

**AMENDED – ORIGINAL ZOOM WEBINAR LINK BECAME INVALID AND A NEW WEBINAR ID AND PASSCODE WAS
CREATED 02-02-2021**

TENTATIVE AGENDA
RAYTOWN BOARD OF ALDERMEN
COMMITTEE OF THE WHOLE
FEBRUARY 2, 2021
ONLINE ZOOM WEBINAR
6:00 P.M.

A video recording of the Committee of the Whole meeting will be available online and linked on the City's website within 48 hours of the meeting's date and time.

zoom.us/join
Webinar ID: 829 9717 1839
Passcode: 031498

- 1. Approval of the January 5, 2021 Committee of the Whole meeting minutes.**
- 2. Pavement Asset Management**
Point of Contact: Jose Leon, Public Works Director

ADJOURNMENT

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ADJOURNMENT

MINUTES
RAYTOWN BOARD OF ALDERMEN
COMMITTEE OF THE WHOLE
JANUARY 5, 2021
ONLINE ZOOM WEBINAR
6:30 P.M.

Mayor Michael McDonough called the January 5, 2021 Committee of the Whole meeting to order at 6:30 p.m.

Roll Call

Roll was called by Jennifer Baird, City Attorney, and the attendance was as follows:

Present: Alderman Janet Emerson, Alderman Derek Ward, Alderman Frank Hunt, Alderman Bill Van Buskirk, Alderman Mary Jane Van Buskirk, Alderman Jason Greene, Alderman Ryan Myers

Absent: Alderman Jim Aziere, Alderman Bonnaye Mims, Alderman Greg Walters

1. Approval of the December 1, 2020 Committee of the Whole meeting minutes.

Alderman Mary Jane Van Buskirk, seconded by Alderman Emerson, made a motion to adopt. The motion was approved by a vote of 7-0-3.

Ayes: Aldermen Mary Jane Van Buskirk, Emerson, Ward, Hunt, Bill Van Buskirk, Greene, Myers

Nays: None

Absent: Aldermen Aziere, Mims, Walters

Alderman Walters joined the meeting at 6:32 p.m.

2. Enterprise Asset Management Software

Point of Contact: Jose Leon, Public Works Director

Jose Leon, Public Works Director, presented the item and remained for any discussion.

Alderman Aziere joined the meeting at 6:37 p.m.

Teresa Henry, City Clerk, joined the meeting at 6:49 p.m.

Alderman Mims joined the meeting at 6:50 p.m.

ADJOURNMENT

Alderman Mary Jane Van Buskirk, seconded by Alderman Emerson, made a motion to adjourn. The motion was approved by a vote of 10-0.

Ayes: Aldermen Mary Jane Van Buskirk, Emerson, Ward, Aziere, Hunt, Mims, Bill Van Buskirk, Walters, Greene, Myers

Nays: None

The meeting adjourned at 7:07 p.m.

February 2, 2021

Raytown Pavement Asset Management

Street Infrastructure Asset Management
for Raytown, MO – Jose Leon

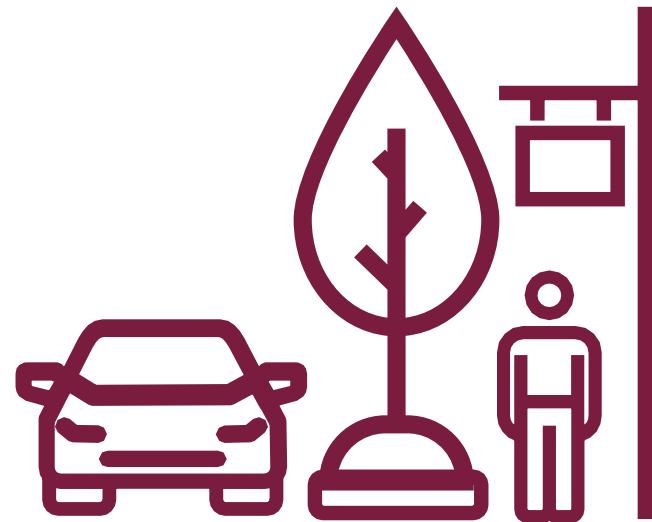
Managing the community's most valuable asset



Asset Management

Questions to ask for developing an asset management program:

- What do you have?
 - Assets owned
 - Condition assessment
- What tools can you use?
- How much funding?



2021 Street Maintenance Program

Raytown City Streets  STP Eligible Streets

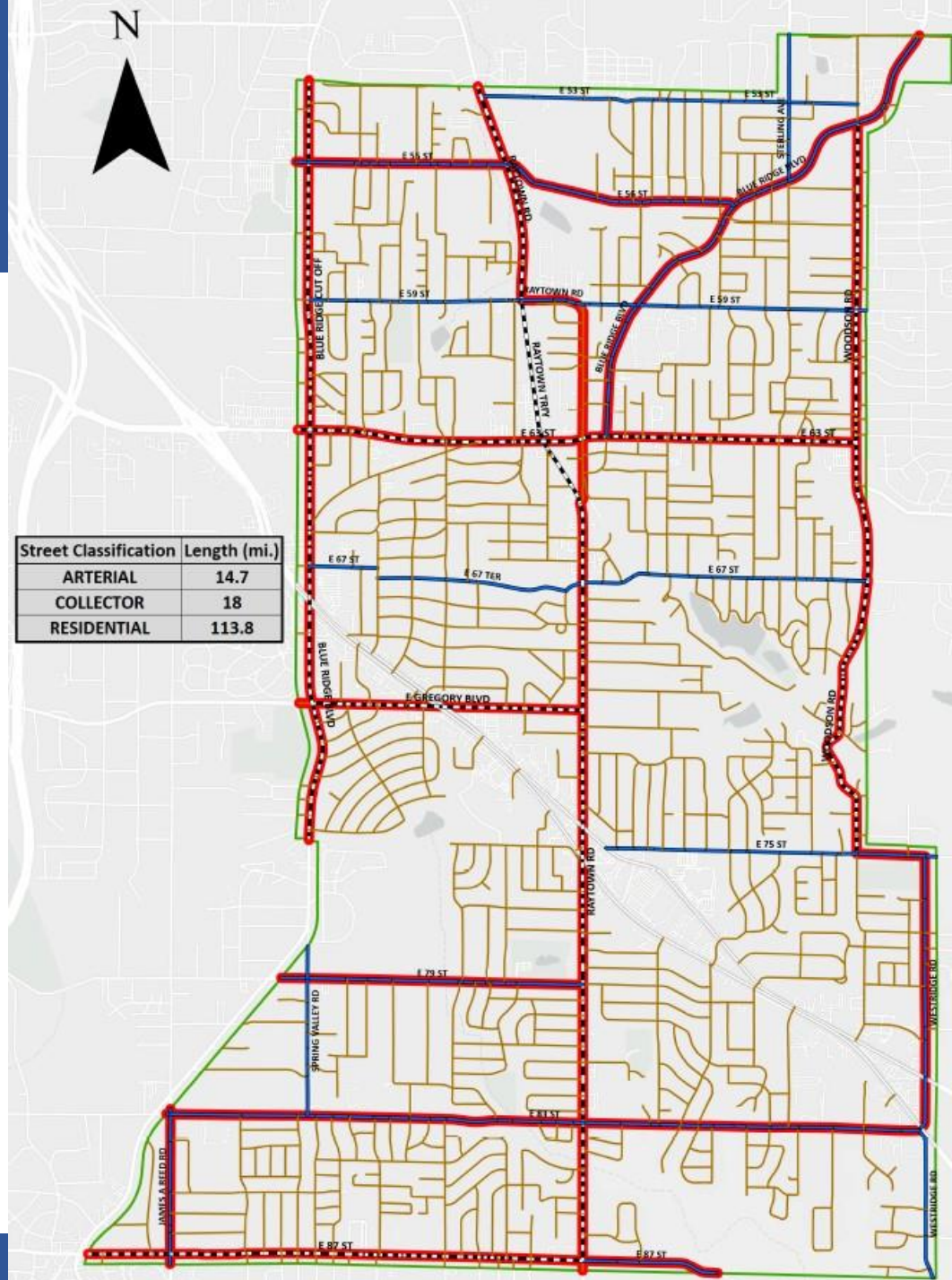
Classification  City Limits

 Arterial

 Collector

 Residential

Street Classification	Length (mi.)
ARTERIAL	14.7
COLLECTOR	18
RESIDENTIAL	113.8



Raytown, MO Street Network

- Approximately 330 Lane Miles
- Arterial = 52 lane miles
- Collector = 38 lane miles
- Residential = 240 lane miles
- Estimated Valuation of \$305M+
 - (\$350/LF of construction)
- Mostly Asphalt construction



Fundamentals of Pavement Management

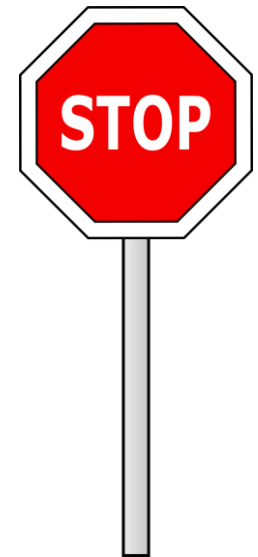
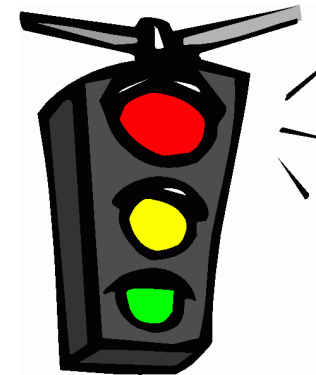


- **From the Preface:** “Managers and engineers who have adopted pavement technology understand that pavement management is a matter of...Pay now, or pay much more later.”

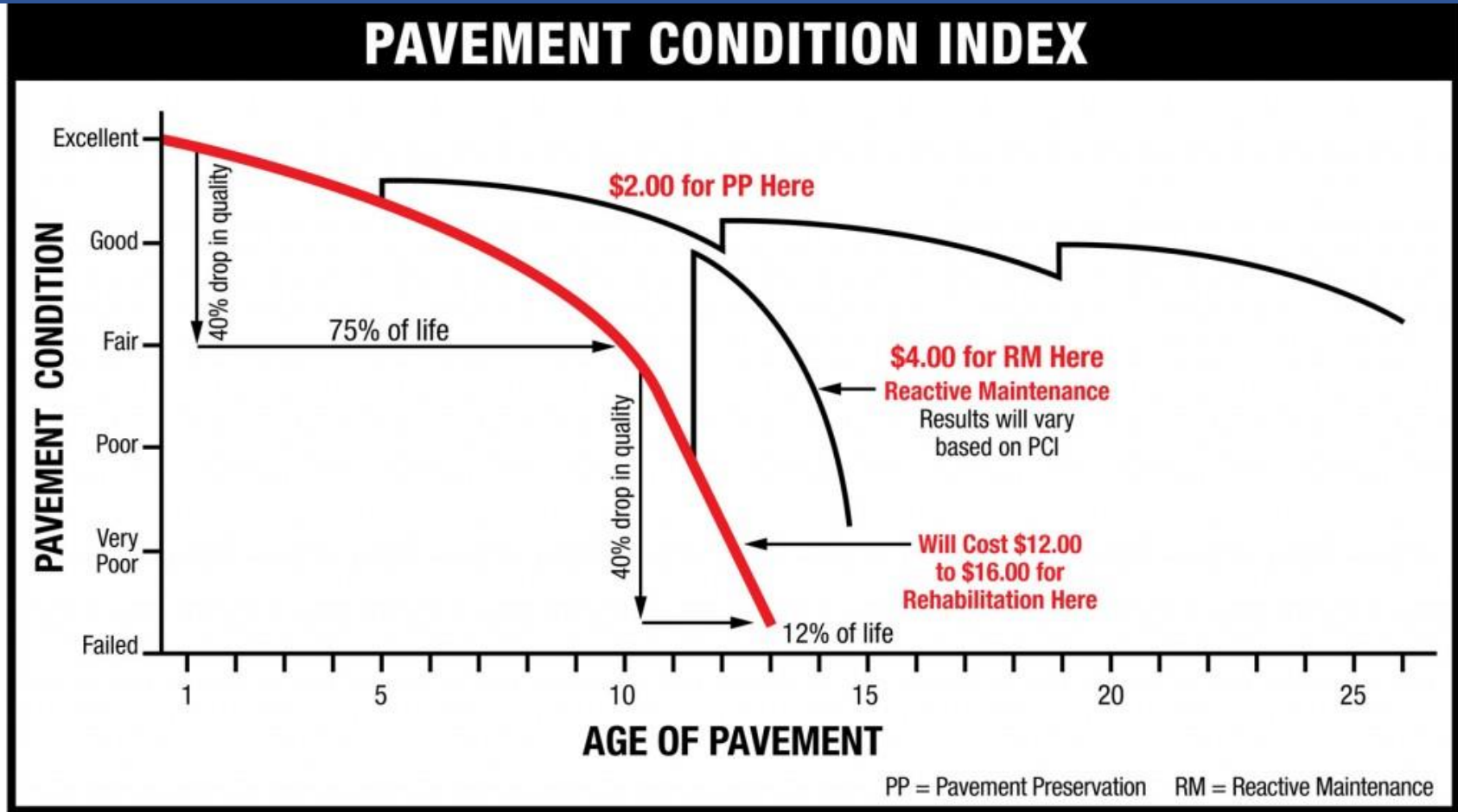
!!KEEP GOOD STREETS GOOD!!

Assets

- Street Network: 330 Lane Miles of Street Infrastructure
- Other related assets
 - Street Signs/Supports
 - Pavement Markings and Striping
 - Sidewalk and ADA Ramps
 - Residential Driveway Ramps
 - Storm Inlets
 - Curb/Gutter
 - Signals and Flashers
 - Manholes

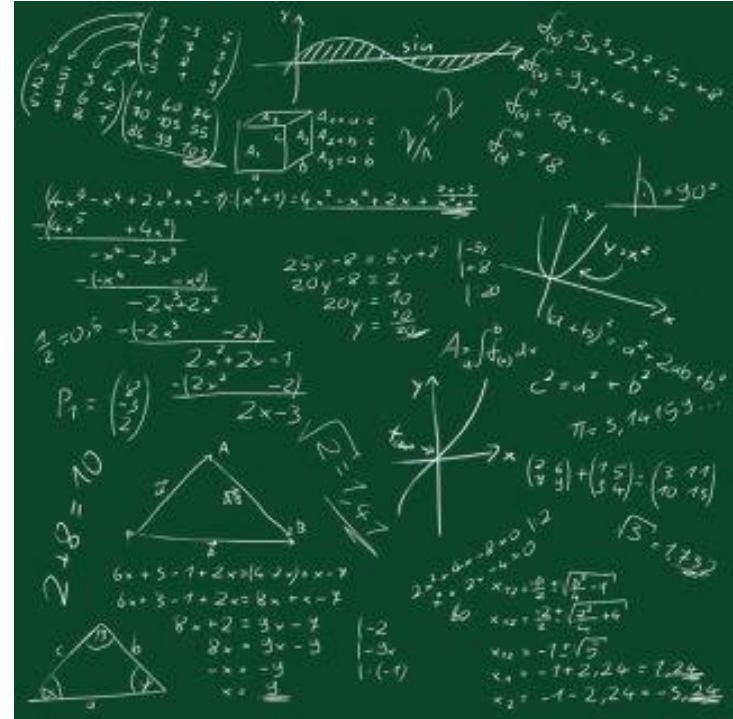


Conceptual Pavement Life Cycle Cost



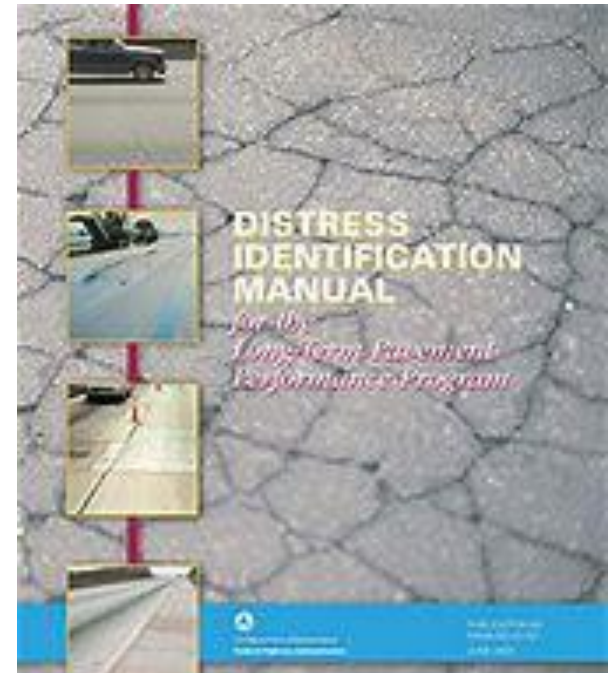
Raytown Streets – Simple Math

- On average, every 8 years each street should be touched to keep up it's good life
- 330 Lane Miles divided by 8 (years) = 41.25 LM
- 12% of our street network should be maintained annually
- Coordination between in-house maintenance & contracted maintenance



Condition Surveys

- 2018 Stantec provided a street condition survey for Raytown Streets
- We learned there is lots of work ahead of us
- We also learned we need to find ways to stretch our dollars



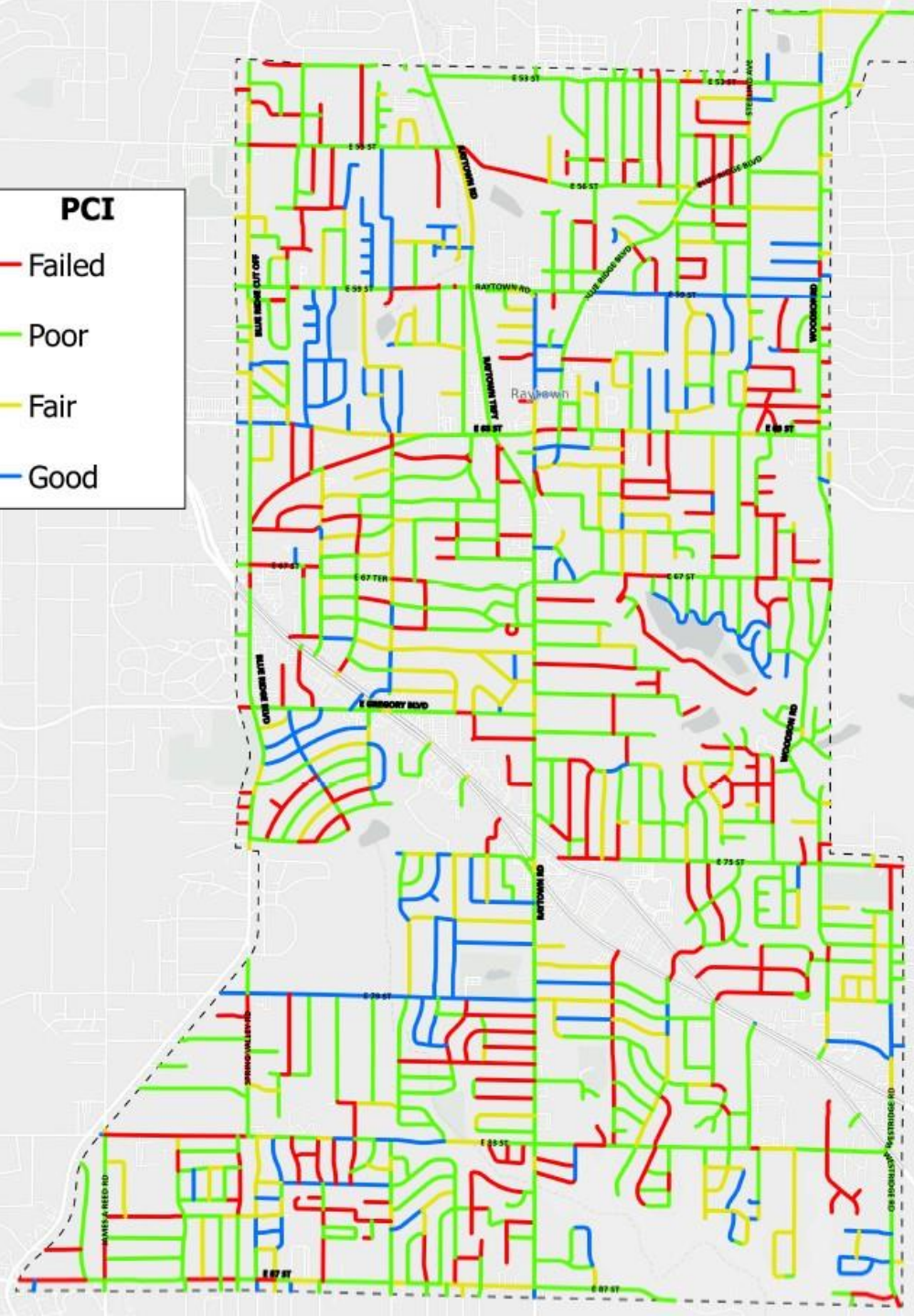
Pavement Management and Pavement Condition Index (PCI)

- Pavement Condition Index (PCI) is used nationally to measure the pavement condition.
- Range = 0 to 100
- PCI > 70 = surface or joint problems
- PCI < 70 and > 55 = critical range
- PCI < 40 = Pavement failing, expensive to repair
- Raytown Pavement Avg PCI = 42

Raytown Pavements Ratings

- Good PCI 100-75 Blue
 - 14.98 miles
- Fair PCI 74-55 Orange
 - 25.6 miles
- Poor PCI 54-30 Green
 - 71.79 miles
- Failed PCI 29-0 Red
 - 34.13 Miles

Avg = 42



Raytown Streets Maintenance History

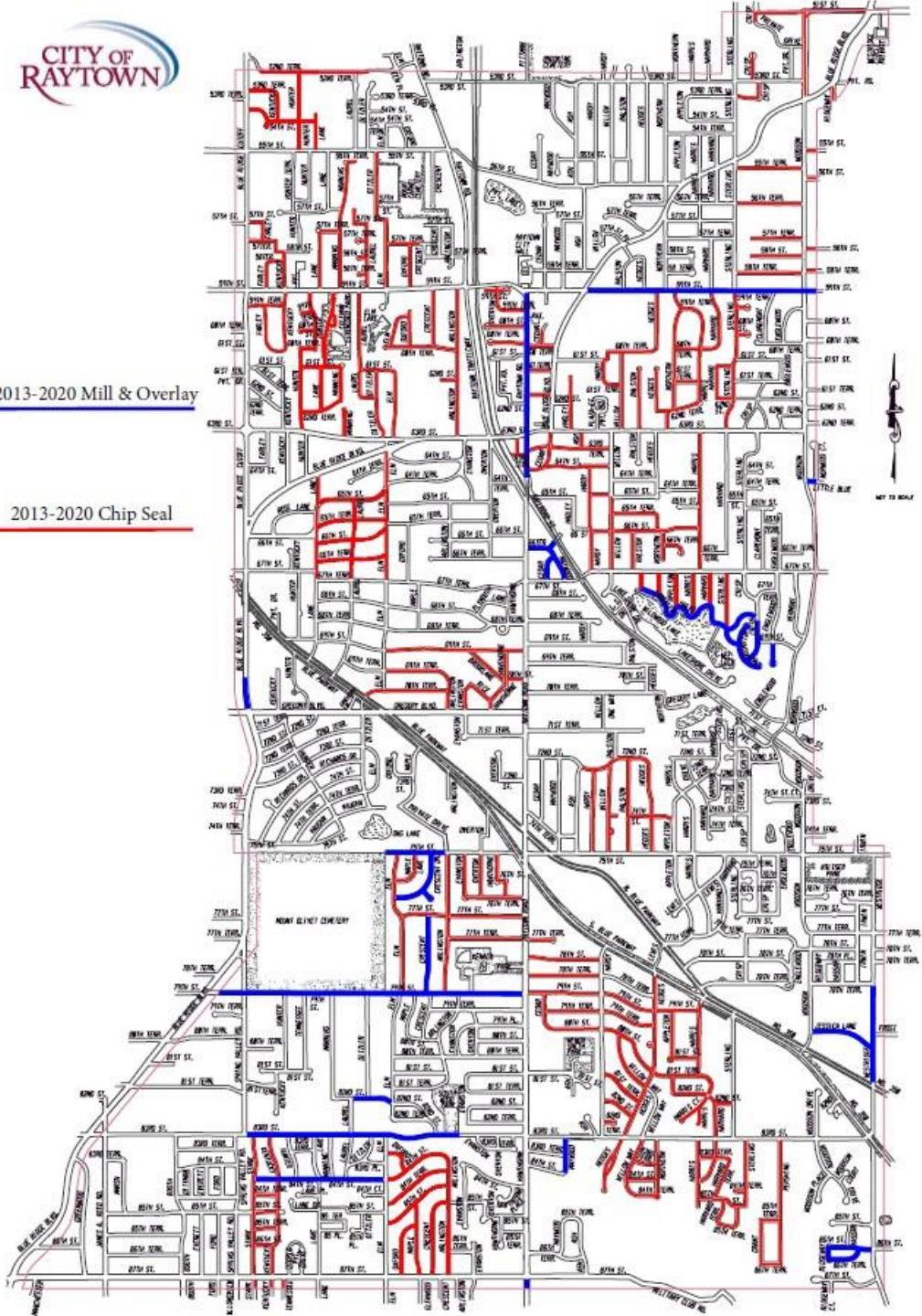


City Expenses on Street Maintenance

2020		2016	
Concrete	\$0	Concrete	\$36,680
Chip Seal	\$0	LWA Seal	\$0
Overlay	\$0	Overlay	\$0
Striping	\$14,093	Striping	\$0
	\$14,093		\$36,680
2019		2015	
Concrete	\$145,266	Concrete	\$149,407
Micro Sur.	\$55,680	LWA Seal	\$261,029
Overlay	\$254,478	Overlay	\$0
Striping	\$37,179	Striping	\$4,942
	\$492,602		\$415,377
2018 (83rd St Bridge Project)		2014	
Concrete	\$0	Concrete	\$182,220
Chip Seal	\$0	LWA Seal	\$155,426
Overlay	\$0	Overlay	\$248,967
Striping	\$0	Striping	\$14,439
	\$0		\$601,052
2017		2013	
Concrete	\$183,373	Concrete	\$147,457
LWA Seal	\$542,717	LWA Seal	\$273,743
Overlay	\$0	Overlay	\$300,040
Striping	\$4,651	Striping	\$19,666
	\$730,741		\$740,907

2013-2020 Mill & Overlay

2013-2020 Chip Seal



Big Question - So What Do We Do?



- Prioritize Fair/Good Streets. Best bang for buck!
- Back to Basics
 - Routine Maintenance (crack sealing)
 - Preventative Maintenance (surface treatments)
- Based on math Raytown should be touching 20.6 miles annually or 41.25 lane miles.
- Develop a financial plan for deferred maintenance and reconstruction
 - Can not completely ignore
- Investigate Surface and Base thickness of streets (cores)

Get Back to Basics

Pavement Management Basics

- Basic Treatment Types:
 - Routine Extends Life
 - Fog Seal, Crack Seal, Milling, Patching
 - Preventative: Improves Ride-Ability But Adds No Structure
 - Leveling Courses, Chip Sealing, Micro-Surfacing, Thin Overlays
 - Deferred Maintenance:
 - Beyond Preventative Treatments To Be Effective
 - Not Yet Ready For Rehabilitation
 - Rehabilitation: Address Serious Pavement Structural Problems
 - Heater Scarify Overlay, Mill Overlay, Thick Overlay, Cold Recycle
 - Reconstruction: Removes Structural Problems
 - Removes And Replaces Pavement

Types of Street Maintenance

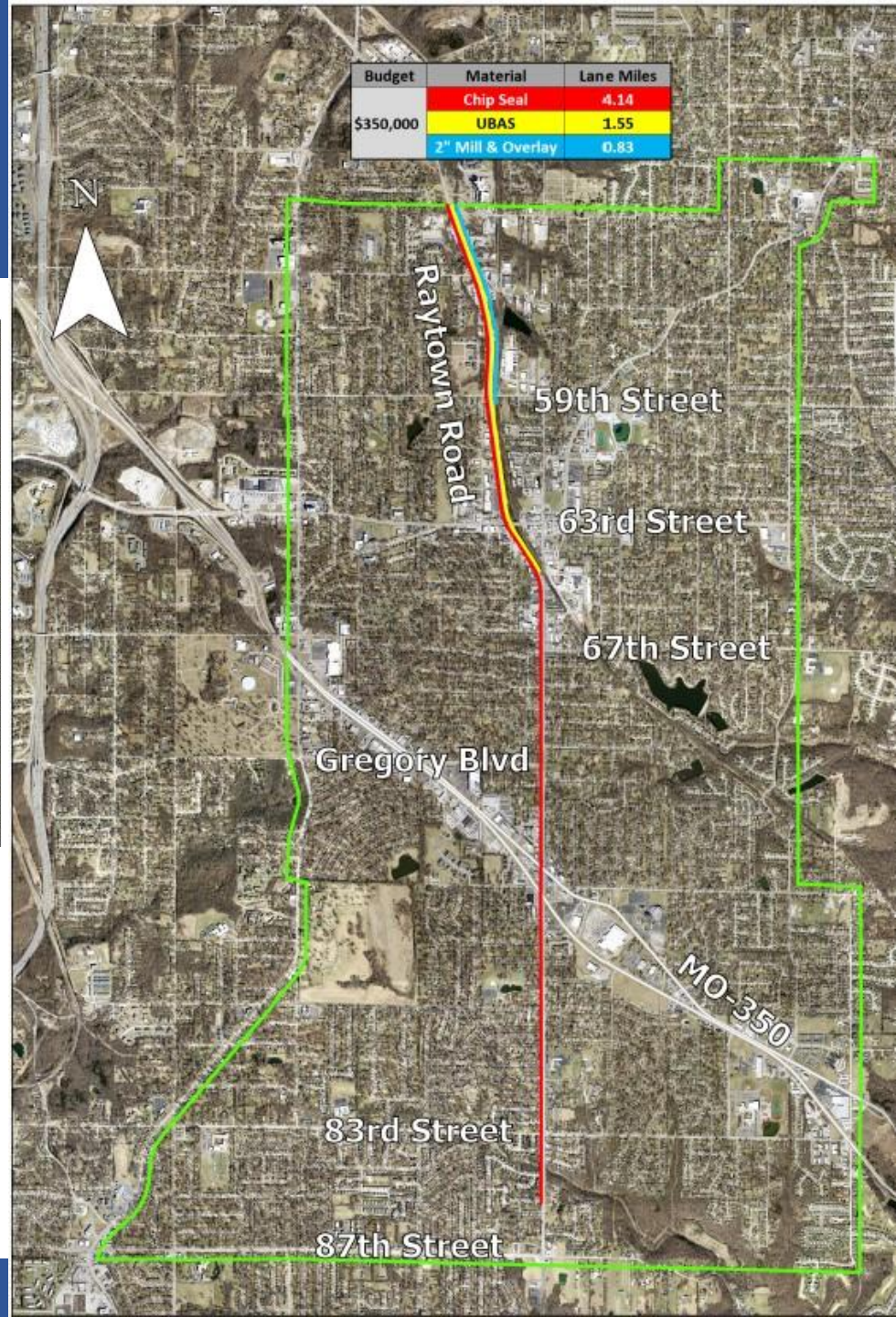
- Crack Seal \$1.45/LB (contracted price)
- Granite Chip Seal \$2.50/SY
- Micro-surface \$3.00/SY
- Ultrathin Bonded Asphalt Surface (UBAS) = \$8.00/SY
- Mill/Overlay = \$15.00/SY
- Costs do not include striping, etc



Stretch Dollar by Using A Variety of Maintenance Strategies

Stretch Our Dollar

Budget	Material	Lane Miles
\$350,000	Chip Seal	4.14
	UBAS	1.55
	2" Mill & Overlay	0.83



Budget	Material	Lane Miles
\$350,000	Chip Seal	4.14
	UBAS	1.55
	2" Mill & Overlay	0.83



Using a variety of maintenance techniques helps us impact more residents



Priorities – Keep Good Streets Good (In-House Staff)



THIS IS WHAT WE WANT TO SEE

Street Patching & Crack Sealing – Basic Maintenance

- \$150,000 Crackseal budget
 - Will be contracted in 2021 & 2022
 - Will be evaluated for in-house function
 - Will be a priority for Raytown Streets
- In-House Patching
 - Prioritize first 2” surface and base repairs
 - Fair/Good Streets
 - Prepare “Prep” Streets for preventative maintenance
- \$350,000 Contracted Street Maintenance Budget
 - Preventative Maintenance
 - Assist patching and base repairs as needed
 - Rehabilitation (mill & overlay) where it makes sense



Surface Treatment Phases

Chipseal

ADVANTAGES

- Lowest cost (About \$2.50 per Square Yard)
- Best performance for the funds expended
- No milling, less strain on existing street base materials
- Better suited for streets in worse condition

DISADVANTAGES

- Leftover aggregate requires sweeping and is messy
- Street looks like a gravel surface and is rough
- Potential for asphalt emulsion to bleed through aggregate
- More frequent maintenance than a UBAS or mill and overlay
(About 6-12 years depending on underlying pavement condition)



Surface Treatment Phases

Surface Treatment - Phases



Surface Treatments - Chip Seali...



UBAS – Treatment

ADVANTAGES

- Looks substantially like a conventional mill and overlay, visually appealing
- Less expensive than mill and overlay
- Minimal milling depth, and fewer material trucks, puts less strain on existing street base materials
- Quick project – limited street closing time
- Cul-de-sac's

DISADVANTAGES

- More expensive than chip seal (About \$8 per Square Yard)
- Still requires crack seal, however, it is expected that subsequent crack seal of UBAS is less than required for a mill and overlay
- Base repairs required prior to treatment



UBAS – Treatment

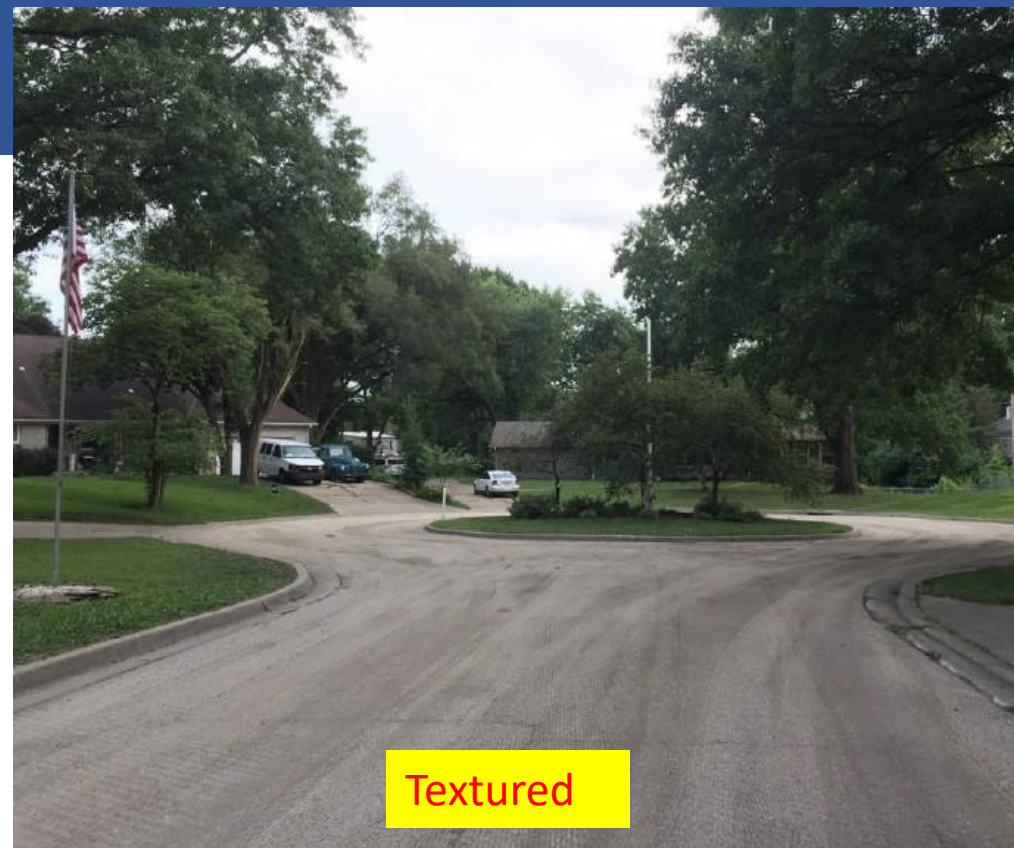


Textured



UBAS completed

UBAS – Treatment



Textured



UBAS completed

Mill and Overlay

ADVANTAGES

- Great aesthetic appearance when complete
- Moderate performance (7 – 10 years) then must receive a surface treatment

DISADVANTAGES

- More material to complete job = more cost
- More time needed to complete project
- Crack transference to surface more likely with typical asphalt overlay
- Milling 2" from existing street structure reduces thickness (very important w/"legacy" streets)



Maintenance Options

MILL AND OVERLAY (often 2")

- Seal wide cracks and perform base repairs
- Mill off existing surface and clean
- Apply tack coat and asphalt overlay



Street Cores

- Subsurface investigation
- Provides guide for future street maintenance strategy
- Focus on Fair/Poor Streets



Core #19W



How It Works Best

- 2021 “prep work”
- 2022 surface treatments
- 2022 “prep work” for 2023 and so on.....



What's Next?

Maintenance Program

- Consideration of “Keep Good Street Good” strategy based on PCI
- Use proven street maintenance techniques
- Staff will identify 2021 Street to prepare for 2022 surface treatments and annual crack sealing
- Using All Possible Maintenance Techniques
 - Crack Seal, Panel Replacement and Base Patching
 - Surface Treatments
 - More Substantial – Chip Seal (1/4” or 3/8” recommended), UBAS (Ultrathin Bonded Asphalt Surface), Microsurfacing
 - Heavy Treatments – Mill and Overlay, Thin Concrete Mill and Overlay
 - Reconstruction – will take more \$ and limit annual maintenance
- Maintenance Philosophy – “Keep your good streets good”, i.e. do not use expensive treatments, i.e. mill and overlay, on failed streets.
- 3-5 year street maintenance program

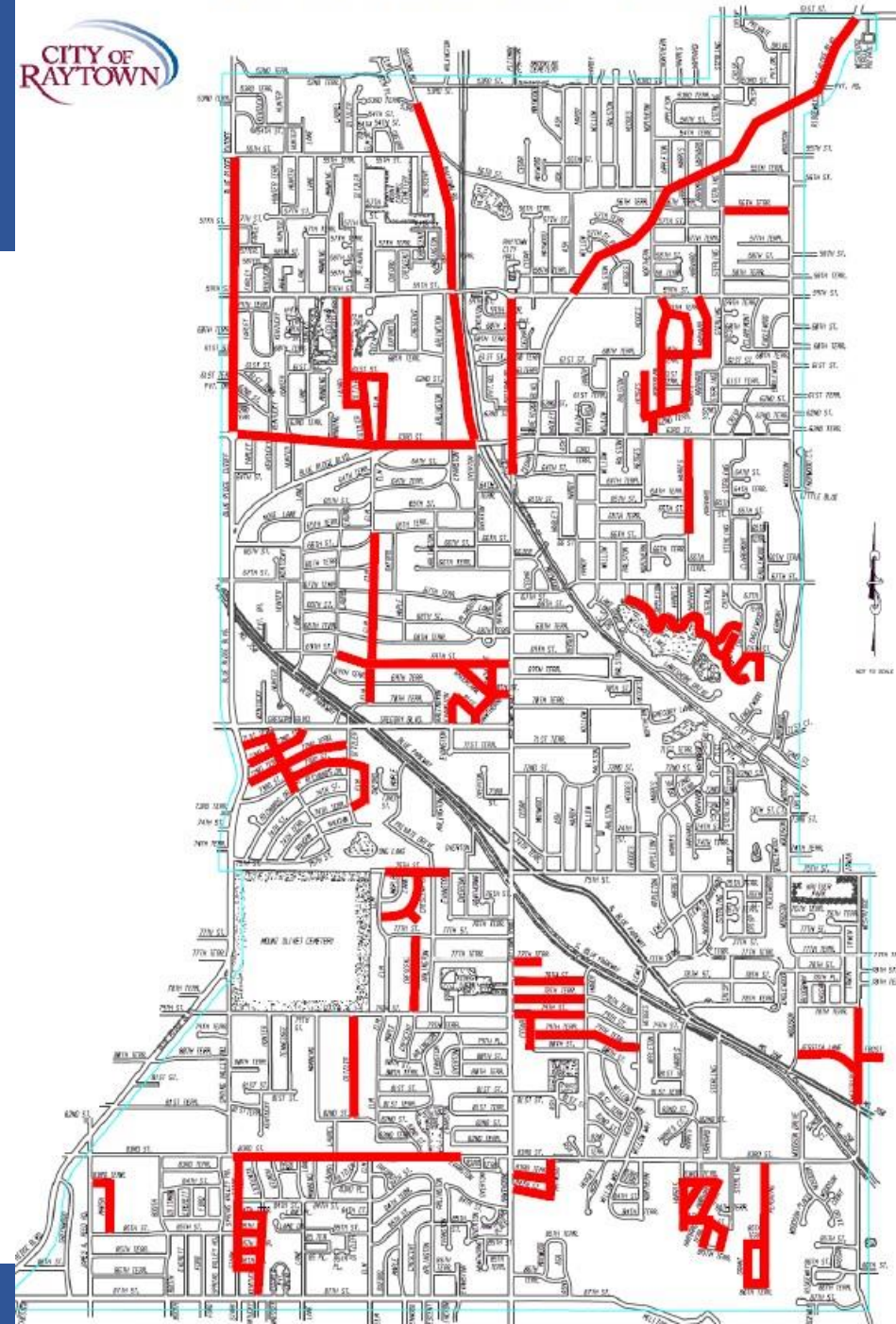


2021 Street Maintenance Program

- In-House
 - Focus on base repairs and surface repairs we can achieve with our resources
- \$350,000 Contracted Maintenance Budget
 - Contracted base repair, surface repair
 - Maybe some UBAS
 - Contracted Core Streets
- \$150,000
 - Contracted Crack Seal
- Total 20 Miles or 43.7 Lane Miles



2021 Street Maintenance Candidates



Questions?

