Before we start...

and being from Eastern PA

Shout out...
Now, Let's talk pavement preservation...
The first question is: Preservation or Rehab?

• Why do we choose rehab vs preservation treatments?
  • Familiarity?
  • Ease of bidding?
  • Constituents want "their street done"
  • Pressure from local contractors?
  • "That’s what we always do.."?

• What if we could help change the mindset by:
  • Showing the value of preservation
  • Show products that work through data and studies
  • Build trust (in us, yes... contractors, and our products)
  • Show added value by combining technologies for more benefit
How do/have we show(n) the value?

Condition (or $ needed)

Original Pavement

Optimal Timing

Preventive Trigger

Rehabilitation Trigger

THE CURVE of course...
Then what do we do? Tell the story in pictures...

Pavement Preservation - What it IS

Chip Seal

Fog Seal

Keep the good roads good
PAVEMENT PRESERVATION Philosophy

Right Treatment

Right Pavement

Right Time
Then we tell you what not to do, right?

Pavement Preservation? NOT
Change the approach...

• Help you, the engineers, public works directors, and maintenance workers tell the story you need to tell...

• To your:
  • Board of Supervisors
  • County Supervisors
  • City Councils
  • City Controllers
  • And most importantly,
  • Your local residents
Show the value, communicate it, and sell it to your constituents...

• But how do we do that??
The City of NOTTOBENAMED, CA had ~300 lane miles of road and a $1.5M budget for:

- pavement reconstruction & rehab
- maintenance

**Typical Breakdown**

- $1M for reconstruction and rehab
- $500K for maintenance
What did they get for their dollars?

Reconstruction ~ $35.00 per yd$^2$

(4” mill and fill with HMA)

- $1\text{M}$ ÷ $35/\text{yd}^2 = \sim 28.6\text{K yd}^2$ or 4.05 LM

Cost of maintenance ~ $4$ per yd$^2$

(Scrub seal with micro surfacing finish (ie: cape seal))

- $500\text{K}$ ÷ $4/\text{yd}^2 = 125\text{K yd}^2$ or 17.8 LN

Results: 21.85 LM repaired per yr.

$300\text{ LM} / 21.85\text{ LM/YR} = \sim 14\text{ Yr Roadway Cycle}$
SAME $1.5M “Preserve vs Rehab”
Different approach – vastly different results

$1M for Preservation - $500M for Pave & Rehab

Pave and Rehab
$500K ÷ $35/yd² = 14,286 yd² = 2.02 LN Mi

Cost of maintenance ~ $4.00 per yd²
$1M ÷ $4/yd² = 250K yd² = 35.5 LN Mi

Results = 37.5 LM Preserved

300 LM/ 37.5 LM/YR = 8 Year Road Maintenance Cycle
You have the tools...
Show the value through data and studies.

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</table>
Engineers and politicians like data from outside sources:

- NCAT Test Track
- Western Regional Association for Pavement Preservation (WRAPP)
- Chico State Pavement Preservation Association
- In CA,
  - Caltrans Maintenance Technical Advisory Guide
Pavement Preservation on Lee Road 159

1. Rejuvenating Fog Seal
2. Fibermat
3. Control
4. Control
5. Crack Seal (CS)
6. Single Layer Chip Seal
7. CS + Single Layer Chip Seal
8. Triple Layer Chip Seal
9. Double Layer Chip Seal
10. Microsurfacing + Single Chip (Cape)
11. Microsurfacing
12. CS + Microsurfacing
13. Double Layer Microsurfacing
14. Fibermat + Microsurfacing (Cape)
15. Scrub Seal + Microsurfacing (Cape)
16. Scrub Seal
17. Distress Demo Section
18. Fibermat + HMA thinlay (HMA Cape)
19. HMA Thinlay (PG 67-22)
20. HMA + 100% Foamed Recycle Inlay
21. HMA Thinlay (PG 76-22)
22. Ultra Thin Bonded Wearing Course
23. HMA Thinlay (50% RAP)
24. HMA Thinlay (5% PCRAS)
25. HMA Thinlay (High Polymer)
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Note 1: Usually limited to shoulders, low volume roads and parking areas.

Note 2: Generally used on shoulders, parking areas and locations where less aggressive surface is desired.

Note 3: Use of Pass Rejuvenating Seal Under evaluation. Please consider other PME strategy at this time.

Note 4: Use of Pass Rejuvenating Seal Under evaluation. Please consider other PME strategy at this time.
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### Preventive Treatment

#### Slurry Seals

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#### Microsurfacing

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<th>P</th>
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#### Chip Seal

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</tbody>
</table>

Note: 1. Generally used on shoulders, parking areas and locations where less aggressive surface is desired.

Note: 2. Generally used on shoulders, parking areas and locations where less aggressive surface is desired.

Note: 3. Effective when proper Prep Work has been performed.


Note: 5. (See Note 5)
And so we finally arrive at multi-lift treatments.
Comparison – Chip vs double chip
Cape Seal Comparison
Multi-Layer candidate or rehabilitation?
Combinations for more value and more benefits.

Example 1: Hot Applied Binder Chip Seal...

Seals, wearing surface, long term preservation...
Step 6. Combinations for more benefits.

...combined with micro surfacing

and the finish product provides smooth ride and extended pavement life

“Johnny can rollerblade.”
Example 2: Type III micro surface...

Improves ride
Fixes surface deficiencies
Rut fill capable
...combined with Type II micro surface...

Finish surface
Smooth ride
Quick Application
Night time possible
Example 3:
- Micro
- Chip
- Slurry

Seals, wearing surface, long term preservation
Recap

• Step 1. Show the value of preservation to help them sell it
• Step 2. Show products work through data and studies
• Step 3. Build trust and confidence in the products
• Step 4. Show added value by combining technologies for more benefit

All of these things will help you communicate the value of pavement maintenance and preservation products.
Contributions and Tools

- NCHRP Report 742
  Communicating the Value of Preservation: A Playbook

- Caltrans Maintenance Technical Advisory Guide

- Metropolitan Transportation Commission - Street Pavement Condition Index