

Pavement Management System

City of North Mankato

2019 Report Update

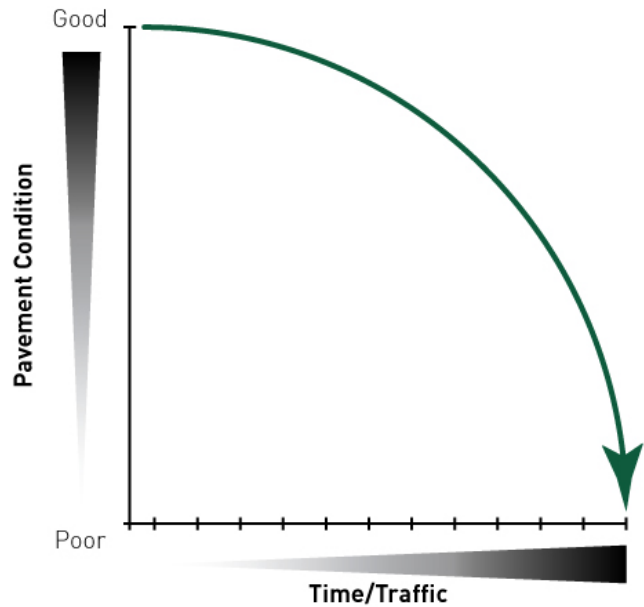
Background

- Original report and review in 2014
 - Implementation of the mill and overlay program
 - Continued pavement preservation methods
- Goal of Pavement Management Report:
 - Provide a snapshot in time of the system to assist staff & council in understanding system conditions
 - Provide information to assist City Council in making decisions regarding pavement maintenance/preservation
 - Provide recommendations regarding required investments to effectively maintain/preserve pavements
- Report details pavement preservation recommendations and reconstruct recommendations

Lifecycle of Pavement

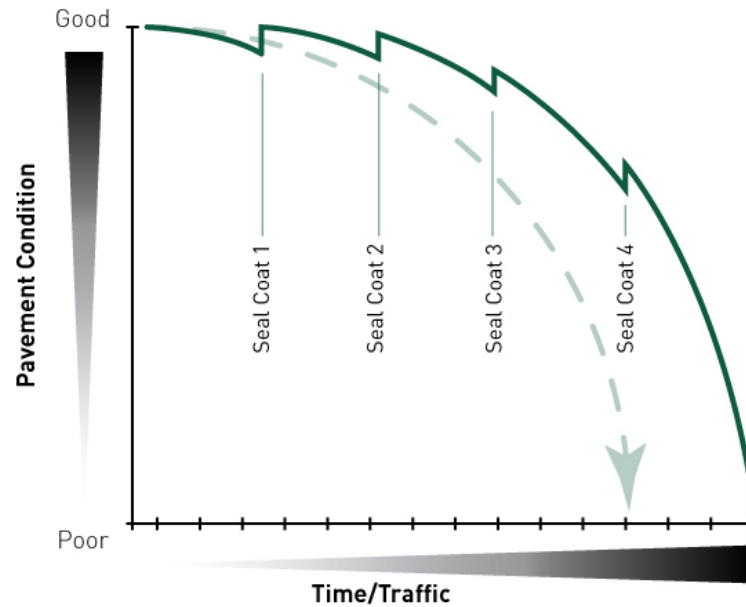
Typical Pavement Lifecycle

No Seal Coating or Overlay



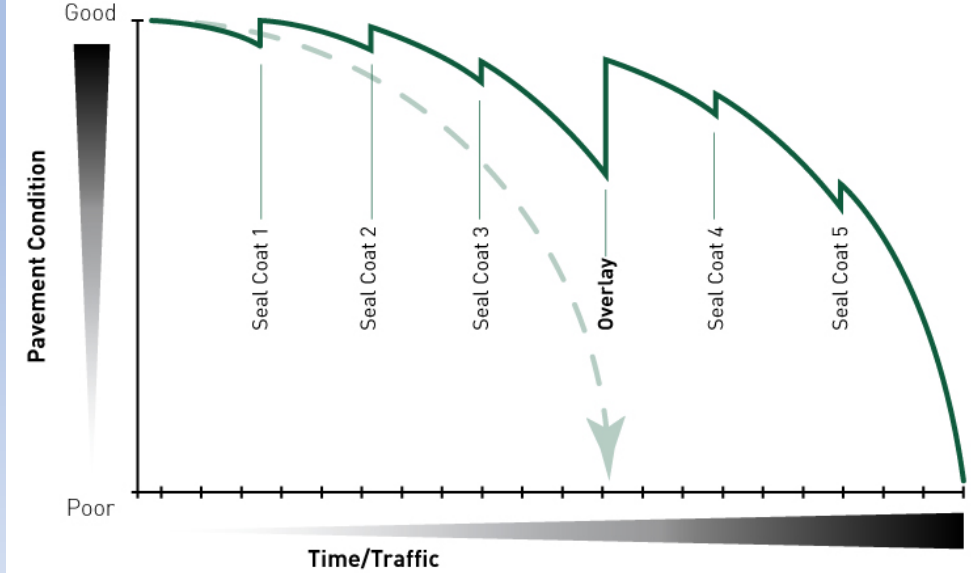
Typical Pavement Lifecycle

Seal Coating Only



Typical Pavement Lifecycle

Seal Coating and Overlays



2014 vs. 2020

Table 1: Pavement Rating vs. Paved Miles				
Pavement Condition Rating	2014 Pavement Condition Inventory		2020 Pavement Condition Inventory	
	Mileage	% of Local Street Mileage	Mileage	% of Local Street Mileage
9 – 10	8.4	12.7%	19.9	39.7%
7 – 8	26.5	40.2%	22.5	33.5%
5 – 6	20.1	30.4%	17.2	25.6%
3 – 4	7.8	11.9%	4.8	7.2%
1 – 2	0.8	1.3%	0.7	1.0%
Concrete Streets	2.3	3.5%	2.0	3.0%
Total	66.0	100.0%	67.1	100%

2014 Average: 6.9

2020 Average: 7.4

Pavement Preservation

- Crack Sealing
 - Fill in cracks with a melted rubber.
 - Prevents water from getting below surface and heaving
- Asphalt Patching
 - Patching of potholes, raveled surfaces etc.
- Chip Seal
 - Applied oil and rock to slow deterioration of wear surface
- Fog Seal
 - Acts as binding agent on chip seal
 - Can fill small cracks and preserve wear surface. Example: Spring Lake Park Parking Lots
- Pavement Rejuvenator
 - Applied to new pavements, penetrates and seals surface up to $\frac{3}{4}$ " deep.

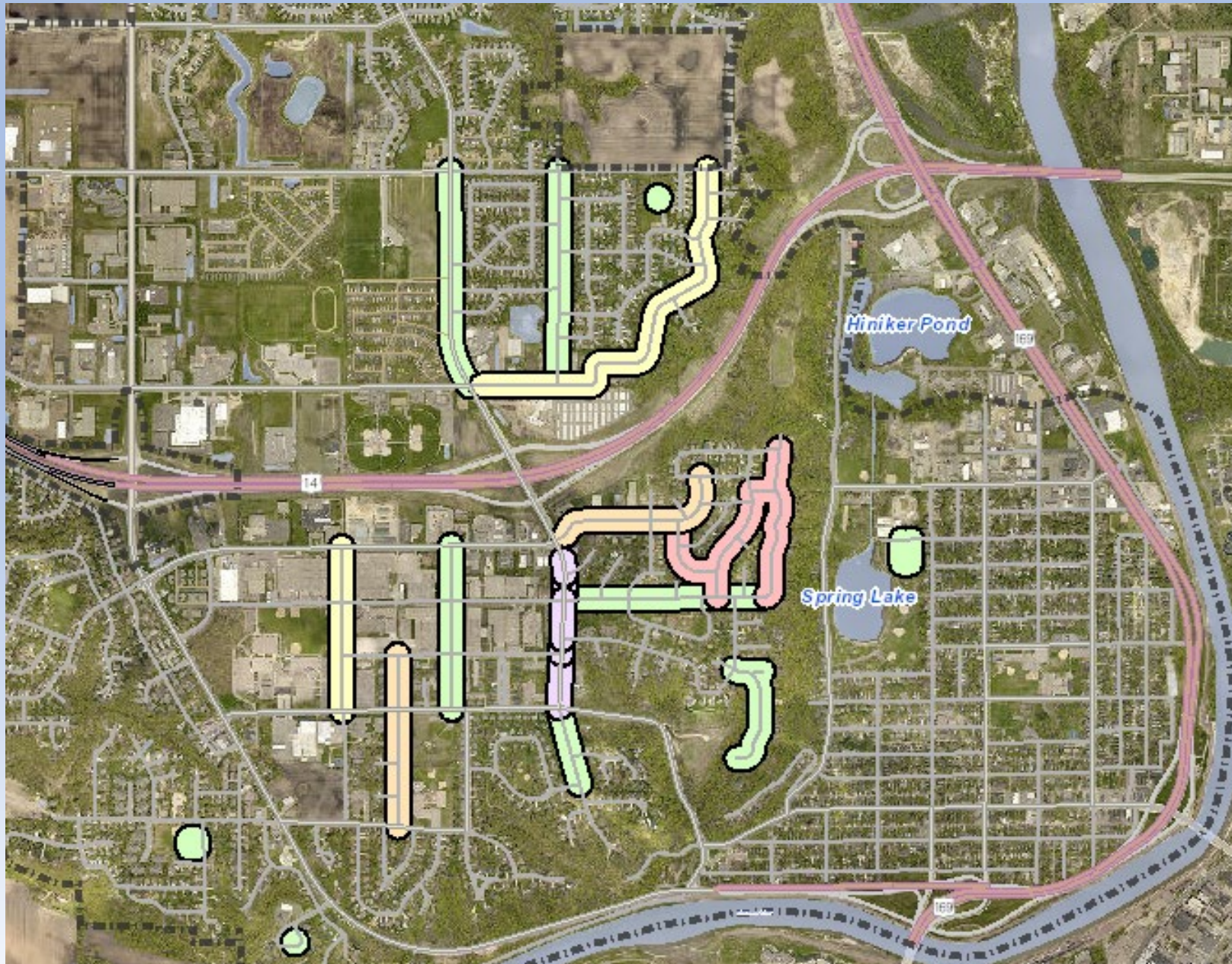
Pavement Preservation

Current Budget vs Report Recommendation			
Pavement Preservation Method	Current Budget Allocation	Report Recommendation	+/-
Crack Sealing Materials	\$10,000	\$10,000	-
Asphalt Patching	\$45,000	\$45,000	-
Rejuvenator/Chip Seal/Fog Seal	\$131,000	\$186,000	+\$55,000
Total	\$186,000	\$241,000	+\$55,000

Mill and Overlay

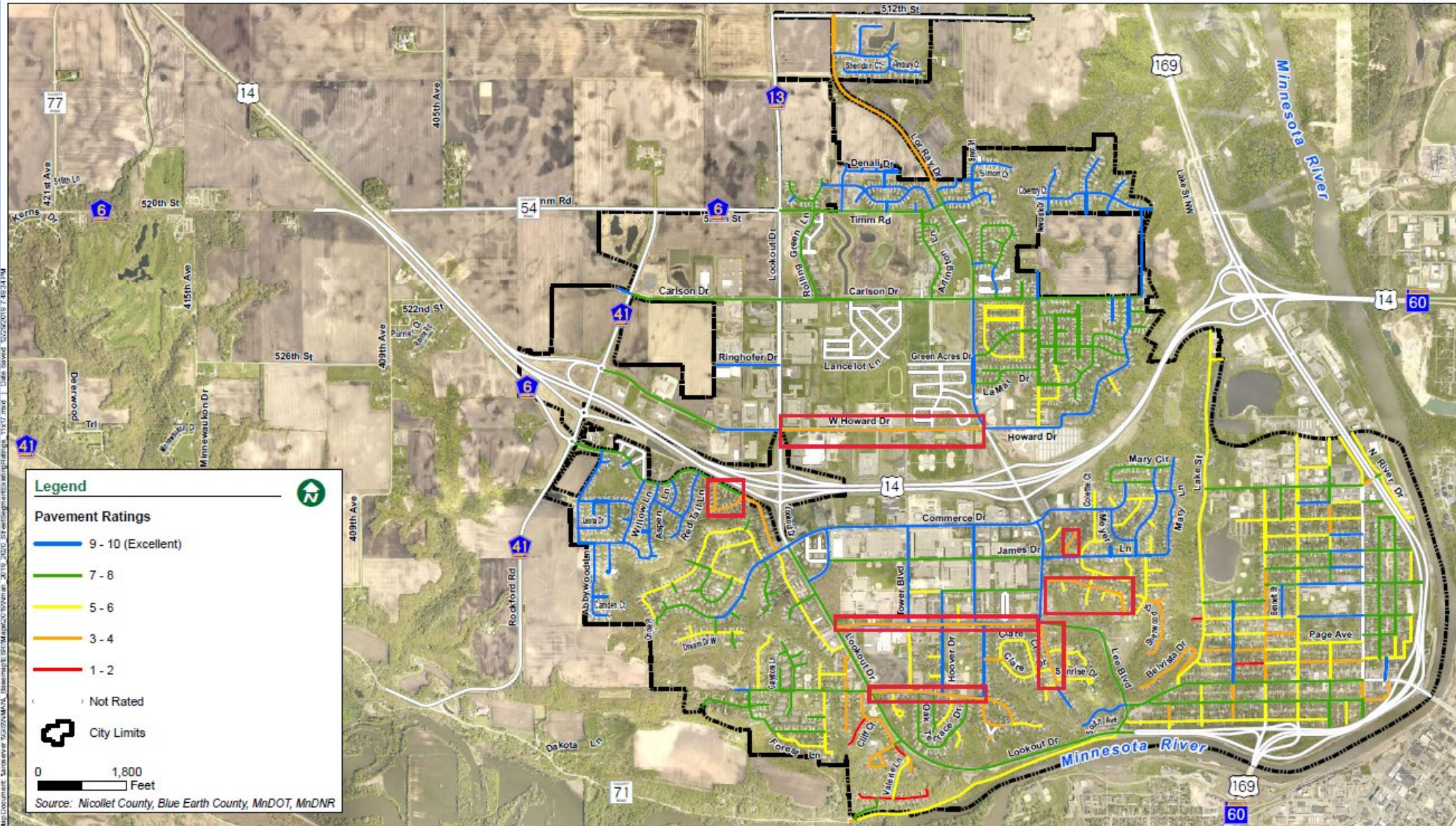
Current Budget vs Report Recommendation			
Pavement Preservation Method	Current Budget Allocation	Report Recommendation	+/-
Mill and Overlay	\$400,000	\$440,000	+\$44,000
Total	\$400,000	\$440,000	+\$44,000

Mill and Overlay – Previous Years



- Mill & Overlay - 2015
- Mill & Overlay - 2016
- Mill & Overlay - 2017
- Mill & Overlay - 2018
- Mill & Overlay - 2019

Mill and Overlay - 2020



Mill and Overlay – Future Years

