State Report – Maryland 2023 National Pavement Preservation Conference

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MARYLAND DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ADMINISTRATION





- Paving and pavement preservation overview
- Common treatments
 - What works
 - What doesn't work
 - Anything unique to share



Paving & Preservation Overview

Lane-Miles Done/Projected	2019	2020	2021	2022
Chip Seal	0	50	20	1
Crack Seal	535	840	390	215
Micro Surfacing	65	110	45	35
Patching	400	370	405	180
Thin Asphalt Resurfacing	55	25	20	2
"Normal" Asphalt Resurfacing	680	485	475	355



Common Pavement Preservation Techniques

- Micro Surfacing
- Crack Seal
- Patch-Only
- Surface Abrasion
- Thin Overlays



Common Pavement Preservation <u>Techniques – Micro Surfacing</u>

- At first, had MOT issues when used in congested areas and in front of schools. Districts assumed "standard" paving MOT would apply.
- **Now**, adjusted to the fact that it is fast-moving and contractors want long sections.
- **Now**, no longer considered innovative; it is a reliable tool in the toolbox.
- Successfully used on Interstate 70.



Common Pavement Preservation <u>Techniques – Crack Seal</u>

• At first, had issues with project selection:



• **Now**, appropriately applied and providing tremendous value. Proactively sealing construction joints. Gained momentum with the districts.



Common Pavement Preservation <u>Techniques – Patch-Only</u>

• At first, never patched without subsequently resurfacing.

• **Now**, we have patch-only areawide contracts, to surgically preserve roads that otherwise don't need resurfacing.



Common Pavement Preservation Techniques – Patch-Only

• Unique use (to us, at least): 2' wide continuous patches at failed construction joints.





Common Pavement Preservation <u>Techniques – Surface Abrasion</u>

- What works: This is a fast operation, with minimal MOT impacts.
 - Gaining momentum: Statewide Friction Contract
 - Used on I-95 Capital Beltway (Washington D.C.)
 - <u>https://www.nbcwashington.com/news/local/beltway-surface-abrasion-underway-to-prevent-accidents/2584285/</u>
- What doesn't work: Districts still have too-high expectations for life expectancy. It depends on the existing aggregate.



Common Pavement Preservation Techniques – Thin Overlays

• What works:

- UTBWC has great non-snow performance and still looks new after many years.
- HPTO showing promise. Districts want to use more.

• What doesn't work:

- UTBWC requires much more treatment during winter storms. But only in some locations. Treatment falling out of favorrequires specialized equipment. Increasing cost/bids.
- OGFC has a negative perception.
- 4.75mm Superpave does not stay bonded.



Ancillary Work (bike/ped, stormwater, etc.)

- Currently using preservation treatment only
 - If pipes or traffic barrier needs to be upgraded, the road will be done as a resurfacing project instead.
- Basically, ancillary work isn't done with preservation.



Use of Technology

- Fully integrated into Pavement Management System
 - Optimization output provides specific treatment for specific roadway section.
- Implementing Friction Demand
 - Geometry collected from ARAN allows us to calculate friction demand at project-level





Questions?













Standing (L-R): Joe Malheiro, Kelvin Moulden, Chris Porter, Shayan Safavizadeh, Kalkidan Dilbo, Luis Vazquez-Pacheco, Hector Figueroa, Celine Kalembo, Paulo DeSousa, Aditya Ramachandran, Roberto Bárcena, Salar Zabihi, Michael Molyneaux-Francis, Kevin Sze, Bing Xu, Dessalegn Nureta Sitting (L-R): Daniel Woldehanna, Vijay Emani, Garumma Gemeda, Shovon Chowdhury, Erwin Assie, Praveen Desaraju, Geoff Hall, Khairuddin Farhad, Mark Chapman Not Pictured, Renju George, Alis Mouradyan, Marrion Adelodun