Safety Issues in “Depaving”

2011 Region Local Roads Conference
Rapid City, SD
By
Ken Skorseth
SDLTAP Program Manager
Primary Concerns:

• Safety in Maintenance Operations
• Keeping Good Roadway Shape
• Surface Gravel Quality
Maintenance Operations

Biggest Problems:

- Failure to provide warning
  - Warning lights
  - Warning signs when needed
- Collisions between motor graders and vehicles
- “Excess” windrows
Routine blade maintenance is commonly done in much of the US without warning signs. **Always** have a flashing amber warning light!
Careful with excess windrows without warning signs during routine maintenance operations.
Acceptable in the 1950s – not today
Put signs up when anything more than routine maintenance work is planned!!
Roadway Shape

Primary Concerns:

- Roadway crown
  - Lack of crown
  - Excessive crown
- Rough surface or unsafe driving condition
  - Corrugation (washboard), potholes, high shoulders
- Superelevation in curves
No Crown
Excessive Crown
Corrugation
Bad geometry in curves - superelevation
Excellent example:
Substandard Surface Gravel

Generally two problems will be defined:

- Does not meet state or “standard” specification
  or
- Simple allegation that gravel was not of proper type to provide a safe driving surface
Know your gravel quality
Hard to defend!
Aggregates for granular bases and surfacing shall conform to the requirements of Table 1.

<table>
<thead>
<tr>
<th>REQUIREMENT</th>
<th>Subbase</th>
<th>Gravel Cushion</th>
<th>Aggregate Base Course</th>
<th>Limestone Ledge Rock</th>
<th>Gravel Surfacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIEVE</td>
<td>PERCENT PASSING</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2&quot; (50 mm)</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1&quot; (25.0 mm)</td>
<td>70-100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>3/4&quot; (19.0 mm)</td>
<td>100</td>
<td>80-100</td>
<td>80-100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1/2&quot; (12.5 mm)</td>
<td>68-91</td>
<td>68-90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. 4 (4.75 mm)</td>
<td>30-70</td>
<td>50-75</td>
<td>46-70</td>
<td>42-70</td>
<td>50-78</td>
</tr>
<tr>
<td>No. 8 (2.36 mm)</td>
<td>22-62</td>
<td>38-64</td>
<td>34-58</td>
<td>29-53</td>
<td>37-67</td>
</tr>
<tr>
<td>No. 200 (75 μm)</td>
<td>0.0-15.0</td>
<td>3.0-12.0</td>
<td>3.0-12.0</td>
<td>3.0-12.0</td>
<td>4.0-15.0</td>
</tr>
<tr>
<td>Liquid Limit Max</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Plasticity Index</td>
<td>0-6</td>
<td>0-6</td>
<td>0-6</td>
<td>0-3</td>
<td>4-12</td>
</tr>
<tr>
<td>L.A. Abra. Loss, max.</td>
<td>50</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Foot Notes</td>
<td>2</td>
<td>1,2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Processing Required</td>
<td>crushed</td>
<td>crushed</td>
<td>crushed</td>
<td>crushed</td>
<td>crushed</td>
</tr>
</tbody>
</table>

Know and understand your state’s specification for surface gravel.
Some Final Thoughts:

- Risk is always present on public roads
- You must manage it
- Are all pavements safe?
- Are all unpaved roads dangerous?
Is this a safe road?
Is this a safe road?
Which is worse? This paved surface or
--(see next slide)
The unpaved surface?

Gravel roads can be maintained safely, but material quality, maintenance operations and roadway shape must be understood and managed well.
Good luck!

Stay safe!