

MUSCATINE PAVEMENT MANAGEMENT USING DTIMS AND GIS

Presenters

Randy Hill

Muscatine Public
Works Director

Randy Howell

Street Maintenance
Supervisor

ROADWARE AND CTRE'S ROLE

- Muscatine has been analyzing roads with an automated road analyzer since 2003.
- In Fall and Spring 2013/14 Roadware drove Muscatine Streets using their “Automatic Road Analyzer”

Captures Surface Information

Roughness

Rutting

Cracking

Pavement Type

Video Logs & Images

- CTRE calculates the PCI for every street segment from the values that are collected by roadware.

WHERE WE ARE NOW AND WHERE WE WOULD LIKE TO BE

■ Current State

City of Muscatine manages around 110 miles of roads.

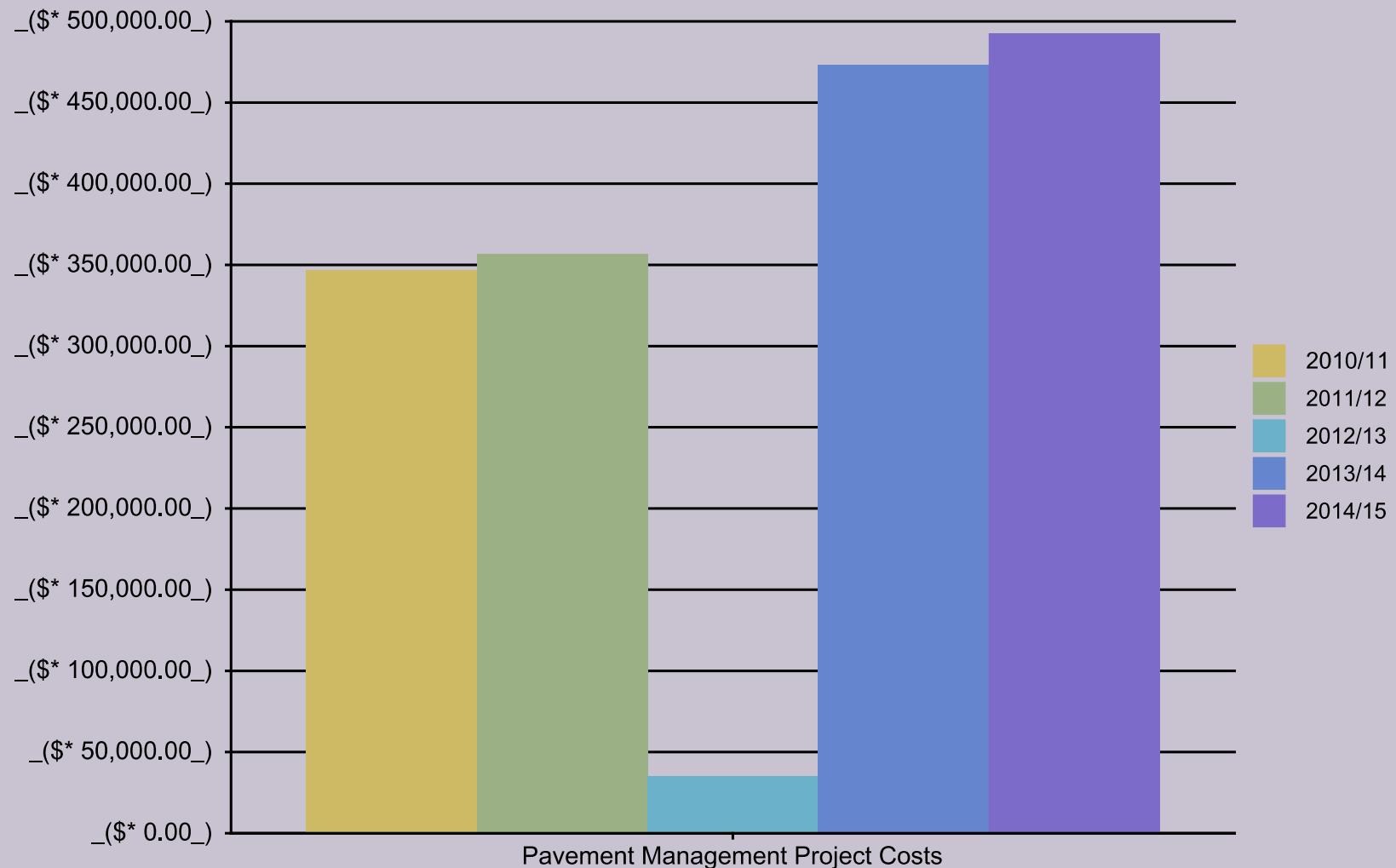
Current overall average **PCI 57**

Current Budget \$500,000

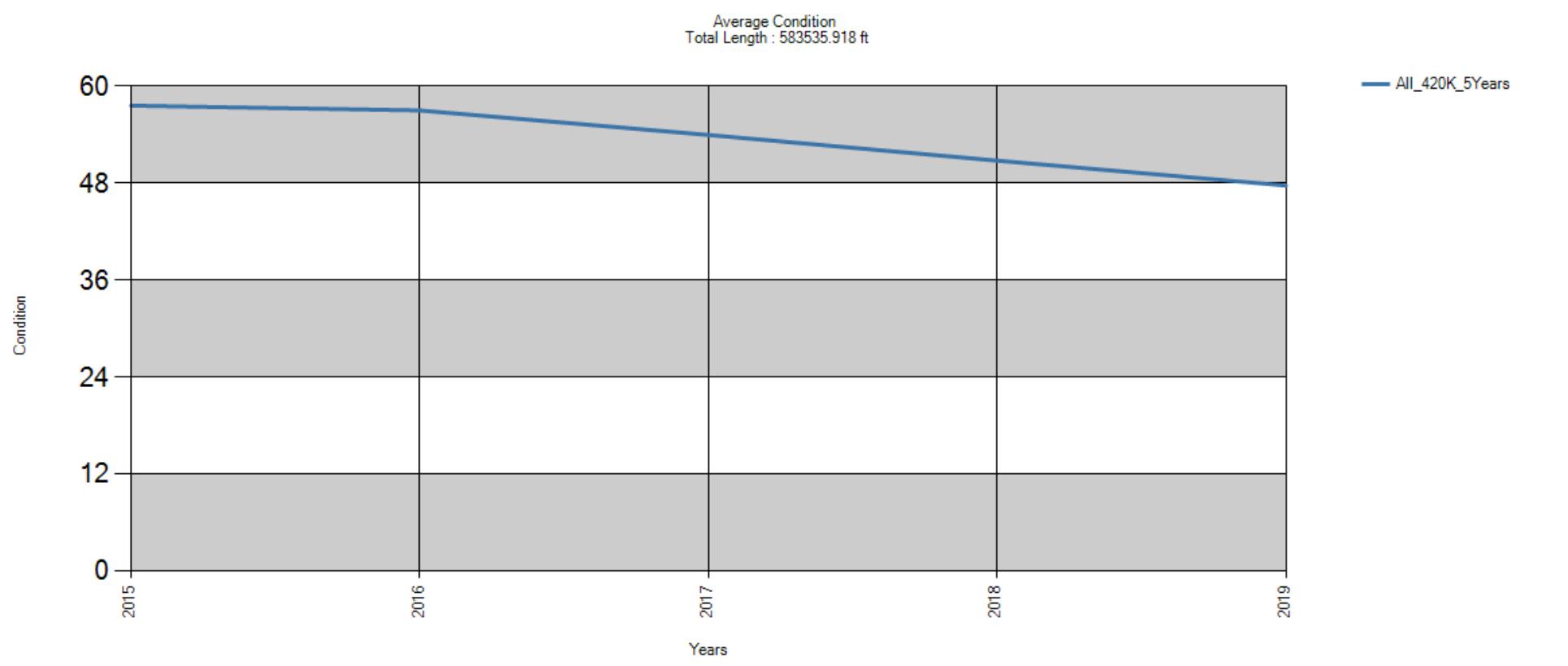
PCI Deterioration Factors (Asphalt = 4 and Concrete = 3.3)

■ Current Road Video

PREVIOUS 5-YEAR HISTORY

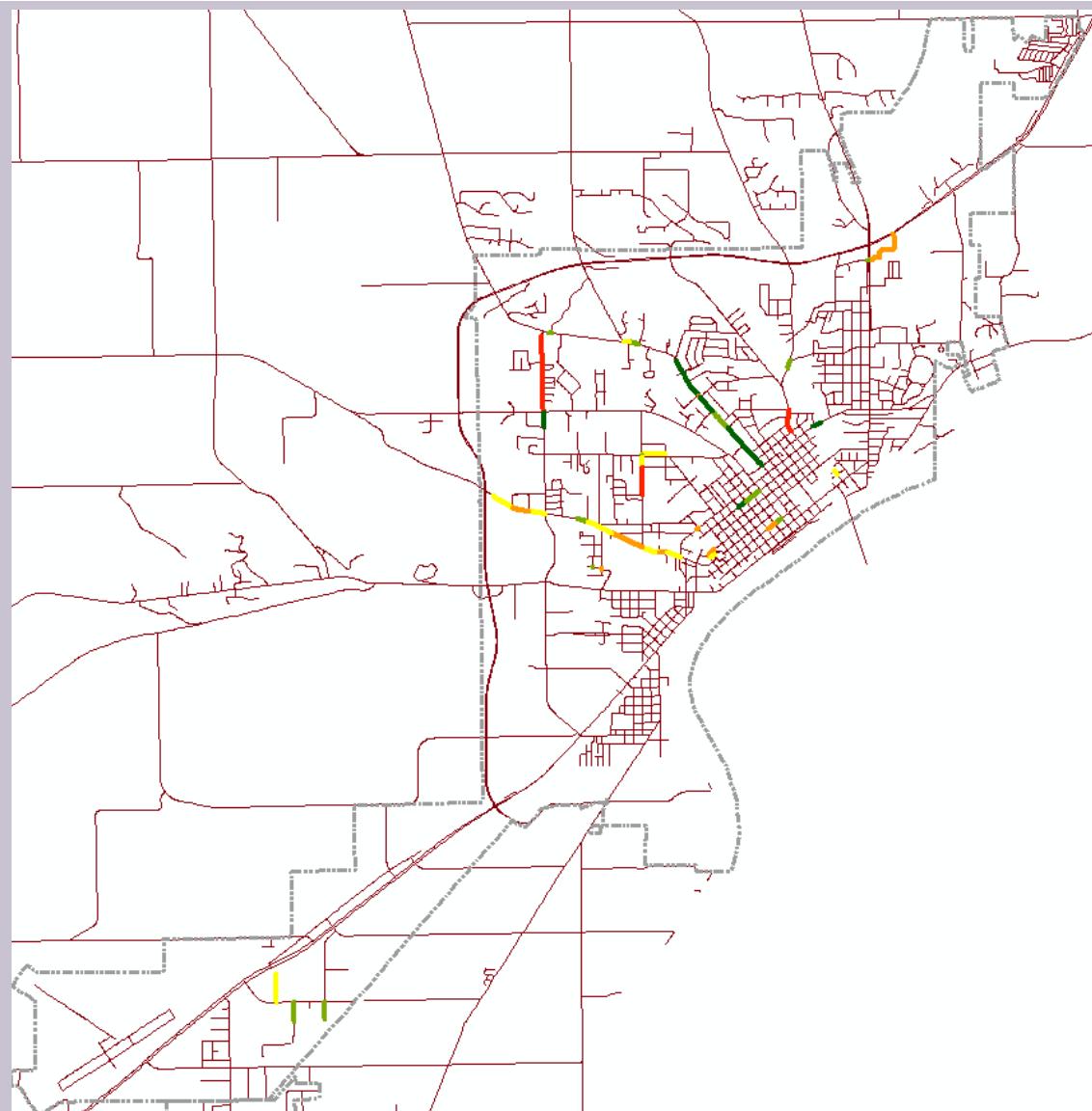


HOLDING CURRENT YEARLY BUDGET ALLOCATION AVERAGE



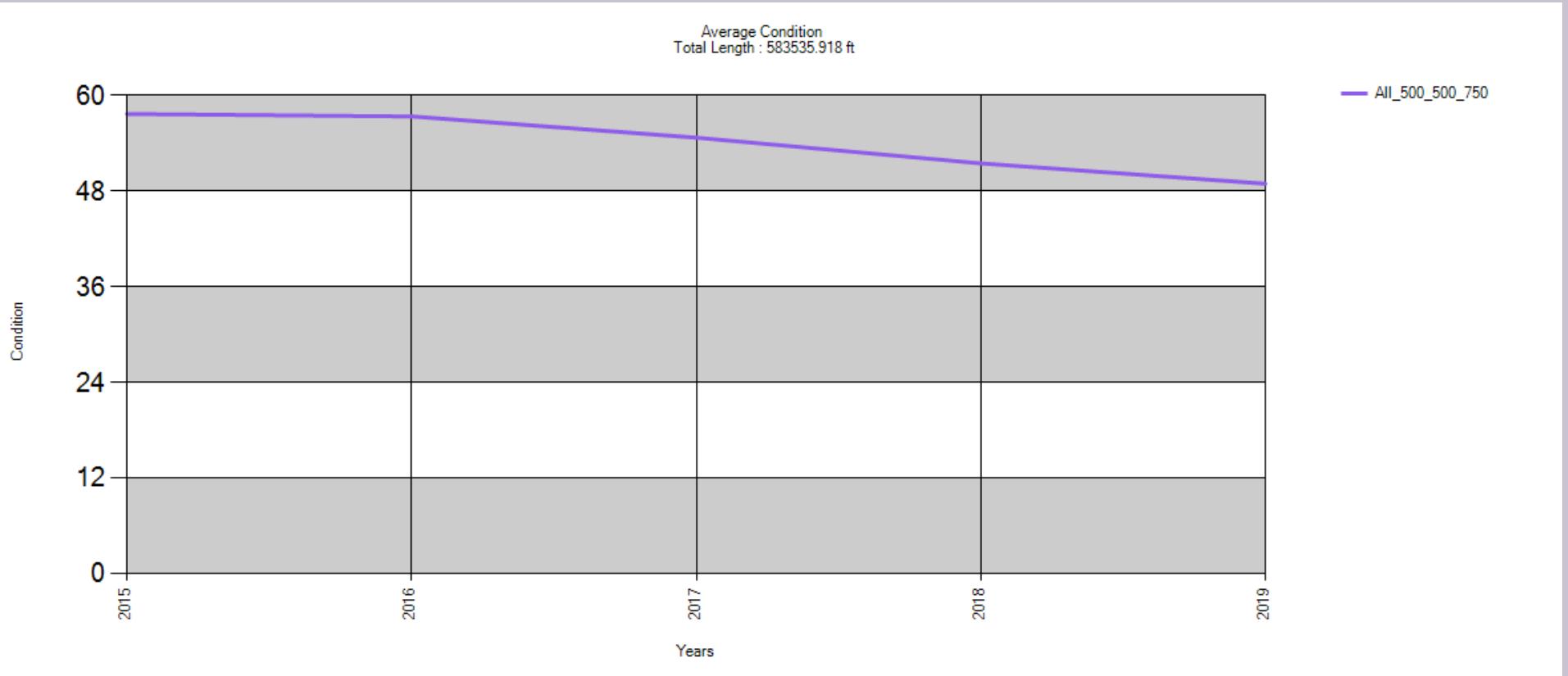
| Year | All_420K_5Years |
|------|-----------------|
| 2015 | 57.611 |
| 2016 | 57.013 |
| 2017 | 53.982 |
| 2018 | 50.796 |
| 2019 | 47.715 |

CONSTRUCTION PROGRAM 420K FOR 5 YEARS



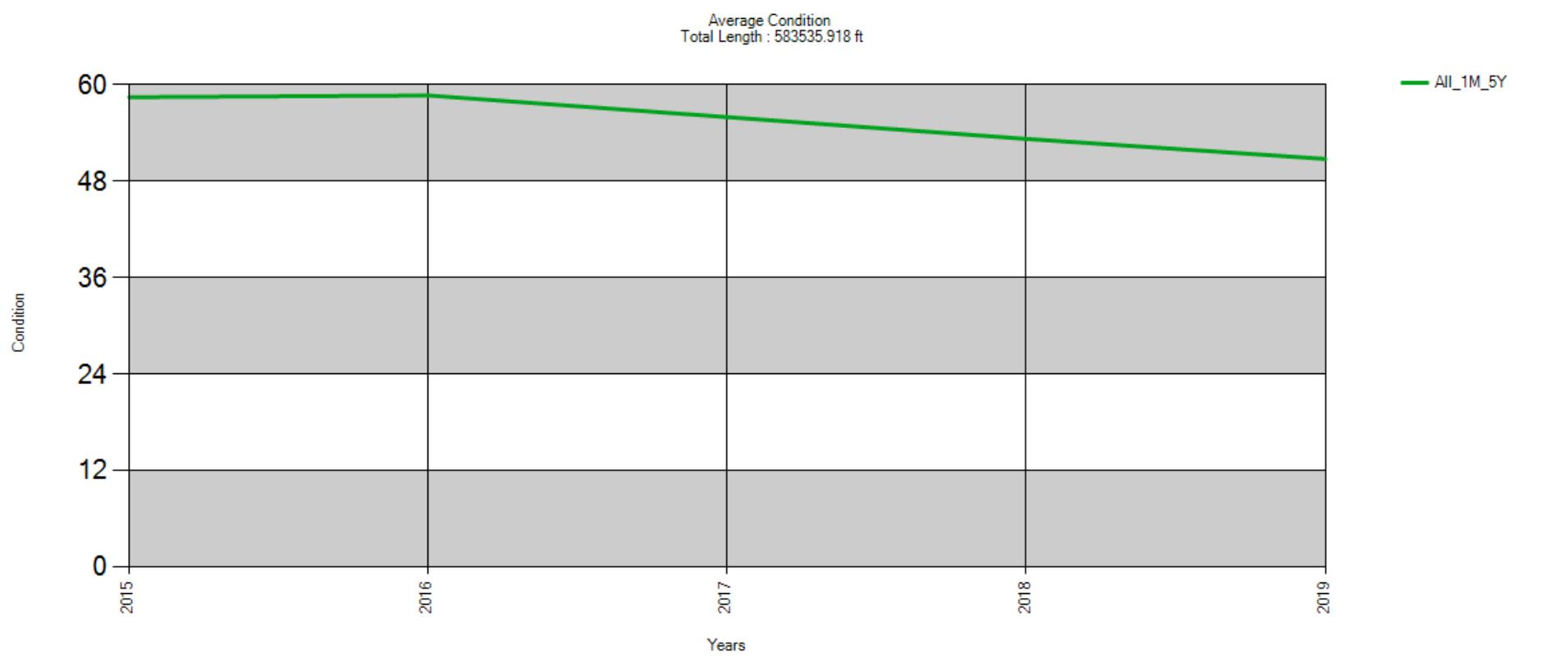
- 66 segments completed
- 5 Miles
- 4% rehab of all Muscatine roads
- Overlay only no concrete road reconstruction

BUDGET SCENARIO \$500K 2YEARS \$750K 3 YEARS



| Year | All_500_500_750 |
|------|-----------------|
| 2015 | 57.697 |
| 2016 | 57.392 |
| 2017 | 54.725 |
| 2018 | 51.492 |
| 2019 | 48.942 |

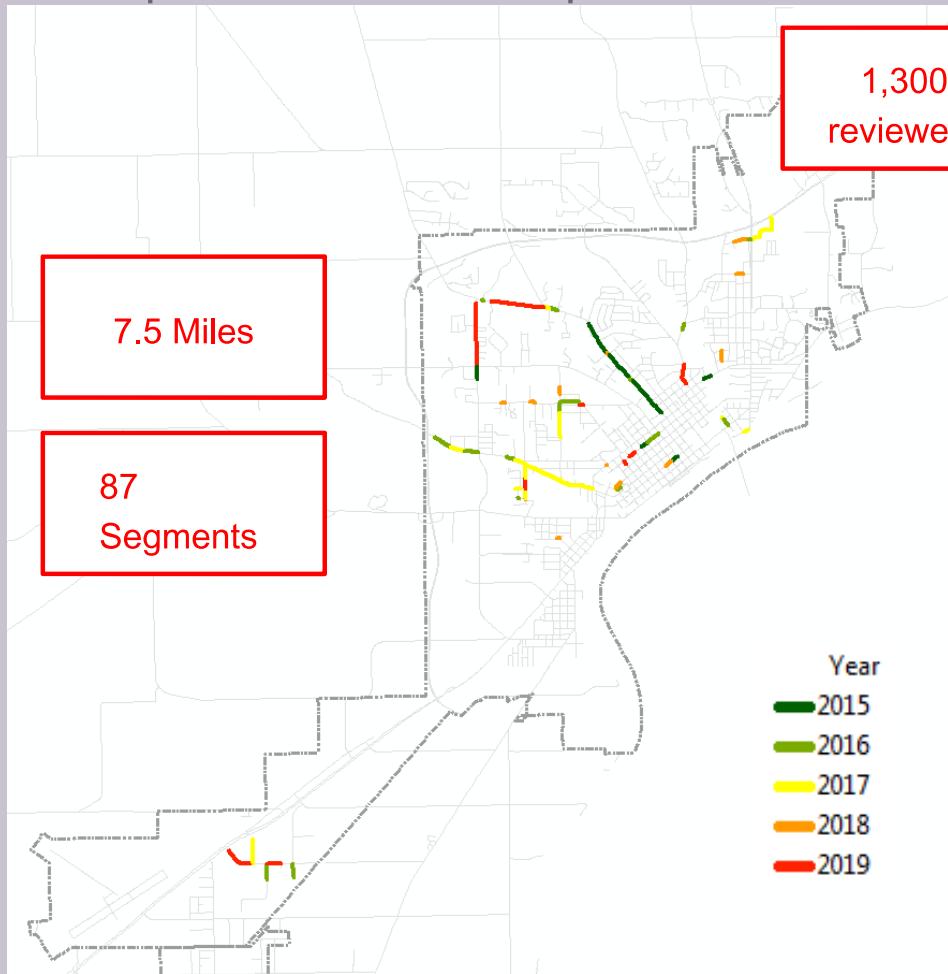
BUDGET SCENARIO \$1M FOR 5 YEARS



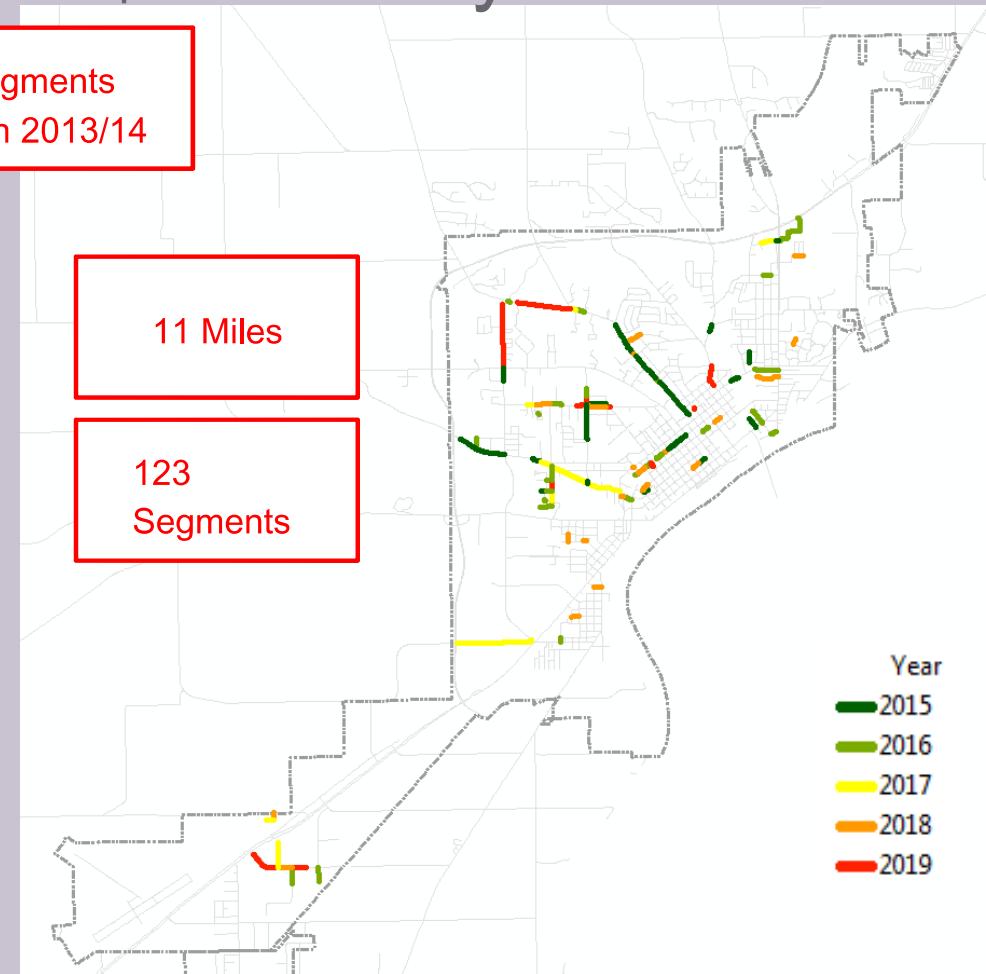
| Year | All_1M_5Y |
|------|-----------|
| 2015 | 58.472 |
| 2016 | 58.69 |
| 2017 | 55.993 |
| 2018 | 53.279 |
| 2019 | 50.788 |

DIFFERENCES IN SCENARIOS

■ \$500K and \$750K



■ \$1M for 5 years

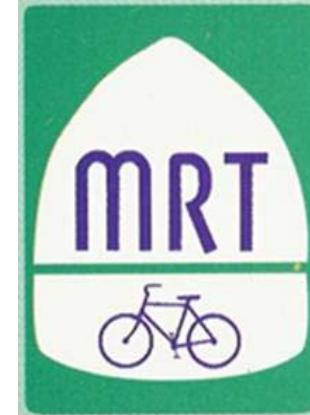


FUTURE GOALS???

Musser Park – Wiggins Road Trail

Making our Community a Safer Place to Live!

- Corridor of 9.47 miles of new trail construction and “Share the Road” sections
- Completes missing segments for Mississippi River Trail (MRT) and American Discovery Trail (ADT).
- Once completed will connect Louisa County to Wild Cat Den State Park (22 miles)
- Trail begins near entrance to Kent-Stein Park
- Key component in Muscatine Blue Zone effort



Musser Park to Wiggins Rd Trail



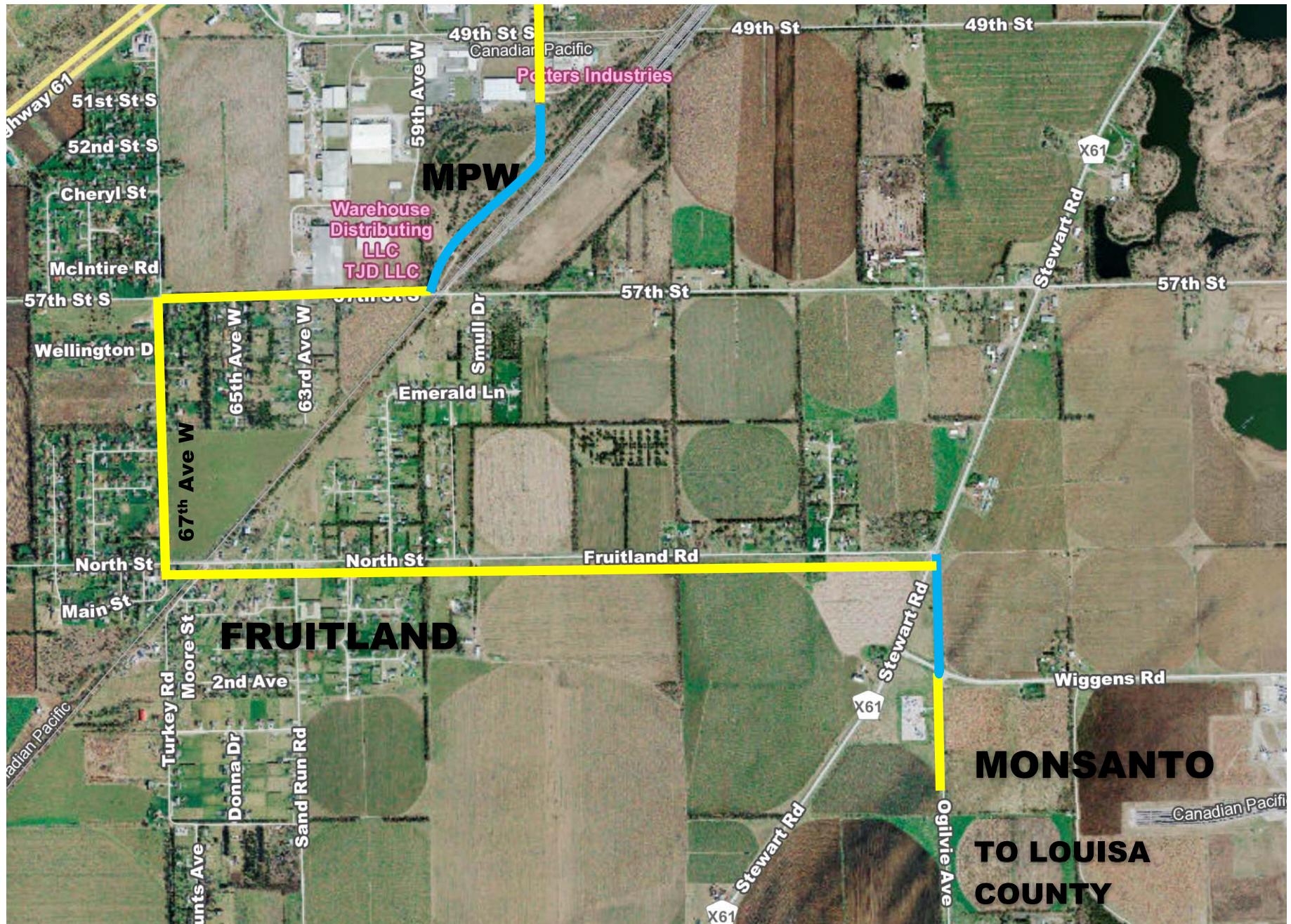
Musser Park to Wiggins Rd Trail



Musser Park to Wiggins Rd Trail



Musser Park to Wiggins Rd Trail



Current Participants and Cost Reduction Efforts

- County of Muscatine (“Share the Road” signs)
- City of Fruitland
- Force Account (In-House work to reduce cost)
- Private Contributions
- State Recreational Trail Money
- Federal Earmark
- Land Donation
- Concrete vs. Asphalt
- MPW Easements
- Collection & Drainage Funds

SCHEDULE

- I. Secure Remaining Easements
- II. Submit Final Plans to DOT – January 2015
- III. Anticipate April 2015 Bid Letting
- IV. Construction Summer 2015

“Good Things are Happening...”

Muscatine’s history of achievements has always been a TEAM effort. With the construction of this trail, we are closer to earning the designation of a **Bicycle Friendly Community**.

