




P35 NATIONAL OPERATING PROCEDURES

**For
New Zealand Transport
Agency**

VARIABLE MESSAGE SIGNS

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Document Purpose The purpose of this document is to provide guidance on the procedures for the operation of variable message signs (VMS). It should be read in conjunction with the closely related National Operating Policy for New Zealand Transport Agency (NZTA) Variable Message Signs. NZTA 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.

NZTA 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, NZTA's over-arching national philosophy with respect to the control, design and display of messages, are described in two documents which cover *policy* and *procedures*. In addition, for ease of reference, lower level site specific information is placed in a series of separate *regional schedules*.

1.2. *Scope*

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

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

1.3. *Relationship between Policy, Procedure & Schedules*

NZTA 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 NZTA's VMS. It covers motorway urban and rural locations, and has important links to the National Operating Procedure described below.

2. *National Operating Procedure.*

This is also a national document and addresses the operating procedures governing NZTA's VMS. It contains a menu of standard messages, 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. Regional Schedules.

These regional documents contain contact details of authorised consultants and contractors, approved message wording for commonly occurring events, frequently used local place names, and identify linked VMS for each common incident location.

They also include the type of detailed information required for maintenance, or asset management purposes.

The collation and updating of these schedules is the responsibility of each region.

1.4. Reference to Policy

Refer to the NZTA National VMS Operating Policy for direction on all policy aspects including:

- Approved message applications, and applications that are not approved
- Responding to emergency services requests
- Blanking of signs
- Verification of information
- Whether the State Highway number (e.g. SH1) should be included
- A VMS's boundary of influence

1.5. Credibility

VMS must provide timely, reliable, accurate and relevant information. Credibility is extremely important. Regardless of how well a message is worded, travellers will distrust the system if they perceive the information to be inaccurate. Therefore, all messages displayed shall be: -

- Accurate – using verified information
- Current – only up-to-date information is displayed
- Relevant – within the area of influence of the VMS
- Significant – only important traffic information is displayed
- Coordinated – appropriate messages at every VMS relevant to incident
- Well worded – easily read and understood

1.6. Approval Process Standard Messages & Abbreviations

The standard messages and abbreviations in this manual have been approved by the NZTA VMS Message stakeholder group.

In many cases approval has followed comprehension testing using a human factors testing process to ensure acceptable understanding levels by target demographic groups.

A list of approved descriptors and abbreviations are given in Section 7 of this manual.

Auckland has a network of small VMS that are part of the ramp signalling network. The Ramp Signalling VMS are a non-standard variant to the Motorway and Regional VMS. Where possible, messages posted on the Ramp Signalling VMS should be consistent with the design principles outlined in these Procedures.

1.7. Definitions and Acronyms

Term/Acronym	Definition
ITS	Intelligent Transport Systems.
LED	Light Emitting Diode
MACA	Monitoring And Control Application. NZTA's software that monitors and controls VMS message changing for fixed VMS nationally.
NTCIP	National Transportation Communications for ITS Protocol.
NZTA	New Zealand Transport Agency
VMS	Variable Message Sign.

2. VMS Operation Centres

2.1. *Current Operation Centres*

While the locations and numbers of centres may change over time, VMS operation centres are currently located at:

Auckland TOC at a purpose-built facility within Smales Farm, controls all Motorway VMS within Auckland and the upper North Island VMS.

Wellington TOC at Helston Road, Johnsonville (top of Ngauranga Gorge), controls all Motorway VMS within Wellington and the lower North Island VMS.

Opus Greymouth controls the South Island VMS except the Lyttelton Tunnel.

In addition **Lyttelton Tunnel Control Centre** controls the Lyttelton Tunnel VMS. This control system is currently completely independent of any NZTA VMS operation.

2.2. *Back Up Operation Centres*

Should an operation centre be unable to function, one of the other operation centres is expected to carry out the essential functions including posting and blanking of messages. To that end both the Auckland TOC and Wellington TOC shall at all times maintain the capability to run VMS in all parts of the country, albeit on reduced service levels if necessary.

The Auckland TOC and Wellington TOC shall hold relevant electronic and hard copy files of the Regional Schedules for the rest of the country.

This information must be updated at least 6 monthly by each of the three operation centres during March and October and forwarded to the Auckland and Wellington centres by the last day of these months.

Rationale:

A control centre may be unable to operate due to a number of possible scenarios including loss of power or communication links, natural disaster etc. The Auckland and Wellington centres are geographically separate, are well resourced, and have access to a number of operators.

2.3. *Additional Back Up Control Capability*

Should the normal operation centre back ups fail, NZTA National Office, and Opus Christchurch, have capability to control the posting and blanking of VMS messages.

3. Delegated Authority

3.1. *Levels of Authority*

3.1.1. Administrator

NZTA Administrators have the maximum level of control over the VMS software control system.

3.1.2. Supervisor

NZTA grants Supervisors the ability to undertake a wide range of functions.

3.1.3. Operator

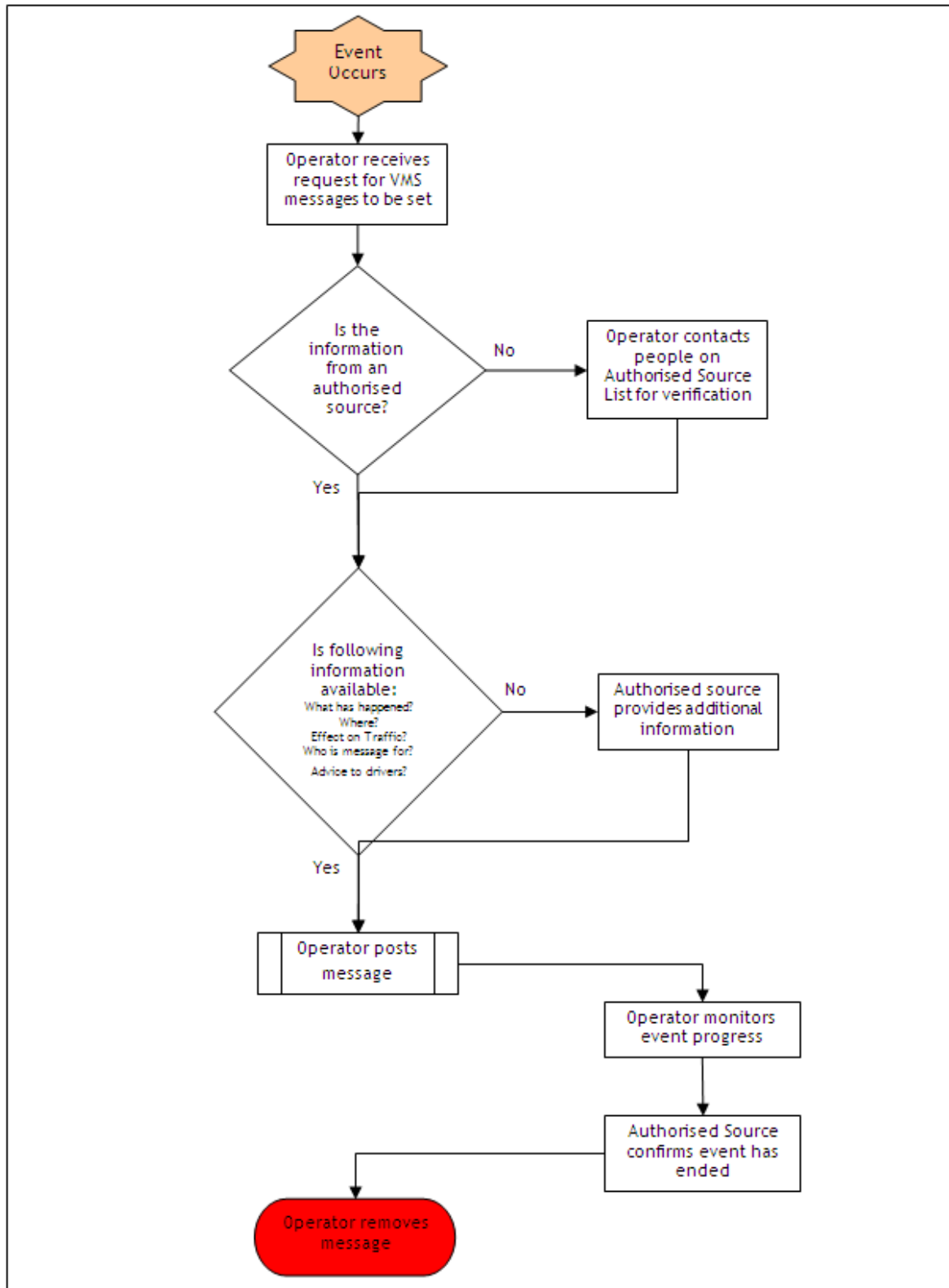
NZTA grants Operators the ability to undertake a wide range of functions, but certain functions that require higher access rights are excluded.

3.1.4. Read Only

NZTA grants read only access to approved NZTA staff, network consultants, and others, who need to see the messages posted on the network as part of carrying out their duties.

4. Decision Process When Composing a Message

4.1. Process Flow Chart



5. Message Components

5.1. Units of Information

Messages are constructed from **units of information**.

A **unit of information** is an item of data that a motorist may require to make a decision. This is illustrated by the questions and answers in the following table.

Question	Example Answer	Units of Information
What Happened? (Problem)	SNOW	1 unit
Where? (Location)	ON DESERT ROAD	1 unit
Effect?	ROUTE CLOSED	1 unit
Who is Affected? (Audience)	TRAFFIC PROCEEDING BEYOND WAIOURU	1 unit
What Action is Advised?	USE ALTERNATIVE ROUTE	1 unit
Reason to Follow Advice	TO AVOID DELAY	1 unit

The answers to the questions make up the **Base Message**. However it is impractical and undesirable to present travellers with a message containing all of the units of information above. As the amount of information increases, travellers find it increasingly difficult to read and comprehend the message, and of course the message must fit on the VMS display.

Each message should be condensed down to four units of information or less, and eight words or less, by eliminating information the traveller will reasonably infer.

Many effective messages consist of just two or three units of information.

5.2. Identifying the Base Message and Condensing

The message design process begins with writing down all units of information in the **Base Message** which is then condensed down to the most important elements.

Base Message Elements

Element Descriptor	Purpose	Comment
Problem	Conveys the type of incident.	Usually included. (Sometimes replaced by the Effect descriptor. E.g. ROAD CLOSED)
Location	Conveys location of the problem	Desirable when travellers need to know location.
Effect	Conveys the consequences of the incident	Desirable. (Sometimes replaces the Problem descriptor).
Audience	Identifies the group of drivers for whom the message is intended (e.g. truck drivers, or drivers bound for a given destination).	Desirable where the message does not apply to all travellers.
Action	Conveys the course of action to be taken by drivers	Usually included. (Unless the Action is rendered superfluous by the Problem descriptor or the Effect descriptor)
Reason to follow	To encourage travellers to follow advice	Desirable, but often discarded due to lack of space.

The operator should consider if they have enough of the information above to reliably inform drivers. If not more information should be gathered.

5.3. Problem/Incident Descriptor

Examples of descriptors for problems or incidents include:

CRASH
INCIDENT
ROADWORKS
SNOW
ICE
ROCKFALL
FLOODING
FOG
HIGH WIND

While this list is not exhaustive, limiting the number of variations on these descriptors will enhance national message consistency.

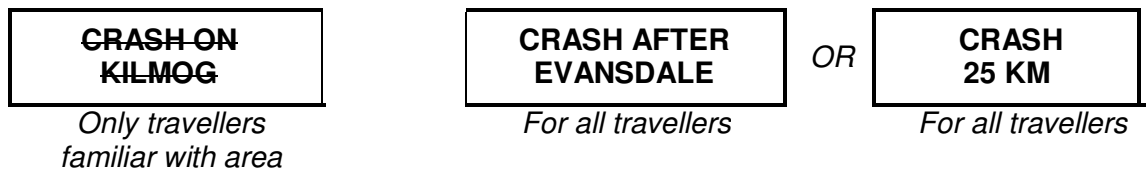
Having a large number of variations for similar descriptors should be avoided. For example CRASH is preferred to TRUCK OVERTURNED.

5.4. Location Descriptor

5.4.1. Referencing Location for Local and Visitor Travellers

Local travellers will be familiar with street names, local names, and landmarks. Visitors may struggle with these descriptors. However it is expected that visitors will normally be able to refer to touring maps. It is preferable to describe location by place names that are found on tourist type maps, or provide a distance to the location of the condition.

Crash Example



See approved message list dealing with use of “accident” “crash” and “incident”.

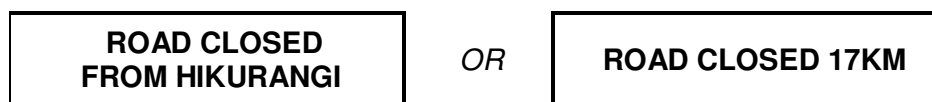
Use of Terms “Before”, “At”, “From”, “After”, “On”

As in the message above, consideration can be given to using the terms:

BEFORE [road name, place name]
AT [road name, place name]
FROM [road name, place name]
AFTER [road name, place name]
ON [road name]

To provide information about the locality and whether the motorist can reach towns or locations located before the incident.

Road Closure Example



In these examples it is unnecessary to add the word **AHEAD**.

AHEAD in this context is rendered superfluous by the statement **ROAD CLOSED**.

For both examples it could be argued that adding the *action descriptor* **USE ALT ROUTE** should be added. Without some form of *action descriptor*, travellers do not know whether they should wait for the road to be re-opened, or to use a detour.

5.4.2. VMS on Same / Different Road as Incident

Refer to the NZTA VMS Operating Policy on the need to include the SH number.

5.5. Effect Descriptor

Delays Example

Travellers' interpretations of what a delay may mean in terms of time vary widely. **LONG DELAY** should be used where the delay is expected to exceed one hour. **EXPECT DELAY** should be used for delays up to one hour.

LONG DELAY

For delays longer than
1 hour

EXPECT DELAY

For delays of up to 1 hour

"Long" and "Expect" delay descriptors and their associated time periods, were set in a stakeholder workshop which completely accepted there will be variability in interpretation between different parts of the country and between individuals.

5.6. Attention Descriptor

The *Attention Descriptor* is only used when the *Action* applies to a specific group of travellers.

TRUCKS USE SH4

Travellers expect that when they see an *Attention* message on the VMS, they will also see an *Action* message. An *Attention Descriptor* must always be accompanied by an *Action Descriptor*.

5.7. Action Descriptor

The *Action* element tells travellers what to do, and a message should normally contain an *Action Descriptor*. However provided the appropriate action is clearly implied by other elements in the message, an *Action Descriptor* may be superfluous.

FOG

In this example, adding an Action Descriptor is generally considered superfluous. Action is implicit in the Problem statement.

Non-Specific and Specific Diversion Route Examples

Where traffic is diverted to a non-specified alternative route the possible *Action Descriptors* include:

USE ALTERNATIVE ROUTE
USE ALT ROUTE

Where traffic is diverted to a specified alternative route the possible *Action Descriptors* include:

USE SH[XX] ALT ROUTE (Insert SH number, or name of road).

6. Principles of Message Design

6.1. General Considerations

Standard Regional VMS are capable of displaying 16 characters per line. The space between words is the equivalent of one character.

Motorway VMS are capable of 18 characters per line. The space between characters is the equivalent of two characters.

As described in Section 5, messages are constructed from **units of information** selected from the **Base Message**. As a general rule the problem should appear first and then the action required, but this is message dependent. It is important that the first unit of information should give the driver a good reason for continuing to read.

Each message be condensed down to four units of information or less, and eight words or less by eliminating information the traveller will reasonably infer.

If more than four units of information or more than eight words need to be displayed as part of an approved sequence of message(s); the message is to be fed back through the NZTA stakeholder group to consider if alternate wording can be recommended.

All characters will use upper case (capitals), except the abbreviation for kilometres (km) which shall be presented in lower case.

6.2. Maximum Numbers of Units of Information

Two messages can be displayed simultaneously, but as a rule no more than **4 units of information** should be presented in high speed environments.

In low traffic volume or low speed environments (50kph or less) a maximum of **5 units of information** may be accepted.

6.3. “Chunking” Units of Information

Keeping a *Unit of Information* on one line is referred to as “chunking”. The aim is to keep the whole unit of information on the same line to avoid confusing travellers and increasing reading time.

**FIRE AFTER
WARD USE SH63**

Lines not meaningful

**FIRE AFTER WARD
USE SH63**

Lines meaningful

Where portions of different units have to be displayed on the same line, it is acceptable to place a hyphen between the preceding portion and an action unit.

Taking the above example:

<p>FIRE AFTER WARD USE SH63</p>

Lines not meaningful

<p>FIRE AFTER WARD - USE SH63</p>

Acceptable

6.4. Splitting Messages

After selecting the necessary elements of the Base VMS Message, reducing the number of units of information, deleting dead or superfluous words, and using abbreviations, the message may be too long to fit into one display frame.

Two rules apply when messages must be displayed in more than one frame.

6.4.1. No More Than Two Alternating Frames

Messages are normally displayed as a single “frame,” however a maximum of two frames may be used to display messages providing the requirements outlined in this manual are met. Human factors research has shown that travellers have difficulty reading messages displayed on more than two frames.

When messages are presented in two alternating frames, each frame is automatically displayed for 3 seconds.

Scrolling messages across/down the display, or flashing messages, is not permitted.

6.4.2. Each Frame Must Be Understood By Itself

Each frame must be understood by itself. Either frame may be read first by the passing traveller, and some people may only see one frame.

<p>SH4 CLOSED WANGANUI</p>

Frame 1

<p>USE SH49</p>

Frame 2

This example is not acceptable, as each frame is not understood by itself.

<p>SH4 CLOSED</p>

Frame 1

<p>WANGANUI USE SH49</p>

Frame 2

This example is acceptable, as each frame is understood by itself, and they are understood regardless of the order in which they are read by a passing traveller.

6.5. Calendar Dates / Days of the Week

Human factors tests show travellers comprehension is significantly greater when a message displays days of the week as compared to displaying calendar dates.

**ROAD CLOSED
JULY 9 - 11**

Not acceptable

**ROAD CLOSED
WED - FRI**

Acceptable

NOTE: When days of the week are displayed, the message must be displayed *no more than 6 days in advance*.

The meaning of a hyphen (-) as used in the message above is understood by most travellers and its use in the above context is acceptable.

6.6. Avoid Forms of Advertising

For special events, use generic wording that avoids providing a form of indirect advertising.

**~~SPEIGHTS COAST
TO COAST RACE~~**

Not acceptable

CYCLE RACE

Acceptable

6.7. Message Priority

The following general principles shall apply:

- Where separate messages for different sections of road are displayed simultaneously, the message for the closer section is placed at the top, and the further away section is placed underneath.
- Where there are too many messages, the greatest consequence for travellers is the highest priority. The assessment should include the degree to which travellers may not expect to encounter the situation, and the potential consequences of any hazard. If the hazards are roughly equal the nearest one(s) are the highest priority.

6.8. Driving Time Considerations

Some VMS, especially those in remote locations, may be several hours driving time from an incident. Where driving time from the VMS exceeds the expected time to re-open the road, no message should be displayed.

6.9. Advising Message Updates

Where it is appropriate to display a message advising that an update can be expected at a certain time, the message will give a time and be presented in the format: "Update [XX:XX]AM or PM".

6.10. On Re-Opening a Road

When a **ROAD CLOSED** message is displayed, traffic may stop and wait at the VMS. On re-opening the road, instead of just blanking the sign which is a passive form of information, an active message should be displayed. The following "ROAD NOW OPEN" message should be displayed for 15 minutes, or the time that it takes to drive from a preceding VMS displaying road closed, whichever is longer, and then the sign blanked:

ROAD OPEN

ROAD NOW OPEN

Conveys a recent change

Where it is necessary to identify a specific State Highway the following message should be used.

ROAD OPEN

SH[XX] NOW OPEN

Insert the SH number

6.11. Blanking the Display

VMS shall remain blank unless an adverse road condition, or a sign test message is required (except for briefly displaying a re-opening message when a closed road is re-opened).

7. Approved Standard Messages and Abbreviations

7.1. Stakeholder Group Approval

Standard messages for VMS are approved by a stakeholder group, in many cases after human factors testing for traveller comprehension.

7.2. Acceptable Standard Messages

The following descriptors have been approved for use by the NZTA stakeholder group.

Incident Descriptor	Permitted Abbreviation	Example with Context	Notes
CRASH		CRASH LONG DELAYS	CRASH (or INCIDENT) are to be used, and <i>not</i> ACCIDENT
INCIDENT		INCIDENT AT SMITH ROAD EXPECT DELAYS	INCIDENT should be used where the situation does not involve a crash
LOOSE ANIMAL		LOOSE ANIMAL IN GORGE	Valid for small specific area only
ASH FALLS		ASH FALLS	To indicate ash (e.g. volcanic eruption)
CLOSED		SH2 CLOSED UPDATE AT 2PM	
CYCLISTS		CYCLISTS NEXT 10 km	
FOG		FOG TAKE EXTRA CARE	
HAMILTON V8'S		HAMILTON V8'S	
HIGH SEAS		HIGH SEAS TAKE EXTRA CARE	
HIGH SEAS/DEBRIS		HIGH SEAS/DEBRIS TAKE EXTRA CARE	
HIGH WIND		HIGH WIND	To advise that there is high winds in the area
HIGH WIND FORECAST		HIGH WIND FORECAST	Advice that high winds are likely
OIL SPILL		OIL SPILL TAKE EXTRA CARE	

Incident Descriptor Cont.	Permitted Abbreviation	Example with Context	Notes
OPEN		NOW OPEN	Only use for 15 minutes after the road re-opens. Do not use to show the normal status of the road.
OPENING		SH2 OPENING APPROX 2PM	Need to put the road name/SH number after the word opening Use to the nearest half hour increments for rural areas (may go shorter for motorway applications)
ROADWORKS		ROADWORKS 2 km AHEAD EXPECT DELAYS	
RUNNERS		RUNNERS NEXT 50 km	
SLIP		SLIP	
SNOW		SNOW MUST CARRY CHAINS	Snow must be used in conjunction with another message
SNOW FORECAST		SNOW FORECAST	Information from the MET services
SURFACE FLOODING		SURFACE FLOODING ON SH6	Use SH number if information is for a different road
TUNNEL MAINTENANCE	TUNNEL MAINT	TUNNEL MAINT TONIGHT EXPECT DELAYS	Tunnel use only
WIND GUSTS		WIND GUSTS	
Action Descriptor	Permitted Abbreviation	Example with Context	Notes
CHAINS ESSENTIAL		FROM SPRINGFIELD CHAINS ESSENTIAL	Advance warning that motorists will need snow chains a long way ahead
FIND ALT ROUTE		SH4 CLOSED FIND ALT ROUTE	Use when the driver must find their own alternative route
FIT CHAINS AT CHECKPOINT		FIT CHAINS AT CHECKPOINT	Shorter advance warning that motorists will need to put chains on at a checkpoint
FOLLOW DETOUR		ROAD CLOSED 2 KM AHEAD FOLLOW DETOUR	Use when a detour is signposted

MUST CARRY CHAINS		SNOW - MUST CARRY CHAINS	Must have chains in the vehicle
TAKE EXTRA CARE		HIGH SEAS/DEBRIS TAKE EXTRA CARE	Use this instead of: drive with caution, drive with care etc.,
USE		USE DETOUR	
Location Descriptor	Permitted Abbreviation	Example with Context	Notes
AFTER		SH 3 CLOSED AFTER SMITH RD	
AT		AT CLYDE ROAD	
BEFORE		CRASH BEFORE CLAY ST	
FROM	FRM	EXPECT DELAYS FROM SPRINGS JCT	
IN TUNNEL		WIND WARNING NO OVERTAKING IN TUNNEL	
OFFRAMP		OFFRAMP CLOSED USE TAYLORS EXIT	
ON		INCIDENT ON SH9	
ONRAMP		TUAM ONRAMP CLOSED	
TO		TO SPRINGFIELD ROAD CLOSED	Used where there are two possible routes downstream
AHEAD		MOTORWAY CLOSED 2 km AHEAD	
Information Descriptor	Permitted Abbreviation	Example with Context	Notes
EXPECT DELAYS	EXPECT DELAY	ROADWORKS EXPECT DELAYS	Use for delays of up to 1 hour To indicate that delays are likely, implies that the driver could take another route
LONG DELAY		SURFACE FLOODING LONG DELAYS	Use for delays longer than 1 hour To indicate that delays are likely, implies that the driver could take another route

EXPECT DELAYS	EXPECT DELAY	ROADWORKS EXPECT DELAYS	Use for delays of up to 1 hour To indicate that delays are likely, implies that the driver could take another route
Audience Descriptor	Permitted Abbreviation	Example with Context	Notes
DESTINATION NAME		CHRISTCHURCH USE ALT ROUTE	
TRUCKS		LINDIS PASS CLOSED TO TRUCKS	
VEHICLES TOWING		FROM OTIRA NO TOWING	

7.3. *Acceptable Standard Abbreviations*

The following abbreviations have been approved for use by the NZTA stakeholder group.

Abbreviation	Meaning	Notes
ALT	Alternative	
AM	Ante meridiem - time between midnight and noon	
APPROX	Approximately	
E-BND	Eastbound	
FRI	Friday	
FRM	From	
INFO	Information	
JCT	Junction	Only use as part of a road or location name e.g., Hanmer Junction. This should not be used to indicate an intersection
MAINT	Maintenance	
MIN	Minute/s	
MON	Monday	
MWAY	Motorway	
N-BND	Northbound	
PM	Post meridiem - time between noon and midnight	
RD	Road	
SAT	Saturday	
S-BND	Southbound	
SH	State Highway	
ST	Street	
SUN	Sunday	
THU	Thursday	
TUE	Tuesday	
W-BND	Westbound	
WED	Wednesday	

8. Unacceptable Messages and Abbreviations

8.1. Unacceptable Descriptors

The following abbreviations have been discussed by the stakeholder group and are not acceptable for use.

UNACCEPTABLE	Unacceptable Message Terms	Notes
	ALTERNATE ROAD CLOSED	Only understood by locals and regular users
	ALTERNATE ROAD OPEN	Only understood by locals and regular users
	AVALANCHE LOW	Should only provide advice on safe to go or not safe to go
	AVALANCHE MODERATE	Should only provide advice on safe to go or not safe to go
	BEYOND	Use:
		AFTER
	BREAKDOWN	Use:
		INCIDENT
	CAUTION	Use:
		TAKE EXTRA CARE
	CHAINS MUST BE CARRIED	Use:
		MUST CARRY CHAINS
	CHECK FOLLOWING DISTANCE	Use:
		TAKE EXTRA CARE
	CLOSURES	Use:
		ROAD CLOSED
	DETOUR IN PLACE	Use:
		FOLLOW DETOUR
	DETOUR VIA	Use:
		USE DETOUR
	DO NOT PROCEED	Use:
		ROAD CLOSED this is more direct
	DRIVE WITH CAUTION	Use:
		TAKE EXTRA CARE
	DUE TO CRASH	The words "Due to" are redundant
	DUE TO FLOODING	The words "Due to" are redundant
	DUE TO ROADWORKS	The "due to" are redundant words
	DUE TO SNOW	Due is redundant.
	EXTREME CARE	Use:
		TAKE EXTRA CARE

UNACCEPTABLE	EXTREME CAUTION	Use: TAKE EXTRA CARE
	FOG FORECAST	FOG cannot be accurately forecast enough to provide a forecast message
	MAJOR FLOODING	Use: SURFACE FLOODING or ROAD CLOSED
	OPEN	Do not indicate that a road is open (unless it has just opened)
	OPEN SNOW	Open is redundant
	REDUCED VISIBILITY	Use: FOG HEAVY RAIN
	SEALING	Use ROADWORKS
	SEVERE FLOODING	Use: SURFACE FLOODING
	SEVERE FLOODING HAZARD	Use: SURFACE FLOODING
	SLIPPERY SURFACE	Use: SURFACE FLOODING or OIL SPILL
	SLOW DOWN	Use: TAKE EXTRA CARE
	SNOW	Do not use by itself, it needs to have a context e.g., SNOW FROM SPRINGFIELD
	ICE	Use: WINTER DRIVING CONDITIONS
	UNDER REPAIR	Use: ROADWORKS
	USE ALTERNATIVE ROUTE	Use: FIND ALT ROUTE
	USE OTHER ROUTE	Use: FIND ALT ROUTE
	VARIOUS SITES	Be more specific
	WET SURFACE	Use: SURFACE FLOODING
	WIND WARNING	Use: HIGH WIND FORECAST

8.2. *Unacceptable Abbreviations*

The following abbreviations have been discussed by the stakeholder group and are not acceptable for use.

UNACCEPTABLE	Unacceptable Abbreviation	Full Text
	(E)	East
	(N)	North
	(S)	South
	(W)	West
	ACDNT	Accident
	AVALANCH	Avalanche
	BVD	Boulevard
	CAN'T	Cannot
	CNTR	Centre
	DON'T	Do not
	E/BND	East-bound
	EB	East-bound
	EMER	Emergency
	ENT	Enter
	ENT	Entrance
	FWY	Freeway
	LN	Lane
	LT	Left
	N/BND	North-bound
	NB	North-bound
	NORM	Normal
	NTH	North
	PKING	Parking
	POS	Possible
	RT	Right
	S/BND	South-bound
	SB	South-bound
	SERV	Service
	SHLDR	Shoulder
	SLIP	Slippery
	SPD	Speed
	TEMP	Temporary
	TRAF	Traffic
	TRVLRS	Travellers
	W/BND	West-bound
	WB	West-bound
	WON'T	Will not

9. 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.

9.1. *In the Auckland TOC Controlled Zone*

Mobile VMS within the Auckland TOC controlled zone shall be only set or changed by ATOMS staff. This is to ensure compatible management of all traffic control devices on the motorways particularly where there may be mobile and fixed signs in close proximity.

9.2. *In the Remainder of the Country*

Mobile VMS signs outside the Auckland TOC zone shall also be managed to ensure compatibility with fixed VMS. Before setting a message on a mobile VMS, the wording of the message, and the dates/times it will be posted and blanked is to be discussed and agreed as part of any TMP. Any instances where the parties fail to reach agreement are to be referred to the NZTA manager responsible for the area.