11th Arizona Pavements/Materials Conference

November 19 - 20, 2014
Arizona State University
Tempe Arizona
Session 4: Pavement Preservation

Multi Layered Pavement Preservation Systems

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Considerations

- Pavement Condition
- Pre-maintenance Activity (If Any)
- Scrub Seal Type
- Chip Seal Type (Binder? Application Rate?)
  Aggregate Gradation (Pre Coat?)
- Slurry or Micro
- Overlay Type
- Climate (Binder Grading)
- Traffic (Amount, Trucks?)
- Performance Expectations
- Budget Issues
Considerations Continued

- Initial Cost vs. Life Cycle Cost
- Individual Project Variables
- Construction Conditions
- Other Alternatives?
- Limitations
- Are you Reactive or Proactive?
Candidate for Multi Layer?
Good  To  Very Bad
Candidate for Multi Layer?
Candidate for Multi Layer?
Mandatory Pre-Maintenance
Scrub Seal/Chip Seal
Cape Seal
Three Layer Cape Seal
Two Layer Overlay System

Better Known as “SAMI”
Other Multi Layer Usage
Dirt Road/Prepared Base Chip Seal Applications
Double Emulsion Chip Seal
Hot Applied Chip Seal
Scrub Seal/Chip Seal
Before – August 2004
After – December 2011 (7 Years)
7 Years of Performance, Now 10
5 Years of Performance, Now 10
Double Chip Seal
Before – June 2006
After – March 2010 (4 years)
4 Years of Performance, Now 8 Years
Double Chip Seal

Extreme Phase Construction
Asphalt Rubber Chip Seal – Circa 1998 (16 Years Old)
Performance Expectations?
Another 16 Years?
Triple Cape Seal
After – March 2013 (8 Years)
8 Years of Performance, Now 10 Years
Two Layer Overlay System
Before – September 2008
After – January 2013 (5 years)
5 Years of Performance, Nearly 7 Years
Sometimes We Try To Fix The Impossible!
Will This Work?
Not so Well! Performance After 4 Years
What About a Pavement Condition Matrix? For Arizona?
<table>
<thead>
<tr>
<th>Pavement Condition Range</th>
<th>Qualified Treatments</th>
<th>Cost Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 - 90</td>
<td>Various Fog Seal Applications</td>
<td>$0.50 - $0.75 Per Square Yard</td>
</tr>
<tr>
<td>90 – 70</td>
<td>Crack Seal/Patching/Scrub Seal Various Fog Seal Applications Slurry Seal/Micro Surface</td>
<td>$0.50 - $2.00 Per Square Yard $0.50 - $0.75 Per Square Yard $1.50 - $3.75 Per Square Yard</td>
</tr>
<tr>
<td>70 - 50</td>
<td>Crack Seal/Patching/Scrub Seal Slurry Seal/Micro Surface PMRE/CRS-2P Chip Seal PG-TR Chip Seal Cape Seal (Various) Double Chip Seal (Various) Conventional Overlay</td>
<td>$0.50 - $2.00 Per Square Yard $1.50 - $3.75 Per Square Yard $1.75 - $3.00 Per Square Yard $2.25 - $3.25 Per Square Yard $4.00 - $6.00 Per Square Yard $4.00 - $7.50 Per Square Yard $6.00 - $10.00 Per Square Yard</td>
</tr>
<tr>
<td>50 - 30</td>
<td>Crack Seal/Patching/Scrub Seal Asphalt Rubber Chip/Cape Seal Double Chip Seal (Various) Hot in Place Recycling/Seal Three Layer Cape Seal (Various) SAMI/Rubber Modified Overlay Mill and Fill</td>
<td>$0.50 - $2.00 Per Square Yard $3.75 - $7.00 Per Square Yard $4.00 - $7.50 Per Square Yard $6.00 - $12.00 Per Square Yard $8.00 - $12.00 Per Square Yard $8.00 - $12.00 Per Square Yard $12.00 - $20.00 Per Square Yard</td>
</tr>
<tr>
<td>30 - 0</td>
<td>Crack Seal/Patching/Scrub Seal SAMI/Rubber Modified Overlay Cold in Place Recycling/Seal Reconstruction</td>
<td>$0.50 - $2.00 Per Square Yard $12.00 - $14.00 Per Square Yard $12.00 - $20.00 Per Square Yard $45.00 - $75.00 Per Square Yard</td>
</tr>
</tbody>
</table>
Any Questions?

Let’s Have Lunch!