

GENERAL NOTES

- (1) ARROW PANELS SHALL BE PLACED ON THE SHOULDER (PAVED OR UNPAVED). IF SHOULDERS DO NOT EXIST THE ARROW PANEL MAY BE PLACED WITHIN THE TAPER. THE LOCATION OF THE ARROW PANEL SHALL MEET THE REQUIREMENTS FOR STOPPING SIGHT DISTANCE. LANE CLOSURES SHALL BE EXTENDED AT THE BUFFER SPACE, IF NEEDED, SUCH THAT STOPPING SIGHT DISTANCE TO THE ARROW PANEL IS MET. (SEE STD. 1101.11 - SHEET 2)
- (2) THE MAXIMUM SPACING OF CONES IN TAPERS SHALL BE EQUAL IN FEET TO THE POSTED SPEED LIMIT. THE MAXIMUM SPACING OF CONES ALONG THE BUFFER SPACE, AND WORK AREA, SHOULD BE EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.
- (3) REFER TO STD. 1101.02 SHEETS 6 AND 7 FOR TREATMENT OF LANE CLOSURES THRU INTERCHANGES.
- (4) ADVISORY SPEED PANELS (XX MPH, SIGN W15-1) SHALL PORTRAY A SPEED 10 MPH LESS THAN THE POSTED SPEED LIMIT, UNLESS A LOWER SPEED IS DETERMINED NECESSARY BY THE ENGINEER.
- (5) LANE CLOSURES SHALL BE INSTALLED WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC. LANE CLOSURES SHALL BE REMOVED AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
- (6) TIA'S ARE REQUIRED ONLY WHEN A BUFFER SPACE CANNOT BE ATTAINED, OR WHEN DIRECTED BY THE ENGINEER OR THE PLANS. WHEN USED, THEY SHALL BE POSITIONED TO MAINTAIN A ROLL-AHEAD DISTANCE AS RECOMMENDED BY THEIR MANUFACTURER.
- (7) THE FOLLOWING OPTIONS MAY BE USED AS THE FIRST ADVANCE WARNING THE MOTORISTS SEE:
 - A. TRUCK MOUNTED ADVANCE WARNING SIGNS
 - B. MOVING CHANGEABLE MESSAGE SIGN (CMS)
 - C. GROUND MOUNTED ADVANCE WARNING SIGNS (MUST USE 'NEXT 10 MILES' AND MAKE CIRCLE TO PICK UP SIGNS)

- D. STATIONARY CHANGEABLE MESSAGE SIGN (CMS) (MUST USE 'NEXT 10 MILES' AND MAKE CIRCLE TO PICK UP CMS)
- (8) TOTAL DISTANCE BETWEEN FIRST AND LAST VEHICLE IN CARAVAN SHOULD NOT EXCEED ONE (1) MILE IN LENGTH.
- (9) IF USING GROUND MOUNTED ADVANCE WARNING SIGNS OR STATIONARY CMS, THE TOTAL DISTANCE BETWEEN THE FIRST ADVANCE WARNING SIGN OR CMS AND APPLICATION VEHICLE SHOULD NOT EXCEED 10 MILES AND SIGN W21-988P SHOULD READ 'MACHINERY IN ROAD NEXT 10 MILES'.
- (10) SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE FRONT AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW PANEL AND/OR LIGHT BAR.
- (11) SIGN W20-8L SHOULD BE PLACED ON BACK OF PROTECTION VEHICLE AND SIGN W20-LD ON BACK OF ADVANCE WARNING VEHICLE IN MULTILANE DIVIDED TRAFFIC SO VEHICLES APPROACHING FROM REAR ARE NOTIFIED OF OPERATION.
- (12) RADIO COMMUNICATION BETWEEN VEHICLES IS RECOMMENDED.
- (13) ALL VEHICLES MUST HAVE BEACONS AND/OR LIGHT BARS OPERATING AT ALL TIMES.
- (14) USE OF CMS'S ARE OPTIONAL WITH ADVANCED WARNING VEHICLES.
- (15) USE A TYPE "B" FLASHING ARROW PANEL WITH SIZE 60" X 30"
- (16) DRUMS MAY BE SUBSTITUTED FOR CONES AS DETERMINED BY THE ENGINEER.
- (17) THE LANE CLOSURE MAY BE MODIFIED WITH THE USE OF MORE ADVANCE WARNING VEHICLES EQUIPPED WITH THE PROPER WARNING SIGNS AND LIGHTS ACCOMPANIED BY VARIOUS GROUND MOUNTED CAUTIONARY SIGNS AS DEEMED NECESSARY BY THE ENGINEER.

LEGEND

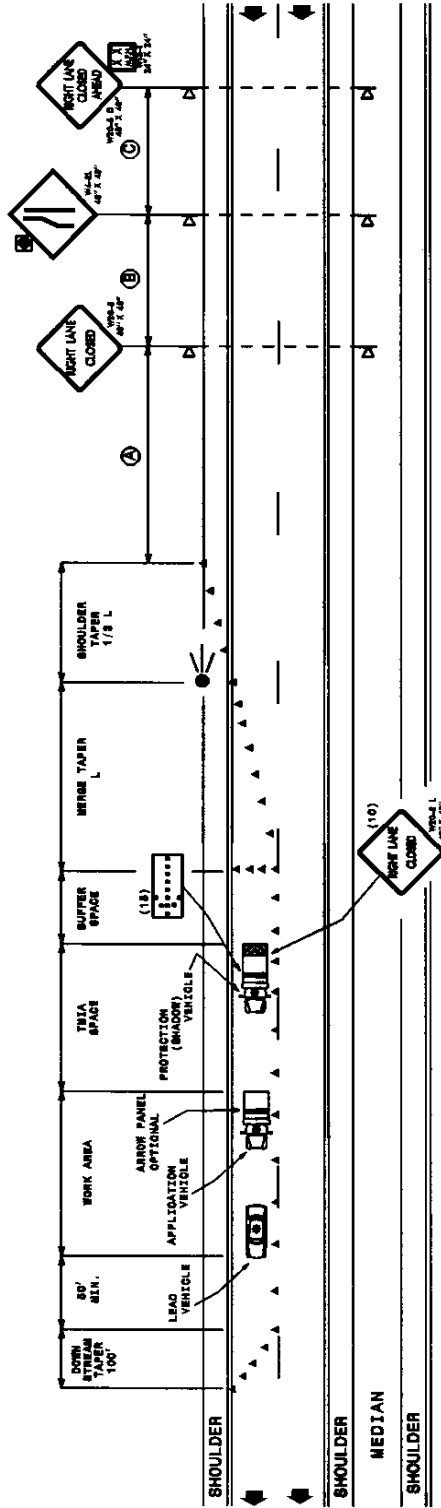
- PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW
- TYPE B WARNING LIGHT (FOR NIGHT USE)
- FLASHING ARROW PANEL (TYPE C)
- CONE
- APPLICATION VEHICLE WITH ROTATING BEACON
- PROTECTION VEHICLE WITH TRUCK MOUNTED ADVANCE WARNING SIGN AND ROTATING BEACON (SEE ROADWAY STANDARD NO. 1106.01)
- LEAD VEHICLE
- FLASHING ARROW PANEL TYPE "B" APPROPRIATE DIRECTION INDICATED

ADVANCE WARNING SIGN SPACING CHART

POSTED SPEED LIMIT (MPH)	RECOMMENDED DISTANCE BETWEEN SIGNS (FEET) ±
5-35	200
40-50	300
55	500
CONTROLLED ACCESS ROAD (2-80)	1000
	1800
	2600

SPEED	FORMULA	POSTED SPEED (MPH)	BUFFER SPACE (FT)
40 MPH OR LESS	$L = \frac{WS^2}{30}$	20	35
45 MPH OR GREATER	$L = W \times 8$	25	55
		30	65
		35	85
		40	170
		50	260
		55	335
		60	415
		65	485

L = TAPER LENGTH IN FEET
W = TAPER WIDTH IN FEET
S = POSTED SPEED



PAVEMENT MANAGEMENT OPERATIONS

(OPERATIONS STOPPED 15 MIN. OR LONGER)
INTERSTATE & MULTILANE ROADWAYS