



Hume Highway Southern Alliance – Woomargama to Table Top

FRAMEWORK TRAFFIC MANAGEMENT & ROAD SAFETY PLAN

- IN90304-000-PL-TM-0001-H
- Revision H
- 10 December 2007



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Abigroup Project Number: 221330
RTA Project Number: D/00310/T/SA
SKM Project Number: IN90304



A Team consisting of RTA, Abigroup and SKM
to duplicate the Hume Highway from Woomargama to Table Top

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1 Introduction

The Hume Highway Southern Alliance is formed by Abigroup, SKM and the Roads and Traffic Authority, NSW to carry out a package of works forming part of the Hume Highway Duplication project.

1.1 Purpose and Application

The Framework Traffic Management and Road Safety Plan (FTMRSP) is one of a series of Management Plans developed for the Hume Highway Duplication project by the Hume Highway Southern Alliance.

The FTMRSP summarises the overall traffic management and traffic safety requirements for the construction phase of the project.

The FTMRSP provides a framework for procedures and techniques to ensure that the Southern Alliance can manage construction of the Project whilst keeping the existing Highway open for safe use by the general public.

The concept traffic phasing descriptions and drawings attached to this FCTMSP documentation detail the sequence and extent of temporary traffic diversions currently planned for the construction of the works.

This plan and its suite of sub-plans, has been developed to satisfy the following aspects of the Alliance's traffic arrangements during the full construction period:

- Cumulative impacts of multiple construction sites and other major construction along the Hume Highway;
- Measures to manage traffic flows through and surrounding the construction and spoil disposal sites, including regulatory and direction signposting, linemarking and variable message signs;
- Identify any mitigation measures to improve the efficiency of traffic conditions; and
- Takes into account both local and regional traffic impacts.

This plan has been prepared by an experienced traffic and transport planner in consultation with the RTA and relevant councils.

The Plan is a Quality Systems based document in accordance with the provisions of AS/NZS ISO 9001.

1.2 Background

The FTMRSP has considered the requirements of the Conditions of Approval which are further outlined below.

The plan considers the intersections of local roads and property accesses with the Hume Highway and the effects on traffic movements along the Hume Highway during construction. Further, the plan considers in depth the legislated requirements for the provision of a safe and effective local road network throughout all stages of construction.

1.3 Policy

In January 1998, the Minister for Urban Affairs and Planning approved construction of the Albury Bypass section of the Hume Highway. This approval, along with all subsequent Conditions of Approval, covered the Hume Highway from the NSW/VIC border to Mullengandra. In July 2007, the Minister for Planning granted approval for the remaining sections of the Hume Highway between the Sturt Highway and Mullengandra. These sections constitute the works to be carried out by the Northern and Southern Alliances. Conditions of Approval for TableTop to Mullengandra are shown in **Table 1-1** while those for Mullengandra to Woomargama are shown in **Table 1-2**.

■ Table 1-1: Minister's Conditions of Approval: TableTop to Mullengandra.

Condition No.	Condition Requirements	Sub-Plan Reference
10. b)	"The EMP (construction phase) shall cover ... specific environmental management objectives and strategies for the main environmental system elements and include, but not be limited to: noise and vibration; water; air; erosion and sedimentation; access and traffic...."	Section 1.4 of this Framework Traffic Management and Road Safety Plan.

Condition No.	Condition Requirements	Sub-Plan Reference
10. d)	<p>“i. identification of the statutory and other obligations which the Proponent is required to fulfil during project construction including all approvals and consultations/agreements required from authorities and other stakeholders, and key legislation and policies which control the Proponent’s construction of the project;</p> <p>ix. steps the Proponent intends to take to ensure that all plans and procedures are being complied with;</p> <p>x. consultation requirements with relevant government agencies; and</p> <p>xi. community consultation and notification strategy (including local community, relevant government agencies and relevant councils), and complaint handling procedures.”</p>	<p>Section 4 of this Framework Traffic Management and Road Safety Plan.</p> <p>Section 3 of this Framework Traffic Management and Road Safety Plan.</p>
13. g)	<p>“The EMP (operation stage) shall address... procedures for the main environmental system elements and include, but not be limited to: noise and vibration; water; air; erosion and sedimentation; access and traffic....”</p>	<p>This Framework Traffic Management and Road Safety Plan and section specific CTMPs.</p>

Condition No.	Condition Requirements	Sub-Plan Reference
17.	<p>“As part of the EMP referred to in Condition 10, a detailed Construction Traffic Management Procedure must be prepared, prior to the commencement of construction, for various affected sites. The procedure must assess the impacts and management of any temporary road closures, detours or other major disruptions to traffic flows and pedestrian/cyclist access during the construction of the scheme. The procedure shall be prepared in consultation with the relevant local council(s). The procedure shall provide details on but is not limited to: traffic management principles; timing of road disturbance; measures so as not to discourage public transport; modifications to existing roads and intersections; truck manoeuvring and access to construction sites; spoil and material disposal routes; implications and arrangements for bus and taxi stops; pedestrian/cyclist management; and requirements for adequate signage; public notification of proposed road changes; signposting and markings; lighting; speed limiting devices and any other relevant matters. No traffic changes including lane and road closures, detours, intersection changes or the like shall occur without prior consultation with the relevant council(s).”</p>	<p>This Framework Traffic Management and Road Safety Plan outlines the document structure for traffic related documents. Section specific CTMPs address this condition in greater detail.</p>
18.	<p>A road dilapidation report must be prepared for all non-State roads likely to be used by construction traffic prior to their use by construction traffic and then after construction is complete. Copies of the report shall be provided to all relevant councils. Any road/footpath damage, aside from that resulting from normal wear and tear, shall be repaired to a standard at least equivalent to that existing prior to any disturbance at the cost of the Proponent or as otherwise agreed with the relevant local council(s).</p>	<p>Sections 3.9 and 4.5 of this Framework Traffic Management and Road Safety Plan.</p>

Condition No.	Condition Requirements	Sub-Plan Reference
19.	Monitoring of any local roads affected by the proposal to be used by heavy vehicle traffic to the satisfaction of local council(s) shall be undertaken in consultation with the relevant council(s) to develop measures to minimise and/or restrict the use of local roads by heavy vehicle traffic. Details on the intervals and duration for monitoring shall be developed in consultation with the relevant local council(s).	Sections 3.9 and 4.5 of this Framework Traffic Management and Road Safety Plan and section specific CTMPs.
20.	"No local road shall be used by construction traffic until consultation with the relevant local council(s)."	Section 3.10 of this Framework Traffic Management and Road Safety Plan and Section specific CTMPs
28.	"All construction activities including entry and departure of heavy vehicles are restricted to the hours 7.00am to 6.00pm (Monday to Friday); 8.00am to 1.00pm (Saturday) and at no time on Sundays and public holidays."	Section specific CTMPs
72.	"Alternative access arrangements shall be provided to the reasonable satisfaction of the relevant council, to any property or public area which would otherwise be denied access as a result of the construction or operation of the proposal. Such alternative access shall be provided at an appropriate standard in consultation with the relevant council. Any temporary access road(s) shall be removed and any affected areas reinstated to the reasonable satisfaction of the relevant council when no longer required."	Section 3.10 of this Framework Traffic Management and Road Safety Plan.
75. b)	"details of potential environmental impacts [of any concrete batching plant], particularly noise, water quality, air quality, flora and fauna, and traffic impacts:"	Site Compound / Batch Plant specific CTMPs.
79.	"Access shall be provided across the route without undue inconvenience to pedestrians and cyclists at all times during the construction stage unless otherwise agreed to by the relevant local council(s)."	Section 3.10 of this Framework Traffic Management and Road Safety Plan.

Condition No.	Condition Requirements	Sub-Plan Reference
80.	“The Proponent shall ensure consultation with the RTA’s Bicycle Coordinator and Bicycle NSW and any other relevant cycling group as identified by Bicycle NSW during the detailed design of the proposal in terms of the design of specific cyclist facilities including, provision of on-road facilities, intersection treatments, linemarking, signposting and stencils, drainage grates, and kerb and gutter treatments.	Section 3.4 of this Framework Traffic Management and Road Safety Plan.

■ **Table 1-2: Minister’s Conditions of Approval: Mullengandra to Woomargama.**

Condition No.	Condition Requirements	Sub-Plan Reference
5.5 (e)	A Construction Traffic Management Plan, prepared in accordance with the RTA’s <i>QA Specification G10 - Control of Traffic and Traffic Control at Work Sites Manual</i> (2003) to manage disruptions to highway and local traffic movements as a result of concurrent construction activities (and associated construction traffic) across the concept plan corridor.	This Framework Traffic Management and Road Safety Plan. CTMPS will also be generated for each section of work.

In addition to the Minister’s Conditions of Approval, the RTA’s Revised Statement of Commitments, which were released as part of the Woomargama to Mullendandra approvals, have been incorporated into this plan. Those relevant to this document are detailed in **Table 1-3**.

■ **Table 1-3: Relevant Conditions of Consent**

Objective	MCoC No.	Commitment
Minimise transport associated with the demand for resources	RM5	Where feasible, suitable materials will be obtained from local existing licensed quarries.
Minimise impact on traffic due to construction	T1	Construction vehicle movement arrangements will be developed to minimise impacts on other road users with specific regard to other road works in the region, local traffic movement requirements (stock or machinery) and peak traffic volumes, including long weekends and holiday periods.

Objective	MCoC No.	Commitment
	T2	Construction will be planned to minimise disruption to traffic including use of road occupancy licenses, variable message signage, static signage and coordination between sections as far as feasible through Hume Highway Duplication coordination meetings.
Minimise impact to local and regional roads from construction traffic impacts	T3	Periodic review and survey of road conditions would be undertaken in consultation with Council(s) and rectification works undertaken as expediently as possible where considered necessary and/or where there are safety concerns.
Minimise impact to local and regional roads from construction traffic impacts	E3	Dilapidation surveys of regional and local roads used by construction traffic will be undertaken in consultation with the relevant local government authority. The RTA will be responsible for any necessary repair of deterioration attributable to the impacts of construction traffic.
Minimise the social and economic impact of the construction works on the local community	E4	Property access will be maintained for the duration of construction with any temporary access requirements being provided in consultation with adjacent landowners where necessary.
Minimise the social and economic impact of the construction works on the local community	E5	Advance notification will be given to property owners on project schedules, construction works and access arrangements.
Minimise the impact of construction noise and vibration on surrounding residents, and where necessary, comply with all relevant standards to reduce noise and vibration to an acceptable level	N2	The standard construction hours for the proposal will be 7.00am to 4.00pm Monday to Friday, 7.00am to 4.00pm Saturdays and no work on Sunday or public holidays.

1.4 Alliance Objectives

The Southern Alliance is committed to achieving outstanding performance in relation to, the health and safety of its workers, and to minimising the impact of the works on road users and the community. The Alliance Objectives that specifically relate to the FTMRSP are shown in **Table 1-4** below:

■ **Table 1-4: Relevant Alliance Objectives**

Key Result Area	Alliance Objective
Traffic Flow	<ul style="list-style-type: none"> ■ Minimum disruption to night freight traffic; ■ Provision for over-dimension loads; and ■ Operate within RTA's Hume Highway Traffic Management Plan.
Safety	<ul style="list-style-type: none"> ■ No-one gets hurt during construction; and ■ No member of the public gets hurt because of construction.

In accordance with the RTA's *Hume Highway Traffic Management Plan*¹, all construction activity undertaken or proposed for the Hume Highway will comply with the following principles:

Safe provision for traffic must be made at all work sites;

- Delays to traffic at each work site should be minimised;
- Works should be coordinated, to ensure that road users do not encounter several delays in quick succession;
- A well informed driver is likely to be more successful in avoiding delay and more tolerant of unavoidable delay. Road users should therefore be kept informed about:
 - the locations of works,
 - the delays they are likely to encounter, and
 - any alternative routes which might be suitable,
 to allow them to make informed decisions about whether to travel, when to travel, and which route to use;
- The Alliance should present a professional and helpful face to road users throughout any construction or maintenance process;
- Communities adjacent to the highway should have the opportunity to make informed decisions about their activities.

¹ Hume Highway Traffic Management Plan(Draft), Connell Wagner for RTA, April 2007

1.5 Overview

The duplication of the Hume Highway from Woomargama to Table Top is a key element of the Australian and New South Wales governments' commitment to upgrade the entire length of the Hume Highway to a four lane divided carriageway by 2012.

The duplication will significantly improve road safety for all motorists and deliver greater transport efficiency for communities and industries along this major freight route.

The 32 kilometre duplication section from Woomargama to Table Top forms a key component of the improvements to the Hume Highway.

The Hume Highway should reflect the route's role as the primary movement corridor between NSW and Victoria, sensitively located and formed in response to the intrinsic natural, historic and cultural qualities and features of the region.

The project is being delivered through two alliances. This document relates to the section of highway between Woomargama and Table Top to be delivered by the Southern Alliance. The Southern Alliance comprises the RTA (the Owner Participant), and Abigroup and Sinclair Knight Merz (the Non-Owner Participants). The scope of work includes design and construction, and excludes operation and maintenance. The Project measures approximately 32 km in length and involves a combination of the construction of a second carriageway adjacent to the existing highway and the construction of some sections of new dual carriageway.

1.6 Project Description

The overall project has been divided into five sections for the purpose of construction staging and to assist in the overall management of the work. The five sections are outlined below:

Section 1: From the northern limit of the works south of Fairbairn Road at Woomargama to Sweetwater Road, Mullengandra. Work in this section predominantly involves the duplication of the existing highway, alternating between the western and eastern sides of the existing alignment.

This section has been further sub-divided into 4 smaller sub-sections defined by the locations of the tie-ins to the existing carriageway.

Section 1A, the northern most portion, involves the construction of a new dual carriageway to the west of the existing alignment. This sub-section contains a significant cut through Wrights Hill and the construction of box culverts over Four Mile Creek.

Section 1B, involves the construction of a new southbound carriageway on the eastern side of the existing highway.

Section 1C, involves the construction of a new northbound carriageway on the western side of the existing highway.

Section 1D, involves the construction of a new southbound carriageway on the eastern side of the existing highway. This sub-section contains the construction of a new bridge over Sweetwater Creek and the refurbishment of the existing Sweetwater Creek Bridge.

Section 2: From Sweetwater Road to Yellow Creek consists of the construction of a new dual carriageway on a completely new alignment to the west of the existing highway. This section contains significant areas of cut, and the construction of a bridge to carry Newtons Road over the dual carriageway and box culverts over Yellow Creek.

Section 3: From Yellow Creek to Bells Road requires the construction of a new southbound carriageway on the southern side of the existing highway.

Section 4: involves the construction of the grade separated Bells Road Interchange and associated earthworks for the on and off ramps.

Section 5: From Bells Road to Table Top requires the construction of a new southbound carriageway on the eastern side of the existing highway.

1.7 Key Performance Indicators (KPIs)

The definition of work site delay adopted for this project is likely to be:

“The difference between a driver’s travel time through a section of road under normal conditions, and the travel time experienced when roadworks are in progress”

Delays involve an economic cost, which is reflected in the amount people are prepared to pay to avoid the delay. Costs may be determined from standard rates published in the RTA’s *Economic Analysis Manual* (1999).

The following KPIs will be measured and reported:

- Temporary / safety signage and delineation to be designed and installed according to the relevant standards. Performance to be measured on a regular basis;
- Minimise the reduction of existing speed zones throughout the construction period; and
- Travel time reliability, as recorded every 6 months, to be within the predicted band. Performance to be measured on a regular basis.

1.8 Warrant

The Hume Highway Southern Alliance (“Southern Alliance”) warrants that compliance with this FTMRSP will enable it to fulfil its traffic management and road safety obligations within the overall objectives of the Alliance.

1.9 Authorisation

All personnel employed in the Southern Alliance will perform their duties in accordance with the requirements of this Plan and in compliance with the Alliance’s manuals and procedures and any specific Project instructions.

2 Management Approach

2.1 Background

The Project requires construction work to be undertaken adjacent and connecting to the existing Hume Highway as well as pavement upgrades, bridge construction and highway interchange construction. Hence the emphasis on traffic, pedestrian and cyclist management methods and traffic impact minimisation is significant. Design and operation of temporary traffic sidetracks also requires careful planning and coordination.

Motorists and pedestrians expect a high level of safety and service in using the existing road infrastructure. This requires efficient, effective and reliable traffic management strategies to be put in place which:

- achieve high and uninterrupted traffic throughput;
- minimise reduction of existing speed zones;
- ensure reliable travel times; and
- provide clear information to allow motorists to make appropriate decisions in relation to their journey.

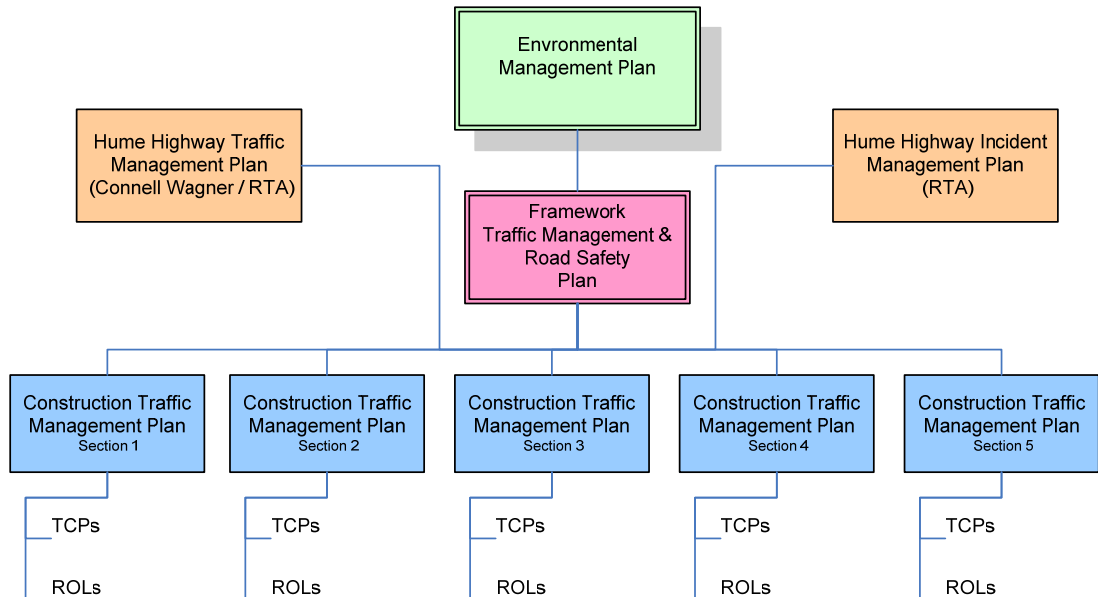
These traffic management goals will be achieved by:

- strategic advance planning;
- implementation of traffic management plans that minimise traffic disruption for the shortest possible duration;
- providing a high level of comfort to users;
- ensuring a smooth traffic flow;
- minimising the number of conflicts and unclear information that lead to incidents; and
- continuously monitoring the traffic and anticipating incidents that are likely to occur (e.g. traffic congestion);

2.2 Document Structure

The FTMRSP is a Sub Plan of the Environmental Management Plan (EMP) developed for the Southern Alliance's work. The relationship of the FTMRSP, and its associated Construction Traffic Management Plans (CTMPs), to the EMP and other relevant documents is shown in the following diagram:

■ **Figure 2-1: Document Structure**



2.3 Framework Traffic Management and Road Safety Plan

This FTMRSP prescribes the traffic management strategies, the traffic safety measures and the best practice standards to be implemented during construction that satisfy the requirements of the Ministers Conditions of Approval and the Alliance Objectives. The actual details of execution will be provided in the section specific CTMPs and associated Traffic Control Plans (TCPs).

The FTMRSP sets out the scope of work and the organisation required. For the field operations the CTMPs and TCPs will assist and guide those designing, directing or assisting with traffic management operations.

More specifically, this FTMRSP identifies and outlines the major sections of the Project that require critical traffic, pedestrian and cyclist planning and management. Specific traffic management staging strategies for these sections of the roadworks are critical to the successful programming and construction of the work. These main sections of critical traffic management are listed below and will be detailed more fully in the Annexure of subsequent versions of this FTMRSP:

- Section 1: begins at the northern limit of works at Woomargama, immediately to the south of Fairbairn Road, and continues to Mullengandra, where it terminates on the northern side of Sweetwater Creek.
- Section 2: begins on the northern side of Sweetwater Creek, and continues to the Yellow Creek intersection.

- Section 3: encompasses the Yellow Creek intersection, and continues to the eastern side of the Bells Road interchange.
- Section 4: encompasses all of the works involved in the construction of the Hume Highway / Olympic Highway (Bells Road) interchange.
- Section 5: commences 500 metres to the south of the Hume Highway / Olympic Way (Bells Road) interchange, and continues to the southern limit of works at Table Top, immediately to the north of Tynan Road.

The location of the five work packages are shown in Appendix A.

2.4 Traffic Management Concept Plans for Construction

These are the concept traffic management drawings describing the planning & sequencing of the construction activities and are grouped into individual work packages. These concept drawings set the foundation for the development of detailed Construction Traffic Management Plans and their associated TCPs and Road Occupancy Licence (ROL) applications.

2.5 Construction Traffic Management Plans

Prior to the commencement of substantial construction a detailed Construction Traffic Management Plan will be developed for each of the five sections of the project. These will be derived from the Framework Traffic Management and Road Safety Plan and the Traffic Management Concept Plans for Construction.

They also include any associated Road Occupancy License Applications and Speed Zone Authorisations supporting the TMPs that require submission to the RTA for consideration and approval. The TMPs will also contain detailed drawings describing the individual Traffic Control Plans (TCPs).

The structure of the CTMP is based on the four main areas to be addressed:

- Conditions of Approval;
- The Hume Highway Traffic Management Plan;
- Supporting traffic control plan drawings; and
- Any ROL or DTR applications for approval.

3 Traffic Management Strategy & Planning

Construction activities have the potential to disrupt existing traffic patterns in the surrounding areas. Minimisation, and where possible, elimination of disruption through effective traffic management techniques in accordance with the Alliance Objectives is fundamental to the overall success of the Project.

Priority will be given to providing adequate guidance to drivers, pedestrians and cyclists, consulting authorities and the community prior to commencement of the work. Priority will also be given to responding appropriately to issues and events as they arise during the construction works.

- Directional signage and line marking to direct and guide drivers and pedestrians past work sites and on the surrounding network. This will be supplemented by permanent and portable Variable Message Signs (VMS) to advise drivers of potential delays, traffic diversion, speed restrictions, alternate routes, etc;
- Public notification of proposed traffic changes by newspaper, radio, internet site, and community liaison;
- Co-ordination with the RTA's Regional Traffic Operations Manager in the event of incidents or undue congestion;
- Management of pedestrian and vehicular access to worksites to ensure safe entry and exit procedures. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals or modification to existing signals;
- Maintenance of access to existing properties, which may require temporary crossovers; and
- Minimisation of visual, noise and air pollution associated with the works by:
 - site screening, acoustic shrouds or covered work zones, secured tidy site compounds and dust minimisation for sites and truck movements.

3.1 Communications with the Community

The design and construction of the Hume Highway Duplication is an important issue for affected land owners, local communities living and working in the vicinity of the proposed works and road users affected by construction activity and road realignments. Accordingly, the Hume Highway Southern Alliance is committed to ensuring that all interested and affected parties have the opportunity to understand the nature of the proposed works, to express their comments and to have their concerns and issues understood and taken into consideration during the design and delivery of the Hume Highway Duplication.

The Community Involvement Plan (CIP) for the Hume Highway Duplication Woomargama to Table Top has been developed to address issues of importance to the community and major

stakeholders that need to be considered during design and construction process and to ensure the Hume Highway Southern Alliance establishes an environment of genuine commitment and cooperation between the project team and the stakeholders and wider community.

3.1.1 Traffic and Transport Communication

The main objectives of traffic and transport communication are to:

- Provide timely, accurate and comprehensive traffic and transport information;
- Influence road users to adopt different travel modes in the area;
- Allow and accommodate community feedback regarding traffic issues;
- Manage traffic impacts to protect affected residential and business amenity; and
- Ensure media are well informed and aid in traffic impact minimisation.

The Alliance will undertake ongoing consultation with the community to ensure that information is provided that assists in minimising disruption or inconvenience. This will be a key message of traffic and transport communications.

3.1.2 Roadworks Information

The Alliance's Stakeholder and Community Manager will be responsible for ensuring a system is in place to inform the RTA, public, Shire Councils, Police and other emergency services each time changes are made to traffic arrangements. Advice will include information about upcoming traffic switches, anticipated delays to traffic, extended times of work or any likely major disruptions.

3.2 Safety and Amenity of Road Users and the Public

The design of the new highway will be carried out and verified in accordance with the Design Plan that will ensure that the RTA Safety Standards are fully incorporated into the design. The Construction and Quality Plans then ensure that the completed highway and associated infrastructure is in accordance with the design. Road Safety Audits will be carried out through the design process and prior to opening new sections of road to traffic as detailed in **Section 5.2**.

A safe road environment incorporates numerous design principles, good all-weather night and day delineation, adequate surface skid resistance and a roadside free of unforgiving hazards. It includes the various safety needs of vehicles, road users and operations of road staff.

Comfortable and safe driving and riding occurs when motorists are operating well below a stressful processing and decision-making rate and above a minimum level of mental arousal. These aspects are critical to the development and maintenance of a safe road environment.

The following safe road environment features are incorporated into the specific traffic management procedures as far as possible:

- **warn** the driver of any substandard unusual features;
- **inform** the driver of conditions to be encountered;
- **guide** the driver through unusual sections;
- **control** the driver's passage through conflict points or sections, and
- **forgive** the driver's errant or inappropriate behaviour.

Optimum values for design parameters that are compatible with terrain or other prevailing restraints will be maximised. Advance information and warning will be used to strengthen the delineation of the road. Driver information overload, generated by too many road signs, conflicting messages or a lack of delineation will be avoided.

A safe road environment will:

- provide no surprises in road design or traffic control (expectancy factors);
- provide a controlled release of relevant information (not too much at once); and
- provide repeated information where pertinent to emphasise danger.

Consultation with the RTA's Bicycle Coordinator, Bicycle NSW and other relevant bicycle groups was undertaken for the approval of the Albury Bypass and subsequent approvals south of Mullengandra. As there are few pedestrians and cyclists along the rural stretches of the Hume Highway, minimal consultation was undertaken and minimal cycle facilities are to be provided, in accordance with the findings of consultations undertaken for Table Top to Mullengandra.

3.3 Minimisation of Impacts on Traffic Flows

Traffic Management Plans and staging will be progressively developed, refined, audited and amended as required during the progression of the works to facilitate the safe and efficient movement of traffic through and around all intersections, construction zones and local road networks impacted by the work.

The passage of trucks servicing the project is not expected to adversely affect existing road networks or the access of other vehicles to the network. Regular review of the usage of local roads by construction vehicles will be carried out, and adjustments made to the Traffic Control Plans as required. This will include locations associated with vehicle passage, manoeuvring of vehicles and site access points. These areas are expected to have the most impact.

3.4 Advance Warning, Detour and Directional Signage

As part of the staging strategies to be implemented in both the major arterial roads and also the less significant areas of local traffic impact, the importance of adequate and proper signage advising and directing traffic remains high.

Appropriate signposting will be installed to permit easy and safe passage of vehicles, pedestrians and cyclists, including users of all public transport facilities to access their facilities of choice with minimal disruption.

Signposting covers information, regulatory, warning and guide signs as defined in national and RTA standards. All these classes of sign contribute to road safety. Regulatory signs can prohibit dangerous traffic movements, warning signs can give advance notice of road hazards ahead and guide signs can make the driving task easier and safer.

Safety principles for signs are:

- before approval is given for a new sign a demonstrated need should be established;
- all signs should convey a clear message to all users under all conditions; and
- the sign support structure should not create a safety hazard in itself.

All signs will be manufactured and erected in accordance with Australian Standards AS1742, AS1742.1 to 1742.13, AS1743 and AS1744.

3.5 Variable Message Signs

3.5.1 Permanent VMS Infrastructure

Permanent VMS will be placed strategically on major roads leading to the project located as detailed in **Table 3-1**

Permanent VMS will be installed progressively with civil road works as detailed in **Table 3-1** below.

■ **Table 3-1: Installation schedule of permanent VMS infrastructure**

No.	Road	Location	Installation Date
1	Hume Freeway	Northbound - Albury City	Installed
2	Hume Highway	Northbound - 1 km south of Olympic Hwy (Bells Rd)	December 2007
9	Hume Highway	Southbound - North of Olympic Hwy (Bell's Rd)	July 2008

3.5.2 Portable Infrastructure

It is proposed that the permanent VMS will be supported by the use of portable VMS. It is recognised that the co-ordinated use of VMS for management of the traffic will provide benefits in the way of:

- Disseminating information on planned and unplanned incidents;
- Providing construction and maintenance information advising of possible delays;
- Improvement in travel times through advanced warning of changed traffic conditions allowing motorists to better manage/plan their travel arrangements;
- Mitigating driver frustrations by providing real-time information on delays caused by planned and unplanned incidents;
- Community cost savings and improved safety through the timely display of traffic information;

The Alliance will perform daily checks to ensure that all VMS are operating. Any faulty VMS will be repaired or replaced within four hours of fault detection.

A number of criteria will need to be satisfied to ensure that each VMS site delivers the full range of available services, can be easily delivered and is cost effective.

These include:

- Physical location (level ground, road reserve, drainage etc);
- Ability to minimise the effect on the environment;
- Ability to be effectively used for incident management to divert traffic in the event of a road closure;
- Visibility;
- Safety of access (construction, servicing, maintenance); and
- Located to maximise message benefits.

Technical Direction; *TDT 2005/02 Guidelines for the location and placement of Variable Message Signs* will be used to ensure compliance with the installation and maintenance requirements.

3.6 Site Security, Site Access and Signage

The Construction Plan addresses site accesses. The issues to be considered in determining the location of site accesses are:

- safety of travelling public;
- safety of construction workers and equipment;
- impact on local communities in terms of safety, noise and road damage;
- ease of access for emergency vehicles; and

- site security.

The worksites and depots will have appropriate arrangements to discourage entry without approval and minimise vandalism. All access points to fenced compounds and depots will have lockable gates.

Appropriate information signs will be provided at work sites to identify the Alliance and contact persons.

3.7 Project Identification

The Alliance will arrange for suitable signs to be erected at each end of the Project describing the work, the key companies involved, the cost and the source of funding.

Approval to the sign details will be obtained from the RTA prior to manufacture.

The signs will contain the approved logo of the Australian Government.

3.8 Provisions for Special Events

During construction, special consideration and traffic planning will be undertaken to address the road user needs during special events, including long weekends, Christmas, Easter and school holidays.

3.9 Haulage Routes during Construction Work

Designated access routes for construction and spoil vehicles will be along the arterial road network where practicable. Details of all routes used for access and haulage during construction will be developed in consultation with the relevant local government authority and detailed in the appropriate Section specific Construction Traffic Management Plan (CTMP). No local road will be used by construction traffic until consultation with the relevant local council(s) has been undertaken

Spoil haulage routes will be developed in a format such that a suite of individual instructions and maps are provided to contract operators for all points of origin to respective destinations and return. In addition, layover areas will be nominated should vehicles need to 'store' prior to arriving at the spoil removal sites. Approximate travel times in AM, OFF and PM peaks will be developed for each route as a guide to operators and also assist in more consistent and uniform arrival rates at each site.

Dilapidation surveys of regional and local roads used by construction traffic will be undertaken prior to their use for construction as well as after construction is complete. Monitoring will be carried out to the satisfaction of, and a dilapidation report submitted to, relevant local government

authorities. The proponent (RTA) will be responsible for any necessary repair of deterioration attributable to the impacts of construction traffic.

3.10 Access to Adjacent Properties

The Alliance will ensure that safe and convenient passage for vehicles, pedestrians, cyclists and stock to and from side roads and property accesses connecting to the Hume Highway will be maintained at all times. Alternative access provisions and the removal of temporary roads will only be undertaken in consultation with, and to the satisfaction of, the relevant local government authority.

Alternative provisions will always be made available before side roads or accesses are affected by the work in progress.

3.11 Construction Access to Work Sites

Vehicle and pedestrian access to and from each Compound and Work site, including the locations of entries, exits, turning restrictions, slip lanes, traffic lights, signage and the like will be established in line with the requirements of the Environmental Assessment and in consultation with the RTA and Councils.

3.12 Road Occupancy Licences

The Alliance will comply with the RTA procedure in applying for Road Occupancy Licences as contained in the document “Hume Highway Traffic Management Plan”. The process for the application for, and on-going management of, road occupancies is covered in greater detail in **Section 4**.

The Construction Traffic Management Plan for each section of the work provides greater detail of individual TCP and ROL requirements. ROLs and supporting TCPs will also include applications to the RTA for any required ‘Speed Zone Authorisations’ (SZA).

After the granting of the ROL, it will be the responsibility of the Alliance to ensure that the works are carried out safely and in accordance with applicable legislation, regulations, Australian Standards and RTA specifications and procedures.

Implementation of the TCP submitted with the ROL will be the responsibility of the Construction Manager or delegate. Prior to the commencement of any changes to the existing traffic arrangements, a toolbox meeting of all involved is to be held, with the nature of the changed arrangements and procedures for their implementation being discussed.

Traffic Controllers must have undertaken appropriate training and be in possession of an RTA recognised certification as to their competency to perform the duties of a Traffic Controller. Key elements of this FTMRSP will be included in the site induction for all employees, subcontractors and staff working on this project.

3.13 Traffic Control at Worksites

3.13.1 Policy and Responsibilities

It is the Alliance policy that work zones provide for the safe operation of road workers and the safe passage of vehicular and pedestrian traffic. Traffic control devices are provided to warn, instruct and guide road users safely through, around or past work sites on roads including footpaths. A key feature is the need to carefully plan the staging of the work so that workers and traffic are separated as far as possible. Traffic control at work sites will be in accordance with latest edition of the RTA Publications “Guide to Traffic Control at Work Sites”, which is based on the Australian Standard, AS 1742.3, and QA Specification G10 “Control of Traffic”.

It is the responsibility of all Alliance personnel to ensure that roadworks are carried out in a safe and efficient manner. The Alliance will prepare specific Traffic Control Plans (TCPs) for all work which involves any obstruction whatsoever to traffic.

TCPs will be prepared in accordance with the requirements set out in the current edition of the RTA Specification Part G10 - Control of Traffic, section G10.1.4.

Where work requirements necessitate temporary speed limits, The Alliance Engineering Manager will review and approve all SZAs before the temporary speed limit is intended to be implemented.

The Alliance will then arrange for the supply and erection of appropriate temporary speed zoning signs. Following erection of the signs, arrangements will be made to cover the signs when the speed zones are not in use. Further details are provided in RTA Specification Part G10 section G10.1.4.

3.13.2 Traffic Control Techniques

The traffic control techniques to be employed will include:

- Temporary road deviations or detours;
- Raised pavement markers and clear line marking;
- Channelisation using PSB’s or lane delineators;
- Directional, information and regulatory sign posting; and
- Time of day routines to optimise traffic and construction activities.

A programme for the regular inspection of traffic infrastructure work will be implemented by the Construction Manager. This will ensure the controls in place continue to provide safe traffic

management for both the travelling public and Alliance employees or subcontractors. All controls will comply with current RTA Guidelines.

3.13.3 Approved Clothing for Work Personnel

Clothing will be provided in accordance with the requirements of Australian Standard AS 1742.3 and RTA Specification Part G10, section G10.1.7.

3.13.4 Plant and Equipment

Arrangements will be made to ensure all plant and equipment working near traffic is properly highlighted in accordance with RTA Specification Part G10 section G10.1.8.

3.13.5 Other Traffic Control Devices

Details of other traffic control devices are given in RTA's Guide to Traffic Control at Worksites. These devices include barrier boards, plastic mesh fencing, temporary post mounted delineators, cones, flaps, traffic warning lamps, temporary pavement markings, boom gates and portable traffic signals. These items will be provided as required.

3.14 Frequency of Inspections

Road inspections will be carried out regularly to ensure the safe movement of traffic and the protection of persons and property through and/or around a work site. Inspections of all temporary traffic control devices are detailed in **Section 4.2.2**.

Inspections will ensure all signs and devices are properly located, oriented and maintained in an effective condition and the layout is satisfactory and not confusing to motorists or pedestrians.

Records will be maintained of all traffic guidance schemes and any adjustments made to such schemes, together with dates and times the schemes were erected varied and removed.

Inspection reports recording dates and times of inspections of traffic schemes will be recorded on a suitable proforma. Likewise, reports are to be prepared of all worksite inspections by OH&S Committee members.

In all cases of accidents or near miss incidents, a report will be submitted to the Site Safety Representative on an Employee Incident/Accident Report, who will carry out an investigation and report for the Project Director. The Site Safety Representative is responsible also for carrying out hazard analyses and developing appropriate safe work methods as detailed in the Occupational Health Safety and Rehabilitation Plan

4 Safeguards and Mitigation Measures

4.1 Managing Risks and Approvals

The Alliance will manage the risks associated with traffic management by ensuring that no activity commences on site that has an effect on traffic without an approved ROL. The Construction Manager will ensure that all Alliance staff are aware of the requirements of this FTMRSP and that work on site occurs in accordance with the relevant CTMP, TCP and associated ROL.

The Construction Manager will identify the risks and develop rectification strategies (if required) for traffic safety and management by using some or all of the following measures:

- Surveillance and monitoring of processes (confirming safety assessments and plans);
- Training and evaluation of competency of personnel (including inductions);
- Assessment and inspection of equipment or controls (ie field safety audits);
- Auditing of system and process (ie document and process audits);
- Independent review or verification by third party.

4.2 Traffic Control Plans

4.2.1 Preparation and Implementation of Traffic Control Plans

All Traffic Control Plans to be used during the construction activity will be developed in accordance with Australian Standard 1742.3 and the RTA's "Guide to Traffic Control at Worksites" by a suitably qualified person.

A TCP can only be prepared by a person who has undertaken and passed the RTA's "Traffic Control at Worksites Manual" training course and holds a current certification.

Relevant reference documents are:

- Australian Standard AS1742.3 -2002 (Manual of uniform traffic control devices Part 3 Traffic control devices for works on roads.);
- Roads and Traffic Authority NSW, *Guide to Traffic Control at Work Sites (TCAWS)*. Version 3, 2004;
- Roads and Traffic Authority NSW, QA Specification G10 *Control of Traffic*; and
- AUSTROADS. *Guide to Traffic Engineering Practice. Part 2 – Roadway Capacity*. 1999.

All worksites and traffic control plans will be implemented as per the authorised TCP for the appropriate Stage of the works by suitably qualified personnel.

4.2.2 Inspection of Roadwork Traffic Schemes

The requirement to inspect traffic control is stipulated in Section 6 of the RTA’s “Traffic Control at Worksites Manual” and Appendix A of Australian Standard 1742.3. There are three main types of inspection:

- Pre-start and pre-closedown inspections of short term traffic control
- Weekly inspections of long term traffic control, and
- Night inspections of long-term traffic control.

The checklist in the RTA’s “Traffic Control at Worksites Manual” is generic and can be used for all three types of inspection whether short term, long term or night.

The responsibility and frequency of inspections is clearly stipulated in Section 6.1 of the RTA’s “Traffic Control at Worksites Manual” and is summarised in **Table 4-1**:

■ **Table 4-1: TCP Inspections**

Inspection	Responsibility	Frequency
Pre-start & pre-finish	Traffic Supervisor (Contractor)	daily
Weekly Audit	Traffic Engineer (Alliance)	Twice a week
Night Audit	Traffic Engineer (Alliance)	Once a week
Pre-opening Inspections	Traffic Foreman, Traffic Engineer (Alliance)	Prior to opening any new temporary roadwork site or major adjustment

4.3 Road Occupancy Licence

A Road Occupancy Licence (ROL) authorises the occupation of a portion of the road that would normally be available to traffic. Except in the case of an Unplanned Incident, or when directed by the Police or other Emergency Services, a ROL must be obtained for any work which:

- Slows, stops or otherwise delays or affects the normal flow of traffic;
- Diverts traffic from its normal course along the road, including lane closures and detours); or
- Occupies any portion of the road related area, including the footpath that is normally available for vehicular, pedestrian or bicycle movement

4.4 Application

The ROL application should be submitted online to the RTA's South West Region.

The application will be assessed by the RTA's Traffic Operations Manager (TOM). The ROL application must contain sufficient information to enable an assessment of the application to be carried out. If sufficient information is not provided, the assessment of the application for ROL are likely to be delayed, or if totally insufficient information is provided the ROL application may be rejected at this stage.

4.4.1 Application Content

An application for a ROL must be made to the TOM, via the online form at the website listed above. The website includes notes and guidelines for the applicant. It is important that the application give details of:

- type of work proposed (eg deviation, widening, pavement reconstruction, bridge construction, resurfacing, patrol maintenance and line marking).
- location and extent of the work
- anticipated start and end dates of the work
- areas of road to be occupied
- proposed timing of road occupation (times of day, days of week)
- expected delays to traffic
- any intention to stop highway traffic flow completely, and the expected duration of total stoppage
- type of traffic control
- type of information signs to be provided
- alternative routes or sidetracks
- existing and proposed temporary speed limits

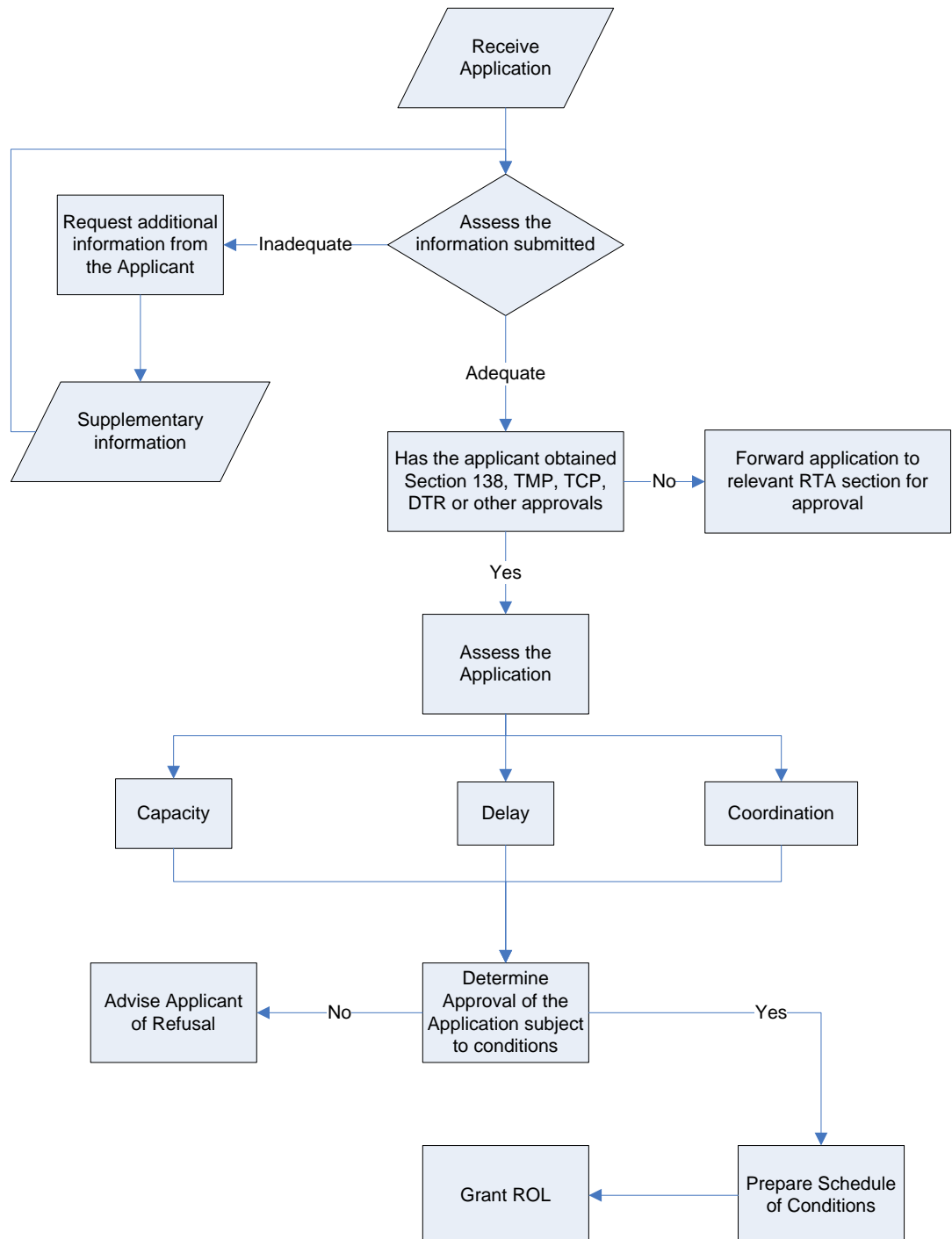
4.4.2 Approval Processes

The flow chart shown in **Figure 4-1** details the process for the submission of ROL's by the Alliance to the RTA.

The TOM will determine if an ROL can be approved based on the information supplied and the expected impact on traffic flows and vehicle and site worker safety. If the ROL can be granted, appropriate conditions of consent will be determined.

The ROL applicant will be advised of the outcome of the ROL application and the conditions under which the ROL must operate.

■ **Figure 4-1: ROL Approvals Process**



4.4.3 Large Project Approvals

In the case of the Southern Alliance works which will require a number of years to complete, ROLs will generally be issued for the overall traffic management plan, with the condition that a forecast weekly schedule of proposed road occupancies is provided to the TOM. The maximum period of time that a ROL could be valid for would be 3 years, at which time a new ROL must be applied for, taking into account changes that have occurred since the original ROL was approved.

Proposed road occupancies would be able to be vetoed by the TOM should the potential impact on traffic flows and/or safety be compromised by having repeated ROLs in operation within a short section of highway.

4.4.4 Coordination of ROL Activities

To ensure that road users do not experience excessive delays due to frequent roadworks, the objective of the Road Occupancy Licence scheme is to coordinate the occurrence of delays at separate sites along the Hume Highway.

To simplify the co-ordination process, work sites are categorised by the “Hume Highway ROL Approvals Process Guidelines” according to the type of delay caused. The following definitions and table of desirable minimum distance between ROLs have been reproduced from that document:

- **Type A Works** involve well-established semi-permanent traffic arrangements, with fixed warning signs, and adequate capacity to carry normal traffic flows. The speed limit may be set below the normal statutory limit for the area, but no other delays are caused.
- **Type B Works** occur at established sites that present some form of intermittent brief stoppage to traffic, while still providing sufficient overall capacity to accommodate the prevailing traffic flow. This type of work might typically involve the closure of a single-lane under manual or automatic traffic control, or stoppage of highway traffic to allow construction traffic to cross. It might involve a complete stoppage of traffic for periods up to five minutes, and with queues less than 500m in length.
- **Type C Works** require the partial or complete closure of the road, such that the prevailing traffic flow cannot be catered for, and queues will build up until the traffic is released. This type of work exists where individual vehicles are stopped for more than five minutes, or queues longer than 500m are allowed to build up. This might occur for resurfacing or blasting operations.
- **Type D Works** involves mobile operations such as maintenance patrols, line marking operations and mobile truck inspectors, which may impose short-term lane closures or stop selected vehicles at varying locations along a section of road.

Clearly, one work site may operate under different categories from time to time, depending on the type of activity being undertaken. The category of operation at a site may also change from B to C, if the prevailing traffic volumes change.

For example, a work site that requires the closure of a single-lane under manual traffic control may operate as Type B (delays under 5 minutes) during a normal weekday. The same site configuration may operate as Type C (delays over 5 minutes) on a holiday weekend, when the traffic volumes exceed the capacity of the available road space. Under these conditions, the work would normally be required to revert to Type A operation (continuous traffic flow in both directions) for the duration of the peak holiday traffic volume.

Desirable standards for the minimum distance between sites employing different types of works are shown in the following table. Longer distance trips should involve stopping for a rest break every two hours, equivalent to a travel distance of 200 km on average, and should not in general be experiencing more than one major delay (Type C) in that time.

■ **Table 4-2: Desirable Minimum Distance between ROLs**

Works Category	Type A	Type B	Type C	Type D
Type A				
Type B		40 km	40 km	20 km
Type C			Not permitted – 1 only over Hume Highway length	50 km
Type D	No restriction	No restriction	No restriction	No restriction
All works are at discretion of the Hume Highway Traffic Operations Manager				
Based on 20 minutes travel between planned delays.				

Under some circumstances it may be necessary to permit work sites to operate closer together. In particular, mobile Type D Works such as maintenance patrols may need to pass through and work adjacent to construction sites. Under these circumstances, it may be desirable for a site operating as Type B (intermittent brief stoppages) to revert to Type A (no stoppages) while the maintenance patrol is in the immediate area.

4.5 Construction Impact on Regional and Local Roads

Dilapidation surveys of regional and local roads used by construction traffic will be undertaken prior to their use for construction as well as after construction is complete. Monitoring will be carried out to the satisfaction of, and a dilapidation report submitted to, relevant local government authorities. The proponent (RTA) will be responsible for any necessary repair of deterioration attributable to the impacts of construction traffic.

4.6 Emergency Incident Planning

An emergency is defined as:

An unforeseen event which requires urgent action to protect life or property, or an occasion when emergency services (Police, Fire Brigade, Ambulance or State Emergency Services) take control of a portion of the Highway.

Examples of emergencies could include:

- Traffic accidents,
- Hazardous spillage's,
- Tree fall,
- Flood,
- Fire, and
- Structural damage to a road or bridge.

In the event of an emergency occurring, the RTA's Hume Highway Incident Response Plan Manual (North of Yass (Gunning Gap) to Albury (Victoria Border) (2007 Controlled Copy No. SW/HW2/117) will be consulted to determine the appropriate procedure and responses required.

All details of emergencies that occur within ROL areas are to be recorded and forwarded to the TOM within 7 days of the incident occurring, with details of where the incident occurred, any contributing factors related to the ROL and any actions that have been taken with respect to the ROL conditions.

4.6.1 Accidents/Incidents and Complaints

The ROL database will maintain records of traffic accidents and incidents reported at work sites. Any complaints received regarding delays at work sites should be referred to the TOM for investigation, the drafting of replies, and record purposes. The person in charge of the work site will continue to be responsible for dealing with complaints regarding safety issues. Where action is considered necessary to address the matters of the complaint, an appropriate recommendation will be forwarded to the Alliance Traffic Manager.

4.6.2 Chemical Spills and Leaks

Information on procedures to be followed and properties of hazardous chemicals are detailed in:

- Department of Environment and Climate Change - Chemical Procedures Manual;
- WorkCover - "Chemical Emergency Guide"; and
- MR Form 1260 - Hazardous substances.

The Fire Brigade is primarily responsible for rendering safe and cleaning up after incidents involving flammable or hazardous substances, vapours, gases or liquid spillage, as well as an actual fire or explosion.

4.6.3 Availability of Dangerous Goods Safety Data

The Fire Brigade holds detailed information on dangerous goods and hazardous chemicals. The Alliance personnel are instructed not to approach such spills until the Fire Brigade have declared the site safe. In such cases The Alliance will close the roadway at a safe distance until the Fire Brigade arrives and issues appropriate instructions.

4.6.4 Accident Reporting and Investigation

Emergency procedures for major and minor accidents are set out in the Occupational Health and Safety Plan.

4.6.5 Notification of Accidents to RTA and WorkCover

The Safety Manager or Construction Manager will be responsible for reporting all accidents to the RTA and, if appropriate, to WorkCover.

5 Road Safety Audits

5.1 Purpose and Benefits

A Road Safety Audit Process is a formal procedure for checking the design, implementation and operation of road works from a safety perspective. The establishment of quality systems provides the philosophy underpinning the Road Safety Audit Process. The overriding objective of the process is to ensure that all existing road schemes and future routes operate at an acceptable level of safety, with safety being an integral part of the road network development process.

The benefits of road safety audits are that:

- the likelihood of accidents on the road and the adjacent network can be reduced;
- the severity of accidents can be reduced;
- road safety is given greater prominence in the minds of road designers,
- the need for costly remedial work is reduced; and
- the total cost of a project to the community, including accidents, disruption and trauma, is reduced.

5.2 Stages when Road Safety Audits are Undertaken

Road safety audits will be undertaken at the following stages:

5.2.1 Detailed Design Stage

At this stage, the geometric design, traffic signing scheme, linemarking plans, lighting plans and landscaping plans are available and will be looked at in relation to the operation of the road.

5.2.2 Pre-Opening Stage

Prior to opening a site, an inspection will be made for all relevant conditions at night and during the day for all likely road users to ensure that the construction has addressed earlier audit concerns and to check for any hazardous conditions that were not apparent at the feasibility or design stages.

5.3 Road Safety Audits of Temporary Work

The Alliance will undertake regular safety audits of work zones to ensure all worksite safety arrangements are in place. These audits will be additional to the daily inspections by site staff. Particular attention will be given to OH&S guidelines, work areas adjacent to the road, movement of construction traffic, vehicle speeds, and all warning devices/systems.

5.4 Road Safety Audit Procedure

All road safety audits will be undertaken in accordance with the RTA Publication "Road Safety Audits - 1995".

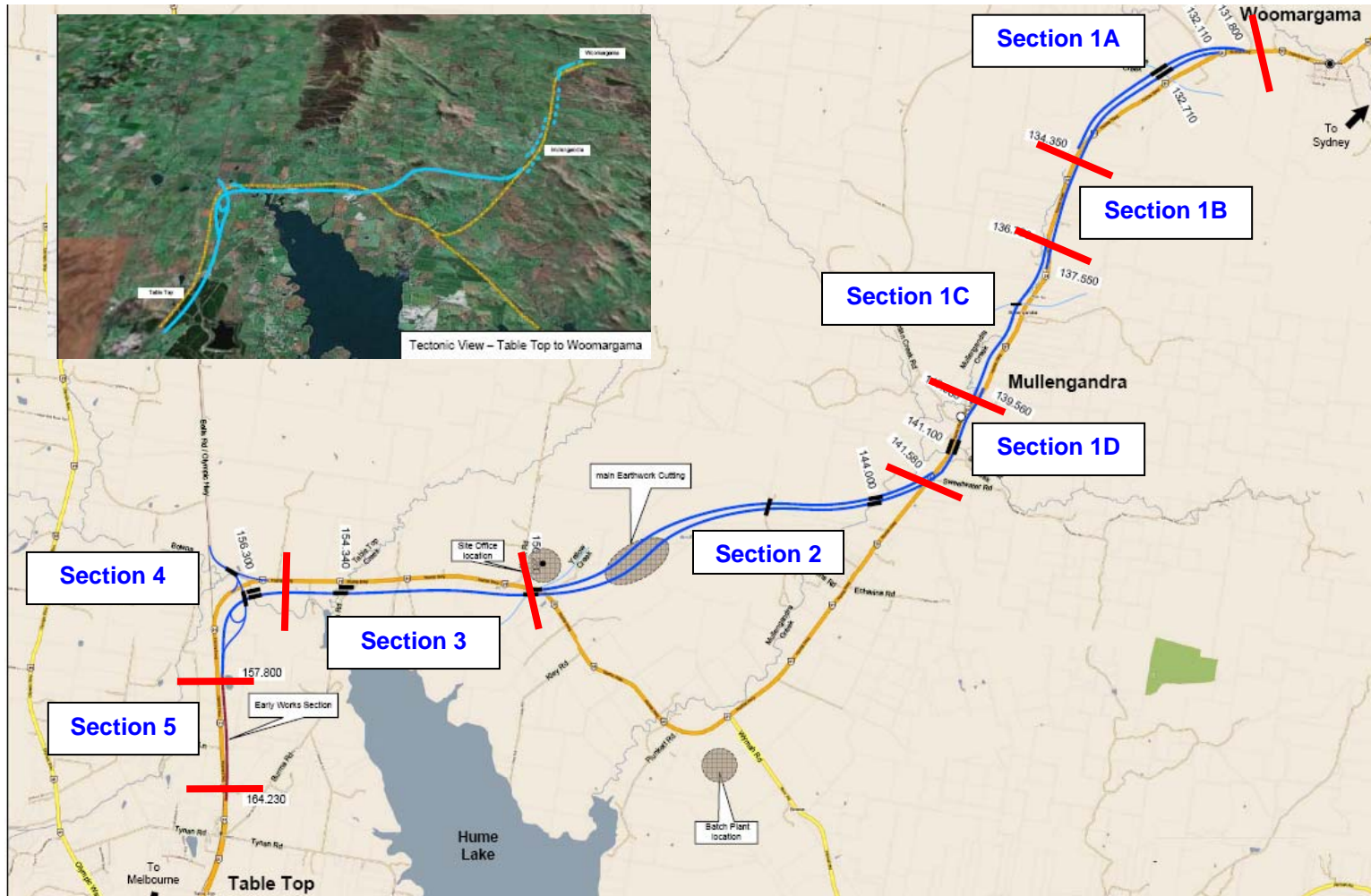
Appendix A Traffic Management and Staging Sections of the Project

This annexure provides the details and staging diagrams which relate to the most significant sections of traffic staging required in order that construction of the Project can be carried out whilst minimising the effects on the local and regional traffic including cars, trucks and pedestrians.

For each section, details are provided for:

1. Works description.
2. Constraints.
3. Programming and traffic staging.
4. Impacts on existing roads.
5. Considerations, Options & Observations.

■ **Figure 3: Traffic staging sections of the Project**



Hume Highway Southern Alliance

Section 1:

This package of work is summarised below and its location shown in the attached drawing. Further details can be found in the Construction Traffic Management Plan, *IN90304-411-PL-TM-0001-A Construction Traffic Management Plan.doc*.

Works Description

Section 1, Woomargama to Mullengandra, is divided into four sections determined by the location of required traffic switches (Sections 1A to 1D). Section 1A requires construction of new northbound and southbound carriageways, while sections B and D require construction of new southbound carriageways and section C requires a new northbound carriageway.

Constraints

The Hume Highway is to remain open to traffic in both directions at all times, with access to the existing Hume Highway from local roads and private properties maintained through all stages of construction.

Programming, Traffic Staging and Construction Sequence

Key activities proposed to be carried out include:

- Site establishment;
- Construction of new northbound and southbound carriageways; and
- Construction of tie-ins with existing / new carriageway.

Impacts on Existing Roads and Access

Hume highway traffic flows will be periodically disrupted during traffic switches, but through traffic flow and local access will be maintained.

The speed zoning will predominantly be maintained at the existing speed limit of 100kph. Reduced Speed Zone Authorisations may be required for specific activities for short durations.

Section 2: Sweetwater Road to Yellow Creek

This package of work is summarised below and its location shown in the attached drawing. Further details can be found in the Construction Traffic Management Plan, *IN90304-412-PL-TM-0001-A Construction Traffic Management Plan.doc*.

Works Description

Section 3 consists of the deviation between Mullengandra and Yellow Creek. The construction of two new carriageways is required, with tie-ins to sections 2 and 4 as well as with the existing carriageway at both Yellow Creek and Sweetwater Road.

Constraints

The Hume Highway is to remain open to traffic in both directions at all times, with access to the existing Hume Highway from local roads and private properties maintained through all stages of construction.

Programming, Traffic Staging and Construction Sequence

Key activities proposed to be carried out include:

- Site establishment;
- Construction of new northbound and southbound carriageways;
- Construction of tie-ins with existing / new carriageway; and
- Construction of local access intersections at Yellow Creek and Sweetwater Road.

Impacts on Existing Roads and Access

Hume highway traffic flows will be periodically disrupted during traffic switches, but through traffic flow and local access will be maintained.

The speed zoning will predominantly be maintained at the existing speed limit of 100kph. Reduced Speed Zone Authorisations may be required for specific activities for short durations.

Section 3: Yellow Creek to Olympic Highway

This package of work is summarised below and its location shown in the attached drawing. Further details can be found in the Construction Traffic Management Plan, *IN90304-413-PL-TM-0001-A Construction Traffic Management Plan.doc*.

Works Description

Section 3 involves the construction of a new southbound carriageway parallel to, and to the south of, the existing carriageway.

Constraints

The Hume Highway is to remain open to traffic in both directions at all times, with access to the existing Hume Highway from local roads and private properties maintained through all stages of construction.

Programming, Traffic Staging and Construction Sequence

Key activities proposed to be carried out include:

- Site establishment;
- Construction of new southbound carriageway; and
- Construction of tie-ins with existing / new carriageway.

Impacts on Existing Roads and Access

Hume highway traffic flows will be periodically disrupted during traffic switches, but through traffic flow and local access will be maintained.

The speed zoning will predominantly be maintained at the existing speed limit of 100kph. Reduced Speed Zone Authorisations may be required for specific activities for short durations.

Section 4: Olympic Interchange

This package of work is summarised below and its location shown in the attached drawing. Further details can be found in the Construction Traffic Management Plan, *IN90304-414-PL-TM-0001-A Construction Traffic Management Plan.doc*.

Works Description

Section 4, the Olympic Interchange, consists of the Hume Highway from 500 metres north to 2 kilometres south of the existing Olympic Highway intersection, as well as all the ramps associated with the proposed interchange, and approximately 1 kilometre of the existing Olympic Highway. Ramps will be provided for all turning movements between the Olympic Highway and the Hume Highway.

Constraints

The Hume Highway and Bells Road are to remain open to traffic in both directions at all times, with access to the existing Hume Highway from Bells Road and private properties maintained through all stages of construction.

Programming, Traffic Staging and Construction Sequence

Key activities proposed to be carried out include:

- Site establishment;
- Construction of new southbound carriageway;
- Construction of new ramps for the interchange.

Impacts on Existing Roads and Access

Hume highway traffic flows will be periodically disrupted during traffic switches, but through traffic flow and local access will be maintained.

The speed zoning will predominantly be maintained at the existing speed limit of 100kph. Reduced Speed Zone Authorisations may be required for specific activities for short durations.

Section 5: Tynans Road to Olympic Highway (Early works)

This package of work is summarised below and its location shown in the attached drawing. Further details can be found in the Construction Traffic Management Plan, *IN90304-415-PL-TM-0002-A Construction Traffic Management Plan.doc*.

Works Description

Section 5 predominantly involves the construction of a second carriageway between the Ettamogah Pub and (not including) the Bells Road Interchange. It includes installation of fencing, sediment and erosion controls, site preparation i.e. vegetation clearance, earthworks, drainage works, bridge construction and final asphaltting, paving and site restoration activities.

The Early Works Package extends approximately 3.5 km south of the Bells Road Interchange (CH) to the existing dual carriageway at Tabletop.

- Construction of a new carriageway to the east of and parallel to the existing carriageway; and
- tie in to the existing Hume Highway at Tynans Road and south of Bells Road.

Constraints

The Hume Highway is to remain open to traffic in both directions at all times, with access to the existing Hume Highway from local roads and private properties maintained through all stages of construction.

Programming, Traffic Staging and Construction Sequence

Key activities proposed to be carried out in the Section 5 Early Works Package include:

- Site establishment;
- Construction of new southbound carriageway; and
- Construction of tie-ins with existing / new carriageway.

Impacts on Existing Roads and Access

Hume highway traffic flows will be periodically disrupted during traffic switches, but through traffic flow and local access will be maintained.

The speed zoning will predominantly be maintained at the existing speed limit of 100kph. Reduced Speed Zone Authorisations may be required for specific activities for short durations.