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Department of Economic Development, Jobs Transport and Resources
Via email to cycling.strategy@ecodev.vic.gov.au

Updating Victoria's Cycling Strategy

Thank you for the opportunity to input to the development of a new/updated cycling strategy and action plan.

Victoria Walks strongly believes that a centrepiece of the Strategy should be the continuing advocacy and support for more people cycling more often supported by the progressive development of comprehensive network of dedicated cycling paths or routes in Melbourne and major regional cities, largely separated from both traffic and walkers.

Other submitters will no doubt elaborate on the problems with cyclists sharing road space with high speed traffic, so we will not address that issue. However, shared walking and cycling paths have their own issues and our submission will outline those before turning to solutions that work for both walkers and bike riders.

Background – Victoria Walks

Victoria Walks is a walking health promotion body, established by VicHealth in 2009, working to get more Victorians walking more every day. Our vision is for vibrant, supportive and strong neighbourhoods and communities where people can and do choose to walk wherever possible.

Our cities, towns, neighbourhoods and urban areas have become largely automobile dependent and less walkable. This has contributed to the emergence of more sedentary lifestyles in which Victorians do not engage in the recommended levels of physical activity. Physical inactivity is a significant factor in the dramatic rise in the levels of obesity and preventable diseases such as Type II diabetes and cardiovascular disease.

Walking-friendly neighbourhoods and urban spaces are essential to encourage and enable people to walk. Walking is associated with positive health outcomes, improved fitness and better physical, social and mental health. Making towns, cities and suburbs more walkable has many health, environmental and economic benefits.

Recommendations

The Cycling Strategy should:

1. Establish a vision for a comprehensive network of dedicated cycling paths or routes, largely separated from both traffic and walkers, as the core cycling network for Melbourne and major regional cities.
2. Acknowledge that shared paths are not suitable as long term primary transport cycling routes for metropolitan Melbourne, regional cities and towns.
3. Recommend segregated or separated facilities where numbers of pedestrians exceed 100 or cyclists exceed 50 per hour in the commuter peak, with qualifications as discussed in *Shared Paths – the issues*.
4. Promote lower vehicle speed limits on non-arterial roads or where there are high numbers of cyclists or pedestrians, to provide good conditions for transport cycling.
5. Identify the need to fund a program of education and signage to promote a positive culture of sharing on shared paths. This program should include emphasis that cyclists are required to give way to pedestrians on shared paths; should not pass too closely; and may have to slow down to pass, as well as keeping to a reasonable speed more generally. This may be implemented through direct communications on shared paths (eg pavement stencils) rather than a mass media campaign.
6. Confirm that shared paths should be designed, managed and promoted with 20 km/h as the maximum desired cycling speed.
7. Identify the need to trial options to limit cyclist speed on busy shared paths, such as those identified by CDM Research 2012 and including speed limits.
8. Establish a fund for upgrading shared paths or creating segregated/separated facilities.
9. Identify the need to amend Clause 56.06 of the Victoria Planning Provisions, to require separated cycling paths rather than shared paths on new connector and arterial roads.

The Cycling Strategy should not:

10. Envisage increased cycling on footpaths.
11. Envisage conversion of footpaths to shared paths.

The rationale behind these recommendations is explained in the remainder of this submission.

Shared paths overview

Victoria Walks has recently undertaken substantial research on shared paths outlined in *Shared Paths – the issues* available at http://www.victoriawalks.org.au/position_statements/. To develop this paper, Victoria Walks prepared a literature review based primarily on Australian information. Consultation was then undertaken with select stakeholders, subject experts, VicRoads and councils. The Municipal Association of Victoria (MAV) facilitated initial consultation and a total of eighteen councils provided comment.

Cycling ridership is growing very quickly and shared paths are the most common form of off-road cycling facility in Australia. Some shared paths are carrying very high numbers of cyclists and for some local government areas shared paths are their busiest cycling routes. Nonetheless, volumes of cyclists vary dramatically between paths, even in the same area.

Victoria Walks has significant reservations regarding the provision of shared paths. Generally, slow moving recreational cyclists may be able to share paths with walkers. However walkers may not mix well with commuter or sports cyclists in particular, who typically travel at higher speed.

There is very little reliable data that would allow the risk of crashes on shared paths to be compared to pedestrian risk in other transport contexts. However, the evidence available suggests that shared paths may be more hazardous for cyclists than some other environments, such as on-road cycle lanes.

While cycling speed on shared paths varies significantly between locations and users, average cycling speed typically ranges between 20 and 30 km/h – generally above the 20 km/h envisaged by Austroads for shared paths.

Where observational studies have been compared with surveys and/or focus groups of users, the observational studies usually find minimal levels of conflict, but the user experience is quite different. For example in one Sydney survey 8% of pedestrians reported being knocked over by a cyclist and 33% reported being frightened by a cyclist travelling too fast (Robinson 2011).

People who are elderly or vision impaired are particularly vulnerable and uncomfortable sharing with cyclists. For older seniors, walking is critical to their personal mobility and their capacity to lead active, independent lives. For those aged 75 and over, walking makes up 77% of their total physical activity. And as seniors get older, their walking is increasingly about everyday life needs such as shopping and personal business. In a survey of 1,128 Victorians aged 60 or over, better cyclist behaviour on shared paths and reduced cycling speed on shared paths were the top two responses for action that would make walking feel safer (Garrard 2013).

In a survey of 607 Victorians with vision impairment, 8% had been involved in a collision and 20% were in a near collision as a pedestrian over the previous 5 years – 24% of these incidents were with bicycles (Oxley et al 2012).

In Victoria, the number of people aged 65 and over is likely to almost triple from 2011 to 2051 as the population increases and the proportion of older people grows (Department of Transport, Planning and Local Infrastructure 2014). Numbers of people with a disability including vision impairment will increase dramatically as the population ages.

It seems that the requirement for cyclists to give way to pedestrians on shared paths is comparatively poorly understood. Initial findings from the VicRoads Cycling Road Rules

Survey indicate that this is one of three rules that many people “are unaware of or unclear about,” compared to other rules (Minister for Roads 2014).

We conclude that many seniors and visually impaired people are likely to avoid walking on some shared paths because of their concerns about cyclist speed and collision risk. This may be extended to walkers generally when faced with shared paths that have high volumes of commuter cyclists.

Despite these issues, shared paths have been constructed and in some cases utilised by cyclists to the point where they have become key routes for bicycle transport. This goes well beyond the primarily recreational role that seems to have been originally anticipated.

Safety of shared paths for cyclists

Shared paths are not particularly safe compared to other cycling environments, in fact there is substantial evidence to suggest they are more dangerous.

An exposure based study of crash and injury rates for more than 2,000 adult cyclists in NSW estimated the crash rate for cyclists on shared paths at 8.8 per 1,000 cycling hours, compared to 5.8 for bike paths, 4.0 for bike lanes and 4.7 on the road (Poulus et al 2012). It estimated the injury crash rate for cyclists on shared paths at 3.6 per 1,000 cycling hours, compared to 2.2 for bike paths, 1.7 for bike lanes and 2.8 on the road.

A study of cycling injury in the ACT (De Rome et al 2014) considered 202 crashes in transport environments resulting in presentation to hospital emergency departments. More than a third (36%) of crashes occurred on shared paths. The study included counts of cyclists in different environments and used these to approximate exposure rates, finding that crash risk on shared paths was high. It estimated that the crash involvement risk per 1000 cyclists using shared paths was 11.8, compared to 5.8 for on-road cycle lanes.

As noted by the authors:

“Perhaps the most important finding is the relatively high crash involvement rate on shared paths compared to cycle lanes. These findings are consistent with other studies that have concluded that separated cycle-only facilities such as on-road cycle lanes have a positive safety effect (Moritz 1998; Reynolds et al. 2009), whereas shared facilities such as footpaths (side-walks) and shared paths (multiuse trails) have been found to pose higher injury risk than riding in traffic (Aultman-Hall and Hall 1998; Aultman-Hall and LaMondia 2005; Moritz 1998; Reynolds et al. 2009).

The findings for shared paths raise questions that need to be resolved urgently as public policy increasingly promotes their usage (Austroads 2010).”

Our research did not reveal any reliable Australian data on the proportion of cyclist-pedestrian crashes or injuries to pedestrians that occur on shared paths.

Shared paths not fit for purpose as primary transport routes

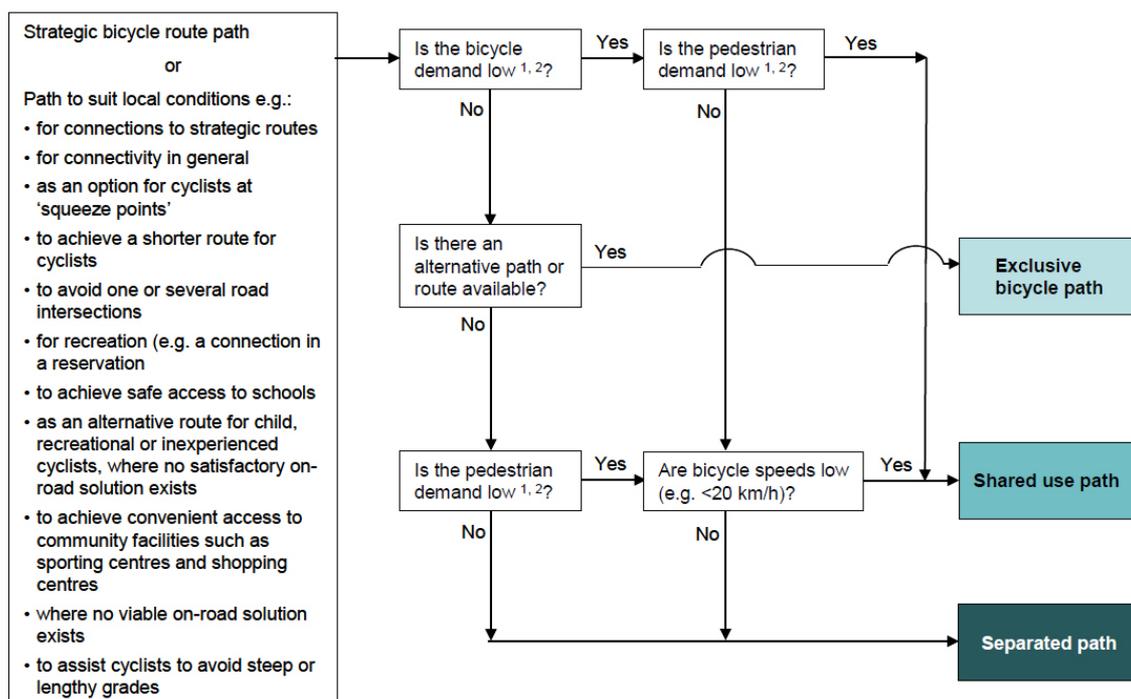
Australian guidance on transport infrastructure is led by Austroads. The primary guidance is the *Guide to Road Design Part 6A: Pedestrian and Cyclist Paths* (Austroads 2009). This sets out a vision for shared paths as recreational or local access routes:

“Shared paths can be used for a variety of purposes including recreation, local access and providing links between higher speed on-road paths or bicycle paths.”

The decision making framework for determining what type of path to build is summarised in **Figure 1**. Points to note are that shared paths are recommended when pedestrian and cyclist volumes are low (each less than 10 per hour), or when either the pedestrian or the cyclist volume is low and cyclist speeds are below 20 km/h.

As noted above, average cycling speed on shared paths typically range between 20 and 30 km/h – well above the cycling speeds envisaged by Austroads for shared paths. Shared paths on main cycling routes typically also have more users than anticipated in this guidance.

Some state based guidelines envisage higher volumes of cyclists on shared paths than anticipated by Austroads (Queensland DTMR 2014), but this does not seem to consider pedestrian amenity.



1 The level of demand can be assessed generally on the basis of the peak periods of a typical day as follows:

- Low demand: Infrequent use of path (say less than 10 users per hour)
- High demand: Regular use in both directions of travel (say more than 50 users per hour).

2 These path volumes are suggested in order to limit the incidence of conflict between users, and are significantly lower than the capacity of the principal path types.

Figure 1: Austroads guidance on choosing path type (Austroads 2009 and 2014)

The Austroads vision for cycling specific infrastructure is very different to that for shared paths. In the general 'Path Design Criteria for Bicycles', Austroads (2014) notes:

“It is important to recognise that under appropriate conditions many fit cyclists can maintain relatively high speeds. Speeds in excess of 35 km/h can be maintained on the flat whilst speeds of over 50 km/h can be attained on moderate gradients.”

“It is recommended that paths be designed for a speed of at least 30 km/h wherever possible and desirable given the purpose of the path, and in other cases for the anticipated operating speeds.”

The combined implication of these guidelines seems to be that shared paths should not be utilised for routes designed for significant numbers of cyclists. The guidelines indicate that shared paths should be designed for speeds less than 20 km/h, but paths for cyclists should allow a speed of at least 30 km/h.

The suggestion that primary cycling routes should be separated or at least segregated paths is consistent with cyclists’ preferences. Research for VicRoads involved an online survey of 602 respondents (CDM Research 2012a). Relevant results are set out in **Figure 2**. This illustrates that cyclists are generally more positive than negative about shared paths, but also that they strongly prefer segregated paths to shared paths, with 66% saying they ‘really like’ riding on segregated paths compared to between 3% and 8% for shared paths, depending on the context.

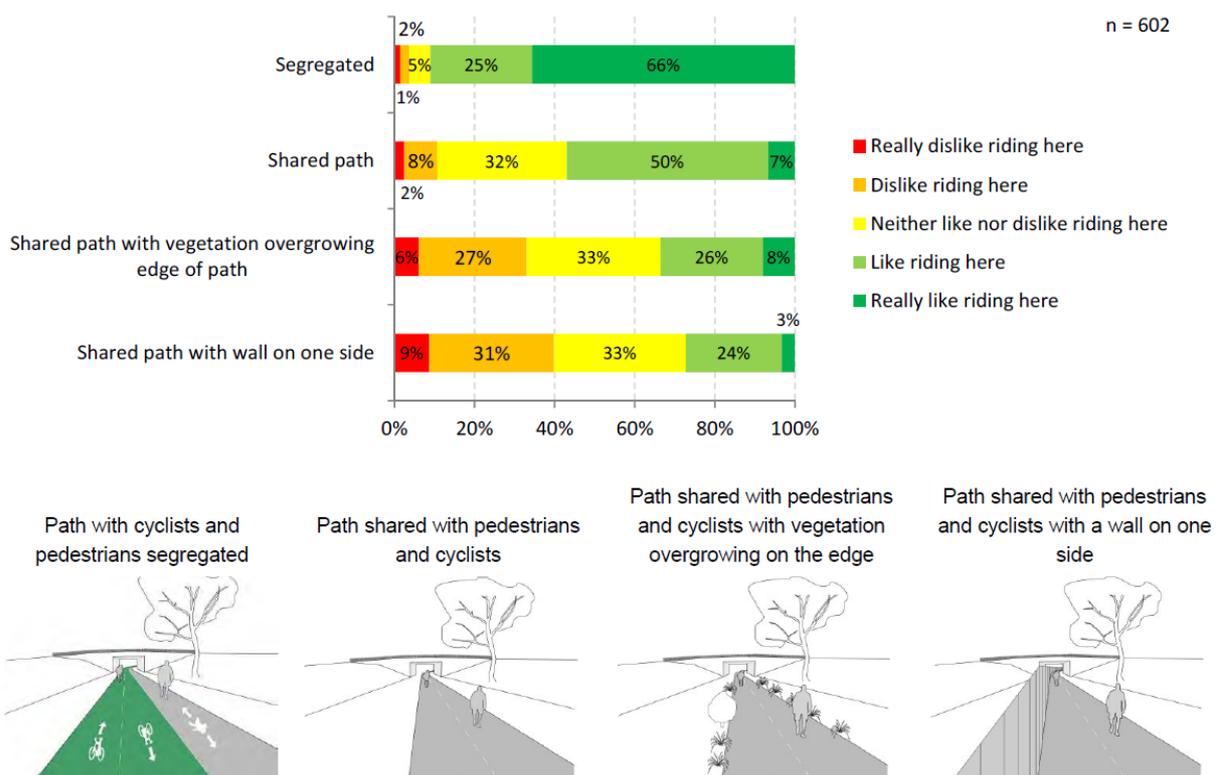


Figure 2: Cyclist path type preferences (CDM Research 2012a)

In many places in Melbourne, the vision for shared paths as recreational or local access routes is not being met. As noted by the last Cycling Strategy, almost three-quarters of recreational paths on the Metropolitan Trail Network, originally intended for leisure and low levels of transport use, now have high levels of transport use (State of Victoria 2012).

While volumes vary immensely between shared paths, cycling ridership generally is growing very quickly. Bicycle Network’s 2014 Super Tuesday count recorded a 9.5% increase on 2013 levels for Victoria (Bicycle Network 2014).

A study in Melbourne (SKM 2008) investigated the design of six well-utilised shared paths against local and international standards. It found:

“Four of the six observed paths failed to meet the desired width requirement of any of the international guidelines, including current Australian (Austroads) guidelines. None of the paths met all of the international guideline width requirements.”

“Some shared paths, such as the Main Yarra Trail, were designed primarily for recreational use but are increasingly used by commuters.”

Footpath cycling

It is also important that the Strategy does not in any way envisage increased cycling on footpaths. Australian studies have confirmed international research finding cyclists are safer riding on well designed roads with appropriate regard for cyclist's safety than on footpaths.

An exposure based study of crash and injury rates for more than 2,000 adult cyclists in NSW found that 11% of crashes were on the footpath, even though adults cannot legally ride on the footpath unless accompanying a child. The authors estimated that the crash rate for cyclists on the footpath was 5.6 times that of cyclists on the road and the injury rate was 4.5 times greater (Poulus et al 2012).

The other study looked at 'Bicycle Crashes in Different Riding Environments In the ACT,' where cycling is allowed on footpaths. It focused on 202 riders who had crashed, finding that 17% were on the footpath and 36% on shared paths. In comparing different contexts the authors concluded that cyclists would be safer riding on the road, particularly where cycle lanes were available (De Rome et al 2014).

These findings are consistent with overseas data. A comprehensive literature review of the impact of transportation infrastructure on bicycling injuries and crashes found “most studies that considered sidewalk-riding suggested that it is particularly hazardous for cyclists, with estimates of 1.8 to 16 times the risk of cycling on-road.” (Reynolds et al 2009)

The relationship between cycling environments and injury *severity* is less clear, but it should not be assumed that footpath crashes are 'low impact.' The ACT study found crashes on shared paths and in traffic were more likely to result in serious injury and to require admission to hospital than those on cycle lanes or footpaths. However a recent study from Canada looking at the severity of urban cycling injuries and the relationship with personal, trip route and crash characteristics found crashes on footpaths or multi-use paths had considerably higher odds of ambulance transport and hospital admission than other contexts (Cripton et al 2015).

Of course, pedestrians are also safer and more comfortable without cyclists on the footpath.

Solutions and implications for the Cycling Strategy

The Strategy should establish a vision for a comprehensive network of dedicated cycling paths or routes in Melbourne, largely separated from both traffic and walkers. The details of what that might look like would be dependent on site specific issues, but could be expected to include a mix of:

- Separated bike paths in an open space context (perhaps a duplication of existing shared paths).

- Protected on-road cycle lanes
- Dedicated (separated) off-road cycle paths in road corridors with suitable space.
- Traffic calmed local streets managed for bicycle priority.

More general measures to improve cycling safety on the road should also be introduced, such as lower speed limits and/or design speed on non-arterial roads or where there are high numbers of cyclists or pedestrians. Comprehensive research on the impact of 20 mph (32 km/h) zones in London found that they reduced cyclist casualties and collisions by 17%, and the reduction for child cyclists (0-15 years) was 28% (Grundy et al 2009). The reduction in crashes where cyclists were killed or seriously injured was even more profound, at 38%. Safety for other road users also improved dramatically.

To assist in determining where shared paths need to be replaced by separated paths or other alternatives, we propose a standard threshold for separation of 50 cyclists or 100 pedestrians per hour in the commuter peak. The rationale for that threshold and qualifying factors is set out in *Shared Paths – the issues*. The practical implications of that threshold would be that significant cycle commuting routes in inner areas of Melbourne should be identified for separation/segregation, or that options to safely provide for cycling in a street context (on or off road) will be more strongly pursued. However most existing shared paths across Victoria would probably be deemed acceptable.

It is clear that shared paths will continue to be a significant form of infrastructure provision for cyclists and walkers. Therefore, efforts need to be made to establish a broadly accepted culture of sharing by shared path users, consistent with applicable road rules. Points that should be emphasised are the need for cyclists to give way to walkers on shared paths and to provide a reasonable separation distance when passing.

It must be similarly accepted that shared paths should be low speed. Shared paths were envisaged as low speed environments, but it is not clear that this has been effectively communicated to cyclists. A range of measures to control cycling speed on shared paths should be trialled, including speed limits. A range of possibilities was identified by CDM Research in a report for Hobart City Council (CDM Research 2012).

It should be recognised, however, that controlling cyclist speed is likely to be difficult in practice. Bicycles are not registered, enforcing speed limits is challenging and physical measures to control cycling speed may present a hazard to cyclists, so have generally not been attempted. We recommend trialling of physical measures, but there is currently no proven method of managing cyclist speed on shared paths. Cyclists should also have the option of high speed routes – reaffirming the need for dedicated cycling infrastructure on key routes, rather than relying on behaviour change.

Existing footpaths should not be converted to shared paths and new suburbs should not be designed with shared paths rather than footpaths. Road managers should understand that by converting footpaths to shared paths, they may be ‘designing out’ the most vulnerable road users – older walkers and those with a disability.

In growth areas, separated walking and cycling paths should be provided on arterial roads and local roads should be designed for low traffic speeds and safe on-road cycling. Our understanding is that this has now been agreed by VicRoads and the Metropolitan Planning Authority.

To discuss any aspect of this submission, please contact Duane Burt, Senior Advisor on 9662 3975 or dburt@victoriawalks.org.au.

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