NATIONAL OPERATING POLICY

FOR
WAKA KOTAHI
NZ TRANSPORT AGENCY

VARIABLE MESSAGE SIGNS

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Document Management Plan

Signed off by policy owner (delegation holder and/or business owner)	National Manager Maintenance & Operations
Review group	Manager Transport Operations, Real Time Operations Team Leader
Policy lifecycle	This policy is to be reviewed every two years

Change Record

Version	Description of change	Date	Updated by
0.1	Draft with new brand and format	5 Oct	Sue Jones
0.2	Incorporate feedback from TOC's	22 Nov	Sue Jones
0.3	Final Draft	24 Dec	Sue Jones

Purpose

The purpose of this document is to provide policy guidance for the operation of variable message signs (VMS). It should be read in conjunction with the National Operating Procedures for Waka Kotahi NZ Transport Agency Variable Message Signs. Waka Kotahi has deployed VMS on the state highway network and local roads where there is a responsibility to provide traveller information

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1. Introduction

1.1. Background

Variable Message Signs (VMS) are now established as a strategically important, highly visible part of New Zealand's state highway network. Management of the network relies on a diverse array of processes and resources of which VMS are a crucial part. The Transport Operations Centres (TOC) in Auckland and Wellington utilise the VMS to publish messages to the public.

Waka Kotahi recognises that international best practice must be applied when managing, operating and displaying messages, and that a high level of national consistency when presenting information to travellers, are essential to maintaining credibility. While regional differences dictate there will be some variations, Waka Kotahi's national philosophy on VMS messaging, is described in two documents which cover policy and procedures. In addition, lower-level site specific information is placed in a series of separate Standard Operating Procedures.

1.2. Scope

This is a national document spanning every Waka Kotahi region. It covers the operation and control of messages on all Waka Kotahi motorway, urban & rural VMS. The document's coverage also extends to Mobile VMS.

This document **does not** cover CMS, LCS, LSU, VSLS, and other non-VMS electronic signage.

1.3 Relationship between Policy, Procedures & Standard Operating Procedures

Waka Kotahi has established three levels of documentation relating to the operation of VMS. These comprise:

1. *National Operating Policy*

This national document outlines the overall operating policy relating to the control of messages on Waka Kotahi's VMS. It covers motorway urban & rural locations, and Mobile VMS.

2. *National Operating Procedures*

This national document outlines the operating procedures governing Waka Kotahi's VMS. It contains a menu of message applications and outlines the best practice processes used to compose VMS messages. The National Operating Procedure sits below and is consistent with, the National Operating Policy.

3. Standard Operating Procedures

These documents declare who, why and when a task must be performed. They tell staff where responsibilities lie to provide consistency and clarity around our procedures no matter the different staff that come in and out of the TOC's.

SOP's also show external parties our compliance with regulation and how tasks are completed.

2. Approved Message Applications

Effectively managed VMS messages have a high impact with travellers. They should only be used for certain applications to ensure effectiveness of VMS messages is not compromised through overexposure.

Approved applications for VMS messages are discussed in sections 2.1 to 2.8.

2.1. Incident Management, Diversions, Delays, Closures

To advise travellers of unusual conditions such as crashes, road maintenance, diversions, delays, and road closures.

2.2. Adverse Road or Driving Conditions

To advise travellers of unusual potentially hazardous conditions affecting the road surface such as water, snow, ice, oil spills; and in addition, potentially hazardous driving conditions such as high winds or reduced visibility.

2.3. Prior Notice of Changes Affecting Travellers

Messages providing advanced notice of changes affecting travellers such as road works, planned diversions, or interruptions to traffic flow.

Prior notice information shall be expressed in days of the week, not calendar dates within the week of the work commencing. Messages with days of the week should not be displayed more than six days in advance, rather dates should be used for extended notice periods.

2.4. Major Shows Concerts Sporting Events Affecting Travellers

Events such as shows, concerts, or sporting events including cycle races, marathon on the Auckland Harbour Bridge, or the Coast to Coast race, may significantly disrupt traffic or require motorists to be aware of vulnerable travellers. In these situations, VMS messages should be used to provide advanced notice (refer to Section *2.3 Prior Notice of Changes Affecting Travellers*) or assist with traffic management during the event.

Messages should not advertise the event. Generic terminology should be used rather than including the name of a sponsor, or the name of a rock band.

2.5. Civil Defence and Disaster Events

If a civil defence emergency is formally declared the CD Controller has wide ranging powers, and Waka Kotahi will be represented in the Civil Defence command centre. In such an event the VMS control centre will post any messages requested by the CD Controller, noting these requests must always be channelled through Waka Kotahi.

These could be single disaster events, such as a volcanic eruption or earthquake, or an ongoing civil defence emergency situations such as a pandemic response e.g. Covid 19.

2.6. Testing the Operation of VMS

Test messages may need to be displayed when a VMS is undergoing site acceptance tests (SATs) or during maintenance. Only approved test messages shall be displayed, and only for a short duration whilst a service technician is onsite.

2.7. Re-Opening Roads

When a temporarily closed road is re-opened, rather than immediately blanking the sign, a "Road Now Open" message shall be displayed so travellers are actively advised of the changed condition.

The sign must be blanked when the display requirement is no longer needed.

2.8. Road Safety Campaign Messages

When VMS are used to support road safety campaigns, the ability to meet Waka Kotahi operational requirements must always remain the first priority.

VMS shall not be used to display any sort including road safety campaigns, except as follows:

Road safety messages that have been specifically proposed and/or requested by the Roading Policing Manager or the Waka Kotahi Senior Manager Maintenance and Operations, **and**

That are part of a nationwide campaign endorsed by the Waka Kotahi Safety Advisor, Roads and Roadsides **and**

That are displayed only during a pre-defined period such as Christmas, Easter, Queen's Birthday, etc, **and**

Approved by the Waka Kotahi Advertising and Education team (requests should be sent to advertising@nzta.govt.nz)

Even if these conditions are met, the messages may be over-ridden at any time without notice by traffic safety/information messages in accordance with the standard VMS operating principles.

VMS in sensitive locations, such as the section of SH94 Milford Road running through a World Heritage Park, shall be excluded from displaying Road Safety Campaign messages.

As a general guideline, campaign messages should only be posted at times of the year when VMS utilisation in the region is low. For example, for regions that are significantly affected by adverse winter conditions, the most appropriate time to display campaign messages is over summer

2.9. Expected Journey Times

To advise travellers of the expected journey time to a specific location, potentially via different available routes. This is automated and based on real time experience.

3. Responding to Emergency Services Requests

3.1. CIMS Protocol

There is a national Coordinated Incident Management System (CIMS) Protocol between Waka Kotahi, and the emergency services comprising: Police, Fire and Ambulance Services. This protocol sets out the agreed terms under which road incidents and crashes shall be managed and should be adhered to in relation to VMS.

Also refer to: *Section 6 Verification of Information.*

3.2. Balancing Priorities

The VMS operator must balance reasonable requests from Police or other verified emergency services sources with any situation that may apply elsewhere. If a conflict exists, the VMS operator must determine which of the situations should take priority.

The VMS operator may receive requests for non-standard messages from the emergency services. Wherever possible, standard messages should be selected to meet these requests.

4. Blanking of Signs

4.1. Active Blanking When No Message

The VMS shall remain blank when there is no approved message to display. This is to ensure effectiveness of VMS messages is not compromised through overexposure.

5. Applications for Which Messages Are Not Approved

VMS are not to be used to display messages in the following situations.

5.1. Advertising

Advertising is not permitted.

5.2. Public Announcements Unrelated to Road Information

Public announcements that do not provide relevant road information, or otherwise comply with an approved message application, are not permitted.

6. Verification of Information

6.1. Verified Sources

Information about incidents may be received from a number of sources including the

Network Maintenance Contractor, Waka Kotahi staff, Network Consultant, Emergency Services, and from CCTV coverage of the highway in question. Information from these sources should be treated as a "Verified Report" unless there is reasonably strong evidence to the contrary.

6.2. Unverified Sources

Information from the public and other sources of unverified information will often be inaccurate about locations and road conditions. To preserve the credibility of the VMS system and of Waka Kotahi, it is important to corroborate information from unverified sources with Verified Sources before displaying a message.

7. Identification of State Highway Number

It is critical that the overriding majority of travellers comprehend which highway the message relates to. This may be intuitively understood, or the SH may need to be formally identified by its number. In some instances, it is also critical to identify the location of an adverse condition (e.g. on SH73 this will usually be Porters Pass, Arthur's Pass or the Otira Gorge). Whether the identity of the SH can be understood intuitively depends on whether the network ahead is mosaic or linear in nature. The approach for mosaic and linear is covered in the following sections. It has a significant bearing on whether the highway, or locations on the highway, should be identified given the constraints over number of characters available to create a message.

7.1. Mosaic versus Linear Networks

A large part of the central North Island state highway network can be described as mosaic in nature. That is there are many interconnections between the various state highways. In this situation travellers need to be told which of the routes ahead relate to the message.

On the other hand practically all of the South Island, and parts of the North Island state highway network, can be described as linear in nature. That is the main routes run for very long distances with only a few intersections with minor roads. In this situation travellers are able to intuitively understand that any messages relate to the state highway they are travelling on.

7.2. Motorway

On the motorways, identification of the state highway number is often superfluous, and the SH number is displayed only when necessary. The focus is on identifying locations by naming e.g. the exit ramps.

7.3. SH Numbers on Mosaic Sections

Where the state highway ahead of the VMS is of a mosaic nature the state highway number (e.g. SH1) must normally form part of the message. A possible exception is where use of a name such as "Desert Road" renders the inclusion of the SH1 superfluous. A reasonable criterion is: Whether the majority of tourists will identify the correct road using commonly available touring maps.

7.4. SH Numbers on Linear Sections

Where the state highway ahead of the VMS is of a linear nature, Inclusion of e.g. SH1 is usually unnecessary.

8. Standard and Non-Standard Messages

8.1. Standard Messages

Waka Kotahi Senior Manager Maintenance and Operations shall be responsible for the process to approve the wording and context of standard messages on Waka Kotahi VMS. These shall be periodically reviewed and approved standard messages recorded in a national register.

Wherever possible, approved standard messages will be used on all Waka Kotahi VMS.

A list of standard messages is provided in the **Approved Standard Messages Register**

8.2. Non-Standard Messages

The rules around the compilation of non-standard and free text messages are provided in the **VMS Operating Procedures Manual.**

8.3. Record of All Messages

A record shall be kept of all VMS messages; including the dates and times they were posted and blanked. (This is to provide a record in the event that Waka Kotahi has to defend a case involving potential liability).

9. Boundaries of Influence

The operator must determine how far "upstream" from an incident the *boundary of influence* of a VMS should extend, and at what point does a message lose relevance for travellers.

It is not unusual for Rural VMS to be located more than an hours driving time from an alternative route intersection, and even further from an incident location. This contrasts with VMS in urban situations which generally have considerably shorter boundaries of influence.

Operator judgement should weigh up a number of factors including:

The nature of the condition

The likely duration of the condition

Travel time between the VMS and the incident.

The positions of alternative route intersections

The locations of any other VMS nearer to the incident

The information requirements of linehaul operators

10. Mobile VMS

Mobile VMS are frequently deployed to provide travellers localised information. Every reasonable effort shall be made to ensure that messages posted on the mobile VMS are compatible with information provided elsewhere on the network.

Please refer to the section in the Waka Kotahi National Operating Procedures dealing with Mobile VMS.