

TTM webinar

Jointly hosted by Waka Kotahi and the
TTM industry steering group

16 and 18 October 2023

Hoea ki uta

Journey from the mountains

Hoea ki tai

to the sea

Hoea ki te kotahitanga

Journey safely together united

o tātou katoa

as one

Kia māia

Be brave

Kia ngākau aroha

Be caring

Eke panuku

Call upon the unseen forces of

Eke Tangaroa

the land and

Haumi e

sea to inspire success and

Hui e

achievement

TĀIKI E

Come together

Gather together

United together

House keeping

How we'll handle your questions



Recording in
progress



Question?
Please use the
Q&A function at
bottom of your
screen



Follow-up email
with recording and
key questions

Agenda

	Item	Speaker	Time
1.	Welcome	Helen	5 mins
2.	Waka Kotahi update	Ryan Cooney	10mins
3.	TTM industry steering group update	Dave Tilton	10mins
4.	Downer NZ and McConnell Dowell	Sarah Stead Betty Mitrova Clint Hill	20mins
5.	Corde's research on 'Working in the Gap'	Ryan on behalf of Richard Copeland	10mins
4.	Open Q&A	All	15 mins
5.	Close	Ryan	5mins

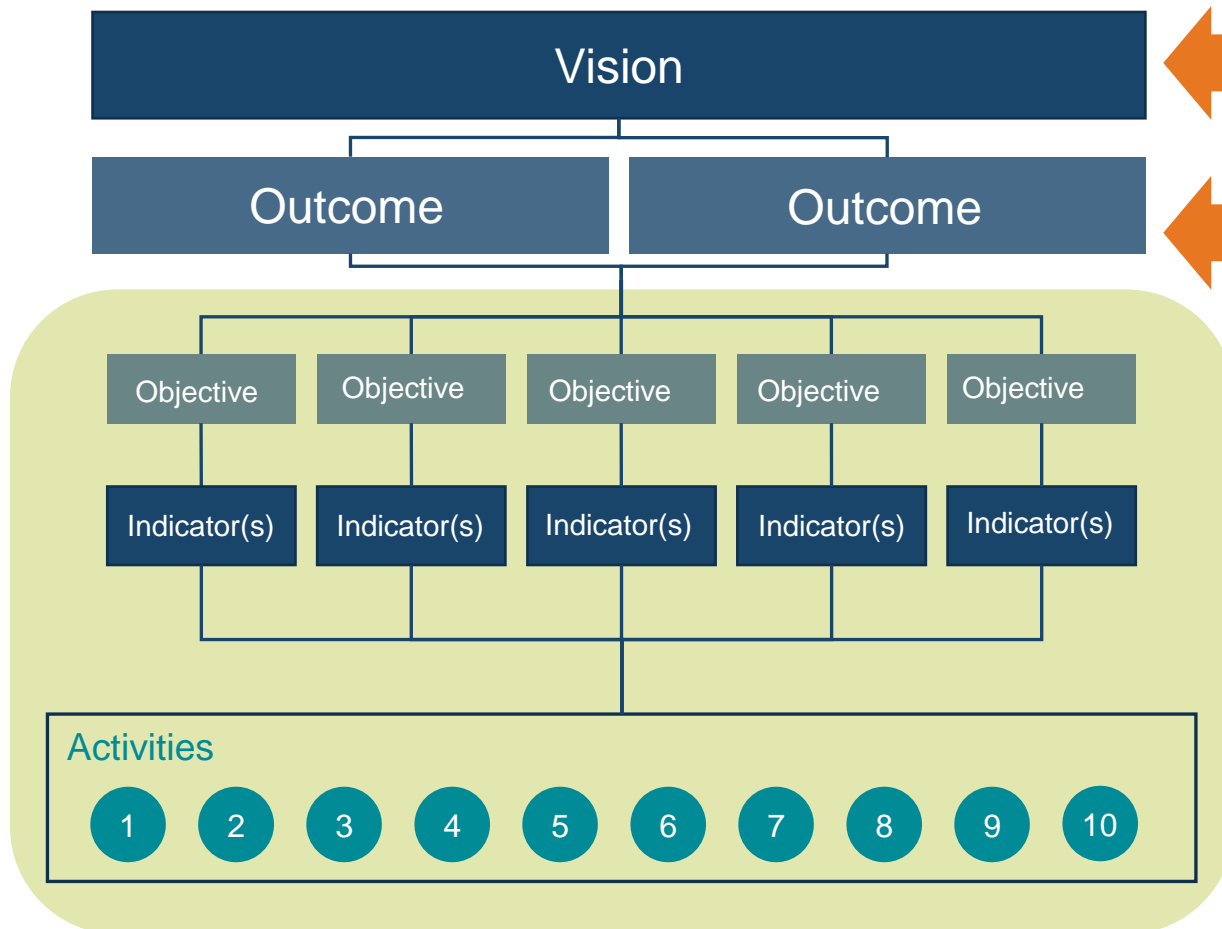
Waka Kotahi update

1. Road works safety improvement programme

2. Pilots on the state highway network

Road works safety improvement programme

Setting our strategic direction for phase 2 of the programme



All workers and road users go home safe every day

Governance group direction

- Capacity of the sector – move as fast as we can, as slow as we need to, to be safe onsite.
- Learn via pilots and iterate.
- Maintain a focus on culture change – sector and community.

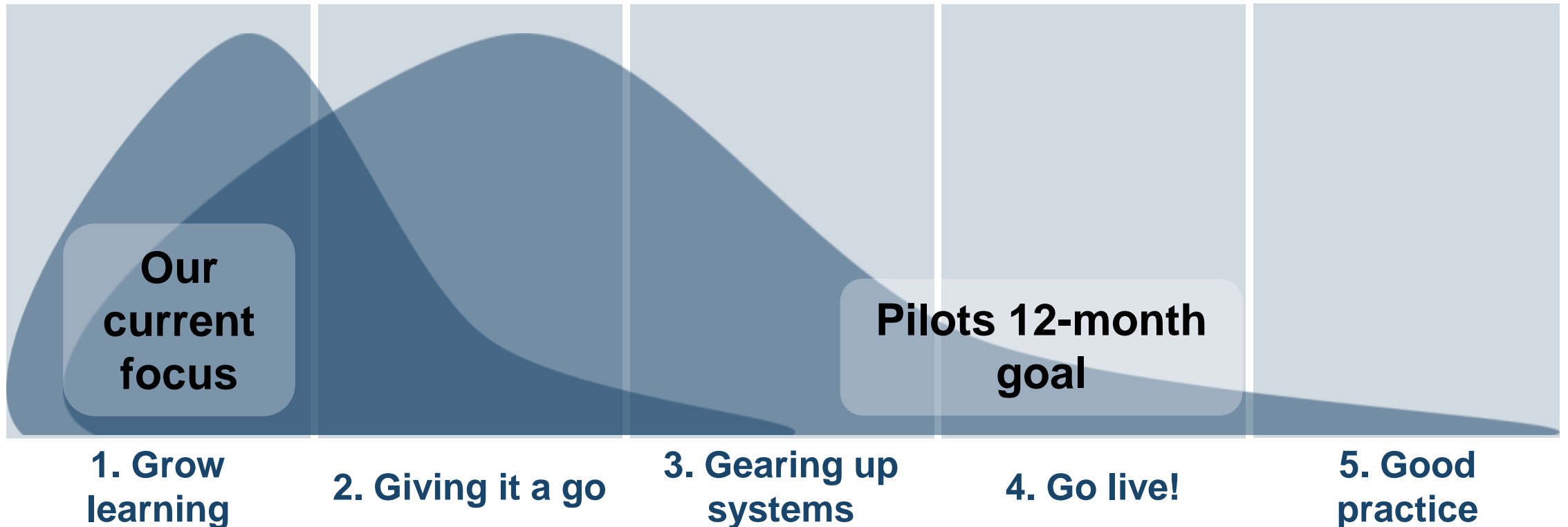
Where we are now

Draft programme – in 12 months we aim to be...

Vision	All workers and road users go home safe every day		
Outcomes	Move as fast as we can, slow as we need to	Learned via trials and iterate	Focused on culture change – sector and community
Objectives	Informed Gained knowledge	Innovating Culture, processes, systems, operations	Engaging Sharing knowledge
	Harm is reducing – Death and serious injury is reducing		
Indicators	<ul style="list-style-type: none"> • # of pilot start up workshops • # of regional engagement sessions • # of sharing sessions during and at end of pilots – to Client leader PCBU's, RCA's and Contractor PCBU's 	<ul style="list-style-type: none"> • # of risk reviews completed – quarterly trend • Customer surveys – quarterly trend • STMS survey completed – awareness of risk • Assurance system – % of safe sites increasing • Value for money 	
Activities	<ul style="list-style-type: none"> • Pilots: M&O Capital ASM AT 	<ul style="list-style-type: none"> • Engagement – various groups • Road works safety cameras • TSL for mobile ops • Planned Event Platform 	<ul style="list-style-type: none"> • Contract Documents review • SMO documents review • ISG support • Innovation fund activities (8)

Pilots on the state highway network

Our supply partners are leading the pathway to adoption



Where are the pilots?

1. Northland – Fulton Hogan

Project plan and initial briefings underway

2. Westlink - WSP

Project plan underway

3. Horowhenua/Manawatu - Higgins

Project plan and initial briefings prepared

4. Marlborough Roads – Fulton Hogan and HEB

Resourcing proposal for agreement

5. North Canterbury – Downer NZ

Risk application submitted and peer review underway

Emerging tasks

New focus areas

- Waka Kotahi Road Controlling Authority (RCA) representative identification
- Waka Kotahi RCA role guidance
- Pilot temperature check process design
- Traffic risk management plan template

A nighttime photograph of a construction site on a road. In the foreground, a large sign with a red and white striped border and a blue circle containing a white arrow pointing down and to the right is visible. The road is lined with orange traffic cones. A dark car with a license plate that reads '8TAKMH' is driving away from the camera. The background shows more traffic cones and a circular sign with the number '07'. The overall scene is illuminated by streetlights and the car's taillights.

TTM industry steering group

October 2023 update

Our purpose

We **connect** and **represent** the TTM industry to provide guidance and enable aligned decision making to ultimately meet the requirements of the Health and Safety at Work Act (2015).

Our focus

Our work streams

Communications & Engagement

Training & Competency (Credentials Framework)

Commercial (Procurement)

Assurance

Good Practice

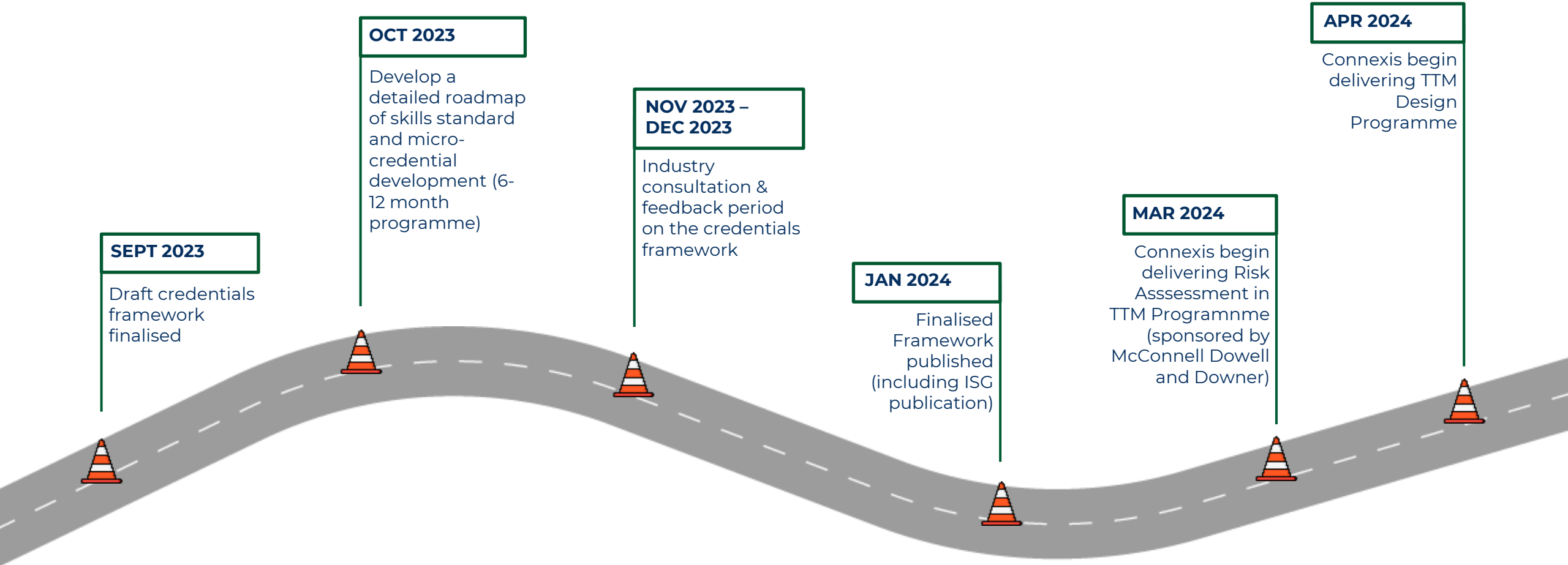
Culture & the 3Cs

6

Workstreams

CREDENTIALS FRAMEWORK

SELECTED KEY MILESTONES



Big picture overview

Pathway to adoption

THE 5G_s



Starting point

Where the individual is coming from

1. Grow Learning

Helping educate and grow understanding about the why and what of the risk based approach

2. Giving it a go

Supporting desktop or physical pilots for the application of risk based approach through contracts, projects or specific work-sites.

3. Gearing up systems

Sharing knowledge and helping set up processes and systems on projects and for organisations to be able to implement a risk-based approach to TTM

4. Go live!

Supporting suppliers and RCAs to fully implement and adopt the NZGTTM approach for their organisation or contracts

5. Good practice

Reinforcing the good practice of the risk based approach, recognizing, sharing and rewarding good practice



Thanks

info@ttm-isg.org

Improvements to TTM for Vulnerable Road Users

Downer | McConnell Dowell

Enforceable Undertakings

Sarah Stead, Senior Legal Counsel, Downer

Betty Mitrova, National Traffic Management Lead, Downer

Clint Hill, General Manager HSE NZ&P, McConnell Dowell

What is an Enforceable Undertaking?

- Agreement by a duty holder to take certain actions to respond to alleged breaches
 - An alternative to prosecution
- Apply to WorkSafe
 - Burden of enforceable undertakings must “bite” to be accepted
- Process involves:
 - Initial suitability assessment by WorkSafe
 - Submission of application covering:
 - Amends to victims
 - Improvements for workers
 - Benefits for industry
 - Benefits for community
- Failure to comply with undertaking is an offence (s126)

The image shows the cover of a form titled "Application for an enforceable undertaking". The form is dark blue with white text. At the top right, there is a vertical label "FORM". The title "Application for an enforceable undertaking" is prominently displayed in the center. Below the title, it says "June 2019". Further down, it references "Part 4, Health and Safety at Work Act 2015" and states "The commitments in this application are offered to WorkSafe New Zealand by". There is a white rectangular box for the applicant's name, with the text "Name of entity or, partnership or individual applying for this undertaking" above it. At the bottom left, it says "New Zealand Government" and at the bottom right, the "WORKSAFE" logo is present with the text "Mahi Haumaruru Aotearoa" below it.

Why?

- On 30 October 2019 a cyclist was killed while travelling along a temporary road in Christchurch.
- Incident highlighted need for industry change.
- Saw an opportunity to work with to industry to bring about a step change in the TTM space.
- On 28 March 2022 Downer and McConnell Dowell entered into separate but aligned Enforceable Undertakings.
- Available on the WorkSafe website - [WorkSafe Accepted Enforceable Undertakings](#)
- Activities in EUs align with and supports WK move to NZGTTM and a risk-based approach



COMMUNITY:

Downer:

- Donation to Table Tennis Canterbury
- Blindzone Training sessions provided by Share the Road
 - Weetbix Tryathalons
 - Schools
 - A&P shows
 - Community cycling groups
- Cyclist awareness campaign
 - Utilising messages on VMS boards

McConnell Dowell:

- Donation to Hagley Community College
- Developing new training content for Bike Ready



WORKERS:

Downer:

- Fleet training 'On Bike' programme delivered by Share the Road
 - Trained 1.150 Class 2 Heavy Vehicle drivers and TTM workers
- Creation of an online risk assessment tool
- Pilot of the NZQA risk assessment training programme

McConnell Dowell:

- Initiate riding through temporary traffic management set ups
- Develop virtual reality traffic management simulator



In conjunction with Next Bike, Downer is running On Bike Workshops across Aotearoa, as part of the Share the Road programme. These workshops are an opportunity for our people, including Class 2 truck drivers and those involved in TTM planning and auditing, to experience life on the road from a cyclist's perspective. We are also running complementary public workshops for cyclists to help them understand the needs of heavy vehicle drivers.

Previous On Bike Workshops



Register your team for an upcoming On Bike Workshop here

Why are we trialling these workshops?
 Downer and Next Bike are committed to ensuring that our employees are confident in understanding and managing the risks of working in temporary traffic management situations. This is a key part of our safety strategy. The workshops provide a practical, hands-on learning experience for our employees, helping them understand the needs of heavy vehicle drivers and the challenges of working in temporary traffic management situations. This is a key part of our safety strategy. The workshops provide a practical, hands-on learning experience for our employees, helping them understand the needs of heavy vehicle drivers and the challenges of working in temporary traffic management situations.

On Bike Workshops Line Manager Information

Site Owners

Catherine Allan
 Bit Team Leader Projects - Transport

BH Bromwyn Howarth
 HSE Co-ordinator

426 attendees to date



Virtual Reality TTM Simulator

INDUSTRY: Risk Assessment Tool (Downer activity)

- Industry interest in an industry risk assessment tool and matrix
- Shared industry wide
 - Will be available on WK and TTM ISG websites
- Free of charge



INDUSTRY: NZGTTM Practice Note for Vulnerable Road Users (Downer and McConnell Dowell activity)

- Developing national guidance in the form of an NZGTTM Practice Note on how to ensure safe passage of vulnerable road users through TTM sites
- Recognised industry need
- In partnership with CCNZ
- Funded by Downer and McConnell Dowell



INDUSTRY: TTM Risk Assessment Qualification (Downer activity)

- Work with industry develop a micro-credential for Risk Assessment in TTM
- Register the qualification with NZQA
- Work with a NZQA registered provider (Connexis) to develop assessment materials
- Prepare a blended learning package for industry-wide use
- Develop and deliver a 'Train the Trainer' workshop



INDUSTRY: Training Fund (Downer and McConnell Dowell activity)

- Downer and McConnell Dowell to sponsor trainees through a Connexis training fund to access the Risk Assessment in TTM Micro-credential
- Nationwide opportunity to share this valuable training package with all of industry



INDUSTRY: CHASNZ Scoping Study (Downer and McConnell Dowell activity)

- Undertake a study of worldwide best practice regarding vulnerable road users' treatment in TTM
- Present the outcomes to government and industry for approval and support of implementation of recommended actions
- Funded and piloted by Downer and McConnell Dowell





Thank you

www.downer.co.nz

www.mcconnelldowell.com





CORDE

Enforceable Undertaking

'Working the Gap'

A risk-based approach to non-invasive work on the Carriageway

Richard Copeland, General Manager,
People and Capability

October 2023



Overview



Incident overview

16 March 2020, a motorcyclist was seriously injured at a cyclic crew worksite on Leader Road East in North Canterbury

CORDE & Worksafe entered into an Enforceable Undertaking as a result;

Financial amends to the injured party

Benefits to workers

Benefits to the community

Benefits to the industry

The task for the Industry element was that;

Under the guidance of Waka Kotahi, CORDE will establish trials to surface and collect data on the effectiveness of various traffic management controls designed to protect road workers and road users undertaking or experiencing cyclic patrol tasks on rural highways.



Benefits to industry

Methodology

We agreed to;

- Trial a range of TMP's so pothole repairs could continue to be done as an Inspection activity in different topographies, representative of the low-volume rural road network of the Hurunui District
- Simulate the work at trial sites & collect "road worker" safety perceptions
- Provide sufficient rigour to give statistically reliable outcomes that
- Respect both the principles of CoPTTM and the risk-based approach maturing at the time
- Explain the risk of working the gap to improve outcomes for road users



Benefits to industry

Acknowledgements;

Waka Kotahi & Ryan Cooney
WorkSafe & Mark Horgan
Road Runner & Todd McQueen
Raewyn Dent & Hurunui District Council
Jessica Young & AgFirst
Modality & James Williams

Coaching & Guidance
Support
TMP and data collection
TMP support
Traffic Loops & Data Loggers
Analysis, Modelling & Reporting



Setup



Pothole repair as an inspection activity

Rules

The inspector must leave the road when a vehicle is seen to be approaching

The inspector must not expect traffic to move or slow to avoid them while on the road

Factors to consider

Vehicle rate per hour day per day of week

Vehicle speed

Vehicle type

Driver reaction to inspection vehicle and inspector

Time required for the inspector to walk on or off the road and to complete the work activity

Number of times the inspector is interrupted and must leave the road



Pothole repair as an inspection activity

Setup

Inspectors simulate doing work activity continuously 0800 – 1200 and 1300 – 1630

Measure vehicles at site, 300m up road, and 300m down road

Control for topography with multiple trials and use spotters to maintain 300m CSD

Measurement locations

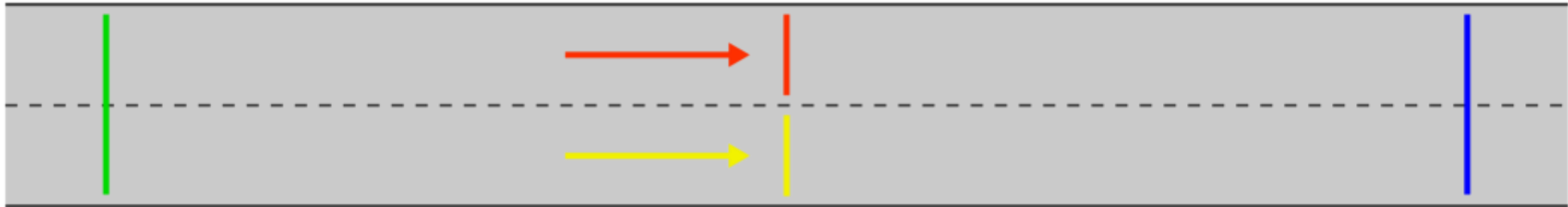
Entry

Site

Exit



Same



Opposite

Entry point across both lanes of road

Separate measurements in each lane at work site

Exit point across both lanes of road



Methodology

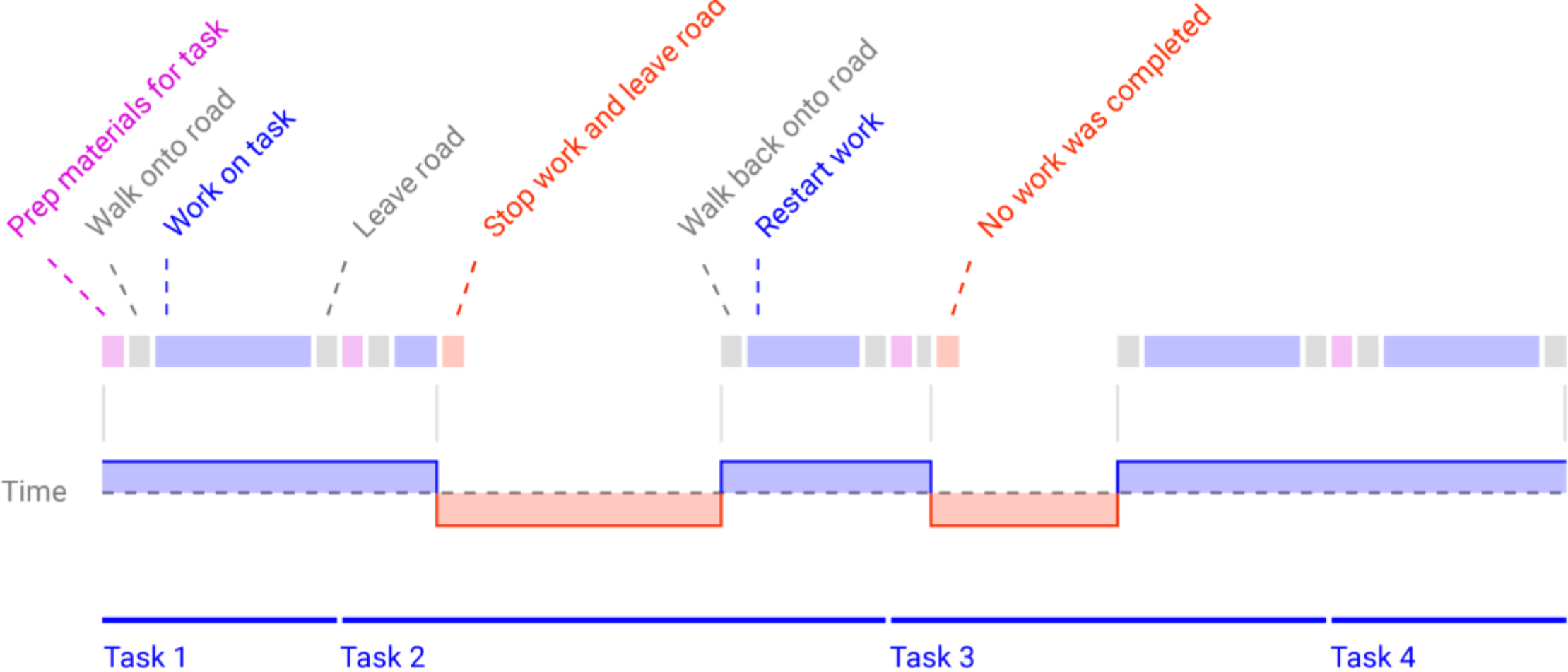
Controls

Time to prep for task	4 seconds
Time to walk on or off the road	4 seconds
Time to complete each task	30 seconds on average per task
Number of tasks per activity	4
Significance level	0.05

Notes

All of these controls can be changed during analysis and modeling
Trial data is compared to control data for the same hour of day and day of week

Work activity





Data collected

Trial #	Road	Topography	Inspection vehicle positioning	TMP
Trial 1	Mount Brown Road	Straight road	2m clear from near side of road	Vehicle and spotter
Trial 2	Mount Brown Road	Straight road	3m clear from center of road	Vehicle and spotter
Trial 3	Ram Paddock Road	Straight road	5m clear from far side of road	Vehicle and spotter
Trial 4	Douglas Road	Bend	70m before bend	+ signage
Trial 5	Maskells Road	Dip	Bottom of dip	+ signage
Trial 6	Reserve Road	Double bend	200m after first bend	+ signage + spotter

Notes

Side roads have been accounted for and any incomplete vehicle measurements have been inferred



Analysis



Analysis

Steps

Identify entry, site, and exit locations relative to inspection vehicle (near lane)

Correct for time drift between measurement stations using a linear model

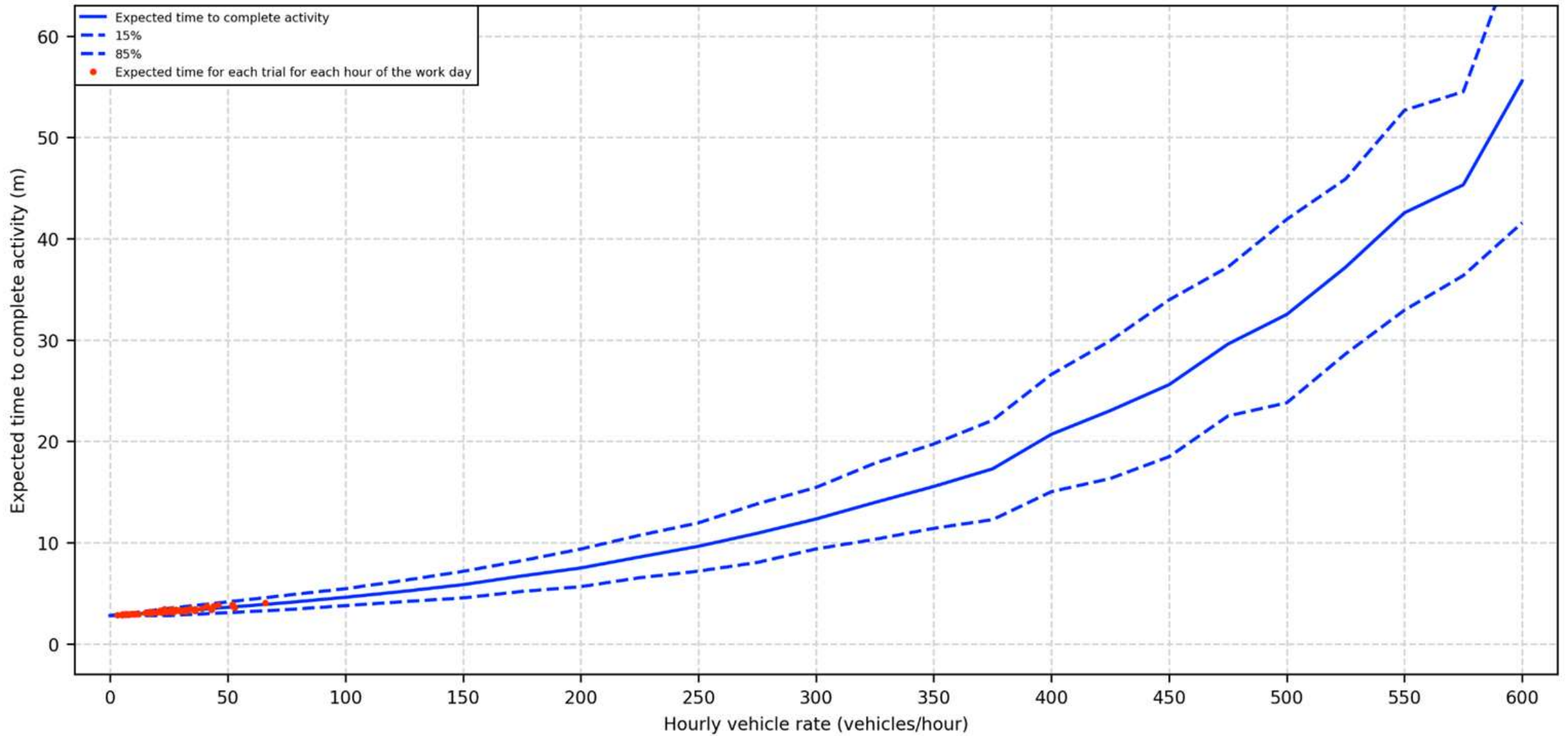
Match vehicles passing through entry, site, and exit locations as much as possible

Calculate statistics and simulate work activity based on assumptions below

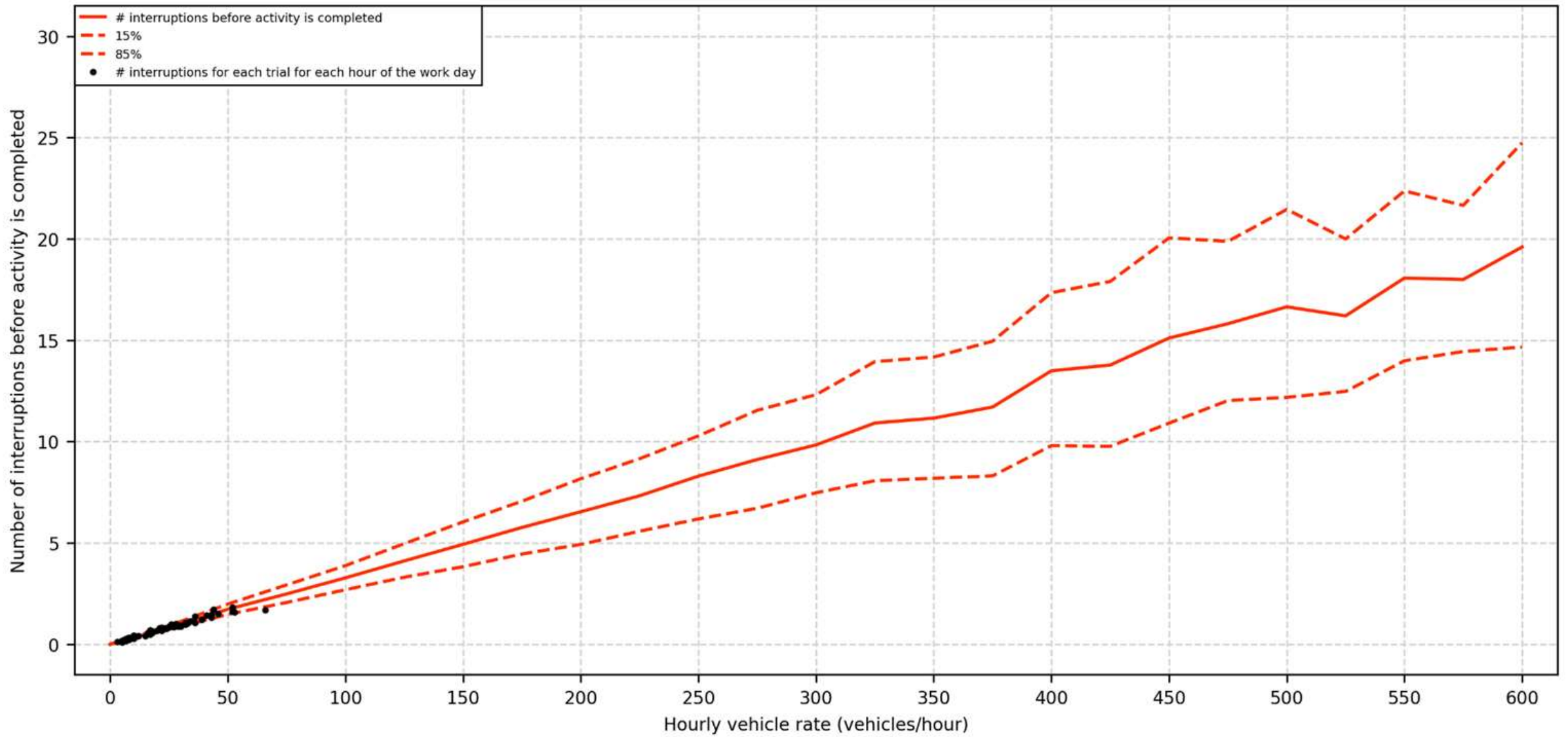


Results

Hourly vehicle rate vs expected time to complete activity



Hourly vehicle rate vs number of interruptions before activity is completed





Conclusions

Findings

Road Worker perceptions of safety were excellent throughout

The work activity can be completed in 5 – 10 minutes on average with 5 - 8 interruptions if the vehicle rate is less than 200 / hour.

The work activity cannot be completed if the vehicle rate is more than 600 / hour.

Travel time from entry to site is 16s on average and 10s minimum, which allows sufficient time for the Inspector to leave the road safely.



Conclusions

Notes

The topography of the road and inspection vehicle proximity reduces vehicle speed and increases driver awareness, which reduces risk overall.



Detailed webinar

A detailed Corde webinar will be held on **Wednesday 25 October at 3:00pm**

A link to the webinar will be included in the Waka Kotahi TTM newsletter sent out following this webinar.



Open Q&A



Closing remarks



18 October
Joint Waka Kotahi
and TTM industry
steering group
webinar



26 October
Industry steering
group meeting

19 October
Road Works Safety
Improvement
Governance Group
meeting



**Next week - TTM
newsletter:**

- Recording of the webinars
- Update from the industry steering group meeting
- Link to Corde webinar



Joint ISG and Waka
Kotahi TTM
workshops

Kia whakairia te tapu

Restrictions are moved aside

Kia wātea ai te ara

So the pathway is clear

Kia tūruki

To return to everyday activities

whakataha ai

Enriched and united

Kia tūruki

whakataha ai

Hui e, tāiki e

Find out more:

nzta.govt.nz/roads-and-rail/new-zealand-guide-to-temporary-traffic-management

Send questions to:
ttm.consult@nzta.govt.nz

