Share the road
Heavy vehicle drivers and cyclists

CAN CYCLING ACTION NETWORK

Report to Oct 7th 2018

Highlights:

- Good feedback was received from the Virtual Reality Film shown at the Road Transport Conference.
- Companies have requested Share the Road workshops, managing demand is proving an issue.
- A lot of learning took place during a visit to Melbourne (See separate Report) .

Updates since last report:

While a lot of the past month has been preparing for the new contract, the following has taken place:

- James Newton continues to add value to the future of StR. See his two reports attached.
- Alex Twigg has been providing us with invaluable advice with developing an approach and model to support the changes needed within the companies we are working with to embed Share the Road training into their programmes.
- The Virtual Reality experience for drivers was shown at the Road Transport Conference in early 25th-27th Dept in Dunedin. The encountered a truck on a bicycle that they can control be leaning just as one would in the real world. This will complement the Toolbox Workshops they attend. In this workshop they do not go for a ride. Some small learnings from that are being implemented now. Allied Concrete have a Virtual Reality set up and are interested in using our film. Autosense who run driver training and assessment programmes around the country using a traditional truck simulator are also interested in using our film. They are well connected with all the major truck operators. We helped them develop a video training tool for Halls Refrigerated Transport, this will be used around the country now as well.
- Another learning from the conference was that the majority of driver training and assessment takes place one on one between an instructor and driver. We are in the middle of preparing resources to ensure drivers can demonstrate to the instructor they can share the road well with cyclists.
- The Key Stakeholder meeting in Wngt in September was successful with the direction set by the Mackie Review of the Campaign being endorsed by the group.
- One of the recommendations from the Mackie Research Review of the previous StR contract period was to look at focusing on some specific geographic regions. Ports seem to attract trucks so we are looking at Tauranga, Auckland and Invercargill. The presentations given by James and I to the Southern Influencing Group Road Safety Meeting, Invercargill City Council and HW Richardson's were successful in gathering support for a regional campaign to improve the safety of those pedalling around heavy vehicles. See attached report.
- I am about to fly out (60 minutes away) to Barcelona to present a paper at the International Cycling Safety Conference. See the attached paper.

Share the Road Workshops/Event Activities from		
01/07/2018	to:	07/10/2018

Activities Delivered	**Total # Activities to Date**	**Total # Participants to date**
Driver/Trainer Workshops	6	71
Cyclist Workshop	1	22
Blindzone Workshop	1	70
Total Workshops (KPI Y1 = 47)	8	163
Event Activities	22	2977
Presentations to Stakeholders	96	2075
Total #	**126**	**5215**

Using Positive Psychology insights to meet cyclists' and motorists' challenges of seeing one another's perspectives in traffic conflicts

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ABSTRACT

The aim of this conceptual paper is to help understand some challenging interactions between drivers and cyclists, putting them at serious risk. The idea is to create insights on why drivers often say "sorry, I didn't see you" and on the causes of their distractions and negative preconceptions and associations. A lot of research has been conducted with the goal of improving cycling infrastructure and vehicle technology to improve the safety of cyclists. However, in the foreseeable future, the great majority of cyclists around the world will have to manage riding on roads that have no dedicated cycling infrastructure, and will have to share the road with vehicles that have no sensors or cameras that enable drivers to be aware of their presence. Furthermore, cyclists have no control over these things when they are riding or the behaviour of drivers around them. Based on these insights, our goal was to use positive psychology interventions to help cyclists to employ effective strategies, giving them more control when sharing the road with motor vehicles, and encourage them to enjoy the experience. Given the lack or formal scientific research in this area, the writers hope the concepts in this paper will serve to encourage research projects that might investigate the suggestions the authors are making. Survey information from the Share the Road [1] Campaign's workshops and a New Zealand Transport Agency report [2] provided insight into what New Zealand drivers and cyclists were thinking about each other. Applying positive psychology perspectives and methods may lead to improved 'theory of mind' [3] skills in cyclists and drivers alike. This, by definition, could help them to understand each other's perspectives, which in turn, may lead to predicting each other's future behaviour more quickly, giving them more time to respond. Approaching one another with an open mind increases positive emotions, which, according to Frederickson's 'broaden and build' theory' [4], can help in 'widening the array of creative and useful thoughts and actions'. This will assist them to be non-judgmental and less resentful and instead deepen their feelings of compassion and forgiveness when others make mistakes.

Keywords: theory of mind, predicting behaviour, positive psychology, behavioural change, road sharing, cyclists.

The night was clear. The traffic was becoming intense. The long hours I had spent in my office had taken a toll on my focus. What was this angry outburst from my colleague all about anyhow? - And then it all started. The lane was not wide enough for a vehicle to pass, I rode in the middle, so they would not try. However, this must have upset the bus driver behind me as she followed about 1 metre back revving her engine. I was terrified, this woman had a problem and I did not know what to do. As soon as then was a gap in the oncoming traffic, she roared by leaving 30cm between us. I hung on for dear life trying not to wobble as the full 13 meters of bus finally went past before swerving across my path into a bus stop. Shocked, I banged on its side as I went past and shouted, "Leave more space next time!" As my pulse started to settle, I was caught completely unaware as she came up to me again at high speed. The side of bus closed in as she squeezed by the traffic island in the middle of the road, then the door of a parked car opened, I had nowhere to go….

1 INTRODUCTION

Almost every cyclist could tell you a similar story - and just reading this makes you feel anxious about the bus driver who obviously had an anger issue - and what happens next after the door of the parked car had opened? In such situations, everyone misses out - not only the cyclist. Crashes cause traumas for everyone involved in some way.

Experiencing negative emotions such as anxiety, anger and fear may help us to deal with danger and emergencies. However, they are not helpful for negotiating challenging traffic conflicts. These emotions trigger 'response tendencies', making us feel like fighting or running away - and even worse, in some extreme situations, we might 'freeze', unable to think and do anything useful. Surveys [2] shows that drivers' negative associations relating to cyclists in general, can be caused by one bad experience. Such associations in the New Zealand culture of road users (dominated by drivers) contribute to the many reasons why cyclists are often considered as 'second grade' road users, not seen or actively ignored, and subsequently not passed or followed safely.

The number of people choosing to ride a bicycle for exercise, recreation, competitive sports and most importantly for transport is growing in the western world. Except for much of Europe, cyclists still make up a small minority of road users. The motorists belong to the 'in-group' and their often-observed emotional responses against cyclists can result from stress due to congestion, the perception that cyclists are being favoured and the problems associated with seeing them.

The aim of the research undertaken to write this conceptual paper was firstly to understand the reasons for anecdotal reports from cyclists about feeling unsafe on the road and why drivers have difficulty sharing the road with those who cycle. Then based on the learnings gained and given that cyclists are the ones most likely to come off worst should a crash occur with a motor vehicle, provide cyclists with practical on road strategies to reduce the likelihood of negative experiences, injury or death.

Much work has been done to improve roading infrastructure and vehicle technology to increase the safety of cyclists. However, with the exception a few northern European countries such as the Netherlands, Denmark and parts of Germany, and some cities, the great majority of cyclists ride unprotected from motor vehicles. Increasingly upmarket new cars and trucks have warning cameras and sensors to alert the driver to the presence of cyclists, but again the great majority of motorists do not have these features in the vehicles they drive. When on the

road, cyclists have no control over the infrastructure they are riding on, the technology of the vehicles they share the road with or the attitudes and behaviours of other road users. To achieve the aim of this paper, new thinking was required to provide cyclists with ways (they have control over) to be safe. It is hoped this knowledge could lead to improving their attitudes towards drivers, and finally change their behaviour to reduce the likelihood of conflict. Little scientific literature exists in this area, so sources of information include informal "grey" articles found in newspapers, advocate websites and personal experiences the writers have used in their daily encounters with the problems outlined. It is hoped that the ideas being presented will be tested scientifically to prove whether the concepts have validity.

To understand the challenges of motorists and cyclists seeing each other's perspectives, two main sources of information were utilised. The New Zealand Transport Agency (NZTA) funded Share the Road Campaign has been working with drivers of heavy vehicles and cyclists[1]. Almost 6,000 people have been engaged in the Share the Road campaign by way of workshops, truck/bus blind zone demonstrations and presentations. The goal of the campaign is to improve road sharing between these groups. A survey [1] was commissioned by NZTA to review the campaign. Workshop participants were questioned to ascertain the effectiveness of its activities. Secondly the NZTA commissioned another report published in Oct 2017 called "*Encouraging behaviour change between motorists and cyclists*". The goals of this research were like those of the Share the Road campaign, but broader and not restricted to heavy vehicle drivers. Attitudes about and perceptions of cyclists, their behaviour and best practice were gained from the drivers who participated in the survey.

Based on the information in Section 2 from the surveys undertaken, relevant literature and informal sources, the writers of this paper contend in that understanding what motorists are thinking, and mastering avoidance strategies are an important first step for cyclists to overcome. In Sections 3 and 4, the writers suggest that by employing Fredrickson's broaden-and-build theory [4] of positive psychology which claims better communication, empathy and forgiveness; cyclists can find creative solutions to conflict leading to fewer incidents, less rule breaking and more positive riding experiences. Lastly Section 5 discusses practical on road strategies they could employ to stay safe on the road. By understanding the need for good cycling skills, being visible and predictable, the road environment and other external factors, we are suggesting cyclists can control encounters with the drivers they share the road with. The Conclusion in Section 6 proposes a new paradigm of road sharing that suggests by consciously using positive emotions when engaging motorists, cyclists can shake off the victimhood of being a vulnerable road user and become a full member of their community of road users with all the associated rights and responsibilities.

2 WHAT ARE THEY THINKING?

[1] While there are issues with cyclists common to all motorists, there are more problems associated with heavy vehicles and cyclists even through heavy vehicles only make up a small percentage of the total number of vehicles on the road. 10 of the 18 cyclists killed on New Zealand Roads in 2017 were because of crashes with heavy vehicles [5]. For this reason, the scope of this paper is primarily around the interactions between heavy vehicle drivers and people who cycle.

2.1 NZTA Research "Encouraging behaviour change between motorists and cyclists".

There were two methods employed in the NZTA research exercise referenced in this paper. In Co-creation sessions (focus groups) two groups of 12 motorists and cyclists met in two cities over an extended period. Secondly, a 15-minute quantitative survey was completed by 1,507 motorists including a "robust sample" of parents with under 12-year-old children, and cyclists [2].

According to Carruthers (2017) [6], it is unrealistic to think that drivers and cyclists are equal on the road, (see also Bushman et al., 2018) [7] linking narcissism and aggressive driving. None of this is good news for those who cycle. They must deal with three fundamental tensions according the results of the NZTA survey [2]. Firstly, the "My road/ Our Road" conflict exists where the culture of road users in New Zealand is dominated by the majority who are drivers. Secondly, because most roads are not designed with cyclists in mind, there is confusion over rules, what road users should do and what they might expect others to do. In countries where there are more cyclists, injuries and fatalities are fewer as there is a greater awareness about what cyclists are likely to do [8]. Thirdly, the idea that power and duty of care tends to rest with one group irrespective of whether they want it or not. Jones [9] argues that making cyclists wear helmets in New Zealand shifts the duty of care to cyclists absolving other road users, road designers and legislators of their duty of care.

The negative tension between cyclists and motorists was strongly reflected in the NZTA [2] survey results; over half of cyclists were reporting a lack of confidence, not feeling safe, and have expressed biased perceptions, for example; "New Zealanders are terrible drivers - No one indicates". While cyclists make up 48% of the total motorist population, only 15% cycle regularly.

Very few cyclists were associating themselves as group, road or fast cyclists. Interestingly, motorists reported observing these types most frequently on the road - and rated them as most annoying. These strong perceptions colour their attitudes and beliefs creating an idea that cycling on the road causes fear and frustration. The top 5 concerns reported by those who cycle when on the road include; drivers not seeing them, a vehicle hitting or running over them, safety, other vehicles generally and not enough space being given when being passed [2].

Drivers negative associations relating to cyclists in general, which can impair judgement re passing timing/distances - can be caused by one bad experience, near miss or crash. Even not liking cyclists can make them harder to see [10].

While most motorists reported feeling neutral towards those who ride bicycles, 24% of motorists (who are also cyclists) felt negative towards cyclists and 38% felt positive towards cyclists. Only 28% of motorists who do not ride reported positive feelings towards cyclists. Positive behaviour towards and by cyclists is being noted by motorists, although inconsistencies are evident in their reports. Finally, there is a sense that special treatment is being directed to cyclists, cycling infrastructure is an unfair inconvenience and all the sacrifices are being made by those who drive. If only those who pedal could see into the minds of drivers, would the insights put them off riding?

2.2 Share the Road Workshops

Insights were drawn from heavy vehicle drivers who ride bicycles in Share the Road workshops and cyclists who sit in the driver seats of trucks and buses. They are asked in post workshop surveys what they would like the other to know about their daily on-road experience and how their attitude and knowledge has changed after "swapping seats". The results obtained was referenced in a Programme Review [1].

The workshops surveys asked the following questions.

2.2.1 Driver Workshops

1. Thinking about the last month of driving, how many near misses, or confusing incidents with cyclists did you have?
2. The degree to which they agree with the statement(s) below:
    - The workshop has increased the chance of you following a cyclist at a safe distance.
    - The workshop has increased your patience with cyclists who ride 1 meter from the kerb or parked cars.
    - The workshop has increased the chance of you passing a cyclist safely.

2.2.2 Cyclist Workshops

1. Thinking about the last month of riding, how many near misses, or confusing incidents with heavy vehicles did you have?
2. The degree to which they agree with the statement(s) below:
    - The workshop has increased your confidence when passing a heavy vehicle.
    - The workshop has increased the chance you will ride to be seen.
    - The workshop has increased the chance you will choose safe routes.
    - The workshop has helped you to feel more comfortable sharing the road with heavy vehicles.

In surveys undertaken 6 months after the workshops, among other things they are asked about the number of negative "incidents" they have with each other. The following RESULTS were from Share the road workshops held between Jan 1st, 2016 and June 30th 2018 [1]. On average 50% reported having no "confusing incidents or near misses" with cyclists or drivers directly after the workshop in the last month. 20% reported having one, 15% two and 15% had three or more (n=446). In the surveys conducted 6 months after the workshop, the numbers having no incidents or near misses had grown to 70%, with similar numbers (15%) having one, and 5% having 2 or 3 or more incidents (n-88). While the sample size is small, and the survey unscientific, the results were encouraging.

On average 86% of drivers surveyed agreed or strongly agreed with the Driver Workshop Statements above. 84% of cyclists agreed or strongly agreed with the Cyclist Workshop Statements above. Again, the writers state these surveys are relatively informal with written information being gather after the workshops, and an online survey being undertaken 6 months later by those who gave their contact details. It is hoped that readers will be interested in the new concepts being presented here and will undertake a formal research approach to test the results.

3 POSITIVE PSYCHOLOGY AND THE EFFECT OF POSITIVE EMOTIONS

For the remainder of this paper, positive psychology approaches will examine changes in behaviour and mind-sets by facilitating positive emotions, which would, most likely, improve the outcomes of traffic conflicts between cyclists and motorists. First, translated into traffic contexts, Fredrickson's broaden-and-build theory [4] predicts, that if cyclists and motorists experience positive emotions, they are more likely to be able to engage in 'broadened' cognitive functions. This can result in better communication and being able to feel more empathy, leading to understanding and forgiveness for the other party 'at fault' in a conflict situation.

Positive emotions also broaden our senses, while negative emotions narrow them. When cyclists are in a positive mood, they are likely to be more open-minded, creative in finding solutions to problems - for example by avoiding heavy traffic using alternative routes.

Let's first look at the application of Polyvagal theory as it relates to negative emotions. Building on the use of these concepts and the broaden-and-build theories mentioned above, we will then look at four fundamental factors leading to safer driver/cyclist interactions, using positive psychology insights.

4 POLYVAGAL THEORY AND NEGATIVE EMOTIONS

Strong negative emotions (such as those which arise in traffic conflicts) do have adaptive functions - but they also restrict us in in our choice of responding - a bit like crocodiles and rabbits, whose only options are either fighting (crocodiles) or running (rabbits) when danger is perceived. Polyvagal theory [11] suggests that more evolved humans have a wider array of options available than animals when there is a threat. Cyclists may use a so-called 'social engagement' system. This system allows them to respond more reasonably in dangerous situations. It allows them to negotiate by using facial expressions, change of voice tone and improve their perceptions so that their responses are based on more accurate information.

However, if a bus follows a cyclist too closely and evokes a profound fear response, the polyvagal responses do not help much. First, the sharpened perceptual system is not able to provide more information about the vehicle behind them. In addition, the 'social engagement' system fails as there is no face-to-face interaction with the driver of the bus that would allow facial expressions to be effective - and changing the voice tone goes unnoticed. Their bicycle does not allow them to 'outrun' the bus and the only options left are fighting or freezing. Cyclists in this situation often yell at the driver 'at fault' and do not have the capacity to generate insights that could help them to deal with the situation more reasonably and efficiently - and to learn avoiding similar incidents in the future.

5 POSITIVE PSYCHOLOGY INSIGHTS THAT CAN LEAD TO CYCLISTS BEING IN CONTROL

5.1 HAVING GOOD CYCLING SKILLS

As a no brainer, good cycling skills lower the risk of crashing - but this paper is not the place to help cyclists hone these skills, there is plenty of information available on what makes a skilled cyclist, for example, Hulls [12], a 'Share the Road' workshop facilitator summarises, "Bicycle control is about being able to ride where you want to go, when you want to go there". To avoid collisions or near misses with heavy vehicles in traffic conflict situations, cyclists should understand where motorists' blind zones are, and the way rear wheels can track inwards when

long vehicles turn. Safety concerned cyclists do not ride distracted, such as by looking at screens, listening to in ear music, making phone calls, etc. Fatigue, drugs/alcohol, and stress may further reduce cyclists' ability to control their bikes.

Positive psychology would encourage cyclists to savour consciously the positive emotions they experience when they master control over directional changes, environmental limitations and interactions between both. These positive emotions will help undo negative emotions ('undoing theory', Fredrickson [4]) should they arise in less controlled situations.

5.2 BEING VISIBLE AND PREDICTABLE

As mentioned previously in the Section 2, one of the five top concerns of cyclists are about motorists not seeing them and this is indeed understandable, justifiably decreasing the level of confidence in cyclists. For instance, eye tracking technology in an experiment conducted for the insurance company 'Direct Line' showed that motorists do not see more than one in five cyclists [13]. In attentional blindness according to Pammer and Blink [14] is likely to occur when the motorist looking is engaged in another activity - for example a deeply involved phone conversation.

Naturalistic driving research found that distraction is one of the biggest risk factors that contribute to drivers not seeing those on bicycles. Screens, fatigue, drugs/alcohol and stress contribute to reducing effective hazard perception. Furthermore, only 3 percent of the visual field is in high visual acuity (central vision) - the rest is blurred (peripheral vision). This is exacerbated by the tunnel vision impact of speed [15]. In addition, there are many barriers to vision including driving conditions caused by sunstrike, rain, mist and low light [16].

Positive psychology would recommend cyclists focus on what they can control. For example, they will be easier to see riding further into the lane in a straight line instead of swerving to avoid roadside obstructions such as drain covers, broken glass, and parked cars. Wearing light or bright (contrasting) clothing, using bright lights will help. Riding in areas which motorists are most likely to scan regularly for cyclists can be helpful, for example positioning themselves to be seen at intersections. Positive mind-sets in cyclists allow them to 'broaden' theory of mind related skills, 'realising' when motorists experience restricted situational awareness and take precautionary actions.

5.3 ROAD ENVIRONMENT AND OTHER EXTERNAL FACTORS

With a few exceptions in New Zealand, the roading network has been designed for cars. In a report commissioned by Auckland Transport, the roading network design was heavily criticised for giving priority to driver convenience over safety, particularly for vulnerable road users [17]. The way roads are laid out provides cues to users to behave ways when they are driving, the overriding message is often "cyclists, this road is for cars, not you" [18]. Cyclists are of course not able to control the roading environment - but they can be aware of different levels of challenges.

There are many external factor issues relating to vehicles that impair the drivers view of those they share the road with, these include; door pillars, mirrors and window design. Higher safety standards, larger truck cabs and heavier door structures have all contributed to heavier and bulkier A-pillars, which create larger blind zones in trucks. The need for cab structural integrity limits the size of windows [19]. Mirrors are always difficult as heavy vehicle drivers can have up to 6 or 7 to scan as well as screens and what is in front of them. Drivers response time to

what they see in mirrors is slower than what they see through the windows [20], when articulated trucks turn, all one can see on the inside mirror is the side of the truck. Trucks present a variety of visual barriers that while present in all vehicles are accentuated by their size. These include the fact that often drivers sit very high due to the size of the engine and transmission. This has a detrimental effect on being able to see things close to them. Drivers struggle to see traffic coming alongside them on the passenger side, stickers, labels, air intake ducks, bug catchers, sun shields, electronic toll devices further reduce what can be seen [21].

Positive Psychology approaches predict that cyclists need to identify signature strengths and skills and use them to overcome these serious challenges. For example, if a cyclist can learn situational awareness and hazard perception skills, they could use them to mitigate some of the issues generated by external factors. Also, positive emotions can help broaden their visual field from where the cyclists can extract information, minimizing the severity of the road environment challenges discussed above.

5.4 EMPOWERING POSITIVE EMOTIONS

As we all know, many things and events cannot be controlled, however, we can control the way we respond to them. Positive psychology suggests that creating consciously positive emotions in challenging situations has many benefits. They create a mind-set that allows road users to 'open up', widening their useful field of view, improving situational awareness, responding to challenging situations in a conscious reasonable way. They are conducive to improved creativity, and innovation expansion. A recent study by Isler and Newland [22] indicated that high levels of wellbeing and life satisfaction (as measured by PERMA, Peterson et al. [23]) relate well with participants' lower intention to violate traffic rules - and indeed these people experienced less incidents as per number of traffic infringements, near misses and crashes. Another study linked higher levels of mindful driving with less self-reported incidents, and yet another study linked happiness levels with more effective eye-movements and improved hazard perception. There are many ways we can get control over emotions in response to events (Gross [24]), ranging from cognitive restructuring of negative events (creating a more positive narrative) to fully accepting those events and consciously trying to create positive emotions instead.

Survey results from the Share the Road workshops indicate more awareness, better knowledge of the needs and constraints of the other, and fewer incidents between heavy vehicle drivers and cyclists [1]. Participants agreed that their increased knowledge of "the other" led to more positive attitudes encouraging better behaviour and fewer "incidents". Anecdotal reports suggest that the workshop experiences gave participants the confidence to try to consciously engage positively with other road users and supress negative emotions should they arise.

6 CONCLUSIONS

In summary, this conceptual paper suggests that recent theories and models of positive psychology can offer a new approach to meeting the challenges of motorists and cyclists seeing one another's perspective in traffic conflicts. It was suggested, that instead of focusing on things that cannot be controlled, (e.g., roading environment) awareness and acceptance should be put in its place. Moreover, instead of maintaining a conscious sense of mistrust, resentment, anger and annoyance resulting in a mix of negative emotions, the new approach

will encourage motorists and cyclists to work collaboratively together - and feel the positive energy of creating a safer space for everyone.

The goal would be to create a traffic community who watch and reach out for each other, truly share the road and facilitate the development of positive emotions, which will help to see each other's perspectives, leading to increased understanding, and forgiveness. If unwanted behaviour does get sensed, instead of assuming the worst - it should trigger a healthy level of curiosity raising the question 'why is this happening?' and creating compassion for the counterpart, acknowledging the uncomfortable space the 'perpetrator' might be in at this point.

Imagine the results of a future survey from New Zealand Transport Agency, in which all cyclists self-report confidence and safety on the road, numbers of cyclists are soaring and most motorists taking up cycling in their free time. We ask you to read the story below and observe your emotional reactions. We predict that instead of anxiety it will trigger positive emotions - which may help you become part of a movement of real change in spaces where conflict between cyclists and motorists often end in unnecessary casualties. Will this story inspire you to action and to think broadly about how you and others could contribute to safer spaces on the road?

The night was clear, just a nice soft breeze, and little traffic as most motorists had switched to public transport using sustainable energy. I noticed the moon illusion - appearing much bigger when rising from the horizon. In addition, I heard the distinctive 'more-pork' call from a morepork, a wonderful native owl species. It is going to be a great ride home - I felt positive energy going through my whole body. The lane was not quite wide enough for a vehicle to pass so I rode near the middle. I could hear an electric bus approaching, I turned to the driver, smiled and waved. She nodded back looking surprised and slowed down giving me more room. What a kind gesture. This made me feel safe and gave me the opportunity to focus and spot a section of road marked 'no parking', where I could ride closer to the curb, giving her room to pass. She tooted thank you. The bus was packed. As I passed her further down the road pulled in at the bus stop, I gave her a thumbs up. I was still in front when we approached the traffic Island. She slowed down until I was through, she waved when passing with a generous amount of space before disappearing into the night. I suddenly felt that we are in this together, I picked up speed, the endorphins kicked in, I felt flow feelings and the ride home was great, indeed! I felt good, and if positive psychology works and there is plenty of evidence - the bus driver felt good too.

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Profit & Loss
Cycling Action Network (Inc)
For the month ended 30 September 2018

	Actual	Budget	Var NZD	Var %	YTD Actual	YTD Budget	Var NZD	Var %	YTD Actual July 2018-June 2021	Overall Budget July 2018 to June 2021	Budget Remaining
Income											
STR - Income from NZTA	$26,178.77	$26,146.00	$32.77	0.13%	$79,704.91	$73,122.00	$6,582.91	9.00%			
Total Income	**$26,178.77**	**$26,146.00**	**$32.77**	**0.1%**	**$79,704.91**	**$73,122.00**	**$6,582.91**	**9.0%**	**$79,704.91**	**$871,480.00**	**$791,775.09**
Gross Profit	**$26,178.77**	**$26,146.00**	**$32.77**	**0.1253%**	**$79,704.91**	**$73,122.00**	**$6,582.91**	**9.0026%**			
Less Operating Expenses											
1-STR- Workshops	$7,500.82	$3,792.00	$3,708.82	97.81%	$14,947.14	$11,376.00	$3,571.14	31.39%	$14,947.14	$136,515.00	$121,567.86
2-STR- Presentations	$2,755.14	$98.00	$2,657.14	2711.37%	$9,146.45	$2,345.00	$6,801.45	290.04%	$9,146.45	$39,665.00	$30,518.55
3-STR-Events (Blind Zone Demo	$0.00	$593.00	-$593.00	-100.00%	$17.52	$1,777.00	-$1,759.48	-99.01%	$17.52	$21,314.00	$21,296.48
4-STR-Stakeholder Engagement	$279.59	$811.00	-$531.41	-65.53%	$1,657.08	$2,431.00	-$773.92	-31.84%	$1,657.08	$29,170.00	$27,512.92
5-STR-Tool Box of Workshops R	$1,100.00	$557.00	$543.00	97.49%	$6,020.41	$1,569.00	$4,451.41	283.71%	$6,020.41	$25,874.00	$19,853.59
6-STR-Monitoring and Evaluation	$2,381.28	$4,611.00	-$2,229.72	-48.36%	$6,188.16	$9,862.00	-$3,673.84	-37.25%	$6,188.16	$96,465.00	$90,276.84
7-STR-Office and Workshop Misc	$488.94	$2,569.00	-$2,080.06	-80.97%	$1,000.04	$3,477.00	-$2,476.96	-71.24%	$1,000.04	$29,273.00	$28,272.96
8-STR-Contractor Services	$9,673.00	$11,115.00	-$1,442.00	-12.97%	$34,728.11	$34,285.00	$443.11	1.29%	$34,728.11	$544,641.00	$509,912.89
9-STR-CAN Contract Monitoring	$2,000.00	$2,000.00	$0.00	0.00%	$6,000.00	$6,000.00	$0.00	0.00%	$6,000.00	$76,083.00	$70,083.00
Total Operating Expenses	**$26,178.77**	**$26,146.00**	**$32.77**	**0.1%**	**$79,704.91**	**$73,122.00**	**$6,582.91**	**9.0%**	**$79,704.91**	**$999,000.00**	**$919,295.09**
Net Profit	**$0.00**	**$0.00**	**$0.00**		**$0.00**	**$0.00**	**$0.00**		**$0.00**		

Short Report on Melbourne Visit – Share the Road

Study Tour Dates: 18th September 2018 – 20th September 2018

Richard Barter and James Newton made the visit with James setting up the meetings.

Author: James Newton

Background

During 2011 in London, UK, there were 16 cyclist fatalities, nine of which involved a Heavy Vehicle. Of these nine, seven were construction vehicles. Until this point there was no real evidence to suggest what might cause the disproportionate involvement of the construction sector, there was also no collective movement from the industry to address the issues, and crucially there was no dedicated programme in place to facilitate this movement. In 2012, Transport for London (TfL) commissioned a review of the construction sector's transport activities to better understand the causes of these collisions. Transport Research Laboratory (TRL) produced the resulting Construction Logistics and Cyclist Safety (CLOCS) report1 – forging the early stages of CLOCS (UK).

Melbourne Study Tour

The Melbourne short study tour was designed to better understanding the development process and early implementation of the Construction Logistics and Community Safety in Australia (CLOCS – A). The CLOCS-A is based on CLOCS (UK) and has been developed for the same purpose and benefit, reducing the trauma from the interaction between vulnerable road users (cyclists) and heavy vehicles.

The Melbourne Central Business District is currently undertaking significant infrastructure development and it is foreseen that this development work may continue for the next 10 years. The current predictions are that there will be approximately 5 million new construction truck (tippers and trailers) movements within the CBD per year during this period. The Melbourne Metro Tunnelling project has taken a lead role in the development and implementation of CLOCS-A. There are other projects in Sydney as well as Brisbane that are taking a similar approach but there is a clear leadership role being held by the Melbourne Metro Tunnelling project.

Share the Road NZ, has an interest in CLOCS (UK) and CLOCS-A and is exploring new opportunities based on the development of CLOCS-A that could be transferred to a NZ context. The Auckland Central Rail Link (CRL) provides an opportunity for exploring a New Zealand version of CLOCS (UK) and CLOCS-A as there are many similarities to the Melbourne Metro Tunnelling project. There is a willingness from the CRL Alliance for CLOCS to be explored and possibly implemented over time. Within the CRL Alliance there is clear leadership interest from Downers.

The short study tour focused on meeting with the key stakeholders that have been involved in the development and early implementation of the CLOCS-A programme. These stakeholders included, Transport for Victoria, Rails Projects Victoria, National Road Safety Partnership Programme, Bicycle Network, Amy Gillet Foundation.

Industry representatives were not available during the scheduled study tour and future follow up opportunities have been identified. A pre-trip teleconference was held with Hanson Construction to

better understand the CLOCS-A implementation from an industry perspective and further follow up with take place.

The following provides a short summary of the key learnings from the Melbourne short study tour. This has been collated into key opportunity areas to progress the opportunity of CLOCS implementation in New Zealand.

Overall observations

- Industry and government collaboration and leadership is critical to the success of CLOCS-A. There is good collaboration with well-defined leadership and communication across the lead government agencies and industry for the Metro Tunnelling implementation of CLOCS-A.
- At a national strategic level, Transport for Victoria is currently providing the CLOCS-A leadership for the Australian national strategy engagement and has been successful in including the following into the Australian National Road Safety Strategy:

Leverage the pipeline of major infrastructure projects to drive improvements in the safety of vulnerable road users around construction-related heavy vehicles. Use contractual requirements to trial improved safety features on vehicles as well as education and awareness programs across the sector. 	Commonwealth States & territories

Why

Heavy vehicles are over-represented in fatalities and serious injuries to vulnerable road users. $XXbil of major infrastructure construction is currently underway or in final stage of planning across Australia, with a pipeline on continued construction activity planned. This increased construction activity, much of which occurring in city and suburban areas, brings increased risks to vulnerable road users; and also brings an opportunity to leverage the power of government contracts to improve heavy vehicle safety standards, and also improve awareness of the risks amongst both heavy vehicle drivers and the vulnerable road user community.

Outcomes by 2020

Complete and report upon trials currently underway in Victoria and NSW. Expand consistent contractual requirements to other government-funded infrastructure construction projects where appropriate.

Implementation:

- Continue implementation trials of increased driver training requirements and improved safety equipment fitted to heavy vehicles on major projects in Victoria and NSW
- **By 2019**: Publish and make available to industry a code of practice which can be voluntarily adopted, to ensure nation-wide consistency
- **By 2020**: Release a discussion paper reviewing the success of the trials, and based on the outcomes proposing mandatory contractual inclusions for government funded major infrastructure projects

Reporting:

Monitoring and review trial implementation on major projects in Victoria and NSW

Nationally consistent contractual inclusions and implementation guidance material developed

- Developing the national delivery, a programme, such as CLOC-A, through a national level strategy requires robust leadership, strong governance and active working groups for implementation. The CLOCS-A programme development and delivery consists of three tiers of working groups. These groups have been identified as an inter-regional governance group, regional implementation group and an operational working group.
- The development of CLOCS-A, which is heavily weighted towards industry engagement, needs to be a well-supported approach from industry and they need to be engaged as early as possible. Rail Projects Victoria who is the lead agency for the Metro Tunnelling Project, engaged with industry two years prior to any contractual engagements being made.
- Communication with and through industry and industry bodies is critical to success. The organisation that did embrace the new approach (CLOCS-A)are well positioned for future contracts within the Melbourne CBD. The Metro Tunnelling Project is current receiving some levels of push-back from some individual organisations as they didn't read the early detail provided, particularly on the Heavy Vehicle specifications.
- Ensuring that all new requirements for vehicle specification and driver training are transparent and as up-front with the industry organisations is critical. Multiple workshops and engagement opportunities where delivered. These workshops and engagement

opportunities provided industry and government agencies alike time to better understand the CLOCS-A initiative, ask questions and developed a good understanding of the new requirements.

- The success of the CLOCS-A to date has been the collaboration and reliance of various organisation to utilises their organisational strengths. For example, the Amy Gillet Foundation has been engaged to develop the driver education and training workshops and materials, National road safety partnership programme guiding the government and industry collaboration and Transport for Victoria leading the national strategic response.
- There is a clear recognition that driver training engagement with bicycles for the construction vehicle drivers and staff will be a critical element of the CLOCS-A programme. There has been a reluctance from some drivers to participate in the cycling elements of the training.
- Engagement with drivers and the industry early has been critical to the broader support of CLOCS-A. Testing the new driver training and workshop experience has been valuable for both the training provider and the participants. This has allowed for adjustments to the training programme and allows for driver feedback prior to any broad rollout of the training with industry.
- There has been feedback received by some of the key stakeholder leadership members that the implementation of CLOCS-A seems out of balance towards industry having to do more to ensure bicycle and pedestrian safety. There is a perception (unverified) that little is being done to educate the broader public (cyclists and pedestrians) of how to act in a safe manner around heavy vehicles.
- There is a strong willingness from both government and industry who are involved in the development of the CLOCS-A programme to freely share resources and experiences. There is a common understanding that all organisations, government and industry, need to work together to reduce the risk and possible levels of impact that urban construction can have on a community.
- The future delivery and industry-based common standards for auditing is still to be developed as a requirement of the CLOCS-A programme. The CLOCS-A programme is essentially a self-funding model as per the TfL model but as per the early TfL programme CLOCS-A will require early seed funding for it to be nationally successful and engaging.

Specific Areas

National Strategy

- Transport for Victoria – Although the concept of CLOCS-A was not led by government but rather by industry, Transport for Victoria correctly identified that there is a critical role for a government agency lead role. Therefore, ensuring the national alignment of the CLOCS-A programme to strategic document and ensuring that the initiative is embedded into national documentation.
- The Australian National Road Safety Partnership Programme in partnership with Transport for London formalised a Memorandum of Understanding, allowing Australia to fast-track the development and implementation process within Australia. TfL provided the Australian programme with complete access to all Transport for London's research, resources and gained knowledge from implementing the programme both within London and now nationally throughout the United Kingdom.

Research lead approach

- TfL has worked in partnership with TRL (UK's national Transport Research Laboratory) for the development of the CLOCS programmes provided the early research and foundational development. TRL are providing ongoing research to assist with the continues development and improvement.
- Australia has been granted access through the established MoU with TfL, to use the TfL research and programme improvements. Accessing the research and programme enhancements has significantly reduced the cost and time required for the development of the Australian CLOCS-A programme. The credibility of the research and programme documentation both from TRL and TfL allowed for a much easier adoption of the programme into an Australian context and subsequently adoption into national transport strategy documentation and road safety action plans.

Governance Structures

Heavy vehicle governance structures in Australia are relatively complex with various states and territories and various compliance programmes that have been developed over time.

The intention of CLOCS-A is to develop its current work programme through the Metro Tunnelling Project and progress implementation as a standalone initiative. Although there are similar initiatives taking place in Sydney and Brisbane, all have slightly different approaches. The Melbourne Metro Tunnelling project is the only project that has a formalised trial of the CLOC-A programme.

Transport for Victoria in partnership with the National Road Safety Partnership Programme is working to secure Commonwealth seed funding so that the CLOCS-A programme can be established through one of the existing national bodies. To date this has not been successful, but it is expected soon.

The current CLOCS-A structure consists of three tiers

National - Coordination across Melbourne, Sydney and Brisbane

This group is currently meeting on a semiregular basis to share learnings and compare standards across the three states.

Regional – Transport for Melbourne, National Road Safety Partnership Programme, Transdev, Amy Gillet Foundation, Transport Accident Commission -Victoria (TAC), VicRoads, Rail Projects Victoria

> This group meets regularly to discuss regional implementation, standards, training and education development, and coordination between government and industry.

Implementation Group – Rail Projects Victoria, Amy Gillet Foundation, construction industry organisations.

This multi-tiered approach seems to be a requirement for Australia due to the 3 levels of government across Australia.

Industry Engagement

The engagement with Industry is representative of good international practice. There has been significant engagement and early engagement with Industry. As per any change there are leaders and followers and those that are leading are engaged and being proactive in their approach and those that are following are less supportive.

The National Road Safety Partnership Programme has led a lot of the industry engagement. There has been multiple workshops and consultation, as well as webinars where TfL have been invited to share and discuss their experiences to date.

The Victoria Rail Project team have provided long lead times for the contractor requirements. The Victoria Rail Project identified early in the development of the Tunnelling project that the contractors needed as much time as possible to be aware of the new requirements. This allowed the contracts, particularly the early adopters to schedule in any asset / fleet procurements strategy changes to meet the new requirements as well as allocate the appropriate time required for any up skilling of drivers.

Training and Education

The driver training and education elements of the CLOC-A has been well developed. The training and education strategy for CLOC-A has been to engage specialist knowledge, test and trial before implementation. CLOCS-A has selected The Amy Gillet Foundation as an independent organisation, that has a background in research and education to develop the training and education resources for the CLOCS-A implementation.

The developed training and education for the construction vehicle drivers consist of both classroom adult learning as well as on the road learning. It was noted during the training and education testing that the on-road learning element generated increased levels of resistance from the drivers, but once completed it was enjoyed by most.

Future training delivery is expected to be developed using online modules, but it is expected that the on-road training will continue. This is due to the numbers of drivers that will need to be trained as part of the driver professional development and Metro Tunnelling Project site access.

It is expected that future training will be delivered by third parties via contract, with some levels of quality assurance developed. Workplace toolbox meeting materials will also be developed for the individual organisations to implement.

During our visit to Melbourne the first industry group training trail had just been completed and the final suit of tools for training and education is still in development. Once these tools and resources are completed, The Amy Gillet Foundation is willing to share their learnings although Intellectual Property may be a barrier to using the Amy Gillet Foundation developed materials in New Zealand.

TfL has an open use policy between CLOCS and CLOCS-A. TfL have provided all training and education materials to CLOCS-A for free and open use. It is hoped that this agreement can be developed for New Zealand.

A key point to note for the development and implementation of the training and education is to ensure that there is a balance in the education and awareness raising of the construction vehicles and vulnerable road users, is that a balance of education and awareness is provided to the broader community, cyclist groups and the interested by concerned grounds. It was noted in Australia that there could easily be an imbalance with the onerousness on the construction vehicle drivers only, real or perceived by industry. This real or perceived imbalance is detrimental to the implementation of good training, education and awareness of vulnerable users and share responsibility uptake by industry.

Visiting Schedule:

Meeting 1: Tuesday 18th

- Amy Gillett Foundation
    - Phoebe Dunn, Chief Executive Officer
    - Dr Marilyn Johnson, Lead Researcher

Meeting 2: Wednesday 19th

- Rail Projects Victoria
    - Jamie Ross, Director - Safety

Meeting 3: Wednesday 19th

- Transport for Victoria
    - Chris Brennan, Manager Road Safety Planning

Meeting 4: Wednesday 19th

- Bicycle Network
    - Craig Richards, Chief Executive Officer
    - Darren Allen, Chief Operations Officer

Meeting 5: Thursday 20th

- National Road Safety Partnership Programme
    - Jerome Carslake, NRSPP Programme Manger

Teleconference

- Hanson Construction
    - Scott Tipping, National General Manager Logistics

Follow-up notes / actions:

Jamie Ross to provide:

CLOCS-A contract specifications, vehicle specification, Key Performance Indicators for programme deliver, training resources and any other materials that relate to CLOCS-A implementation. Statistics and analysis from the Melbourne Metro Tunnelling business case for CLOCS-A implementation.

Marilyn Johnson to provide:

Training and education materials – developed for CLOCS-A

Research papers on driver licensing

Hanson Construction:

Teleconference to be setup with Cole Andrew – Regional Logistics Manager

Ricard Barter to provide: (Done!)

Share the Road workshop materials with Jamie Ross, Marilyn Johnson and Bicycle Network

Share the Road - System Change - Implementation Plans
Author: James Newton Oct 5th 2018

Engaging with RCA's – Invercargill
Amendments to the NZ Driver Licensing system – Light and Heavy Vehicle Licensing
Industry lead Construction Logistics / Community Safety implementation – Central Rail Link

Plan A

Engaging with RCA's – Invercargill
Invercargill provides Share the Road with an opportunity to case study social change and influence that can be applied across NZ particularly across provincial NZ.

Link to Deliverables[1]: Encourage industry input into cycling infrastructure
3.4 Create opportunities and a network for heavy vehicle companies to have input into cycling infrastructure plans. Some of the companies spoken to as part of this review suggested a better connection between heavy vehicle companies and road designers. 3.5 Profile examples of where cycling infrastructure has made it easier for heavy vehicle drivers to see cyclists

Link to Deliverables: Target high-risk regions
2.6 Identify 2-3 high risk regions to focus on in the next 3-years to achieve a higher concentration of reach across both heavy vehicle drivers and cyclists. Regions with high (or increasing) freight or cyclist movements should be considered. This targeted approach could also be combined with procurement process trialling (e.g. for Auckland's City Rail Link).

	Action	Lead Stakeholder(s)	Description
1	Develop soft approaches to community engagement that promotes StR	• Richard Barter (StR) • Bike Ready Programme Coordinator • Regional Active Transport Manager • School Leadership • Community leadership	Engage with students through the delivery of student-based workshops – Southland Boys High. Seek opportunities to work with other schools or student related cycling events. Engage at community-based events to encourage StR principles and encouraging the uptake of active transport
2	Develop training and integration of StR with ICC Staff and Contractors	• Richard Barter (StR) • Bike Ready Programme Coordinator • Invercargill City Council (ICC) Roading Asset Manager • ICC H&S Manager	Engage Invercargill council staff and roading contractors, creating a cycling friendly environment. It is intended that this will support the development of future cycling infrastructure within the city
3	Support a coordinated approach to encourage the uptake of cycling within Invercargill	• Richard Barter (StR) • Active Transport Manager • Bike Ready Programme Manager	Develop a plan of action to create a new willingness to consider cycling within the city.

[1] Deliverables refer to the recommendations in the Share the Road Review carried out by Mackie Research at the end of the previous contract period June 30th 2018.

		• Southland Cycling Strategy Coordinator • ICC Communications Manager	Support to development of a media campaign to get people cycling within the city or for short trips Reduce the culture within Invercargill that "if you can't find a car park close to your destination, you just drive around the block again until a park is available".
4	Support positive media that encourages the community support for StR	• Richard Barter (StR) • ICC Councillors • Active Transport Manager • H W Richardson Group • Fonterra • ICC Communication Manager • Local media (seek advice from Russell on best media contact)	Support media opportunities to: Engage with leading industry to promote positive StR messaging and the health benefits of cycling. Engage with Councillors to promote active transport and the health / social benefits of active transport
5	Support Invercargill City Council in the development of safe and appropriate cycling infrastructure development	• Richard Barter (StR) • ICC Roading Asset Manager • ICC Councillors • Active Transport Manager • HV Industry	Support and encourage ICC in developing an active cycling network plan and long-term infrastructure plan. Encourage cycling related infrastructure in new developments or asset renewal programmes
6	Support a cross regional approach to StR through the Regional Road Safety Influencing Group	• Richard Barter (StR) • Active Transport Manager • Regional Road Safety Influencing Group (Russell Hawks)	Actively support the regional active transport role, providing resources and knowledge on good cycling practice and StR. Support the development of regional progress reporting, monitoring and continuous development

Engaging with RCA's – Invercargill

Strengths – StR has good experience in working with and through local government
Invercargill is home to HW Richardson

Weaknesses – StR has a limited history with local councils in southland

Opportunities - Openness and willingness of Invercargill City Council - Transport Staff
Invercargill has active mountain biking and cycling clubs
Southland has recently developed an all of region cycling strategy
ICC is appointing a new role focused on active transport
Regional Road Safety Influencing Group is supportive of road safety initiatives / StR opportunities

Threats - Invercargill has a strong vehicle use culture
Limited congestion so vehicle travel time is often much faster

Invercargill is sparsely populated and distances between destinations can be barriers to cycling

Amendments to the NZ Driver Licensing system – Light and Heavy Vehicle Licensing

Link to Deliverables: Embed in driver training qualifications
2.2 Further examine opportunities to embed Share the Road messages into heavy vehicle driver qualifications and unit standards, in partnership with training institutions.

	Action	Lead Stakeholder(s)	Description
1	Identify and engage with key stakeholders that will have a long-term influence on NZ's licencing system change	Richard Barter (StR) NZTA - Principal Advisor, Driver & Operator	Key influences and decision makers need to be identified for change to gain momentum Change will require both government and industry support at various levels.
2	Develop a depository of knowledge and research	Richard Barter (StR)	NZ is willing to accept international research that has been developed be respected research bodies. NZ has a history of using Australian University research for NZ implementation. NZ government needs robust research before considering any change suggested.
3	Develop a depository of education and education resources that supports the new elements required in the licensing system	Richard Barter (StR) NZTA - Principal Advisor, Driver & Operator NZ Curriculum Specialist	Identify and develop relationships with the various key providers for both HV and Light vehicle licensing Establish channels of resources that make it easy for training and education provides to pick up and implement the new materials - e.g. NZQA accredited material, NZ curriculum approved materials, lesson plans etc
4	Develop and test new learning experiences and approaches (in partnership with NZTA – Connected Journeys)	Richard Barter (StR) NZTA Connected Journeys Manager NZTA Education and Channels Manger	Noting NZTA willingness to redevelop approaches to the NZ driver licencing education and testing processes, this is a good channel to test and develop new materials. NZTA has a willingness to develop new approaches using technology to advance transport related outcomes through the new Connected Journeys business unit.

5	Develop and test a series of new questions for including in the Licensing system.	Richard Barter (StR) NZTA - Principal Advisor, Driver & Operator	Engage, development and test new licensing approach with NZTA Implement the new changes to the NZ driver licensing system
6	Monitor and evaluation change and progress	Richard Barter (StR) NZTA - Principal Advisor, Driver & Operator	Develop methodology for monitoring and evaluation of change

Amendments to the NZ Driver Licensing system – Light and Heavy Vehicle Licensing

Strengths – StR has good experience in working with HV industry and has a good working relationship with key stakeholders and NZTA government

Weaknesses – Influencing driver licensing at a systems level is new to StR and requires new learning and development

Opportunities - NZTA is interested in improving the driver licencing system
NZTA is current seeking community feedback on ways to improve driver licensing, training, resourcing and testing
NZTA has a new business unit – Connected Journeys that has an interest in advancing the take-up of technology use for transport outcomes.

Threats - Process requires NZTA approval before anything can be implemented – political change may influence outcomes
Limited evidence of benefits / lives saved etc

Industry lead Construction Logistics / Community Safety implementation – Central Rail Link

Link to Deliverables: Incentivise Share the Road integration
2.1 Increase the focus on incentivising companies and cycling groups to integrate Share the Road into their policies and practices. Trialling it as part of regional or contract requirements, like the Transport for London examples (Appendix B), is strongly recommended. Starting with NZTA (or Auckland Transport) contracts should be considered. Some heavy vehicle companies spoke positively about ACC's Fleet Saver programme – including a Share the Road framework within this programme should be investigated. This was a key Cycling Safety Panel recommendation (Cycling Safety Panel, 2014).

Profile best practice vehicles, technologies, and modifications
3.2 Utilise the networks and relationships built through Share the Road to provide examples of best practice vehicles, vehicle technologies, and modifications to reduce conflicts. For example, driver warning sensors, additional mirrors, and transparent doors to improve direct vision. 3.3 While this is beyond the scope of just the Share the Road campaign, action is needed around retrofitting heavy vehicles to improve safety for pedestrians and cyclists, as well as moving towards fleets with better visibility. Incorporating heavy vehicle standards (through modification of existing fleets or purchase of specific vehicle types) and education factors into procurement requirements (as has Transport for London) is likely to be more effective in reducing injuries and represents a more comprehensive package for stakeholders and companies.

	Action	Lead Stakeholder(s)	Description
1	Continue the development of CRL Contractor(s) using StR Workshops and education	Richard Barter (StR) CRL / Downer Manager	Downer / CRL Alliance have already starting to use the StR Workshops to support HV drivers, this should continue and develop. Seek early feedback and learnings of approach and content from drivers to help understand a NZ construction take up of the education and training.
2	Establish an agreement with TfL CLOCS for the development of a CLOCS-NZ or approval / variation to extend the CLOCS-A MoU to NZ	Richard Barter (StR)	Establish contact with TfL and progress Tfl agreement for NZ. Formalise discussion between CLOCS and CLOCS-A to establish a best way forward for NZ to engage.
3	Collate information and create a depository of knowledge from CLOCS and CLOCS-A	Richard Barter (StR)	Both TfL and ClOCS-A have developed large amounts of research and resources that can be utilised in NZ to fast track implementation. Resources need to be reviewed and checked, included amended where required, for NZ context and use.

4	Establish a NZ programme delivery framework	Richard Barter (StR) Central Rail Link Manger NZTA ConstructSafe Road Transport Forum Industry Representative	Establish a governance group and implementation group to provide oversight of the development. Identify early adopting industry groups to test and trial programme with. Establish programme quality controls and continuous improvement. Establish regular knowledge share opportunities across NZ industry as well as between CLOCS, CLOCS-A and NZ. Establish programme sustainability - how will this programme become self-supporting.
5	Engage with Industry and government to refine a NZ based approach to CLOCS	Richard Barter (StR) Programme governance and working group members	Refine: training and education resources, contract information, procurement recommendations Refine variations of CLOCS for specific industry types – if required
6	Establish a long-term approach to programme implementation and phasing / staging	Programme governance and working group	NZ government has little interest in long term funding of voluntary compliance-based programmes. Programmes need to show to be self-funding either through members or as per CLOCS, its user pays auditing processes. Develop a forward programme of continuous improvement that will benefit the long-term outcomes of safer transport networks and reduce conflict between HV and vulnerable road users.

Industry lead Construction Logistics / Community Safety implementation – Central Rail Link

Strengths – StR has good knowledge of TfL and Richard has meet with TfL a few times
StR has good support and key contacts with CLOCS-A
CLOCS-A will to provide all is developed knowledge and learnings to date, and is keen to share future learnings.

Weaknesses – Influencing a national system change that affects both industry and government is new to StR therefore there is a lot of new learning and development required

Opportunities - Openness and willingness from CRL / Downers to implement a new approach

	Openness from Construct Safe and NZTA to discuss a new approach
Threats -	Possible backlash from industry or a new approach
	NZ HV industry has a lot of programmes with good intention established both little with any longevity
	HV industry is fatigued from new approach and programmes