



**Walkability in regional areas:
A pilot study of the access and availability of data required to conduct a Walkability for
transport assessment for Tasmanian Local Government Areas Launceston City,
Clarence City and Brighton**

Background

Introduction

This report describes the data sources and the access to, and availability of, data required to develop a 'walkability for transport' assessment for three local government areas (LGA) in Tasmania. It will start to explore how these LGAs intend to utilise the information gained from the walkability for transport tool. It will cover the high prevalence of chronic disease in Australia, how creating walkable communities may help alleviate this burden of disease, and describe the walkability for transport tool. It will describe the local context around liveability¹ and walkability in Tasmania with a focus on the local government areas of Brighton, Clarence and Launceston. By examining whether the data required for the walkability for transport tool are available and accessible in Tasmania, this report will help the next stage of the project which will look at the options for intervention to make the three LGAs more walkable and provide information to support other councils in Tasmania who are interested in creating more liveable communities.

Context for walkability project

This project involves applying the 'walkability for transport' tool developed by the McCaughey VicHealth Community Wellbeing Unit (now Healthy Liveable Cities Group at RMIT University) in collaboration with the Centre for the Built Environment and Health at UWA (1) and suggested indicators that measure age friendliness of outdoor spaces and buildings in accordance with the World Health Organisation 'Age Friendly Cities and Communities Guide' (2). The project is being led by the Local Government Association of Tasmania (LGAT) in collaboration with Public Health Services in the Department of Health and Human Services, the Healthy Liveable Cities Group at RMIT University and the City of Launceston, City of Clarence and Brighton Councils.

Chronic disease as an issue globally in Australia and in Tasmania

The burden of disease caused by non-communicable 'lifestyle diseases', in particular chronic diseases, is increasingly recognised as a key barrier to improving population health (3). A physically inactive lifestyle is the fourth leading contributor to disease globally (4) contributing to a large number of chronic diseases such as type 2 diabetes, cardiovascular disease (CVD), and some cancers in addition to increasing all-cause mortality (5). Over two-thirds of Tasmanian adults are insufficiently active (69.4%) and overweight/obese (67.5%) (6).

¹ The 2011 State of Australian Cities report (Major Cities Unit, 2011, p. 139) defined liveability as "the degree to which a place supports quality of life, health and wellbeing ... (they) are healthy, safe, harmonious, attractive and affordable. They have high amenity, provide good accessibility and are environmentally sustainable."

Walking as a key way to improve health

Walking is the most common form of physical activity (6) and is especially important for the elderly, who may not be able to engage in more vigorous forms of physical activity. However, the 2016 Tasmanian Population Health Survey showed that more than half of all Tasmanians (56.9 per cent) had not used active transport (travelling that includes walking, running or cycling) for at least 10 minutes continuously in the preceding week, with only a quarter of Tasmanians (24.5 per cent) using active transport on four or more days (7).

Physical infrastructure links to walking

There is strong evidence that the physical infrastructure design of communities impacts on the ability and likelihood of people walking (8). Walkability in this paper has been defined as a suitable physical environment that enables people to access the necessities of daily life, including public transport, and on foot. Walkable communities support active transport including walking, use of public transport and cycling (9). They are correlated with increased physical activity levels (9) reduced obesity and cardiovascular disease (10), lower hospital costs (11) higher social cohesion (12), improved air quality and lower carbon emissions (13), fewer traffic casualties (9) and increased local economic activity (14).

There is growing awareness that creating walkable neighbourhoods is likely to reduce traffic congestion and contribute to a safer, more sustainable and healthy community (15). Walking occurs in much higher rates in communities that have sufficient residential density to support local services, shops, public transport and places of employment, well-connected street networks (enabling the most direct route and supporting route diversity) and a balanced mix of destinations to walk to, including public transport nearby (16). People living in 'high' walkable neighbourhoods are twice as likely to walk to destinations and public transport as in 'low' walkable neighbourhoods (i.e. lower densities, less well connected streets and more single-use planning) (16).

Tasmanian walkability context

Tasmania has some particular issues in creating walkable communities in part due to urban planning and the geographical rurality of Tasmania (17). It has a high proportion of low-density housing, single land-use mix, poor street connectivity and a high percentage of outer regional and rural areas (17). In addition to this, Tasmania has an ageing population, with the highest median age of all States and Territories (42 years) with almost 1 in 5 of Tasmanians over 65 years of age. Tasmania, therefore, has a particular need for places to be walkable (18).

Demographic context of councils involved in project

Brighton is a small LGA (pop. 16,112) located on the northern outskirts of Hobart (19). Brighton is the most disadvantaged LGA in Tasmania (14) with its Council recognising the area has a "lack of basic infrastructure – transport, shops, services, sporting and recreational facilities – as a central, ongoing problem." (20). Brighton has some particularly low socio-economic areas where car ownership is low (21) and therefore has a greater need for neighbourhoods to be more walkable to increase equitable access to services.



Clarence is one of the three cities that make up the greater Hobart area, to the east of the CBD (22). The city has a diverse population (54,819) with a mix of rural and urban communities containing suburbs of varying socio-economic status (22). Clarence has variable topography which has been noted to impact people's ability to walk locally (22).

The City of Launceston encompasses roughly half of greater Launceston, situated in northern Tasmania, 200km north of Hobart CBD on the Tamar River (23). Launceston City services the largest population of any LGA in Tasmania (65,274) (24). Launceston is the chief retail and commercial centre for northern Tasmania (23).

Local Government's role to improve walkability and liveability

Section 20 of the Local Government Act 1993 describes the role of councils "to provide for the health, safety and welfare of the community". Local Government has a key role to play as the most direct form of government to its constituents and hence has unique knowledge and ability to provide social infrastructure - those key services that are vital for addressing the social determinants of health and hence improving wellbeing (29, 30).

There is also recognition of the impact and necessity of tailoring urban planning to health at a State Government level. As recently as November 2015 the Land Use Planning and Approvals Act (LUPAA) (Tas) 1993 was amended so the objectives of the act included, "to promote the health and wellbeing of all Tasmanians and visitors to Tasmania by ensuring a pleasant, efficient and safe environment for working, living and recreation".

Attempting to construct liveable communities in a way that increases walking rates and improves health outcomes involves taking a 'health in all policies' approach to urban planning (28). Walkability is important as it impacts a variety of other liveability domains such as accessibility to education, employment, transport and services (26). Creating walkable communities can help improve equitable access to services as it allows people with poorer health outcomes and may not have access to a vehicle, with access to the necessities of daily life including health services (26).

Rationale for this report

The use of the "Walkability for Transport tool" is a pilot project that may be incorporated into LGAT's Community Health and Wellbeing Project to enable other Councils to review approaches to liveability. The intention in assessing walkability is to trial the benefit of the tool to contribute to decisions in local planning and infrastructure investment.

The walkability for transport tool has been developed with the intention to allow planners and policymakers to see the differences between neighbourhoods' walkability in their local government area; and inform them where investment might be most appropriate to improve walkability equitably (25). Options available for local and state governments to improve walkability as identified by Billie Giles-Corti (26) include "improving the street network connections for walking; focussing urban densification and development around public transport hubs which provide local shops and services; designing new greenfield developments, and retrofitting sprawling neighbourhoods, with medium to high density developments with active street frontages."



Indicators allow for an objective measurement of walkability. They can be repeated over time to monitor progress and help assess the effectiveness of policy interventions through estimating the effect that these changes have on neighbourhoods' walking rates, physical activity levels and overall health and wellbeing.

Data Availability

Three data-sets are used, residential density, street connectivity and land-use mix, to calculate the walkability for transport tool. These data are then used to generate relative walkability deciles, allowing planners to visualise down to a neighbourhood statistical area 1 level (SA1) the relative walkability of different areas within their LGA.

This pilot has assessed the availability of the required data. Some data is available through the councils while other data is available through the Australian Urban Research Infrastructure Network's (AURIN) open-source software resource sourced from a mix of nationally available data. AURIN software can be accessed by any email address that includes edu or gov.

Councils have data on local Land-use mix.

AURIN data includes:

- i) Dwelling density – Australian Bureau of Statistics (ABS) Mesh block
- ii) Road network intersection density – PSMA Australia Limited NetworkAge-friendly data:
 - a. Daily living destination – General Transit Feed Specification (GTFS) / supermarkets / MapInfo Business points
 - b. Pedestrian Crossings – Transport nodes
 - c. Public Toilets – National Public Toilet

Methods

The pilot project gathered Council data through a questionnaire sent via email.

Does your LGA have the following data in spatial format:

1. Local Land Use Mix (LUM)
2. Convenience stores and newsagents
3. Outdoor benches/seating (as council assets)
4. Accessible Buildings or Accessible council owned buildings (Universal design principles/ DDA approved/ any auditing of building accessibility)
5. Are there any community compliance standards around accessible buildings in your council?
6. Is there other data held by council that could add value (to this project)?

For each of these data sets please answer:

- a. Do you have access to these data and if so in what format (e.g. databases, spreadsheets) and where are these data held?
- b. What are the process steps to access these data?
- c. What is the governance and guardianship around access to these data in regards to licensing. Is it open data or is it local government data
- d. Are the guidelines around access, transparent and available?
- e. Who has expertise (role/title) around using these data?
- f. Are there any barriers to accessing data and if so what are they?
- g. In your view how reliable are these data and are there any shortfalls?

Further 'impact' questions were asked and recorded either in person or over the phone.

- i) What do you plan to use the 'walkability for transport' tool for?
- ii) What is the value of having neighbourhood level spatial data as opposed to LGA based results?
- iii) Will you use the data for future advocacy work to improve walkability in areas in your LGA?
- iv) Will you and if so how will you use this tool to partner with LGAT and Public Health Services?

Results

All three councils had access to spatial land-use mix data.

There was a lack of recorded data across all councils about convenience stores and newsagents; which buildings are accessible and guidelines around constructing accessible buildings (except for national guidelines).

Councils had varying levels of 'other data' for developing an age-friendly outdoor spaces tool.

Table 1. Data availability comparison

Data sets	Brighton	Clarence City	Launceston City
Local Land use mix	✓	✓	✓
Convenience stores and newsagents	✗	✗	✗
Outdoor benches/seating	✓	✓	✓
Accessible Buildings	✗		✗
Accessible building guidelines			✗
Other data	<ul style="list-style-type: none"> • Wheelchair access report improvement plan. • Walking trails 	<ul style="list-style-type: none"> • Footpaths • Tracks & Trails • Rubbish bins • Signs • Kerb & Gutter • Trees • CCC Buildings • Artworks • Public Toilets • Playgrounds • Schools • Bus stops <p>Fresh Food outlets</p>	<ul style="list-style-type: none"> • Footpaths layer (polygons of paths and steps) • Retaining Walls • Furniture Points (bike racks, bollards and various other types) • Rubbish Bins • Signs • Kerb and Channel • Trees • Ground Surface Layer • Hand Rails • Fences • Buildings • Monuments and Artworks • Pedestrian Routes • Bike Lanes • Tram Lines

There was large variation between councils around how the data was stored and the governance issues around accessing these. Tables 2,3,4 detailing the specific access requirements around the datasets are available in Appendix A,B and C respectively.

Responses to 'impact' questions included:

- i) What do you plan to use the 'walkability for transport' tool for?
 - *To determine areas with particular issues with walkability in order to prioritise capital works projects to retrofit to improve these areas' walkability.*
 - *To use interactive maps to see the impact on walkability of improving street connectivity by putting a street through a 'Radburn-model' (cul-de-sac) pathway or changing the zoning/density of a particular area in order for (retrofitting) to have the greatest effect.*
 - *To use for constructing a design principle to enforce for greenfield planning to ensure walkability*
 - *To feed into future structure plans and potential rezoning of areas to increase density or land use mix.*
 - *To promote walkability within our LGA, and demonstrate to the community that there needs which they have expressed are being addressed; and use as tool to promote community health and wellbeing (through walking)*
- ii) What is the value of having neighbourhood level spatial data as opposed to LGA based results?
 - *The specificity allows us to target spending more directly where it is needed most.*
 - *At this level of specificity Councils can determine what needs to be done at a local context rather than the current information which is only available in larger areas.*
 - *The information will allow a consideration and focus on walkability issues in future planning which has been previously ignored/not considered*
- iii) Will you use the data for future advocacy work to improve walkability in areas in your LGA?
 - *We can use this tool as evidence of need to improve walkability in specific areas and apply for funding for state and commonwealth grants.*
 - *Currently there is insufficient investment to support increased density and therefore, changing zoning laws to allow for increased density and/or land-use mix is purely an academic exercise.*
- iv) Will you and if so how will you use this tool to partner with LGAT (Lower Government Association of Tasmania) and Public Health Services?
 - *Identified usefulness of collaborating (with DHHS and LGAT) to help leverage for grants and obtain additional funds.*
 - *Willing to collaborate with LGAT and DHHS to help push out and have other councils state-wide also undergo walkability assessments to improve walkability and hence health and wellbeing of Tasmania as a whole.*

- *See use in being a part of a standardised tool that is used elsewhere, with ability to compare to other localities.*

Discussion

Data availability and access

State-wide zoning data is available but only local councils have access to spatial LUM data. To roll-out a state-wide Walkability for Transport tool, permission is required from each council to give consent use their data.

The attempt to develop a ‘measure of age friendliness of outdoor spaces and buildings’ faces further challenges as not all data requested were available and there were some inconsistencies in data between councils. None of the three councils surveyed had access to data on convenience stores or newsagents – but acknowledged that this could be searched for via Google Maps. Councils had varying levels of ‘other data’ for developing an age-friendly outdoor spaces tool which may be able to be incorporated on a case by case basis.

Responses to impact questions

The results of the ‘impact’ questions indicate that the councils included in this pilot all recognise the usefulness of having the walkability for transport tool and have identified ways specific to their context, to attempt to increase walkability in areas that are most at risk. Improving the health of the community, through increased physical activity and socialising, in particular people with limited mobility (elderly/disabled) and responding to input from community consultations were key reasons for wanting to be a part of this project. However, it was noted in discussion with planners, that walkability and health outcomes were only one consideration for planners. Other issues with a higher priority included attending to roads, parks and rate-payers’ requests.

Limitations

The walkability tool is not applicable for areas where the typical resident population is 10 or less and hence its usefulness for councils in Tasmania will depend on the geographic rurality of their LGAs.

Another limitation of this approach to measure walkability is that solely focusing on physical infrastructure may miss other important factors in the microenvironment, such as pavement quality and width, topography (hilliness) and social factors such as perceived safety, which also influence whether people walk or not – particularly for leisure (32). These factors have been identified as issues in community consultations by some councils.

More evidence is required to determine the extent of the relationship between policy intervention increasing the walkability of areas and health outcomes, as the associations seen could be largely accounted by people already engaging in more physical activity and with better health status prioritising living in more walkable areas (32).



Conclusion

There is strong evidence that more walkable areas are associated with higher walking rates. Interventions that increase the walkability of communities will increase the level of incidental activity and provide the opportunity for more of their tasks of everyday life to be completed on foot, resulting in improved community's health and wellbeing. The co-benefits are decreasing air pollution; greenhouse gas emissions; increasing social cohesion; and local economic activity contributing to increased neighbourhood liveability.

Acknowledgement:

Peter Donkersley was the key author of this work. He sadly passed away in February 2018. He was a bright young second year medical student at the University of Tasmania, who worked on placement with Public Health Services for two months from December 2017. Although known to us for such a short time Peter made a significant contribution through his work on this Walkability project. Those of you who met Peter will have known him to be passionate about climate change, and a quiet and enthusiastic hard worker.

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