

# 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

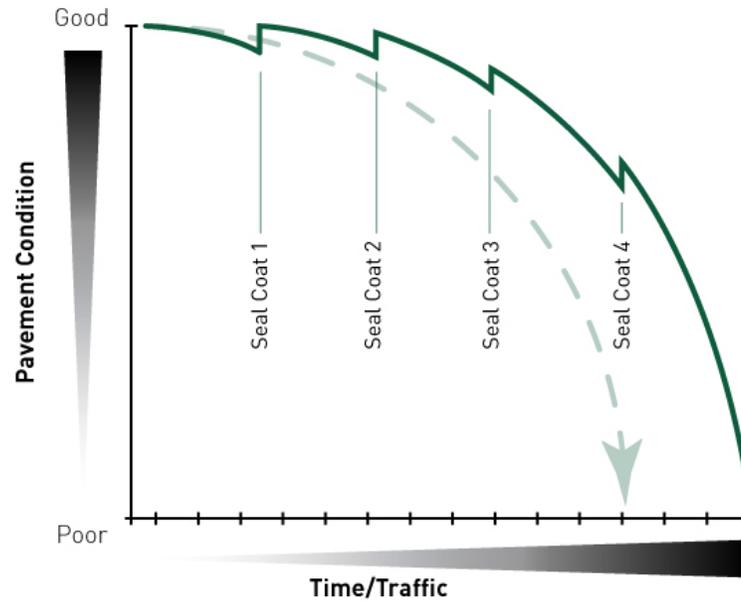
## Typical Pavement Lifecycle

No Seal Coating or Overlay



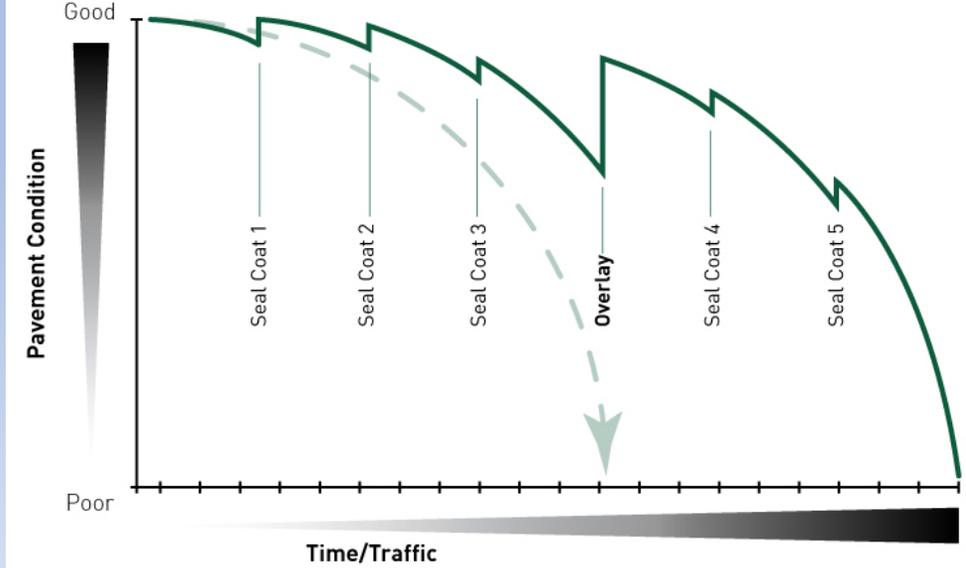
## Typical Pavement Lifecycle

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%
<b>Total</b>	<b>66.0</b>	<b>100.0%</b>	<b>67.1</b>	<b>100%</b>

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.

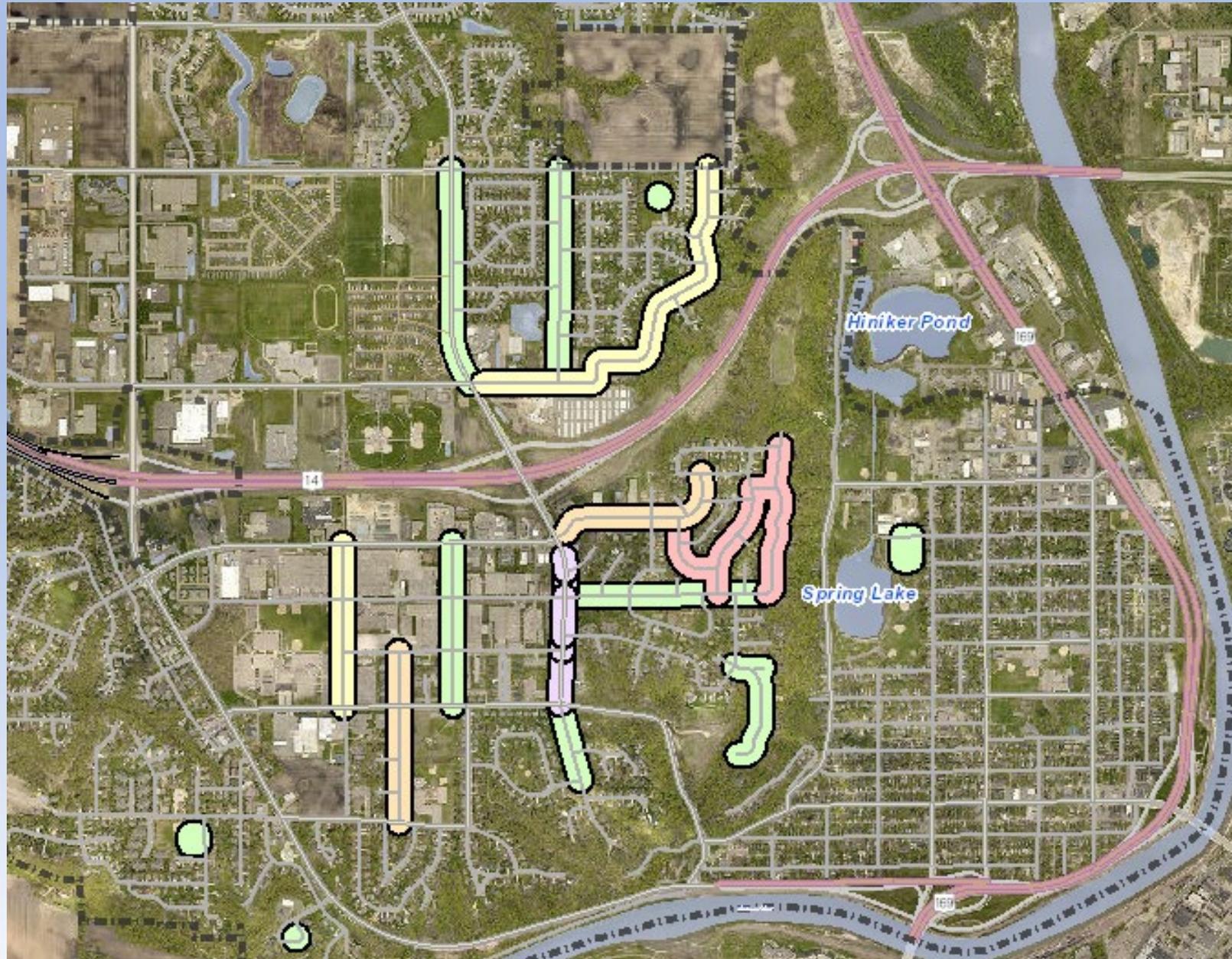
# Pavement Preservation

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
<b>Total</b>	<b>\$186,000</b>	<b>\$241,000</b>	<b>+\$55,000</b>

# Mill and Overlay

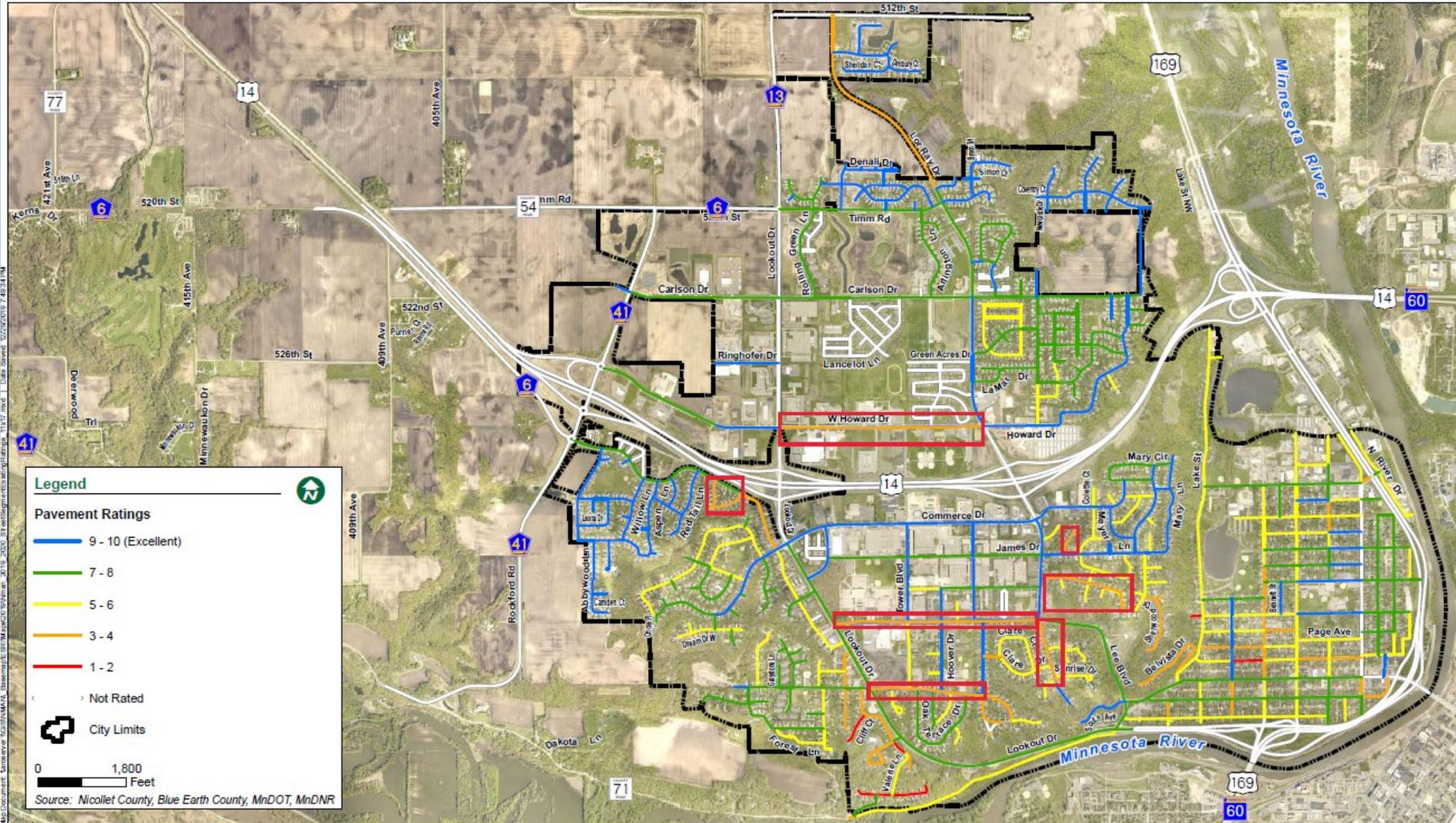
Current Budget vs Report Recommendation			
Pavement Preservation Method	Current Budget Allocation	Report Recommendation	+/-
Mill and Overlay	\$400,000	\$440,000	+\$44,000
Total	\$400,000	\$440,000	+\$44,000

# 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

