New DelDOT Work Zone Safety Initiatives

Presentation to:
Moving Forward Workshop
Delaware T2 Center
February 17, 2009
Recent DelDOT Safety Initiatives

- Strategic Highway Safety Plan (2006)
- Safe Routes to School Program (2007)
- New Occupational Safety Section (2007)
- Work Zone Safety & Mobility Guidelines & Procedures (2007)
- Subpart K Initiatives (2008)

- Created to meet or exceed standards set forth in Federal 2003 MUTCD
- Follows same structure as Federal Manual
- Replaces 2000 DelDOT Traffic Control Manual
Highlights of Changes

- Pedestrian Access
- Flagger Operations
- Drums
- Cones
- Barrier End Protection
- Truck-Mounted Attenuators
- Vertical Difference
- Storage of Equipment
- Cases
Pedestrian Access

- Must consider all road users
- American with Disabilities Act (ADA) requirements
- Temporary facilities shall be at least as accessible as existing facilities
Flagger Operations

- Flaggers required to wear ANSI/ISEA 107-2004 Class 3 apparel
- Orange head gear required
- Flagger station lighting required at night
Channelizing Device Retroreflectivity

- New mandatory sheeting requirements
- Fluorescent orange and white prismatic retro reflective sheeting mandatory
- Effective January 5, 2009 for contracts awarded after December 31, 2009
Cones

- Minimum height of 28 inches for all operations
- Cones not to be used for nighttime operations (unless emergency operation)
Barrier End Protection

- For speeds greater than 30 MPH, an impact attenuator or crash cushion shall be installed.

- For speeds of 30 MPH or less, a tapered end may be used.
Truck-Mounted Attenuators

- TMAs required by 15 of 26 cases, compared to 11 of 36 cases in previous DelDOT Manual
- On cases that require TMAs, an average of 1.7 TMAs are required per case; compared to 1.2 TMAs in previous DelDOT Manual
- All vehicles with TMAs shall be required to have arrow panels
Vertical Difference

- Clarifies what devices are required for specific situations
- Further clarification coming soon
## Storage of Equipment

### Table: Storage of Equipment

<table>
<thead>
<tr>
<th>Road Type</th>
<th>Distance from Travelway, L (feet)</th>
<th>Speed, V (mph)</th>
<th>Required Channelizing Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flammable Materials (fuel, propane, etc.)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All roadways</td>
<td>L ≤ 30</td>
<td>All</td>
<td>Temporary Traffic Barrier</td>
</tr>
<tr>
<td></td>
<td>L &gt; 30</td>
<td>All</td>
<td>Drums (Expressway)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>None (Other Roadways)</td>
</tr>
<tr>
<td><strong>Equipment and All Other Materials</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expressway / Freeway</td>
<td>L ≤ 30</td>
<td>All</td>
<td>Temporary Traffic Barrier</td>
</tr>
<tr>
<td></td>
<td>L &gt; 30</td>
<td>All</td>
<td>Drums</td>
</tr>
<tr>
<td>All other roadways</td>
<td>0 ≤ L ≤ 12</td>
<td>V ≤ 25</td>
<td>Drums</td>
</tr>
<tr>
<td></td>
<td>V &gt; 25</td>
<td>Temporary Traffic Barrier</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12 &lt; L ≤ 30</td>
<td>V ≤ 25</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>V &gt; 25</td>
<td>Drums</td>
<td></td>
</tr>
<tr>
<td></td>
<td>L &gt; 30</td>
<td>All</td>
<td>None</td>
</tr>
</tbody>
</table>
Cases

- Cases show traffic control devices for a variety of situations commonly encountered
- 26 Cases in new Manual compared to 36 in previous DelDOT Manual
Case 6

STANDARD DESIGN
TYPICAL APPLICATION OF CONTROL DEVICES FOR
HIGHWAY CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS

CASE 6
TWO-LANE, TWO-WAY TRAFFIC
LANE CLOSURE

SYMBOLS

- Work Space
- Traffic Flow
- Channelizing Device
- Flagger
- Work Vehicle
- Non Truck-Mounted Arrow Panel
  (See Section 8.9.06)
- Truck-Mounted Attenuator (TMA)
  (Optional, See Note 12)
- Sign
  (See Section 8.9.03
  for mounting height)

* Per TML
  Manufacturer’s
  Recommendations
Case 7

- 2005 Federal Transportation Reauthorization: SAFETEA-LU, Section 1110, Subpart K

- Goal: Decrease Work Zone fatalities & injuries to workers and road users

- New guidelines were adopted in December 2008
Positive Protection

Develop guidelines on:

- Use of positive protection devices to prevent intrusions;
- Exposure control measures to minimize exposure;
- Other traffic control measures to minimize crashes;
- Safe entry/exit of work vehicles and equipment onto/from the travel lanes
Additional Issues from Subpart K

- Uniformed law enforcement officers
- Payment for traffic control devices
- Quality guidelines
Documents on DelDOT Website

www.delDOT.gov -> Publications -> DE-MUTCD

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### Delaware Manual on Uniform Traffic Control Devices (MUTCD)

**Introduction**

- Part 1: General
- Part 2: Signs (Revised Sept. 2000)
- Part 4: Highway Traffic Signals
- Part 5: Traffic Control Devices for Low Volume Roads
- Part 6: Temporary Traffic Control (Revised Sept. 2000)
- Part 7: Traffic Controls for School Areas
- Part 8: Traffic Controls for Highway-Rail Grade Crossings
- Part 9: Traffic Controls for Bicycle Facilities
- Part 10: Traffic Control for Highway-Light Rail Transit Grade Crossings

### Supplemental Guidance

- Use of Temporary Traffic Barrier in Work Zones
- Guidelines for the Use of Uniformed Law Enforcement Officers in Work Zones
- Quality Guidelines for Temporary Traffic Control Devices
- Work Zone Safety and Mobility - Procedures and Guidelines
- Interim Approval for Use of Clearview Post

[Old Manual: Only valid for contracts bid specifically requiring this Manual. New contracts, maintenance work, utility work, or any other activities etc. shall use Part 6, Temporary Traffic Control listed above.]
Thanks!

Questions or Comments – Contact:

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