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Guidelines for Traffic Modelling

Temporary Traffic Management

Network Operations Directorate

D24#355389
March 2025

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Guidelines for Traffic Modelling Temporary Traffic Management Network Operations Directorate

This document is owned and authorised by the Executive Director Network Operations. Please submit all comments and requests to the Manager Traffic and Road Network Performance.

Authorisation

As Executive Director Network Operations, I authorise the issue and use of these *Guidelines for Traffic Modelling – Temporary Traffic Management*.

Approved by **EXECUTIVE DIRECTOR NETWORK OPERATIONS**

Date: 7th March 2025

All printed copies are uncontrolled.

Contents

Document Control

Owner	Maryely Rueda, Manager Traffic and Road Network Performance
Custodian(s)	Andrew Reilly, Major Projects Interface Manager
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Amendments

Revision Number	Revision Date	Description of Key Changes	Section / Page No.
0	March 2022	Document developed	All
0.1	November 2023	Draft issued for stakeholder comment	All
0.2	January 2024	Stakeholder comments captures	All
0.3	January 2024	Modelling report template added	Appendix 2
1.0	March 2025	Updated	All

1 PURPOSE

The purpose of this 'Guidelines for Traffic Modelling – Temporary Traffic Management' is to set out the circumstances under which Main Roads Network Operations Directorate may require traffic modelling assessment in order to approve temporary traffic management arrangements, and provide guidance on the level of assessment that may be required, particularly in the case of high impact events and roadworks.

This document sets out additional requirements over and above Main Roads' "Traffic Management for Works on Roads Code of Practice", the Austroads Guide to Temporary Traffic Management, and Australian Standard 1742.3 for traffic management at road works.

These guidelines are to be followed by Main Roads, its contractors, authorised bodies (Western Power, Atco Gas, Telstra, Water Corp. etc.), developers and Local Governments when planning, developing, and implementing traffic management plans on roads.

2 SCOPE

These guidelines and related procedures apply to temporary traffic management on any road[1] where the measures are expected to, or risk, significantly degrading network performance (as defined in Section 5) whilst the works are being completed.

These guidelines do not relate to the level of assessment required for permanent changes to the network.

3 BACKGROUND

This document needs to be read in conjunction with the Traffic Management for Works on Roads Code of Practice (CoP), Austroads Guide to Temporary Traffic Management (AGTTM) and Temporary Traffic Management: Traffic Signal Approval Policy (if applicable).

3.1 Austroads Guide to Temporary Traffic Management (AGTTM)

The AGTTM sets out the minimum desirable number of lanes according to the total traffic volume per direction, per hour. Where the minimum requirements with respect to Levels of Service cannot be maintained, the applicant will obtain prior approval for variations from the relevant road infrastructure manager and / or jurisdictional road agency.

3.2 Main Roads Traffic Management for Works on Roads - Code of Practice

The Code of Practice provides requirements for variations to the traffic volumes within AGTTM as well as traffic volume requirements on Freeways and Grade Separated Motorways.

The Code of Practice also requires any Traffic Management Plan (TMP) that will redistribute traffic, significantly lowering the level of service and/or safety of the surrounding road network, including isolated intersections shall be endorsed by a Roadworks Traffic Manager (RTM) and submitted to the Road Authority for approval.

[1] Temporary traffic management works outside of the Perth Metropolitan area which may require traffic modelling assessments should be referred to the relevant Main Roads region.

3.3 Main Roads Operational Modelling Guidelines

Main Roads Operational Modelling Guidelines provides guidance on how operational traffic models should be built for schemes where network performance is being assessed. These guidelines are used in the development of operational traffic models in Western Australia, including those for assessing temporary traffic management schemes

3.4 Main Roads Temporary Traffic Management: Traffic Signal Approval Policy

The Temporary Traffic Management: Traffic Signal Approval Policy document sets out the circumstances and process under which Main Roads Network Operations will consider approving the temporary modification to traffic signals and/or the implementation of temporary traffic management within the vicinity of traffic signals for the purposes of carrying out works and events.

4 DEFINITIONS

Term	Definition
Applicant	Applicant or project owner of Temporary Traffic Management Plan
Director Real Time Operations	Approval of variations to Australian Standards as outlined in suitably prepared Traffic Management Plan (TMP).
DoS	Degree of Saturation
LG	Local Government
LOS	Level of Service
Manager Road Planned Interventions	Approval of temporary traffic management proposals as part of a suitably prepared Traffic Management Plan (TMP)
Manager Traffic and Road Network Performance	Manages Area Performance Management personnel, responsible for the operational performance of the State Road network in Metropolitan WA
Network Area Performance Manager	Responsible for the provision of a strategy to maintain and improve the operational performance of the State Road network in Metropolitan WA
NO	Network Operations
Operational Modelling & Visualisation Coordinator	Review of traffic modelling scenarios associated with a proposed temporary traffic management treatment on a major project
RNOC	Road Network Operations Centre
Road Authority	National or state road agency, municipality, other body or individual responsible for the care, control and maintenance of road infrastructure
Road Planned Interventions Coordinator	Review of temporary traffic management proposals as part of a suitably prepared Traffic Management Plan (TMP)
Route Manager	Responsible for the provision of operational strategies, including traffic signal operations, and assessment of traffic modelling submissions for the designated routes of the Metropolitan State Road Network.
RTM	Roadworks Traffic Manager
RTTO	Real Time Traffic Operations
Traffic & Road Network Performance Branch	Branch of Network Operations comprising of both the Area Performance and Operational Modelling & Visualisation teams
TGS	Traffic Guidance Scheme
TMP	Traffic Management Plan
VPH	Vehicles Per Hour
Business Days	Monday – Friday, not including public holidays

5 DETERMINING LEVEL OF ASSESSMENT

As traffic modelling and assessment can be costly and time consuming, it is important to determine whether it needs to be undertaken in the first place. The purpose of a traffic modelling assessment is to evaluate the potential change to road network performance, so that any significant impacts to road user delay are identified, mitigated where possible, or communicated to the public in advance.

In determining the level of assessment required, consideration is given to:

- The type of scheme/closure, and traffic volume thresholds set out in AGTTM.
- Impact to network performance in terms of potential road user delay, consequential damage to Main Roads reputation and any project operations
- Duration of the temporary traffic management scheme
- High risk attributes such as railway crossings, freeways/highways, and public transport stations
- The assessment capabilities and limitations of each modelling software

If at any point the applicant is unsure of the level of assessment, the traffic modelling extent, or scenarios that may be required, they are strongly encouraged to contact Main Roads Road Planned Interventions team (RPI) via enquiries@mainroads.wa.gov.au for early discussion of the proposal and confirmation of modelling scope.

5.1 Types of Schemes

Where the requirements with regards to maximum allowable tolerances for lane capacity is being exceeded, the applicant will refer to Section 5.4 to determine what level of traffic modelling assessment is necessary.

The primary general categories for schemes which may require traffic modelling assessments include:

- Lane closures
- Link closures (Road closures)
- Modifications to an existing set of traffic signals
- Contraflow scenarios

5.2 Link Closures (Road closures)

If a link, such as a ramp, road, or carriageway requires closure, the associated redistribution of traffic will need to be checked against any impacted intersections. Any associated peak hour impacts will need to be checked against the requirements of the *Traffic Management for Works on Roads - Code of Practice*.

Depending on the alternative route choices available, assumptions may need to be made to account for the redistribution of traffic on the wider network. Where multiple alternative routes are considered, the assumptions made should be informed by best available data, or sensitivity analysis may be required. In extreme circumstances where the risk rating is very high and wider network impacts must be evaluated, mesoscopic modelling may be deemed necessary.

5.3 Intersection Modifications

The requirements for temporary traffic management at traffic signals are outlined in the Main Roads *Temporary Traffic Management: Traffic Signal Approval Policy*, and the traffic modelling requirements set out in this document are consistent with the Policy.

Any TMP at permanent signals that requires any of the below traffic arrangements shall be endorsed by a Roadworks Traffic Manager (RTM) and submitted to Main Roads for approval:

1. Alteration to the function of the traffic signals or signal display (e.g., flashing yellow, masking displays, modifying movements or phasing, adjusting cycle times).

2. Closure of a traffic lane (including tapers or road closures):
    a) within a signalised intersection,
    b) within 30m of the stop line on the approach,
    c) within 30m of the adjacent stop line on the departure,

3. Closure of any part of a signalised dedicated turning lane.

5.4 Impact to Network Performance

Key to determining whether a formal traffic modelling submission to Main Roads is required to approve the scheme, is estimation of the likely impacts to performance in terms of road user delay.

In evaluating the impact to network performance, it is the applicant's responsibility to:
- Identify all intersections impacted by the scheme that warrant further evaluation.
- Identify all relevant peak periods (including but not limited to AM, PM, weekend, shopping, holiday or event day peaks).
- Provide clear calculation and/or assumptions regarding any redistribution of traffic.

Where traffic volume thresholds are exceeded for only a short duration of time (i.e. less than one week), analysis using first principles, simple analytical methods or site visits may be sufficient to estimate the likely severity of performance impacts. However, if the scheme is likely to cause delays of 2 minutes or greater for any single movement or overall intersection, the applicant is strongly advised to carry out preliminary traffic modelling to confirm the likely impact and modelling submission requirements in line with Section 5.3.

For any traffic modelling assessment of temporary traffic management arrangements, no initial assumptions should be made for a general reduction in volume leading from poor performance. It is accepted that this may occur over time, particularly where alternative routes with spare capacity exist, or road user messaging is implemented. However, for the purpose of assessment and approval a worst-case scenario must be provided not only for consistency, but to aid in managing community or stakeholder expectations, and inform mitigative measures such as traffic signal timing plans or demand management measures.

5.5 Assessing Risk

The assessment of risk is based on the Traffic Management for Works on Roads Code of Practice and AGTTM.

There are attributes that may elevate the performance or safety risks associated with a scheme, that will automatically trigger the need for traffic modelling assessment for approval. These situations include, but are not limited to schemes that exceed traffic volume thresholds for any duration, and:
- Traffic impacts may extend to rail crossings; or
- Traffic impacts may extend from ramps to freeway or highway mainlines; or
- Traffic impacts extend to major public transport stations; or

- Problematic weaving manoeuvres are introduced that are expected to worsen safety or performance outcomes; or
- Increased demand for priority control movements (or the opposing movement) may introduce unacceptable safety risks.

General capacity checks need to be made for movements to determine whether further modelling may be required. This is especially true for opposed movements where the capacities that are impacted by the magnitude of opposing movements, such as give-way movements, filter right turns at traffic signals, and roundabout operations.

5.6 Guidance on the Level of Assessment

The Table below outlines the risk ratings of traffic management schemes based on the duration and consequences. This is to be used as guidance on whether a traffic modelling assessment is required, and where a modelling report is necessary, the applicant should contact Main Roads to discuss the project in greater detail prior to submission.

To assist traffic management designers in ascertaining when traffic modelling maybe required, the following table should be used.

Table 1 – Consequence Categories

	CONSEQUENCE CATEGORIES				
	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC
Transport Services	• Minimal impacts to customers (minimal drop in patronage or minimal-level of congestion, e.g 30 - 60 seconds travel time delay).	• Short-term impact to customers (short-term drop in patronage or isolated congestion, e.g 2 minutes travel time delay)	• Medium impact to customers (medium-term drop in patronage or medium level of congestion, e.g 5 minutes travel time delay).	• Non-critical service infrastructure is not operational and cannot be rectified. • Substantial impact to customers (substantial drop in patronage or substantial level of congestion, e.g 5 -10 minutes). • Queues extending to surrounding intersections	• Severe impact to customers (severe drop in patronage or severe level of congestion, e.g greater than 10 minutes travel time delay) • Queues extending to surrounding intersections
Reputation and Trust	• Isolated local community or individual's issue-based concerns. • Low profile media attention.	• Local community impacts and concerns. • Occasional once-off negative media attention. • Trust issues raised.	• Sectional community impacts and concerns publicly expressed. • Increased negative media attention. • Loss of confidence and trust by community and stakeholders in agency processes and capability. • Ministerial concern.	• Substantial and prolonged community impact and dissatisfaction publicly expressed. • Consistent negative media attention. • Criticism and loss of confidence/ trust by community and stakeholders in agency processes and capability. • Ministerial intervention.	• Severe adverse community impacts and condemnation. • Extreme negative media attention. • Consistent ongoing community loss of confidence and trust in agency capabilities and intentions. • Government intervention.
Business or Project Operations	• Minimal delays to activities. • Up to 5% variation in KPI or objective.	• Short–term delays to activities. • 5% to 10% variation in KPI or objective.	• Medium delays to activities. • 10% to 25% variation in KPI or objective. • One or more projects is significantly impaired.	• Substantial delays to activities. • 25% to 50% variation in KPI or objective. • One or more critical programs or projects cannot be delivered.	• Activities ceased. • More than 50% variation in KPI or objective. • Multiple critical programs or projects cannot be delivered.

HEATMAP	CONSEQUENCE CATEGORIES					
	DURATION	Insignificant	Minor	Moderate	Major	Catastrophic
	Greater than three months	4	9	10	11	12
	One month – three months	3	6	10	11	12
	One week to one month	2	5	8	10	10
	One day to one week	1	3	5	7	9

Network Performance Oversight and Involvement	
Risk Rating	**Network Performance Oversight**
Low (1-5)	Low – No traffic modelling required
Medium (6-8)	Medium – SIDRA modelling maybe required
High (9-10)	High – SIDRA modelling required
Very High (11-12)	Very High – SIDRA Modelling required, Microsimulation modelling maybe required

6 MODELLING PROCESS

Where the requirements of AGTTM / CoP with regards to maximum allowable tolerances for lane capacity is being exceeded, and/or other considerations/risks described with the scheme require, the applicant will follow the requirements of Section 5 to determine if a traffic modelling assessment is necessary.

The purpose of the traffic modelling assessment is to demonstrate the anticipated impacts on traffic, to aid in managing community or stakeholder expectations, as well as informing traffic signal timing plans or other mitigative measures. Producing a traffic model as part of a technical report can reduce multiple TMP revisions and the lengthy approval periods associated with those revisions.

Section 5.4 provides guidance on what level of traffic modelling assessment may be required based on the duration of works and level of impact to network performance. However, given the limitations of microanalytical modelling, there may be scenarios or conditions in Figure 1 that warrant assessment using a microsimulation modelling package such as Aimsun or Vissim. It is understood that microsimulation modelling exercises can require significant cost and time resources, and so this will only be requested where deemed necessary, to quantify high risk proposals.

Applicants should note that for operational reasons to support implementation, the Network Operations Directorate of Main Roads have adopted LinSig or SIDRA as preferred software for the assessment of signalised intersections with SIDRA preferred where priority control intersections are to be assessed.

Assessment or modelling may be carried out using:

- Simple closures: Data Modelling and Analysis
- Signalised intersections: SIDRA or LinSig
- Priority controlled intersections: SIDRA
- Microsimulation: Aimsun or Vissim

Software	Use
LinSig	For existing or proposed signalised intersections or networks: • traffic signal design • traffic signal modification • traffic signal timing improvement.
SIDRA	To analyse feasible intersection types such as: • roundabouts • priority controlled • traffic signals.
Vissim / Aimsun	Where modelling in LinSig or SIDRA is too simplistic: • demand dependant phase sequence e.g. bus priority • mix of different intersection control types • heavy vehicle impacts • uneven lane utilisation • *weaving/merging behaviours* • exit blocking • critical links operate near or above capacity • ramp and roundabout metering To analyse significant infrastructure upgrades When the project requires significant stakeholder and public consultation where visualisation would be useful / necessary

Figure 1: Table 2-1 taken from Main Roads Operational Modelling Guidelines

6.1 Modelling Instruction Meeting

If the requirement for traffic modelling is unclear or confirmation of scope is required, a modelling instruction meeting should be conducted in the preliminary stages of the process to identify the software required to model the scheme accurately.

The applicant should contact the Road Planned Interventions team to arrange the meeting, and for all applications on the Metropolitan State Road Network the relevant Route Manager or member of the Traffic and Road Network Performance Branch will attend and confirm modelling requirements. Where modelling is required, the scenarios required often include but are not limited to:

- Base Peak Periods (e.g. AM and PM Peaks)
- Proposed Peak Periods (e.g. AM and PM Peaks)
- Any other relevant peak assessment, including shopping, weekend, event or other.

Depending on the nature of the scheme and staging, further scenarios may be required to confirm the impact of each traffic management arrangement. The configuration of all traffic modelling scenarios must confirm with Main Roads *Operational Modelling Guidelines*.

The outcome of the Modelling Instruction Meeting will be an approved Traffic Modelling Instruction Form (TMIF) that clearly defines modelling requirements in terms of software, scenarios, inputs and outputs.

6.2 Timeframes for Review and Approval

The submission of traffic modelling for review should ideally take place as early as possible and before a technical report or TMP is finalised, to minimise the risk of re-work for any given project or proposal.

Once the modelling has been completed, it is to be submitted to the Road Planned Interventions team and the Traffic and Road Network Performance Branch of Network Operations will complete a model audit checklist on the submitted model. Main Roads will target review of all traffic modelling submissions within 10 business days of submission.

The purpose of the Model Audit Checklist is to ensure that the modeller has considered all the key parameters in the development of the traffic model. There is an individual checklist for each of the Main Roads' supported operational modelling software packages including SIDRA, Vissim and Aimsun. The checklist provides a record of the auditing process and ensures consistent checks between traffic models.

The Model Audit Checklist has been developed to be impartial and objective. Using the checklist in the development of the model assists in the auditing process, as it can identify where there are variations from the parameters recommended in the Operational Modelling Guidelines with justification provided by the modeller in the checklist comment section. Any variations should also be justified and documented in the modelling report.

Whilst the Model Audit Checklist primarily checks inputs for the traffic model, there are also checking criteria for the model outputs that should be audited. The Model Auditor will confirm these outputs with Main Roads' teams who have a local knowledge of the area.

The Model Audit Checklist is available for download from the Main Roads' website.

Once a traffic model has been reviewed and accepted by Main Roads the applicant will then proceed to produce a TMP around the model and technical report, before submitting to Main Roads for authorisation to proceed.

6.3 Dashboard Development

Depending on the risk of the scheme, performance dashboards may need to be developed to track project performance over time. Depending on the risks and outputs which are determined during the initial meeting, and any potential performance impacts highlighted in the performance assessment.

Main Roads collects performance data on the network using the Network Performance Reporting System (NetPReS), which collects speed and volume data over 15-minute intervals since 2013. The majority of the State Road Network has collected data, and some higher order distributors for local roads are also included.

Performance dashboards are developed specifically for each project by the Traffic and Road Network Performance Branch, this may also be requested by Major Projects for the purpose of monitoring Network Performance KPIs specified in delivery contracts.

7 ESCALATION PROCESS

The Manager Road Planned Interventions has the authority to approve any variations to maximum allowable lane capacities outlined in the Australian Standard AGTTM / CoP. Where the applicant is not satisfied with the outcome of the submission, or clarification is required internally, the following escalation path may be followed.

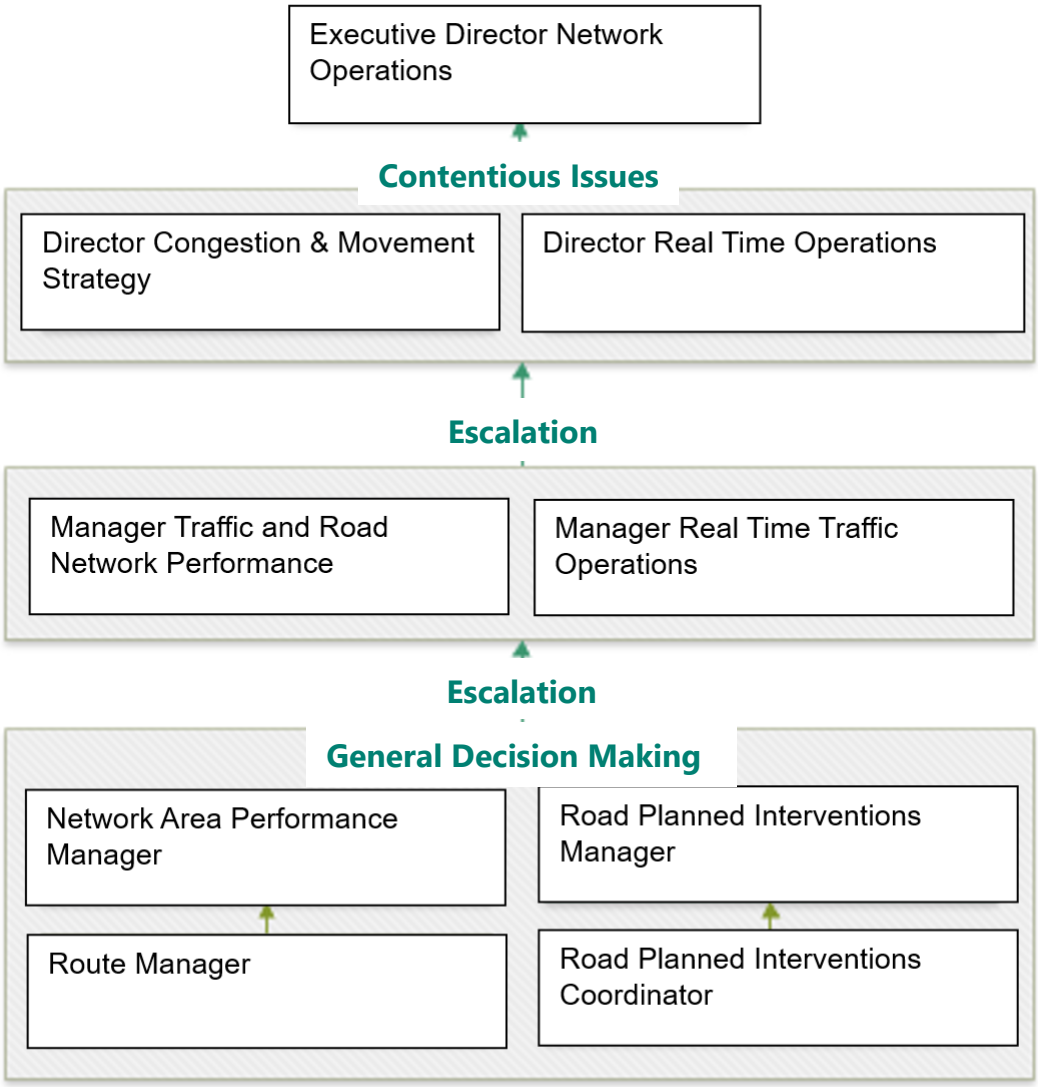


Figure 2 – Escalation Path

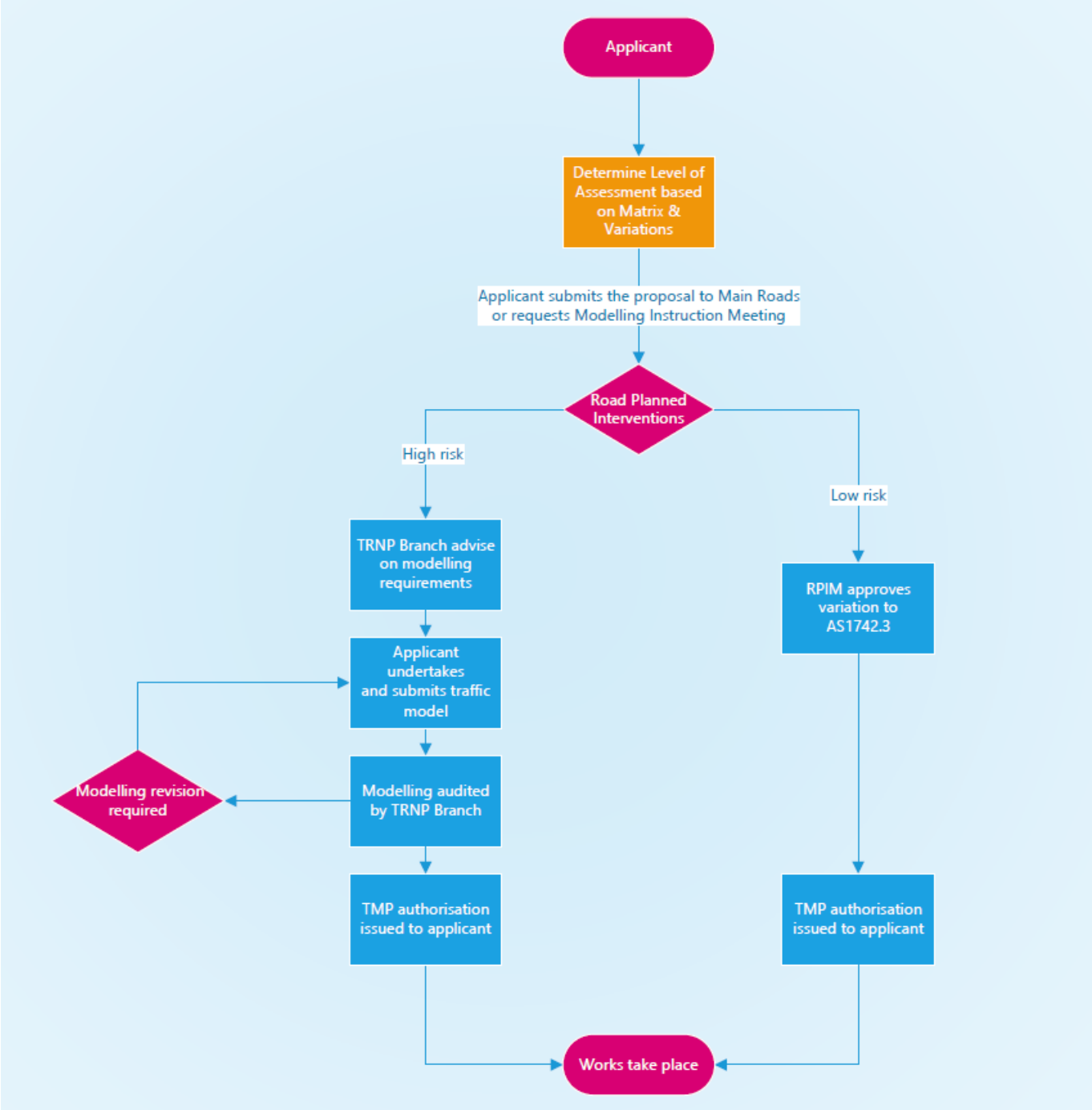
8 REFERENCES AND RELATED DOCUMENTS

Document Number	Description
	Australian Standard 1742.3 – 2019
D17#582749	Main Roads Traffic Signals Approval Policy
D18#808439	Main Roads Traffic Management for works on roads Code of Practice
D20#211505	Operational Modelling Guidelines
D19#554130	Temporary Traffic Management: Traffic Signal Approval Policy

9 APPENDICES

Appendix	Title
Appendix 1	Process Diagram
Appendix 2	Proposed Modelling Report Structure

Appendix 1: Process Diagram



Appendix 2: Proposed Traffic Modelling Report Structure

Traffic Modelling Report – Proposed Options Results

Title of Document

2nd line

SUBHEADING IF REQUIRED

Contents

Document Control

Owner	Consultant if prepared by them
Custodian	
Approved	
Document Number	
Issue Date	Consultant Date

Amendments

Revision Number	Revision Date	Description of Key Changes	Section / Page No.

NOTE: all text in red is for information and should be deleted once report is completed and submitted to Main Roads Western Australia.

The Proposed Modelling Report Template should be used. The report should include:

- Any updates to the base model.
- Modelling assumptions
- Any variations from the parameters recommended in the Operational Modelling Guidelines.
- Details of the agreed options tested.
- Justification of the preferred option.
- The agreed proposed design.
- Approved base modelling report.

1 PURPOSE

Describe purpose of the modelling
E.g. blackspot scheme, timings improvement scheme

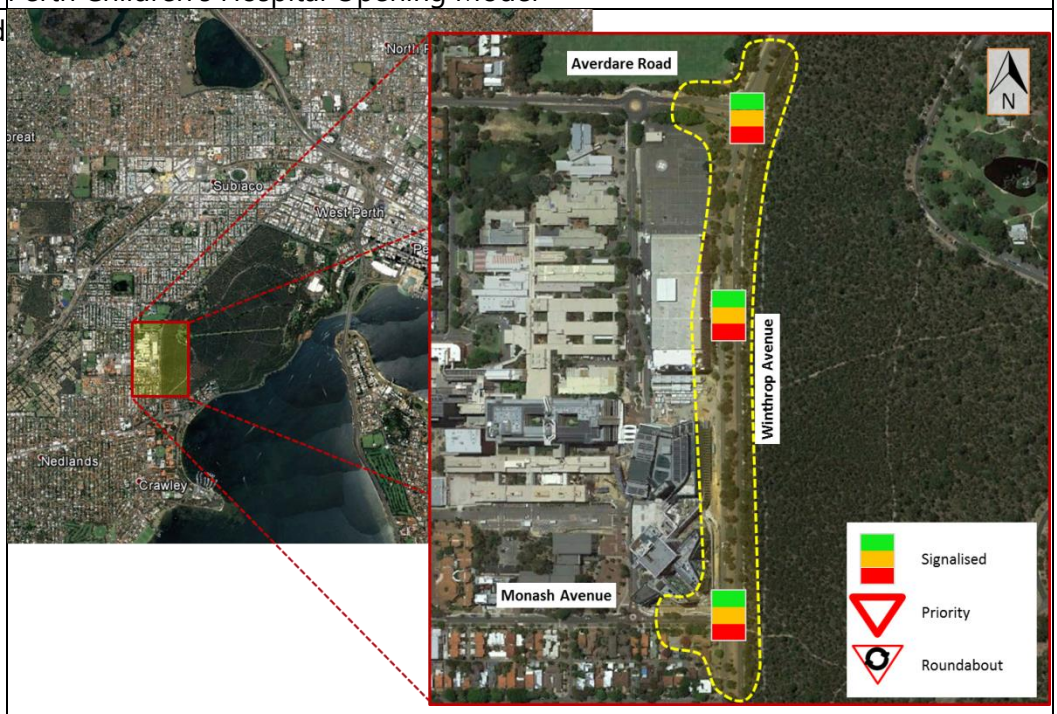
2 INTRODUCTION

2.1 Project Details

Project details should show all background information including purpose of modelling.

2.2 Project Location and Modelling Area

Project location should include area, suburb and main corridor of the affected area, and provide efficient local information that might be critical to the model, an example is shown below.

Project name	Perth Children's Hospital Opening Model
Project affected area	 Map needs to show road names and North Point. Show area of study in relation to Perth CBD. List council (i.e. local council).
Area	Metro
Suburb	Nedlands
Main corridor	Winthrop Avenue
Secondary roads	Monash Avenue, QE II parking entrance, Aberdare Road
Local information	Medical school of the university of Western Australia has an entrance on Monash Avenue, 500m from the development, and the main campus of the University of Western Australia is less than 1 Km north of development.

Include description of Microsimulation and Mesoscopic Areas

2.3 Predefined Modelling Scenarios for the Study

List and describe all modelling scenarios and peaks for the study.
The scenarios normally required to be modelled are:

2.4 Localised Network Changes

Describe changes required in the wider network to accommodate traffic.

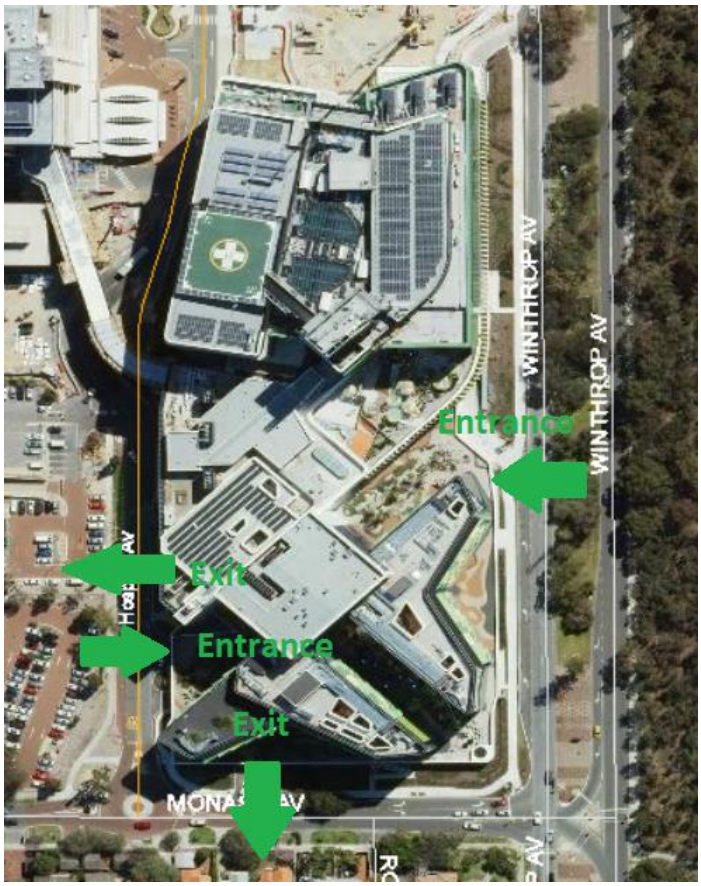
3 PROPOSED OPTIONS

3.1 Proposed Development

This section needs to be filled out if the project includes a proposed development.

3.2 Site Plan

A Site drawing of the development is to be provided in this section with the proposed access and egress points demonstrated. The provision of an Auto CAD drawing with the road widths, lane lengths, and turning radii will assist the audit review of traffic models.



3.3 Zone Structure

Define zoning structure for the model. Information if static traversal procedure was undertaken.
Provide information of zone disaggregation from strategic model (ROM24). Number of zones created (external – internal)

3.4 Trip Generation

Trips generated by the development need to be summarised preferably in the format of an excel table and with reference to the source of the trip rate.

3.5 Development Traffic

Provide the anticipated number of traffic generated by the proposed development and the methodology used to calculate the development traffic.

3.6 Traffic Distribution

Origin to Destination trips generated by the development should be summarised preferably in the format of an OD diagram in excel.
Assumptions should be included here in relation to any changes in the OD matrix for background traffic.
Assumptions should be outlines here regarding the methodology used to derive the OD matrix (population area, census data, car plate recognition)
Assumptions of Demand matrices refinement.
Assumptions of Traffic demand profiles used in the base model.

3.7 Road Network

Provide drawings of the planned road network within the study area, if proposed. (This may differ for different future years)

3.8 Traffic Flows

Provide future traffic flows without development traffic flows.
Include assumptions regarding methodology of calculating the future traffic flows using traffic growth factor based on historical data. Raw data and traffic flow diagrams should be provided in Excel.

Include any assumption made while calculating the future traffic.
Future traffic can be calculated based on ROM data or by applying a growth factor on existing traffic flow (this needs to be discussed and agreed with Main Roads).

ROM data need to be calibrated in the first instance as described in Guidelines for Calibration of Traffic Volumes for ROM24; growth factor should be validated with historical data)
Raw data and traffic flow used should be provided in excel.

3.9 Additional Developments

Include this section if there is a need to take into account any traffic flow generated by additional developments. Information should be provided preferably in the format of traffic flow diagrams in Excel.

3.10 Public Transport

Provide details of PT line, stop, station and timetable for public transport planned in future year scenarios.

3.11 Total Future Traffic Flows

Provide traffic flow diagrams of the total traffic for each required scenario described in section 0.

4 MITIGATION MEASURES

Include this section if this is part of the scope of works.

4.1 Proposed Mitigation Measures

With major traffic impacts to the road network analysed in Sections of the report, mitigation measures can be presented in this section (if this is part of the scope), mitigation measures can include but are not limited to:

4.2 Mitigated Model output

Future models with mitigation measures applied to the network need to be assessed and the model outputs should be analysed. Model outputs should include: Level of Service, Queue length, average delay, Degree of Saturation, and travel times if the model is a microsimulation model.

5 CONCLUSION

Summarise the purpose of the model and the outcome along with any recommendations.

6 DOCUMENTS/FILES PROVIDED

Document Number	Document Name	Description
TRIM Ref provided by Main Roads	SCATS data	Raw SCATS data requested from MRWA including: MF files Phasing History Files SCATS Traffic Flows
TRIM Ref provided by Main Roads	Instruction sheet	*List of sufficient information shall be used for the model*
TRIM Ref provided by Main Roads	Latest Model	*The lasted model showing information in the model summary*
TRIM Ref provided by Main Roads	Model Summary	Sheets summarises information of the models listed: 1.Site Location 2.LMA & LMB drawing 3.Model Coding notes. 4.SCATS drawing, diagram, and time setting information. 5.Traffic flow summary 6.Pedestrain volume summary 7.Saturation flow 8.Scenarios 9.Future flow 10.Model output 11.Proposed mitigations 12.Mitigated model output 13. Meeting minutes with MRWA 14. Proposed layout agreement with MRWA (Email confirmation)
TRIM Ref provided by Main Roads	Model Report	*A report of the model following this template*
TRIM Ref provided by Main Roads	Model Audit Sheet	*A model audit sheet provided by OMV, checked and signed by modeller building the model, and another senior modeller in the company before passing to OMV for review*
TRIM Ref provided by Main Roads	Site Drawings	*LMA and LMB drawings show signals and lines*

7 APPENDICES

Include if required

Appendix	Title
Appendix 1	
Appendix 2	
Appendix 3	
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Appendix 5	