THE STATE OF VERMONT
AGENCY OF TRANSPORTATION
OPERATIONS DIVISION

Guidelines for the Use of Portable Changeable Message Signs (PCMS), on Vermont State and U.S. Highways

TABLE OF CONTENTS

1.0   **GENERAL INFORMATION**

This guideline is designed to be a living document. The latest version can be found at
http://www.aot.state.vt.us/maint/PCMSguidelines.htm

1.1   Background

The Vermont Agency of Transportation (VTrans) Operations Division currently owns and operates a number of Portable Changeable Message Signs (PCMS) that are located within each of VTrans' maintenance districts. These maintenance districts are responsible for the operation and maintenance of the signs This guideline covers the management and use of these PCMS signs and any new PCMS to be purchased in the future.

There may be occasions when additional PCMS will be needed beyond those owned by VTrans Operations Division or used by Program Development Division on construction projects. This guideline covers the management and use of these other signs when used on Vermont state highways.

1.2   Purpose & Objective

The objective of this guideline is to provide procedures for users to ensure that Operations Division PCMS are deployed on Vermont state highways in a manner consistent with national standards and to the maximum benefit and safety of the traveling public. It also covers special case usages and requests from participating agencies that want to use this equipment or those owned by others for displaying applicable and approved messages on Vermont state highways. It provides procedures to coordinate use of signs in construction projects supervised by Program Development Division as well.

These guidelines and procedures cover where, when and how the signs are to be used, including the acceptable placement of the signs, the development of message sets and their durations, and the handling of other agency requests for PCMS use. There is also a section on procedures for the management of the sign message library and for adding, deleting and modifying messages. Finally there is a section describing the existing manual inventory system and proposed guidelines for the development of a future GPS-based inventory system for tracking the location, status and current message posting of the signs.

1.3   Abbreviations

Abbreviation	Definition
AMBER Alert	America's Missing: Broadcast Emergency Response *A voluntary program through which emergency alerts are issued to notify the public about abductions of children.* In order to distinguish between Homeland Security's color code of amber, America's Missing Broadcast Emergency Response AMBER will always be capitalized.
ATSSA	American Traffic Safety Services Association
DTA	District Transportation Administrator
DPS	Vermont Department of Public Safety
FHWA	Federal Highway Administration
ITS	Intelligent Transportation System
MUTCD	Manual on Uniform Traffic Control Devices *FHWA document covering the guidance and deployment of traffic control devices.*
NTCIP	National Transportation Communication for ITS Protocol
PCMS	Portable Changeable Message Sign *A traffic control device that is capable of displaying a variety of messages.*
TOC	Traffic Operations Center *VTrans center of operations for traffic management.*
VTrans	Vermont Agency of Transportation

1.4   Amending/updating Guidelines

Major procedural change suggestions shall be forwarded to: VTrans Operations Division Maintenance Programs Engineer   alec.portalupi@state.vt.us

Minor content change suggestions shall be forwarded to: VTrans Operations Division Maintenance Programs Process Coordinator   laurel.laframboise@state.vt.us

1.5   *PCMS Training & Maintenance*

PCMS training and maintenance questions shall be forwarded to: VTrans Operations Division TOC gregory.fox@state.vt.us or 802-828-3686

2.0   CONDITIONS OF USE

2.1   *Acceptable Uses*

All PCMS are primarily to be used as a traffic control device to safely and efficiently manage traffic by informing motorists of roadway conditions and required actions to perform. However operational, road condition, and driver safety-focused messages are also acceptable uses of the PCMS. Example categories and a corresponding FHWA guidance reference are summarized below.

1. **Traveler Information** – accident and weather advisories, road conditions and closures.[1]

2. **Special Event Traffic Information** – directional and informational, traffic control, checkpoints, border control traffic information/alerts

3. **Vermont AMBER Alert** (Vermont Child Abduction Alert)[2]

4. **Homeland Security/Emergency Messaging**[3]

5. **Public Safety Campaign Messages**[4]
Visit http://www.aot.state.vt.us for 511 traveler information
Visit http://www.aot.state.vt.us/maint/PCMSguidelines.htm for an electronic version of these Guidelines and the PCMS request form.

2.2   *Unacceptable Uses*

FHWA policy guide states: *"The use of a PCMS for the display of general public information or other nonessential messages is discouraged. Only essential messages should be displayed on a PCMS. As per MUTCD Section 1A.01, "Guide and information signs are solely for the purpose of traffic control and are not an advertising medium."*[5] [6]

Examples of unacceptable uses are:

1. **Advertising messages.** In addition to MUTCD, Vermont has a very strict state sign law (10 V.S.A. § 495(a)(3)).

2. **As may be determined by FHWA Policy.**

3. **As may be determined by VTrans review (TOC & Traffic Operations Section).**

---

[1] FHWA Memorandum, Use of Changeable Message Sign (CMS), January 19, 2001
http://www.fhwa.dot.gov/legsregs/directives/policy/pame.htm
[2] FHWA Policy Memorandum AMBER Alert Use of Changeable Message Sign (CMS)
http://www.fhwa.dot.gov/legsregs/directives/policy/ambermemo.htm
[3] FHWA Policy Memorandum Use of Changeable Message Sign (CMS) for Emergency Security Messages
http://www.fhwa.dot.gov/legsregs/directives/policy/securmemo.htm
[4] FHWA Memorandum Click It Or Ticket Signs, March 6, 2002 http://mutcd.fhwa.dot.gov/res-memorandum_clickit.htm
[5] FHWA Memorandum, Use of Changeable Message Sign (CMS), January 19, 2001
http://www.fhwa.dot.gov/legsregs/directives/policy/pame.htm
[6] Manual on Uniform Traffic Control Devices, Federal Highway Administration   http://mutcd.fhwa.dot.gov/kno-2003r1.htm

3.0   MESSAGES

3.1   Sign Type

There are currently two PCMS types in use by VTrans Operational Division. The older PCMS consists of 3 lines of 8 characters per line as illustrated on the left. Messages are limited by the character size of the display.
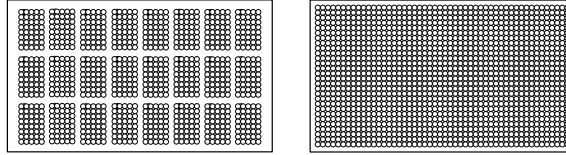
The newer sign, AMSIG T333, is a full matrix sign of 50 pixels wide by 28 pixels high as illustrated on the right. Messages are limited by display panel size and the available FONT. MUTCD requires a minimum character size of 18 inches. The quantity of characters per line on the full matrix sign according to the Manufacturer's[7] recommendations are:

FONT	Size	Characters per Line	Lines
5 x 7	18"	8-9	3
5 x 7W	18"	7-8	3
7 x 7	18"	6-7	3
7 x 7W	18"	5-6	3
6 x 11	28"	6-7	2
7 x 20	53"	5	1
9 x 20	53"	4	1

3.2   Message Development

3.2.1   Message Phases, FONT Selection

The following excerpts out of FHWA's Portable Changeable Message Sign Handbook[8] provide guidelines on the formation of messages.

"A PCMS message can use one, two, or, [only] when absolutely necessary, three phases [a phase is when just a portion of the total message is shown at one time] in which to relay its message. Below are message guidelines for the number of phases required to convey the message."

One-Phase PCMS with three lines of text:
Line 1—Describe problem.
Line 2—Identify location or distance ahead.
Line 3—Provide motorist instruction.

Two-Phase PCMS with one or more lines of text:
Phase 1—Describe problem.
Phase 2—Provide motorist instruction.

Three-Phase PCMS (to be used ONLY when absolutely necessary): (asking Matzke if MUTCD allows 3 phases at all)
Phase 1—Describe problem.
Phase 2—Identify location or distance ahead.
Phase 3—Provide motorist instruction.

---

[7] American Signal Company, Portable Changeable Message Sign, CMS-T330 Series, Equipment Manual http://www.amsig.com/frame_home.htm
[8] Federal Highway Administration, PCMS Handbook http://www.tfhrc.gov/pavement/ltpp/reports/03066/#pcms

4

"Care must be given to ensure a short message length and to avoid repeating messages covered by static signing. Each phase of a PCMS should be displayed long enough to allow reading by the motorist; however, unnecessarily long display times should be avoided. The following display times are suggested:" (FHWA's Portable Changeable Message Sign Handbook)

- Phases with one or two lines: 1.5 seconds for each phase.
- Phases with three lines: 3 seconds for each phase.

The goal is to provide a motorist with the opportunity to read a multiple phase message at least twice and that is dependent on the following factors:

- Traffic speed and curvature of road
- FONT size
- Number of phases
- Number of lines per phase
- Duration of time that each phase is displayed

The following table compares these factors and assumes that there are no obstructions between the sign and the motorist. Physical obstructions that affect the motorist's ability to view the sign such as curves in the road will also need to be taken into account.

FONT Type	Size	Char. per Line	Lines / Duration Seconds	Legibility Distance	2 Phase Max Speed	3 Phase Max Speed
5 x 7	18"	8-9	3 / 3S	1000 ft.	56 mph	37 mph
5 x 7W	18"	7-8	3 / 3S	1050 ft.	59 mph	39 mph
7 x 7	18"	6-7	3 / 3S	1100 ft.	62 mph	41 mph
7 x 7W	18"	5-6	3 / 3S	1150 ft.	65 mph	43 mph
6 x 11	28"	6-7	2 / 1.5S	1200 ft.	Any	Any
7 x 20	53"	5	1 / 1.5S	2000 ft.	Any	Any
9 x 20	53"	4	1 / 1.5S	2200 ft.	Any	Any

For the above table, messages with 3 lines per phase are assumed and thus three (3) seconds per phase is used for all eighteen (18) inch characters.

3.2.2   Use of Abbreviations in Message

Abbreviations can be used in the composition of a message and can be used to reduce the overall message size and reduce or eliminate the need for phasing. Care should be exercised to select only readily understandable abbreviations. A list of standard acceptable abbreviations, excerpted from the FHWA PCMS Handbook, is included in Appendix 9.1 of this guide. Unacceptable abbreviations are listed in Appendix 9.2.

3.2.3   Use of Default Messages

A default message displays to motorists when the main message is no longer necessary. This message should be chosen at the time the main message is being developed for deployment. Unless approval is requested through appropriate channels, and granted, all sign default messages will leave the sign with asterisks (*) in each of the four corners of the sign.

3.2.4   Use of Previously Developed Messages

There are two (2) sources of previously developed messages that can be used as a guide in the formation of new messages. There are standard pre-programmed messages available within each PCMS and there is a library of messages that have been previously used and approved for use by VTrans. Please note that not all messages pre-programmed in PCMS signs are approved for use on highways! Be sure to check the VTrans library of pre-approved messages which can be found at the following website address: http://www.aot.state.vt.us/maint/PCMSguidelines.htm where a link to the Excel spreadsheet entitled "PCMS Approved Messages" can be found.

3.3   Special Messages

Special messages are those that fall outside the normal deployment of a PCMS as a traffic control device but are recognized as valid uses of the PCMS by the FHWA. These are listed in priority of importance as follows:

- Vermont AMBER Alerts[9]
- Homeland Security/Emergency Messaging[10]
- Public Safety Campaign Messages[11]

Message development in these cases shall follow the general practices of section 3.2 of this guide as described above. All messages must consider the desired action for the motorists to take. Specifically excluded, however, are messages requesting motorists to write telephone numbers, web sites, addresses, or other lengthy information while driving.

3.3.1   AMBER Alert Messages

AMBER Alert messages are used to convey emergency messages about child abductions provided there is enough descriptive information about the child, abductor, and/or suspect's vehicle to believe that an immediate broadcast alert will help.

Messages will be posted by VTrans TOC personnel ONLY when requested by the DPS State Duty Officer (or in his/her absence the Zone Duty Officer) via phone or e-mail. TOC personnel will fill out a PCMS request form for their files and construct the appropriate message.

AMBER Alerts will be posted for three (3) hours unless requested otherwise by the DPS.

Messages of this type must be removed when superseded by a message of higher priority or in any of the following instances:

- Traffic flow is unduly affected by the posting of this message and causing a driver safety issue.
- The sign is required for its primary purpose as a traffic control device.
- The AMBER Alert has been called off.

3.3.2   Emergency Security Messages

Emergency Security Messages are used to convey emergency situations or security alerts. General messages not related to transportation or specific emergency conditions that require actions by motorists are discouraged. Messages of this type should be limited to the period of time of the emergency. The posting of the message will be deleted at the end of the normal business day unless the requesting agency specifies otherwise.

Messages of this type must be removed when superseded by a message of higher priority or in any of the following instances:

- Traffic flow is unduly affected by the posting of this message and causing a driver safety issue.
- The sign is required for its primary purpose as a traffic control device.
- An AMBER Alert is requested to be displayed.
- The emergency situation is finished.

Please Note: Homeland Security terrorist alerts may be posted and the color code "amber" must NOT be confused with the AMBER Alert described in section 3.3.1

3.3.3   Public Safety Campaign Messages

Public Safety Campaign Messages are defined as driver safety-focused messages that relate to specific safety campaigns. Displaying messages of this type will generally be limited to a few weeks. Messages of this type are of the lowest priority. If the sign is required for any other sanctioned use it should be made available immediately.

---

[9] FHWA Policy Memorandum AMBER Alert Use of Changeable Message Sign (CMS)
http://www.fhwa.dot.gov/legsregs/directives/policy/ambermemo.htm
[10] FHWA Policy Memorandum Use of Changeable Message Sign (CMS) for Emergency Security Messages
http://www.fhwa.dot.gov/legsregs/directives/policy/securmemo.htm
[11] FHWA Memorandum Click It Or Ticket Signs, March 6, 2002 http://mutcd.fhwa.dot.gov/res-memorandum_clickit.htm

3.4   ***New Message Approval***

New messages are those that aren't on the pre-approved list. The pre-approved list is available through the following website address: *http://www.aot.state.vt.us/maint/PCMSguidelines.htm* see link to Excel spreadsheet entitled "PCMS Approved Messages".

New messages must be approved by the Traffic Operations Section of the Program Development Division. The PCMS Request/Notification Form has a check box for new messages and a signoff space for Traffic Operations.

For instructions on how to add new messages to the pre-approved list, see Section 8.0.

4.0   **PCMS SIGN LOCATION AND DEPLOYMENT PROCEDURES**

4.1   ***Inventory Control***

VTrans Operations Division TOC maintains an inventory control system that is used to track the location of the signs and their usage. Entries shall be made in the system during all phases of sign deployment. For more information on this subject see Section 7.0.

4.2   ***Sign Placement***

Signs shall be physically placed (located) in the state highway right-of-way only by, or under the supervision of Operations Division employees (or under the direction of the Construction Section Resident Engineer). Operations personnel shall verify the sign message but shall not be responsible for formatting or turning on the sign.

 The tow vehicle and sign trailer must have current safety inspection stickers and must have a functioning lighting system.

Sign placement must not block other regulatory, guide and/or warning signs.

Sign placement shall be in accordance with MUTCD[12] guidelines. Basic guidance from the MUTCD can also be found in both the FHWA PCMS Handbook[13] and in the ATSSA PCMS Handbook[14].

4.3   ***Message Programming and Verification***

The local sign controller shall be programmed with the approved message as listed on the PCMS Request Form (see appendix) for that location. As much as possible this programming shall be done by TOC personnel.

The sign message must be tested for legibility and message adherence. A drive by is required by VTrans district personnel or resident engineer (or by their designees) and adjustment may be necessary.

The sign and entire message shall be visible from the distances identified in section 3.2.1, determined by the posted road speed

4.4   ***Scheduled Periodic Visits and Termination***

Periodic visits to the sign by district personnel shall be conducted per schedule as listed on the PCMS Request Form for that location. The sign message shall be terminated upon any of the following events:

1. Scheduled end time has been reached for display of message.
2. Sign message is causing a noticeable negative impact to motorists.
3. Sign is required to display message of higher priority. (see sections 3.3.1, 3.3.2, and 3.3.3)

---

[12] Manual on Uniform Traffic Control Devices, Federal Highway Administration http://mutcd.fhwa.dot.gov/kno-millennium_12.28.01.htm
[13] Federal Highway Administration, PCMS Handbook http://www.tfhrc.gov/pavement/ltpp/reports/03066/#pcms
[14] American Traffic Safety Services Association, PCMS Handbook
http://www.atssa.com/store/bc_item_detail.jsp?productId=30

5.0   **INTER-AGENCY SIGN USE COORDINATION**

5.1   *Organizations Approved to Apply Directly for PCMS Deployment*

The following table outlines the organizations that are approved to apply directly to VTrans TOC for deployment of VTrans Operations Division PCMS and/or other PCMS on Vermont State highways, and the types of messages that may be requested by each organization.

Organization	Message types
• VT Dept of Public Safety • VT Emergency Management • Governor's Highway Safety Program Coordinator	• Public safety campaigns • Checkpoints • Incident management • Emergency Messages • AMBER Alerts • Special event traffic control info
• US Dept of Homeland Security	• Homeland security messages • Checkpoints • Border traffic control info/alerts
• Adjacent State DOTs	• Traveler info (lane closures, roadway conditions, other emergency info) • AMBER Alerts (via VT DPS)
• VTrans Operations Division	• Traveler info (weather, road conditions, lane closures, pavement conditions, etc.)

DPS has signatory authority for the following special event permits:
- Commercial Public Assembly Permits (2,000 or more attending where admission is charged—not including cycling or road running events)
- Two Abreast Exception Permits (allows bicycles to ride more than two abreast, as in a race)
- Triathlon/Road Race Permits

Members of the general public must turn to their local municipality which in turn may choose to request PCMS deployment only through the State Police (whether one of the above permits is or is not required). Districts are to defer town requests to the local State Police barracks. DPS special event permit applications may be found at http://www.dps.state.vt.us/vtsp/permit/index.html

To ensure there is coordination between local municipalities, the public, State Police and VTrans Operations Division, those organizations not listed above must apply for use and/or deployment of PCMS through an approved organization.

It is understood that although the signs may be owned by another organization, once deployed on Vermont state highways the content and placement of the signs are under the control of VTrans, subject to these guidelines. Signs deployed on local roads are under the jurisdiction of the municipalities but must comply with the state sign law and any applicable municipal sign law. Signs not visible from either state or local roads do not have to comply with these guidelines.

5.2   *VTrans Contacts*

VTrans Operations Division consists of nine (9) maintenance districts and a central Traffic Operations Center (TOC) where requests for sign usage can be made. Districts must fill out a PCMS request form for all PCMS deployment requests for review by the TOC and Traffic Operations section personnel. The following contact information is provided for signage requests:

Maintenance District Contact (Weekdays)
  During normal weekday business hours please contact the appropriate local maintenance district as shown on the map on the following page.

Statewide Contact at Headquarters TOC in Montpelier

Requests can also be made through TOC personnel during normal weekday business hours.

    Phone: 802-828-1479 larry.dodge@state.vt.us OR 802-828-3686 gregory.fox@state.vt.us

    FAX: 802-828-2848

Emergency Contact (After Hours)

For emergency requests made after hours, please contact the DPS (Department of Public Safety) Duty Officer at:

    Phone: 802-241-8727

District	Geographical Area
1 Bennington 802-447-2790	
2 Dummerston 802-254-5011	
3 Rutland 802-786-5826	
4 White River 802-295-8888	
5 Colchester 802-655-1580	
6 Berlin 802-828-2691	
7 St. Johnsbury 802-748-6670	

8 St. Albans 802-524-5926	9 Derby 802-334-7934	Headquarters TOC Montpelier 802-828-1479 or 3686

5.3   *Request/Notification Form for Deployment of PCMS*

Information required by VTrans Operations Division in order to process a request from approved organizations consists of filling out the following form:

    PCMS Request/Notification Form

The form is located in the appendix of this document and an electronic copy can be found at the following website address: http://www.aot.state.vt.us/maint/PCMSguidelines.htm

5.4   Approval Process – Inter-Agency

VTrans TOC will review the PCMS request using the following criteria:

- The requesting agency must be approved for the type of message (Section 5.1) and it must meet acceptable use guidelines (Section 2.0). Those organizations not approved must apply through an approved agency.
- An Operations Division sign must be available for the required time and location OR the requesting agency must furnish a sign and the sign must adhere to current VTrans Guidelines.
    1. The available Operations Division inventory search will include any signs that are deployed but have a lower priority message (Sections 3.3.1, 3.3.2, and 3.3.3).
    2. If a lower priority message is taken off-line due to a higher priority message, TOC personnel will notify the lower priority message requestor as soon as possible.
- The requested location or a suitable alternative (as determined by VTrans) must meet safety standards (Section 4.0) and the selected location must allow for maximum unobstructed view of the sign message so as to be effective.
- The requested message or a suitable alternative (as determined by VTrans) must meet requirements of Sections 2 and 3 of this guideline.

Passing these criteria, and with the requesting organization's concurrence on any VTrans required changes to the messages, times and/or location, VTrans TOC will process the request and district personnel will deploy the sign.

The signed PCMS Request/Notification Form acts as an agreement between VTrans TOC and the Requestor to manage the sign and message after deployment in accordance with general message guidelines of Section 3, which cover applicability/validity of posted messages, requested message changes, and termination/removal of the sign.

TOC personnel shall be notified prior to the deployment of any sign. A copy of the completed PCMS Request/Notification Form shall be sent to the TOC as soon as possible.

VTrans personnel are the only persons authorized to physically place PCMS in a Vermont State Highway right-of-way.

6.0   INTRA-AGENCY SIGN USE COORDINATION

The Construction Section of the Program Development Division specifies the use of PCMS in their construction contracts, and contractors must provide these signs according to these specifications.

In order to coordinate the use of all PCMS deployed on Vermont state highways, it is necessary to know when and where construction PCMS signs are deployed as well as what message is displayed. Resident engineers must fill out a PCMS Request/Notification Form and submit it to the TOC at least 2 weeks before deployment of signs. It is the responsibility of the resident engineer to inform the TOC (via phone or e-mail, with the TOC making changes to the original form) when a sign is moved or the message is changed.

> When TOC personnel receive completed PCMS Request/Notification Forms that conflict with a construction PCMS deployed at the same time, TOC personnel will immediately notify the district concerned. The TOC may not change a construction site sign without prior approval of the resident engineer.

To promote consistency of operations in a manual operation, a standard assignment of messages should be included in the construction specification or the PCMS setup instructions. A typical PCMS sign is provided with 10 to 12 memory registers which allows messages to be stored and recalled by message number through a menu or key pad. Efforts must be made to coordinate these specifications with Operations Division so that a standard menu can be developed for both divisions in case any construction signs are needed in an emergency.

10

New construction projects shall require the contractor-provided PCMS to be NTCIP communications compliant, include a working modem and working cellular service for the duration of the project. In the event cell service is not available in the work zone this shall not be required (but manufacturer's software and one PC in the District and a second in the TOC would be required instead).

Divisions other than Program Development requesting sign deployment will ask an approved organization to process their request.

As with inter-agency PCMS, Traffic Operations Section of the Program Development Division will be notified by the TOC of new intra-agency message approval requests and will sign off on the PCMS Request/Notification Form before TOC approves any new messages.

7.0 INVENTORY CONTROL SYSTEM

There shall be an inventory control system in support of PCMS deployment management.   The system will be used to record and track the location of all signs deployed on Vermont highwaysand their current and future commitments. This will allow VTrans to more efficiently respond to sign requests and manage their deployment.

Currently this system is manual, using district maps with push pins, etc.

In the future the system may be developed on an existing data base such as ESRI or a new deployment of a commercial off-the-shelf database product such as SQL or Oracle. The database platform will be accessible from the intranet/internet and contain security measures to restrict activities based on password and authorization.

The system would need to support:
- PCMS sign inventory search
- sign status and deployment requests
- system administration tasks (login assignments)
- inventory management (adding/deleting signs from the system)

The latter two categories would be restricted to system administrators. Information regarding troubles with system access (such as contact information to the database administrator) would be included in the Appendix of this guideline.

8.0 NEW MESSAGE APPROVAL PROCESS

This section outlines personnel responsibilities for approval and recording of new messages to the pre-approved message list. The pre-approved message list is available in spreadsheet form at the following website address:

http://www.aot.state.vt.us/maint/PCMSguidelines.htm

Message sources are either from those that are developed in accordance with Section 3 of this guideline and used in response to a signage request or are those that VTrans wishes to develop in anticipation of future needs.

The Traffic Operations Section of Program Development Division shall be responsible for approving new messages. Transportation Operations Center (TOC) personnel shall be responsible for adding approved new messages to the pre-approved message list if those messages are most likely to be used again.

The TOC will also be responsible for managing the list so that personnel can easily determine the proper sign set in the field.

9.0   **APPENDIX (standard abbreviations, both acceptable and unacceptable, are excerpted from the FHWA PCMS Handbook)**

9.1   *Standard Abbreviations*

Abbreviations may be used when creating or editing PCMS messages. Do not make up abbreviations; use the following list of standard abbreviations to ensure that the motorist does not misinterpret the message.

Acceptable Abbreviations

Word	Abbr.	Word	Abbr.
Alternate	ALT	Minor	MNR
Avenue	AVE	Normal	NORM
Boulevard	BLVD	North	N
Cannot	CANT	Northbound	NB
Center	CNTR	Parking	PKING
Do Not	DONT	Right	RHT
East	E	Road	RD
Eastbound	EB	Service	SERV
Emergency	EMER	Shoulder	SHLDR
Entrance	ENT	Slippery	SLIP
Enter	ENT	South	S
Expressway	EXPWY	Southbound	SB
Freeway	FRWY	Speed	SPD
Hazardous Material	HAZMAT	Street	ST
High-Occupancy Vehicle	HOV	Temporary	TEMP
Highway	HWY	Traffic	TRAF
Hour(s)	HR	Travelers	TRVLRS
Information	INFO	Vehicle	VEH
It Is	ITS	Warning	WARN
Junction	JCT	West	W
Lane	LN	Westbound	WB
Left	LFT	Will Not	WONT
Maintenance	MAINT		
Major	MAJ		
Miles	MI		

Acceptable Abbreviations with Prompt Word

Word	Abbr.	Prompt
Access	ACCS	Road
Ahead	AHD	Fog**
Blocked	BLKD	Lane**
Bridge	BRDG	(name)**
Condition	COND	Traffic**
Congestion	CONG	Traffic**
Construction	CONST	Ahead
Downtown	DWNTN	Traffic**
Exit	EX, EXT	Next**
Express	EXP	Lane
Hazardous	HAZ	Driving
Interstate	I	(followed by route number)
Local	LOC	Traffic
Lower	LWR	Level
Major	MAJ	Crash
Minor	MNR	Crash
Oversized	OVRSZ	Load
Prepare	PREP	To Stop
Pavement	PVMT	Wet**
Roadwork	RD WK	Ahead
Route	RT	Best**
Turnpike	TRNPK	(name)**
Township	TWNSHP	Limits
Upper	UPR	Level
**Prompt word goes before the abbreviation.		

9.2   *Abbreviations That Are Not Acceptable*

Abbr.	Intended Word	Common Misinterpretation
ACC	Accident	Access (Road)
B4	Before	None
CLRS	Clears	Colors
DLY	Delay	Daily
FDR	Feeder	Federal
L	Left	Lane (Merge)
LT	Light (Traffic)	Left
PARK	Parking	Park
POLL	Pollution (Index)	Poll
RED	Reduce	Red
STAD	Stadium	Standard
WRNG	Warning	Wrong

9.3 *Reference Material*

This includes a list of the reference material used in the development of this guideline.

FHWA Memorandum, Use of Changeable Message Sign (CMS), January 19, 2001

FHWA Policy Memorandum AMBER Alert Use of Changeable Message Sign (CMS)

FHWA Policy Memorandum Use of Changeable Message Sign (CMS) for Emergency Security Messages

FHWA Memorandum Click It Or Ticket Signs, March 6, 2002

MUTCD Section 1A.01 "Guide and information signs are solely for the purpose of traffic control and are not an advertising medium."

American Signal Company, Easy Host, User Guide

American Signal Company, Portable Changeable Message Sign,
CMS-T330 Series, Equipment Manual

Federal Highways Administration, PCMS Handbook
http://www.tfhrc.gov/pavement/ltpp/reports/03066/#pcms

American Traffic Safety Services Association, PCMS Handbook
http://www.atssa.com/store/bc_item_detail.jsp?productId=30

9.4   ***Standard VTrans PCMS Request/Notification Form***

VTrans PCMS REQUEST/NOTIFICATION FORM
(please fill out one form for each sign to be deployed)

Requestor: _____

(please print)

Organization Name: _____

Address: _____

Phone: (802) _____FAX: (802) _____

EMAIL: _____

Message Purpose: Traffic Control   Construction Project
                 Traveler Information   Safety Campaign
                 AMBER Alert*   **Emergency***
                 *TOC fills out form for these messages

Approved Organization (if different from requestor):

_____

Contact information for Approved Organization:

_____
_____
_____

Requested
Message:

Requested   Please use GPS coordinates or attach a map._____
Location: Direction sign faces: _____ Which side of road: NB SB EB WB

Requested   Start Time _____Date_____   This form shall be submitted at least 15
Time: End Time _____ Date_____   business days before the event (except for
                                                       AMBER Alert or Emergency). Approval
                                                       process shall be completed within 5 business
                                                       days of receipt.

Requestor Signature: _____Date: _____

To Be completed by VTrans Personnel Only

Final Location: _____

Approved Organization sign off:_____Date_____

New Message? Yes   No
If yes, Traffic Operations sign off: _____Date_____

Addition to pre-approved message list? Yes   No
If yes, date added to pre-approved message list: _____ New Message? Yes   No
If yes, Traffic Operations Approval: _____Date_____