

Shakopee Pavement Preservation

Proactive Asphalt Rejuvenation Approach



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Current Pavement Management Approach

- Year 0 -----Initial Construction
- Year 1 -----Crack Seal
- Year 2 -----Pavement Chip Seal Coat
- Year 10 -----2nd Chip Seal Coat
- Year 20 -----Pavement Overlay
- Year 22 -----Crack Seal/Chip Seal Coat
- Year 30 -----Pavement Rehabilitation/Patching
- Years 35-40---Full Reconstruction

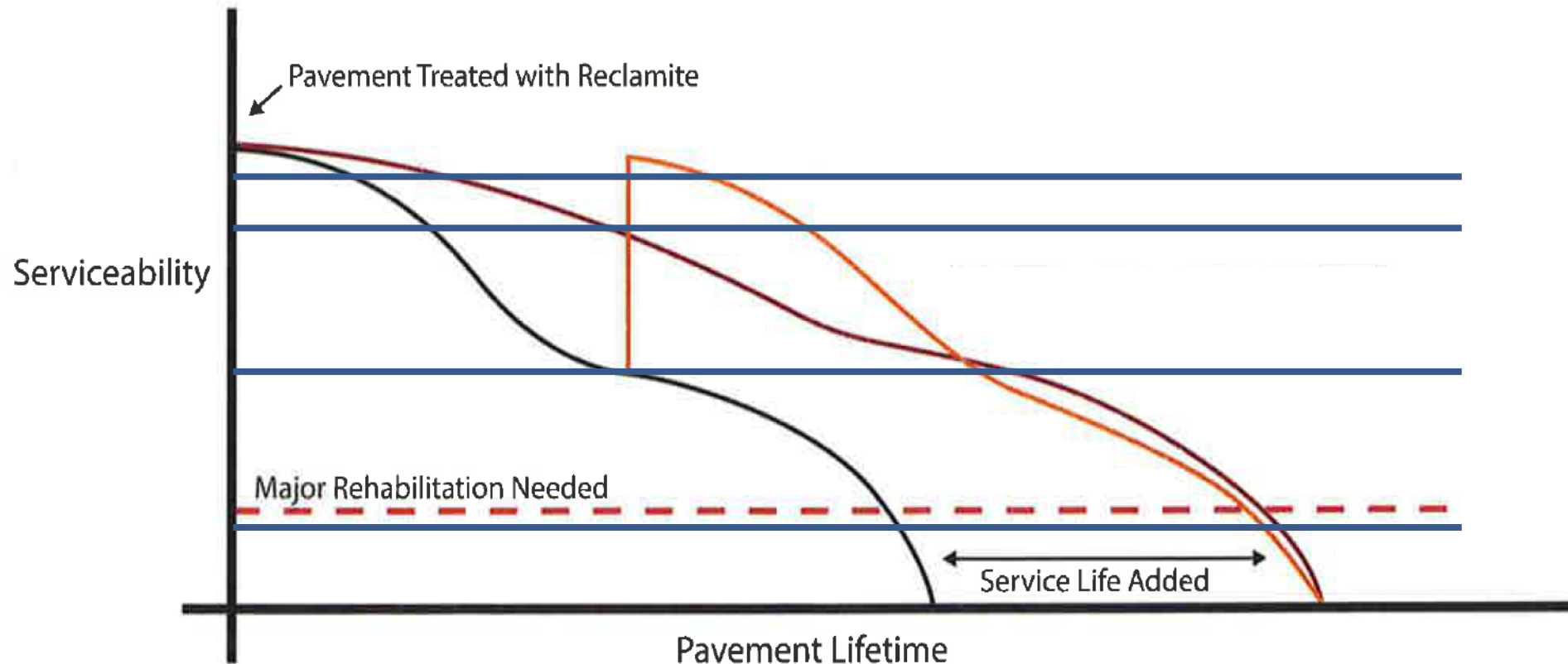


Cost of Maintenance

Maintenance Type	Cost per Square Foot of Pavement
Crack Sealing	\$0.09
Chip Seal Coat	\$0.16
Pavement Rehabilitation	\$0.45
Pavement Overlay	\$2.45
Reconstruction	\$10.28



Why Pavement Management Matters



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Asphalt Pavement Components

Binder	Aggregates
5% of Asphalt	95% of Asphalt
Comprised of Asphaltenes and Maltenes – glue that holds it together	Rock and sand
Gives pavement flexibility, fluidity and adhesive properties	Gives pavement strength



Pavement Deterioration

Underlying soils and binder deterioration

- Binder deterioration caused by Maltene loss through:
Oxidation – Exposure to Natural Environment
High Temperature Asphalt Production Process
- This results in cracking/hardening of pavement (more brittle)



Pavement Rejuvenation - Reclamite

- Top of the curve application – new pavements
- Penetrates, seals and preserves the surface
- Restores reactive components (maltenes) lost from oxidation and pavement production
- Prevents air and moisture intrusion and maintains pavement durability/flexibility
- Adds 5-7 years of service life



Pavement Rejuvenation - Reclamite



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Cost of Comparison

Maintenance Type	Cost per Square Foot of Pavement
Crack Sealing	\$0.09
RECLAMITE	\$0.12
Chip Seal Coat	\$0.16
Pavement Rehabilitation	\$0.45
Pavement Overlay	\$2.45
Reconstruction	\$10.28

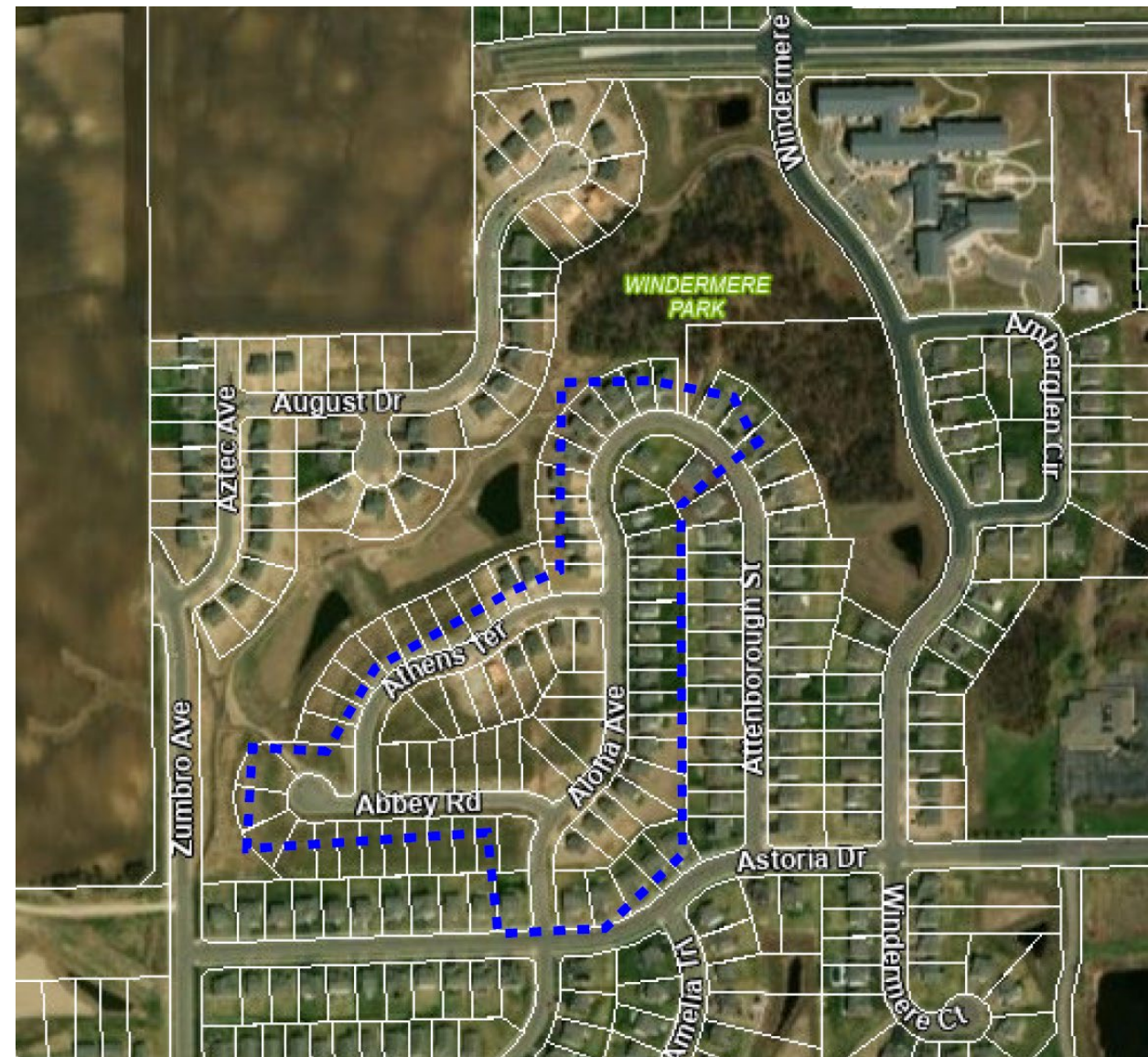


Next Steps and Recommendations

- Install Reclamite in 2024 in select areas – Canterbury Park Roadways/Windermere South 4th Addition
- 2024 application funded by annual seal coat budget
- Review long-term budget impacts and pavement condition projections with including Reclamite in Pavement Management Approach (replacing seal coat)



2024 Recommendations



Questions?



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