Cold Recycled Asphalt Interlayer for Low Traffic Volume PCC Pavement Rehab
Route 4 – Saratoga County

Greg Wichser, P.E.
Regional Capital Program Manager
NYSDOT Region 1 (Capital Region)
Tuesday, November 1, 2022
Region 1

- Essex
- Warren
- Saratoga
- Schenectady
- Albany
- Rensselaer
- Washington
- Greene
Project Location

- Route 4
- Stillwater to Schuylerville
- Saratoga County
Route 4 Condition

- Portland Cement Concrete with Flexible Shoulders
- Year of Last Work - 1957
- Rated a 5 – Poor
  - As far back as 1981
- Severe Faulting
- IRI over 300 (Terrible)
- Grass Growing out of Centerline
- Shoulders Heaved over time, Plowed off, Gravel Shoulders in Spots
- Recurring Flooding
- AADT – 2,300
- Segment 6.4 Miles Long
Pavement Treatment Recommendation

- Major Rehabilitation
  - Crack and Seat with Multi-course Overlay
    - Drainage, Geometry, Roadside Improvements
  - 2R or 3R Design Standards
  - $750,000 - $1,000,000 per Lane Mile
  - $12,800,000 +/- Construction Cost
    - Region 1 Letting Program in 2013 - $100,000,000
Other Challenges to Major Scope

- Project Limits
Other Challenges to Major Scope

- Project Limits
- Saratoga Battlefield
Other Challenges to Major Scope

- Project Limits
- Saratoga Battlefield
- Current Champlain Canal
Other Challenges to Major Scope
Other Challenges to Major Scope

- Project Limits
- Saratoga Battlefield
- Current Champlain Canal
- Former Champlain Canal – Vintage 1820’s
Old Canal - Flooding Issues
What to do?

- Null Alternative?
  - Defacto for Decades

- Major Rehab
  - Riddled with issues

- Single Course Overlay?
  - Life Cycle

- Cold Recycling?
  - Nothing to Recycle
Shopping for Millings

- I-87 Mill and Fill Project
- 2012 Construction

- Schuylerville DOT Yard
- 2.5 Miles from Route 4 Segment

- ~20 Miles Haul

- 36,000 Tons
Portable Batch Plant
Portable Batch Plant
Cold Recycle Mix Paving
Cold Recycle Mix Paving
Construction Issues

- Travel Time
  - Workability – Dragging
- Stability
  - Unconfined Edge
  - 4” Single Lift – Too Thick
- Cross Slope
Construction Issues

- Travel Time
  - Workability – Dragging
- Stability
  - Unconfined Edge
  - 4” Single Lift –
    - Too Thick
  - Cross Slope
- Pavement Width
  - 20’ Lane + Shoulder
Going Smoothly

- Until....
Post Construction

- $2,250,000 Cost
- $175,000/LM
Post Construction

- Pavement Score
- Rideability Improvement

<table>
<thead>
<tr>
<th>IRI Scale (in/mi)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 60</td>
<td>Very Smooth</td>
</tr>
<tr>
<td>61 – 120</td>
<td>Smooth</td>
</tr>
<tr>
<td>121 – 170</td>
<td>Fair</td>
</tr>
<tr>
<td>171 – 220</td>
<td>Rough</td>
</tr>
<tr>
<td>≥ 220</td>
<td>Very Rough</td>
</tr>
</tbody>
</table>
Post Construction

- Pavement Score
- Rideability Improvement

<table>
<thead>
<tr>
<th>IRI Scale (in/mi)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 60</td>
<td>Very Smooth</td>
</tr>
<tr>
<td>61 – 120</td>
<td>Smooth</td>
</tr>
<tr>
<td>121 – 170</td>
<td>Fair</td>
</tr>
<tr>
<td>171 – 220</td>
<td>Rough</td>
</tr>
<tr>
<td>≥ 220</td>
<td>Very Rough</td>
</tr>
</tbody>
</table>
9 Years Later

- Rated 7 (Good)
- IRI 100-120
Questions

Greg Wichser
Greg.Wichser@dot.ny.gov
518-485-7324