

NGTSM Steering Committee Secretariat
National Guidelines for Transport System Management
Commonwealth Department of Infrastructure and Regional Development
GPO Box 594 CANBERRA ACT 2601

NGTSM2016@infrastructure.gov.au

29 March 2016

RE: National Guidelines for Transport System Management (NGTSM) draft stage 2 review

Thank you for the opportunity to respond to the stage 2 review of the NGTSM (due 31 March 2016).

The NGTSM is a comprehensive framework for strategic-level transport planning and analytical approaches to transport assessment.

Link Place supports the overall direction of draft Stage 2 and is pleased that active travel (walking and cycling), public transport, travel behaviour change, and integrated land use and transport planning are included.

In our letter to the NGTSM Steering Committee in March 2015 we made three recommendations in regard to active travel and urban design. We are pleased that most aspects of our recommendations have been incorporated in Stage 2.

We are also highly supportive of the inclusion of health benefits (e.g. “M4-Active Travel” section 5.3 Health Benefits) which cover morbidity, mortality and reduction in health system costs.

The comments attached in the appendix to this letter are related to specific aspects within the draft guidance material, to assist the NGTSM Steering Committee in refining the guidance material.

This submission concludes with three recommendations:

Recommendation 1 **That methods for assessing ‘active travel’ (walking, cycling), public transport, and integrated land use are incorporated into the final version of NGTSM Stage 2**

Recommendation 2 **That methods for assessing ‘health benefits’ are included in the final version of NGTSM Stage 2**

Recommendation 3 That the following items be AMENDED in NGTSM (2016) *M4- Active Travel* [Refer to Appendix 1 for explanation]:

- 1 Delete, or amend Figure 5 'Fatalities by Mode' to include a fatality rate of 0.073 for bicycles.
- 2 Delete, or amend Section 2.2.4 'Crash Risk' to include a fatality rate of 0.073 for bicycles.
- 3 Delete, or amend statements that refer to section 2.2.4; and delete or amend statements saying that cycling is significantly less safe than motorised travel.
- 4 Delete, or amend Table 16 'Fatality Rates for Motorists and Active Travellers' to include a fatality rate of 0.073 for bicycles; and update the adjacent wording in Section 5.5.1.
- 5 Delete, or amend Table 17 'Serious injury rates for motorists and active travellers Australia' to include more contemporary data.
- 6 Update Table 18 'Cyclists killed in road crashes, Australia, 1997 to 2004' to include data from 2005 to 2015 (which is available from BITRE).

Regards,

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APPENDIX 1: M4 – ACTIVE TRAVEL

Commentary and refinements about specific items within the NGTSM (2016) *M4 – Active Travel*:

2.24 Crash Risk

Figure 5 ‘Fatality rates by mode’ (Austroads 2010) is unsubstantiated; and the conclusion drawn is therefore incorrect:

The original source is Cairney, *The Road Safety Consequences of Changing Travel Modes*, which uses pre-2006 Census data to estimate walking and cycling distances travelled. Cairney admits ‘No data is available for bicyclist or pedestrian travel... Bicyclist and pedestrian travel were estimated by taking the average travel estimates from the Socialdata Australia/Intstat studies, multiplying them by current population numbers, then aggregating them to provide estimates of the annual travel for each of the groups in the analysis.’¹

Census data is collected on one day every five years, and only asks whether the adult householders walked or cycled to work or study on that day. It does not include cycling or walking for other purpose e.g. shopping, visiting friends, or recreation/fitness; it does not include children under 18; nor does it include walking or cycling as part of a longer trip (e.g. walking to the bus stop). Therefore, the number of kilometres walked or cycled is vastly underestimated.

The author Cairney acknowledges that: ‘Using this method, the overall amount of travel may be underestimated. For example, bicycle trips into the Melbourne CBD appear to have increased by between 5% and 18% (A. Curnow, email 21/08/2009). If trends of this order are occurring at a number of other locations, are not offset by declines in bicycle use for other sorts of trip, and have been happening over a few years, then the amount of bicycle travel could be underestimated and the casualty and serious injury rates for bicyclists lower than estimated in this project. The same email indicated that walking trips into the CBD increased by 4% between 1996 and 2006. If these changes are reflected elsewhere, then the amount of walking could be similarly underestimated.’²

Thus any statements within the NGTSM (2016) *M4 - Active Travel* paper which refer to the Austroads (2010) report by Cairney are incorrect. For example, page 43 (section 5.5.1) states ‘Active travel risk is up to seven times riskier than private motor vehicle travel.’ There is no reasonable substantiation for this statement. A more accurate statement is that **certain types of infrastructure create a safer environment for bicycle riders than others** – as summarised in Section 5.5.2 ‘Effectiveness of Interventions’ and Appendix C.

¹ Cairney, 2010, *The Road Safety Consequences of Changing Travel Modes*, for Austroads. Page 6
<https://blogs.otago.ac.nz/amc/research/files/2011/07/Cairney-Austroads-research-report.pdf>

² Cairney, 2010, *The Road Safety Consequences of Changing Travel Modes*, for Austroads. Page 29

A more accurate estimate of crash risk can be assessed using the contemporary *National Cycling Participation Survey 2015*, undertaken every two years by the Australian Bicycle Council of 25,000 households.

The 2015 survey found that 17.4% of Australians cycle at least once a week (4,137,929 people). If we only consider bicycle riders from age 10 and up:

- 2,407,558 people cycle at least once a week with an average duration of 169 minutes.
- Equates to 6,781,288 hours of cycling per week (people cycling x 169 / 60 minutes).
- Equates to 353,595,750 hours of cycling every year (hours cycled per week x 365 / 7).
- Equates to 5,303,936,258 kilometres cycled every year (Assuming 15 km/h average speed – which is the speed quoted in NGTSM (2016) *M4 - Active Travel* for Copenhagen).
- Annual cycling fatalities from 2011-2015 (34, 33, 50, 45, 32) = 38.8 fatalities per annum.
- **The fatality rate per 10 million kilometres travelled by bicycle is 38.3 / 530.4 = 0.073.**

This figure of 0.073 is around one third the estimate in Table 16 (0.200) and brings into question the validity of the claims made in Sections 2.2.4 and 5.5.1 of NGTSM (2016) *M4 - Active Travel*.

Recommendation:

That the following items be AMENDED in NGTSM (2016) *M4- Active Travel*:

- 1 Delete, or amend Figure 5 'Fatalities by Mode' to include a fatality rate of 0.073 for bicycles.
- 2 Delete, or amend Section 2.2.4 'Crash Risk' to include a fatality rate of 0.073 for bicycles.
- 3 Delete, or amend statements that refer to section 2.2.4; and delete or amend statements saying that cycling is significantly less safe than motorised travel.
- 4 Delete, or amend Table 16 'Fatality Rates for Motorists and Active Travellers' to include a fatality rate of 0.073 for bicycles; and update the adjacent wording in Section 5.5.1.
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- 6 Update Table 18 'Cyclists killed in road crashes, Australia, 1997 to 2004' to include data from 2005 to 2015 (which is available from BITRE).

2.3 Determinants of Active Travel

The discussion about determinants of active travel is useful.

A significant amount of research on Land Use mix and walking, in an Australian context, has been undertaken by Giles-Corti et al who conclude that people “reporting more than an hour per week of transport walking had the strongest and most significant association with [land uses] that included ‘Residential’, ‘Retail’, ‘Office’, ‘Health, welfare and community’, and ‘Entertainment, culture and recreation’, while recreational walking was more strongly associated with [land uses] that also included ‘Public open space’ and ‘Sporting infrastructure’ land uses.”³

3.4.1 Cycle Safety at Roundabouts

Generally, Australian roundabout designs are difficult for pedestrians and bicycle riders to negotiate safely and easily.

- Pedestrians find it difficult to navigate and cross at roundabouts particularly where there are several traffic lanes to cross, the roads are wide, no zebra crossings are provided, and/or motor vehicles are travelling at relatively high speeds;
- Children and the elderly are especially at risk as they may not be able to cross quickly, and may not be aware of how traffic flows around a roundabout;
- Bicycle riders find roundabouts difficult to navigate safely: under existing road rules they are required to either ‘take the lane’ or, if they are on the outer lane of a multi-lane roundabout, they must give way to any other vehicles exiting the roundabout at every possible exit point. This is both impractical and dangerous.

For pedestrians, safety improvements at roundabouts can include narrowing roadways to a single lane in order to slow traffic to a safer speed and ensure correct use of the roundabout; and providing pedestrians with safer crossings such as zebra crossings, refuge points and shorter distances to cross.

For bicycle riders, international examples show that fully separated bicycle paths, pedestrians paths and motor vehicle paths can be built to maximise safety for vulnerable road users without significantly compromising traffic flow.

³ Christian, Giles-Corti et al (2011) *How important is the land use mix measure in understanding walking behaviour? Results from the RESIDE study*, International Journal of Behavioral Nutrition and Physical Activity, page 5 http://download.springer.com/static/pdf/569/art%253A10.1186%252F1479-5868-8-55.pdf?originUrl=http%3A%2F%2Fijnpa.biomedcentral.com%2Farticle%2F10.1186%2F1479-5868-8-55&token2=exp=1457933546~acl=%2Fstatic%2Fpdf%2F569%2Fart%25253A10.1186%25252F1479-5868-8-55.pdf*~hmac=78b08464d321cfc624f0340db843ec144523871d859dcfa467fc18f72b9628fc