

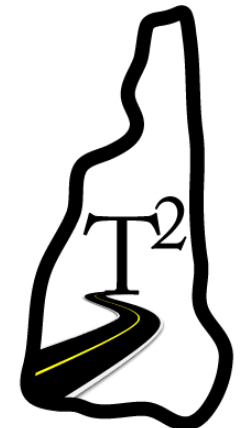
Newport, NH Paved Road Surface Maintenance Strategy (2021-2030)

Alex Belenz, Planner
Upper Valley Lake Sunapee
Regional Planning
Commission



- Lower-cost option for road assessment
- Focused on locally-owned, paved roads

The Process (statewide protocol developed by NHDOT & UNH):



New Hampshire
Technology Transfer Center



1. Field Assessment

- “Windshield assessment”
- Rate the severity and extent of 8 defects
- Work with town staff to QA/QC results and identify frost heave areas



Statewide Asset Data Exchange System (SADES)



Road Surface Management System (RSMS) Assessment Guide

Partnership with

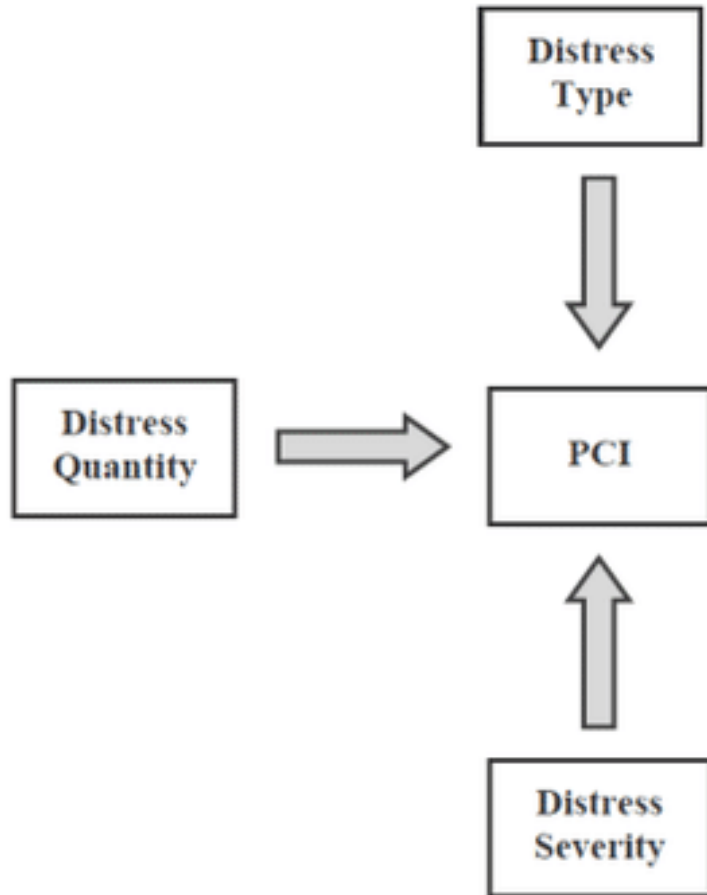
NH Department of Transportation
NH Regional Planning Commissions
UNH Technology Transfer Center

SADES RSMS – Version 3.0



2. Pavement Condition Analysis

Use assessment results to estimate Pavement Condition Index (PCI) for every 1/4 mile segment of road. PCI helps inform maintenance strategies.

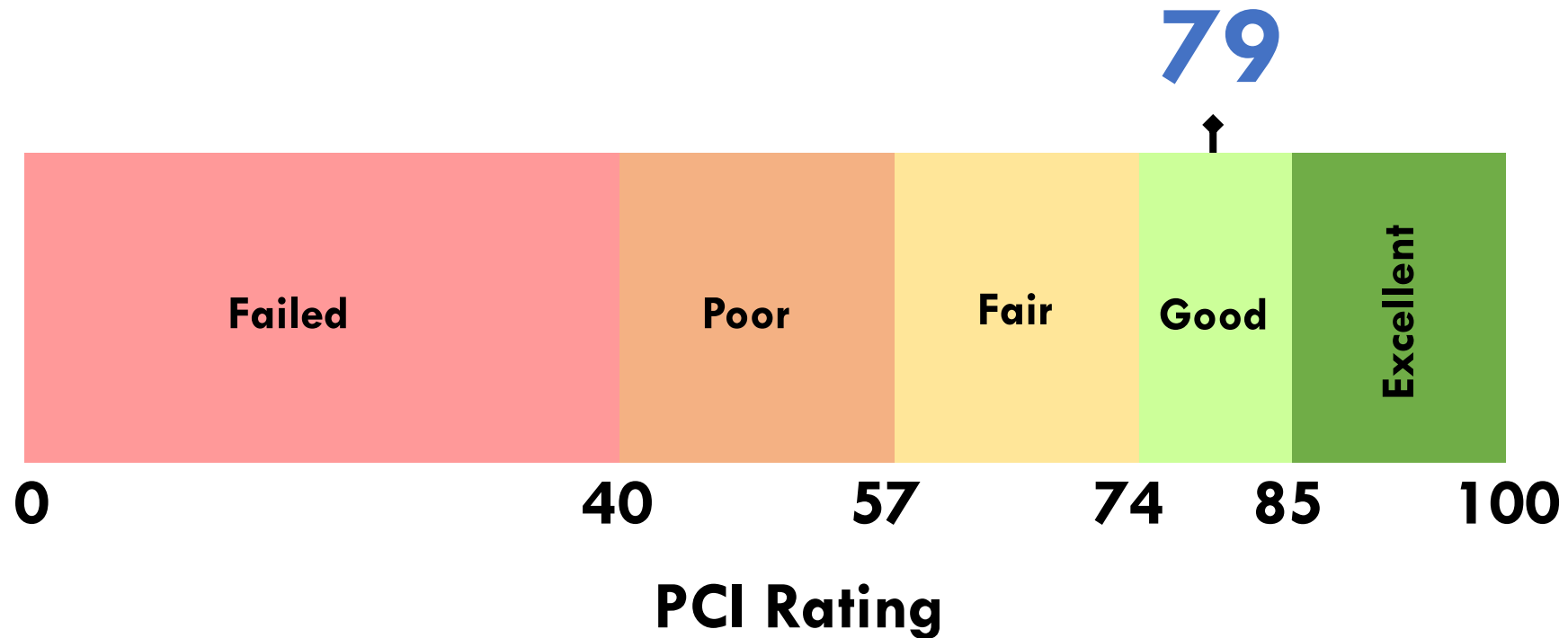


PCI Category	PCI Range	Road Maintenance Strategy
Excellent	86 - 100	Corrective maintenance; deferred maintenance
Good	75 - 85	Preventative maintenance
Fair	58 - 74	Resurfacing
Poor	41 - 57	Rehabilitation
Failed	0 - 40	Reclamation/Reconstruction



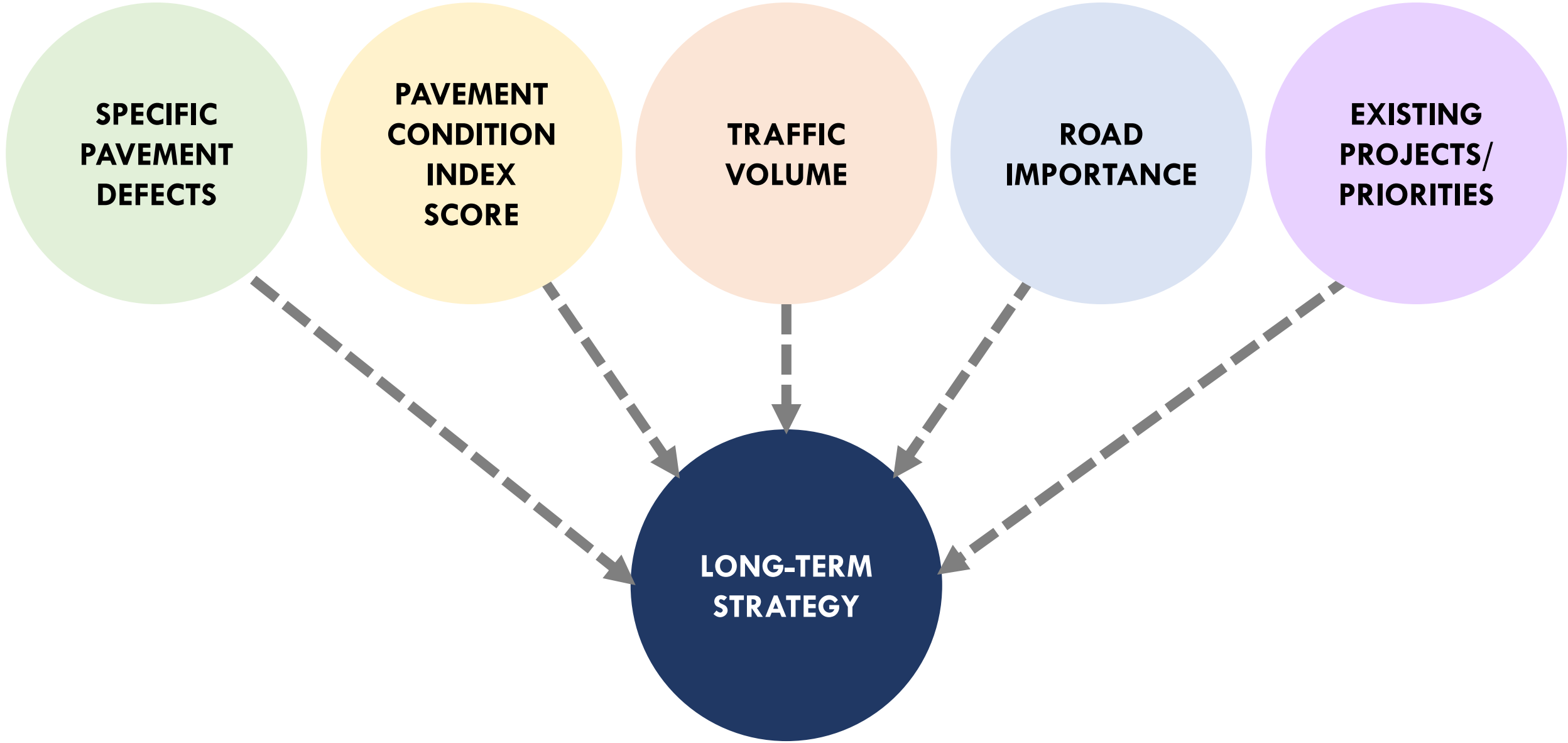
2. Pavement Condition Analysis

Average PCI – Newport NH (Fall 2020):





3. Develop Long-Term Maintenance Strategy





3. Develop Long-Term Maintenance Strategy

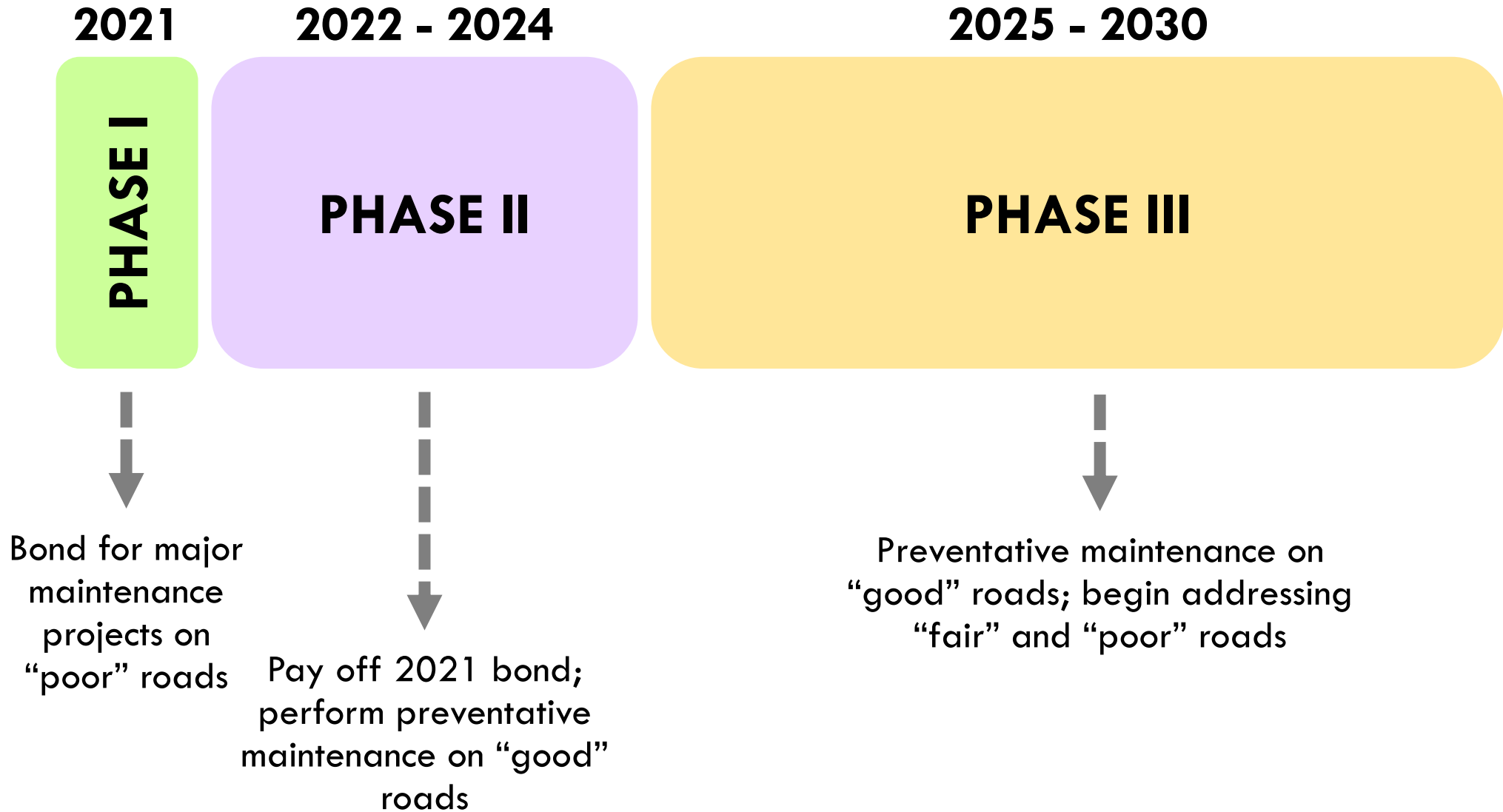
OVERARCHING STRATEGIES:

1. Keep “good” roads “good”
2. Get “fair”, “poor”, & “failed” roads in to “good” condition – and keep them “good”





3. Develop Long-Term Maintenance Strategy





3. Develop Long-Term Maintenance Strategy

Phase I: Reclaim/pave Barton Whitney Rd, Blueberry Ridge Rd, Breakneck Rd. Paving/drainage work on Laurel St. Reclaim/grade Paradise Rd.

Phase II: Preventative maintenance on “good” roads (PCI > 75); pay off 2021 bond.

Phase III: Preventative maintenance on “good” roads; begin addressing “fair” and “poor” roads.

Year	2021	2022	2023	2024	2025
Average PCI After Repairs	79.22	77.76	77.27	76.81	78.51
Total Miles Treated	6.20	7.80	7.24	9.45	8.86
Total Estimated Repair Cost*	\$922,654	\$48,930	\$49,070	\$50,623	\$300,971

Phase III (cont'd): Preventative maintenance on “good” roads; continue addressing “fair” and “poor” roads.

Year	2026	2027	2028	2029	2030
Average PCI After Repairs	78.38	80.86	81.29	81.86	82.66
Total Miles Treated	8.58	11.70	8.07	9.01	11.25
Total Estimated Repair Cost*	\$355,893	\$326,115	\$340,023	\$386,126	\$322,569

***Costs factor in 2.8 annual inflation**



Repair Strategies & Costs by Year

Repair Category	Repair	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Pavement Preservation (good roads)	Chip Seal	\$0	\$0	\$0	\$0	\$54,015	\$51,699	\$0	\$0	\$0	\$18,571
	Crack Seal	\$1,274	\$37,848	\$37,218	\$50,623	\$27,070	\$38,215	\$47,114	\$42,279	\$48,398	\$57,388
	Sand Seal	\$0	\$11,082	\$1,352	\$0	\$0	\$0	\$12,972	\$1,582	\$0	\$0
	Isolated Patch and HMA Shim	\$0	\$0	\$10,501	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Overlay (fair roads)	1 1/4" Wearing	\$45,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	3/4" Shim	\$35,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	HMA Overlay (1")	\$0	\$0	\$0	\$0	\$48,687	\$0	\$109,940	\$0	\$0	\$54,877
	HMA Overlay (1.5")	\$8,263	\$0	\$0	\$0	\$0	\$0	\$7,351	\$0	\$0	\$0
	HMA Overlay (2")	\$0	\$0	\$0	\$0	\$10,778	\$0	\$0	\$0	\$0	\$0
Rehabilitation (fair/poor roads)	Milling / HMA (1.5")	\$0	\$0	\$0	\$0	\$160,422	\$12,332	\$148,739	\$35,315	\$53,448	\$135,600
Reclamation & Reconstruction (poor/failed roads)	FDR & HMA (4")	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$56,133
	FDR w/ Asphalt Stabilization and HMA (3")	\$793,118	\$0	\$0	\$0	\$0	\$0	\$0	\$260,846	\$284,280	\$0
	Grind/Gravel	\$40,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Grind/ Gravel/ Drainage and 3" Base Pave	\$0	\$0	\$0	\$0	\$0	\$253,647	\$0	\$0	\$0	\$0
	Total Est. Cost*	\$922,654	\$48,930	\$49,070	\$50,623	\$300,971	\$355,893	\$326,115	\$340,023	\$386,126	\$322,569



3. Develop Long-Term Maintenance Strategy

MAJOR PROJECTS INCLUDED IN 10-YEAR STRATEGY:

2021: Reclaim/repave Barton Whitney Rd, Blueberry Ridge Rd, and Breakneck Rd; reclaim/grade Paradise Rd

2025: Mill/overlay Beech St, Spruce St, Balsam Ave, Linden Ave, Hatch, Dexter, Whitney, Cheney St, Lincoln Terrace, Sandy Ln

2026: Reconstruct Maple St between Main St and Bradford Rd in 2026 (coincide with water/sewer/sidewalk upgrade); Overlay paving in Elaine St neighborhood

2027: Mill/overlay Airport Rd

2028: Reclaim/repave Witcher Rd

2029: Reclaim/repave paved section of Springfield Rd

2030: Mill/overlay Fletcher Rd and Rowel Rd; reclaim/repave Hale Rd