people’s emotional state of happiness, joy and contentment. The purpose of this is to understand the place characteristics that can enhance happiness and well-being within urbanising areas, to ultimately aid in the creation of healthy urban environments. The theoretical framework can also guide subsequent investigations to determine how these emotional experiences cause behaviour (motivations) and also the overall experience of place, however this last section will not form part of this study.

The conceptual framework in *Figure 10* below, builds upon the theoretical framework and depicts the variables which will be measured as indicators of each concept. This research project measures an individuals’ emotional state, through a positive or negative response to visual urban stimulus. The visual stimulus in this case are elements and objects which make up the urban environment (place characteristics), these could be either man made or natural elements, i.e. buildings, streets, trees, furniture, materials, form, patterns, textures. The focus
is on place affect (emotional response), or in other words which place characteristics have a positive emotional effect on people. There are a number of variables which will be measured in this study. These are depicted in Figure 10, and consist of both independent and dependent variables. The independent variables are factors such as the existing affective state, urban characteristics or environment, demographics, prior memories or prior experience of place. Dependent variables are the feelings, moods, pleasant or unpleasant emotions, actions, and experience. A behavioural response is also a dependent variable, as it is dependent on the emotional response.

**Figure 10: Conceptual framework**

The theoretical model shown Figure 11, illustrates the proposed process which would occur when an individual views an urban environment. This explains, in further detail, the theoretical and conceptual framework. Overall, these frameworks provide rationale for the predictions about the relationships among the individual variables of this study (Chumney, 2016). In this model, it is proposed that there is an existing affective and physiological state which an individual is already in, then the person views urban stimulus (visual) and decides if this is aesthetically pleasing, which subsequently informs the automatic affective reaction to said environment (like or dislike response). Following on from this, the individual would have a positive or negative emotional response, which can vary in intensity (Plutchick wheel of emotion), which then causes physiological reaction (i.e. increase in heart rate). This also known
as autonomic nervous system (ANS) response. The subsequent response would be behavioural and decision (stay or go), which in turn would inform a cognitive appraisal of the environment and overall experience of the place. The model will evolve with each iteration of data collection until a validated conceptual model has been formed.

**Figure 11:** The theoretical model illustrating the proposed process which an individual typically experiences when viewing an urban environment, based on theoretical framework. Based on (Marselle, 2018, Ulrich, 1983).
Figure 12: A diagram which explains the proposed theoretical framework, theoretical model and data to be collected to measure each part of the overall theoretical model.
3. Conclusion

In an urbanising world, identifying the emotional responses that people have to particular urban characteristics is important, as it helps to quantify the environmental qualities of cities that could have a positive impact on people’s emotional state of happiness, joy and contentment. The importance of establishing and increasing knowledge in this area sits within the much broader global problem of urbanisation, as well as empirical evidence that consistently finds urban environmental factors influence development of mental illnesses (Kelly et al., 2010, van Os et al., 2010). Happiness and well-being are important components for mental health, as mental health has a strong connection to happiness (Samavati and Ranjbar, 2017), whilst individual happiness or joy is very much part of well-being (Abdullah and Lyana Zulkifli, 2016). Empirical evidence that identifies the urban characteristics which impact people’s positive emotional (affective) state is lacking, but it is believed that the physical environment and happiness are linked (Abdullah and Zulkifli, 2016).

Whilst this paper does not offer a theoretical or conceptual framework for urban characteristics and mental illnesses, it does offer a framework which can be used, tested and revised to determine the positive and negative emotional responses to urban characteristics, and therefore measure the emotional state of happiness and well-being. This article presented an overview of the relevant concepts, theories and empirical evidence within an array of relevant literature. Afterward, the theoretical and conceptual frameworks developed during the course of the review were justified. Although preliminary, they are used to guide the subsequent research process so that quality empirical evidence can be developed to investigate the relationship between urban features and positive emotional responses. The frameworks will continue to evolve with each iteration of review and data collection.

If new research is able to add valuable insight about the intersection of emotion and the urban environment, then this type of evidence can help to inform longer term change in public policy, with the view to effect positive change on mental health and well-being. Not to mention, the advantages of such research findings for the planning and design professions. The expected outcomes of the following research do not propose to elicit a ‘cure’ to mental illness within cities, because in many cases such illnesses can only be managed through psychological or medicinal treatments, especially those which are neurological, neurodevelopmental or psychiatric disorders. It does however advocate that there are ways in which the planning and design of cities and places can aid in reducing the negative emotional impacts on people and
foster or enhance the experience of positive emotions in relation to places, thereby contributing to part of an individual’s overall well-being and mental health. This paper presents an argument for the importance of place quality for happiness and well-being in urbanising areas, including the visually appealing ‘beauty’ of urban settings.
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AT HOME IN THE CITY: ADDRESSING URBAN ISOLATION IN AUSTRALIAN CITIES

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AT HOME IN THE CITY: ADDRESSING URBAN ISOLATION IN AUSTRALIAN CITIES

Abstract
Australian cities are experiencing compounding urbanisation and population growth. Government plans are focused on issues of land use planning, infrastructure delivery, and transport mobility to accommodate growth but the intangible ‘social city’ and public realm are all too often neglected. Despite city dwellers being physically closer than ever, they are feeling increasingly disconnected from their neighbours and communities. Loneliness and urban isolation are on the rise and finding authentic connections in our cities is increasingly difficult.

This research aims to examine the role of the built environment in addressing urban isolation, specifically in the greater Sydney region. Whilst NSW Government Policy demonstrates great ambition to improve the liveability and connectedness of Greater Sydney, there are shortfalls pertaining to urban isolation. This established the basis and the departure point for the research methodology which broadly questions; ‘How do we reshape our cities to address emergent issues of urban isolation and drive better outcomes for the public through the built environment?’

One on one interviews were conducted with twelve industry professionals to gain further understanding of the key issues that contribute to urban isolation. Interviews indicated the most significant theme contributing to urban isolation was deemed to be ‘Transport and infrastructure - How we Move’.

If our cities are to absorb larger populations and improve the quality of life for all, they need to meet our social needs as well as our material needs. The crucial factor in whether our cities are good places to live is whether or not the city helps us to connect with other people or leave us feeling lonely.

Key Words: Urban Isolation, Loneliness, Social Cities
Introduction

People shape our cities and cities shape human thought and behaviour. Our cities present vast opportunities; they encourage innovation and are rich and vibrant centres of cultural diversity and knowledge exchange. As Australian cities experience rapid development and population growth, it is important they continue to adapt to support shifting needs and expectations. Remarkably, much of the conversation regarding urban planning struggles to adequately address the social dimension of cities, as a result, residents feel disconnected from their communities and neighbours with research indicating isolation and loneliness are on the rise in Australia (Kelly, 2012).

Urban isolation and loneliness are complex topics and are the product of a variety of environmental, social and economic factors. While there is no quick fix for these social issues, the way we design our cities can contribute to or hinder social connectivity. At worst, failed approaches can ‘build in’ isolation, with long-term damage to quality of life and physical and mental health (Kelly, 2012).

This paper acknowledges the breadth and depth of the topic and is positioned to focus specifically on the role of the built environment in addressing urban isolation in the greater Sydney region. This is approached by firstly, defining the existing condition and future projections for Sydney. Secondly, the paper defines New South Wales’ strategic position through analysing three strategic policy documents that define the future ambitions for the city.

This background informs the methodology to follow which aims to address a gap in existing research, contributing to new knowledge through interviewing and synthesising the thoughts of twelve experts in the subject area, across both practice and academia. Findings reveal an integrated response is required; one which addresses population growth and density, diversity of tenure, transport and mobility and cultural changes. Findings further reveal that in order to meet the ambitions and aspirations, as set out in out in key strategic documents, there is an increasing need to address both our social and material needs (Kelly, 2012).
Loneliness

“As much as we complain about other people, there is nothing worse for mental health than a social desert. The more connected we are to family and community the less likely we are to experience heart attacks, strokes, cancer, and depression. Connected people sleep better at night. They live longer. They consistently report being happier” (Montgomery, 2013).

Dutch researcher Jenny de Jong-Gierveld (1987) defined loneliness as ‘a situation experienced by the individual where there is an unpleasant or inadmissible lack of certain relationships’. Loneliness may be a sign that a person’s relationships are inadequate or don’t meet their expectations or needs. When people feel lonely, they experience heightened feelings of vulnerability which can take its toll on both a person’s body and mind.

Anyone can experience loneliness; it is the product of multiple risk factors and cannot be attributed to a single cause. However, the top predictors of loneliness are, the size and diversity of an individual’s social network and being physically isolated. Other contributing factors include age, living alone, moving to a new city, limited local language skills, shrinking family units and physical illness or disabilities that result in lower mobility.

Research indicates that age can be a significant factor contributing to loneliness with those most affected sitting at either end of the spectrum. As people age their social circles shrink, they may also experience-reduced loss of health, mobility and financial independence, which can all, contribute to loneliness and isolation. However, in recent decades research indicates loneliness is highest in young adults (aged 16-25). Social minorities are also at higher risk, including but not limited to those with health issues and disabilities, the unemployed, and the homeless. People living alone and single parents are twice as likely to report feeling lonely (Kelly, 2012). The number of Australians living alone is on the rise with the Australian Bureau of Statistics predicting an additional 1.1 million people will live alone by 2030 (Australian Bureau of Statistics, 2017). Overall levels of loneliness for men are higher than women.

In Australia, loneliness is emerging as a major problem. Research reveals that 10 per cent of the Australian population are affected with data indicating it is worsening (Franklin, 2008). In response to this, Victorian MP Fiona Patten is calling for a Minister
for Loneliness and Australian Federal MP Andrew Giles declared; “I’m convinced we need to consider responding to loneliness as a responsibility of government” (Shafique, 2018). While loneliness is a major problem for Australia, author Richard Flanagan (Moss, 2007) identifies that the solution relies on people creating better social relationships, yet we live in a world where it’s even harder to make those connections.

**Social Connection**

While loneliness is a complex issue with a variety of influencing factors, the increase in Australian’s experiencing loneliness may have as much to do with reduced social connection and social networks as it has to do with the quality of the social bonds themselves (Jitendra K, 2008). Social connection refers to our relationships with others, more specifically; social connection is the meaningful and positive interactions between people that make us feel that we matter (Kelly, 2012). It is that feeling of belonging in our communities, engaged with others and embedded in networks of mutual appreciation and care (Kelly, 2012). Social connection contributes to building social capital, social trust, social cohesion, and social inclusion; through our social connections, we share information, resources and skills, making communities more dynamic and more resilient. These four components of social connection are essential building blocks for successful cities (Kelly, 2012).

**Urban Isolation**

Isolation can be described broadly as the condition of being alone and can often lead to unhappiness. More specifically, it is the absence of social connections and relationships with family or friends on an individual level and with society on a broader level. Urban isolation is a trend where residents living in cities are experiencing increased rates of isolation. Loneliness and isolation, while connected, are different. Isolation is an objective state, a physical situation, whereas loneliness is a subjective state or a feeling. Feelings of loneliness can be a product of urban isolation due to a loss of social connection. Understanding the wider social context, which creates urban isolation, is important in establishing potential solutions.
Social Cities are Successful Cities

“Great cities connect people, failed cities isolate people” (Franklin, 2008).

Urban isolation and a lack of social connectedness are inextricably linked to the way we design our cities. There is evidence that we are building lonely urban environments focused on the individual rather than the community (Rao, 2013). We have embedded isolation in our built environments by removing the ability for people to naturally engage and interact (Shafique, 2018). A city that ‘builds in’ isolation through its housing options, transport accessibility, and other features, can have significant consequences for the strength of people’s relationships and physical and mental health (Kelly, 2012). Actively improving the design of our urban environments and our cities have enormous potential to address urban isolation and improve social connections. We must begin to design our cities to help bring people together rather than keeping them apart (Kelly, 2012).

In determining how we respond to issues of urban isolation it is important to first establish the existing condition and then the projected future condition, or what we can expect based on projected statistics. In tandem, it is important to understand whether future policy and targets set by the NSW Government adequately meet the projected future social needs.

Greater Sydney: Existing

Current situation

The focus area for this research is Sydney, Australia. Sydney is a global city of 4.7 million people, defined by the natural beauty of the harbour, bushland, beaches and the Blue Mountains (Greater Sydney Commission, 2018). Sydney has always attracted international attention, consistently performing well in indices ranking the quality of life, and liveability (Byrne et al, 2013). However, population growth, globalisation, and urbanisation are threatening the desirable qualities and contributing to urban isolation and loneliness within the city.

Multiple factors contribute to urban isolation, including, population growth, cultural diversity, affordability, dwelling structure, transport, education, and workforce
demographics. To fully understand the scale of the existing condition in the context of Sydney these factors have been broadly categorised into four key themes and are discussed below:

i. Population and density - we are growing
ii. Diversity and tenure - how we live
iii. Transport and infrastructure - how we move
iv. Cultural changes - how we work

**Figure 01: Factors contributing to Urban Isolation**

These four key themes are further detailed in Table One, Appendix One which maps how Sydney's demographics have shifted over the past 20 years relative to each of the factors.

*Population and density - We are growing*

Sydney is Australia's largest city, home to more than 1 in 5 Australians (Australians (McCrindle, 2017). Since 2004, the population has increased by 875,976 people (Australian Bureau of Statistics, 2017). The population is predicted to grow by another 60 to 80 per cent over the next 30 years, doubling previous growth rates and bringing the population to 12.1 million by 2056 (Greater Sydney Commission, 2018). It is also expected that the percentage of the population aged over-85 will almost triple in the next 25 years (Greater Sydney Commission, 2018).

While population increase is critical in ensuring the development of Australia, it needs to be balanced with land use planning and infrastructure delivery to ensure we continue to create viable communities that are connected to the existing social infrastructure of the city.
Despite this growth, population density has declined from 1,300 people per square kilometre in 1909 to an average of 425 people per square kilometre in 2019 which is due to our urban areas expanding. While there are 3,100 people and approximately 1,900 homes per square kilometre in the Eastern Harbour City this is low compared to other global cities. Density is an important factor in achieving walkable neighbourhoods, which should have at least 2500 dwellings per square kilometre (Bharadwaj and Hall, 2018). Dr Farahani from RMIT's Centre for Urban Research says: “People living in walkable, mixed-use neighbourhoods have higher levels of social connection compared to those living in car-oriented suburbs.” (Bharadwaj and Hall, 2018).

While there is strong evidence that people thrive in cities, it is imperative that new residents have a ‘sense of belonging’ to where they live, knowing neighbours, feeling safe on the streets and living in an area with a distinctive character can help to create this sense of belonging (Kelly, 2012).

Diversity of tenure - How we live
Despite a shift to denser forms of housing, there has been little change to dwelling typologies to reflect the emergence of more diverse family compositions. Single person households account for 21.6 per cent of the population, however, single bedroom dwellings still only account for 7.8 per cent of the housing stock (Australian Bureau of Statistics, 2017). The number of people living alone has grown at both ends of the age spectrum showing an increase in both the retiree-aged and younger demographic (Choi, 2017). These trends have associated health, sociocultural, economic and environmental implications (Choi 2017). This shift further supports a need for a more diverse range of housing options.

Transport and infrastructure - How we move
Sydney residents are more dependent on cars than ever with an increase of 2.6 per cent in ownership over the past 20 years. There has been a marginal increase (3.9 per cent) in public transport usage for commutes to work but 56.7 per cent still travel by private vehicles (Australian Bureau of Statistics, 2017). In addition, over 80 per cent of Australian drivers report their commute to work as stressful and frustrating (Kelly,
2012). Indeed, Sydneysiders endure the longest average commute times in the country; the commute time for full-time workers has increased by 20 per cent since 2002. Commuters travel approximately 15.4km to work and spend an average of six hours and 33 minutes commuting weekly (Australian Bureau of Statistics, 2017). Research indicates that increased commuting time has social implications by eroding relationships and ultimately decreasing the time Australians have for recreation, leisure and social and community interaction (Australian Bureau of Statistics, 2017). If Sydney is to continue to be a ‘Social City’, it must stop designing the city around cars, at the expense of the parks, public plazas and common spaces where people naturally congregate.

*Cultural changes - How we work*
Sydney’s workforce has transformed over the past two decades with financial and professional services now accounting for 25 per cent of Sydney's economic output, a 14.1 per cent increase over the past 20 years (Australian Bureau of Statistics, 2017). While this increase is positive in terms of the city’s economic growth, it also indicates emergence of the 'Urban Creative Class' - a global trend where the most innovative, productive industries and the best educated people, converge on cities that are knowledge and tech hubs (Florida, 2017). As these people share ideas, raise capital and start businesses it stokes demand for even more jobs and amenities. In turn, that attracts even more ambitious, well-educated people (Florida, 2017). It is a cycle that promises to improve the City of Sydney over time but will also compound the pressures identified in the three key themes above.

*Greater Sydney: Future*
If growth continues on the current 40-year trajectory, the city will face many long-term structural changes, which will have significant implications on Greater Sydney's social infrastructure (Infrastructure New South Wales, 2018). Sydney is beginning to feel the effects of this challenge with population growth and urban sprawl threatening the desirable qualities, which have shaped the current liveable city.

*Aspirations*
To understand how issues of loneliness in Sydney can be addressed, it is important to define the position of the NSW Government. This can be understood by reviewing three
key strategy documents, which have been developed by the NSW State Government to bring together infrastructure investment and land-use planning for the Greater Sydney Region. These include:

i. The Greater Sydney Region Plan - A Metropolis of Three Cities
ii. Future Transport Strategy 2056
iii. Building Momentum - NSW State Infrastructure Strategy 2018-2038

These three key strategic planning documents are compared in Table 2, Appendix Two which identifies how each policy addresses the four categories of Infrastructure, Liveability, Productivity, and Sustainability.

*The Greater Sydney Region Plan - A Metropolis of Three Cities*

The aim of ‘Metropolis of Three Cities’ is to rebalance growth and deliver benefits more equitably to residents across Greater Sydney (Greater Sydney Commission, 2018). The plan aligns land use, transport, and infrastructure planning to reshape Greater Sydney as three unique but connected cities; the Western Parkland City, the Central River City and the Eastern Harbour City (Greater Sydney Commission, 2018). The plan provides a 40-year vision for Greater Sydney and is structured around six key strategies for infrastructure and collaboration, liveability, productivity, sustainability and implementation (Greater Sydney Commission, 2018). The plan aspires to create a 30-minute city, where jobs, services, and quality public spaces are in easy reach of people’s homes, and sets targets for new housing, encouraging diversity to improve affordability (Greater Sydney Commission, 2018).

*Future Transport Strategy 2056*

‘Future Transport 2056’ is an update to the NSW Long Term Transport Master Plan and aligns how we plan the future transport network with land use planning (Transport 2056). The plan sets a 40-year vision, directions and outcomes framework for customer mobility in NSW (Transport 2056). The plan accepts that transport can transform the public domain, activate centres and unlock new commercial and housing developments, therefore renewing existing neighbourhoods and spaces (Transport 2056). It also acknowledges that integrated land use and transport planning can activate public spaces, corridors, and networks, and positively impact the delivery of health, education and local government services (Transport 2056).
‘Building Momentum’ outlines the government’s priorities for the next 20 years. As NSW has a long pipeline of investment already underway, this strategy switches the focus from developing an infrastructure project pipeline to achieving sustainable growth in both population and economy. It aims to align investment in infrastructure with the way we build our communities and achieve innovation in service delivery (Infrastructure New South Wales, 2018). The strategy acknowledges that past investment has been focused on transport and schools, and identifies that now, equivalent long-term, sector-specific plans are needed in health, vocational education, justice, and water (Infrastructure New South Wales, 2018). The strategy aims to ensure that new infrastructure supports population growth, enhances the planning approval and procurement processes to ensure assets are built more quickly and cost-effectively, and more effectively maintain, repurpose and upgrade existing assets (Infrastructure New South Wales, 2018).

These three documents define the position of the NSW State Government and recognise that we are at a watershed moment, where existing practices and procedures need to shift. For the first time, land-use planning, transport, and infrastructure delivery are aligned across Government with the ambition to unlock access to housing, transport and employment, as well as social, recreational, cultural and creative opportunities. These aspirations are commendable; however, they do not explicitly detail their social targets or an approach to resolving issues of urban isolation. If Sydney is to maintain a high standard of liveability, the Government’s strategic policies must address the city’s social needs as well as its environmental and economic needs.

This background review revealed that whilst the NSW Government Policy demonstrates great ambition to improve the liveability and connectedness of Greater Sydney, there are current shortfalls pertaining to urban loneliness. This established the basis and the departure point for the research methodology, which broadly questions:

‘How do we reshape our cities to address emergent issues of urban isolation and drive better outcomes for the public through the built environment?’
Methodology

Research reveals that urban isolation and loneliness are complex topics. They are the product of a variety of social and economic factors and cannot be addressed solely through design. The methodology aims to focus on the realm of the built environment and urban design, specifically within the context of Sydney. In acknowledging this, the format of the paper limits the depth and scope of discussion, with the content remaining at a high level. The purpose of the paper is to establish an understanding of the key issues, which contribute to the issue of urban isolation, it does not necessarily intend to make any recommendations on how to fix them.

The methodology involved one on one interviews with twelve industry professionals. Interviews were conducted either in person or over the phone and ran for 45 to 60 minutes in length. All interviews were recorded and later transcribed. Interviews were structured around five focussed sub-questions targeted to prompt detailed discussion around the following themes:

i. The Problem: Barriers which contribute to the existing loneliness problem,

ii. Public Space: The role of public space in mitigating loneliness and connecting people,

iii. Policy: The current planning and policy framework and potential shifts to drive better outcomes concerning urban isolation and loneliness,

iv. Developers: How development can achieve positive social outcomes, and;

v. Professionals: Empowering built environment professionals to achieve future creative and innovative design solutions that can mitigate urban isolation and loneliness

Interviewees were selected for their practice and/or research expertise. It was important to target local knowledge, therefore all interviewees, except for one, work and/or practice in Australia, with the majority based in Sydney. Individuals were generally selected to obtain a cross-section of expertise across health, planning, urban design, architecture and policy to gather opinions about the full scope and complexity of the issue of urban isolation. Individuals were targeted further for their specific knowledge and contributions in this area, as detailed in Table One below.
| **Table 01:** List of Interviewees |
|---------------------------|---------------------|---------------------------------|
| **Title**                 | **Qualification**   | **Relevant knowledge**          |
| Troy Daly; Specialist     | Bachelor of Economics, Masters in Urban and Regional Planning | Specialist adviser on housing affordability schemes for the Greater Sydney Commission |
| advisor on housing        |                     |                                 |
| affordability schemes     |                     |                                 |
| (Greater Sydney           |                     |                                 |
| Commission)               |                     |                                 |
| Greg Woodhams;            | Master of Urban Design and Regional Planning | Works collaboratively with the Commissioners, government agencies and Councils to deliver the major priority projects and growth area initiatives outlined in the District Plans for the Greater Sydney Metropolitan area. |
| Executive Director - City |                     |                                 |
| Planning (Greater Sydney  |                     |                                 |
| Commission)               |                     |                                 |
| Janet Chappell;           | Masters of Urban Design Bachelor of Planning and Design (Arch) Bachelor of Architecture (Hons) MPIA, MAICD | Strategy Unit at Landcom and has been involved in preparing the last three metropolitan strategies for Sydney |
| Housing Policy Manager    |                     |                                 |
| (Landcom)                 |                     |                                 |
| Gerard Reinmuth; Director | Master of Architecture Bachelor of Architecture B.A. Eng Design | Academic, architect, designer and director of TERROIR. Research into Affordable Housing in Sydney with Landcom and the Greater Sydney Commission |
| (TERROIR)                 |                     |                                 |
| Professor of Practice     |                     |                                 |
| (University of Technology, Sydney) | |                                 |
| Pat Fensham; Principal    | BTRP (Hons) MSc     | Urban planner whose work has made significant contributions to metropolitan and strategic planning in NSW |
| and Partner (SGS Economics |                     |                                 |
| and Planning)             |                     |                                 |
| Will Roden; Project       | Masters of Public Administration Social Work and Social Science (Housing Management and Policy) | Strategy and policy development expert with a wealth of experience in affordable and public housing. He has worked at senior levels in the government and not for profit sectors. |
| Director (Elton Consulting) |                     |                                 |
| Mitchell Reardon; Lead,  | Master of Science - Urban & Regional Planning Bachelor of Urban Planning and Design Bachelor of Arts - Mass Communications | Lead of Urban Planning & Design Experiments, Happy City |
| Urban Planning, Design &  |                     |                                 |
| Experiments (Happy City)  |                     |                                 |
| Dr Michelle H Lim; Senior | PhD Masters of Psychology Bachelor of Arts (Hons) | Scientific Chair of the Australian Coalition to End Loneliness Clinical research - designing and developing evidence-based solutions that can address loneliness in young people |
| Lecturer in Clinical      |                     |                                 |
| Psychology (Swinburne     |                     |                                 |
| University of Technology) |                     |                                 |
Findings

To narrow the focus of the research, interview transcripts were reviewed and sorted into the four key themes previously identified.

i. Population and density - we are growing

ii. Diversity and tenure - how we live

iii. Transport and infrastructure - how we move

iv. Cultural changes - how we work

Figure Two summarises the findings that emerged through the interview process and organises them within the relevant themes.
Figure 02: Research Findings

Assessment tools
- ensure good decision-making
- representation of social outcomes

Illegality
- driving narrow design outcomes
- SPP & LCC:Little diversity
- ADDO - Guidelines used as legislation

Social commitments
- planning to address health and wellbeing
- loneliness: life everywhere/familiarity
- gap between policy and research

Precedents
- Vancouver: Pavement to Plaza program
- Newcastle: rejuvenation of streets & terraces
- Vienna: design competitions and 4 pillars
- economic
- social
- architecture
- environment

Density
- high density = more people, more connection
- does high density = loneliness?
- density (is it necessarily bad)

Emergence of the ‘GAP’
- locked out of the market (property - 40%)
- increased rents = transition
- transition = poor community outcome

Lack of diversity
- constrained design opportunities
- quality in current policy
- limited tenure (lease arrangements)

Urban sprawl
- private vehicle dependence
- increased commute = time poor

Inequality
- alienation, happiness and wellbeing
- increases social isolation issues

Greenspace
- quality green space
- targeted size
- proximity to green space

Transport
- decentralization of employment
- poor public transport infrastructure
- private vehicle dependence/commute time

Public space
- public space vs private public space
- quality and consistency of open space
- flexibility at public space

Streets
- tenancy arrangement and mixed use
- achieving fine grain
- car free developments
- network of footpath/tree canopy safety

Integration
- transport
- access infrastructure
- land use planning

Private development and delivery
- pooling money - affordable outcomes
- evidence base to show - diverse outcomes
- place value in value for developers
- large land parcels - developer monopoly

Governance and land ownership
- integrated teams = collective interest
- safeguarding social outcomes over time
- aligning interests - council vs developers
- local government ownership

Demographics/aging population
- land cost = disconnection from community
- land cost = disconnection from economy
- poor mobility = isolation
- sprawl = spreading facilities
- narrow funding models
- health issues = poor accessibility/mobility

Emergent demographic
- increased work hours = time poor
- product of global cities - creative class
- highly educated and motivated
Transport and infrastructure

Interviews revealed the most significant theme was deemed to be ‘Transport and infrastructure - How we Move’. This paper focuses on this theme and a number of relevant sub-categories, detailed below. Key details of the interviews and findings are investigated in detail to follow.

- Transport
- Public Space
- Streets
- Green space
- Integration
- Private development and delivery, and;
- Governance and land ownership

Figure 03: Transport and infrastructure
Transport

Current transport infrastructure is a significant contributor to urban isolation in Sydney. Housing affordability issues and subsequent urban sprawl have resulted in increased commute distances between work and home, resulting in a time-poor urban population. Reardon (2019) describes the adverse effect this has on social relationships ‘we have planned and built cities that inherently diminish the amount of time we have to spend with family, friends and loved ones... the more we drive, the less happy we are’. Fensham (2019) further supports this, arguing vehicle dependence and loneliness are inextricably linked ‘the way people commute to work notes a significant shift in people’s relationships’.

An overrun public transport network that falls short of public demand drives private car ownership, increasing stress on road infrastructure. Chappell (2019) argues ‘we have set ourselves up to fail with social interaction because we have become so reliant on driving everywhere’. Woodhams (2019) discussed the need for transport issues to be addressed at a strategic level to connect people to essential urban amenities; ‘existing poor-quality transport needs to be improved to deal with the stresses associated with access to jobs and services, healthcare and schools’. Decentralisation of employment in combination with improved public transport infrastructure would help to mitigate this issue.

**Key findings:**

Feedback from interviewees indicated all forms of transport, public, private and active, are critical in solving issues of urban isolation as they connect people. Recommendations include:

Remove cars from city centres to improve traffic and ease pressures on existing road networks through;

- Incentivising carpark free developments
- (Precedent: Planning to consolidate car parking outside the city and under London’s radial greenbelt. Innovative funding through offsetting the cost for parkland upgrade, simultaneously providing social uplift; Carmody Groake; London)
- Implementing car banks outside the city centre, and;
- Encouraging car share arrangements

Support a reduction in private car ownership to enhance the public quality of the street and the neighbourhood by;
- Developing progressive policy at both a Local and State Government level to support these shifts
- Improve current apartment models and reduce the need for basement parking
- (Precedent: Co-housing agreements where residents collectively decided against car parking and invested in shared communal space; Vienna)
- Encourage investment in active and public transport over private car ownership
- Develop quantitative data which objectively supports transport planning that drives positive social connections
- (Precedent: Research which collects data to quantify and assess the impact of transport developments, population growth, infrastructure and demographic changes in cities to inform design outcomes; J R Soc Interface; Great Cities look Small)

**Public space**

Public spaces play an important role in connecting people. Roden (2019) identified that public spaces should be integrated and ‘provide people with different opportunities to connect across age groups, ethnicity, religious backgrounds… housing, public and open spaces all play a really critical role’. When you come down to the urban and architectural level it’s important to have places to gather, form destinations and encourage people coming together. Equally, it is important to have places where people can retreat, be alone and disconnect.

The success of public space, therefore, relies on both good design and ongoing maintenance. Participants argued public space is not about quantity it’s about quality. Chappell (2019) identified a misalignment, arguing current inconsistencies in the investment and quality of public spaces across Sydney; ‘Sydney has an enormous amount of public space but the quality is poor. There hasn’t been adequate or equal investment across the city in great spaces… every footpath and street has to be considered as part of a broader network of open space’. The overall success of our open space network relies on the sum of its parts. An inconsistent approach to providing quality public spaces results in siloed and underutilised pockets. Arguably, less open space with more consistent quality and shared investment would likely yield more consistent activation of these spaces across the city.
Key findings:
Feedback from interviewees indicated public space is vital for creating socially connected communities as they provide places for people to connect. Recommendations include:

Enhancing the quality of public space through:
- Consistent investment and therefore consistent quality,
- Ensuring flexibility to support a variety of uses and people, and;
- Continuous, 24-hour activation to ensure safety

Develop quality assurance mechanisms to ensure these ambitions are implemented. Potentially in the form of:
- Urban design principles and policies that support cohesive public space outcomes, and;
- Defining Local and State Government responsibility in championing policy and approvals processes
- Design excellence review processes that evaluate designs and ensure delivery

Streets
Streets play an important role as social spaces and in mitigating urban isolation. Interviewees argued they should be treated as an extension of public spaces and play a central role in connecting public infrastructure and achieving integrated urban outcomes. There is an enormous opportunity for streets, *‘so much of our public space is a network of footpaths, tree canopy over the footpath and the unbroken chain of interesting things along the street’* (Chappell, 2019). Interviewees described the current network as ‘broken’, with much of the public domain being too far dispersed and segregated, resulting in ‘lost spaces’ which are totally underutilised. Interviewees identified the opportunity to establish a more cohesive network of streets if these ‘breaks’ were resolved. It is important to address this across multiple scales, from the strategic to the local.

The role of streets in establishing the ‘connective tissue’ between broader public infrastructure was identified as critical in establishing cohesive public networks and resolving issues of urban isolation. To ensure streets support public life and occupation
participants agreed their quality is important. Some factors work collectively to achieve positive street quality including:

- Reconciling the conflicting interests of vehicles and people,
- Ensuring a diversity of tenants and a mixture of uses,
- Ensuring street safety and activation
- Enhancing the urban tree canopy to improve public amenity

**Key findings:**

Feedback from interviewees indicated the quality of our streets and their role as an extension of public spaces play an important role in solving issues of urban isolation. Key findings include:

Effectively support and deliver more integrated active transport modes which balance the demand for cars and people, including:

- Pedestrian networks
- Cycle networks

Enhance street quality to encourage public street occupation and activation through:

- Protecting a fine grain street scale to ensure redevelopment maintains narrow streets, shop fronts and achieves ground activation
- Encourage a diverse mixture of tenants through appropriate funding arrangements
- (Precedent: Driving urban uplift through implementing free tenancy and ‘pop-up’ arrangements in the inner city; Newcastle)
- Avoid development outcomes which involve site amalgamation
- Policy and approval processes that incentivise the above

Reclamation of streets as public spaces through innovative approaches, including:

- Tactical urbanism as a low-risk means of testing options for government consideration
- (Precedent: ‘Pavements to plaza’ program which involved the activation of underutilised road spaces; Vancouver)

**Green Space**

Participants unanimously agreed that parks and green spaces play a huge role in encouraging health and wellbeing, contributing to happiness and mitigating issues of urban isolation. The success of our green spaces are intrinsically linked to the quality of transport and street networks, Fensham (2019) identified that ‘you’ve got to be able to get
to the park if it is going to be well utilised’. Roden (2019) supported this concern, identifying ‘a problem for big cities is having access to green space which is both close by and accessible’. There is a need for better connectivity ‘if a new park is created it needs to be on the way and a walkable distance for people. We don’t necessarily need grand open space, just a chain of small connected spaces people can enjoy’ (Dolley, 2019). By driving a focus on quality, the aspiration of streets, as strategic connectors would be achieved, ultimately improving walkability, convenience, and proximity to our parks and green spaces.

Key findings:
Feedback from interviewees indicated green spaces play an important role in providing spaces for social connection. Both the quality of and access to our green spaces are important in solving issues of urban isolation. Key findings include:

Green spaces should serve their broader neighbourhood and Local Government Area through;
- Contributing to a broader, connected network of green spaces
- Providing good street connections to facilitate safe and convenient access to green spaces
- Provision of integrated public and active transport
- Provision of multiple offerings in a single space so they can appeal to an array of people

More sophisticated funding arrangements that serve the collective benefit of the community, including;
- Arrangements and mechanisms which compensate landowners appropriately and acknowledge shared uplift

Integrated systems
To mitigate loneliness and drive better social outcomes, interviewees agreed critical that infrastructure systems including, transport, public space, streets, and green spaces are designed, developed and delivered in an integrated way and that people need to be at the core of this approach. Woodhams (2019) discussed how this is being addressed at a strategic level through the Greater Sydney Commission; ‘one of the keyframes that we established in developing the district and regional plan, was the link between transport and access, the delivery of infrastructure and land use planning’. Collaboration with Transport Futures
NSW and the development of the Movement and Place Framework has been adopted with an ambition to balance and reconcile competing demands, while also championing new thinking in this space to find better linkages and connectivity.

**Key findings:**
Feedback from interviewees indicated the integration of key infrastructure systems on both a strategic and local scale is important in solving issues of urban isolation. Key findings include:

A key approach to create integrated systems within Sydney's existing governance structure is to create Place-based Strategic Business Cases. This will:

- Ensure collective agency interests are aligned and captured
- Allow development of infrastructure plans that can inform land-use planning, rezoning and development control plans
- Develop ‘place-based’ approaches that deliver a holistic solution where people feel safe, comfortable and connected.

Support and implementation of more integrated delivery processes through:

- Encouraging integrated team structures from the outset with representation from key stakeholders (Precedent: The successful Delivery Authority developed and associated with Nordhavn; Copenhagen. The pilot of a multi-agency integrated process on the GPOP project; Sydney)

**Private development and delivery**
Interviewees discussed the role of private developers and the scope for social connection to be enhanced through more effective project delivery methods. Interviewees advocated a need for more sophisticated social infrastructure funding models for private developments in Australia. Developers are typically required to make contributions to help cover the cost of delivering infrastructure associated with their development. These contributions cover a variety of issues, most commonly addressing the following: public amenity, affordable housing, transport or other infrastructure. There lies the opportunity for these contributions to be pooled to drive the provision of shared social amenity across development sites for a broader collective benefit.
Additionally, interviewees discussed limited diversity across Australia’s development sector. This was attributed to the risk associated with doing anything ‘outside the box’, Chappell (2019) identified overseas precedent for providing shared spaces, arguing ‘one of the reasons we’re not doing it is inertia in our property development and finance sectors. There is a reticence to fund projects unless there is a built precedent. Therefore, we just get the same thing over and over again’. To strengthen social connectedness within our cities, it needs to be at all scales of development; it is imperative that developers begin to provide public and social benefits at a community level.

Interviewees further attributed poor development outcomes to narrow delivery models. Reinmuth (2019) argued ‘we are currently delivering land parcels which are too large ... The government owns huge sites and only two possible developers that can deliver them’. This is seen as problematic in driving a developer monopoly and perpetuating many of the poor outcomes that have been previously discussed, ultimately yielding a lack of diversity. In conjunction with the scale of a site, the timing and staging of large projects were criticised as being too fast. Interviewees argued slower delivery would likely achieve more authentic place outcomes.

**Key findings:**
Feedback from interviewees indicated developers and current methods of delivery play an important role in solving issues of urban isolation. Key findings reflect the importance of:

Encouraging integrated development outcomes through implementing:

- Pooled approaches to development rights and contributions through mechanisms such as neighbourhood development associations, and;
- More formalised value capture arrangements and funding to support community benefit infrastructure

Encouraging more diverse development outcomes through:

- Building an evidence base to prove the market values associated with alternative models, reducing the risk for developers,
- Government support of private-sector arrangements which encourage social infrastructure contributions,
Defining the economic value associated with place-based outcomes to incentivise developers

(Precedent: Incentive scheme where developers apply to the council to increase development height on the condition of investment in public infrastructure; Vancouver)

Defining the economic value associated with place-based outcomes to incentivise developers

Encouraging broader delivery models to unlock development and market diversity through:

- Resolving the current developer monopoly by reducing the size of developable land parcels
- Resolving staging and timing with a view to a more progressive delivery

Governance and land ownership

Interviewees identified land ownership as a constraint and argued current arrangements contributing to poor social outcomes. Interviewees described the need for better alignment between the conflicting interests of developers and government. Roden (2019) identified problematic ‘grey areas’ in land ownership models on larger scale precincts, characterised by long-term developer lease arrangements. Reconciling the public and private interests is a challenge with developers often delivering buildings and the Government delivering the public realm. Roden (2019) discussed the increasing difficulty of this arrangement ‘it becomes increasingly difficult to align the interests of these two parties and achieve the best collective outcomes’. These land ownership issues ultimately inform and implicate the design of buildings; ‘you can do the best plan in the world but if it ignores the fundamentals of land ownership or the fact that you will need to have some equity around who benefits, then your plan is going nowhere’ (Fensham, 2019). Governance was identified as a potential mitigator and means to safeguard the social outcomes and varied interests of multiple parties over the life of a project.

Key findings:

Feedback from interviewees indicated governance and land ownership play an important role in protecting the long-term social ambitions for development. Key findings reflect the importance of:
Landownership is important in defining accountability and ensuring integrated neighbourhood development outcomes in the long term. Two measures to resolve land ownership conflict include:

- Encouraging Local Government to maintain long-term land ownership in perpetuity, and/or
- The development of a unifying and independent authority to ensure public and private development interests align,
- Local Government is best placed to ensure more integrated, long-term outcomes with a vested interest in delivering border strategic connections beyond the development site

Effective governance mechanisms work alongside land ownership models and are an important assurance measure to:

- Safeguard and protect the long-term place and social outcomes for developments,
- Consolidate and align the varied interests of collective parties

**Conclusion**

Literature indicates we have failed to come to terms with the challenge’s urban isolation and loneliness present in our cities. Statistics indicate that if we don’t address the current problems, we can expect existing issues to compound and deteriorate into the future. We need to give greater weight to social connection in the way we build and organise our cities - the demographic changes underway in Australian society make the task even more urgent and challenging. Research further indicates that the urban and built environment play a significant role in encouraging social connection. However, there is an obvious disconnect between the current condition, the expected condition and the great ambitions set out in NSW Government’s key strategic policy documents.

The design of our cities has the ability to either connect or further isolate people. Therefore, the design and planning of our infrastructure are recognised as critical in mitigating escalating issues of urban isolation. The research has identified there are several interrelated factors including transport, public space, streets and green space which collectively shape the built environment. It is critical to implement a more integrated approach to design, planning, and delivery of these components across multiple scales of development.
There are distinct roles and responsibilities the public and private sector can play in mitigating these issues. These relate to more effective governance and land ownership agreements to ensure the interests of the public are reflected. Furthermore, in the instance of private development there lies opportunities to improve delivery approaches to unlock results that focus on collective outcomes. To this end, it important the aspirations filter down from the macro strategic level to local policy, planning documents and guidelines to ensure population growth does not erode the amenity and character of Sydney’s suburbs, towns, and communities.

Ultimately, this issue is a complex one and the answer lies at the intersection of social, economic and environmental factors. Through a more holistic approach, there is an opportunity to unlock the potential for more diverse and innovative development outcomes, which serve the collective public needs. Moving forward, it is important we embrace this challenge as an urban design opportunity to transform our communities to connect rather than separate people. The crucial factor in whether our cities are good places to live is whether or not the city helps us to connect with other people or leaves us feeling lonely.

**Limitations**

It is acknowledged that this paper has several limitations. The format of the paper inhibits the depth and scope of discussion for the broad topic; therefore, the paper is positioned to present a high-level strategic summary of the issues focussed on one theme; ‘Transport and infrastructure - How we Move’. It is recommended that beyond this paper the remaining three themes require representation to fully reflect the breadth of findings. The format of the paper further limits discussion and analysis of potential recommended design solutions, which have been identified at a high level, however, requires a more detailed analysis. The study further remains limited through the number and selective nature of the participants.
References


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<td>Flat or Apartment</td>
<td>23.90%</td>
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<td><strong>Household Size</strong></td>
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<td>0 or 1 Bed</td>
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<td>2 Bed</td>
<td>24.60%</td>
<td>23.70%</td>
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<tr>
<td>3 Bed</td>
<td>38.80%</td>
<td>32.10%</td>
<td>-6.70%</td>
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<td>4 Bed</td>
<td>19.30%</td>
<td>22.00%</td>
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<td><strong>Car Ownership</strong></td>
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</tr>
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<td>Commute - Public Transport</td>
<td>78.80%</td>
<td>81.40%</td>
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<td>Commute - Car as Driver or Passenger</td>
<td>18.90%</td>
<td>22.80%</td>
<td>3.90%</td>
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<td>Cycle</td>
<td>57.70%</td>
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<tr>
<td>Walk</td>
<td>3.80%</td>
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<td>0.20%</td>
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<tr>
<td><strong>Transport</strong></td>
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<tr>
<td>Owned Outright</td>
<td>39.00%</td>
<td>27.70%</td>
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<tr>
<td>Mortgage</td>
<td>23.70%</td>
<td>31.50%</td>
<td>7.80%</td>
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<tr>
<td>Renting</td>
<td>29.90%</td>
<td>32.60%</td>
<td>2.70%</td>
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</tbody>
</table>
Appendix Two: Sydney’s Land Use & Infrastructure Planning

<table>
<thead>
<tr>
<th>A Metropolis of Three Cities</th>
<th>Future Transport 2056</th>
<th>Building Momentum</th>
</tr>
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<tbody>
<tr>
<td><strong>Infrastructure</strong></td>
<td></td>
<td></td>
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<tr>
<td>A city supported by Infrastructure</td>
<td>Infrastructure supports the three cities</td>
<td>Integrated land use and infrastructure planning</td>
</tr>
<tr>
<td></td>
<td>Infrastructure aligns with forecast growth</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infrastructure adapts to meet future needs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infrastructure use is optimised</td>
<td></td>
</tr>
<tr>
<td><strong>A collaborative city</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Benefits of growth realised by collaboration of governments, community and business</td>
<td>Infrastructure planning, prioritisation and delivery</td>
</tr>
<tr>
<td><strong>A city for people</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Services &amp; infrastructure meet communities ‘changing needs’</td>
<td>Customer Focused</td>
</tr>
<tr>
<td></td>
<td>Communities are healthy, resilient and socially connected</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Communities are culturally rich with diverse neighbourhoods</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Celebrates the arts and supports creative industries and innovation</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Housing the city</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Greater Housing Supply</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Housing is more diverse and affordable</td>
<td></td>
</tr>
<tr>
<td><strong>A city of great places</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Great places that bring people together</td>
<td>Successful Places</td>
</tr>
<tr>
<td></td>
<td>Environmental heritage is identified, conserved and enhanced</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Safety and Performance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Every customer enjoys safe travel across a high performing, efficient network</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>A well-connected city</strong></td>
<td><strong>Accessible Services</strong></td>
<td><strong>Digital Connectivity and Technology</strong></td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Integrated land use and transport creates walkable and 30-minute cities</td>
<td>Making transport more accessible</td>
<td>Improve access to international gateways</td>
</tr>
<tr>
<td>The Eastern, GPoP and Western economic corridors are better connected and more competitive</td>
<td>30min city</td>
<td>Improve intercity &amp; intracity transport</td>
</tr>
<tr>
<td>Freight &amp; Logistics network is competitive and efficient</td>
<td>Support access, inclusion and participation</td>
<td>Improve walking &amp; cycling infrastructure</td>
</tr>
<tr>
<td>Regional connectivity is enhanced</td>
<td></td>
<td>Improve mass transit connections</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Jobs and Skills for the city</strong></th>
<th><strong>A Strong Economy</strong></th>
<th><strong>Asset Management</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Harbour CBD is stronger and more competitive</td>
<td>Moving goods and services</td>
<td>Provide more school education facilities</td>
</tr>
<tr>
<td>Greater Parramatta is stronger and more competitive</td>
<td>Providing access to employment and education across Sydney</td>
<td></td>
</tr>
<tr>
<td>Western Sydney airport and Badgery’s Creek Aerotropolis are economic catalysts for Western Parkland City</td>
<td>Supporting Tourism</td>
<td></td>
</tr>
<tr>
<td>Internationally competitive Health, Education, Research and Innovation Precincts</td>
<td>Growing Opportunities</td>
<td></td>
</tr>
<tr>
<td>Investment and Business activity in centres</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial and Urban services land is planned, retained and managed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic sectors are targeted for success</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Sustainability</strong></th>
<th><strong>A city in its landscape</strong></th>
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</thead>
<tbody>
<tr>
<td>The coast and waterways are protected and healthier</td>
<td>The coast and waterways are protected and healthier</td>
</tr>
<tr>
<td>A cool and green parkland city in the south creek corridor</td>
<td>A cool and green parkland city in the south creek corridor</td>
</tr>
<tr>
<td>Biodiversity is protected, urban bushland and remnant vegetation is enhanced</td>
<td>Biodiversity is protected, urban bushland and remnant vegetation is enhanced</td>
</tr>
<tr>
<td>Scenic and cultural landscapes are protected</td>
<td>Scenic and cultural landscapes are protected</td>
</tr>
<tr>
<td>Environmental, social and economic values in rural areas are protected and enhanced</td>
<td>Environmental, social and economic values in rural areas are protected and enhanced</td>
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<tr>
<td>Urban tree canopy cover is increased</td>
<td>Urban tree canopy cover is increased</td>
</tr>
<tr>
<td>Public open space is accessible, protected and enhanced</td>
<td>Public open space is accessible, protected and enhanced</td>
</tr>
<tr>
<td>The green grid links parks, open spaces, bushland and walking and cycling paths</td>
<td>The green grid links parks, open spaces, bushland and walking and cycling paths</td>
</tr>
</tbody>
</table>

<p>| <strong>Encourage local council and private investment in recreation infrastructure</strong> | <strong>Facilitate urban greening and climate control</strong> |
|--------------------------|-----------------------------|-----------------------------|--------------------------|-----------------------------|</p>
<table>
<thead>
<tr>
<th>An efficient city</th>
<th>Sustainable</th>
<th>Resilience</th>
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<tbody>
<tr>
<td>▪ A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change</td>
<td>▪ Zero net emission by 2050</td>
<td>▪ Plan, prioritise and deliver an infrastructure program that represents the best possible investment and use of public funds.</td>
</tr>
<tr>
<td>▪ Energy and water flows are captured, used and reused</td>
<td>▪ Alternative Fuels</td>
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<tr>
<td>▪ More waste is reused and recycled to support the development of a circular economy</td>
<td>▪ Financial sustainability</td>
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<tr>
<td></td>
<td>▪ Environmental Resilience</td>
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<tr>
<td>A resilient city</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Adapting to a changing world</td>
<td></td>
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</table>

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