

NEWSLETTER no 11

Early delivery of equitable and healthy transport options in new suburbs: Critical reforms and tools



Source: Nearmap and PSP Tarnet North

Welcome

Welcome to the eleventh newsletter of the “Early delivery of equitable and healthy transport options in new suburbs: Critical reforms and tools” project. This internal newsletter is to update RMIT’s project partners on activities both undertaken and planned, and to report preliminary insights. This project is funded by RMIT’s Urban Futures Enabling Capabilities Platform, the Victorian Planning Authority, the City of Casey, the City of Wyndham and Stockland Corporation.

Activities this quarter

In the last few months, the project team has kept the focus on the modelling work and the final report. Work across the three work streams has included:

- Development and calculation of the benefits and costs of the public and active transport scenarios of low, medium and high quality.
- Writing the final report
- Participation in webinars on health impact assessment in transport modelling, shared mobility, cycling, and infrastructure contributions.

Urban form elements conducive to active and public transport – the situation in Melbourne’s growth areas

As reported earlier, urban form elements that have been found to improve public and active transport uptake are local destinations, mixed land uses, dwelling density and street connectivity. For walking and cycling, infrastructure such as foot or cycling paths, perceived and actual safety, as well as green and open space and an “aesthetic” environment have also been found to have an influence. Through our analysis we explored to what extent these urban form elements can be found in the growth areas, which we have also partly reported on. The following summarises our findings. See also Gunn et al. (2020) for further details on the methods. If you compare the situation of the listed urban form elements between the growth areas in Melbourne (i.e. built-up PSP areas), Greater Melbourne, and inner parts of the city (i.e. Stonnington and Yarra), it can be said that growth areas in Melbourne have somewhat poorer results. However, results are not clear-cut for all elements.

Local destinations and mixed uses

Growth areas have a longer average distance to most destinations than Greater Melbourne (see Table 1). For example, the average distance to an activity centre with a supermarket is 1,951 m in Greater Melbourne, and 3,272 m in the growth areas, which can both not be considered walkable. The average distance to a pharmacy or general practitioner is 1,133 m and 993 m respectively in Greater Melbourne and 2,707 m and 2,150 m in the growth areas. For primary schools the average distance is 1,051 m in Greater Melbourne and 1,878m in the growth areas. Looking at the inner areas the average distances are generally lower, as can be seen in Table 1.

The current PSP Guidelines specify that 80-90% of households should be within 1km of a town centre large enough to allow for provision of a supermarket and the suggested draft new PSP Guidelines state that 80-90% of dwellings should be located within 800m of

Table 1: Average distances to closest selected local destinations in metres

	Greater Melbourne	Inner areas	Growth areas
Activity centre with supermarket	1,751	797	3,272
Convenience store	1,045	498	1,829
Primary school	1,051	759	1,878
Community centre	1,421	638	3,175
Pharmacy	1,133	559	2,707
General practitioner	993	482	2,150

Source: Own calculations

Urban form elements conducive to active and public transport – the situation in Melbourne’s growth areas - continued

an activity centre. However, when looking at the current situation only 4% of dwellings in the growth areas are within 1km of an activity centre with a supermarket and only 26% of dwellings in Greater Melbourne. In the inner areas, however, 89% of dwellings are within 1 km. While some growth areas perform better than others, it can be seen that in general the inner areas of Melbourne provide an urban form more conducive to active and public transport as more local destinations are available in a shorter distance. Of course, some difference is to be expected between areas that have been around for a long time and new urban areas, and in the course of time the growth areas will catch up with some more local availability of destinations. Still, these results show that planning for and assisting implementation to achieve more and more proximate destinations is crucial to encourage a higher use of active and public transport, ideally much earlier in the lifetime of a suburb.

Density and street connectivity

The current PSP Guidelines state the objective of an average density of at least 15 dwellings per net residential hectare and the new draft PSP Guidelines specify a minimum of 20 dwellings per net developable hectare. However, currently the average net dwelling density in the growth areas lies at 10 dw/ha, and is

beneath the stated objectives and also beneath a density of at least 20 net dw/ha found by researchers to be conducive of active and public transport. Part of this result may be caused by PSP areas not being fully built out when the analysis was conducted, as current Precinct Structure Plans generally plan for densities of about 15 dw/ha. However, in our analysis only PSP areas that were mostly built up were considered so that it seems unlikely that the density will intensify very strongly with further build-up in the next few years. This implies that the planned densities will only be achieved much later in the lifetime of a suburb and are thus not conducive to active and public transport in the first decade or even longer.

For street connectivity, Boulange et al. (2017) state that an intersection density of at least 67 intersection per km² is conducive to public and active transport. The growth areas are clearly above this level and comparable to the average for Greater Melbourne (an intersection density of 95 and 92 respectively). Inner areas, however, have an intersection density of 140. Thus, the new PSP areas are quite permeable although some areas of Melbourne have poorer intersection density which is often a symptom of curvilinear street structures (in other words structures with many cul-de-sacs) instead of gridded ones.

Urban form elements conducive to active and public transport – the situation in Melbourne’s growth areas - continued

Foot and cycling paths

The infrastructure for active transport does generally exist in most growth suburbs as the PSP Guidelines have provisions for foot and cycles paths and in practice paths are generally built at the same time as roads are built within the PSP areas. However, sometimes connections to destinations outside the suburb (e.g. crossings or cycle paths) and also between separate parts of a suburb (e.g. water crossings) are not built until later in the lifetime of the development, meaning that foot and cycle path connectivity is limited.

Open space

The current PSP Guidelines specify that there should be local parks within 400m safe walking distance of at least 95% of all dwellings, and the new draft Guidelines increase the percentage to 100%. The actual percentage of dwellings within 400m of a park of any size is 62% in the growth areas, 73% in Greater Melbourne and 95% in the inner areas. Yet, the average distance to open space is similar in Greater Melbourne, the growth areas and the inner areas and lies between 250 m and 290 m for a park of any size from a dwelling.

Distance to public transport stops

The PSP Guidelines and also the planning provisions state the objective of 95 % of dwellings being within 400m of an existing or future bus stop (regardless of frequency). Our analysis examined the distance to existing public transport stops of any kind. Future stops were not taken into account, as our focus was the current situation. The only areas coming close to the objective are the inner areas with 93% of dwellings within 400m of a public transport stop of any kind. In Greater Melbourne, the percentage lies at 65% and in the growth areas 25% of dwellings are within 400m of a public transport stop. These results show that the objective is quite ambitious and is clearly not achieved in the first years of growth suburbs.

If the state government wants to achieve this objective, further investment in public transport is clearly necessary. Additionally, the frequency, destinations to reach and transfers within the network further play into the usefulness of a public transport route/ stop. Therefore, it would be useful to reformulate this

objective. Rather than solely focussing on the proximity of a public transport stop it would be important to also add in a target for the quality of the public transport network. Having a lower percentage of dwellings withing 400m of a public transport stop is acceptable if the public transport routes are of a high quality.

For the growth areas, it also needs to be noted that public transport provision differs between the different areas, depending on the existent public transport offer within the area. If established suburbs are in proximity, the likelihood is higher that there is some sort of public transport offer. However, a public transport service within the new neighbourhood in the first two to five years is rare and, in general, public transport provision can be considered poor in the growth suburbs.

Overall, the growth areas perform well on street connectivity, active transport infrastructure and to some extent, access to open space. They do no perform well on local destinations, mixed uses and density. Furthermore, the public transport offer in growth areas is generally poor.

References

- Boulange, C.; Gunn, L.; Giles-Corti, B.; Mavoa, S.; Pettit, C.; Badland, H. (2017): "Examining associations between urban design attributes and transport mode choice for walking, cycling, public transport and private motor vehicle trips". *Journal of Transport & Health* 6: 155–166. <http://dx.doi.org/10.1016/j.jth.2017.07.007>
- Gunn, L, Kroen, A, De Gruyter, C, Higgs, C, Saghapour, T & Davern, M 2020, 'Early delivery of equitable and healthy transport options in new suburbs: Policy, place and people', *Journal of Transport & Health*, vol. 18, p. 100870.



Miscellaneous

A website to assess living costs associated with moving to a certain area

One interesting example of how households can assess different elements of living costs in different areas of their city – and to increase awareness of transport costs – is the Housing and Mobility Cost Calculator (Wohn- und Mobilitätskostenrechner) for the Munich city region: <http://bayern.wowohnen.eu/>.

This website is intended for people planning to move to or within the Munich city region. On the website the user enters their workplace and other destinations they go to regularly and then the location they would like to move to.

It’s also possible to enter several potential locations to compare.

The users also enter their envisaged living space in sqm (e.g. 100), whether they want to own or rent, live in an apartment or single family house etc., and whether they want to live in a new or existing home. They also enter how they plan to travel to their destinations.

On the next page the calculator presents how long it would take to get to the previously specified destinations with different transport modes (Figure 1).

	ÖV	Auto	Park + Ride	Bike + Ride	Rad	Fußweg
1 Arbeitsplatz 1	<input type="radio"/> 23 min 1x umsteigen	<input type="radio"/> 9 min 3,6 km	<input type="radio"/> 16 min 1x umsteigen	<input type="radio"/> 23 min 1x umsteigen	<input type="radio"/> 10 min	<input type="radio"/> 38 min
2 Arbeitsplatz 2	<input type="radio"/> 32 min 2x umsteigen	<input type="radio"/> 10 min 6,2 km	<input type="radio"/> 23 min 1x umsteigen	<input type="radio"/> 26 min 2x umsteigen	<input type="radio"/> 15 min	<input type="radio"/> 57 min

Figure 1: Travel times to specified destinations by different modes.

The user then specifies which mode of transport they plan to use mostly to get to the destinations. According to the inputs, the website summarises information on the monthly living costs in the selected location, such as the housing and transport costs, the CO2 emissions from housing

and transport and the time spent travelling to specified destinations (Figure 2).

The website also presents how many people in the new neighbourhood own no, one, two or more cars (Figure 3).

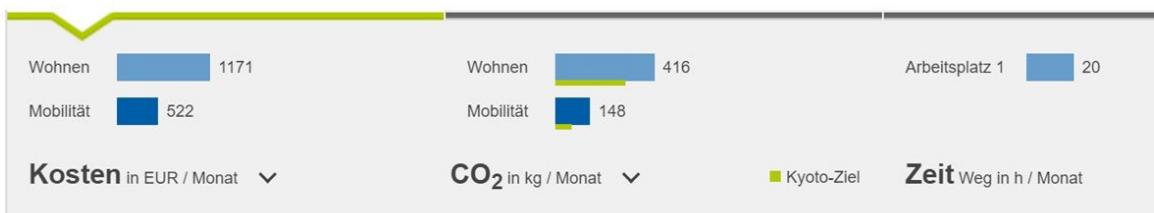


Figure 2: Living costs, travel times and CO2 emissions for specified destinations and modes



Figure 3: Own modes of transport and comparison to households in the specified suburb

Finally, under “Alltagscheck” (“every day life check”) a map is displayed that shows different destinations in the area (e.g. schools, shops, public transport) (Figure 4). This is thought

to help users understand whether they could access those destinations by walking, cycling or public transport rather than by car.

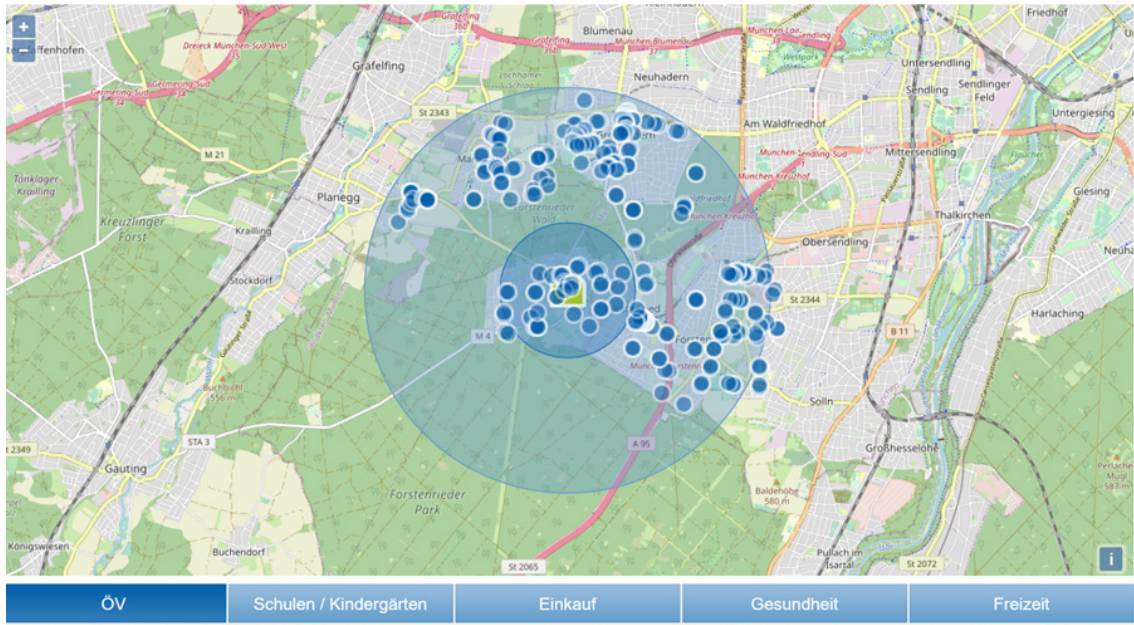


Figure 4: Map of destinations in proximity of the specified address

Webinar: Health Impact Assessment in Transport Modelling

Team members Lucy Gunn, Melanie Davern, Chris De Gruyter and Annette Kroen together with CUR members Belen Zapata-Diomedes and Alan Both presented a webinar on Health Impact Assessment in Transport Modelling on 21 April, covering results from a recent research project undertaken at the RMIT Centre for Urban Research in partnership with the Victorian Department

of Transport. The researchers presented a health impact assessment model and tool for calculating the health benefits that come from replacing car trips with walking and cycling.

A recording of the webinar is available, and the tool is accessible via the Australian Urban Observatory (<https://auo.org.au/>).

Planned activities

- Finalise work on modelling and funding approaches
- Dissemination of findings (e.g. through articles and infographics)
- Finalise final report
- Project Advisory Group: 25th May 2021 2-4pm as an online meeting.

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