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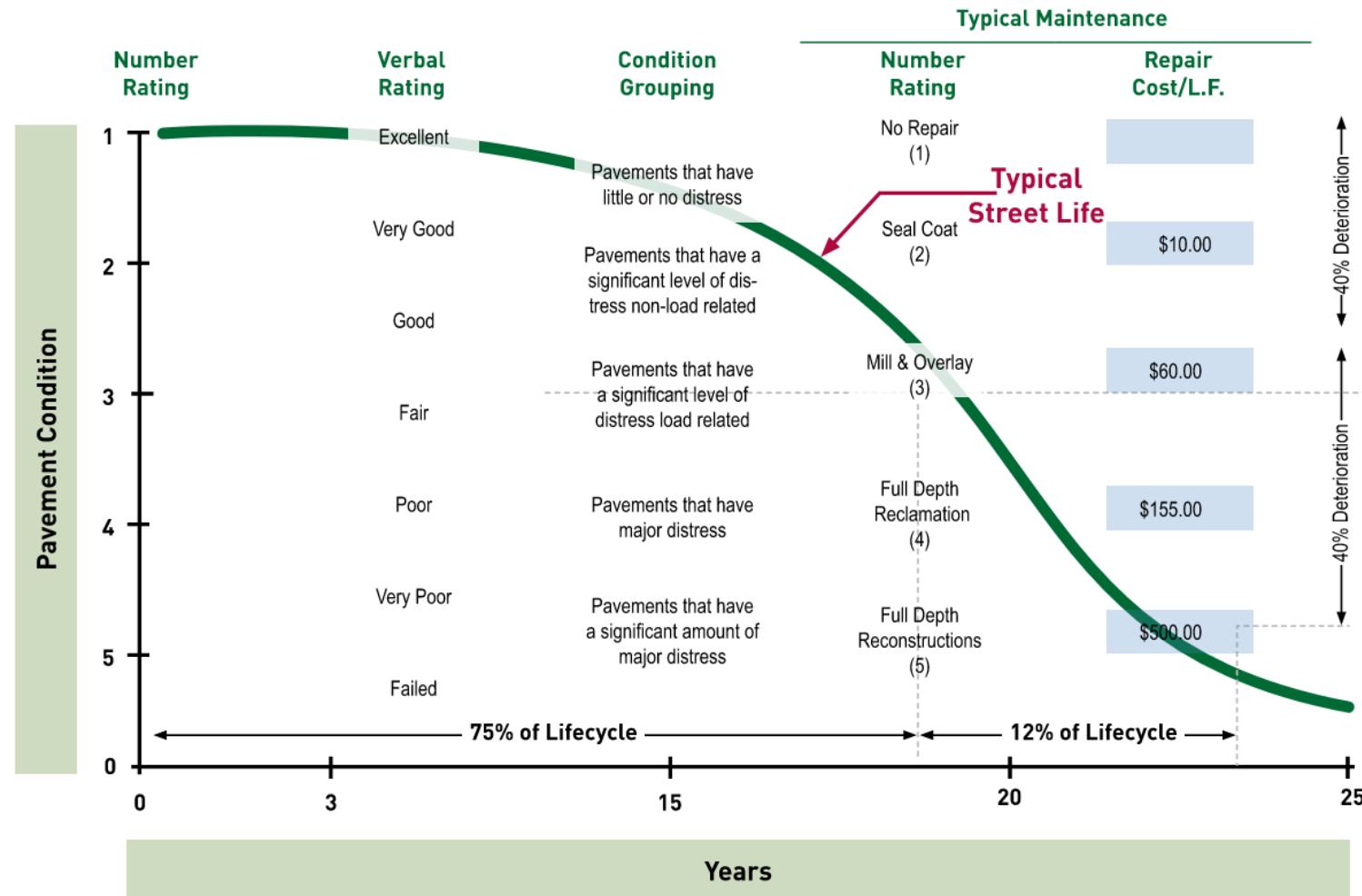
Pavement Management Plan - System Condition Summary

November 21, 2022

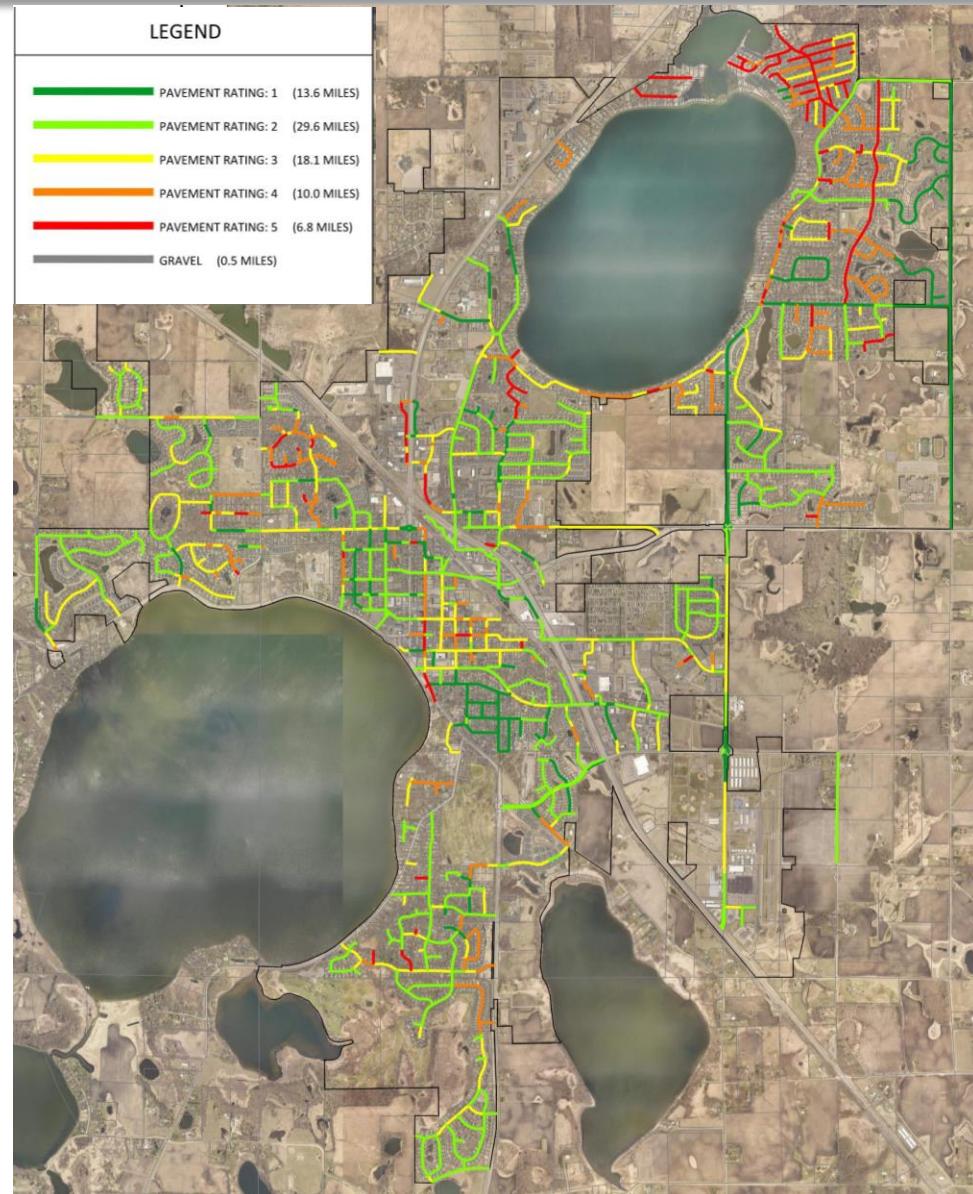
Justin Kannas, P.E.
City Engineer

Typical Pavement Life Cycle

Typical Pavement Lifecycle

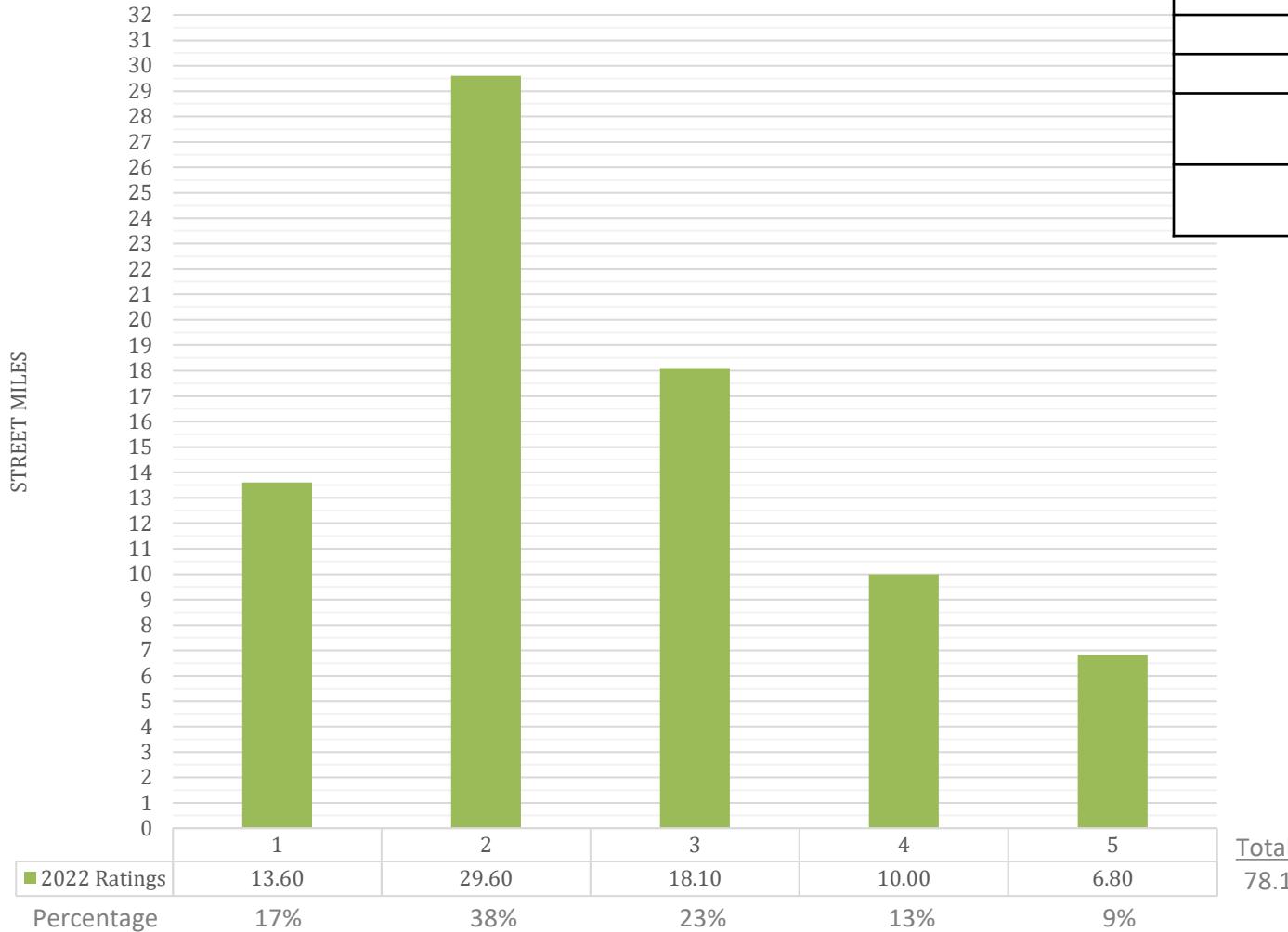


2022 Pavement Rating Map



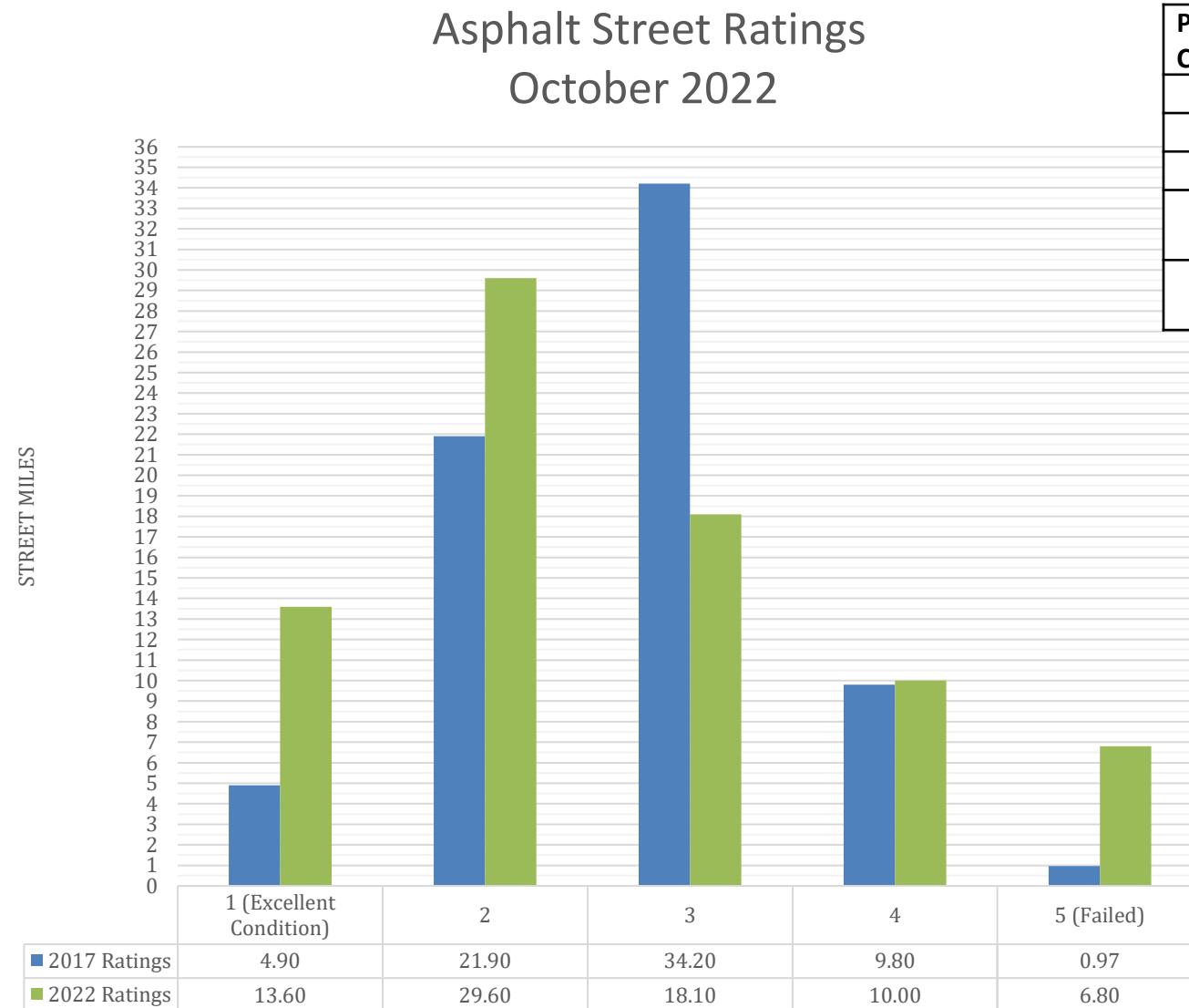
Asphalt Street Ratings - 2022

Asphalt Street Ratings October 2022



Pavement Rating Condition	Typical Recommended Maintenance
1	Adequate, Seal Coat Soon
2	Seal Coat
3	Seal Coat or Mill & Overlay
4	Mill & Overlay or Full Depth Pavement Replacement
5	Full Depth Pavement Replacement or Reconstruction

Asphalt Street Ratings – 2017 vs. 2022



Pavement Rating Condition	Typical Recommended Maintenance
1	Adequate, Seal Coat Soon
2	Seal Coat
3	Seal Coat or Mill & Overlay
4	Mill & Overlay or Full Depth Pavement Replacement
5	Full Depth Pavement Replacement or Reconstruction

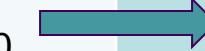
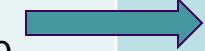
Overall Ratings:

- 2017 = 2.72
- 2022 = 2.57
- 2022 (with new roads since 2017 removed) = 2.68

Pavement Projects Completed (2017 thru 2022)

2017 Street Maintenance	\$ 865,000
2018 Street Maintenance	\$ 500,000
2019 Street Maintenance	\$ 950,000
2020 Street Maintenance	\$ 705,000
2021 Street Maintenance	\$ 450,000
2022 Street Maintenance	\$ 380,000
*SE Phase 3 (2nd St. S., 3rd Ave. S.)	\$ 340,000
*Douglas Drive	\$ 465,000
*Dague Ave / 30th St.	\$ 1,830,000
Total Over 6 Years	\$ 6,485,000
Average per Year	\$ 1,080,833
* Costs are for full depth pavement only	

Maintenance Cost by Rating

Rating	Paved Miles	Maintenance Treatment	Cost per Mile	Total Cost	Total Cost (Full Depth Pavement)
1	13.60	None		\$ -	
2	29.60	Sealcoat	\$52,800	\$1,562,880 	
3	18.10	Mill & Overlay	\$316,800	\$5,734,080	\$14,813,040
4	10.00	Mill & Overlay	\$316,800	\$3,168,000	\$8,184,000
5	6.80	Full Depth Pavement	\$818,400	\$5,565,120 	
Total	78.10			\$16,030,080	\$30,125,040

These are total costs to instantaneously bring the entire system to a rating of 1. This is not feasible or recommended but rather these costs are intended to provide a level of understanding of the magnitude of costs associated with future needs.

Typical Pavement Life Cycle & Costs

Pavement Age (Years)	Maintenance Activity
0	New Full Depth Pavement
5	Sealcoat
12	Sealcoat
20	Mill and Overlay
25	Sealcoat
35	Full Depth Reclaim and Overlay

Sealcoat Annual Maintenance Costs:		
<i>Total Length (Miles) * (3/35):</i>		6.69
<i>2022 Dollars/Mile:</i>		\$52,800
Annual Maintenance Cost (2022):		
		\$354,000
Mill & Overlay Annual Maintenance Costs:		
<i>Total Length (Miles) * (1/35):</i>		2.23
<i>2022 Dollars/Mile:</i>		\$316,800
Annual Maintenance Cost (2022):		
		\$707,000
Reclamation Annual Maintenance Costs:		
<i>Total Length (Miles) * (1/35):</i>		2.23
<i>2022 Dollars/Mile:</i>		\$818,400
Annual Maintenance Cost (2022):		
		\$1,824,000
TOTAL ANNUAL MAINTENANCE COSTS:		
Total Annual Maintenance Cost (2022):		
		\$2,885,000

Does not include street or utility reconstruction needs

Next Steps

- **Determine Funding Sources and Amounts (Future Workshop):**
 - Franchise Fees
 - Levy
 - Municipal State Aid
 - Other
- **Sewer and Water Condition Evaluation**
 - Overlay with Pavement Condition
 - Used to Guide Appropriate Pavement Maintenance Treatment and Timing
- **Proposed Pavement Improvement Plan (Tentative 10 Year Plan)**
 - Use Above Info to Develop Achievable Plan