

# APRIL 2017

## UPDATES

The following is a listing of revisions to the previous edition dated February 1, 2017.

### ***WORK ZONE TRAFFIC CONTROL PROCEDURES***

#### **MOBILIZED SHOULDER OPERATIONS**

Page 27

Paragraph 2 - New paragraph addition

Consider mobilized shoulder operations for work activities that progress at speeds less than 3 mph, do not comply with the requirements for intermittent mobile operations and do not fully warrant closure of the adjacent travel lane.

#### **PRIMARY AND SECONDARY ROADWAYS – Pedestrian Workers -**

Page 27

The “Pedestrian Workers” section (all paragraphs) is revised for clarification. These paragraphs now read as follows:

Pedestrian workers should remain beyond 1 foot of the near edge of an adjacent travel lane. However, when encroachment to within 1 foot of the near edge of the adjacent travel lane or upon the adjacent travel lane up to but no more than 2 feet by a pedestrian worker is necessary to conduct the work activities, do so in strict accordance with the requirements specified by this manual and those drawings that specifically designate acceptable locations for pedestrian workers.

On low speed roadways, speeds of 35 mph or less, pedestrian workers may encroach from the shoulder area to within 1 foot of the near edge of the adjacent travel lane or onto the adjacent travel lane up to but no more than 2 feet when the work activity area is channelized with traffic control devices as specified by Drawing Nos. 515-01-C and 515-01-D for shoulder closures. A shadow vehicle is required. Consider utilizing a truck mounted attenuator on low speed roadways with intermediate to high traffic volumes.

On low speed roadways, speeds of 35 mph or less, when work activities require pedestrian workers to encroach upon the adjacent travel lane more than 2 feet, close the travel lane to traffic. When closure of the adjacent travel lane is necessary, utilize flagging operations on two-lane two-way roadways and standard lane closures on multilane roadways.

On intermediate to high speed two-lane two-way roadways, speeds of 40 mph to 55 mph, when pedestrian workers must encroach to within 1 foot of the near edge of the adjacent travel lane or upon the adjacent travel lane, close the travel lane to traffic. Utilize flagging operations for these lane closures.

On intermediate to high speed multilane roadways, speeds of 40 mph to 60 mph, when pedestrian workers must encroach upon the adjacent travel lane up to but no more than 2 feet, provide and operate a shadow vehicle supplemented with an advance warning arrow panel and a truck mounted attenuator in the adjacent travel lane to provide separation between the location of the pedestrian workers and approaching traffic. The advance warning arrow panel shall display a flashing arrow.

**PRIMARY AND SECONDARY ROADWAYS –  
Equipment / Vehicles -**

Page 28

Paragraph 1 of the “Equipment / Vehicles” section has been revised and separated into 2 new paragraphs for clarification. These paragraphs now read as follows:

All travel lanes may remain open to traffic when work vehicles or equipment encroach upon an adjacent travel lane up to but not more than 2 feet.

Brief encroachments by a single equipment unit or a work vehicle into an adjacent travel more than 2 feet are acceptable when necessary to bypass an obstacle such as a sign or utility pole.

**TYPICAL WORK ZONE TRAFFIC CONTROL  
STANDARD DRAWINGS  
FOR  
MAINTENANCE ACTIVITIES**

**MOBILIZED SHOULDER OPERATIONS  
PRIMARY & SECONDARY ROUTES  
STANDARD DRAWING NO. 525-01 through STANDARD DRAWING NO. 525-04**

DRAWING NO. 525-01

Page MSOPS-1 (Notes)

The title has been updated to clarify "Minor Encroachment" is specific to "Road Machinery".

Page MSOPS-2 (Typical Drawing)

The title has been updated to clarify "Minor Encroachment" is specific to "Road Machinery".

DRAWING NO. 525-02

Page MSOPS-3 (Notes)

The title has been updated to clarify "Minor Encroachment" is specific to "Road Machinery" and "No Encroachment" applies to the pedestrian workers.

Page MSOPS-4 (Typical Drawing)

The title has been updated to clarify "Minor Encroachment" is specific to "Road Machinery" and "No Encroachment" applies to the pedestrian workers.

DRAWING NO. 525-03

Page MSOPS-5 (Notes)

The title has been updated to clarify "Major Encroachment" is specific to "Road Machinery".

Note 4. References to a "road machinery unit" have been added to the "Two-Lane Two-Way Roadways" and "Multilane Roadways" descriptions for clarification

Page MSOPS-6 (Typical Drawing)

The title has been updated to clarify "Major Encroachment" is specific to "Road Machinery".

DRAWING NO. 525-04

Pages MSOPS-7 (Notes) & MSOPS-8 (Typical Drawing)

**This is a new drawing.**

This drawing addresses the traffic control setup and requirements for mobilized shoulder operations on 40 MPH to 60 MPH multilane primary and secondary routes that requires major encroachment by pedestrian workers and road machinery.

**MOBILIZED SHOULDER OPERATIONS  
INTERSTATE ROUTES  
STANDARD DRAWING NO. 530-01 through STANDARD DRAWING NO. 530-03**

DRAWING NO. 530-01

Page MSOI-1 (Notes)

The title has been updated to clarify "Major Encroachment" is specific to "Road Machinery".

Page MSOI-2 (Typical Drawing)

The title has been updated to clarify "Minor Encroachment" is specific to "Road Machinery".

DRAWING NO. 530-02

Page MSOI-3 (Notes)

The title has been updated to clarify the minor encroachment by the pedestrian workers is ONLY permissible upon the paved shoulder. Any encroachment upon the travel lane by the pedestrian workers is PROHIBITED.

Page MSOI-4 (Typical Drawing)

The title has been updated to clarify the minor encroachment by the pedestrian workers is ONLY permissible upon the paved shoulder. Any encroachment upon the travel lane by the pedestrian workers is PROHIBITED.

DRAWING NO. 530-03

Page MSOI-5 (Notes)

The title has been updated to clarify encroachment limits. The major encroachment by the pedestrian workers is ONLY permissible upon the paved shoulder. Any encroachment upon the travel lane by the pedestrian workers is PROHIBITED.

Page MSOI-6 (Typical Drawing)

The title has been updated to clarify encroachment limits. The major encroachment by the pedestrian workers is ONLY permissible upon the paved shoulder. Any encroachment upon the travel lane by the pedestrian workers is PROHIBITED.

**TRAFFIC CONTROL REQUIREMENTS  
FOR SPECIFIC  
MAINTENANCE PERFORMANCE ACTIVITIES**

**102 SURFACE REPAIRS**

**WORK DESCRIPTION 1 Patching / Minor Leveling**

Page 102-5

**410 ROADWAY CLEANING**

**WORK DESCRIPTION 1 CLEAN BY HAND**

Page 410-2

Under the "Typical Drawing Applications" in the "TWO-LANE TWO-WAY ROADWAYS" section, the following typical drawing has been added:

**TYPICAL DRAWING APPLICATIONS**

**SHOULDER CLOSURES**

DRAWING 515-01-C - RIGHT SHOULDER CLOSURE  
LOW SPEED  
< / = 35 MPH  
PRIMARY & SECONDARY ROUTES  
MINOR ENCROACHMENT

Pages 410-3 through 410-4

Under the "Typical Drawing Applications" in the "MULTILANE SECONDARY AND PRIMARY ROADWAYS" section, the following typical drawings have been added:

**TYPICAL DRAWING APPLICATIONS**

**SHOULDER CLOSURES**

DRAWING 515-01-D - LEFT SHOULDER CLOSURE  
LOW SPEED  
< / = 35 MPH  
MULTILANE DIVIDED HIGHWAY  
w/ GRASSED MEDIAN  
PRIMARY & SECONDARY ROUTES  
MINOR ENCROACHMENT

**MOBILIZED SHOULDER OPERATIONS**

DRAWING 525-04 - MOBILIZED SHOULDER OPERATIONS  
INTERMEDIATE SPEED TO HIGH SPEED  
40 MPH - 60 MPH  
PEDESTRIAN WORKERS – MAJOR ENCROACHMENT  
ROAD MACHINERY – MAJOR ENCROACHMENT  
MULTILANE  
PRIMARY & SECONDARY ROUTES