



Traffic Guidelines Manual

ORIGINATOR Director, Bureau of Traffic Operations		6-2-55
CHAPTER 6	Work Zone Traffic Control	
SECTION 2	Signs	
SUBJECT 55	Portable Changeable Message Signs Use in Construction & Maintenance Projects	

See TGM 17-2-1, Portable Changeable Message Signs (PCMS) Policies & Procedures for information regarding procurement, use of PCMS for special events, adverse weather and other non-work zone related events, sign control and training.

A. Applications

Since they are dynamic signs, PCMS must only be used to display "real-time" or changing traffic condition or traffic control information. They are used for work zone temporary traffic control, incident management, special events, and unusual/hazardous road conditions due to weather. This could include expected delay times in queue situations, warning of stopped traffic, ramp or lane closures, advisory speeds and alternate route advisories. They *may* also be used to provide advance notice (up to 10 days) prior to projects or events expected to cause congestion or that will require drivers to use alternate routes.

PCMS *should not* be used to replace static warning or regulatory signs; they *may* be considered as a supplemental device to a required static sign. In the case of a ramp or lane closure, the PCMS would supplement the static warning signs informing motorists of the closure.

Nonstandard words such as "Danger," "Hazardous" or "Caution" **shall not** be used. These words do not contribute any information and *may* overly concern drivers as they approach the work zone.

PCMS **shall not** be used to display generic safety messages or any other messages not necessary for specific drivers action at the site. Examples of generic messages not to be used are "Buckle Up," "Welcome to Wisconsin" or "Drive Safely." Use of these types of generic messages will tend to lead to motorist disregard of critical messages and unnecessarily distract driver attention from the roadway.

IMPROVEMENT/MAINTENANCE PROJECTS

The signs *may* be used to advise travelers of alternate routes around construction or maintenance projects, or to notify of traffic stoppages, delays, closures or other conditions that *may* require certain driver actions.

Signs used on improvement projects are to be supplied and maintained by the contractor. All messages displayed must be pre-approved by the project engineer. Any subsequent changes to messages due to changing traffic conditions or construction operations **shall** also require approval from the project engineer, except during off-hours incidents or emergencies when the project engineer is not reachable. There is to be no additional state owned PCMS purchased by Regions through improvement projects or otherwise, including implementation in smart work zone systems. In general, improvement projects *should* provide for project-specific contractor supply of desired portable work zone management systems such as PCMS, subject to compliance with JamLogic or other standardized communications interface standards. Accessibility and operational control by STOC *should* be accommodated, but not committed without their involvement & concurrence. If it proves absolutely necessary to procure new DOT-owned equipment, BHO will coordinate any procurement of this equipment and provide it for use by Regions as needed.

Signs *may* be required up to 10 days prior to the beginning of an improvement or maintenance project to inform/warn the traveling public of the upcoming work. These signs *should* be provided by the contractor, but when contract timing is an impediment they *may* be provided by the Department or county.

Signs owned by the Department and Counties **shall** be used for the purposes of temporary traffic control for maintenance work, incident management, and adverse weather road condition advisories.

The Department reserves the right to use/deploy signs from its inventory on an improvement project to improve safety and optimize the operational efficiency of a construction work zone. Contractor provided signs *should* be used for aforementioned purposes if they could be made available and deployed expeditiously and cost effectively.

B. Purchase

As stated in the Applications section of this policy, signs for highway improvement projects **shall** be supplied and maintained by the contractor as part of the contract similar to flashing arrow boards, drums and barricades. The Department would not assume any ownership of these signs.

See TGM 17-2-1 for provisions on the purchase of PCMS for highway maintenance work and other uses.

C. Maintenance

A memorandum of understanding (MOU) **shall** be developed for any county highway department operating state-owned PCMS on the state highway system. A sample MOU is included in TGM 17-2-1.

For state or county supplied signs, arrangements *should* be made using state or county forces to maintain the signs while in use. For newly purchased signs, a warranty period is usually provided, requiring the supplier to repair any failures or breakdowns of the sign. When the county performs maintenance work on state-owned signs, charge project number 00XX-01-07 (non-Interstate) or 00XX-01-08 (Interstate), Activity Code 032. When the county provides county-owned PCMS, all maintenance responsibility rests with the county and is covered under the rental rate.

On an improvement contract, the maintenance is included in the changeable message sign bid item in the contract (Item 643.1050.S, Standardized Special Provision 643-050). The contractor would be required to check the sign at regular intervals.

D. PCMS Usage

For PCMS placed on the State Highway System, the PCMS **shall** either be:

1. Owned and placed by WisDOT
2. Owned and placed by contractors under contract with WisDOT
3. Owned, rented, or borrowed and placed by county highway departments under contract or permit with WisDOT

County Sheriffs Departments and other local agencies **shall** work with the County Highway Departments to place the signs and display proper messages consistent with WisDOT policy. This includes any PCMS purchased by a County Sheriffs Department and other local agencies through funds received from Bureau of Transportation Safety (BOTS).

E. Acceptable Messages for Work Zones

The signs are generally capable of sequencing up to six frames. However, for driver comprehension, messages **shall** be limited to one or two frames (see MUTCD 2003 Edition Section 6F.55). Blank or other filler frames between the two frames of text **shall not** be used. It is desirable for the driver to be able to read the entire message sequence twice as they pass by the sign. For an Interstate highway application, the total viewing time is about seven seconds. Each frame is usually displayed for 2.0 seconds or less. Using more than two frames makes it difficult for drivers to read the entire message sequence twice. Do not flash any part of a message.

It is recommended that the first frame describe the traffic condition or problem ahead, which the motorist *may* encounter. The second frame would be used to advise the driver of an appropriate action. Examples are:

<u>1st Frame</u>	<u>2nd Frame</u>
CRASH AHEAD 1 MILE	LEFT LANE CLOSED
TRAFFIC STOPPED AHEAD	NEXT 3 MILES
ROAD CLOSED 2 MILES	USE EXIT # 394

See the message list that follows for more examples.

When the State Patrol will be operating the signs for a specific project, a set of message guidelines *should* be prepared for use by the operators. This will provide consistency in the messages being displayed while various shifts of operators or troopers are working the project.

Problem/ Distance				
ALL LANES BLOCKED	LANE SHIFT	MOVING WORK ZONE	2 LANES CLOSED	TOW TRUCK AHEAD
BRIDGE CLOSED	LEFT LANE CLOSED	NEXT EXIT CLOSED	RIGHT LANE NARROWS	TRUCK CROSSING
CENTER LANE CLOSED	LEFT LANE NARROWS	NO OVERSIZE LOADS	RIGHT SHOULDER CLOSED	TRUCKS ENTERING
COLBY ROAD CLOSED	LEFT 2 LANES CLOSED	NO SHOULDER	ROAD CLOSED	
DEBRIS AHEAD	LEFT SHOULDER CLOSED	ONE LANE BRIDGE	ROAD CLOSED 6 MILES	UNEVEN LANES
DELAYS	LOOSE GRAVEL	ONE-WAY TRAFFIC AHEAD	ROAD WORK	WET PAINT
EXIT 45 CLOSED	LOW SHOULDER	PAVEMENT BUMPS	ROAD WORK TOMORROW	WORK ZONE 12 MILES
FLAGGER 2 MILES	MAJOR DELAYS	RAMP CLOSED	ROAD WORK 4 MILES	
FREEWAY CLOSED	MEDIAN WORK 5 MILES	RIGHT LANE CLOSED	SHOULDER BLOCKED	
LANES NARROW		RIGHT	SINGLE LANE	
			SOFT SHOULDER	

Action

ALL TRAFFIC EXIT RT	STAY ON US 45
ALT ROUTE EXIT 25	STOP AHEAD
AVOID DELAYS USE US53	STOP 5 MILES
BEST ROUTE TO I-94	TUNE RADIO 1510 AM
DETOUR 2 MILES	USE CENTER LANE
DO NOT PASS	USE COLBY ROAD
FOLLOW ALT ROUTE	USE DETOUR ROUTE
FOLLOW DETOUR	USE LEFT LANE
FOLLOW SIGNS	USE NEXT EXIT
MERGE RIGHT 2 MILES	USE RIGHT LANE
ONE-WAY TRAFFIC	WATCH FOR FLAGGER
PASS TO LEFT	
PASS TO RIGHT	
STAY IN LANE	

Message Examples

EVENT	PANEL 1	PANEL 2
Blocked	RIGHT 2 LANES CLOSED	AHEAD X MILES
Center	N I-39 TRAF USE CNTR LN (USE 2 PHASES)	
Commercial	OVERSIZE TRUCKS	USE EXIT 120
Construction	WORK NEXT 7 MILES	
	CONCRETE CURING	LANE REOPENS JULY 24
Entrance	TRUCK ENT AHEAD	
Freeway Closed	I-90 CLOSED	DETOUR EXIT 10
Traffic Information	TUNE TO 1240 AM	FOR TRAFFIC INFO
Maintenance	MAINT WORK ON BRIDGE	
Narrow Bridge	NARROW BRIDGE AHEAD	TRUCK TRAF USE ALT RTE
Oversize Vehicles	OVERSZ TRUCKS	MUST EXIT
Shoulder Work	ROADWORK ON SHLDR 3 MILES	
Speed	REDUCED SPD ZONE AHEAD	