

County Road 54 (Tagus Ave)

UPDATE

6/24/19

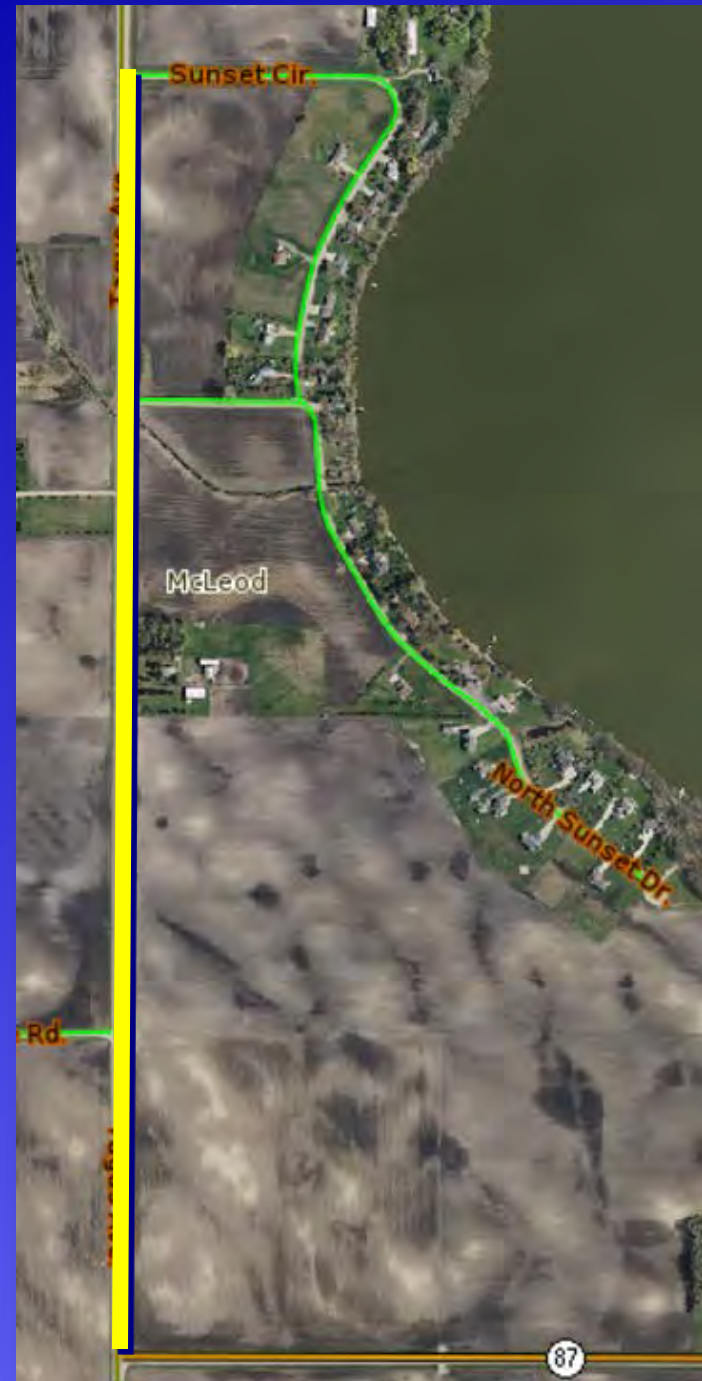


Agenda

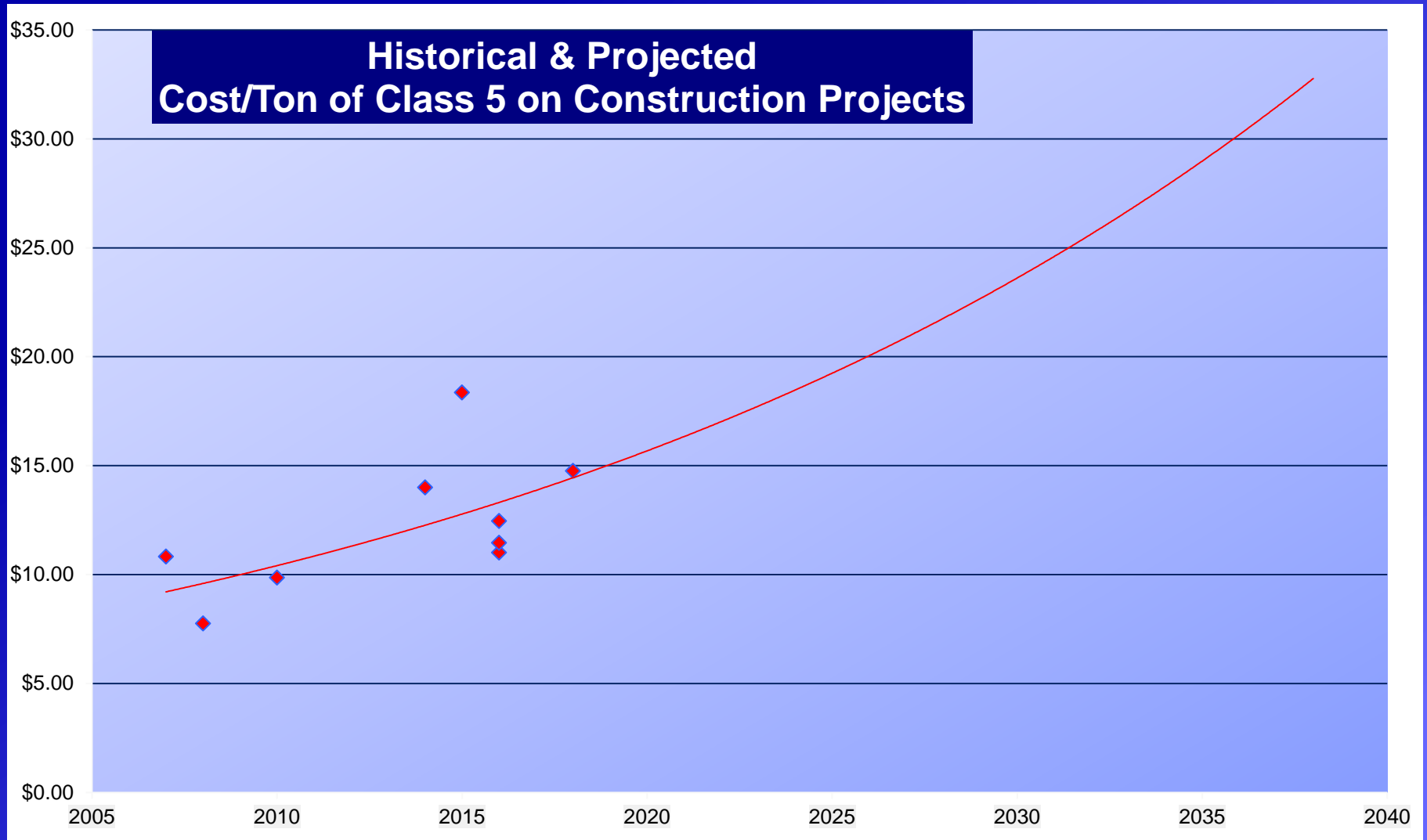
- 1. Background/Goals**
- 2. Road Costs & Funding**
- 3. Project History**
- 4. Project Costs to Date**
- 5. Current Status**
- 6. Next Steps**

BACKGROUND – CR 54

1. Higher volume gravel road
2. Required frequent blading to keep smooth
3. Annual dust control application
4. Washboards
5. Poor soils, frequent frost boils



GRAVEL COST – TREND GOING UP



GOALS FOR CR 54 & other higher volume gravel roads

- **Dust Free Road**
- **Washboard Free**
- **Stand up to Agricultural Traffic**
- ***Cost Effective***



Road Construction Activities

Estimated Costs (per mile) & Life Expectancy

Seal Coat	~ \$19,000	~ 5-7 Years
1.5" Bituminous Overlay	~ \$125,000	~ 10-12 Years
Cement Stabilized Full Depth Reclamation	~ \$135,000	~ 7-15+ Years
Reclaim & Bituminous Overlay	~ \$250,000	~ 15-20 Years
Gravel Road Paving	~ \$350,000	~ 15-20+ Years
Concrete Overlay	~ \$475,000	~ 20-40+ Years
Concrete Overlay – 4' paved shoulders	~ 600,000	~ 20-40+ Years
Reconstruction	~ \$1,400,000	~ 60+ Years

ESTIMATED LIFE CYCLE COSTS per mile (Cost to maintain the road over 50 years)

GRAVEL ROAD - No Dust Control *

	<u>Cost/Mile/Year</u>	<u>Cost/Mile/50 Years</u>
• Initial Tiling		\$ 11,000
• Blading	\$ 2,000	\$ 100,000
• Regravel	\$ 2,531	\$ 130,000
(every 4 yrs)		
TOTAL	\$ 4,531	\$ 241,000

* Dust control not typically applied to all gravel roads

ESTIMATED LIFE CYCLE COSTS per mile (Cost to maintain the road over 50 years)

GRAVEL ROAD - With Dust Control *

	<u>Cost/Mile/Year</u>	<u>Cost/Mile/50 Years</u>
• Initial Tiling		\$ 11,000
• Blading	\$ 1,800	\$ 90,000
• Regravel (every 4 yrs)	\$ 2,000	\$ 100,000
• <u>Dust Control</u>	\$ 5,000	<u>\$ 250,000</u>
TOTAL	\$ 8,800	\$ 451,000

* Dust control not typically applied to all gravel roads

ESTIMATED LIFE CYCLE COSTS per mile (Cost to maintain the road over 50 years)

PAVING GRAVEL ROAD

	<u>Cost/Mile</u>
• Initial Paving	\$ 350,000
• Routine Maintenance	\$ 150,000
• Paint – \$1,000/mile	
• Seal Coat - \$20,000/mile	
• Patching - \$1,500~\$6,000/mile	
• Crack Filling - \$500~\$3,000/mile	
• <u>Reclaim/Paving</u> (Year 30)	<u>\$ 275,000</u>
TOTAL 50 Year Cost/Mile	\$ 775,000

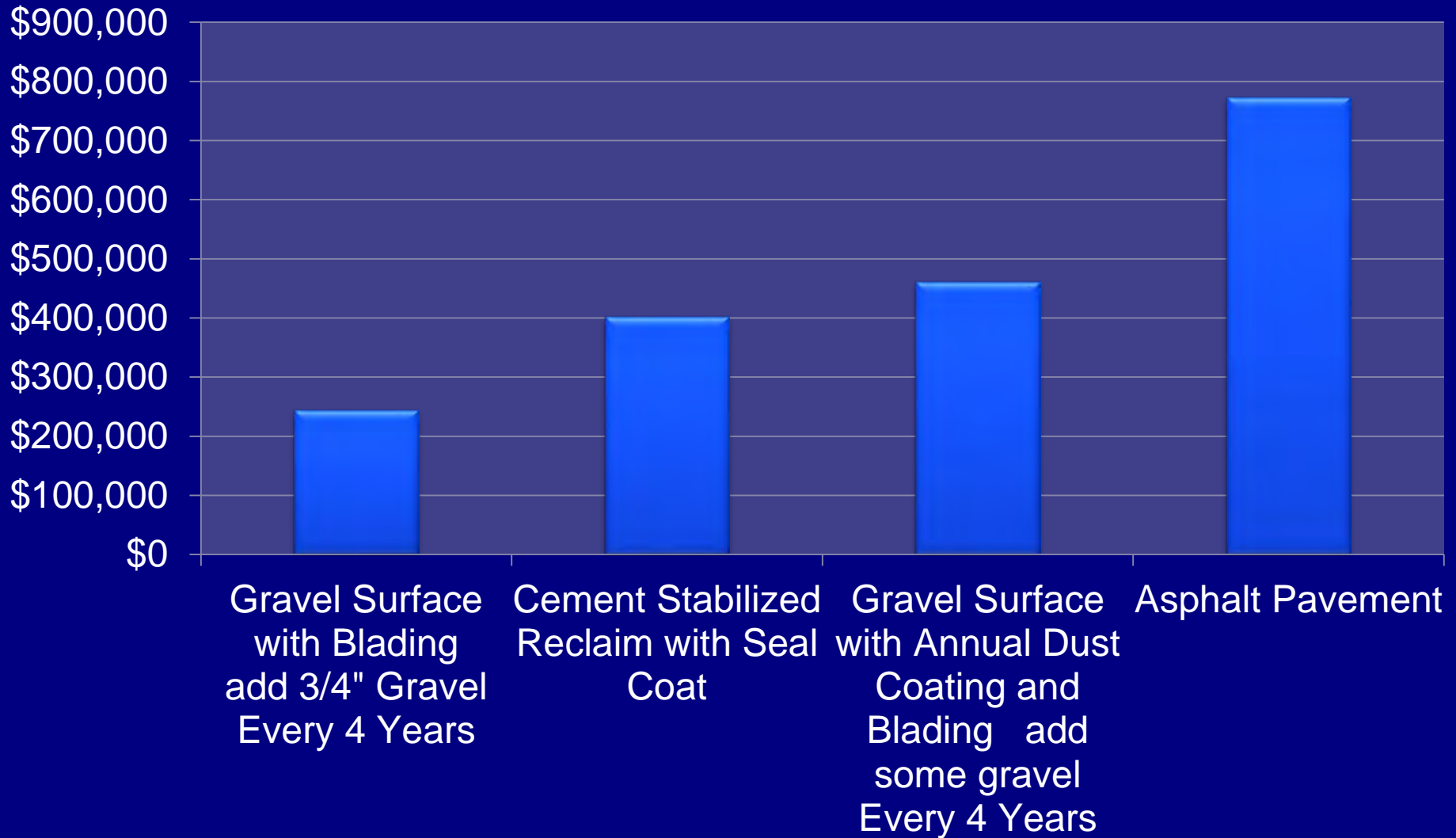
ESTIMATED LIFE CYCLE COSTS per mile (Cost to maintain the road over 50 years)

CEMENT STABILIZATION & SEAL COAT

	<u>Cost/Mile</u>
• Drain Tile	\$ 11,000
• Initial Cement Stabilization	\$ 125,000
• Routine Maintenance	\$ 142,000
• Crack Filling – \$500~\$3,000/mile	
• Patching - \$500~\$2,000/mile	
• Seal Coat - \$20,000/mile	
• <u>Cement Stabilization (Year 25)</u>	<u>\$ 125,000</u>
TOTAL 50 Year Cost/Mile	\$ 403,000

50 YEAR LIFE CYCLE COSTS per mile

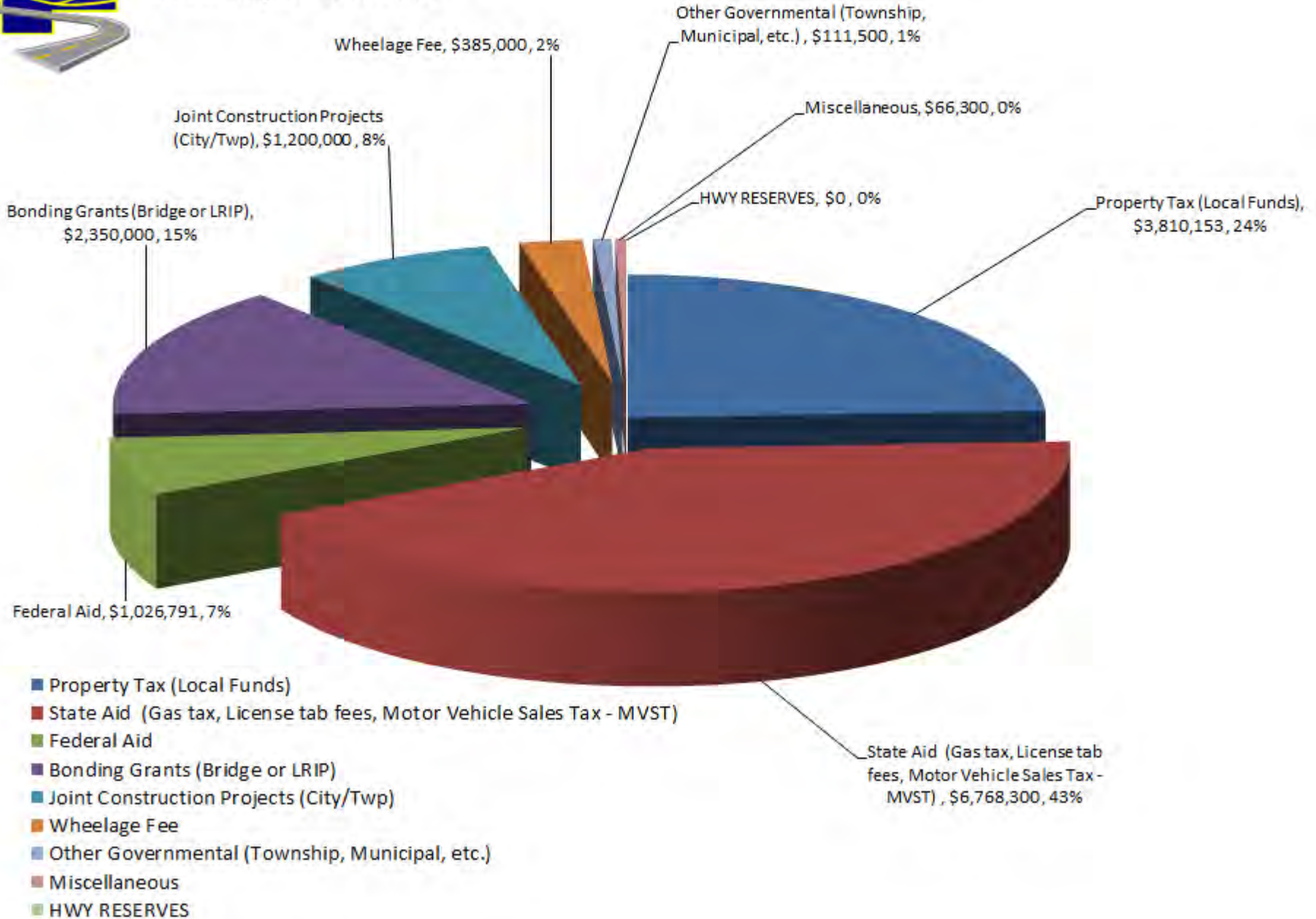
COMPARISONS



Funding



Public Works 2019 Budget Summary of Revenues



2019 CONSTRUCTION PLAN

ROAD	LOCATION & DESCRIPTION	FUNDING SOURCES								
		State Aid Regular Account	State Aid Municipal Account	County Funds Levy	County Funds Wheelage	TWP/City/ Other Funds	Federal Funds	Town Bridge Account	Bonding Grant(s)	Total Project Cost
CSAH 3	Reconstruction - phase 2 (paving) CSAH 1 to CSAH 9 2.5 miles			\$1,700,000						\$1,700,000
	Reconstruction - phase 2 (paving) CSAH 9 to ECL 1.6 miles			\$500,000						\$500,000
CSAH 8	Rehabilitation CSAH 115 to Renville Co. Line <i>** Federal Funds SECURED</i> 2.9 miles	\$180,000					\$720,000			\$900,000
CSAH 15	Reconstruction - phase 2 (paving) CSAH 22 to TH 7 2.0 miles	\$1,600,000								\$1,600,000
	Reconstruction - Morningside 11th to 16th street 0.5 miles	\$1,600,000				\$1,600,000	\$250,000		\$2,350,000	\$5,800,000
	Concrete Overlay CSAH 3 to CSAH 22 6.0 miles <i>\$1.5 M was requested in 2018</i>	\$2,100,000								\$2,100,000
CR 60	Centerline Drain Tile TH 15 to CSAH 7 3.6 miles				\$54,000					\$54,000
CR 63	Reclaim/Tile CSAH 1 to CR 93 1.0 mile				\$35,000					\$35,000
CR 79	Centerline Drain Tile CSAH 4 to Swan Lake Park 2.5 miles				\$37,500					\$37,500
CR 93	Centerline Drain Tile 3.9 miles				\$58,500					\$58,500
Various	Countywide 6" Pavement Marking <i>** Federal Funds SECURED</i>			\$6,310			\$56,791			\$63,101
Various	County Funded Rehabilitation Projects TBD			\$0						\$0
Various	County Funded Pavement Marking TBD			\$60,000						\$60,000
Various	County Funded Seal Coat Projects TBD			\$500,000						\$500,000
2019 FUNDING SUMMARY		\$5,480,000	\$0	\$2,766,310	\$185,000	\$1,600,000	\$1,026,791	\$0	\$2,350,000	\$13,408,101

2020 CONSTRUCTION PLAN

ROAD	LOCATION & DESCRIPTION	FUNDING SOURCES								Total Project Cost
		State Aid Regular Account	State Aid Municipal Account	County Funds Levy	County Funds Wheelage	TWP/City/Other Funds	Federal Funds	Town Bridge Account	Bridge Bonding Grant	
CSAH 19	Rehabilitation CSAH 12 to NCL <i>possible Meeker tied project</i>			\$1,400,000						\$1,400,000
CR 60	Cement Stabilization and Sealcoat TH 15 to CSAH 7			\$90,000	\$400,000					\$490,000
CR 63	Cement Stabilization and Sealcoat CSAH 1 to CR 93			\$135,000						\$135,000
CR 79	Cement Stabilization and Sealcoat CSAH 4 to Swan Lake Park			\$340,000						\$340,000
CR 93	Cement Stabilization and Sealcoat CSAH 15 to CSAH 1			\$25,000	\$500,000					\$525,000
CSAH 11	Replace Bridge 43504 west of CR 66 <i>Bond funds SECURED</i>	\$509,000							\$302,455	\$811,455
CSAH 3 & 15	Ground In Striping and Rumble Stripes <i>** Federal Funds SECURED</i>			\$24,837			\$223,534			\$248,371
CSAH 15	Concrete Overlay 16th Street to CSAH 3	\$700,000								\$700,000
Various	Bridge Deck Maintenance Seal some County bridge decks				\$100,000					\$100,000
Various	County Funded Rehabilitation Projects TBD				\$0					\$0
Various	County Funded Pavement Marking TBD			\$75,000						\$75,000
Various	County Funded Seal Coat Projects TBD			\$500,000						\$500,000
2020 FUNDING SUMMARY		\$1,209,000	\$0	\$2,589,837	\$1,000,000	\$0	\$223,534	\$0	\$302,455	\$5,324,826

WHEELAGE TAX - History & Proposed Uses



Estimated Annual Wheelage Tax: ~ \$385,000

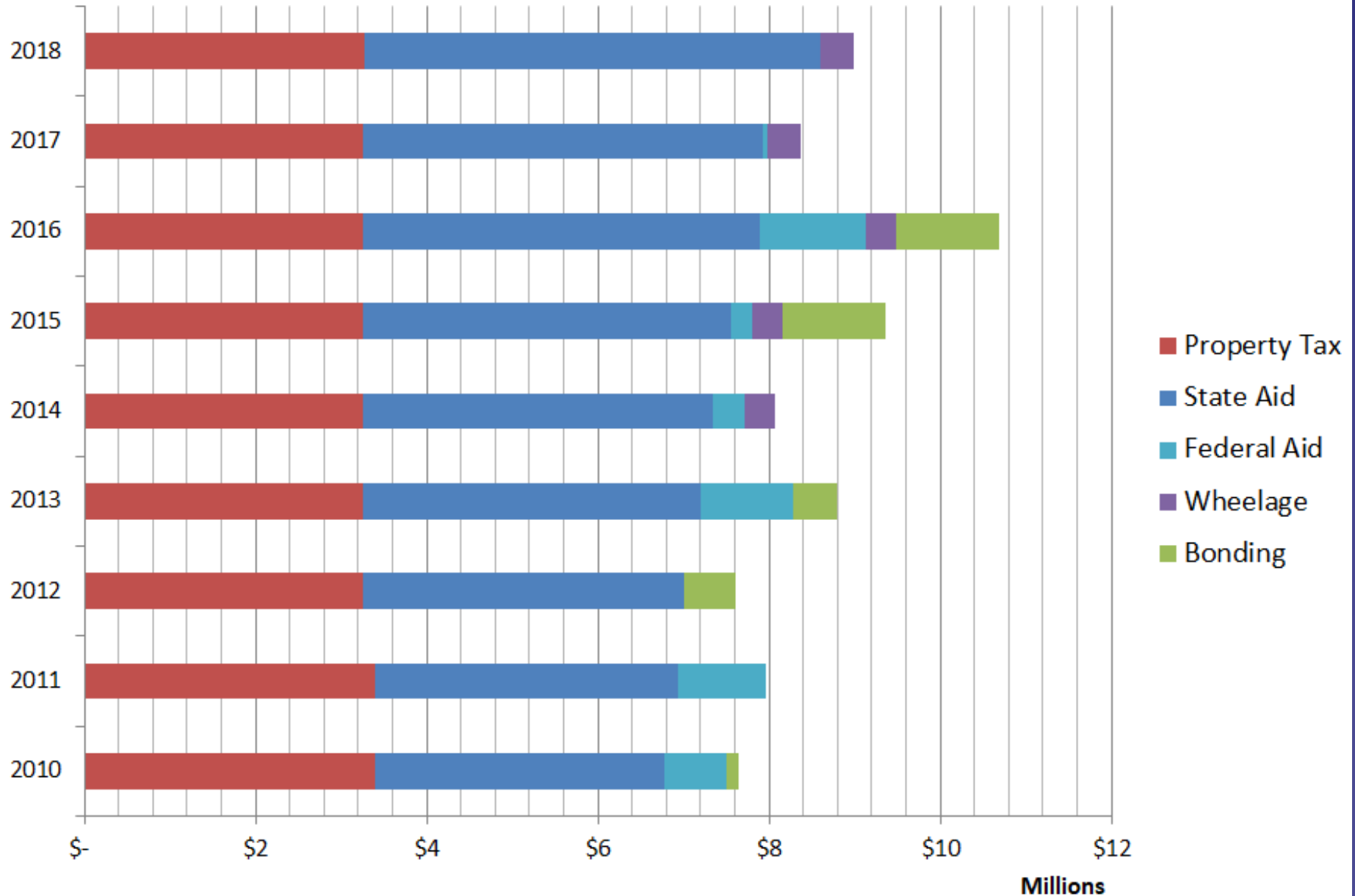
YEAR	WHEELAGE COLLECTED to date	ROAD	PROJECT	PROJECT COST	BALANCE
2013	\$ 21,874			\$ -	\$ 21,874
2014	\$ 336,666	CR 54	Prime/Seal/Fog	\$ 174,646	\$ 183,894
2015	\$ 357,207	Countywide	Intersection ID Signs - materials	\$ 20,766	\$ 520,335
2015		CR 54	Centerline Drain Tile & Reclaim	\$ 63,271	\$ 457,064
2016	\$ 350,849	CR 54	Cement Stabilization & Sealcoat	\$ 127,594	\$ 680,319
2016		CR 55	Bituminous Surfacing	\$ 400,000	\$ 280,319
2016		Countywide	Intersection ID Signs - installation	\$ 10,368	\$ 269,951
2017	\$ 349,684	CR 62	Centerline Drain Tile	\$ 42,325	\$ 577,310
2017		CSAH 4	Replay® Bituminous Seal	\$ 79,200	\$ 498,110
2018	\$ 335,779	CR 54	Cement Stabilization & Sealcoat	\$ 300,000	\$ 533,889
2019	\$ 385,000	CR 60, 63, 79, 93	Centerline Drain Tile	\$ 185,000	\$ 733,889
2020	\$ 385,000	CR 60, 93	Cement Stabilization & Sealcoat	\$ 900,000	\$ 218,889
2020		Countywide	Bridge Deck Sealing	\$ 100,000	\$ 118,889
2021					\$ 118,889
2022					\$ 118,889
2023					\$ 118,889
2024					\$ 118,889
TOTALS	\$ 2,522,058			\$ 2,403,169	

Implemented 7/30/2013

Resolution 13-RB07-27

All Highway Funding History

Construction and Maintenance



McLeod County Funding Gap

- State Aid Needs study defined the Life Expectancy of a Road at **60 Years**
- McLeod County paved mileage: **296 miles**
- Based on above, McLeod County should be reconstructing **4.9 miles/year** (296 miles / 60 years)
- Average cost to reconstruct a road is **\$1.4 Million per mile**
- Annual funding needed for reconstruction ONLY is **\$6.9 Million**
- Current State Aid Construction Allocation is **\$3.2 Million per year**
- **This does NOT include maintenance and preservation needs (sealcoat, striping, reclaims, overlays, etc.).**

Funding Gap

5-Year Average Construction and Preservation Spending *

State Aid	\$2.2 Million
Federal Aid	\$0.4 Million
<u>County</u>	<u>\$2.2 Million</u>
TOTAL	\$4.8 Million

* Includes Reconstruction, Preservation, Safety, Striping, Bridges

* Does not include in-house maintenance projects (patching, shouldering)

Reconstruction Needs *

- Currently 161 miles of our paved roads are substandard (narrow shoulders, steep inslopes)
- Cost to reconstruct those is **\$225 Million** *
- Examples (Not all inclusive)

• CSAH 5	CSAH 16 – CSAH 1	9.2 miles	\$13 Million
• CSAH 10	CSAH 2 – Carver Co.	7 miles	\$10 Million
• CSAH 16	TH 7 – Wright Co.	6 miles	\$8 Million
• CR 57	CSAH 17 – 212	4.5 miles	\$6 Million
• CR 61	CR 79 – CR 60	4.5 miles	\$6 Million
• CR 81	Sibley Co. – 212	3.5 miles	\$5 Million

* **Does NOT include gravel roads (~100 miles)**

Project History

2014

CR 87 to 1 mile N

- Prime and Seal Coat

2015

CR 87 to 1 mile N

- Reclamation
- Drain Tile

2016

CR 87 to 1 mile N

- CSFDR & Seal Coat
- 4 Sections

2018

1 mile N of 87 to CR 7

- CSFDR & Seal Coat
- Micro Mill 1st mile

Project Cost History

2014

CR 87 to 1
mile N

- \$215,325

2015

CR 87 to 1
mile N

- \$111,632

2016

CR 87 to 1
mile N

- \$172,025

2018

1 mile N of
87 to CR 7

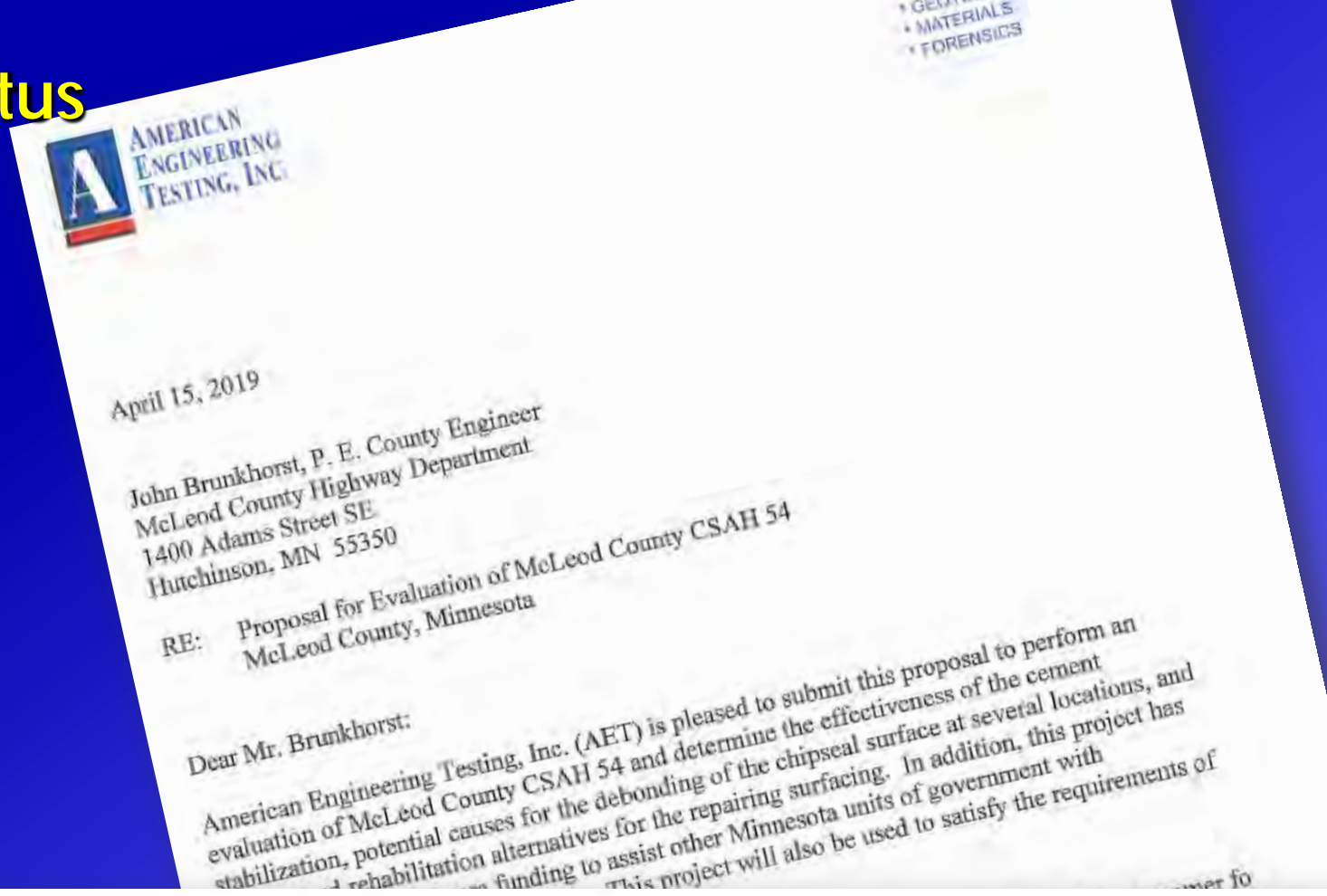
- \$382,625

Construction Cost Total to date: \$881,608

Typical Gravel Maintenance not spent to date: ~\$44,000

Current Status

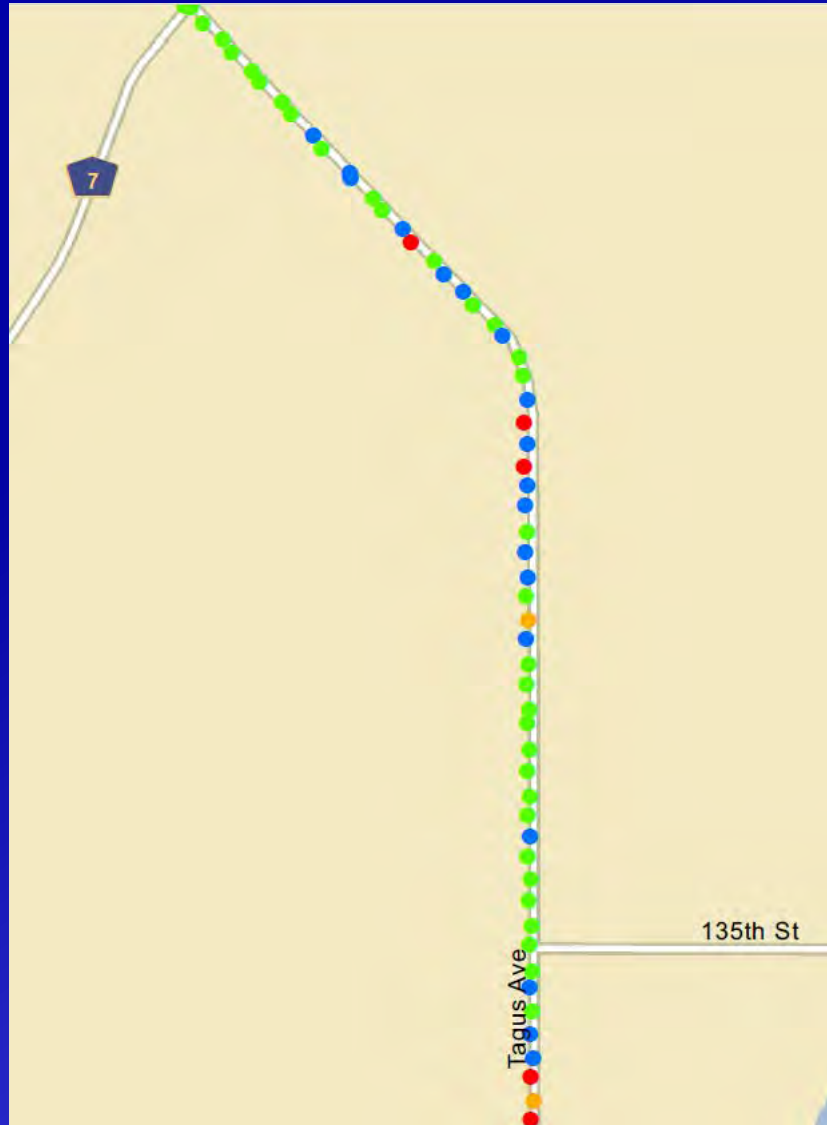
Evaluation



American Engineering Testing, Inc. (AET) is pleased to submit this proposal to perform an evaluation of McLeod County CSAH 54 and determine the effectiveness of the cement stabilization, potential causes for the debonding of the chipseal surface at several locations, and recommend rehabilitation alternatives for the repairing surfacing. In addition, this project has received MnLTAP Opera funding to assist other Minnesota units of government with implementing cement stabilization. This project will also be used to satisfy the requirements of that opera funding.

Evaluation Findings

FWD (Falling Weight Deflectometer Testing)



Evaluation Findings

Strength

- A. Northern Section (north of 135th Street)
 - Stronger subgrade

- B. Southern Section (south of 135th Street)
 - Weaker subgrade

Evaluation Findings

Seal Coat Debonding

1. The upper portion of the soil cement the Seal Coat was bonded to was weaker than underlying portion.
2. Investigation Continues
 - Other Contractors consulted
 - Other Industry professionals consulted

Evaluation Findings

Existing Condition Today

- Current soil cement system has structure

Next Steps/Alternatives

1. Work with Contractor for Resolution
2. Identify Appropriate Fix for Current Conditions
 - a. Do Nothing
 - b. Add gravel to current surface
 - c. Reclaim entire road back to gravel
 - d. Pave entire road (CR 87 to CR 7)
 - e. Pave 1st mile only (CR 87 to 1 mile N)

Questions/Discussion

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