

26 APRIL 2023

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## Appendix E: Traffic Management Plan

This is a subordinate management plan to be used in conjunction with the Project Management Plan

## BYFORD RAIL EXTENSION

Customer: Public Transport Authority of Western  
Australia

Contract Number: PTA200142

Document Preparation and Control	Document Review
Travis Green	Project RTM
Document Approval	Signature

Project Document Code	Latest Version Number	Latest Version Date
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MCN-TR-PLN-T0001	Latest Version Number	Latest Version Date
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Document Version History			
Version No.	Date	Document Status	Brief Description of Change(s) from Previous Version

# Project Traffic Management Plan

BYFORD RAIL EXTENSION

MCN-TR-PLN-000X

Client:	Public Transport Authority WA
Contract number:	TBA
Project:	Byford Rail Extension
Document Number:	MCN-TR-PLN-T0001
Revision:	Draft

Classification: Complex Project Traffic Management Plan



## Declaration:

I, Michael Bone (AWTM Cert No. AUS-AWTM-18-6004-02), declare that I have designed this Traffic Management Plan following a site inspection on 13/01/2021. The Traffic Management Plan is prepared, subject to approved variations, in accordance with the Main Roads Code of Practice, AGTTM and AS1742.3

Signature:



Date:

	Name/Company	Accreditation	Date	Signature
<b>TMP designed by</b>	Michael Bone Strada Consultants	AUS-AWTM-18-6004-02		
<b>RTM Reviewed &amp; Endorsed by</b>	Travis Green Strada Consultants	RTM 037		
<b>Road Authority Authorisation</b>	Road authority authorisation of the implementation of traffic signs and devices is given for Traffic Management Plan MCN-TR-PLN-T0001.			
	Signed Authorised Officer		Date	
	(Print Name)		Position	

## Details Of Revision Amendments

### Document Control

The Project Manager is responsible for ensuring that this plan is reviewed and approved.  
The Project Manager is responsible for updating this plan to reflect changes to the project, legal and other requirements, as required.

### Amendments

Any revisions or amendments must be approved by the Project Manager and/or client before being distributed / implemented.

Revision	Date	Revision Description	Issued
A	14/01/2021	Issued For Internal Review	Michael Bone

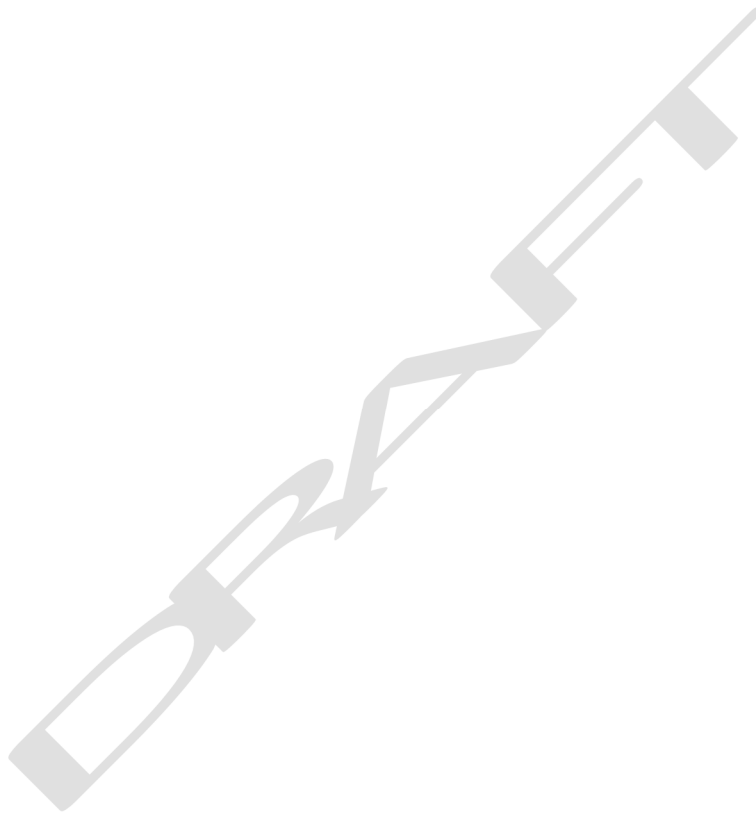
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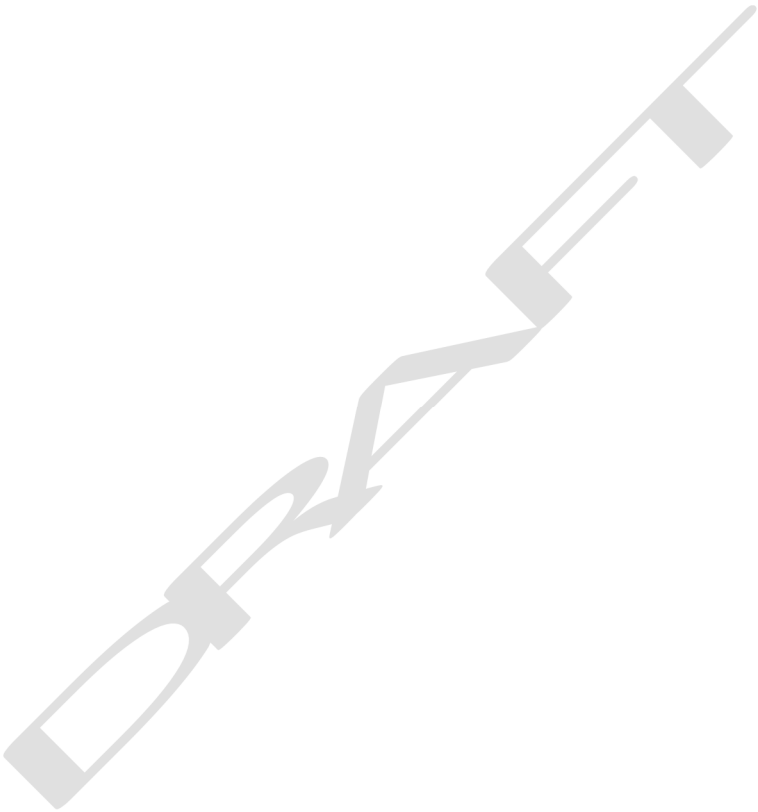




## Glossary

Term	Definition
<b>AGTTM</b>	Austroads Guide to Temporary Traffic Management
<b>AWTM</b>	Advanced Worksite Traffic Management
<b>BWTM</b>	Basic Worksite Traffic Management
<b>CAH</b>	Controlled Access Highway
<b>CAR</b>	Corrective Action Report
<b>COP</b>	Code of Practice
<b>COA</b>	City of Armadale
<b>FWY</b>	Freeway
<b>HVS</b>	Heavy Vehicle Services
<b>HWY</b>	Highway
<b>IFC</b>	Issued For Construction
<b>LGA</b>	Local Government Authority
<b>MRWA</b>	Main Roads Western Australia
<b>OS&amp;H</b>	Occupational Safety and Health
<b>OSOM</b>	Over Size Over Mass Load
<b>PTMP</b>	Project TMP
<b>RNOC</b>	Road Network Operations Centre
<b>RPI</b>	Road Planned Interventions
<b>RSA</b>	Road Safety Audit(or)
<b>RTM</b>	Roadworks Traffic Manager
<b>SCATS</b>	Sydney Co-ordinated Adaptive Traffic System
<b>SIDRA</b>	Signalised and un-signalised Intersection Design and Research Aid
<b>SOSJ</b>	Shire of Serpentine Jarrahdale
<b>SWTC</b>	Scope of Work and Technical Criteria
<b>TCP</b>	Traffic Control Plan
<b>TGS</b>	Traffic Guidance Scheme
<b>TMA</b>	Truck/Trailer Mounted Attenuator
<b>TMP</b>	Traffic Management Plan
<b>TTM</b>	Temporary Traffic Management
<b>VMS</b>	Variable Message Sign

Term	Definition
WTM	Worksite Traffic Management



## 1. Introduction

### 1.1. Project Scope

The project will deliver a significant upgrade to both rail and road transport modes within the Servicing Perth's southern suburbs.

The PTA summary of the project follows:

Since the 1890's, Byford has been a farming community at the south-eastern edge of Perth. Byford was originally named Beenyup and was changed in 1920. Byford's Beenyup Brook remains of historical and cultural significance to the area and its influence will be a consideration in the overall project design.

Scoping and concept design is underway for the Byford Rail Extension, which will look at:

- a new ground level Byford Station within the future Town Centre, approximately 400 metres north of Abernethy Road;
- Investigations underway for the existing level crossings between Armadale and Byford.
- up to 600 passenger parking bays, new bus interchange and a new pedestrian connection across the rail line accessible from the station;
- reconfigured track alignment within the existing Armadale Station including an upgraded pedestrian overpass;
- a new platform for the Australind regional rail service at Armadale Station;
- Thomas Road level crossing will be reconfigured to a road-over-rail bridge

The new ground-level Byford Station will be built within the existing rail corridor, south of Evans Way and 400 metres north of Abernethy Road.

This location was selected after considerable planning and working with the Shire of Serpentine-Jarrahdale to make the most of development opportunities in the growing town centre, future connections, constructability and community impact, to seamlessly connect Byford residents to the Perth CBD.

In addition to taking cars off the road, the project will further help improve traffic flow by reconfiguring Thomas Road into a road-over-rail bridge.

The State Government is also investigating expanding the Byford Rail Extension project scope to potentially include elevated rail in the Armadale and/or Byford town centres.

### 1.2. Objectives and Strategies

The objectives of the Traffic Management Plan is to ensure:

- The safety of the road workers.
- All road users, including vulnerable road users, are safely guided around, through or past the work site.
- The performance of the road network is not unduly impacted and the disruption and inconvenience to all road users are minimised for the duration of the works.

- Impacts on users of the road reserve and adjacent properties and facilities are minimised.

In an effort to meet these objectives the Traffic Management Plan will incorporate the following strategies:

- Providing a sufficient number of traffic lanes to accommodate vehicle volumes.
- Ensuring delays are minimised.
- Ensuring all road users are managed including motorists, pedestrians, cyclists, people with disabilities and people using public transport.
- Ensuring work activities are carried out sequentially to minimise adverse impacts.
- Provision will be made for works personnel to enter the work area in a safe manner in accordance with safety procedures.
- All entry and exit movements to and from traffic streams shall be in accordance with the requirements of safe working practices.

### 1.3. Integration with Traffic Control Plans

Due to the nature of this project, it is not possible to include details for all of the planned works in this document. Instead, addendums to this TMP will be created, referred to as Traffic Control Plans. These will follow the same structure as a TMP, but will contain site-specific information, including risk analysis, traffic volumes and flow analysis, work overviews, impact on road users, and Traffic Guidance Schemes (TGSs).

The TCPs are to be read in conjunction with the Project TMP. With this in mind, numerous sections of the TCP will be omitted, as they are duplicates of the corresponding section in the Project TMP. These section headings will remain, but will simply refer the reader to the Project TMP document.

The process for the development and implementation of Traffic Control Plans is found in section 11.

There are a number of key considerations, which should be addressed in TCPs including:

- Staging of the works and the concurrence of activities in the network. It may call for a network analysis and the network performance to be agreed for the TCP
- The need for temporary road designs based on agreed criteria, which include horizontal and vertical alignment requirements, minimum lane widths, grades, street lighting and drainage requirements, which are to be achieved
- Suitable segregation between traffic and construction works based on risk assessment standard scenarios or specific risk assessments
- Maintaining existing levels of functionality and capacity at any existing intersections which are temporarily relocated to facilitate construction activities
- Swept path analysis of all vehicle classes through planned diversions particularly at relocated intersections or changes in horizontal alignment.
- Safe passage for all road users
- Safe access and egress locations for construction traffic and the interface with public road users
- Suitable soft or hard barriers treatments

- Inform road users through adequate signage of the change implemented and of alternative routes available
- Consider the safest way to set up, implement and remove the traffic control measures
- To provide protection to workers, visitors, agents of Main Roads and the general public from traffic hazards
- To reduce crime likelihood
- To prevent adverse impact to users of the road reserve and adjacent properties and facilities to be minimised
- Maintain relationship with various stakeholders that may be impacted by the works and communicate the implementation of the TCP.

## 1.4. Best Practice Strategy

To help meet the objectives of the TMP, MetCONNx aims to incorporate best practice traffic management products and devices into the works and improve on how these products, which are being used elsewhere in Australia and overseas, can be used on this project. The following table identifies some of the best practice methods, which will be used on this project.

Description	Existing Traffic Management Products / Code of Practice	Best Practice Requirement
<b>Electronic Roadwork Warning Signage and Travel Information</b>	Trailer mounted variable message signs (VMS) are to be used extensively during the works to provide warning, information, advice and direction to road users	Where the requirement to place VMS signs is identified as part of the planning process, VMS will be placed on approaches and throughout the work area to enable motorists to make informed decisions to either travel through the site or avoid the area via alternative routes. This information can include: Advance warning Incident notifications Lane status (available lanes, and configuration) Suggested alternative routes Current work and resulting changes All VMS will have the ability to remotely configure messages reducing the need for workers to be exposed to traffic
<b>Segregation and Protection During Operations</b>	Vehicle mounted attenuators (rate at minimum TL3 represent global best practice for the deployment and	Vehicle mounted attenuators shall be used in accordance with the <i>Guidelines for the use of Truck Mounted Attenuators in WA</i> .

## Project Traffic Management Plan

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Description	Existing Traffic Management Products / Code of Practice	Best Practice Requirement
	operation of traffic management	
	Waterfilled or Steel Barriers to segregate traffic and workers	MRWA approved barriers and end terminals are to be used. System selection shall be based on requirements such as dynamic deflection zones in regards to work zones and ability to install the system to manufacturers recommendations.

## 2. Project Overview

### 2.1. Location

The project includes both rail and road works from the existing Sherwood Station and extending through to the Armadale Station and extending rail 88km south to the Byford town centre, terminating in the vicinity of the Abernethy Road Crossing.

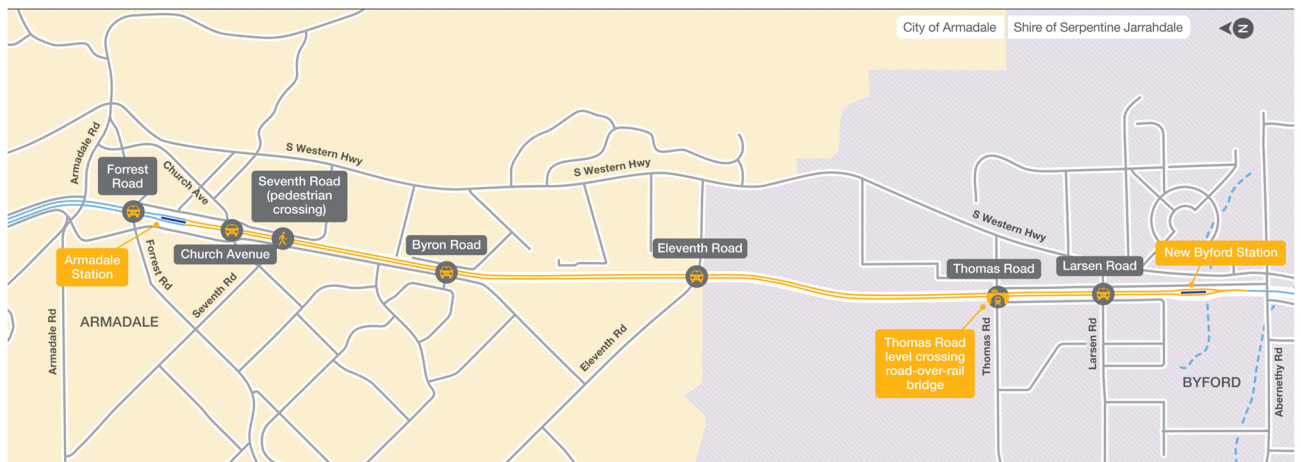


Figure 1 – Site location

## 2.2. Project Details, Site Assessment and Site Constraints/Impacts

<b>Project Title</b>	Byford Rail Extension
<b>Location</b>	<p>Armadale Rail line corridor: Sherwood Station to Byford Town Centre.</p> <p>Road interface at the following level crossings:</p> <ul style="list-style-type: none"> <li>- Armadale Road.</li> <li>- Forrest Road/Third Road</li> <li>- Church Ave</li> <li>- Byron Road</li> <li>- Eleventh Road</li> <li>- Thomas Road (Currently under works by others)</li> <li>- Larsen Road</li> <li>- Abernethy Road</li> </ul>
<b>Road Classification, Existing Speed Limit</b>	<ul style="list-style-type: none"> <li>- Armadale Road: Primary Distributor/State Road, 70km/h</li> <li>- Forrest Road: District Distributor B, 60km/h</li> <li>- Third Road: Local Distributor, 40km/h</li> <li>- Church Avenue: District Distributor B, 50km/h</li> <li>- Byron Road: Local Distributor, 50km/h</li> <li>- Eleventh Road: District Distributor B, 80km/h</li> <li>- Larsen Road: Local Distributor, 50km/h</li> <li>- Abernethy Road: Local/Regional Distributor, 60km/h</li> </ul>
<b>Road Authority</b>	City of Armadale, Shire of Serpentine Jarrahdale, MRWA
<b>Local Government</b>	City of Armadale, Shire of Serpentine Jarrahdale
<b>Client</b>	Public Transport Authority
<b>Main Contractor</b>	the other existing level crossings.
<b>Sub-Contractor</b>	TBC
<b>Scope of Works</b>	<ul style="list-style-type: none"> <li>- A new ground level Byford Station within the future Byford Town Centre, approximately 400 metres north of Abernethy Road, Byford.</li> <li>- Up to 600 passenger parking bays, new bus interchange and new pedestrian connection across the rail line accessible from the station. Reconfigured track alignment within the existing Armadale Station including an upgraded</li> </ul>



	<p>pedestrian overpass. A new platform for the Australind regional rail service at Armadale Station.</p> <ul style="list-style-type: none"> <li>- Thomas Road level crossing will be reconfigured to a road-over-rail bridge.</li> <li>- Options are still being considered for the other existing level crossings.</li> </ul>
<b>Staging of Works</b>	Project will be delivered in a number of zones and the staging of these stages will be developed and detailed within task/area specific Traffic Control Plans (TCP)
<b>Project Dates</b>	Late 2022 to 2025
<b>Hours/Days of Work</b>	Monday to Saturday 7am to 7pm
<b>Traffic Management Implementation</b>	TBC
<b>Project Duration</b>	24 months
<b>Site Constraints</b>	<p>The following constraints have been taken into consideration in the design of this TMP:</p> <ul style="list-style-type: none"> <li>- Live traffic on the adjacent local road networks</li> <li>- Volumes of traffic on existing routes (including effects from local schools, shopping centres, and recreational facilities)</li> <li>- Site access from local road network</li> <li>- Movement of special loads (OSOM Rail viaduct and structure components)</li> <li>- Construction activity requirements</li> <li>- SWTC requirements</li> </ul>
<b>Concurrent/Adjacent Works or Projects</b>	None Known that directly interface.

## 2.3. Existing Traffic and Road Environment

Item	Description
Traffic Volume and Composition	<b>Armadale Road (east of level crossing)</b> 23,205 vehicles per day (East and westbound combined) Peak 0800-0900 (1130vph eastbound) Peak 1500-1600 (908vph westbound) 8.8% heavy vehicles.
	<b>Forrest Road (west of level crossing)</b> 8,013 vehicles per day (East and westbound combined) Peak 0800-0900 (424vph eastbound) Peak 1500-1600 (366vph westbound) 4.2% heavy vehicles.
	<b>Church Ave</b> No Data Available from MRWA Traffic Map.
	<b>Eleventh Road (West of SW Hwy)</b> 2,224 vehicles per day (East and westbound combined) Peak 0800-0900 (109vph eastbound) Peak 1500-1600 (109vph westbound) 6.4% heavy vehicles.
	<b>Larsen Road (West of SW Hwy)</b> 2,224 vehicles per day (East and westbound combined) Peak 0800-0900 (163vph eastbound) Peak 1500-1600 (197vph westbound) 6.4% heavy vehicles.
	<b>Abernethy Road (East of Soldiers Rd)</b> 12,519 vehicles per day (East and westbound combined) Peak 0800-0900 (615vph eastbound) Peak 1500-1600 (534vph westbound)

Item	Description
<b>Existing road configuration</b>	<p><b>Armadale Road</b> Dual Carriageway - Dual lane per carriageway Arterial Road.</p> <p><b>Forrest Road</b> Single Carriageway – Single lane per direction, legacy format Local Road.</p> <p><b>Church Ave</b> Single Carriageway – Single/dual lane per direction, legacy format Local Road.</p> <p><b>Byron Road</b> Single Carriageway – Single lane per direction, legacy format regional link Road.</p> <p><b>Eleventh Road</b> Single Carriageway – Single lane per direction Legacy format Regional Road.</p> <p><b>Larsen Road (West of SW Hwy)</b> Single Carriageway – Single lane per direction Legacy format Regional Road. (Now located within rapidly developing Urbanised residential area)</p> <p><b>Abernethy Road (East of Soldiers Rd)</b> Single Carriageway – Single lane per direction Legacy format Regional Road. (Now located within rapidly developing Urbanised area)</p>
<b>Existing pedestrian / cyclist facilities</b>	Various levels and availability of pedestrian and cycling facilities throughout the project, management of pedestrian and cycling facilities shall be detailed within works specific TCP's

## 2.4. Overview of Proposed TTM

Item	Description
<b>Temporary Traffic Management Descriptions</b>	Separate Traffic Control Plans (TCPs) will be developed as addendums to this Traffic Management Plan for implementation of individual traffic management scenarios. These will include both complex and non-complex plan.

Item	Description
<b>Speed zone dates and times</b>	Speed zone dates and times will be detailed in individual TCPs.
<b>Lane Closures dates and times</b>	Lane closure dates and times will be detailed in individual TCPs.
<b>Road Closures dates and times</b>	Road and ramp closure dates and times will be detailed in individual TCPs.
<b>Signal modifications description</b>	Signal modifications will be detailed in individual TCPs, where required.
<b>Proposed lane widths</b>	3.1m minimum
<b>Road Safety Barrier</b>	Road safety barrier type and design will be detailed in individual TCPs, where required.

## 2.5. Project Representatives

Position	Name	Contact Details
Road Authority Representative	TBA Main Roads Western Australia	Address: Phone: Mobile: - Email:
Local Government	City of Armadale	Address: 7 Orchard Ave Armadale WA 6112 Phone: 9394 5000 Email: info@armadale.wa.gov.au
Local Government	Shire of Serpentine Jarrahdale	Address: 6 Paterson St Mundijong WA 6123 Phone: 9526 1111 Email: info@sjshire.wa.gov.au
Project Manager	TBA MetCONNx	Address: Phone: Mobile: Email:
Site Superintendent	TBA MetCONNx	Address: Phone: - Mobile: Email:
Traffic Manager	TBC TBC	Address: - Phone: - Mobile: - Email: -
Traffic Management Implementation Provider	TBC TBC	Address: - Phone: - Mobile: - Email: -

MetCONNx have engaged Strada Road Project Consultants Pty Ltd to prepare this Traffic Management Plan and associated controls for the works.

### 3. Risk Management

To clearly understand the risks associated with the traffic environment and the way identified hazards will be managed, we have prepared the following risk schedule which outlines the risk management processes for traffic issues associated with construction activities at the project sites. The assessment process has been undertaken in accordance with AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines.

Risk assessment assumes the worst case scenario should the risk occur. Assessment of likelihood is based on the assumption that no risk control is in place. This defines the expected risk should no traffic management be undertaken or if traffic controls fail.

The risk controls proposed are based on the evaluation of the risks associated with specified events and application of the appropriate level of control necessary to bring risk levels to a point that is as low as is reasonably practicable. Wherever possible, risk control is based on the desirable hierarchy of control – elimination of the hazard, substitution with a less hazardous activity, provision of engineering controls and provision of management controls.

Detailed planning for developing site specific traffic control plans during the course of the works will identify and assess site specific risks.

### 3.1. Risk Classification Tables

The following criteria sourced from Main Roads Specification 202 Annexure B shall be used in the assessment of all risks associated with the Traffic Management Plan.

#### Qualitative Measures Of Consequence Or Impact

Level	Descriptor	Description
1	Insignificant	Mid-block hourly traffic flow per lane is equal to or less than the allowable lane capacity detailed in AGTTM. No impact to the performance of the network. Affected intersection leg operates at a Level of Service (LoS) of A or B No property damage
2	Minor	Mid-block hourly traffic flow per lane is greater than the allowable road capacity and less than 110% of the allowable road capacity as detailed in AGTTM. Minor impact to the performance of the network. Intersection performance operates at a Level of Service (LoS) of C Minor property damage
3	Moderate	Midblock hourly traffic flow per lane is equal to and greater than 110% and less than 135% of allowable road capacity as detailed in AGTTM. Moderate impact to the performance of the network. Intersection performance operates at a Level of Service (LoS) of D Moderate property damage
4	Major	Midblock hourly traffic flow per lane is equal to and greater than 135% and less than 170% of allowable road capacity as detailed in AGTTM. Major impact to the performance of the network. Intersection performance operates at a Level of Service (LoS) of E Major property damage
5	Catastrophic	Midblock hourly traffic flow per lane is equal to and greater than 170% of allowable road capacity as detailed in AGTTM. Unacceptable impact to the performance of the network. Intersection performance operates at a Level of Service (LoS) of F Total property damage.

## OSH Qualitative Measures Of Consequence Or Impact

Level	Descriptor	Description
1	Insignificant	Minor first aid treatment required. Immediate return to work.
2	Minor	Minor medical treatment required. Not a lost time injury.
3	Moderate	Medical treatment required. Lost time injury. WorkSafe report not required.
4	Major	Significant injuries. Hospitalisation required. WorkSafe report required. Permanent and severe disablement. Fatality.
5	Catastrophic	Multiple fatalities.

## Qualitative Measures Of Likelihood

Level	Descriptor	Description
A	Almost certain	The event or hazard: is expected to occur in most circumstances, will probably occur with a frequency in excess of 10 times per year.
B	Likely	The event or hazard: will probably occur in most circumstances, will probably occur with a frequency of between 1 and 10 times per year.
C	Possible	The event or hazard: might occur at some time, will probably occur with a frequency of 0.1 to 1 times per year (i.e. once in 1 to 10 years).
D	Unlikely	The event or hazard: could occur at some time, will probably occur with a frequency of 0.01 to 0.1 times per year (i.e. once in 10 to 100 years).
E	Rare	The event or hazard: may occur only in exceptional circumstances, will probably occur with a frequency of less than 0.01 times per year (i.e. less than once in 100 years).

**IMPORTANT NOTE:** The likelihood of an event or hazard occurring shall first be assessed over the duration of the activity (i.e. “period of exposure”). For risk assessment purposes the assessed likelihood shall then be proportioned for a “period of exposure” of one year.



Example: An activity has a duration of 6 weeks (i.e. “period of exposure” = 6 weeks). The event or hazard being considered is assessed as likely to occur once every 20 times the activity occurs (i.e. likelihood or frequency = 1 event/20 times activity occurs = 0.05 times per activity). Assessed annual likelihood or frequency = 0.05 times per activity x 52 weeks/6 weeks = 0.4 times per year. Assessed likelihood = Possible.

## Qualitative Risk Analysis Matrix – Risk Rating

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
Almost certain (A)	Low 5	High 10	High 15	Very High 20	Very High 25
Likely (B)	Low 4	Medium 8	High 12	Very High 16	Very High 20
Possible (C)	Low 3	Low 6	Medium 9	High 12	High 15
Unlikely (D)	Low 2	Low 4	Low 6	Medium 8	High 10
Rare (E)	Low 1	Low 2	Low 3	Low 4	Medium 7

## Management Approach For Residual Risk

Residual Risk Rating		Required Treatment
<b>VH</b>	<b>Very High Risk</b>	Unacceptable risk. HOLD POINT. Work cannot proceed until risk has been reduced.
<b>H</b>	<b>High Risk</b>	High priority, OSH MR and Roadworks Traffic Manager (RTM) must review the risk assessment and approve the treatment and endorse the TCD prior to its implementation.
<b>M</b>	<b>Moderate Risk</b>	Medium Risk, standard traffic control and work practices subject to review by accredited AWTM personnel prior to implementation.
<b>L</b>	<b>Low Risk</b>	Managed in accordance with the approved management procedures and traffic control practices.

# Project Traffic Management Plan

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Item	Risk Event	Consequence	Pre – treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
1	Traffic flows (speed and volumes) may create a risk of collision with other vehicles on the road, pedestrians, construction vehicles and construction personnel.	Injury to road users and work personnel.	C	4	H12	Temporary speed zones to be implemented approaching and passing the works.	E	3	L3
2	Incorrectly designed and / or installed traffic control may result in inadequate protection of the worksite with a subsequent increased potential for crashes and injury.	Potential injury to road users.	C	3	M9	Qualified and experienced personnel have been employed in the preparation of the TMP and associated TGSs and experienced personnel will be used to implement and maintain the traffic control onsite.	E	3	L3
3	Weather conditions may result in a decreased readability of the traffic control delineation and signage and may increase the potential for crashes.	Injury to road users.	D	3	L6	The TMP requires that the Contractor undertakes a daily inspection of the traffic control and make adjustments as are necessary to ensure effectiveness is maintained. Experienced personnel specialising in the erection and maintenance of traffic control will be used. All signage shall be Class 1 retro-reflective.	E	3	L3

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Item	Risk Event	Consequence	Pre – treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
4	Construction activities necessitating lane closures resulting in congestion	Unacceptable delays to road users, resulting in damages to client and contractor reputation.	B	4	VH16	Lane closures will only be implemented at times when existing traffic volumes are low enough to support them.	D	4	M8
5	Excavations and hazards associated with the works being inadequately protected causing property damage / injury to workers.	Injury to road users	B	4	VH16	Temporary road safety barriers will be installed to protect road users from excavations. Excavations that are not protected by a barrier will be protected and delineated as per Table D1 of AS1743.2.	D	4	M8
6	Congestion resulting from roadworks creates increased traffic flows in adjacent local network resulting in adverse public feedback.	Damage to client and contractor reputation.	B	3	H12	Public relations campaign will keep stakeholders informed of likely impacts.	C	3	M9
7	Worker may be struck by errant vehicles during the setting out of traffic management control devices.	Resulting in injury to works personnel.	C	4	H12	Traffic control devices are set out in accordance with AGTTM. 2.5.3 and approved safety procedures. When deploying traffic devices, traffic control personnel shall be shadowed by the traffic control ute/vehicle on at all times.	D	4	M8
8	Temporary lane alignments may restrict passage width for Heavy and Oversized vehicle routes.	Property damage and injury to road users.	B	3	H12	Where possible all existing vehicle classes shall be accommodated within temporary alignments. The details of trafficable width restriction of each site specific TMP shall be communication to MRWA HVS and local industry.	D	3	L6

# Project Traffic Management Plan

BYFORD RAIL EXTENSION

MCN-TR-PLN-000X

Item	Risk Event	Consequence	Pre – treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
9	Road Safety Barrier segment ends installed within clear zone.	Potential injury to road users.	B	4	VH16	All barrier ends located within clear zones are fitted with appropriate crash rated end-treatments to reduce the consequences associated with impact by an errant vehicle.	D	4	M8
10	Construction activity causing an obstruction to or requiring Emergency Services.	Resulting in delays and failure to respond to emergencies in times and fatalities.	C	4	H12	The site specific TMP will outline the consultation and communication mechanisms undertaken with emergency services and how these services will be managed.	D	4	M8
11	Undertaking works at night time increase the risk for TC to suffer of fatigue due to changes on natural clock, reducing their performance and attention.	Attention and response reduction may create hazard for themselves and road users.	C	3	M9	TC to be instructed and informed in advanced in regard to the night shift. TC to be prepared, well rested and fit to work.	D	3	L6
12	Undertaking works at night time will reduce TC visibility for upcoming traffic and may be getting hit by vehicles.	Serious injury to Traffic Controllers.	C	4	H12	Traffic Controllers to have luminous wands on hand. All personnel are to wear hi-vis clothing. At all times Traffic Controllers shall be well illuminated by portable floodlights, street lighting or car headlights. The light source must be angled or shielded to minimize glare to approaching traffic. All signs to be Class1 retro reflective. Workers to wear high vis vests. If work area in not sufficiently illuminated, lighting towers shall be used.	E	4	L4

# Project Traffic Management Plan

BYFORD RAIL EXTENSION

MCN-TR-PLN-000X

Item	Risk Event	Consequence	Pre – treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
13	Drivers may be distracted and run off the road if trying to read Variable Message Signs (VMS) with too much information showing on several screens.	Causing injury to driver.	C	3	M9	Use two (2) alternating screens only, with a maximum of four (4) words per screen. VMS Boards to be placed in strategic locations to ensure they can be clearly visible to the oncoming vehicles.	E	3	L3
14	The interaction of work personnel with through traffic may result in increased potential for conflict and serious injury.	Injury to work personnel.	B	4	VH16	The TMP provides for temporary traffic controls to be installed around the work site which will eliminate conflict. Traffic Control is to be installed and maintained by appropriately qualified and experienced personnel.	D	3	L6
15	Community complaints due to noisy night works.	Adverse public reaction and reputation damage.	C	2	L6	Apply for and obtain approval of Noise Permit from LGA for the works. Refer to relevant Community engagement and noise management project plans. Where possible minimise noisy works at night.	D	2	L4

# Project Traffic Management Plan

BYFORD RAIL EXTENSION

MCN-TR-PLN-000X

Item	Risk Event	Consequence	Pre – treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
16	Workers driving their vehicles into and parking in the work area may have interactions with mobile plant equipment and/or other road users.	Potential injury to workers	C	3	M9	Parking at work sites will be minimised, with most workers parking at the project office, then being driven to the specific work area.	D	3	L6
17	Weather and/or errant drivers may knock over temporary traffic management including cones/bollard and signs.	Confusion for drivers Potential injury to road users	B	3	H12	Any long-term traffic controls (longer than 24 hours) will be weighed down with sandbags (or addition bases for bollards/cones). Traffic crews will do routine maintenance drive through with aftercare drawings to ensure all devices are in good condition and positioned correctly. Where possible, devices in areas that are hard to maintain will be permanently fixed in place (eg. bolt-down bollards or post-mounted signs).	D	3	L6
18	Construction traffic entering and leaving the construction site creating a potential traffic hazard.	Unacceptable delays. Adverse public reaction	A	4	H20	Site entry and exit points will be provided in strategic locations. Spotters may be utilised as required to direct and assist construction traffic.	C	3	M9
19	Workers may be hit by vehicles during the setting out of traffic management control devices.	Injury to work personnel and property damage.	C	4	H12	Traffic control devices are to be set out in accordance with AGTTM and approved safety procedures.	C	3	M9

# Project Traffic Management Plan

BYFORD RAIL EXTENSION

MCN-TR-PLN-000X

Item	Risk Event	Consequence	Pre – treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
20	Fire of adjacent bushland near/in the site.	Injury to road workers and road users.	E	5	M7	The site-specific TCP will outline the consultation and communication mechanisms undertaken with emergency services and how these services will be managed to address the potential of fire. MetCONNx will have watercarts available for use if deemed safe.	E	3	L3
21	Road works may adversely impact on property access to adjacent properties.	Adverse public reaction Injury to road workers and road users.	D	3	L6	The TMP and TCPs provide for consultation with property owners prior to commencement of works to agree access requirements. Daily audits will ensure agreed property access is maintained during the works.	E	3	L3
22	Works scope includes temporary closure of level crossings. Closure of one of the limited traffic connections across the Rail corridor may have adverse impacts to traffic efficiency and emergency access to the Armadale Town centre	Adverse Public reaction. Increased travel times.	A	4	H20	Closure of level crossings will be undertaken sequentially to ensure that proximal access arrangements are always maintained. Road users and stakeholders shall be provided with on-going information on access configurations via the community engagement team.	D	3	L6
23	Delivery of large prefabricated structural components requiring over size or over mass vehicle trips on local access streets.	Possible obstruction to access routes, Unacceptable delays. Adverse public reaction.	B	3	H12	Detailed assessment and traffic planning of special vehicle movements shall be undertaken as part of the specific stage/task planning. Specific TCP likely to be required to be prepared to cover special movements.	C	3	M9

## 4. Traffic Management Planning and Assessment

### 4.1. Traffic and Speed Data

A summary of recent traffic data is provided below:

Location	Vehicles per day (% heavy vehicles)	Date	Source
Armadale Road	23,205 (8.8%)	2019/20	Traffic Map
Forrest Road	8,013 (4.2%)	2019/20	Traffic Map
Church Ave	Data Not available from MRWA Traffic Map		
Byron Road	Data Not available from MRWA Traffic Map		
Eleventh Road	2,224 (6.4%)	2018/19	Traffic Map
Larsen Road	3,289 (2.7%)	2018/19	Traffic Map
Abernethy Road	12,519 (N/A)	2019/20	Traffic Map

Available speed data for these sites is as follows:

Location	Posted Speed (km/h)	85th Percentile Speed (km/h)	Date	Source
Armadale Road	70	57	2019/20	Traffic Map
Forrest Road	60	50	2019/20	Traffic Map
Church Ave	Data Not available from MRWA Traffic Map			
Byron Road	Data Not available from MRWA Traffic Map			
Eleventh Road	80	69	2018/19	Traffic Map
Larsen Road	50	55	2018/19	Traffic Map
Abernethy Road	70	67	2017/18	Traffic Map

Detailed traffic and speed data (where available) analysis will be done for each location/stage within the site-specific Traffic Control Plans.

#### 4.1.1. Traffic Flow Analysis

It is vital to determine the traffic volumes and composition of the impacted network before implementing any traffic management to ensure all road users (including pedestrians, cyclists, buses, heavy vehicles, etc.) are catered for with minimum inconvenience.



Volumes used in the development of site-specific TCP's shall be based on average Monday to Friday traffic figures derived from historical counts, SCATS data or where necessary onsite traffic surveys.

Detailed traffic analysis will be done for each location/stage concerned with the works within individual TCPs.

**Table 3.1: Desirable number of lanes for each direction**

Mid-block (one direction) (VPH)	Within 200m of intersection (one direction) (VPH)	Desirable number of open lanes for direction considered
≤ 1000*	≤ 500*	1
1001 - 2000	501 - 1000	2
2001 - 3000	1001 - 1500	3
3001 - 4000	1501 - 2000	4

\* Prohibit right turns out of a single lane if the proportion of heavy vehicles and the volume of opposing traffic is high. Seek further assistance from a traffic engineer if needed.

Guidelines: Based on Table 3.1 of the AGTTM02, up to 1000vph will be desirable for 1 lane of traffic which is in a Mid-Block situation and up to 500vph will be desirable for 1 lane within 200m of an intersection.

Refer to above table for each location, considering the number of lanes available & situation (Mid-Block / within 200m of an intersection) and relative vph allowed.

#### 4.1.2. Temporary Speed Zones

Temporary speed limits will be implemented on local connecting roads surrounding the Project interface points with public roads and will be detailed in individual TCPs

#### 4.1.3. Existing Traffic Signals

Where works affect operation of the signals, the details of this will be provided in the relevant TCP.

#### 4.1.4. Impact to Adjoining Network

If congestion may arise impacting the adjoining road network which is considered not acceptable by the Project Manager and the Crew Leader on duty, works operations to be ceased allowing proper time to set up aftercare scenario for any unfinished works, removing all traffic control measures from the roadway until congestion cleared or arrangements are made to complete the works at a different date/time.

#### 4.1.5. End of Queue Treatment

End of queue treatment shall be provided whenever a stationary queue is likely to extend to a point less than D beyond the Prepare to Stop sign associated with the active control and either or both of the following apply:

- Permanent posted speed limit is greater than 70km/h;

- Sight distance to the end of the queue for approaching traffic is likely to be less than 2D on open road areas or 1.5D on built-up areas.

If an onsite assessment deems additional end of queue treatments necessary, additional 'Prepare to Stop' Signs are to be located in advance of the predicted / calculated end of queue to ensure that the distance from the signs to the end of the queue is never likely to be less than D – in accordance with the requirements of MRWA Code of Practice section 6.8.2.

#### **4.1.6. Temporary Traffic Signals**

No temporary traffic signals are expected to be required for the project concerned with this PTMP, however in the event that portable or temporary traffic signal are required and fail to operate correctly, Traffic Controllers shall be deployed immediately to control traffic movements.

Should any temporary traffic signals be required, they will be detailed in an appropriate TCP.

### **4.2. Road Users**

#### **4.2.1. Pedestrians**

Where as part of the Project, parts of existing PSPs or paths in the vicinity are required to be modified or closed to general public, a TCP will be developed accordingly for the closure.

Temporary shared paths and footpaths must be designed and constructed for use by disabled people in accordance with AS 1428 Design for Access and Mobility, and must be located to minimise extra distance travelled by path users. Temporary lighting must be provided where lighting is diminished by the Contractor's work. Any temporary fences or screens beside shared paths must be adequately restrained against deflection from wind.

#### **4.2.2. Cyclists**

Where as part of the Project, parts of existing PSPs or cycle lanes are required to be closed or modified, a TCP will be developed accordingly for the closure.

#### **4.2.3. Public Transport**

Notification to public transport shall be undertaken when traffic management measure will have an effect to the bus services. Where a closure is implemented and bus services are required to be detoured. Notification to PTA shall be given to ensure a suitable route can be arranged for affected bus services.

#### **4.2.4. Heavy and Oversized Vehicles**

No Routes affected by the project are part of the MRWA RAV network.

Where roads are identified as being specific heavy haulage routes, low impact traffic

If a heavy/ oversized vehicle or load whose speed or size might constitute a safety threat to workers on foot, the traffic controllers shall warn the site supervisor who will instruct all workers/machinery to move away from the heavy vehicle passage.

Traffic controllers shall operate on channel 40 at all times to communicate with Heavy or oversized vehicles whom may be bypassing the works. Heavy vehicles will be assisted via the worksite if required by Traffic Controllers when safe to do so. If required delineation will be removed to allow passage and all works crews will be informed to halt works until large vehicles have bypassed the works. Communication between works crew and Traffic controllers is to be held consistently for the duration of the works.

Main Roads Heavy Vehicle Services will be notified of the works through the 'Notifications of Roadworks Form' or via phone at the earliest possible time.

#### **4.2.5. Existing Parking Facilities**

There are multiple formal and informal parking areas surrounding the local roads and adjacent to Station precincts and town centre zones affected by project works. Site specific TCP's shall detail management strategies for affected parking facilities.

#### **4.2.6. Access to Adjoining Properties / Business**

If there are any properties affected by the works, local access will be allowed within the work location with traffic controller assisting any property owners entering/exiting at all times.

Site specific TCP's shall detail management strategies for maintaining property access.

#### **4.2.7. Rail Crossings**

The project scope includes significant works and modifications to numerous level crossings. Various works phases are likely to include temporary closures of the crossings to facilitate installation of structural elements and undertaking major civil works.

Timing of the closures of selected crossing shall be planned so as to maintain access across the rail corridor via at least one of the proximal crossings at all times.

Site specific TCP's shall detail management strategies for management of the level crossings as required.

#### **4.2.8. School Crossings**

No school crossings will be affected by the project.

#### **4.2.9. Special Events and Other Works**

Some of these major events may include:

- Public Holidays, and
- The day before and last day of long weekends.

Discussions should be had with the dedicated Main Roads RPI representative to ensure no conflicting Special Events and/or Other Works will be occurring during the time this Traffic Management is implemented.

#### **4.2.10. Emergency Vehicle Access**

Emergency services will have continual access to all properties and the worksite; hence no specific facilities are required. A Traffic Controller shall assist emergency vehicles requiring entering and/or travelling through the Worksite. Emergency services shall be notified of the

proposed crosswalks grinding off and remarking, location, date and times as well as contact details for the site supervisor.

Police communications will be requested to render assistance where required.

### 4.3. Night Work Provisions

Night works will be undertaken for the works concerned with this TMP.

When night works are required, all personnel on site shall be well illuminated by street lights, car headlights or portable floodlights ensuring the lights light source is angled or shielded to minimize glare to approaching traffic.

Traffic controllers to have luminous wands on hand at all times and all personnel are to wear hi-vis clothing.

All signs used at night are to be Class 1 Retro-reflective material and delineation will be either retro-reflective or be sufficiently illuminated. Flashing lamps shall be used to draw attention to signs and all personnel engaged on night work shall wear high visibility retro-reflective jackets.

### 4.4. Road Safety Barriers

MetCONNx may be using different types of barriers as traffic control devices on the project. Each barrier type shall be clearly noted on TCPs. Where temporary safety barriers are to be used, they shall be installed to a standard no less than specified by AS/NZS 3845-1999. The selection of barrier type may also be guided by availability and site specific requirements.

#### 4.4.1. TL4 rated Barriers

##### ***Barrier Guard 800 (TL3 and TL-4)***

Variable length steel barriers that provide a semi rigid system and Barriers are joined together by male / female pin system. Barrier Guard has varying lengths of 3, 6 and 12 and weighs approximately 90 kg/lm. The barrier system also has 5 and 10 degree radii sections for a complete solution at intersections. Barrier Guard will be anchored at suitable intervals as per the design configuration. Pinning will be undertaken at a maximum of 72m intervals in the absence of any specific design criteria.

##### ***T-Lock – Concrete Barriers (TL3)***

Variable length concrete blocks of Type F profile that provides a semi rigid barrier system. Barriers are joined together by a male female interlocking system; the male end being shaped similar to a T. Unit length can vary however standard sizes of 3.6m and 5.4m are available and weight approx. 1 t/lm.

Where concrete barrier is used a suitable solution at intersections must be provided to offer full protection to workers and road users.

#### 4.4.2. Site Delineation Barriers

ArmorZone (or similar water filled barriers; TL-2 and lower)

Water filled barriers are 2m in length. Their crash rating level is too low to be used as safety barrier for the project, but they can be utilised as either internal site barriers, to delineate

construction traffic or as very close delineation in lieu of cones. Where these barriers are exposed to public traffic, the risks of errant barriers after contact with a vehicle shall be assessed.

#### 4.4.3. Design of Barriers

Where it is determined that temporary barriers are to be installed they shall be designed and installed to a standard no less than what is specified by AS/NZS 3845-1999 Road Safety Barrier System. In designing the barriers the Traffic Planning Manager shall also determine and nominate on any design the following:

- Minimum length of barrier to be used in series;
- Minimum offset from traffic to works activities;
- Length and angle off flares and tapers;
- Type of barrier to be installed;
- If steel barrier, barrier design shall include barrier item design; and
- Any additional items that are required such (pinning, precast slabs, etc.).

#### 4.4.4. Use of Barriers at Excavations

It is the responsibility of construction team to correctly identify the need to excavate next to or close to any traffic barriers at the time of requesting traffic control. Once it has been determined that traffic barriers are to be installed adjacent to any excavation the Traffic Planning Manager must correctly identify the type of barrier and other site requirements such as a reduction in speed in order for the excavation to take place. This will also be done in conjunction with requirements in AS/NZS 3845-1999.

Barriers installed near excavations shall provide sufficient clear space to accommodate deflection and TGSs shall clearly label extent of excavation.

#### 4.4.5. End Treatments to Barriers

End treatments shall be provided to all barrier ends where there is the chance of a collision occurring between barriers and traffic. All barrier ends that may become leading edges due to contra flow of traffic must also be protected, these however can be a TL1 rated end treatment and traffic reduced to a max speed of 40km/h. For this Project either a TL3 CZ Quad Guard or TL2 Absorb 350 unit will be utilised.

##### 4.4.5.1. Type of End Terminals

###### ***TL3 - CZ Quad Guard***

CZ Quad Guard is a portable non-gating re-directive end treatment for work zones. It consists of modular components fixed to a steel plate for easy transportation; the end treatment must be anchored into the pavement. Its modular make up allows for quick easy maintenance post incident. The CZ Quad Guard is compatible with an existing barrier system and has additional plates so it can be placed in a contra flow arrangement.

###### ***TL - 2 Absorb 350***

Absorb 350 barriers are a modular plastic water filled non-redirective, gating crash barrier. They are attached to existing barrier via a steel plate that is specific to different barrier

types. They are only rated to TL2 and a can be used where the sign posted speed is 60km/h or below. The lightweight modular system enables a quick install in low speed environments.

## **4.5. Consultation and Communication / Notification**

### **4.5.1. Other Agencies**

In accordance with Section 5.4 of the MRWA CoP, notification is required to be provided to all the agencies involved as per distribution list provided into the Notification of Roadworks form.

A Notification Form will be provided (if required) for each stage of works that will be undertaken.

### **4.5.2. Public**

All consultation will be carried in general compliance with the “Communication Protocol” document developed by PTA/Main Roads as well as complying with the local authority requirements.

This can include, but is not limited to:

- Notice to Motorists in the weekend West Australian and/or local newspaper(s)
- Letter drop to all residents and businesses within the traffic control zone
- VMS boards
- Radio advertising
- Project website and Main Roads social media

## **5. Site Assessment**

### **5.1. Provision to Address Environmental Conditions**

#### **5.1.1. Adverse Weather**

Weather is not expected to adversely impact on the effectiveness of the traffic control detailed on the attached TGS's. Notwithstanding this, should adverse weather conditions be encountered during the works, the following contingency plans should be activated.

Note: any adjustments to the plan shall be risk assessed and approved by someone holding a WTM or AWTM accreditation. Major changes will require road authority approval.

##### **5.1.1.1. Rain**

In the event of rain, an on-site assessment shall be made and sign spacing and tapers may be extended by 25% to account for increased stopping distances. Slippery (T3-3) signs may be placed as required and all changes shall be recorded in the daily diary.

If rain occurs, Traffic Management Personnel shall inspect the site and where signage and / or devices are not clearly visible, signage may need to be adjusted to improve visibility or if necessary provide additional signage and delineation. Where stopping distances are adversely affected by wet surfaces, spacing between signs may need to be adjusted to provide increased reaction time for drivers. In cases where it is determined that the rain is so heavy that the risk is considered unacceptable, all work shall cease until rain has cleared. All changes shall be noted in the daily diary.

##### **5.1.1.2. Floods**

Should works be affected by flooding to the extent that the worksite becomes impassable or risk is considered unacceptable, all work shall cease immediately and Traffic Controllers (and other personnel if necessary) shall be deployed immediately to close the site and direct traffic around the flooded area (under the direction of the project manager or traffic manager). Emergency services and the Road Authority shall be notified immediately and Traffic Controllers shall remain onsite until emergency services and the Road Authority personnel arrive and take control of the site.

##### **5.1.1.3. Other adverse weather (strong winds, thunder storms, etc.)**

When adverse weather such as strong winds and/or thunder storms, is identified as adversely affecting the works and work site safety, weights on signs and delineations to be used to contrast strong winds effect; in case of thunder storms all powered equipment shall be turned off and shelter to be sought after.

Should works be affected to the extent that the worksite becomes impassable or risk is considered unacceptable, all work shall cease immediately and Traffic Controllers (and other personnel if necessary) shall be deployed immediately to close the site and remove TM arrangements.

All changes are to be noted in the daily diary.

#### **5.1.2. Sun Glare**

Where sun glare is identified as adversely affecting a driver's ability to sight signage and / or traffic control devices, sign locations may need to be adjusted and additional delineation



and/or traffic control devices provided to address the risk from glare. Additionally, in the event that traffic control is adversely affected by glare at sunset and sunrise, traffic controllers may need to assist in maintaining low traffic speeds.

All changes are to be noted in the daily diary.

### **5.1.3. Fog, Dust and Smoke**

Where fog, dust or smoke is identified as adversely affecting a driver's ability to sight signage and / or traffic control devices, sign locations may need to be adjusted and additional delineation and/or traffic control devices provided to address the risk. All changes are to be noted in the daily diary.

Should works be affected by fog, dust or smoke to the extent that risk is considered unacceptable, all work shall cease immediately and Traffic Controllers (and other personnel if necessary) shall be deployed immediately to close the site.

### **5.1.4. Road Geometry, Terrain, Vegetation and Structures**

All existing vegetation surrounding the location of the works shall be maintained. Site assessment to be conducted prior to signs being erected on site. Should any existing landscape create obstruction and/or decreases the visibility of advanced warning signage prior to the work area, signs are to be moved accordingly. Traffic Controllers shall adjust sign locations and provide additional delineation and traffic control devices necessary to address the risk from existing vegetation. All changes are to be noted in the daily diary.

There are no structures affecting sight lines or access. The surrounding environment is built-up and/or landscaped.

## **5.2. Existing Traffic and Adverting Signs**

All speed signs located within the vicinity of the works that would conflict with the proposed temporary speed limit shall be covered for the duration of the works.



## 6. Safety Plan

### 6.1. Occupational Safety and Health

All persons and organisations undertaking these works or using the roadwork site have a duty of care under statute and common law to themselves, their employees and all site users, lawfully using the site, to take all reasonable measures to prevent accident or injury.

This TMP forms part of the overall project Safety Management Plan, and provides details on how all road users considered likely to pass through, past, or around the worksite will be safely and efficiently managed for the full duration of the site occupancy and works.

#### 6.1.1. Legal Requirements

The current editions of the following documents shall be maintained at the site office for the period of the works:

- Traffic Management for Works on Roads Code of Practice
- Standards – AGTTM – Traffic Control Devices for Works on Roads
- Traffic Management at Roadworks on State Roads Policy
- Guidance Notes – Safe Movement of Vehicles in the Workplace

### 6.2. Roles and Responsibilities

#### 6.2.1. Responsibilities

The Project Manager has the ultimate responsibility to ensure the TMP is implemented for the prevention of injury and property damage to employees, contractors, sub-contractors, road users and all members of the public.

The Project manager will ensure all site personnel are fully aware of their responsibilities, and that Traffic Controllers are appropriately trained and accredited and that sufficient controllers are available to ensure appropriate breaks are taken.

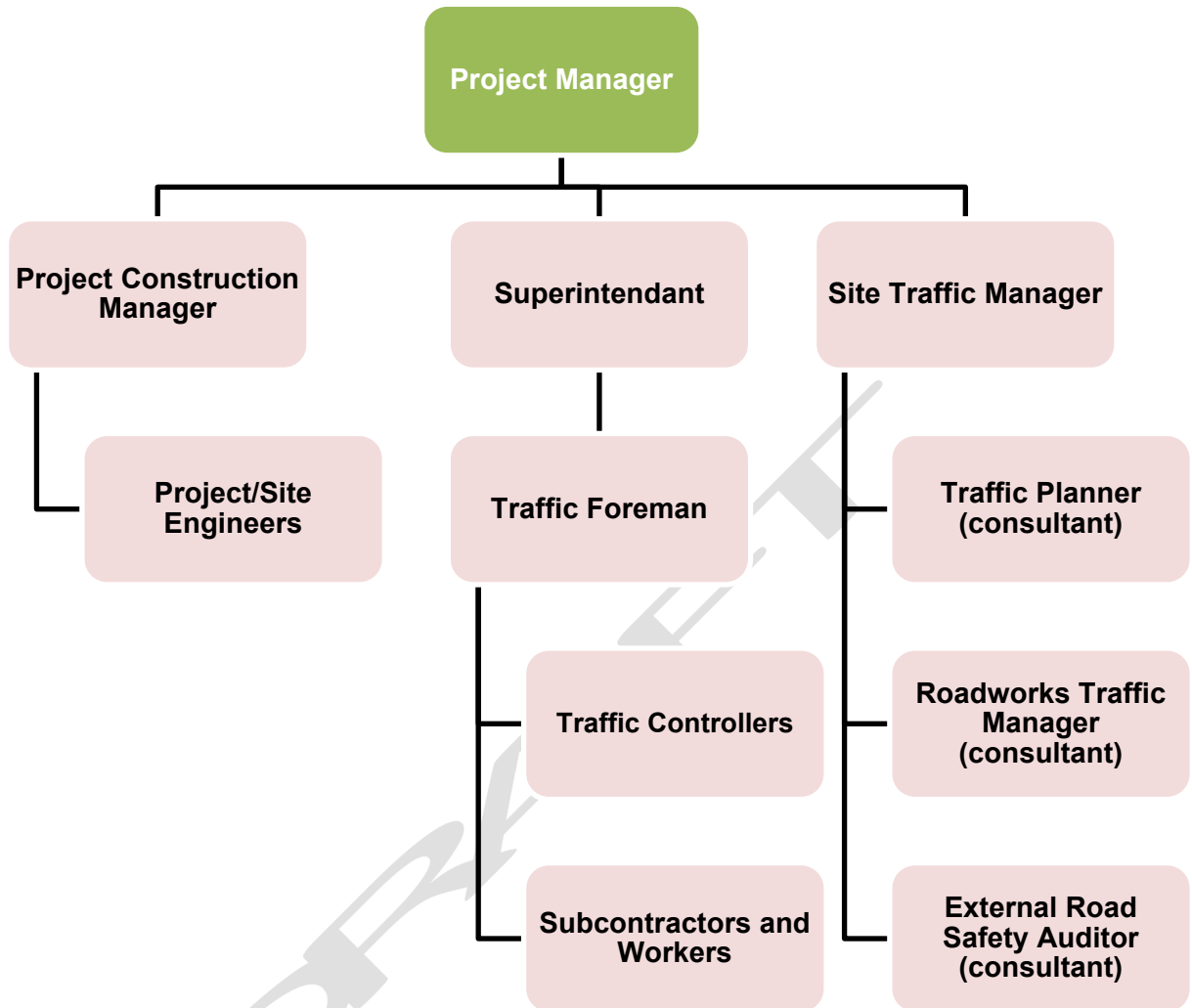
All personnel engaged in the field activities will follow the correct work practices as required by the CoP and AGTTM.

All personnel will not commence or continue work until all signs, devices and barricades are in place and operational in accordance with the requirements of the TMP and the appropriate TCP.

All personnel responsible for temporary traffic management shall ensure that the number, type and location of signs, devices and barricades are to a standard not less than Appendix F of this plan, CoP and AGTTM (except where specifically detailed in this TMP or relevant TCP with reasons for the variations). Should a situation arise that is not covered by this TMP, CoP or AGTTM, the Road Authority Representative shall be notified.

## 6.2.2. Roles

The following diagram outlines the responsibility hierarchy of this contact.



### 6.2.2.1. Project Manager

The project manager shall:

- Ensure all traffic control measures of this PTMP are placed and maintained in accordance with this plan and the relevant Acts, Codes, Standards and Guidelines;
- Ensure suitable communication and consultation with the affected stakeholders is maintained at all times; and
- Participate in incident investigations.

### 6.2.2.2. Project Construction Manager

The Construction Manager shall:

- Ensure inspections of the Traffic Controls are undertaken in accordance with the PTMP, and results recorded. Any variations shall be detailed together with reasons;

- Review feedback from field inspections, worksite personnel and members of the public, and take action to amend the traffic control measures as appropriate following approval from the Road Authority's Representative; and
- Arrange and/or undertake any necessary audits and incident investigations.

### **6.2.2.3. Superintendent**

The General Superintendent shall:

- Facilitate the induction of all workers on site;
- Assist with the development of WMS's and JSA's relevant to the works being undertaken;
- Provide advice and guidance to site personnel to ensure compliance with the project Safety Management Plan; and
- Facilitate prestart and toolbox meetings in conjunction with the site supervisor.

### **6.2.2.4. Traffic Foreman (WTM/BWTM)**

The traffic foreman is responsible for overseeing the day-to-day activities, and is therefore responsible for the practical application of the TMP, and shall:

- Plan and manage TCP implementation;
- Manage / supervise traffic management contractors;
- Inspect and record TCP implementation;
- Maintain TCP integrity; and
- Review traffic management performance.

### **6.2.2.5. Project/Site Engineer**

The Project/Site Engineer shall:

- Assist the Site Supervisor in the planning and development of the site works;
- Communicating with the traffic control contractor to ensure the correct traffic control resources are available on site to suit the progression of the works; and
- Collect, collate and recording of all site documentation and records of inspections and audits.

### **6.2.2.6. Site Traffic Manager (STM) (AWTM)**

- Overall control of planning, implementation and maintenance of traffic management is executed safely and meets the requirements of all stakeholders;
- Review Traffic Management Plan;
- Authorise traffic procurement Review traffic management performance and ensure continuous improvement; and
- Ensure plans & practices conform to all project requirements. Review traffic management performance;
- Delivery and communication of TCP's Manage preparation of TGSs including TRD;
- Develop integrated programmes to ensure construction needs are achieved;
- Obtain approvals from third party authorities (e.g. LGA, PTA, Police);

- Maintain all necessary registers to ensure compliance;

### **6.2.2.7. Traffic Controllers**

Traffic Controllers shall be used to control road users to avoid conflict with plant, workers, traffic and pedestrians, and to stop and direct traffic in emergency situations.

Traffic Controllers shall:

- Operate in accordance with the Traffic Controller Handbook
- Be accredited in Basic Worksite Traffic Management
- Hold a current Traffic Controller's accreditation
- Take appropriate breaks as required by AGTTM and/or OS&H Regulations.

### **6.2.2.8. Workers and Subcontractors**

Workers and Subcontractors shall:

- Correctly wear high visibility vests, in addition to other protective equipment required (e.g. footwear, eye protection, helmet sun protection etc.), at all times whilst on the worksite
- Comply with the requirements of the TMP and ensure no activity is undertaken that will endanger the safety of other workers or the general public
- Enter and leave the site by approved routes and in accordance with safe work practices

### **6.2.2.9. Main Roads WA Project Manager**

- Authorisation of Temporary Speed zones as required for traffic management; and
- Responsible for Regulatory control devices.

### **6.2.2.10. Site Traffic Manager (STM) (AWTM)**

- Overall control of planning, implementation and maintenance of traffic management is executed safely and meets the requirements of all stakeholders;
- Review Traffic Management Plan;
- Authorise traffic procurement Review traffic management performance and ensure continuous improvement; and
- Ensure plans & practices conform to all project requirements. Review traffic management performance;
- Delivery and communication of TCP's Manage preparation of TGSs including TRD;
- Develop integrated programmes to ensure construction needs are achieved;
- Obtain approvals from third party authorities (e.g. LGA, PTA, Police);
- Maintain all necessary registers to ensure compliance;

### **6.2.2.11. Traffic Planner (Consultant) (AWTM)**

- Review, calculation and assessment of the potential and actual impacts of TM on the network;

- Ensure designs comply with specification and standards;
- Delivery to programme of TCPs;
- Ensure best practice is achieved through adherence to standards as specified;
- Provide network inputs and review of TCPs;
- Endorse non-complex TCP; and
- Assist in closing out RSAs

#### **6.2.2.12. Road Traffic Manager (Consultant) (RTM)**

- Assessment of acceptable risk and compliance in TMP/TCPs, TGS, TRDs;
- Manage preparation and on time delivery of TMPs;
- Risk management inputs to TMP Endorse complex TMP;
- Manage preparation of TRD;
- Conduct risk assessment of complex TCPs;
- Endorse complex TCP;
- Desktop RSA on non-complex TCPs Review traffic management performance; and
- Close out of RSAs.

#### **6.2.2.13. External Road Safety Auditors (SRSA/RTM)**

- Compliance inspections; and
- Desktop RSA of complex TCP RSA of installed complex TCP.

#### **6.2.2.14. Safety Manager**

- Safety review and advice; and
- Advice on integration of project safety systems / requirements into TMP / TCPs.

### **6.3. Personal Protection Equipment (PPE)**

Mandatory PPE for all work personnel involved in traffic control is as follows:

- Long sleeve collard hi-visibility shirt;
- Long Trousers;
- Night wand;
- Lace up safety boots;
- Safety helmet (wide brim if required); and
- Eye protection.

### **6.4. Plant and Equipment**

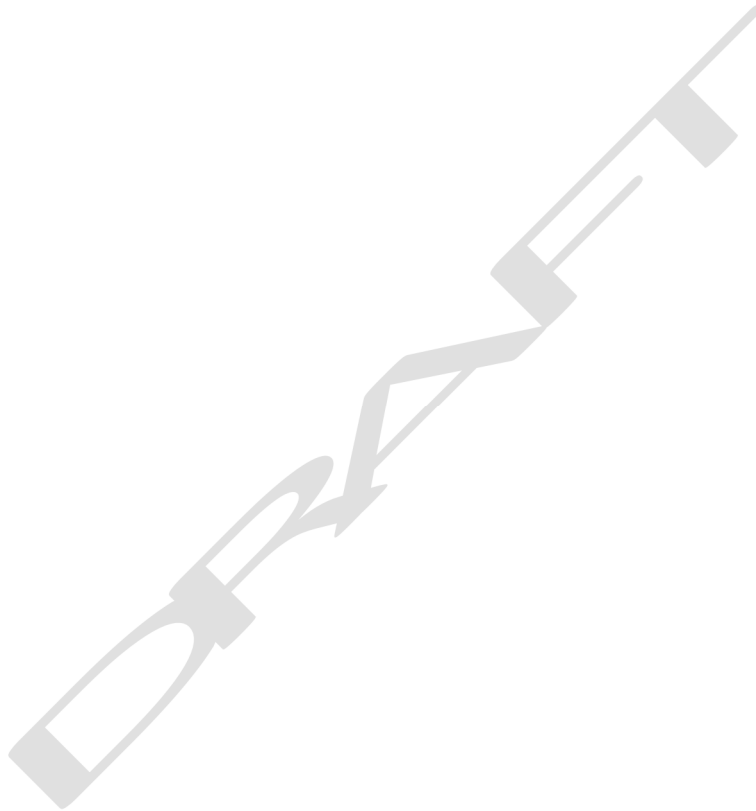
All plant and equipment at the workplace shall meet statutory requirements and have the required registration, licences or certification where required. All mobile equipment shall be fitted with suitable reversing alarms. All mobile plant and vehicles shall be fitted with a pair of rotating flashing yellow lamps in accordance with AGTTM clause 3.12.1. All workers will be made aware of the safe work practice at the time of the site induction.

## 6.5. Trip Hazards

The worksite and its immediate surroundings shall be suitably protected and free of hazards, which could result in tripping by cyclists or pedestrians. Hazards, which cannot be removed, shall be suitably protected to prevent injury to road users, including those with sight impairment. Where level differences are significant, suitable barriers, which preclude pedestrian access shall be used.

Where works extend beyond daylight hours and adjacent lighting is insufficient to illuminate hazards to cyclists or pedestrians, appropriate temporary lighting shall be installed.

The worksite shall be kept tidy to reduce the risk to workers.



## 7. Implementation

### 7.1. Traffic Guidance Schemes

Refer to each TCP for TGSs.

### 7.2. Sequence and Staging

The sequence of temporary traffic management installation, work activities and temporary traffic management removal are shown in the table below.

Step	Details
1	Advanced warning signage implementation Worksite delineation
2	Ensure roads are safe for work
3	Commence works; traffic controllers on work site to assist and facilitate plant access/egress where necessary. Property accesses to be monitored.
4	Traffic control measures to be removed, ensuring all roads, driveways and footpaths are cleared from any hazard and trafficable as normal.
5	Aftercare installation if required

### 7.3. Traffic Control Devices

#### 7.3.1. Sign Requirements

All signs used shall conform to the designs and dimensions as shown in Australian Standard AS 1742.3. Class 1 retro-reflective material shall be used as required by AS 1742.3.

Prior to installation, all signs and devices shall be checked by the Traffic Manager or a delegated person to ensure that they are in good condition and meet the following requirements:

- **Mechanical condition** - Items that are bent, broken or have surface damage shall not be used;
- **Cleanliness** - Items should be free from accumulated dirt, road grime or other contamination;
- **Colour of fluorescent signs** - Fluorescent signs whose colour has faded to a point where they have lost their daylight impact shall be replaced;

- **Retro reflectivity.** - Signs for night-time use whose retro-reflectivity is degraded either from long use or surface damage and does not meet the requirements of AS 1906 shall be replaced; and
- **Battery operated devices** - shall be checked for lamp operation and battery condition.

Where signs do not conform either to the requirements of AS 1742.3 or would fail to pass any of the above checks, they shall be replaced on notice from the Traffic Manager.

Signs and devices shall be positioned and erected in accordance with the locations and spacing's shown on the drawings. All signs shall be positioned and erected such that:

- They are properly displayed and securely mounted;
- They are within the driver's line of sight;
- They cannot be obscured from view;
- They do not obscure other devices from the driver's line of sight;
- They do not become a possible hazard to workers or vehicles; and
- They do not deflect traffic into an undesirable path.
- Signs will be placed clear of the travelled path and erected in accordance with the installation plans in the following sequence:
  - Advance warning signs;
  - Other warning signs; and
  - Regulatory and other signs.

Delineation devices such as bollards or delineator posts should be placed in the same sequence, i.e. those furthestmost in advance placed first.

Where required, a shadow vehicle displaying a warning device as specified in AGTTM 3.12.1(b) vehicle shall be used in advance of the device position to protect workers setting out, retrieving or reinstating dislodged or damaged devices.

Signs and devices that are erected before they are required shall be covered by a suitable opaque material. The cover shall be removed immediately prior to the commencement of work.

Where there is a potential for conflict of information between existing signage and temporary signage erected for the purpose of traffic control, the existing signs shall be covered. The material covering the sign shall ensure that the sign cannot be seen under all conditions i.e. day, night and wet weather. Care will be taken to ensure existing signs are not damaged by the covering material or by adhesive tape.

### 7.3.2. Tolerances on positioning of signs and devices

Where a specific distance for the longitudinal positioning of signs or devices with respect to other items or features is stated, for the spacing of delineating devices or for the length of tapers or markings, the following tolerances may be applied: -

(a) Positioning of signs, length of tapers or markings:

- (i) Minimum, 10% less than the distances or lengths given.
- (ii) Maximum, 25% more than the distances or lengths given.

(b) Spacing of delineating devices:



- (i) Maximum, 10% more than the spacing shown.
- (ii) No minimum.

These tolerances shall not apply where a distance, length or spacing is already stated as a maximum, a minimum or a range.

### **7.3.3. Flashing Arrow Signs**

Flashing arrow signs are required for each lane closure implemented for the works concerned with this PTMP.

Where flashing arrow signs are required to better delineate lane tapers, these signs will comprise a matrix of lamps or light emitting elements in the form of an arrow that is flashed in a cyclical manner to provide advance warning. The sign shall have a minimum dimension of 2400 mm. x 1200 mm. and conform to the requirements of AS/NZS 4192. The Site Traffic Manager shall ensure that all equipment used meets the Australian Standard.

### **7.3.4. Delineation**

Cones shall be used for delineation unless other treatment is specified in the Traffic Management Plan or on the Traffic Guidance Schemes. All cones shall be at least 700 millimetres in height and constructed from fluorescent orange or red material that is resilient to impact and will not damage vehicles when hit at low speed. Cones will be fitted with suitable white retro-reflective tape placed in accordance with AGTTM.

Cones shall be designed to be stable under reasonably expected wind conditions and air turbulence from passing traffic.

The base of the cones will be secured so that they are not dislodged by traffic. Cones will be inspected at intervals necessary to ensure any mis-alignment or displacement is identified and corrected prior to this causing disruption to traffic.

Where specified, temporary frangible or otherwise non-hazardous delineator posts or bollards may be used for edge protection and taper delineation. Posts or bollards shall have a maximum dimension of 60 millimetres when measured along the longest side of a square or rectangular section or across the diameter of a circular section. Base design shall permit easy fixing to either sealed or unsealed surfaces and not intrude into traffic lanes greater than 50 millimetres from the face of the post or bollard.

Posts and bollards shall be fitted with suitable white retro-reflective tape placed in accordance with AGTTM.

All posts or bollards will be inspected daily and where displaced or missing made good immediately. All delineator posts are to be completely removed at the completion of all stages of construction and prior to the placement of asphalt surfacing. If adhesive is used to affix the posts this shall be completely removed from the road surface so that a flush surface is obtained.

In general, cones or bollards will also be used for delineation of short-term lane closures operating for less than 24 hours, and for long term delineation either fixed bollards or temporary guide posts as per AS1742.3 and AGTTM will be utilised.

#### 7.3.4.1. Delineation Location

All cones, bollards and post type delineators shall be placed at the maximum spacing according to the table below.

Purpose and usage	Traffic Speed [km/h]	Recommended max spacing [m]
At divided road crossovers to transfer traffic to the opposing roadway	All speeds	2
Protecting freshly painted lines	≤75 ≥ 76	24 60
All purposes	≤ 55 56 to 75 ≥ 76	4 12 18
Guideposts immediately adjacent to work sites	≤75 ≥76	24 60
<ul style="list-style-type: none"> <li>Considerations shall be taken in curves/crests, spacing of cones may need to be reduced</li> <li>Where bicycle/pedestrian facilities can be impacted by the placement of cones, alternative routes should be considered if placement cannot maintain a safe facility for those road users</li> </ul>		

#### 7.3.5. Variable Message Signs

The use of VMS boards is an area where innovation to the norm can be implemented to enhance advice to the public. MetCONNx may use a number of VMS boards throughout and on the approaches to the project site. The VMS boards may also be used outside the project area at strategic locations to ensure maximum exposure and dissemination of the advance advisory information to road users.

#### 7.3.6. Truck Mounted Attenuator / Shadow Vehicle

A truck mounted attenuator will be used on the project for the purposes of providing additional protection to on foot workers where necessary. All roads must be risk assessed prior to implementation of traffic control devices without an attenuator.

Where it is not possible or practical to install barriers a TMA will be used to protect workers, the TMA may also be used for assisting large trucks to access/egress site, assist in traffic incidents and emergencies and other applications where it can provide a solid barrier between traffic and persons.

The use of a TMA as a safety barrier is a high risk activity and as such all uses of the TMA must be noted on the TGS. Uses outside the prescription of the TCP are not allowed except in the instances of an emergency.

The use of TMAs will be dictated by "Guidelines for the use of Truck Mounted Attenuators (TMAs) in WA 2017".

### **7.3.7. Vehicle Mounted Warning Devices**

Where a single rotating flashing yellow lamp is used on a vehicle it shall be in accordance with the requirements of AGTTM and AS1742.3.

### **7.3.8. Temporary Longitudinal Line Markings**

All temporary line markings shall be in accordance with the MEJV specifications and the requirements in AGTTM and AS1742.3 relating to Pavement Markings.

Line markings will be inspected daily and any displacement or loss of temporary marking will be rectified as soon as practicable. Temporary pavement markings shall be clearly visible in all conditions and temporary painted markings shall not be applied to the final wearing surface.

All temporary line markings shall be removed at the completion of the relevant stage of construction.

### **7.3.9. Temporary Reflective Pavement Markers**

Temporary reflective pavement markers will be installed in conjunction with line marking.

Temporary reflective pavement markers will be of the type manufactured with a butyl adhesive base that allows efficient placement on the road surface. The markers will be fitted with retro-reflective tape on either one or both sides and shall be 100mm wide by 50mm high. Markers shall be applied to the road surface according to the manufacturer's recommendations. Marker types shall consist of:

- Type W-1 - White one-way markers to be used between lanes operating in the same direction;
- Type W-2 - White two-way markers to be used on all island markings and merging painted medians;
- All temporary pavement markers will be inspected daily and any loss or displacement made good immediately; and
- All temporary markers are to be removed at the completion of all stages of construction and prior to the placement of asphalt surfacing.

## **7.4. Site Access for Work Vehicles**

Vehicles entering and exiting the traffic stream do so in an environment that is different from normal situations, and as such drivers need to be mindful of the conditions that may affect the safety of these movements.

All vehicles movements into and out of site onto existing road networks must be in accordance with the site wide VMP. All entry and exit movements will be in accordance with the Main Roads Code of Practice and shall be undertaken in the following manner:

- Access points shall be notified to all works personnel and suppliers and clearly designated on traffic control diagrams
- As 'following' drivers would not commonly expect 'leading' vehicles to leave the roadway, their attention may be reduced. In recognition of this, drivers leaving the carriageway shall be required to undertake the following safe work practice:

- Decelerate slowly and signal their intention by indicator to leave the roadway traffic stream in advance of their departure point;
- Activate the vehicle's rotating yellow lamp if available once the vehicle is in the provided deceleration lane;
- Switch on the vehicle hazard lights once the vehicle is stationary;
- Vehicles entering the traffic stream shall have the vehicle's rotating lamp activated prior to entering the traffic stream and undertake the following;
- Switch off the vehicle hazard lights;
- Indicate intention to enter the traffic stream using direction indicators;
- Ensure there is a suitable gap from oncoming traffic to allow for a safe entry manoeuvre;
- Always enter the traffic lane adjacent to the point of entry; and
- Turn off the rotating yellow lamp(s) if available once a speed of 20 km/h is reached.

Gate persons where required may be used to assist vehicles entering the traffic stream from the work site. When traffic controllers are used, the contractor shall ensure that all required signage has been installed; traffic controllers follow correct procedures and are stationed on the road edge / traffic island clear of through traffic.

Long term standing and parking of construction plant and equipment within the road reserve will not be permitted unless within contained work sites or behind road safety barriers. Plant shall not be parked in a location where it may adversely impact on sightlines at intersections.

Staff will be directed to park their vehicles in off road facilities in the site compound.

## 7.5. Communicating TMP Requirements

Works requirements shall be communicating to all personnel on site and TC during the pre-start meeting.

Where required, on site communications, are to be undertaken via two ways radios and channel advised during the pre-start.

All personnel attending the site, shall undertake all the necessary inductions, if required.

## **8. Emergency Arrangements and Contingencies**

### **8.1. Traffic Incident Procedures**

In the event of an incident or accident, whether or not involving traffic or road users, all work shall cease and traffic shall be stopped as necessary to avoid further deterioration of the situation. First Aid shall be administered as necessary, and medical assistance shall be called for if required.

Road plant within the work area that may impact on any services requiring access to a crash site will be cleared from the area quickly as necessary.

Furthermore the incident management response must consider the commitments made in the Metconnex Emergency Response Plan.

#### **8.1.1. Serious Injury or Fatality**

In the case of serious injury or fatality occurring within the traffic management site all work shall cease immediately, machinery and vehicles turned off and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) shall be deployed immediately to ensure no traffic or other road users approach the area.

An Ambulance and Police shall be called on telephone number 000 where life threatening injuries are apparent.

All road workers and traffic management personnel shall preserve the scene leaving everything in situ, until direction is given by Police or WorkSafe.

A site specific detour route and/or road closure point will be determined, signed and controlled by traffic management personnel and advised to Police, who will take charge of the site upon arrival. Detour routes will be determined so as to cater for all types of vehicles required to use them.

All site personnel shall be briefed on control procedures covering incidents and crashes that result in serious injury or fatalities.

#### **8.1.2. Minor Incident or Vehicle Break Down within Site**

Broken down vehicles and vehicles involved in minor non-injury crashes shall be temporarily moved to the verge as soon as possible after details of the crash locations have been gathered and noted. Where necessary to maintain traffic flow, vehicles shall be temporarily moved into the closed section of the work area behind the cones, providing there is no risk to vehicles and their occupants or workers. Suitable recovery systems shall be used to facilitate prompt removal of broken down or crashed vehicles. Assistance shall be rendered to ensure the impact of the incident on the network is minimised.

Any traffic crash resulting in non-life threatening injury shall be reported to the WA Police Service on 131 444.

Details of all incidents and accidents shall be reported to the Site Supervisor and Project Manager using the incident report form at Appendix "C" (or similar).

## **8.2. Emergency Services**

Emergency services shall be notified of the proposed works nature, location, date and times as well as contact details for the site supervisor.

On-site traffic controllers will be equipped with mobile communications to advise and/or liaise with emergency services to ensure a prompt response should the need arise.

## **8.3. Dangerous Goods**

Should any incident arise involving vehicles transporting dangerous goods, all work shall cease immediately, machinery and vehicles turned off and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) shall be deployed immediately to ensure no traffic or other road users approach the area.

Emergency services shall be notified of the proposed works nature, location, date and times as well as contact details for the site supervisor. All site personnel shall be briefed on evacuation and control procedures.

## **8.4. Damage to Services**

In the event that gas services are damaged, all work shall cease immediately, machinery and vehicles turned off and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) shall be deployed immediately to ensure no traffic or other road users approach the area. The Police Service and relevant supply authority shall be called immediately. Damage to any other services shall be treated in a similar manner except machinery may remain operational and access may be maintained where it is safe to do so.

All site personnel shall be briefed on evacuation and control procedures.

## **8.5. Failure of Services**

### **8.5.1. Failure of Traffic Signals**

In the event that traffic signal infrastructure near the worksite is damaged or fails to operate correctly, all work shall cease immediately and Main Roads WA Road Network Operation Centre (RNOC) shall be notified immediately (phone 138 111).

### **8.5.2. Failure of Street Lighting**

In the event that street lighting is damaged and fails to operate or operates incorrectly, Traffic Controllers (and other personnel if necessary with appropriate temporary lighting) shall be deployed immediately if the lighting failure adversely affects road user safety to control traffic movements as required. Western Power shall be notified immediately.

### **8.5.3. Failure of Power**

In the event that power infrastructure is damaged and poses a risk through live current, Traffic Controllers (and other personnel if necessary) shall be deployed immediately to

secure the site and prevent entry to the area affected by live power. Western Power shall be notified immediately (phone 13 13 51).

## 8.6. Emergency Contacts

In the event of an emergency the following relevant authorities must be contacted and advised of the nature of works, location, type of emergency and contact details for the site supervisor.

Emergency Service	Email/Website	Phone (Emergency)
WA Police Service	<a href="mailto:State.Traffic.Intelligence.Planning.&amp;.Coordination.Unit@police.wa.gov.au">State.Traffic.Intelligence.Planning.&amp;.Coordination.Unit@police.wa.gov.au</a>	000
St John Ambulance	<a href="mailto:MMOGroup@stjohnambulance.com.au">MMOGroup@stjohnambulance.com.au</a> <a href="mailto:ManagerSOC@stjohnambulance.com.au">ManagerSOC@stjohnambulance.com.au</a>	000
DFES	<a href="mailto:dfes@dfes.wa.gov.au">dfes@dfes.wa.gov.au</a>	000
Power	<a href="http://www.westernpower.com.au/contactus/pages/dfesofices.aspx">http://www.westernpower.com.au/contactus/pages/dfesofices.aspx</a>	13 13 51
Gas	<a href="mailto:enquiries@atcogas.com.au">enquiries@atcogas.com.au</a>	13 13 52
Main Roads Customer Call Centre	<a href="mailto:enquiries@mainroads.wa.gov.au">enquiries@mainroads.wa.gov.au</a>	(08) 9323 4430
Main Roads Real Time Traffic Operation	<a href="mailto:RNOC.Control.Room.Information.Desk@mainroads.wa.gov.au">RNOC.Control.Room.Information.Desk@mainroads.wa.gov.au</a>	(08) 9428 2220
Main Roads Heavy Vehicle Operations	<a href="mailto:hvs@mainroads.wa.gov.au">hvs@mainroads.wa.gov.au</a>	(08) 9311 8455

<b>Water Corporation</b>	<a href="https://www.watercorporation.com.au/faults/report-a-fault">https://www.watercorporation.com.au/faults/report-a-fault</a>	13 13 75
<b>Public Transport Authority</b>	<a href="http://www.pta.wa.gov.au/AboutUs/ContactUs/tabid/124/Default.aspx">www.pta.wa.gov.au/AboutUs/ContactUs/tabid/124/Default.aspx</a>	
<b>City of Armadale</b>	<a href="mailto:info@armadale.wa.gov.au">info@armadale.wa.gov.au</a>	9394 5000
<b>Shire of Serpentine Jarrahdale</b>	<a href="mailto:info@sjshire.wa.gov.au">info@sjshire.wa.gov.au</a>	9526 1111



## **9. Monitoring and Measurement**

### **9.1. Inspection and Evaluation**

The Traffic Manager will ensure that the traffic controls are implemented and evaluated for effectiveness to achieve the Traffic Management objectives and targets. The outcomes of the inspection will be diarised for the information of the Traffic Manager. The inspection program for traffic controls shall be undertaken in conjunction with the Safety Management Plan inspection program.

#### **9.1.1. Daily Routine Tasks and Record Keeping**

The STM will ensure that all temporary signs, devices and controls are maintained at all times. To achieve this, procedures in line with the requirements outlined in AGTTM and AS1742.3.

The monitoring program, consisting of regular inspections of all implemented Traffic Control during the night and day will be conducted and shall incorporate inspecting the implemented traffic management on site and ensuring it conforms to the approved TMP. A hard copy of the approved TMP is required to be on site during the monitoring process. Monitoring the traffic management shall occur through the following:

- Pre commencement / at close of works using Checklist
- During the hours of work a daily checklist shall be completed
- “Operational check” and/or “Onsite Inspection” shall be completed
- Closing down at the end of the shift period
- After hour inspections (An aim on the project is to maintain semipermanent TM that does not require maintenance such as post mounted signs, drill in bollards etc so as to minimise the requirement of out of hours inspections)
  - 1) Carry out periodic (minimum monthly) after-dark inspections on low headlight beam to ensure that all signs and devices are visible and performing their correct function;
  - 2) Provide after-hours contact so that arrangements can be made to replace damaged signs, delineators or barriers.

A daily record of the inspections shall be kept indicating:

- 1) When traffic controls were erected
- 2) When changes to controls occurred and why the changes were undertaken
- 3) Any significant incidents or observations associated with the traffic controls and their impacts on road users or adjacent properties.

The STM will review the record of inspections. Where significant changes or impacts are observed, controls shall be reviewed as a matter of urgency, and all damaged or missing devices shall be replaced immediately.

Where an incident is observed or reported associated with the site, incident reporting and investigation procedures will be instigated in accordance with the Safety Management Plan.

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## 9.2. TMP Audits and Inspections

### 9.2.1. Auditing and Corrective Action

To ensure ongoing compliance regular auditing and road safety inspection must be carried out on implemented TCPs. All reports must be filed and NCR's and CARs raised within 24 hours and closed out within 7 days.

Auditing of traffic control plans will be carried out through compliance auditing, road safety inspections and road safety audits. When conducting audits, auditing personnel must vary the TCPs they inspect.

### 9.2.2. Auditing Schedule

Once the project is underway the following audit schedule shall be implemented.

#### 9.2.2.1. Short Term Controls (Low Impact)

Low impact controls are limited to those that do not result in re-direction of large volumes of traffic onto alternate routes.

A desktop audit of all short term controls shall be carried out on any new TCP that has not been endorsed by and RTM prior to implementation of any new control system.

At least one daytime and night time compliance and safety inspection shall be carried at regular intervals on short term controls.

#### 9.2.2.2. Short Term Controls (High Impact)

High impact controls are those that result in re-direction of large volumes of traffic onto alternate routes

A desktop audit of all TCPs that deal with High Impact-short term prior to implementation.

A post implementation compliance and safety audit shall be taken out immediately following implementation of any High Impact-short term controls.

#### 9.2.2.3. Long Term Controls

This does not apply to systems for provision of long term site access / egress points only.

A desktop Audit of all long term controls shall be carried out prior to implementation of any new long term control system.

A post implementation compliance and safety audit shall be taken out immediately following implementation of any new long term controls.

### 9.2.3. Compliance Auditing

Compliance auditing is a regular level of checking that traffic controls are installed as per the design. Compliance auditing is to be carried out by personnel that have some technical experience and understanding of traffic control. NCR / CAR shall be issued for any deviations from the plan.

These are to be carried out as per the auditing schedule and records are to be maintained.

#### **9.2.4. Road Safety Inspection**

Road safety inspections are a level of auditing that provides a thorough look at the implementation of the TCP with a view to the safe operational implementation of devices. A road safety inspection looks at any deviations on the TCP as a solution for the works against the COP and Standards.

Where it is deemed there are deviations to the standards or code of practice a NCR / CAR shall be issued.

A road safety inspection must be carried out by a RTM or RSA, they do not need to be independent of MetCONN. These are to be carried out as per the auditing schedule and handed to document control for filing.

#### **9.2.5. Road Safety Audit**

The Road Safety Audit will consist of a whole review of the TCP and its implementation, A report shall be issued noting the effectiveness of the TCP and confirm that its implementation is safe for road users, and if not, recommend actions to be undertaken in order to effect a safe road environment.

A road safety audit must be carried out by a Road Safety Auditor. Regular audits must be conducted by an independent auditor as required by the auditing schedule or any additional requirements as noted in a TCP. These are to be carried out as per the auditing schedule and handed to document control for filing.

#### **9.2.6. Non-Conformance**

Non-conformances shall be issued and closed out within 7 days. NCR's should be issued for plan deviations should be issued to Traffic Engineer, NCR's for standards and COP deviations should be issued to the STM.

#### **9.2.7. Corrective Actions**

Corrective shall be issued and closed out within 7 days. CAR should be issued for plan deviations should be issued to Traffic Engineer, CARs for standards and COP deviations should be issued to the STM.

#### **9.2.8. Recommendations**

Recommendations can only be issued by a RTM or RSA and should be issued in writing with a copy of the audit checklist to the STM. The recommendations checklist must be completed and signed off and attached to the TCR.

#### **9.2.9. Incident Reporting and Investigation**

All incidents shall be recorded and investigated using the incident reporting form Appendix F. Major traffic incident reports must be completed within 48 hours and submitted to the Main Roads Representative. All other reports must be submitted within 7 days.

### **9.3. Records**

A daily diary recording all inspections including variations to the approved TMP shall be kept using the Daily Diary.

The Traffic Supervisor is to record all inspections made on a daily basis and at those times prescribed by the Traffic Management Implementation Standards. Upon completion of each day the Traffic Supervisor shall provide copies of the daily diary record to the Project Manager.

The Traffic Supervisor is to record all variations made to the approved Traffic Management Plan on a daily basis and indicate clearly the nature of the variations and the reason for the variations. Upon completion of each day the Traffic Supervisor shall provide copies of the variation record to the Project Manager.

The traffic team shall provide the following information for the monthly project report:

- A register of pre implementation Road Safety Audit Reports
- A drive through view of significant traffic control schemes (approximately 15mins duration)
- A review and report on this TMP
- A register of Compliance Audits, Road Safety Inspections and Road Safety Audits carried out on implemented TCPs
- A register of Pre-commencement/Close Checklists and Daily inspections that have been carried out.

In addition to this the traffic management team must maintain a comprehensive register which details all temporary traffic control measures in place during the course of the project. This must be available for inspection at all times and must be supplied as part of the as constructed information.

### 9.4. Public Feedback

Public feedback will be via the MetCONN Community Hotline, Main Roads Customer Information Centre, Main Roads, RNOC and possible other external sources.

## 10. Management Review and Approvals

### 10.1. TMP Review and Improvement

The traffic management team shall assess all results from measurement and evaluations and ensure that all CARs, NCRs, incidents and feedback are properly addressed and responded to in a timely and appropriate fashion.

A review of the Traffic Management Plan shall be undertaken at the same time and in the same manner as the OSH Management Plan.

### 10.2. Variations

Departures from the requirements of AGTTM, AS1742.3 2009 or MRWA Traffic Management for Works on Roads Code of Practice will be detailed and recorded into sub-sections TCPs, where required.

### 10.3. Approvals

Before works commence it is necessary to seek approval from the following (where applicable):

Stakeholder Approval	Comments
<b>MRWA</b>	TM Hold Point Release, Road Planned Interventions, HVS
<b>City of Armadale</b>	Approval for sign erection and/or work activities on LGA road infrastructure
<b>Shire of Serpentine Jarrahdale</b>	Approval for sign erection and/or work activities on LGA road infrastructure
<b>Public Transport Authority</b>	When impacting bus routes, train stations
<b>WestCycle/Department of Transport</b>	When impacting existing PSPs

## 11. Site Specific Planning Procedures

### 11.1. Identification of Traffic Control Requirements

Construction teams identify the need for traffic control to be implemented in order for construction activities to be undertaken. In identifying the need for traffic control the construction teams shall present their to the STM.

Once the request is received the STM will assess and determine whether it requires a Traffic Control Plan and / or Temporary Road Design.

### 11.2. Traffic Control Requirements

MetCONNx will develop site specific TCPs for each area identified in need of traffic control. Traffic Control plans will either be complex or non-complex as determined by Main Roads CoP for traffic management at worksites. All specific TCPs shall at a minimum cover the following items.

#### 11.2.1. General

##### ***Title Block***

The title block and cover page shall include:

- The MetCONNx Logo;
- Works Description;
- Works Location;
- Identifying TCP number;
- Classification of TCP complex or non-complex;
- Confirmation a site visit has been undertaken;
- Revision details; and
- Approvals and sign off block.

##### ***Location and Scope***

An overview locating map and a brief detail of works that will be undertaken in conjunction with the TCP. Detail of work shall include type, machinery and impact on local roads. The location description shall define the boundaries of the TCP.

#### 11.2.2. Traffic Impacts

##### ***Site Constraints / Impacts***

All impacts that implementation of the TCP will have on all road users must be clearly defined in this section. Any constraints that have been considered during the design must clearly be noted here. This will enable the users of the TCP to ensure correct measures are implemented to avoid any traffic or construction incident.

Typical restraints may be:

- Access / egress times;
- Defined work areas; and

- Traffic volume details and subsequent enforcement / relaxing of lane closure times.

### ***Traffic Speed***

Traffic speed shall be both clearly defined on the TCP & TGS, and will be in accordance with the requirements of the Specification 202; considerations shall be taken in regards to safety and welfare and construction workers and road users, to existing traffic flows, retaining speed after hours, and public perception of lowered speed limits.

### ***Site Representatives***

The TCP must contain a list of personnel who are responsible for the implementation of the TCP.

At a minimum it must include an AWTM and a Traffic Supervisor, if available and preferred include contact details for works area personnel. After hours contact number must be provided. Traffic Flows and Volumes

The TCP must include traffic flow volumes for inclusion in the TCP. Approval of the TCP by Main Roads Network Operations branch will indicate Main Roads acceptance of a variation in lane closure times.

### ***Working Hours***

Working hours as prescribed by the Law are 7:00am to 7:00pm Monday to Saturday. Work outside these hours may be permitted for specific operations subject to the approval in writing from Main Roads' Representative and Local Government Authorities. Additionally, no work will be allowed on Public Holidays except as permitted by law and then only with the prior approval in writing of Main Roads' Representative and Local Government Authorities.

It will be the obligation of the construction team to obtain all required approvals for out of hours work.

### ***Temporary Lane Alignments***

The redirection of vehicles from existing travel paths must be clearly outlined with durations of re-direction provided. This shall include the short term and long term works. Details of the method/s used to redirect traffic must be considered for each TCP with varying methods to be used. Each TCP shall outline methods for re-direction and ensure that it is a suitable method for the time, duration and pavement type. Where traffic is to be diverted onto surfaces not designed or intended for traffic flow, a geotechnical assessment is to be conducted. The geotechnical assessment must be considered in the temporary road design.

### ***Temporary Lane Closures***

All temporary lane closure shall be detailed with the extents of the closure defined. Considerations for temporary lane closure should include side roads, and access and egress for road users to adjoining properties.

### ***Capacity Analysis***

A detailed brief of the expected effect on traffic the implementation of the TCP will be outlined in the TCP. Reference to data and previous experience of the MetCONN Alliance

NOPs are suitable points of reference. All considerations on the effect must be outlined and any measures that need to be implemented to minimise the effect on the network operations.

### ***Lighting***

Temporary lighting levels are required to match the existing lighting levels. Temporary Lighting shall be installed in any areas required to highlight a local hazard.

#### **Emergency and Special Vehicles**

The TCP will address any special requirements for continued access by emergency vehicles and special vehicles. If detours are put in place emergency services must be appropriately notified.

Traffic personnel shall assist emergency vehicles requiring entering and / or travelling through the worksite. Emergency services shall be notified via the Notification of Road Works form; this will include details of the proposed works nature, location, date and times as well as contact details for the site supervisor.

Vehicle breakdown and / or crashes can cause considerable delay and congestion. Police communications will be requested to render assistance where required. The contractor will also render assistance where possible to ensure the impact of crashes and breakdown on the network is minimised.

### ***Main Roads Heavy Vehicles Operations***

All TCPs will consider the operation of heavy vehicles, if it is deemed they will be affected, contact must be made with Main Roads Heavy Vehicles Operations and adequate contingency plans put in place for all restricted vehicles that have access to sections of road affected.

In accordance with the requirements of Main Roads Traffic Management for Works on Roads Code of Practice – January 2020 section 5.4 the Notification of Road Works form will be distributed to Main Roads HVO a minimum of 7 days prior to the date of the works.

If required traffic control signs and devices are to be temporarily laid down to allow for the passage of high / wide load vehicles.

#### **Special Events and / or Public Holidays**

Where it is known that special events will run through the site, MetCONNx will cooperate with Main Roads and the Local Government Authorities to ensure adequate traffic flow.

Where it is known that special events exist they shall be outlined in the TCP with the measures that will be put in place during such special events.



### 11.2.3. Notifications and Approvals

The development of an effective traffic control plan relies on consultation and communication with a variety of key stakeholder groups. The following groups will be consulted with in both the development and ongoing deployment, of the site specific TCPs.

Stakeholder	Consultation and Communication Program
<b>Road Authorities</b> <ul style="list-style-type: none"> <li>• Local Government</li> <li>• MRWA Branches</li> </ul>	<p>Ensure impacts associated with the project are discussed with the affected Road Authorities and their relevant Branches prior to the commencement of works and any communication strategies are confirmed.</p> <p>The affected LGA is:</p> <ul style="list-style-type: none"> <li>• City of Armadale and Shire of Serpentine Jarrahdale</li> <li>• Affected departments of MRWA are:</li> <li>• Road Network Operations</li> <li>• Heavy Vehicle Operations</li> <li>• Road Planned Interventions</li> </ul>
<b>Adjacent Projects</b>	<p>Ensure impacts associated with the project are discussed and co-ordinated with adjacent projects prior to the commencement of works and any communication strategies are confirmed.</p> <p>The affected projects can be:</p> <ul style="list-style-type: none"> <li>• Metronet</li> <li>• Local Government Projects</li> <li>• Local Development Projects</li> </ul>
<b>MetCONNx Personnel</b>	<p>Ensure the requirements of the project specification are understood and met by site specific Traffic Control Plans to the satisfaction of the Traffic Manager.</p> <p>Obtain approvals to undertake traffic control.</p> <p>Coordination of other projects that may impact on the traffic flows.</p>
<b>Emergency Services</b>	<p>Provide details of changes to the network while under construction.</p> <p>Incorporate requirements of each as part of the Contingency Plan.</p>
<b>Public Transport</b>	<p>Advise operators of any changes that impact on bus operations.</p>
<b>Local Residents and Businesses</b>	<p>Meet with local residents and businesses to ensure adequate property access is maintained throughout the project and that they are aware of major traffic switches.</p>
<b>Service Providers</b>	<p>Ensure works are programmed to complement any activities undertaken by any of the service authorities.</p> <p>Ensure liaison on location of services to minimise damage.</p>

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**Stakeholder Approvals**

The TCP must provide evidence of consultation with road, utility and service providers as well as other projects that might be impacted by the works+. Approval will be required from the delegated authority of the road reserve to implement traffic controls. Approval must be obtained prior to the TCP being implemented.

Further additional approvals from stakeholders such as out of hour's works or land access shall be obtained by the relevant works area team prior to any works commencing. Proof is not required for the TCP; however they must be included in any request for implementing a TCP.

**Main Roads Approvals**

Requests for changes to the traffic flow, and arrangements for control of traffic will be submitted in writing 14 days before the proposed change. Subsequent minor changes will be submitted at least two days before the proposed change.

**11.2.4. Advertising and Public Notification and Awareness**

Appropriate advertising must be undertaken locally for all changes to traffic flow. Advertising will be undertaken in local newspapers prior to any changes being implemented. The content, size and frequency of the advert is to be managed by the MetCONNx Alliance team

**11.2.5. Notification of Road Works**

The STM shall submit notification of works prior to the implementation of any TCP; they must also be re-submitted where notification period expires. This must be undertaken in accordance with the notification periods set out in the SWTC prior to works being undertaken using Notification of Road Works form. This process must not be confused with stakeholder approvals which are done prior to the notification being issued.

Notification of works must occur when any of the following are deemed to be affected by the implementation of the TCP.

- Works on primary and distributor roads of more than for (4) hours duration where it is expected that major traffic delays and congestion will occur;
- Works on any roads where speed restrictions and lane closures will be in place more than five (5) days, but major delays are not expected;
- Traffic management activities resulting in any direct or indirect changes to traffic flows and / or traffic composition on bridges, including situations where such changes are a result of lane closures or traffic detours; and
- Mains Roads Heavy Vehicles Operations section to receive notification of changes in advance of intended implementation.

**11.2.6. Site Specific Traffic Control Diagrams**

MetCONNx shall identify all Traffic Control Diagrams (TGSs) necessary to address all risks identified when planning the works. TGSs shall satisfy the following requirements and following processes:

- Detailed drawings depicting the layout and type of traffic control devices to be used for all situations likely to be encountered during the works shall be drawn to scale

- The drawings shall be developed so that they mirror and expand upon the written component of the TCPs.

TGSs shall be sufficiently detailed to enable them to be given to a third party to install without constant referral for additional information or interpretation.

TGSs shall show the precise type and location (by chainage or spacing's related to a clear datum point) of the devices.

Spacing for devices relative to a key feature of the site shall also be provided in accordance with the provisions of AGTTM.

The TGSs shall include document control details (drawing and revision numbers, TMP document number), north point, scale, traffic controllers, posted and proposed speed zones, locations (chainages) and legend of all devices to be used, abutting development and access provisions, road layout / dimension details both pre and during works, provisions for other road users, site peculiarities (topography, geometry etc.), and pavement marking changes.

The TGSs shall be certified by the person preparing them, clearly showing their name and any accreditation details.

Prior to implementing any proposed traffic control measures for the work under the Contract, particularly the installation of regulatory control devices such as temporary speed restrictions, MetCONNx shall certify that the Traffic Control Diagram conforms to the relevant requirements.

### **11.2.7. Hazard Identification Risk Assessment**

Site specific Traffic Control Plans shall be developed out of a risk management process based on Australian Standard AS/NZS/ISO 31000; Risk Management.

Traffic Management Planners shall undertake hazard identification and risk assessment and shall consider all impacts to work personnel and motorised and non-motorised road users.

The outcome of the assessment shall be recorded in the TCP.

Hazards assessed as posing unacceptable risks shall be managed by appropriate traffic control initiatives.

A TCP shall not contain a "residual risk" rating "E" (Extreme Risk).

### **11.2.8. Road Safety Audit and Corrective Actions Report**

For traffic management proposals considered "complex" as defined by Section 5.2 of MRWA Traffic Management for Works on Roads Code of Practice, a desktop road safety audit must be carried out prior to submitting for approval.

If a temporary detour or contraflow is to be implemented which will be in place for two or more continuous shifts, a Pre and Post opening Road Safety Audit will be conducted in accordance with SWTC/BDC, including the issuance of a Corrective Actions Report.

- For all other plans:
  - RTM endorsement of the plan is considered to satisfy the desktop auditing requirement.

- If a TCP is to be installed continuously for more than a single shift, a post implementation Road Safety Audit shall be conducted.
- If the TGS is to be implemented and removed in a single shift, Inspection of the installation shall be conducted.

### 11.2.9. Issuing of TCP

Once a TCP has been approved it must be issued and the status changed to “Approved”.

### 11.2.10. Modifications and Revisions to TCP

Changes to TCPs can be separated into Major and Minor changes.

#### **Minor Changes**

Minor Changes will be changes to the TCP which will not have any perceived change in affect to traffic flow or operations and do not differ from the original intent of the TCP. Where it is deemed a minor change an AWTM will make a red pen mark-up of the TGS and TCP and the controls implemented. Main Roads must be notified in writing of the changes within 24hrs. The Main Roads Representative may request that a TCP be revised if changes are deemed to be Major.

A record of all changes must be included with the TCR.

Minor changes may include but not be limited to, change in location of signs, lengthening / shortening of closure, minor change to location, no additional signs or devices within 150m of signals.

#### **Major Changes**

Major changes are those which are short of a request for a new TCP but differ from the original intent and / or will have a perceived change in the flow and operation of traffic. Major Changes must be approved prior to implementing through the issuing of an approved TCP revision.

Major changes may include but not be limited to, change to speed zone, change of lanes, and significant change in location, additional signage or devices within 100m of signals.

## 11.3. Temporary Design

Where determined by the STM and RTM that a TCP will require Temporary Design Services, temporary design works cover the following elements:

### 11.3.1. Geometric Road Design

Temporary lane realignments, temporary alignments, merges and diverges shall meet appropriate geometric standards for the governing speed limit zone. Sufficient distance must be provided for weaving or lane changing to ensure safe movement to or from intersecting roads and access roads.

The roads shall be designed and constructed in accordance with the standards detailed in Austroads Guidelines (AGTTM), AS1742.3 and the Main Roads Traffic management for Works on Roads Code of Practice January 2020.

### **11.3.2. Road Safety Barrier Design**

All temporary Road Safety Barriers shall be designed or endorsed by the project RTM. All barrier designs shall specify the following details:

- Length and type of barriers, including start and termination locations
- Approach flare rates, lengths and traffic offsets
- End terminal protection requirements
- Offset of barrier to adjacent traffic lanes.

The alignment of all temporary Road Safety Barriers and end terminals shall be set out by surveyors who will be provided with a CAD file containing the necessary alignments.

When installing barriers, traffic shall not be exposed to barrier terminations that do not have approved attenuation terminals fitted when located within the clear zone of active traffic lanes. As such all temporary installations shall be commenced from the approach end and where required end terminals shall be installed first.

### **11.3.3. Temporary Pavement Marking Alignments**

Where required all temporary pavement marking alignments shall be geometrically designed by a suitably experienced designer. Temporary pavement markings shall be clearly visible in all conditions and shall not be applied to the final wearing surface.

All on-ground alignments shall be set out by surveyors who will be provided with a CAD file or Genio File containing the necessary alignments.

### **11.3.4. Temporary Pavement Design**

A temporary pavement design for use on all required tracks will be developed.

### **11.3.5. Drainage**

Temporary drainage shall be designed as per SWTC requirements for Temporary Works.

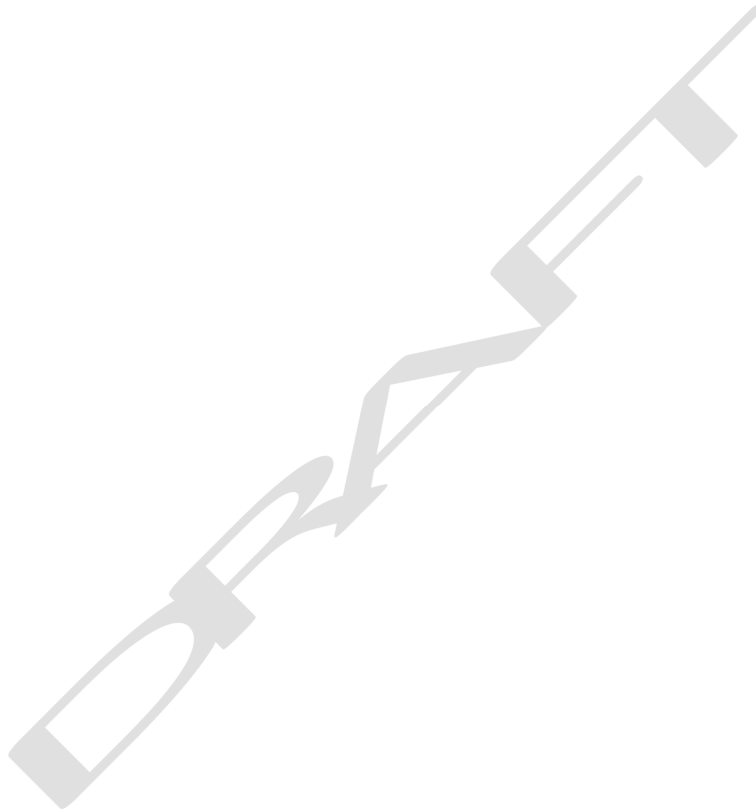
### **11.3.6. Temporary Design Verification**

All Temporary Road Designs shall be reviewed and verified as suitable for construction by the MetCONNEX Design and Construction team.

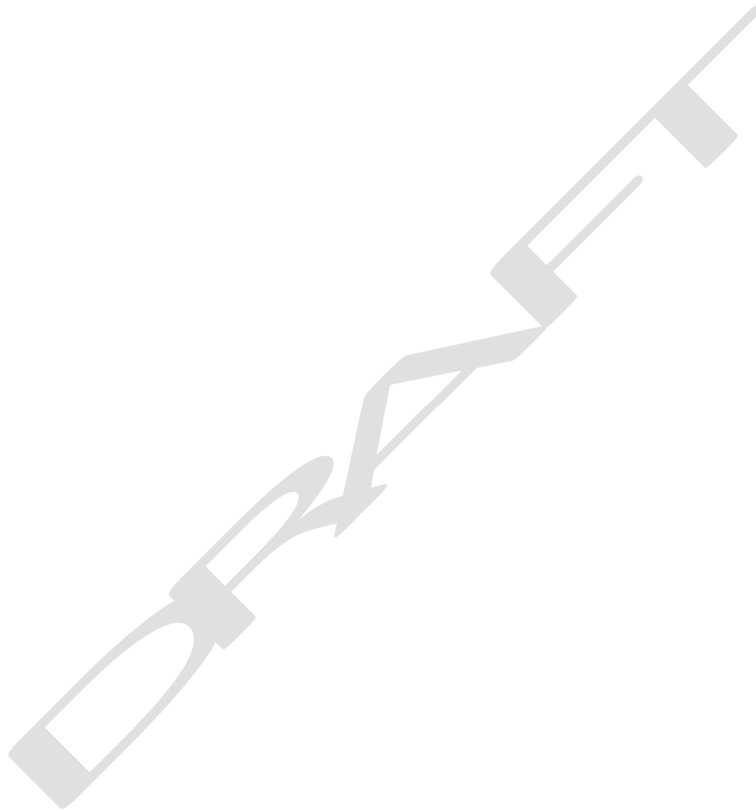
### **11.3.7. Approval of Temporary Roadworks including temporary detours**

Site Specific Traffic Management Plans (TCPs) shall be developed for temporary roadworks. In addition to the above standards and practices, Traffic Guidance Schemes (TGSs) shall also be produced. The entire package of temporary works, including temporary design signoff and TGSs shall be reviewed and approved by an RTM prior to implementation, in accordance with the Main Roads Traffic Management for Works on Roads Code of Practice, July 2020.

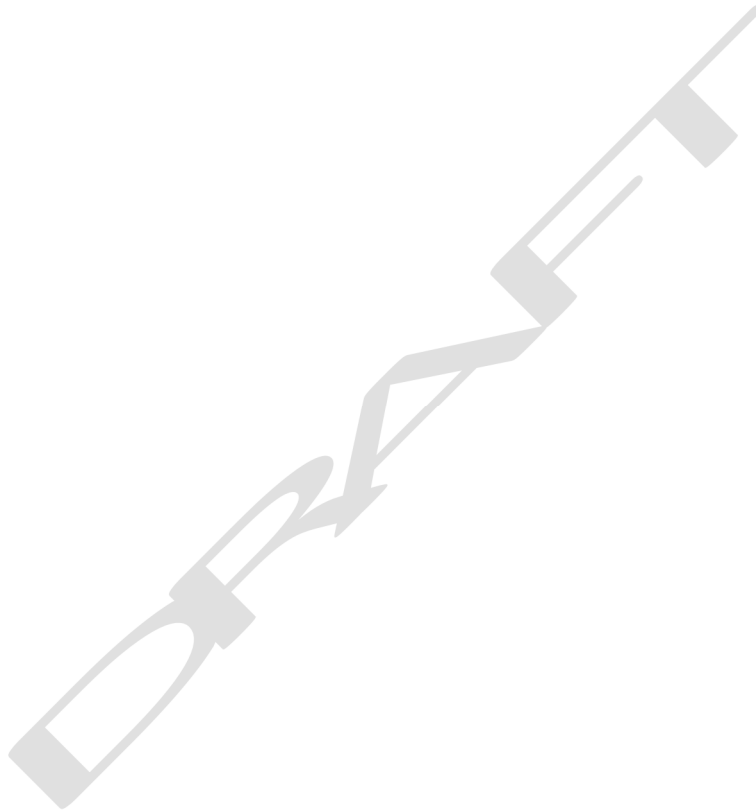
## Appendix A – Notification of Roadworks



## Appendix B – Variation to Standards



## Appendix C – Record Forms





# Project Traffic Management Plan

BYFORD RAIL EXTENSION

MCN-TR-PLN-000X

## Daily Diary

### Daily Traffic Management Diary

Location:		Client:		Date:	
TMP No: _____		TGS No: _____		Weather Conditions: _____	
Start Time at Depot: _____		Time Arrive Onsite: _____		Commencement of Site Setup: _____	
Site Pulled Down at: _____		Time Aftercare signs setup: _____		TGS No: _____	
Time left site: _____		Finish time at Depot: _____		Diary Sheet: _____ of _____	
Site Setup and Operational: _____		Site Setup as per TGS <input type="checkbox"/> Yes <input type="checkbox"/> No (if not comment on next page)			
<input type="checkbox"/> Day Works <input type="checkbox"/> Night Works		<input type="checkbox"/> Emergency Response			
<input type="checkbox"/> Attendance at Pre-Start Meeting		Did an incident occur (if yes complete incident report form) <input type="checkbox"/> Yes <input type="checkbox"/> No			
I confirm that the above times of 'setup' and 'pulldown' of traffic management signs and devices are a true and correct					
Name (Site Supervisor): _____		Signed: _____			
Drive Through Checks (Checks must be conducted at least every 2 hours) _____					

## Project Traffic Management Plan

BYFORD RAIL EXTENSION

MCN-TR-PLN-000X

Time of check entered. Rule off and leave blank if the check does not apply to the site. Make a note of any issues on the next page.

<b>Traffic Management Site Checks</b>	1	2	3	4	5	6	7	8	9	10
<b>Time</b>										
Are signs upright, clean, visible, level & stable										
Are taper lengths correct										
Are speed limit signs correct and doubled up										
Are sign spacings correct										
Are cone/bollard alignments straight & spaced correctly										
Are devices operating correctly										
Have pedestrians been catered for										
Are lane widths adequate										
Are vehicle queue lengths acceptable										
Is road surface condition adequate										

# Project Traffic Management Plan

BYFORD RAIL EXTENSION

MCN-TR-PLN-000X

<b>No. of Traffic Management Vehicles Onsite:</b> _____			<b>No. of Traffic Management Personnel Onsite:</b> _____							
<b>Traffic Management Personnel Names &amp; Accreditations:</b>										
		<b>Accreditation Details</b>	<b>Time of Break from Stop/Slow</b> (Traffic controllers must have a 15 minute break every two hours of constant stop/slow operation)							
<b>Position</b>	<b>Name</b>		On	Off	On	Off	On	Off	On	Off
Crew Leader:			:	:	:	:	:	:	:	:
Traffic Controller:			:	:	:	:	:	:	:	:
Traffic Controller:			:	:	:	:	:	:	:	:
Traffic Controller:			:	:	:	:	:	:	:	:
Traffic Controller:			:	:	:	:	:	:	:	:
Traffic Controller:			:	:	:	:	:	:	:	:
Traffic Controller:			:	:	:	:	:	:	:	:
Additional Comments _____										
_____										
_____										
_____										
_____										
_____										
_____										
_____										
_____										
_____										
I confirm that the details contained herein are true and correct										
Name: (Traffic Management Crew Leader): _____					Signed: _____					

#### TRAFFIC INCIDENT REPORTING FORM

Region:
Contract No.:

Incident Report No.:
Contractor:

Major Incident Reports must be forwarded to the Superintendent within 48 hours of the incident occurring or becoming apparent.

Contractors shall use this Form for reporting of traffic Incidents on works under Contract and this form supplements the Safety Incident Report Form.

1.0 Details of Incident		Reported to:	<input type="checkbox"/> Supervisor	<input type="checkbox"/> TMR	<input type="checkbox"/> Other
Safety Incident Report No		Atmospheric Conditions		Light Conditions	
Fatality <input type="checkbox"/>		Clear <input type="checkbox"/>		Day Light <input type="checkbox"/>	
Injury <input type="checkbox"/>	Road Surface	Overcast <input type="checkbox"/>		Night Time <input type="checkbox"/>	
Property Damage <input type="checkbox"/>	Unsealed <input type="checkbox"/>	Raining <input type="checkbox"/>		Dawn/Dusk <input type="checkbox"/>	
Police Attended Yes/No	Sealed <input type="checkbox"/>	Fog/Smoke/Dust <input type="checkbox"/>		Street Lighting	
Time and Date of Incident		Road Condition		On <input type="checkbox"/>	
	AM / PM	Wet <input type="checkbox"/>		Off <input type="checkbox"/>	
	Day Month Year	Dry <input type="checkbox"/>		Not Provided <input type="checkbox"/>	

Other relevant details, (Last maintenance grade, watering and dust conditions):

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#### 2.0 Details of Traffic Management in place:

TGS No:

Name of individual that prepared the TGS

Time last inspected:

Accreditation No:

TGS Approved:

TMP Approved:

Day Month Year

Day Month Year

#### 3.0 Descriptions of Vehicles:

Detail (make, model/ped/cyclist/VRU)

Registration No

Direction of Travel

Age of Driver

3.1 Vehicle 1

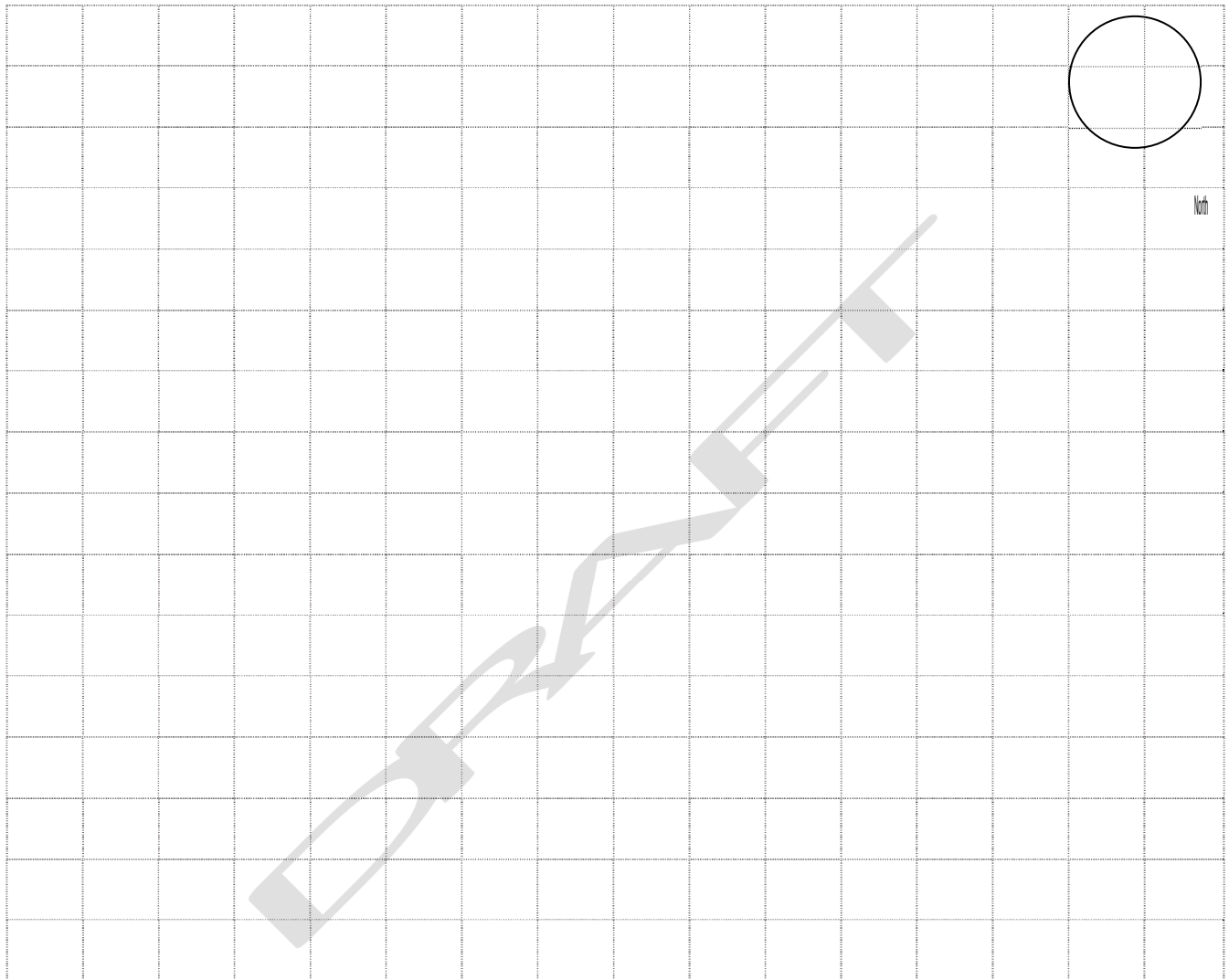
3.2 Vehicle 2

3.3 Vehicle 3

Comments:

**4.0 Description of Incident:**

Draw the Incident including the direction of travel, traffic control signs, fixed structures and north point.



#### 5.0 Attachments: The following copies MUST be submitted with this Incident Report.

Approved TCP

☐

Approved TGS

☐

Approvals for  
temporary speed  
restrictions

☐

Daily Diary

☐

#### 6.0 Police Report:

Accident  
reported to  
Police:

☐ YES

☐ NO

Report made by

☐

Phone

☐

Fax

☐

Mail  
or  
E-  
mail

Date Report  
Made

Day

Month

Year

Police WA  
Reference  
Number

#### 7.0 Details of Person Completing this Incident Form:

Name:

Contractor Name:

Position:

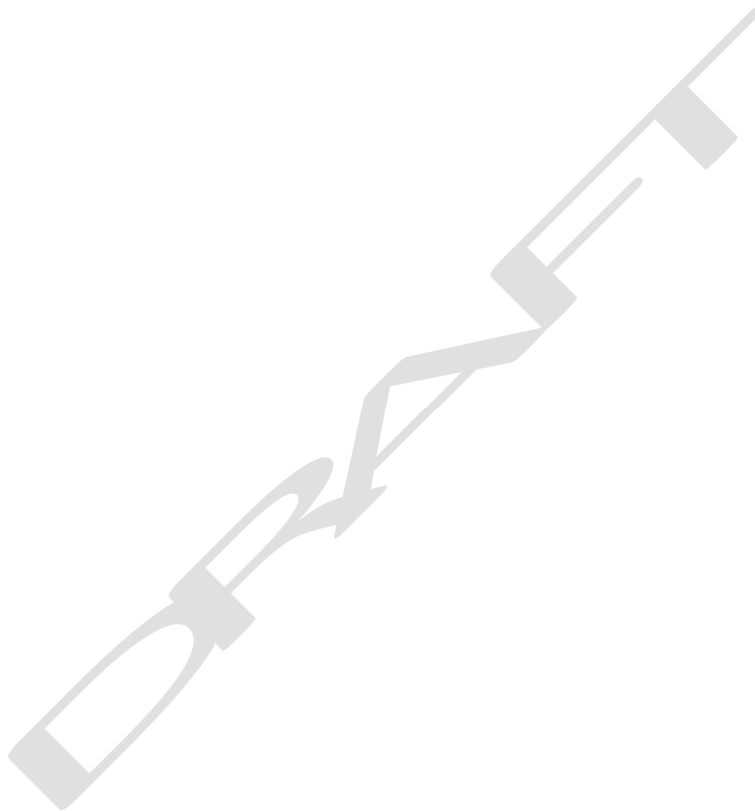
Date:

Signature:

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## Appendix D – Traffic Analysis and Volume Counts

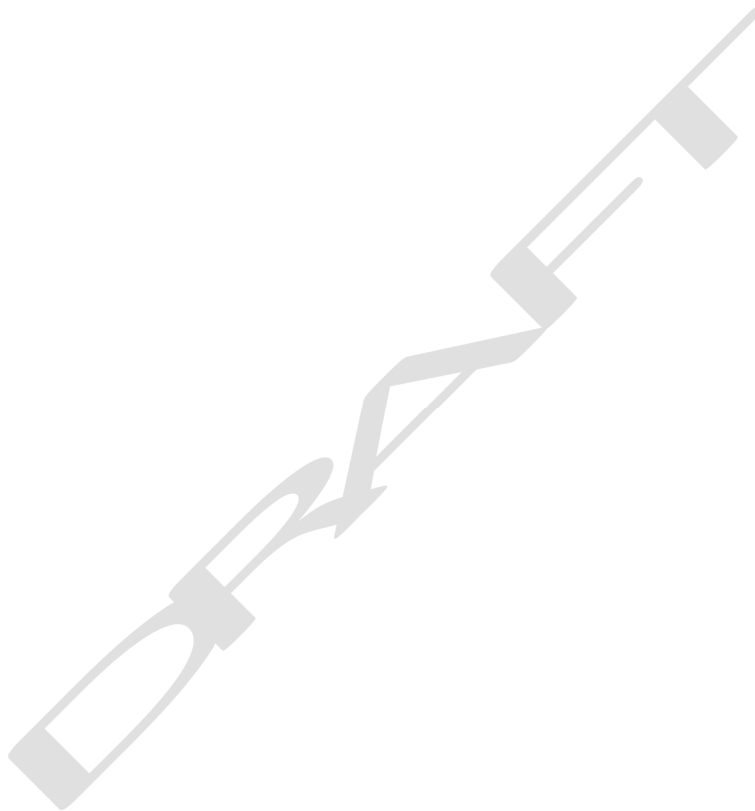
To be provided with individual TCPs.





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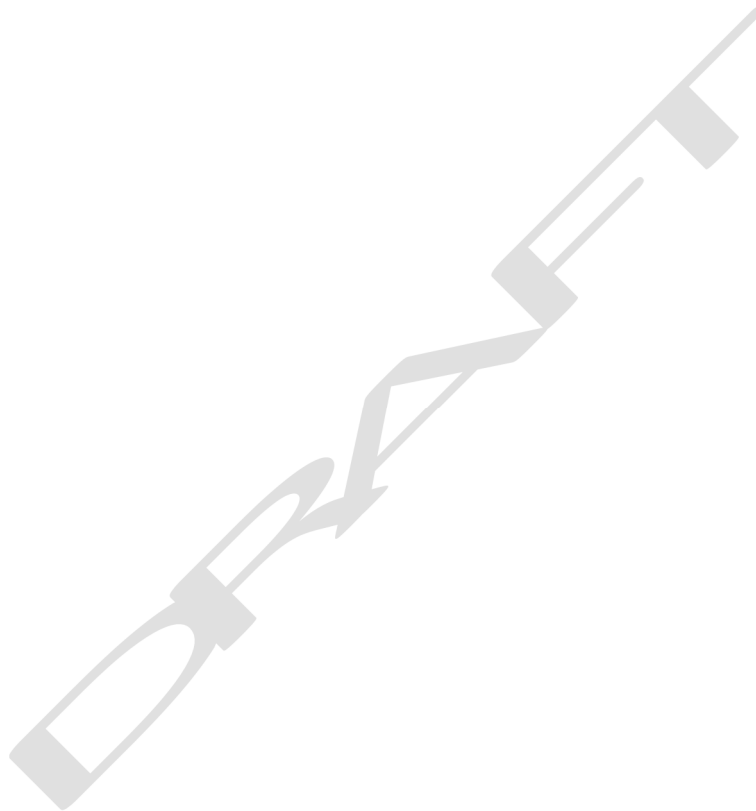
## Appendix E – Roadway Access Authorisation Permit



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## Appendix F – Traffic Guidance Schemes

Not used, see individual TCPs.



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## Appendix G – Stakeholder Approval

