

**MINUTES: Wednesday 7 August 2019 – 9.00 am**  
**Meeting Room 5.16, NZTA Offices, Majestic Centre, 100 Willis St, Wellington**

**Attending**

- Paul Barker, Network Improvements Manager, Design & Place Planning, Wellington City
- David Brown, Traffic and Safety Engineer, New Plymouth
- Glenn Bunting, Manager Network Safety, Safety and Environment, NZTA
- Simon Cager, Senior Project Engineer, Hutt City
- Gerry Dance, Principal Advisor, System Design & Delivery, NZTA
- Steve Dejong, Traffic Engineer, Christchurch City
- Mark Edwards, Senior Engineer, Safety, Health & Environment, NZTA
- Mike van Enter, Senior Transportation Engineer, Tasman District Council
- Tim Hughes, Principal Safety Engineer, System Design & Delivery, NZTA
- Simon Kennett, Senior Multi-modal Specialist, System Design & Delivery, NZTA
- Glen Koorey, Director, ViaStrada, representing Transportation Group NZ
- Wayne Newman, (secretary)
- Eynon Phillips, Strategic Transport Engineer, Hastings District
- Kelerá Qaraniqio, Network Engineer, Hamilton City
- Ina Stenzel, Principal Specialist – Walking and Cycling, AT

**Guests**

- James Wratt, graduate engineer, NZTA
- Claire Pascoe, Lead Adviser, Urban Mobility, NZTA (items 7, 8, 14)
- Hamish Mackie, Director, Mackie Research & Consulting (items 7, 8)
- Kim Laurenson, Senior Advisor, CoPTTM, NZTA (item 6)
- Neil Greaves, Principal CoPTTM Advisor, NZTA (item 6)
- Danny Wood, Senior Advisor, CoPTTM, NZTA (item 6)

**Apologies**

- Adam Beattie, Technical Lead, Active Modes, Network Management, AT
- Chris Lai, Transportation Planner, Palmerston North City
- Claire Sharland, Asset Manager Transportation, Taupo District
- Andy High, Senior Engineering Officer, Nelson City
- Jodie Lawson, Sustainable Transport Team Leader, Rotorua Lakes
- Nick Marshall, Team Leader-Road Safety & Traffic Engineering, Northland Transport Alliance
- Ethan Young, Network Engineer, Hamilton City
- Hjarne Poulsen, Transportation Team Leader, Dunedin City

## AGENDA

1. Introductions, apologies and H&S briefing;
2. Confirm Minutes of 29 May 2019;
3. Actions arising
4. Update from training courses – Glen Koorey
5. Cycling Network Guidance – update on project tasks – Glen Koorey
6. Traffic management for active modes infrastructure site visits – Kim Laurenson
7. Dragon’s Teeth TCD trial – Hamish Mackie
8. Pedestrian-activated Belisha beacon development – Hamish Mackie
9. Shared path behaviour marking – Simon Kennett
10. Reflective tape specifications – query from Jodie Lawson
11. Road signage for hikers – James Wratt
12. Barrier height on bridges and structures – James Wratt
13. Intersection of Symonds Street/K’ Road, Auckland – Ina Stenzel
14. Design innovations from the UK – Claire Pascoe
15. Dealing with cycling on footpaths – Queensland and Norway – Simon Kennett
16. Other business
17. Next meeting

## ACTIONS

1. Action for Gerry Dance and Simon Kennett: the Sharrow Guide to be amended to add “Flow Transportation Specialists” after the names of the authors, Sandi Mills and Karl Hancock.
2. Action for Mark Edwards to respond to Jodie Lawson along lines discussed regarding the size and use of reflective tape on barriers.
3. Action for Mark Edwards to develop potential designs for further discussion for two types of point hazard for pedestrians: the cyclist “pass safely” sign adapted to show a pedestrian face on (with the car back on) or back on (with the car face on) for narrow bridges; and the cyclist vehicle entrance ‘double arrow’ symbol adapted with pedestrian symbol in place of the bicycle for where a trail crosses the road.
4. Action for all members to send thoughts, examples and pictures to [james.wratt@nzta.govt.nz](mailto:james.wratt@nzta.govt.nz) regarding a 1.2m height for bridge rails for cyclists in all circumstances except where there is a vaulting risk and on areas of potential guidance for fences, railings and their associated brackets and fixings intruding into the space being used by cyclists or presenting a hazard that could catch on a passing cyclist or bike.
5. Action on Steve Dejong to confirm that Christchurch has withdrawn from the current trial of combined cyclist/pedestrian Barnes dances.
6. Action on Mark Edwards to confirm whether the wording of the Gazette notice permits the Auckland site to be added to the current trial of combined cyclist/pedestrian Barnes dances.
7. Action for Simon Kennett to look at adapting for local conditions the Queensland check-list that considers land uses, devices and flows to identify options for dealing with shared path conflict.

## NOTES

### 1. Introductions, apologies and H&S briefing

Mike van Enter was welcomed, introductions were made, and apologies noted. Gerry Dance provided the H&S briefing.

### 2. Confirm Minutes of 29 May 2019

The minutes of the meeting on 29 May 2019 were confirmed as a true and proper record.

### 3. Actions arising

It was confirmed that the actions from 29 May were:

1. Closed. On present agenda.
2. Closed. Completed.
3. Closed. On present agenda.
4. Closed. Completed.
5. Closed. Completed.
6. Closed. On present agenda.

It was agreed that, for Action 4, the Sharrow Guide would be amended to add "Flow Transportation Specialists" after the names of the authors, Sandi Mills and Karl Hancock. Action on Gerry Dance and Simon Kennett.

### 4. Update from training courses

Glen Koorey reported that the workshop held in Wellington on 24 July had been very successful, despite the loss of five attendees due to fog. A repeat course to catch those affected is being planned, probably to be held in Hamilton in September. Meanwhile, there had been over 200 registrations for the webinar on monitoring walking and cycling scheduled for Tuesday 13 August, and more were confidently expected. These short web-based training sessions on discrete, well-defined topics were a highly effective use of resources for all.

### 5. Cycling Network Guidance – update on project tasks

Glen Koorey reported on completed tasks and noted that many others are now close to completion. He sought feedback on an effective means of illustrating options for installing buffered cycle lanes available at differing road widths, and showed a 2D and 3D format.

The 2D format showed options for road widths of 8.6 to 11.8m, 11.8 to 13.8m and 13.8 to 16.8m. For a carriageway of less than 8.6m, the statement that the available width was "Too narrow for cycle lanes, consider alternatives" was thought to fail to encourage installing cycle lanes and removing one traffic lane: a 2-1 configuration. It was agreed that the options needed to be presented to scale and in the full width of the legal road, to allow consideration of provision for walking, utility services and other features. The illustration of widths for buffers and cycle lanes at less than minimum recommended widths was agreed to be unhelpful. This indicated that the carriageway would be too narrow to accommodate two cycle lanes (at 1.8m each) and two traffic lanes (at 2.9m each) once less than 9.4m wide. Marking a buffer down to 0.3m was agreed to be impractical, and any buffer would need to be correctly illustrated for guidelines.

Although a less urgent aspect to the task, it was agreed that there would be merit in considering some of the buffer or separation options available for a carriageway wider than 16.8m and possibly fitting these

into the continuum, such as where vertical separation might be introduced. This would be contingent on traffic volumes and operating speed, and it was agreed that the intended volume and speed environment for each option also needed to be visible and explained.

The 3D representation of the same options was regarded as less successful in presenting options for a narrowing carriageway width, as this appeared to be an exaggerated diminishing perspective, while the inclusion of footpaths with trees planted to leave apparently only 0.3m of passable path was agreed to be unhelpful.

For paired cycle and pedestrian crossings, the relative merits of platforms and speed bumps remain to resolve. Platforms offer too little incentive to cyclists to slow enough before entering the crossing for a vehicle driver to react and stop. It was agreed that the guidelines would need to recommend speed management, preferably avoiding recourse to restrictive devices in favour of moderating features, such as a dish drain.

Glen reported on work to date on the use of colour within the road. Observed uses met four purposes:

- To highlight;
- To direct;
- To slow traffic; and
- To indicate priority.

The regulatory focus to date has been primarily on the use of colour to highlight or augment other markings, but the breadth of colour use across the country was already extensive. Green is used in stripes, blocs and dashes to augment, direct and indicate priority. Red is used to indicate thresholds of lower speed zones and conflict zones. Yellow is also used to indicate thresholds elsewhere.

A fifth purpose was identified that is potentially only going to become more common: placemaking or amenity enhancement, where colour is used primarily to create an environment and add vibrancy. This will feed directly into the Innovating Streets for People project.

## 6. Traffic management for active modes infrastructure site visits

Kim Laursen, Danny Wood and Neil Greaves were welcomed. They addressed the inspection protocols currently in place for cycling facilities and explained that these needed to meet the controls for risk for any activity intruding into the road. In order, these should seek to eliminate the risk, substitute the risk, control risks through engineering means, control risks by administrative means, and finally, control risks by personal protective equipment. A useful tool is a job safety environment analysis, often tied to a consequences or severity matrix.

Any shoulder or berm inspection requires a TMP. It therefore needs a trained STMS, TC or TC(I). There is a legal requirement to take reasonable care. The activity must be documented and comply with all policies. A person or anything parked or standing outside where it might normally be expected becomes a distraction hazard for motorists. This can include a group on a footpath. Any ingress onto the carriageway must have an observer dedicated to watching for approaching vehicles. The lateral safety zone must be 1m from any activity to a live traffic lane.

For any inspection, advise people of intended location and become familiar with the layout before leaving, review the TMP and retain it throughout the site visit, notify the nominated STMS of intended activity, review the hazard identification and wear PPE. The STMS needs to induct visitors onto the site

and ensure that TMP is fully understood. As this is impractical for every inspection, a prior briefing is needed.

## 7. Dragon's Teeth TCD trial

Hamish Mackie noted that there had been sufficient interest in a possible trial at the May meeting to progress this further. The object would be to test the effect of Dragon's Teeth on the awareness of motorists of a change in context or function in the road environment. Overseas trials have not isolated any effect from the marking from other components of the trials, while a trial in the ACT indicating little effect at lower speeds was employing smaller DT markings in an already low-speed environment. Trials in NZ do support the ACT results, however, suggesting DT are more effective at higher speeds, for rural thresholds and arterial roads, than for suburban streets. Possible trial sites might, therefore, be collector/arterial roads with compliance issues, school zone thresholds, speed zone thresholds, approaches to pedestrian and cycle crossings, rural settlement and suburban centre thresholds.

Discussion of the treatment of school zones led to agreement that DT should be marked in response to a point hazard, rather than a continuous hazard, at the point where change is being introduced, rather than through the length of the subsequent zone. It was also agreed that care would be needed to avoid marking a permanent marking for a temporary point hazard, such as temporary school crossings. One aspect of the trial agreed to be of critical importance was testing the effect of DT marked before, after or through the threshold on motorists' perceptual awareness of change in context.

Despite the keenness of the interested authorities to commence an on-road trial, a formal, Gazetted, two-year TCD trial seeking to achieve a Rule change needs to be well-designed and tightly focussed and it was agreed that there would be merit in developing the trial parameters by testing ideas on an eye tracker or simulator to be able to measure reactions within a controlled context and to be able to survey all participants on their awareness and perception. The final DT specifications and study design would then be prepared for the formal trial application.

## 8. Pedestrian-activated Belisha beacon development

Hamish Mackie noted that there had been little appetite for this trial at the May meeting. It had been suggested that tolerances could be adjusted within the present Rule for rapidity of flash and level of luminescence. A simulated change in the flashing rate from 40/min to 60/min was agreed to offer insufficient immediately obvious difference and the next step would be a synchronised change in brightness. This would require access to software able to deliver such changes and an approach will be made to SUG for assistance.

## 9. Shared path behaviour marking

Simon Kennett noted that AMIG has endorsed the VicRoads markings for shared path behaviour, although they have not been nationally adopted, but the lack of a speed reduction marking has been seen as a deficiency. This has prompted work to define the key behaviour changes being sought and how best to convey these in markings. While "Keep Left", "Alert others" and "Travel at appropriate speed" are key desired behaviours, the most important (identified as the key finding from a Japanese study) is "Give others adequate space".

Further work will be done to flesh out these concerns and then develop decals that are thought to be able to deliver the intended messages. These will be brought to AMIG. From there, potential test sites

will be identified, and the decals installed and monitored. The desired outcome from this would be that the decals are noticed and understood, and deliver a behaviour change.

In the discussion, it was noted that the present markings are anomalous with the trends for shared spaces, which seek to reduce the reliance on centre-lines and keeping left, and retain a pseudo-road layout that might no longer be the desired approach. It was also noted that urban design policies would preclude reliance on bright colour for markings intended for paths in public parks, requiring designs that could remain effective when etched into the pavement.

#### 10. Reflective tape specifications

A query from Jodie Lawson led to discussion of specification for reflective tape. The specification of delineation tape isn't covered in the TCD Rule. Whilst tape widths are set for some delineation devices, this tends to be when tape is used on a delineation device, rather than where the tape itself is providing delineation. The width of tape used on access barriers is not set in the Rule.

The issue becomes one of best practice and guidance: whether in the locations in question and on the barriers in question a slightly narrower band will adversely affect achieving the outcome intended from their application. It was agreed that Austroads Part 6A could provide guidance, while reference to the widths of reflective bands for delineation posts in that section of draft TCD Manual Part 5 might also prove useful.

It was agreed that the restrictive barriers guidance could also assist, both in prompting an assessment of the need for, and relative hazard of, the barriers and for recognising that powder coating or painting the barriers and providing delineation approaching the barriers, to provide advanced warning, could be more important than providing reflective tape.

Action for Mark to respond to Jodie along lines discussed.

#### 11. Road signage for hikers

James Wratt explained that over 10% of Te Araroa Trail is on roads that are generally rural and high speed, without shoulders or extra width on bridges, where pedestrians are normally unfamiliar, but which will suddenly be carrying intense pedestrian activity for a brief period during the peak tramping or hiking season. The response has been a number of informal "watch for hikers" signs being placed on the network.

It was agreed that the specific hazard with trampers or hikers was people walking on the road, for which the present pedestrian sign was already available. A "Hikers" supplementary was not considered to be necessary, but "for next 4 km" supplementary repeated as necessary along the length of the trail when it is on the road would be appropriate.

Two types of point hazard would also need to be identified: narrow bridges and where the trail went across, rather than along, the road. For the former, the cyclist "pass safely" sign could be adapted to show a pedestrian face-on (with the car back-on) or back-on (with the car face-on) instead of the current profile symbol. For the latter hazard, the cyclist vehicle entrance 'double arrow' symbol might be adapted with the pedestrian symbol in place of the bicycle.

Action for Mark Edwards to develop potential designs for further discussion.

## 12. Barrier height on bridges and structures

James Wratt noted that the current Bridge Manual sets a minimum height for a bridge rail for pedestrians at 1.1m and for cyclists at 1.4m. Research has established that 1.2m is high enough for cyclists in all circumstances except where there is a vaulting risk. Queensland has already amended its Bridge Manual to reflect this and NZ is likely to follow suit.

While it was agreed that this change could be supported, the key deficiency within the manual was considered to be guidance on fences and railings, and their associated brackets and fixings, intruding into the space being used by cyclists or presenting a hazard that could catch on a passing cyclist or bike.

Action for all members to send thoughts, examples and pictures to [james.wratt@nzta.govt.nz](mailto:james.wratt@nzta.govt.nz)

James was thanked for his contribution to the group, as he will soon be rotating out of the System Design & Delivery team.

## 13. Intersection of Symonds Street/K' Road, Auckland

Ina Stenzel explained the present layout of this intersection and the specific challenge. A northbound bike lane on Symonds St before the intersection is being connected on the left to a separated bike facility on K' Road. Beyond the intersection on Symonds St the bike lane is not continued and there is a bus stop. Coming south on Symonds St, cyclists must cross the entrance to Grafton Bridge and the on-ramp to the Southern Motorway before reaching the southbound bike lane.

The preferred signal phases were:

- a. Cyclists turn left ex-Symonds St + buses proceed straight ahead northbound
- b. All traffic exits Grafton Bridge
- c. All traffic exits K' Road + traffic turns left from Symonds St northbound
- d. Cyclists only exit from K' Road + Symonds St southbound (inc. right turns for both)
- e. Pedestrian Barnes dance

However, the RUR prevents (d) as it is a conflicting movement, which would require an extra phase to complete (d) in two phases.

It was agreed that the potential alternative would be to trial including (d) with (e). As this site was recognised to offer significant additional lessons for the trial of combined cyclist/pedestrian Barnes dances that has already been approved, and Christchurch City had encountered difficulties in providing a suitable trial site, adding this location to the trial was recommended.

Action on Steve to confirm that Christchurch has withdrawn from the trial; Mark to confirm whether the wording of the Gazette notice permits the Auckland site to be added.

## 13A Carrington Rd, Auckland

Ina Stenzel explained the decision to install a dual table crossing on Carrington Rd. This has a shared path on each side and is adjacent to a major cycling route, meaning that more cyclists than pedestrians cross the road at this point. As cars were already stopping for cyclists, due to numbers crossing, it was thought possible to install a paired crossing. The original design included speed humps, but the installed design is a table with continuous green cycle lane across it.

#### 14. Design innovations from the UK

Claire Pascoe returned to present a summary of innovations from the UK that could provide lessons for NZ that remain within the bounds of what might be possible to implement here. A raft of new design guides reflects a deliberate move to avoid providing standards, where one number will be expected to fit every situation. As an example, the 400mm separation required between the cycle and pedestrian zebras at dual crossing has inhibited implementation of what is otherwise a successful design. The UK is only just beginning to install floating bus stops, so NZ is ahead in this. The UK publishes the desired and the absolute minimum acceptable facility widths; it was agreed that making the absolute minimum that would be acceptable known would lead to developers and designers using that as the default.

There has been considerable recent interest in area-wide reduced speed limits. Although much of the debate has centred around compliance, the desired behaviour of slower speeds has been achieved. Removing white lines to slow traffic has implemented lessons from repeated studies showing that extra lines seem to encourage increased speed. There is increased emphasis on placemaking and innovative streets; shared spaces become better streets become "informal streets". Examples from Poynton, Bexleyheath, Leonard Circus Hackney and Exhibition St, London, provide a more inclusive environment with a better quality of environment and improved safety.

#### 15. Dealing with cycling on footpaths – Queensland and Norway

Simon Kennett examined some of the issues and options that might be learned from overseas for managing conflict on shared paths or spaces. In Germany, where children must ride on the footpath, the mode-share of cycling is 10% and walking is 24%. In Norway, where everyone can ride on the footpath, the mode-share of cycling is 4% and walking is 22%. In Australia, each state has different rules. A study done in Queensland by CARRS found 5% of cyclists rode on the footpath and 17% rode on shared paths, with average cycling speeds on footpaths of 11km/h and on shared paths of 21km/h, contrasting with average on road speeds of 29km/h. With the Accessible Streets package, cyclists will retain the option of riding on the road at higher speeds.

Queensland has developed a check-list that considers land uses, devices and flows to identify options for dealing with shared path conflict. There would be real merit in NZ having something similar in place for the Accessible Streets Rule changes. Public demand for exclusion of cyclists from some or most footpaths is likely. Some support for this is likely to be found among elected representatives, especially given that the minimum width recommended for shared paths does not provide for less than 2.5m and the law change will put cyclists and pedestrians together on paths 1.2m wide. As the proposed rule allows reference to NZTA guidance, it was agreed that national guidelines similar to the Queensland check-list need to be already in place for councils.

Action for Simon Kennett to look at adapting the Queensland matrix for local conditions.

#### 16. Other business

No items of other business were raised.

#### 17. Next meeting

The next meeting was confirmed for 28-29 November in Dunedin.

Meeting closed 3:55 p.m.