Victoria Walks Inc.
Level 7, 225 Bourke Street
Melbourne VIC 3000
P: 03 9662 3975
E: info@victoriawalks.org.au
www.victoriawalks.org.au
Registration No. A0052693U

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Victoria Planning Authority
Level 25, 35 Collins Street
Melbourne Victoria 3000
Australia

SUBMISSION – PRECINCT STRUCTURE PLAN GUIDELINES

Introduction

Victoria Walks welcomes the opportunity to comment on the *Guidelines for Precinct Structure Planning in Melbourne's Greenfields, Draft for Public Engagement September 2020* ('the Guidelines').

Victoria Walks is concerned that new growth areas have not typically delivered walkable suburbs. Amongst other research, recent work by Resilient Melbourne and others documents various challenges in delivering 20-Minute Neighbourhoods in the growth areas (Resilient Melbourne 2020).

Victoria Walks was a partner in the 20-Minute Neighbourhood Pilot Program and audited the walkability of the three pilot neighbourhoods and made recommendations for improvement. Victoria Walks is highly supportive of the commitment that:

> "The Guidelines are based on planning for 20-minute neighbourhoods, a principle in Plan Melbourne 2017-2050 (Plan Melbourne) that advocates living locally to ensure accessible, safe and attractive local communities."

COVID-19 has significantly changed the way we operate as a society and some of these changes will persist into the future. Increased working from home will see us live more locally. It has emphasized the need for adaptable, versatile suburbs that can accommodate unforeseen futures and the risks of building a future with 'our eggs in one basket' such as suburbs highly reliant on private cars. As the Resilient Melbourne work notes:

"These circumstances have brought to light an opportunity—and imperative—for planning and development of new neighbourhoods to be reimagined so that these places, and the communities that inhabit them, are well-prepared for future shocks and stresses."

While there are many aspects of the Guidelines that we would support, we believe further provisions will be required if the Guidelines are to deliver 20-Minute Neighbourhoods in practice. Most notably:

- Provisions to ensure activity centres are designed with a mainstreet format,

rather than shopping mall configurations surrounded by car parking

- Arterial roads are a significant barrier to pedestrian movement and safety
- There should be a clearer commitment to providing dedicated cycling paths/lanes, separate from both walkers and traffic, on high traffic streets and other streets should be designed for 30-40 km/h speeds
- Performance targets for residential density and tree canopy coverage in public space should be more ambitious.

We appreciate that many aspects of the Guidelines reflect other existing government policy. Nonetheless we hope and believe there are opportunities to raise the bar and improve on existing policy rather than constrained by it.

Recommendations

Victoria Walks recommends that VPA:

1. Amend the Policy Framework (page 11) to include the definition of 20-Minute Neighbourhoods as described by the DELWP website.
2. Amend T1 to require 50 dwellings and T2 to 25 dwellings per hectare.
3. Amend T4 to read: “Separated off road bicycle paths (in addition to footpaths) or protected on-road lanes should be provided…”
4. Add additional provisions indicating that local streets should generally be designed for traffic speeds of 30-40 km/h.
5. Include provisions to avoid roads with a speed limit exceeding 60 km/h, or with more than four traffic lanes (two in each direction)
6. Amend T6 to require formal crossings every 300-500 metres and at schools and child care centres
7. Add requirements for the provision of supportive infrastructure to enable informal midblock crossing.
8. Amend T12 to require at least 50% potential canopy coverage in street environments, or over footpaths in a street or open space setting.
9. Review provisions for schools to:
    a. Provide low traffic, low speed, pedestrian-friendly environments within 400m of schools
    b. Require a majority of dwellings to be within potential walking distance of a secondary school
10. Include new provisions to:
    a. Ensure activity centres are designed with a mainstreet format, rather than shopping mall configurations surrounded by car parking, including:
        i. Buildings oriented to the street

ii. Car parking on-street, in car parking buildings or, less preferably, to the side or rear of buildings if provided in at-grade off-street car parks.

iii. Streets designed for low vehicle speeds and convenient informal crossing by pedestrians

iv. Detailed street design that prioritises pedestrian movement, for example raised thresholds or shared zones.

b. Ensure new centres are not located on high traffic thoroughfares and the design of arterial roads *near* any centres allows easy pedestrian movement to the centre.

c. Allow mainstreet style centre configurations to provide lower car parking levels than required by the Victoria Planning Provisions (VPPs.), perhaps as an innovation pathway

The rationale for these recommendations are set out below (recommendations are repeated).

SPECIFIC COMMENTS

Policy framework

The discussion of 20-Minute Neighbourhoods does not make it clear that walking and walkability is in many ways the key defining feature of the concept. It is important for practitioners to understand what 20-Minute Neighbourhoods mean in practice.

DELWP describe 20-Minute Neighbourhoods as follows:

> "It's all about 'living locally'—giving people the ability to meet most of their daily needs within a 20-minute walk from home, with access to safe cycling and local transport options.
>
> "These daily needs may include accessing local health facilities and services, schools and shopping centres. This 20-minute journey represents an 800m walk from home to a destination and back again. Or a 10 minute walk to your destination and 10 minutes back home."

Recommendation

Amend the Policy Framework (page 11) to include the definition of 20-Minute Neighbourhoods as described by the DELWP website.

Performance targets for density

The Guidelines (p34) require a minimum 30 dwellings per net developable hectare within an 800m catchment of activity centres and train stations; and 20 dwellings across the entire PSP area.

We do not consider these densities sufficient. The research on this issue was summarized by a group of Australian universities as:

> "The state government should: increase and fully implement a minimum housing-density target of at least 25 dwellings per hectare, with even higher densities around public transport nodes and activity centres." (RMIT et al 2018)

The second target should therefore be increased to 25 dwellings. Note it is not clear whether the RMIT target relates to gross or net developable area, but if it refers to the gross area the level of density would need to be higher again. It seems reasonable that the density in the target areas would be twice the average, so we recommend 50 dwellings for the first target.

Recommendation

Amend T1 to require 50 dwellings and T2 to 25 dwellings per hectare.

Safe streets and spaces

Victoria Walks specifically supports the following general principles (p37):

> "F 4.2 The design of the public realm should ensure these spaces feel safe and are inviting to pedestrians and cyclists.
>
> F 4.3 Permeability of the street network for pedestrians and cyclists over vehicles should be prioritised in areas where a higher intensity and density of land uses are proposed."

Walkability and safe cycling networks

The Guidelines rightly require off road bicycle paths on connector streets and arterial roads. However off-road paths for cyclists often mean footpaths are replaced with shared paths. There a range of problems with shared paths, comprehensively set out in our research on this topic, and both walkers and bike riders prefer separated paths. Perhaps most notably, older people and people with disabilities are uncomfortable sharing paths with bike riders and are likely to be deterred from walking on busy shared paths. Every step should be made to ensure that vulnerable walkers who will not share with bike riders are not designed out of our public spaces.

Shared paths in a street context have a range of additional problems beyond those experienced in open space corridors. This is mainly the additional safety risks to cyclists from vehicles using driveways or side streets. While off-road paths may be perceived as safer than riding on the road, does VPA have any evidence to suggest they are *actually* safer? Countries with a strong cycling culture tend to provide protected on-road cycle lanes, so it is not clear why the Guidelines seem to exclude this option.

Provision for cycling should also be considered more broadly, to anticipate a range of emerging personal mobility technologies such as electric bikes, scooters and skateboards. New suburbs need to be future proofed for a situation where a range of new personal mobility options are in common usage. This may also extend to entirely automated small-scale vehicles such as delivery robots. These new mobility devices are even less suited to sharing paths with walkers, as they are generally faster and/or heavier than conventional bicycles. For more information on these issues, refer to our submission on personal mobility devices for the National Transport Commission.

The provisions around bicycle movement should specify that paths should not be shared with walkers or motorised vehicles.

There is an additional question regarding the safe movement of people walking or using bikes or personal mobility devices on streets other than connector and arterial roads. The default speed limit is currently 50 km/h, but best practice internationally is moving toward 40 or 30 km/h. The Netherlands recently resolved to make 30 km/h the default urban limit, as it already is in Japan. Just as a high proportion of existing Melbourne streets were designed for a time when the default limit was 60 km/h, there is a strong risk that we are designing typical streets for speeds that are considered too high, if not already then almost certainly by future practitioners.

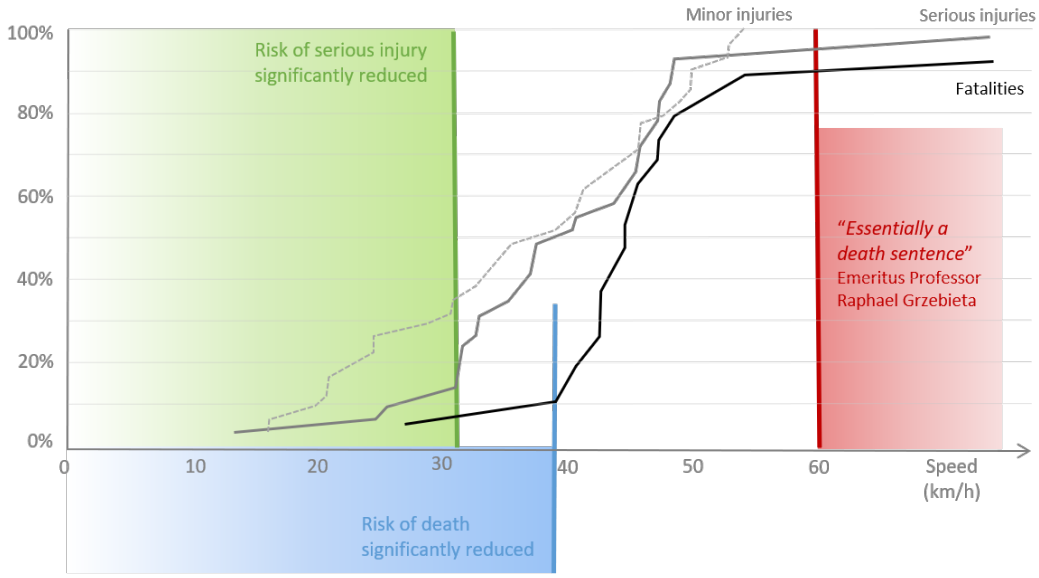
Traffic speed has a dramatic impact on injury risk for pedestrians. The diagram below illustrates the relative injury risk for pedestrians hit at differing speeds. A pedestrian hit at 50 km has approximately 80% chance of being killed and over 90% probability of being seriously injured. At 40 km/h the risk of death drops to about 10% and serious injury 50%. At 30 km/h the risk of serious injury is below 20%.

We have not researched the relationships between cycling and vehicle speed, but know people feel much more comfortable riding with traffic at lower speeds.

Victoria Walks strongly supports T5:

> "All streets should have footpaths on both sides of the reservation."

Figure 1 Vehicle speed and risk of pedestrian injury or death (Kröyer, H. (2015).



Recommendation

Amend T4 to read: "Separated off road bicycle paths (in addition to footpaths) or protected on-road lanes should be provided…"

Add additional provisions indicating that local streets should generally be designed for traffic speeds of 30-40 km/h.

Primary roads

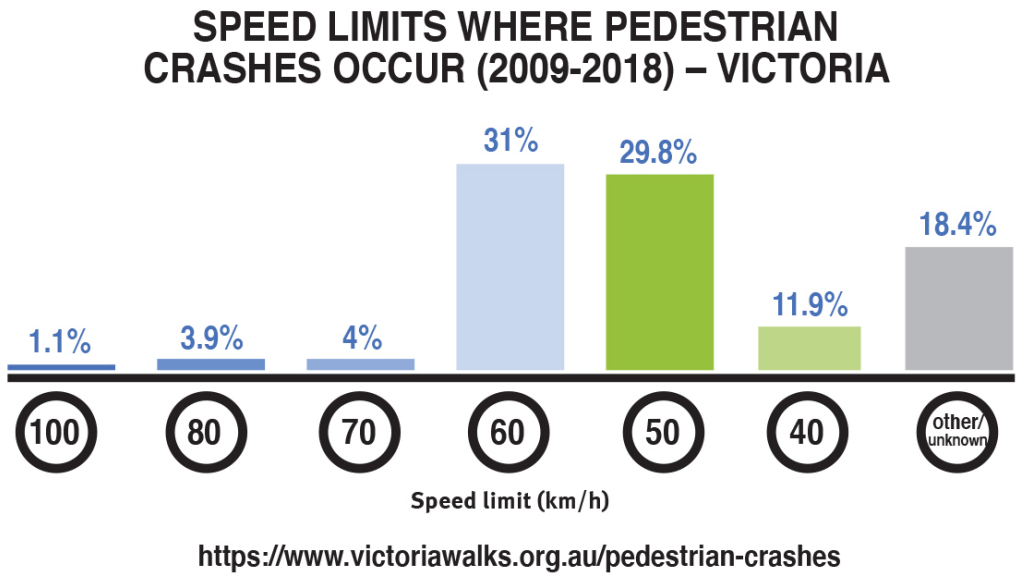
The following performance targets relate to arterial roads:

> "T6 Pedestrian and cyclist crossings provided every 400-800m along arterial roads, rail lines, waterways and any other accessibility barriers.
>
> "T7 The arterial road network should provide a 1.6km road grid with safe and efficient connections, adjusted where necessary to reflect local context."

Arterial roads are highly problematic for pedestrians. In a practical sense, arterial roads are difficult for pedestrians to cross due to the obvious reasons of speed and volume of traffic, but also due to other factors. Informal crossing assistance such as midblock raised or painted medians are rarely provided. At signals, the sheer width of the road can make it impractical to allow enough time for pedestrians to (legally) cross in one movement. This typically makes crossing the street either impractical or dangerous. This is a particular issue for roads with a wide central median, which assist crossing in mid-block locations but make it very difficult at intersections. In addition, typical speed limits mean optimal crossing solutions such as raised zebra crossings are deemed unacceptable by engineering guidelines.

A pedestrian hit at 60 km/h has approximately 90% risk of death. On roads with even higher traffic speeds, drivers need longer to be able to brake sufficiently to hit a pedestrian at a survivable speed. Although 50 km/h is the default speed limit, pedestrians injured in crashes are most commonly hit in 60 km/h speed zones, as shown in the diagram below. This is not adjusted for exposure, which would reveal higher limits are even more dangerous.

Figure 2 Speed zones where pedestrian crashes occur (Oxley et al 2020)



In addition to the safety risks, arterial roads present a range of other problems. They are typically unpleasant environments to walk in due to traffic noise and air pollution. Because of those issues and traffic engineering preferences, there is little interaction with adjoining land uses.

For all of the reasons above, Victoria Walks believes that apart perhaps from freeways, which should be considered separately, there is no appropriate place in urban environments for roads with a speed limit exceeding 60 km/h, or with more than four traffic lanes (two in each direction). There may be some exceptions such as in very large heavy industrial areas.

Formal crossings need to be provided more regularly than 400-800 metres. An 800 metre distance could result in 10 minutes of additional walking (more for less able walkers) simply to cross the street. And the road should be designed to allow informal opportunities to cross between formal crossings, either more generally with provisions such as central medians or more specific interventions such as kerb ramps, kerb extensions and pedestrian refuges at side streets, parks, bus stops, or destinations such as shops.

Recommendation

Include provisions to avoid roads with a speed limit exceeding 60 km/h, or with more than four traffic lanes (two in each direction)

Amend T6 to require formal crossings every 300-500 metres and at schools and child care centres

Add requirements for the provision of supportive infrastructure to enable informal midblock crossing.

High quality public realm

Victoria Walks strongly supports the concept of T12, requiring potential canopy tree coverage within the public realm and open space of at least 30%. However, we believe streets are different to open space and need a higher proportion of street tree coverage. Street trees have multiple benefits for the community and are important for the creation of pleasant walking environments. This has been proven to increase the distance that people will walk for transport or to access public transport, and can also be expected to encourage people to walk for recreation in their immediate neighbourhood rather than driving to a walk in a different location.

While we are not aware of direct evidence around optimal practical street tree coverage, we would suggest 50% as good minimum target.

Recommendation

Amend T12 to require at least 50% potential canopy coverage in street environments, or over footpaths in a street or open space setting.

Walking to school

The Services & Destinations section of the Guidelines outlines provision for community services including schools, with the General Principle:

> "F 14.1 Education and community facilities (i.e. schools, community centres, health facilities and sport reserves) should:.
>
> »» be co-located within community hubs.
>
> »» have good visual and physical links to a local centre.
>
> »» be located on connector streets, linked by walking and cycling paths, and in close proximity to high-quality public transport where possible.
>
> »» be located away from gas trunk infrastructure."

However, we are concerned that connector streets may not necessarily be designed for safe and pleasant walking, especially for young children.

Victoria Walks particularly supports Performance Target T16, requiring "70% of dwellings located within 800m of a government primary school."

We note T16 also requires "100% of dwellings located within 3,200m of a government secondary school." While it might be fairly easily ridden by bicycle, 3.2km is a long way to ask someone to walk. It would seem more useful to frame this target as a slightly lower percentage within a closer distance, such as 75% within 1.6km.

In addition to these provisions, Victoria Walks recommends that the area around schools should be designed as low traffic, low speed, pedestrian-friendly environments.

Recommendation

Review provisions for schools to:

- Provide low traffic, low speed, pedestrian-friendly environments within 400m of schools

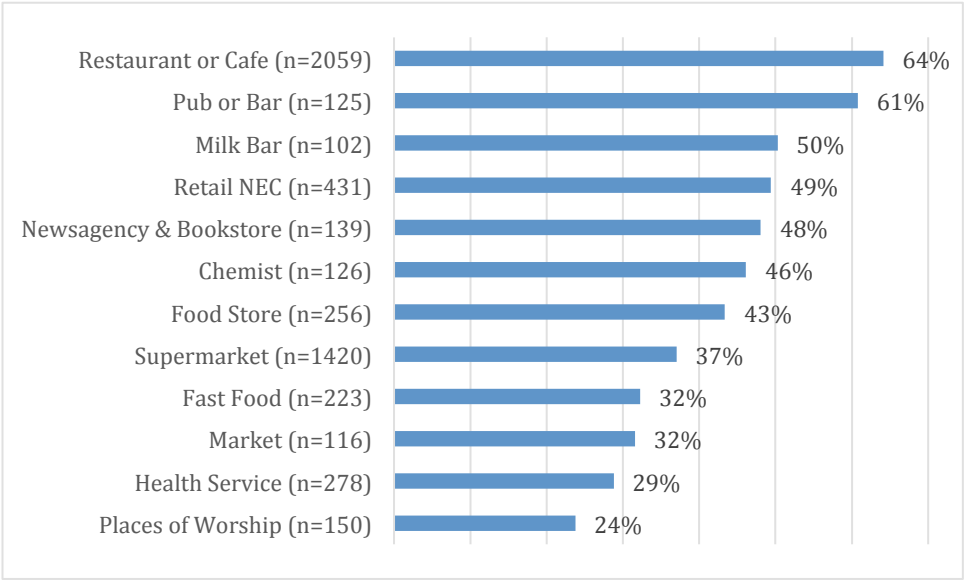
- Require a majority of dwellings to be within potential walking distance of a secondary school.

Thriving local economies

Activity centres are the heart of 20-Minute Neighbourhoods and their design is critical to the walkability or otherwise of not only the centre itself but the broader neighbourhood. It is imperative that new centres are designed with a mainstreet style format rather than a shopping mall configuration.

In 2019, Victoria Walks undertook research on Walking and Transport in Melbourne Suburbs. This work outlines the role of walking in the broader transport system and particularly for access to activity centres and public transport. Across Melbourne, a fifth of all trips to shops and services are walked. For trips within a possible walking distance, a high proportion of trips are walked, including almost two-thirds of trips to restaurants or cafes. The rates of walking to various types of shops and services are set out in the graph below.

Figure 3 Proportion of trips less than 2 km that are walked, by destination (VISTA data)



To better understand travel to centres in the middle and outer suburbs the research compared a group of mainstreet style strip shopping centres with shopping mall type centres of a similar size and similar distance to the CBD. The results, illustrated below, confirm that the design of centres has a very strong influence on how people travel to them. The proportion of walking trips to the mainstreet style centres was 3.5 times the proportion walked to car-oriented centres. They also had higher rates of public transport and cycling access.

Figure 4 Mode of travel to similar-sized activity centres in middle and outer suburbs of Melbourne (VISTA data)

Mode of travel	Select strip shopping centres	Select car-oriented shopping centres
Walking	21%	6%
Vehicle Driver	52%	60%
Vehicle Passenger	21%	32%
Bus	2%	1%
Train	3%	0%
Bicycle	1%	0%
Other	1%	0%
TOTAL number of centres	**10**	**12**
TOTAL recorded trips	**504**	**545**
Average trip distance (km)	**3.7**	**5.0**

Another implication of these results is that centres do not need the level of car parking currently provided, because not everyone is bringing a car to the centre. Only 52% of trips to the mainstreet centres were by a vehicle driver and even for the vehicle oriented centres only 60% were driven (with 32% a vehicle passenger).

At a more detailed level, our work as one of the partners in the 20-Minute Neighbourhood Pilot Program concluded that the detailed street design of the primary traffic routes through the centres (which were all mainstreet centres) was critical to the walkability of both the centre and the broader neighbourhood.

The implication is that, in terms of the Movement and Place framework, streets within the centres need to be designed as places or destinations rather than traffic movement corridors. In addition, streets both within and adjacent to the centres need to be designed to prioritise pedestrian movement above vehicle movement.

In practice, this means centres should not be located on roads which are designed as high traffic thoroughfares. In addition, the design of streets providing primary vehicle access to activity centres may need to be different to other locations.

The Guidelines aspire that:

> "New activity centres should be located, scaled and designed to: prioritise pedestrian movement with access to all possible forms of transportation (F16.1)"

However, there is only one subsequent provision that could assist to deliver that outcome. T17 specifies that 80-90% of dwellings should be located within 800m of an activity centre, but there are questions as to the viability and scale of centres that could be supported given the densities currently anticipated in T1, as discussed above. Perhaps more importantly, there are no provisions that impact the design of the centre. This section of the Guidelines needs considerable further work if there is to be any prospect of delivering 20-Minute Neighbourhoods in practice.

Recommendation

Include new provisions to:

- Ensure activity centres are designed with a mainstreet format, rather than shopping mall configurations surrounded by car parking, including:
    - Buildings oriented to the street
    - Car parking on-street, in car parking buildings or, less preferably, to the side or rear of buildings if provided in at-grade off-street car parks.
    - Streets designed for low vehicle speeds and convenient informal crossing by pedestrians
    - Detailed street design that prioritises pedestrian movement, for example raised thresholds or shared zones.
- Ensure new centres are not located on high traffic thoroughfares and the design of arterial roads *near* any centres allows easy pedestrian movement to the centre.
- Allow mainstreet style centre configurations to provide lower car parking levels than required by the Victoria Planning Provisions (VPPs.), perhaps as an innovation pathway

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