

Technical Note

To	Kathryn Musgrave	From	Whitney Adam
Copy	Bill Cheng, Helen Mclean, Jo Payne	Reference	239930
Date	27 October 2017	Pages (including this page)	10
Subject	Preliminary Planning Advice - Active, Integrated and Intelligent Management System (AIIMS): Stage 1		

1 Introduction

The NZ Transport Agency are seeking to implement an Active, Integrated and Intelligent Management System (AIIMS) on SH16 between the Central Motorway Junction (CMJ) and Rosebank Road and on SH20 between Dominion Road and the Waterview Tunnel. This is referred to as the 'AIIMS project'.

The AIIMS project will be delivered in two stages, as follows:

- Stage 1: Minimal Viable Product for SH16 and 20 – changes to the variable speed limit on SH16 and SH20, in both directions of travel.
- Stage 2: AIIMS – develop a business case to implement an operational transport management system for the core of the Auckland Motorway Network.

This memo contains preliminary planning advice to be included in the Requirements Report for Stage 1.

2 Scope of preliminary planning advice

2.1 The proposal

Preliminary planning advice has been sought regarding the Stage 1 proposals. The Stage 1 physical works to be carried out potentially include:

SH16:

- On SH16 between Rosebank Road, Rosebank and Stadium Road, Grey Lynn – additional side mounted Variable Speed Limit Signs (VSLS) to be installed.
- On SH16 between Stadium Road, Grey Lynn and Hopetoun Street, Auckland City Centre and Symonds Street, Auckland City Centre – demolition of existing gantry structures, replacement with new gantry structures, additional new gantry structures and VSLS and / or VMS signage. This will be carried out in the Central Motorway Junction (CMJ) area. The CMJ is bound by the Newmarket Viaduct, the Victoria Park Viaduct, St Lukes Road and Grafton Bridge. Exact locations of the demolition and installation works within the CMJ are unknown at the time of writing.
- On SH16 between Rosebank Road, Rosebank and the CMJ – Closed Circuit Television (CCTV) Cameras to be installed. Cameras may be installed on a stand-alone support column or to a gantry structure.

SH20:

- On SH20 between the Waterview Tunnel southern portal entry/exit and Dominion Road, Mount Roskill - existing VSLS and / or VMS signage to be replaced and new VSLS and / or VMS signage to be installed. New VSLS and / or VMS signage will be a combination of side mounted signs and gantry mounted signs requiring new gantry structures.

- On SH20 between the Waterview Tunnel southern portal entry/exit and Dominion Road, Mount Roskill – Closed Circuit Television (CCTV) Cameras to be installed. Cameras may be installed on a stand-alone support column or to a gantry structure.

2.2 Description of the physical structures

Physical structures would generally include gantries and side mounted VSLS. Figure 1 shows an example of the anticipated worst case physical structures to be provided.

The gantries would be:

- Height: generally between 9-12 metres (from road surface to top of sign), but could be higher than 12 metres in some locations
- Width: variable, depending on width of carriageway.

Figure 1: Example of gantry structure and VSLS



2.3 Construction / installation method

Information on the construction / installation method of the gantries and associated VSLS and / or VMS is limited at the time of writing this memo.

For the purposes of this preliminary planning advice, it is assumed that the following general construction / installation method may be followed:

- Demolition of existing gantry structures.
- Excavation of soils to sufficient depth for foundations.
- Installation of steel reinforcement, conduits and other components of foundations.
- Concrete pours to finish foundations.
- Installation of infrastructure on foundations.
- Connection of infrastructure to power and communications including trenching, underboring, laying of conduits and cable and cabinet installation.
- Commissioning and testing.
- Construction of maintenance bays, where required.

2.4 Assumptions

- The design of VSLS and VMS would be in accordance with the Land Transport Rule Traffic Control Devices and the NZ Transport Agency ITS Specifications including (but not limited to) those for Lane Control Units and Variable Message Signs.

- All work would be contained within existing NZ Transport Agency designations.
- Additional elements, such as lighting, utility relocation and emergency phones, are not allowed for in the scope of this planning advice.
- Regarding construction / installation method:
 - No vegetation removal will be required or that this would be avoided.
 - Soil disturbance to be determined when construction method is known.

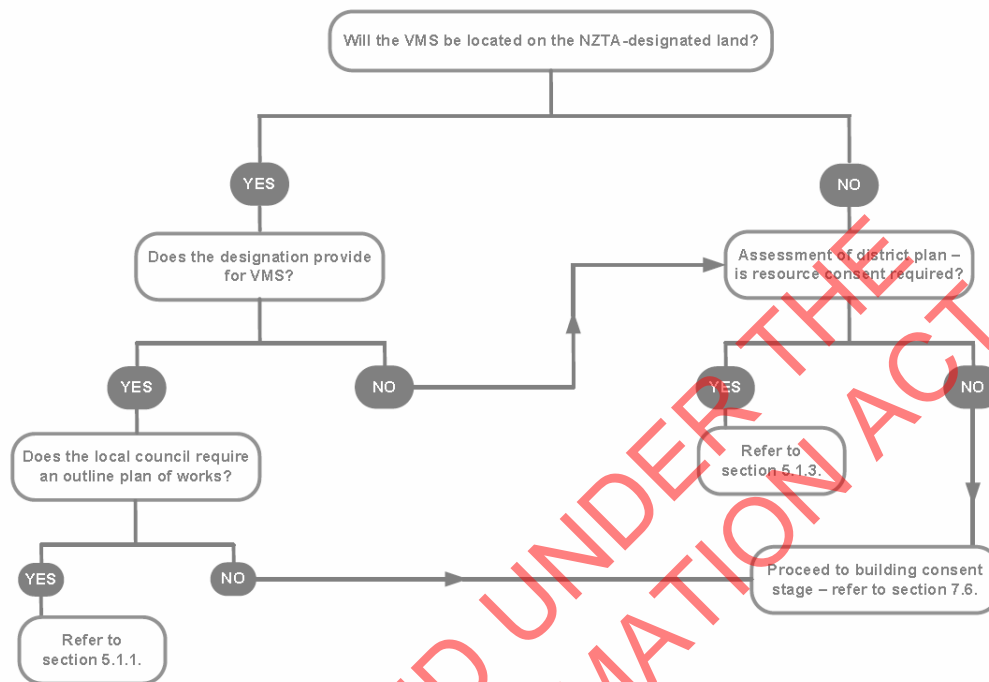
3 Information sources

The following information sources were reviewed to inform the planning advice.

- ITS Specifications: Including but not limited to Variable message sign supply and installation, Variable message sign supply and installation – notes (ITS-06-01) (NZ Transport Agency, First Edition, Amendment 1, October 2013), Lane control unit supply and installation (ITS-04-01) and Civil and Structural requirements (ITS-01-04)
- Auckland Unitary Plan, including existing designation details.
- New Zealand Gazette No. 19 Variable Speed Limits – State Highways 16 and 20, Waterview Tunnels and Great North Road Interchange (3 March 2016).
- A phone conversation between Whitney Adam (Aurecon) and Chris Millar (Auckland Motorways Alliance (AMA) – NZ Transport Agency) on 13 September 2017 regarding known environmental issues and previous consents in the Central Motorway Junction (CMJ) area.
- Material provided by Chris Millar of AMA, including:
 - Central Motorway Junction - Assessment of Environmental Effects of the Ongoing Discharge of Contaminants to Groundwater and Surface Water and Appendices (prepared by SKM, for Transit New Zealand, June 2006).
 - Resource Consent conditions for consent 30280 to 'discharge contaminants to ground at Central Motorway Junction State Highway 1'.

The information used to determine planning requirements is based on the flow chart included in the ITS Specification: Variable message sign supply and installation – notes (ITS-06-01) (2013). This is shown in Figure 2.

Figure 2: Flowchart to determine planning requirements



Source: ITS Specification: Variable message sign supply and installation – notes (ITS-06-01) (2013)

4 Planning requirements

4.1 Designations

4.1.1 Will the VLS and VMS be located on NZ Transport Agency designated land?

It is assumed that the works will be carried out wholly within the existing NZ Transport Agency designations.

The Auckland Unitary Plan Map shows multiple designations in the area. Details of the designations relevant to this proposal are in Appendix A.

4.1.2 Does the designation provide for VLS and VMS?

Broadly, the purpose of the designations listed in Appendix A is to 'undertake maintenance, operation, use and improvement to the State Highway network'.

There are no conditions on the road designation relevant to the VLS and VMS nor do the designations explicitly provide for VLS and VMS. However, VLS and VMS are consistent with the purpose of the designations to 'operate and use' the State Highway network.

4.2 Auckland Council requirements

4.2.1 Does the local council require an outline plan of works?

Provided the VSLS, VMS and associated gantry structures are carried out within the boundary of the existing NZ Transport Agency road designation, an Outline Plan is unlikely to be required.

Section 176A(2) of the RMA states that an outline need not be submitted to the territorial authority under any of the following circumstances:

- The proposed public work, project, or work has been otherwise approved under the RMA.
- The details of the proposed public work, project, or work are incorporated into the designation.
- The territorial authority waives the requirement for an outline plan.

4.2.2 Auckland Unitary Plan requirements

Section 176A(2)(a) of the RMA states an outline plan need not be submitted to the territorial authority if the works has been otherwise approved by the Act. The Auckland Unitary Plan Map shows that the project area is located within the Strategic Transport Corridor Zone. This zone allows for the development and use of the state highway for activities related to the transportation of people and goods.

Chapter H22 of the Auckland Unitary Plan outlines the relevant provisions for the Strategic Transport Corridor Zone.

VSLS, VMS and associated gantry structures are considered as activity 'A3 – operation, maintenance of roads, railways and transport equipment'. This is a permitted activity and is consistent with the standards for permitted activities outlined in H22.6.

As the VSLS, VMS and associated gantry structures are located within the existing designation and are consistent with the provisions of the Strategic Transport Corridor Zone, resource consent is not necessary. On this basis the VLS, VMS and associated structures are considered to be otherwise approved in accordance with section 176A(2)(a) of the Act.

4.3 Other considerations

4.3.1 Existing relevant resource consents

Phone and email correspondence with the AMA indicates that a review of the existing resource consent relating to land contamination in the CMJ area was needed.

Resource consent 30280 applies to the CMJ area. It is for the 'ongoing diffuse discharge of contaminants to ground and groundwater in accordance with Section 15 of the Resource Management Act 1991'.

Conditions of consent mainly relate to monitoring of levels of contaminated land. As such, the proposed work would generally be in accordance with the conditions. However, contaminated land should be considered when earthworks requirements (which are assumed to be under 500m² and therefore a Permitted Activity under the Auckland Unitary Plan). This consent should be considered when earthwork requirements are known, as contaminated land is a known environmental risk in this area.

4.3.2 Environmental considerations for site selection

The following provides an overview of environmental considerations that should be considered for site selection. As the VLSL, VMS and associated gantry structures would be carried out within existing designation and would unlikely require resource consent, these considerations are unlikely to have a bearing on consent requirements and are provided for guidance for the next stage of this project only.

- Landscape character – VLSL, VMS can potentially add to the visual clutter of the roadside. The NZ Transport Agency have a role to ensure that VLSL and VMS respond to and enhance the environment where they are placed. The location of the project is in a highly modified urban environment and changes to the landscape character is likely to be minor.
- Noise and vibration – there are numerous receivers near SH16 and SH20, including residential, education, places of worship. These may be considered 'Protected Premises and Facilities' as per the definition in NZ Road Noise Standard NZS 6806:2010. Changes to vehicular speed because of VLSL and VMS signage could change the existing noise environment.
- Traffic and transport – traffic safety should be considered as part of the speed limit notification as well as placement of the signage.

4.3.3 Known stakeholder concerns

Known stakeholder concerns in the CMJ area include:

- Newton Primary School – located on Monmouth Street, Newton. It has previously requested noise walls, based on a perception of potential noise effects.
- Kingsland community – the community in Kingsland have shown concern on previous projects in the CMJ area relating to vegetation removal and noise effects of the motorway.

4.3.4 Building consent

Application should be made to Auckland Council for exemption from requiring building consent. If Auckland Council requires it however, this will be needed before construction can commence.

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5 Summary

The following provides a summary for Stage 1 of AIMS for consenting and environmental considerations:

Consenting considerations

1. **Outline Plan** - provided the VSLS, VMS and associated gantry structures are carried out within the boundary of the existing NZ Transport Agency road designation, an Outline Plan is unlikely to be required (refer point 2 below).
2. **Resource consent** - resource consent is not likely to be required to install and operate the VMS signage and associated gantry structures. The VSLS, VMS signage and associated gantry structures would be in keeping with the relevant provisions of the Strategic Transport Corridor Zone.

Once construction details are known, resource consent requirements regarding contamination and possible discharge from earthworks should be checked.

3. **Building consent** – application should be made to Auckland Council for exemption from requiring building consent. If Auckland Council requires it however, this will be needed before construction can commence.

Environmental considerations

4. **Location of new VSLS, VMS and gantry structures** – where new structures are required, environmental considerations for site selection include noise and vibration, landscape character, traffic and safety, lighting, and contaminated land in the CMJ area.

Further environmental assessment would be required when more information is known about the location, construction method and operational features.

Review record

Rev	Date	Revision details/status	Author	Reviewer	Approver
0	13 October 2017	Draft – technical review	Whitney Adam	Helen McLean	Bill Cheng
0	25 October 2017	Draft – review for scope consistency	Whitney Adam	Bill Cheng / Jo Payne	Bill Cheng
0	30 October 2017	Draft for issue	Whitney Adam	Helen McLean	Bill Cheng

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Technical Note

Appendix A: Relevant designations

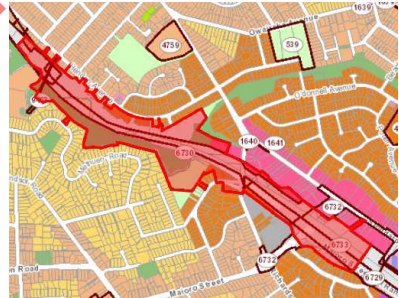
Table 1 outlines the existing relevant designations which apply to the area, where NZ Transport Agency is the requiring authority.

Table 1 Relevant existing designations operated by NZ Transport Agency

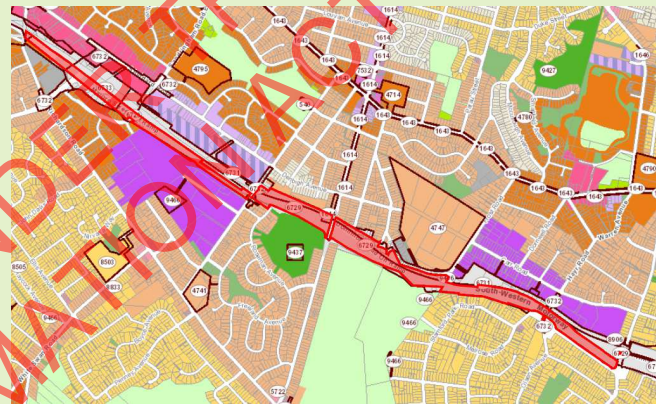
Designation reference and name	Purpose	Location	Notes
Designation 6718 State Highway 1: To undertake maintenance, operation, use and improvement to the State Highway network.	Motorway	State Highway 1 from (1) Auckland Harbour Bridge, Westhaven to Fanshawe Street, Freemans Bay and from (2) Grafton Road, Grafton to Tamaki River, Otahuhu, and State Highway 16 from (3) Newton Road, Eden Terrace to Whau River bridge, Avondale and State Highway 20 from (4) Hillborough Road, Hillsborough to Manukau Harbour Crossing, Onehunga	There are a number of conditions that relate to SH16 St Lukes Western Ring Route Project. Conditions of WRR apply to SH16 from St Lukes Bridge west.
Designation 6733 State Highway 20: To undertake maintenance, operation, use and improvement to the State Highway network		State Highway 20 from Queenstown Road, Hillsborough to Ernie Pinches Street, Mt Roskill Hillsborough Road	
Designation 6731			

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Designation reference and name	Purpose	Location	Notes
<p>Designation 6736</p> <p>State Highway 1 and State Highway 16: Central Motorway Junction, Auckland Council</p>	<p>The designation is to include, and allow for, the control of this State Highway, including planning, design, supervision, construction and maintenance in accordance with the provisions of the Government Roading Powers Act 1989.</p>	<p>State Highway 1 and 16 from Grafton Road, Grafton to Wellington Street, Auckland Central and State Highway 16 from Parnell Rise to Newton Road, Auckland Central</p>	
<p>Designation 6730</p> <p>Western Ring Route: Waterview Connection, Maoiro Street to Alan Wood Reserve (State Highway 20)</p>			

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Designation reference and name	Purpose	Location	Notes
Designation 6729 State Highway 20 and Railway – Mt Roskill			 A detailed map of the Mt Roskill area in Auckland, New Zealand. The map shows a network of roads, including State Highway 20, and a railway line. The area is color-coded with various shades of green, yellow, and purple, likely representing different land use zones or planning boundaries. A red line highlights the specific project alignment for State Highway 20 and the Railway. The map includes street names and various landmarks.

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