

**National Cycling Signs and Markings Working Group**  
Meeting at 9:00am on Thursday, 19 June 2014  
AT Offices, 1 Queen Street, Auckland

**Attending:**

- Carl Whittleston Lets Go Project Manager, New Plymouth District
- Ron Minnema Senior Traffic Engineer, Dunedin City
- Steve Dejong Traffic Engineer, Christchurch City
- Paul Barker Safe and Sustainable Transport Manager, Wellington
- Heather Liew Traffic Engineer, Palmerston North City
- Matthew Rednall Manager-Community Transport, Auckland Transport
- Amit Patel Infrastructure & Facilities Project Lead, AT
- Michael Brown Community Transport Manager-Central & West, AT
- Karl Hancock Associate Transportation Engineer, Flow (to 11:30)
- Bruce Galloway Road Corridor Advisor, Tauranga City
- Glen Koorey Civil and Natural Resources Engineering School, Cant.
- Tim Hughes National Traffic and Safety Engineer, NZTA
- Gerry Dance Principal Advisor, Network Optimisation, NZTA
- Glenn Bunting Network Manager, NZTA
- Wayne Newman RCA Forum Research & Guidelines Group (secretary)

**Apologies:**

- Rhys Palmer Senior Asset Engineer, Nelson City
- Owen Mata Hastings District
- Sandi Morris Transportation Planner, Palmerston North City
- Claire Sharland Team Leader Transportation Strategy, Taupo District
- Martin Parkes Tauranga City

**1. Introductions and apologies**

Bruce Galloway was welcomed back to the group to replace Martin Parkes. The resignations of Martin Parkes and of Rhys Palmer were noted. Sandi Morris was represented at this meeting by Heather Liew.

**2. 10 April 2014 meeting and actions arising**

Proposals for trials in Dunedin, Nelson, Palmerston North and Wellington were completed in accordance with the gazetted notice to allow for trials to begin in May. Reports were taken under Item 4.

A draft guidance note was prepared and circulated for discussion in May, covering spacing and placement of markings, presence of other markings, parking, speed and volume environment, and other matters to be taken into consideration. Draft note was taken under Item 5.

The group has sought approval to expand its present remit to form the expert reference group on active modes for road controlling authorities, meeting up to four times per annum and combining fact-finding visits with meetings. Letters and draft terms of reference were sent to each local authority member's CEO, with responses to date from Taupo, Wellington, New Plymouth and Dunedin all being positive. Draft Terms of Reference were taken under Item 12.

The minutes of the previous meeting, having been circulated, were agreed to be a true and proper record.

### **3. TCD Steering Group update on trial approvals**

The Group noted the trial approvals already discussed, and recorded the group's appreciation of the work done by Richard Bean on the detail of the Gazette Notices.

### **4. Markings trials updates**

#### **a. AT trials update**

Karl Hancock reported on the trials. The after-surveys have been completed and have generated a massive quantity of data to be analysed. Initial analysis has suggested that the markings have a traffic calming effect, with 7-day average speed reductions across all five sharrow trials showing reductions of between 2kph on Dunkirk Road northbound and 0.1kph on Elstree Avenue southbound.

Lessons learned have included the realisation that video camera angle is important for accurate analysis, and that multiple trials using video rapidly escalates the data that must be analysed. Placement within the lane remains an issue, with each road having an individual character, but changes in road-user behaviour appear to be a response that should be looked for.

The Group noted the importance of the study tour in revealing the variation in placement and the extent to which appropriate location of markings is very site-specific. The Group agreed that guidelines for placement need to set out the principles for marking, rather than rely on a table of distances from edges.

#### **b. Palmerston North trials update**

Heather Liew reported on the trials. Marking of Broadway Avenue was completed in mid-May. Monitoring is by dashboard-mounted camera, so there is a potential for camera-angle to become an issue for analysis. Delays with works at Victoria Avenue delayed commencement of trials at College Street. The pre-trial survey was completed mid-June and markings will be installed at the end of June.

Heather queried whether the wording used in the perception surveys could be altered and the Group agreed that the same wording should be used across all the trials. Similarly, photos used in surveys should not show local and familiar streets, to avoid distorting the data.

Adding LANE above each marking in cycle lanes has become a cost concern, because the symbol has been marked far more than the legal requirements. The Group noted that the greater impact of the augmented symbol offered an opportunity to reduce the number of lane markings.

The cost/benefit analysis of the added marking in cycle lanes will need to address the cost, which has ranged from \$42 to \$84 per word, against direct benefits in reduced traffic speeds, reduced numbers of markings and possibly easier parking management, as well as the indirect benefit gained from making the symbol available for wider use, including in sharrows.

Varying lane widths have made it necessary to reduce the proportions of the marking in both Auckland and Palmerston North. The Group noted that there are specific rules for compression, so that there is no loss of letter length.

**c. Nelson trials update**

In Rhys Palmer's absence, Dr Glen Koorey reported that the pre-surveys had been completed and the markings installed on the trial sites.

**d. Dunedin trials update**

Ron Minnema reported on the trials. The sharrows were deliberately marked as a consistent line within the lane, rather than at a fixed distance from the kerb, at spacings of 40 to 60 m. Monitoring and analysis will be done by Miovision, which uses an algorithm able to verify offset in tracking, although manual checking of assessed numbers is still required.

**e. Wellington trials update**

Paul Barker reported on the trials. Sharrows had been marked at one set per block or about 100 m apart in both lanes of the high-volume inner-city trial site, along Featherston Street, Hunter Street and Victoria Street to Vivian Street. This reflects that about 25% of cyclists use the right lane. There has been some negative reaction to marking both lanes. Context was considered for placing markings and the widest points in the trial streets were not marked at all.

The turn through Hunter Street has allowed cameras to be positioned above the traffic looking along the line of the trial northwards on Featherston Street and southwards on Victoria Street.

The inner-city speed limit is expected to be reduced to 30kph during the currency of the trials. An additional survey will be done to take this change into account.

**5. National 'Sharrow' implementation guidance**

Flow Transportation Specialists have drafted an initial Best Practice Implementation Guideline for sharrow markings. The discussion document was circulated for the trials.

The Group noted that, with the trials underway, no further sharrow markings should now be installed until any rule change made as a

consequence of the trials comes into effect late next year. This allows time for national best practice guidelines to be developed from the lessons learned in these trials and to be available for all authorities before any rule change. One exception might be trials on rural roads, especially before blind corners on rural roads.

The Group agreed that the approach taken in the draft technical note was inappropriate. A simple table of distances from kerbs or edge-lines would not be effective. The trials had clearly shown that the context remains paramount in determining the appropriate intervention. Any guideline must set out the principles to be considered and the hierarchy of possible interventions.

The Group agreed that the guidance document will need to allow authorities to identify when to use and how to use sharrows, with guidance on when other treatments might be more appropriate, and consideration of other markings, levels of parking use and the speed-volume environment.

A fuller discussion of the background to the rule change, if it is made, would be provided by the Traffic Note released to announce it; detailed guidance would be incorporated into the TCD Manual.

The Group agreed to continue to work with Flow through Karl Hancock and Wayne Newman to provide results from all trials to progress the best practice guide.

## **6. Wayfaring signage**

### **a. Auckland NZCT - Airport to CBD**

NZCT signage was discussed at last meeting; Glenn Bunting and Richard Bean had offered to work with AT to address concerns over symbols and designs being proposed. Matthew Rednall reported that there had been little further progress on this.

Steve de Jong reported that Christchurch was bringing a recognised international expert, Warren Solomon, to advise on way-finding signage, in response to several concepts suggested for the city's major cycle routes. Glenn Bunting renewed the offer to work with Christchurch on this.

Ron Minnema reported that the Dunedin way-finding signage project was on hold for the moment.

## **7. Christchurch Major Cycleways update**

The Group reviewed draft designs at the last meeting, when these were still being revised, and Glenn Bunting and Richard Bean offered to work with Christchurch.

Steve de Jong explained the background to the Major Cycleways project, which arose from a demand for separated facilities. Meeting this demand was revealing a need for guidance for separated facilities and dealing with the challenges of provision for private drives, parking and intersections.

## **8. Waimakariri DC Flush Pavement Signage for Kaiapoi**

A ViaStrada proposal dated November 2013 for works due to be completed in February 2014 was circulated for the last meeting. The TCD Steering Group had advised Waimakariri to present a proposal to this Group. As no proposal had been received, this matter was agreed to have been dealt with.

## **9. Te Ara Mua-Future Streets Project in Auckland**

The concept plan for this project for Mangere was circulated for the last meeting. A project team led by Hamish Mackie looked at a suite of concepts to address a range of issues in East Mangere. The evaluation of these concepts is due to be completed by the end of June, after which there will be an assessment of budgets. An AT design team is now looking at the concepts with a view to assessing what can be progressed over the next six months.

While the Group accepted that MoBIE had asked for innovative responses from the project, the Group noted that some concepts being considered are untried. In particular, the proposed use of “armadillo” lane separators needs a proper cost/benefit analysis. The Group agreed that Gerry Dance and Matthew Rednall will put proposed innovative interventions to the Group for assessment.

## **10. Upcoming related activity & research**

- a. **Cycle safety expert panel and summit**
- b. **“Improving safety for people who cycle on rural roads”**
- c. **Cycle Safety Research in the Waikato**

Gerry Dance and Dr Glen Koorey presented a summary of current activity. They noted that the cycling safety expert panel sees rural roads as a major issue, with half of all cycling fatalities coming from much lower proportion of cyclists using these roads. A request for proposals for research into improving rural road safety has just been released.

The Group noted that Waikato region has the worst rural cycling safety record, and that the problem appears to be as much due to lack of skills and experience in cyclists as in the quality of cycling facilities. The Group agreed that Gerry Dance will circulate safety panel updates.

## **11. National NZ guidance update**

- a. **Austroads updates and NZ Supplement**

Tim Hughes explained that the NZ Supplement is out of date and that the Austroads Guides, by their consensual nature, invariably reflect agreed best practice from at least five years previously. As a result, individual jurisdictions tend to develop their own guidelines. For NZ there is a need to pull together the relevant material from across all the Austroads Guides as a first step towards a national guidance document for cycling facilities.

## **12. Active Modes Steering Group**

- a. **Terms of Reference**

Draft ToR had been circulated for a group with a wider scope and more

active involvement in a range of issues relating to providing for cycling and walking facilities.

Ron Minnema reported that Dunedin was considering a trial of “armadillo” lane dividers. The Group agreed that a proper assessment of these devices was necessary, as several trials have shown that the low dividers constitute a trip hazard for pedestrians and a danger for cyclists. They are difficult for motorists to park beside and can pose a hazard of tripping or turning an ankle for motorists emerging from parked vehicles.

Several tests of raised low-level lane separators had shown that a higher frangible bollard at the start and at pedestrian crossing points were necessary to make all road-users aware of the hazard.

The Group also noted the use of “rumble strips” in unorthodox locations to provide physical separation for cyclists. The Group agreed there needs to be further discussion of such use, especially within urban or suburban areas.

The Group discussed the advanced stop boxes marked in Wellington CBD. These have been kept short to allow the single loop to remain effective for cars behind the ASB, and a line of diamonds ahead of a small cycle symbol shows the optimum location for cyclists. The boxes had been installed across all lanes where there were three lanes at an intersection. This had drawn some negative reaction from motorists, and was not compliant with MOTSAM, but asserted the cyclists’ right to be in the lanes and avoided a perception that any lane was “cyclist-free”.

The use of a green side approach line, without a white line, which would create a legal bike lane, was discussed. Colour has no legal meaning, but is recognised and perceived to have a meaning by motorists. Tests have shown the use of colour to result in less encroachment by motorists in every case.

The Group agreed that there is a need for more guidance on delineators and separators, and on identifying where separation is appropriate. Placing cycle lanes behind parked vehicles or even more remotely from traffic appears to lower awareness of cyclists and increase the likelihood of crashes at junctions and private drives. Two-way separated cycle paths crossing junctions and private drives create a hazard by having cyclists approaching from the wrong direction for motorists crossing the path.

The Group noted the availability of conflicting research results and their use to support inappropriate interventions, as in urging a bi-directional shared path on a street with parking, grade and junction hazards, based on research using a bi-directional shared path in an urban park. The Group noted the increasing demands being placed on shared paths, with cyclists, scooters and powered mobility scooters all competing for space with foot traffic. Shared paths created the same obscured and bi-directional hazards as set-back bi-directional separated lanes and had been shown to be no better for injuries. There is a need for design guidance, and for more research into adequate design widths for shared facilities.

The Group agreed that its role was to deliver best practice guidance on the design and provision of infrastructure for active modes, and to promulgate and encourage uptake of such guidance. It was not being established to promote active modes, or greater provision for active modes.

The Group agreed that membership was not limited to the members of the present group, and that the absence of representation from Hamilton or the Waikato region was a serious deficiency.

The Group agreed on the need for a communications plan to ensure both promotion of the group and its activities, and appropriate liaison with all interested parties, and noted that each member would be responsible for undertaking this role in their local sectors.

The Group identified seven areas where its activities could lead to the delivery of guidance and adopted a programme for the coming year. See table at Appendix 1.

### **13. Other business**

#### **a. Two-way SBF Design at T-intersections**

Ron Minnema explained that he had a T-junction for a 500vpd side-street entering a 10,000vpd road that had separated bi-directional cycle path behind the kerbside parking provision. He wanted to address (i) stopping traffic exiting the side-street before it entered the cycle path; (ii) alerting cyclists to the exit from the side-street and entry into it; (iii) allowing traffic from the side-street to advance beyond the cycle path in order to have adequate sight-lines to safely enter the road; and (iv) alerting traffic turning into the side-street of the presence of the cycle path.

The Group agreed that the safest treatment was probably to mark the intersection and adjacent parking as though it was not an intersection at all, but a private driveway, so that all the visual cues suggested slower speed and greater vigilance were needed. Providing a physical lip to the edges of the cycle path as it crossed the side-street was considered a means of giving this treatment better effect.

#### **b. Next meeting**

The Group agreed to meet in Wellington next in mid-to-late November and in Christchurch for the first meeting of 2015 and in Dunedin for the second. As the Forum meeting is in Wellington on 28 November 2014, the Group might convene on 27 November.

The Group recorded its thanks to Karl Hancock and Flow for leading the study tour of the sharrow trials and cycling facilities around the eastern harbour-side on 18 June and to Matthew Rednall, Michael Brown and Amit Patel for superbly hosting the meeting.

Meeting closed at 3:10 pm.