

SECTION 00222 – TEMPORARY TRAFFIC CONTROL SIGNS

(Follow all instructions and make all edits with “Track Changes” turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the Project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Comply with Section 00222 of the Standard Specifications modified as follows:

00222.10 Temporary Signs - Replace the paragraph that begins "Furnish temporary signs meeting ..." with the following paragraph:

Furnish temporary signs meeting the requirements of the "Acceptable" category shown in the ATSSA *Quality Guidelines for Temporary Traffic Control Devices and Features* handbook, available from the ATSSA website. Use Materials and fabricate signs according to Section 00940, Section 02910 and the following:

00222.11(b) Portable Sign Supports - Replace the paragraph that begins "Use portable sign supports ..." with the following paragraph:

Use portable sign supports from the QPL and according to the following:

00222.12(b) Permanent Signs - Replace the paragraph that begins "Sign covers for permanent signs ..." with the following paragraph:

Provide sign covers for permanent signs according to Section 00941.

00222.13 Sign Flags - Replace the paragraph that begins "Sign flags shall be ..." with the following paragraph:

Provide sign flags that are:

(Use the following subsection .15(b) when Freeway or Divided Highway Speed Reduction (Paving Operations) measures (as shown on Standard Drawing TM880) are required.)

00222.15(b) Portable Changeable Message Signs - Add the following paragraph to the end of this subsection:

For PCMS mounted on rollers, use 2-line PCMS from the QPL.

(Use the following subsection .40(e) when adding any of the following temporary signs.)

00222.40(e) Temporary Sign Placement - Add the following to the end of the bullet list:

(Use the following bullet if a flagger is to be used to provide pedestrian guidance through the TPAR during flagging operations.)

- Place a “WAIT FOR FLAGGER” (CR4-23) sign approximately 50 feet in advance of each flagger station, facing incoming pedestrian traffic when a flagger is required to coordinate pedestrian movements. Install the sign on a conical marker or other temporary sign support, as shown or as directed. Do not allow the sign installation height or location to block the visibility of the flagger for incoming Public Traffic.

(Use the following two bullets when closing a pedestrian pathway or sidewalk and detouring pedestrians 24 hours per day , see CW11-4. Use either "a pedestrian pathway" or "the sidewalk(s) at ____" and delete the option that is not used. If using "the sidewalk(s) at ____", delete "(s)" or parentheses and fill in the blank with a brief description of the sidewalk location or segment. Delete all purple parentheses.)

- At least ten Calendar Days before closing (a pedestrian pathway) (the sidewalk(s) at ____), continuously lasting longer than 24 hours, place a “SIDEWALK CLOSED, Full Time” (CW11-4) sign in advance of each future closure point. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade or on a single-post TSS. Do not place the sign or sign support such that it narrows the pedestrian pathway to a width of less than 4 feet.
- Before opening the TPAR, place TPAR signing and other TCM as shown, or as directed. Maintain the “SIDEWALK CLOSED, Full Time” (CW11-4) signs while the TPAR is open to pedestrian traffic.

(Use the following two bullets when closing a pedestrian pathway and detouring pedestrians during specific hours of the day , see CW11-5. Use either "a pedestrian pathway" or "the sidewalk(s) at ____" and delete the option that is not used. If using "the sidewalk(s) at ____", delete "(s)" or parentheses and fill in the blank with a brief description of the sidewalk location or segment. Delete all purple parentheses.)

- At least ten Calendar Days before closing (a pedestrian pathway) (the sidewalk(s) at ____), daily for periods less than 24 hours, place a “SIDEWALK CLOSED, Daily” (CW11-5) sign in advance of each future closure point. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade, or on a single-post TSS. Do not place the sign or sign support such that it narrows the pedestrian pathway to a width of less than 4 feet.
- Before opening the TPAR, place TPAR signing and other TCM as shown, or as directed. Maintain the “SIDEWALK CLOSED, Daily” (CW11-5) signs while the TPAR is open to pedestrian traffic.

(Use the following two bullets when maintaining pedestrian access through the work area using the existing roadway shoulder or other portion of the Roadway.)

- At least ten Calendar Days prior to the start of work, when the TPAR is open through the work area, place a "SIDEWALK OPEN" (CW11-3) sign in advance of each end of the Work Area as shown in the TCP or as directed. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade, or on a single-post TSS. Do not place the sign or support such that it narrows the pedestrian pathway to a width less than 4 feet. Maintain "SIDEWALK OPEN" (CW11-3) signs while work is affecting the pedestrian pathway.
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- Place a "PEDESTRIANS ON ROADWAY" (CW11-2) sign, when the TPAR is located on a Roadway or paved Shoulder, at the beginning of each end of the Work Area, facing incoming traffic as shown, or as directed.

(Use the following bullet when construction vehicles are leaving or entering the Roadway.)

- Install a 54-inch "TRUCKS LEAVING HIGHWAY XXXX FT" sign, when construction vehicles are leaving a Roadway, in advance of each entrance point to the Work Area at sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings.

(Use the following bullet when construction vehicles are entering the Roadway.)

- Install a 54-inch "TRUCKS ENTERING HIGHWAY XXXX FT" sign, when construction vehicles are entering a Roadway, in advance of each exit point from the Work Area at sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings.

(Use the following bullet when requested by the Local Agency or when the Project is located on ODOT right-of-way and meets one or more of the following criteria:

- *Project is on a freeway.*
- *An engineer's estimate of \$5 million or more.*
- *Project duration longer than one year.*
- *Other high-profile projects as determined by the ODOT Region or Local Agency.*

The Project Identification sign is normally only applied to the project mainline. Limit placement of additional signs on crossroads to other State highways or roads with ADT > 5,000. Fill in the blank.)

- Install a "PROJECT IDENTIFICATION" (CG20-8) sign with an "ODOT" logo rider on the _____ Highway. Place the sign according to sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings or as modified by the

Supplemental Drawings, in advance of the "ROAD WORK AHEAD" sign at each end of the Project, facing incoming traffic. The Engineer will determine the sign legend.

(Use the following two bullets when using initial "ROAD WORK AHEAD" and "END ROAD WORK" signing. Fill in the blank.)

- Install "ROAD WORK AHEAD" (W20-1-48) signs with a 36 by 24-inch "FINES DOUBLE" (R2-6aP) rider on the _____ Highway, according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans except do not install the "FINES DOUBLE" rider on concrete barrier mounted signs.
- Install beyond each end of the Project, facing outgoing traffic, an "END ROAD WORK" (CG20-2A-24) sign a distance of $(A \div 2)$ according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans.

(Use the following bullet when it is necessary to reduce the overall roadway width between positive barriers [for example: concrete barrier, guardrail, and falsework] to less than 19 feet.)

- When the horizontal clearance for the Roadway is less than 19 feet, install horizontal clearance (CW21-12-48) signs, identifying the narrowest width of the Roadway. Locate these horizontal clearance signs as shown or as directed.

(Use the following bullet when it is necessary to reduce the overall vertical clearance to less than 15 feet 6 inches.)

- When the vertical clearance is less than 15 feet 6 inches, install low clearance (W12-2-48) and (OW12-2-36) signs. The clearance shown on the signs shall be 4 inches less than the shortest height of the opening. Locate these low clearance signs as shown or as directed.

(Use the following bullet on 2-mile-long or longer freeway projects when sign flag boards are required to enhance the visibility of the signs.)

- On freeway post mounted signs, install two sign flag boards, as shown on the Standard Drawings, above the "ROAD WORK NEXT XX MILES" (CG20-1) signs and the initial "ROAD (or BRIDGE) WORK AHEAD" (W20-1-48) signs.

(Use the following three bullets on Projects that include a detour route.)

- Install two sign flag boards, as shown on the Standard Drawings, above the following detour and road closed advance warning signs, where applicable:
 - "DETOUR AHEAD", "DETOUR XXXX FT", "DETOUR X/X MILE" (W20-2) signs.
 - "ROAD CLOSED AHEAD", "ROAD CLOSED XXXX FT", "ROAD CLOSED X/X MILE" (W20-3) signs.

(Use the following bullet when the Project will result in ground disturbance within Portland city limits. Fill in the first blank with the highway name and the second blank with the phone number. Check with the Environmental Coordinator.)

- Install an "EROSION CONCERNS" sign on the _____ Highway, at each end of the Project. Place the sign according to sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings, or as shown in the Plans. Install the sign so that the sign face is rotated 90 degrees to approaching traffic and faces the Roadway centerline. Replace "(XXX) XXX-XXXX" shown on the sign design detail with "(____) ____-____".

(Use the following Emulsified Asphalt Surface Treatment language on Emulsified Asphalt Surface Treatment projects, provided the following criteria are met:

- *Compile Field Data Summary*
- *ADT < 5,000 for roadways with posted speed > 45 mph*
- *ADT < 10,000 for roadways with posted speed ≤ 45 mph*
- *Federally funded projects require FHWA approval*

Fill in all blanks.)

[Begin Emulsified Asphalt Surface Treatment language]

- During Emulsified Asphalt surface treatment operations, protect traffic by installing signing according to the "LOOSE GRAVEL IN ROADWAY SIGNING" detail shown on the Standard Drawings. The maximum length of loose Sand or Gravel shall not exceed 5 miles.
- When the existing centerline striping on the _____ Highway is obliterated, do the following:
 - Place a "NO CENTER LINE" (W8-12) sign with a 24 by 18-inch "NEXT ____ MILES" (W7-3aP) plaque, approximately 2,500 feet in advance of each end of the Project.
 - Place "NO CENTER LINE" (W8-12) signs on approximately 2 mile intervals for each direction of traffic.

(In the next two bullets, use the language in the purple parentheses and delete the parentheses when the Project meets the following criteria:

- *ADT < 1,000;*
- *Project Length is > 10 miles; and*
- *Engineering judgment determines the additional "DO NOT PASS" signs are needed.*

Delete the language in the purple parentheses, and the language within them, when the above criteria are not met.)

- Place a "DO NOT PASS" (R4-1) sign on each side of the Roadway at the beginning of each existing no passing zone(, as necessary, except, if the length between two consecutive existing no passing zones is 1,300 feet or less, combine the no passing

zones and place one "DO NOT PASS" sign on the right side of the Roadway at the beginning of each subsequent no passing zone within the combined zones).

- Place a "PASS WITH CARE" (R4-2) sign on the right side of the Roadway at the end of each existing no passing zone. If the length between no passing zones is 1,300 feet or less, do not install the "PASS WITH CARE" signs(within the combined zones. Instead, place one "PASS WITH CARE" sign on the right side of the Roadway at the end of the last no passing zone in a combined zone). Cover the "PASS WITH CARE" signs with a non-transparent weather and wind proof cover each time they are within an active Work Area controlled by flaggers with or without pilot cars, or when directed.
- Install two sign flag boards above "ROAD WORK NEXT __ MILES", "ROAD WORK AHEAD", and "NO CENTER LINE" (with "NEXT __ MILES" rider) post mounted signs.

[End Emulsified Asphalt Surface Treatment language]

(Use the bullet when flaggers are needed at a single location for 24 or more consecutive hours.)

- Install a "24 HR FLAGGING AHEAD" (CW20-9) sign in each direction approximately 250 feet prior to the "BE PREPARED TO STOP" sign. Remove the temporary signs when 24-hour flagging is no longer required, or as directed.

(Use the following bullet when a new temporary or permanent STOP sign is installed at an intersection. Insert with the appropriate distances based on the pre-construction posted speed and according to the TCD Spacing Table in the ODOT Standard Drawings. If the STOP and "Stop Ahead" signs are permanent, the permanent "Stop Ahead" sign may be used in lieu of a temporary sign.)

- Install the following warning signs for each new "STOP" sign installed in the intersection. Install a "Stop Ahead" (W3-1) symbol sign approximately ____ feet in advance of the "STOP" sign. Install a "NEW TRAFFIC PATTERN AHEAD" (W23-2) sign approximately ____ feet in advance of the "Stop Ahead" sign. Keep the "NEW TRAFFIC PATTERN AHEAD" signs in place 30 Calendar Days after installing the "STOP" sign.

(Use the following bullets and bullets for the installation of, or modification to, a permanent traffic signal. Delete the language in purple parentheses that does not apply and delete all purple parentheses. Insert the appropriate distances based on the pre-construction posted speed and according to the TCD Spacing Table in the ODOT Standard Drawings. If a yellow permanent "Signal Ahead" sign is included in the plans, this sign may be installed as the needed temporary sign. Be sure additional language or notes are on the plans to make this intention clear.)

- For each leg of the intersection affected by (the new)(changes to the) traffic signal, install the following warning signs:
 - A "Signal Ahead" (W3-3) symbol sign approximately ____ feet in advance of the intersection, shown on the Standard Drawings or as modified by the Plans.

- A "NEW TRAFFIC PATTERN AHEAD" (W23-2) sign approximately ____ feet in advance of the "Signal Ahead" sign. Keep the "NEW TRAFFIC PATTERN AHEAD" signs in place 30 Calendar Days after installing the "Signal Ahead" sign.

(Use the following two bullets when modifications are made to lane configurations, lane assignments, or roadway geometry that affects traffic patterns. Insert the appropriate distance based on the pre-construction posted speed and according to the TCD Spacing Table in the ODOT Standard Drawings. Delete the language in purple parentheses that does not apply and delete all purple parentheses. Copy and paste bullets, as necessary, to address all affected directions or legs of the intersection(s).)

- Install a "NEW TRAFFIC PATTERN AHEAD" (W23-2) sign approximately ____ feet in advance of ____ *(location details)*, facing *(northbound)(southbound)(eastbound)(westbound)* incoming traffic.

(Fill in the blank describing the appropriate modification.)

- Keep the "NEW TRAFFIC PATTERN AHEAD" signs in place 30 Calendar Days after installing the _____.

(Use the following bullet when parking restrictions are necessary.)

- Install an 18 by 24-inch "NO PARKING" (R8-3a) sign in every block where on-street parking is prohibited, facing incoming traffic.

(Use the following ACP language on Level 1, 2, or 3 ACP Overlay (00744 or 00745) Preservation projects, provided the following criteria are met:

- *Obtain Region Technical Center Manager's approval*
- *Perform and/or document enough traffic analysis to confirm traffic volumes meet the following criteria:*
 - *ADT < 5,000 for roadways with posted speed > 45 mph*
 - *ADT < 10,000 for roadways with posted speed ≤ 45 mph*

Fill in all blanks.)

[Begin ACP Language]

- When the existing centerline striping on the _____ Highway is obliterated, do the following:
 - Place a "NO CENTER LINE" (W8-12) sign with a 24 by 18-inch "NEXT ____ MILES" (W7-3aP) rider, approximately 2,500 feet in advance of each end of the Project.
 - Place "NO CENTER LINE" (W8-12) signs on approximately 2 mile intervals for each direction of traffic.
 - Place a "DO NOT PASS" (R4-1) sign on each side of the Roadway at the beginning of each existing no passing zone.

- Place a "PASS WITH CARE" (R4-2) sign on the right side of the Roadway at the end of each existing no passing zone. If the length between no passing zones is 1,300 feet or less, do not install the "PASS WITH CARE" signs. Cover the "PASS WITH CARE" signs with a non-transparent weather and wind proof cover each time they are within an active Work Area controlled by flaggers with or without pilot cars, or when directed.
- Install two sign flag boards above "ROAD WORK NEXT ____ MILES", "ROAD WORK AHEAD", and "NO CENTER LINE" (with "NEXT ____ MILES" rider) post mounted signs.

[End ACP Language]

(Use the following bullet for Projects on freeways.)

- For paving operations on freeways, place "ABRUPT EDGE" (CW21-9) and "ROAD WORK XX MPH" (CW20-1a) signs as shown. Use an "XX" value equal to 15 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.

(Use the following bullet(s) for Projects on non-freeways.)

- For paving operations on non-freeways, place "ABRUPT EDGE" (CW21-9) and "ROAD WORK XX MPH" (CW20-1a) signs as shown. Use an "XX" value equal to 10 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.
- For all other moving operations that do not create an abrupt edge adjacent to traffic, omit the "ABRUPT EDGE" signs.

(Use the following bullet on all projects 2 miles or greater in length when work is not intermittent. For non-freeway projects, use "a", delete "(s)", and delete the last sentence. For freeway projects, use "two", "s", and the last sentence. Delete the language in purple parentheses that does not apply and delete all purple parentheses. Fill in the blanks.)

- Install (a)(two) 60 by 24-inch "ROAD WORK NEXT ____ MILES" (CG20-1) sign(s) on the _____ Highway, in advance of the "ROAD WORK AHEAD" (W20-1) sign according to sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings. (Install the median sign approximately 30 feet ahead of the shoulder sign.)

(Use the following bullet on all projects 2 miles or greater in length when work is intermittent. For non-freeway projects, use "a" and delete "(s)". For freeway projects, use "two" and delete parentheses around "(s)". Delete the language in purple parentheses that does not apply and delete all purple parentheses. Fill in the blanks.)

- Install (a)(two) 60 by 36-inch "INTERMITTENT ROAD WORK NEXT ____ MILES" (CG20-13) sign(s) on the _____ Highway, in advance of the "ROAD WORK

AHEAD" (W20-1) sign on each end of the Project according to sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings.

(Use the following bullet on urban projects where there is an existing bike lane, designated "Bicycle Route", or when a significant volume of bicycle traffic can be expected and is required to use the travel lane.)

- When construction requires bicycles to use the Traffic Lanes, install a "Bicycle ON ROADWAY" (CW11-1) symbol sign on 1/2 mile spacing through the affected area. Keep the signs in place until completion of the Shoulder or bikeway final surface.

(Use the following bullet on bridge projects where there is an existing bike lane on the bridge, designated "Bicycle Route", or when a significant volume of bicycle traffic can be expected and is required to use the travel lane.)

- When construction requires bicycles to use the Traffic Lanes on Structures, install a "Bicycle ON ROADWAY" (CW11-1) symbol sign according to "Sign Spacing A", from the "TRAFFIC CONTROL DEVICES SPACING TABLE" shown on the Standard Drawings, in advance of the Structure or the initial point where the bicycle facility is impacted by construction. Keep the signs in place until completion of the bikeway final surface.

(Use the following bullet on rural preservation projects where there is a designated "Bicycle Route" or a significant volume of bicyclists can be expected.)

- Install a "Bicycle ON ROADWAY" (CW11-1) symbol sign and a 24 by 18-inch "NEXT XX MILES" (W7-3aP) plaque according to "Sign Spacing A", from the "TRAFFIC CONTROL DEVICES SPACING TABLE" shown on the Standard Drawings, after the "ROAD WORK AHEAD" sign. Install a "Bicycle ON ROADWAY" symbol sign on 1 mile spacing through the affected area. Keep the signs in place until completion of the Shoulder or bikeway final surface.

(Use the following bullet for all Freeway and high-speed, multi-lane projects.)

- Install a 72 by 24-inch "CONSTRUCTION VEHICLE DO NOT FOLLOW" (CW23-14) sign on rigid substrate on the back of all Material or Equipment delivery vehicles.

(Use the following bullet when Speed Reduction measures (as shown on Standard Drawing TM880) are required and when all of the following criteria are met:

- *Moving operations (e.g. paving) on Interstate freeways or multilane divided highways.*
- *Pre-construction posted speed ≥ 45 mph.*
- *Workers will be adjacent to live traffic, but not working behind concrete barrier, guardrail or other positive protection barrier system.*
- *Work will be performed at night or work will be performed during the daytime on freeways or other high-speed facilities with ADT > 10,000.*

NOTE: A “Work Zone Speed Reduction Request” MUST be completed and submitted when using this bullet. See ODOT Traffic Control Plans Unit website for details and the Request Form.)

- During (brief work description) operations on the _____ Highway, install temporary signing and other required TCD as shown. Install temporary speed zone signing according to and as shown in the Temporary Speed Zone Order.

(Use the following Pilot Car Language on projects that include a pilot car in the bid schedule. See ODOT Sign Policy & Guidelines, Chapter 6 for application details and sign designs.)

[Begin Pilot Car Language]

(Use one of the following three options, as instructed below. Delete the option that does not apply.)

[Option 1 - Use the following bullet when plan sheets are being developed for the Traffic Control Plan and qualifying side road locations can be shown.]

- During pilot car operations, install a 15 by 24-inch "WAIT FOR PILOT CAR" (CR4-20) sign at stop-controlled side roads and accesses intersecting the Highway within the limits of the pilot car operation, as shown.

[Option 2 - Use the following bullets when plan sheets are not being developed for the Traffic Control Plan. Fill in the blanks with the location of each “WAIT FOR PILOT CAR” sign.]

- During pilot car operations, install a 15 by 24-inch "WAIT FOR PILOT CAR" (CR4-20) sign at stop-controlled side roads and accesses intersecting the Highway within the limits of the pilot car operation at the following locations:
 - ____ (Side road name, STA XXX+XX) ____
 - ____ (Side road name, STA XXX+XX) ____
 - ____ (Side road name, STA XXX+XX) ____
- During pilot car operations, install a 12 by 12-inch "WAIT FOR PILOT CAR" (CR4-20a) sign in private residential driveways accessing the Highway within the limits of the pilot car operation. Place the sign in the driveway facing the private residence and so the sign face is not visible to Public Traffic on the Highway. Do not use the sign for apartments, condominiums or business accesses.
- At accesses, side roads, or residential driveways where "WAIT FOR PILOT CAR" (CR4-20) signs are installed, do not allow traffic to be stopped or held for longer than 20 minutes.
- In addition to the signs, public notification (e.g. flyers, door hangers) may be used to inform the residents that may be affected by the pilot car operations and the "WAIT FOR PILOT CAR" signs.

[End Option 2]

[Option 3 - Use the following bullets when plan sheets are not being developed for the Traffic Control Plan and it is not practical to list all locations of each "WAIT FOR PILOT CAR" sign.]

- During pilot car operations, install a 15 by 24-inch "WAIT FOR PILOT CAR" (CR4-20) sign at stop-controlled side roads and accesses intersecting the Highway within the limits of the pilot car operation.
- During pilot car operations, install a 12 by 12-inch "WAIT FOR PILOT CAR" (CR4-20a) sign in private residential driveways accessing the Highway within the limits of the pilot car operation. Place the sign in the driveway facing the private residence and so the sign face is not visible to Public Traffic on the Highway. Do not use the sign for apartments, condominiums or business accesses.
- At accesses, side roads, or residential driveways where "WAIT FOR PILOT CAR" (CR4-20) signs are installed, do not allow traffic to be stopped or held for longer than 20 minutes.
- In addition to the signs, public notification (e.g. flyers, door hangers) may be used to inform the residents that may be affected by the pilot car operations and the "WAIT FOR PILOT CAR" signs.

[End Option 3]

(Use the following bullet only on preservation projects that include a pilot car in the bid schedule.)

- For each location of the "WAIT FOR PILOT CAR" sign, closely monitor for traffic compliance, operation, and safety at least once per hour during pilot car operations. If operational issues are observed, or if notified of operational issues, at stop-controlled accesses or side roads utilizing the "WAIT FOR PILOT CAR" (CR4-20) sign, remove the sign and replace it with a flagger.

[End Pilot Car Language]

(Use the following lead-in paragraph and subsections .40(f) when a "Support Letter" for a temporary speed zone order has been received from the State Traffic Engineer. The Approval Letter allows you to include sign quantities and determine recommended locations in the Plans only (show signs as a blank sign with dashed outline, no legend). Do not draft specific temporary regulatory speed zone signs into the Plans. Exact signs and locations will be discussed during Pre-Construction Meeting when the actual Order is issued to the contractor.)

Add the following subsection:

00222.40(f) Temporary Speed Zone Reduction - Install a temporary regulatory speed zone, as directed. Use regulatory signs for all required temporary speed zone signage.

(Use the following lead-in paragraph and subsections .40(g) when temporary pedestrian and bicycle route maps are required. Fill in the blank with the number of route maps.)

Add the following subsection:

00222.40(g) Temporary Pedestrian and Bicycle Route Maps - Furnish and mount commercially available brochure boxes to temporary sign posts, as shown. Fill each brochure box with a minimum of ____ temporary pedestrian and bicycle route maps. Furnish 8 ½" x 11" paper copies of the Agency-supplied route maps. Monitor brochure boxes daily and replenish copies as needed to maintain a minimum of ____ copies in each brochure box. Monitor the condition of the brochure boxes and repair or replace, as directed.

00222.41(d) Temporary Sign Supports - Replace the bullet that begins "Provide reflective sheeting ..." with the following bullet:

- Furnish reflective sheeting on TSS posts as shown in the Standard Drawings.

00222.45(b) Portable Changeable Message Signs - Replace the bullet that begins "Messages shall not scroll ..." with the following bullet:

- Do not use messages that scroll horizontally or vertically across the face of the sign.

(Use the following when longitudinal paving operations are included in the scope of work and Freeway or Divided Highway Speed Reduction (Paving Operations) measures (as shown on Standard Drawing TM880) are required OR when a PCMS is used in advance of a roadway closure or ramp closure. Delete "(s)" or parentheses as applicable.)

Add the following bullet(s) to the end of this subsection:

(Use the following two bullets when longitudinal paving operations are included in the scope of work and Freeway or Divided Highway Speed Reduction (Paving Operations) measures (as shown on Standard Drawing TM880) are required.)

- During paving operations, provide one 2-line PCMS on the finish roller. Display the following messages on the PCMS:

Panel 1	Panel 2
WORKERS IN ROAD	SLOW TO XX MPH

- During paving operations, provide one 2-line PCMS on the intermediate roller. Display the following messages on the PCMS:

Panel 1	Panel 2
SLOW FOR WORKERS	WORKERS IN ROAD

(Use the following bullet when a PCMS is used in advance of a roadway closure or ramp closure. Fill in the blank with the name of the road that will be closed. Modify

the PCMS messages to reflect the name of the road that will be closed and the time frame for the closure.)

- At least seven Calendar Days before the _____ closure, place one or more PCMS displaying the following message as shown, or as directed:

Panel 1	Panel 2
(Name/# of highway)	CLOSURE
(Location)	(Time Frame)
CLOSURE	(Time Frame)

(Use the following subsection .45(c) when including a Radar Speed Trailer on the project, or when Speed Reduction measures (as shown on Standard Drawing TM880) are required.)

00222.45(c) Radar Speed Trailers - Replace the bullet that begins "Use a blackout speed threshold ..." with the following bullet:

- Use a blackout speed threshold of 85 mph, that does not allow the radar speed trailer to display a speed or message when the measured speed exceeds 85 mph.

~~*(Use the following when including a Radar Speed Trailer on the project, or when Speed Reduction measures (as shown on Standard Drawing TM880) are required.)*~~

[Begin Radar Speed Trailer Language]

Add the following bullet(s) to the end of the bullet list:

(Use the following bullet only when Speed Reduction Measures are required.)

- Place a radar speed trailer approximately 1000 feet beyond the end of the lane closure taper, as shown on Standard Drawing TM880

[Use only one of the following two speed limit sign bullets]

(Use the following bullet on projects using TM880 when a Speed Zone Order will be included in the TCP or Speed Reduction Measures are required.)

- Install a 30 by 36-inch "SPEED LIMIT XX" (R2-1) sign below the trailer display panel. The "XX" value is the legal speed limit as determined by a Speed Zone Order signed by the State Traffic Engineer.

(Use the following bullet for projects when using the Radar Speed Trailer with advisory speed signing. Fill in the blank with a value for "XX" between 10 and 20 mph below the regulatory posted speed for the Work Zone. Contact the Traffic Control Plans designer.)

- Install a 36 by 36-inch "ROAD WORK XX MPH" (CW20-1a) sign below the trailer display panel. Use a value of _____ for "XX" on the sign

[End Option]

(Use the following bullets when Speed Reduction Measures are required and the moving operations involve longitudinal paving on a freeway.)

- When the paving machine reaches a location that is approximately 1/2 mile beyond the start of the work shift paving operations, place a second radar speed trailer as shown on Standard Drawing TM880. Install a 36 by 36-inch "ROAD WORK XX MPH" (CW20-1a) sign above or below the trailer display panel. Use a "XX" value equal to 15 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.

(Use the following bullet when Speed Reduction Measures are required and the moving operations involve longitudinal paving on non-freeways.)

- When the paving machine reaches a location that is approximately 1/2 mile beyond the start of the work shift paving operations, place a second radar speed trailer as shown on Standard Drawing TM880. Install a 36 by 36-inch "ROAD WORK XX MPH" (CW20-1a) sign above or below the trailer display panel. Use a "XX" value equal to 10 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.

(When Speed Reduction Measures are required, a temporary speed zone reduction is to be included in the TCP, and the project includes moving, non-paving-related activities, (e.g. barrier replacement, cable barrier installation, guardrail work, etc.) include one of the following bullets, as applicable.)

[For projects on freeways, use the following bullet.]

- When the Work Area for the (brief work description from subsection .02(a)) extends approximately 1/2 mile beyond the start of the operations, place a second radar speed trailer as shown on Standard Drawing TM880. Install a 36 by 36-inch "ROAD WORK XX MPH" (CW20-1a) sign above or below the trailer display panel. Use a "XX" value equal to 15 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.

[For projects on non-freeways, use the following bullet.]

- When the Work Area for the (brief work description from subsection .02(a)) extends approximately 1/2 mile beyond the start of the operations, place a second radar speed trailer as shown on Standard Drawing TM880. Install a 36 by 36-inch "ROAD WORK XX MPH" (CW20-1a) sign above or below the trailer display panel. Use a "XX" value equal to 10 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.

(Use the following subsection .46 when including Mobile Barrier on the project.)

Add the following:

00222.46 Mobile Barrier - During mobile barrier operations, provide one 2-line PCMS on the rear of the mobile barrier trailer according to the mobile barrier manufacturer's recommendations. Display the following messages on the PCMS:

Panel 1
SLOW FOR
WORKERS

Panel 2
WORKERS
IN ROAD

[End Radar Speed Trailer Language]

(Use the following subsection .80(a) for all Freeway and high-speed, multi-lane projects or when a "Support Letter" for a temporary speed zone order has been received from the State Traffic Engineer.)

00222.80(a) Area Basis -

(Use the following two paragraphs for all Freeway and high-speed, multi-lane projects.)

Add the following sentence to the end of the paragraph that begins "Temporary signs will...":

No measurement of quantities will be made for "CONSTRUCTION VEHICLE DO NOT FOLLOW" (CW23-14) signs.

(Use the following two paragraphs when a "Support Letter" for a temporary speed zone order has been received from the State Traffic Engineer. Estimate the worst case square feet of temporary signage required for your application and include this quantity in the pay item, "Temporary Signs".)

Add the following sentence to the end of this subsection:

Temporary signing quantities include temporary regulatory speed zone signage.

(Use the following subsection .80(b) when Speed Reduction Measures are required.)

00222.80(b) Unit Basis - Add the following sentence to the end of this subsection:

PCMS installed on finish rollers or intermediate rollers will be measured on the unit basis.

00222.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing, installing, moving, operating, maintaining, inspecting, and removing the Materials and TCD, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified, except as covered in 00221.90(b).

(Use the following paragraphs to limit the number of signs paid for when a project contains multiple Work Zones. Delete "(s)" or parentheses as applicable.)

Add the following to the end of this subsection:

Payment will be made for not more than _____ set(s) of Work Area signs. All additional sets of Work Area signs will be at no additional cost to the Agency.

(Use the following paragraph for all Freeway and high-speed, multi-lane projects. If the paragraph above is used delete the sentence in parentheses)

(Add the following to the end of this subsection:)

No separate or additional payment will be made for furnishing, installing, and maintaining 72 by 24-inch "CONSTRUCTION VEHICLE DO NOT FOLLOW" (CW23-14) signs. Payment will be included in 00221.90(b).

(Use the following pay item (e) when Freeway or Divided Highway Speed Reduction (Paving Operations) measures are required.)

Add the following Pay Item(s) to the Pay Item list:

(e) Portable Changeable Message Signs, Roller Mounted Each

(Use the following three paragraphs when pay item (e) is included in the pay item list.)

Add the following to the end of the paragraph that begins "Items (b) and (c)...":

Payment for PCMS mounted on rollers will be made separately under payment for the item "Portable Changeable Message Signs, Roller Mounted".

Item (e) includes furnishing, mounting, operating, moving, maintaining, and removing the portable changeable message signs. No additional payment will be made for the roller or roller operator.

(Use the following two paragraphs when mobile barrier is required.)

Add the following paragraph after the paragraph that begins "Items (b) and (c) includes...":

Item (c) includes portable changeable messages signs attached to mobile barrier trailer(s).

(Use the following subsections .90 when temporary pedestrian and bicycle route maps are required.)

00222.90 Payment - Add the following paragraph after the paragraph that begins "No separate or additional payment...":

No separate or additional payment will be made for furnishing, mounting, maintaining and replenishing brochure boxes with route maps.