



Pavement Management Program Overview & 2018 Pavement Maintenance Projects

April 23, 2017

“Quality Community for a Lifetime”

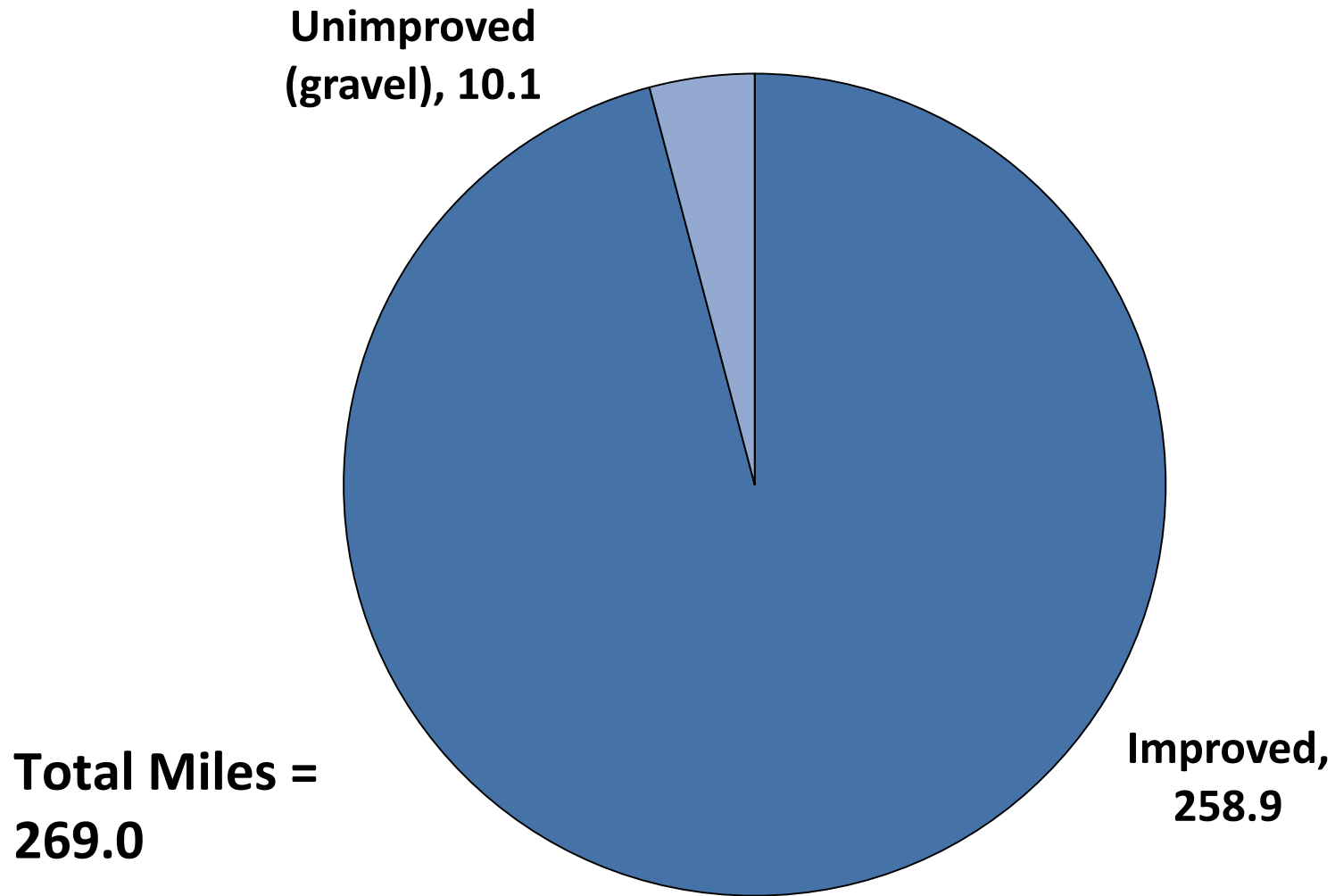
Program Evaluation and Analysis

- Methodology created a cycle of repairs around the city to address:
 - **Routine** Maintenance
 - **Preventive** Maintenance
 - **Corrective** Maintenance
- Seven year cycle for Local/Neighborhood Streets
- Weighted rating of OCI and various qualitative factors to rank Arterial & Collector Streets
- Does not address streets needing reconstruction

Commerce City
Pavement Management Program Philosophy

Completing the
Right Repair on the
Right Road at the
Right Time

Centerline Miles of Streets (2017)

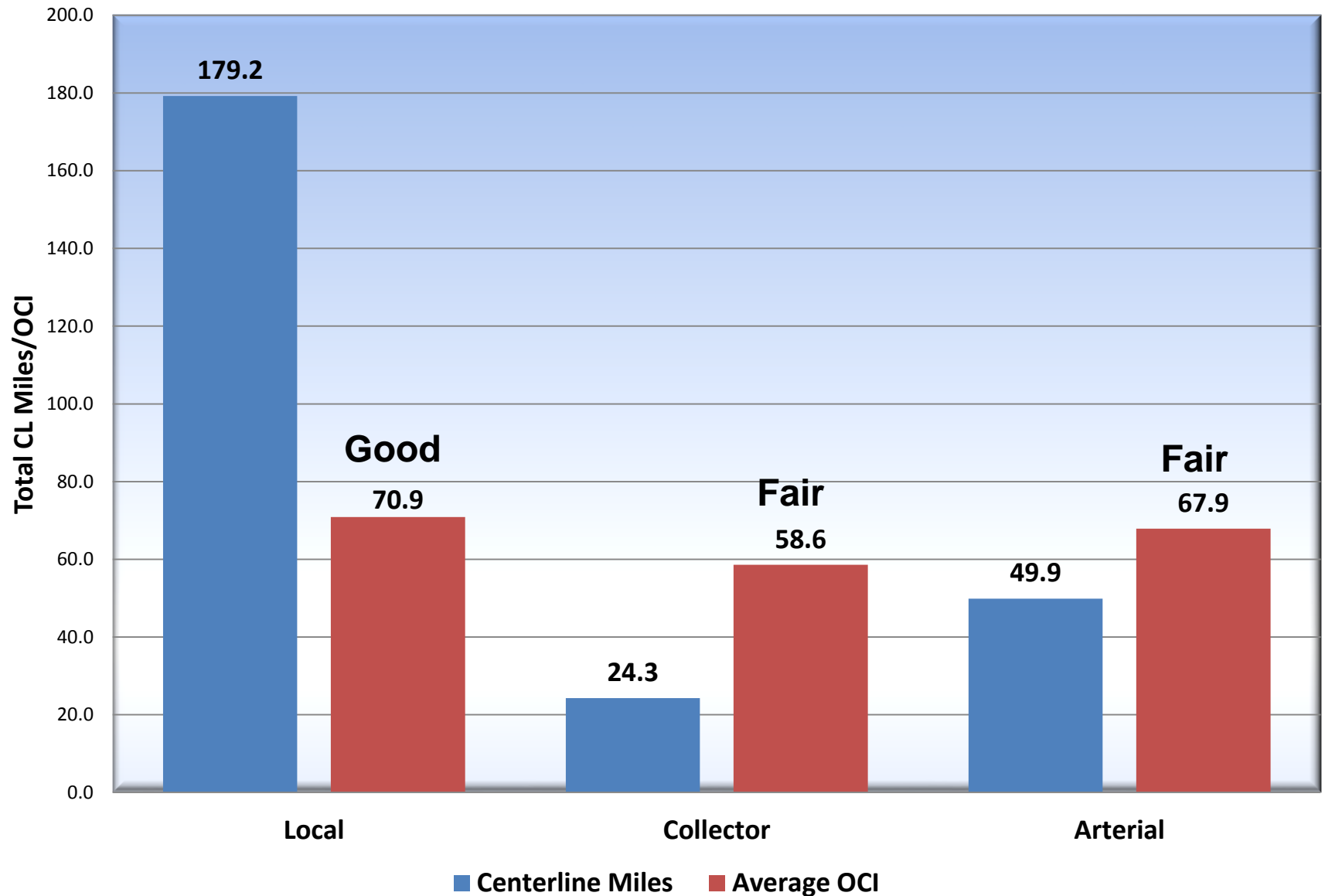


Overall Condition Index

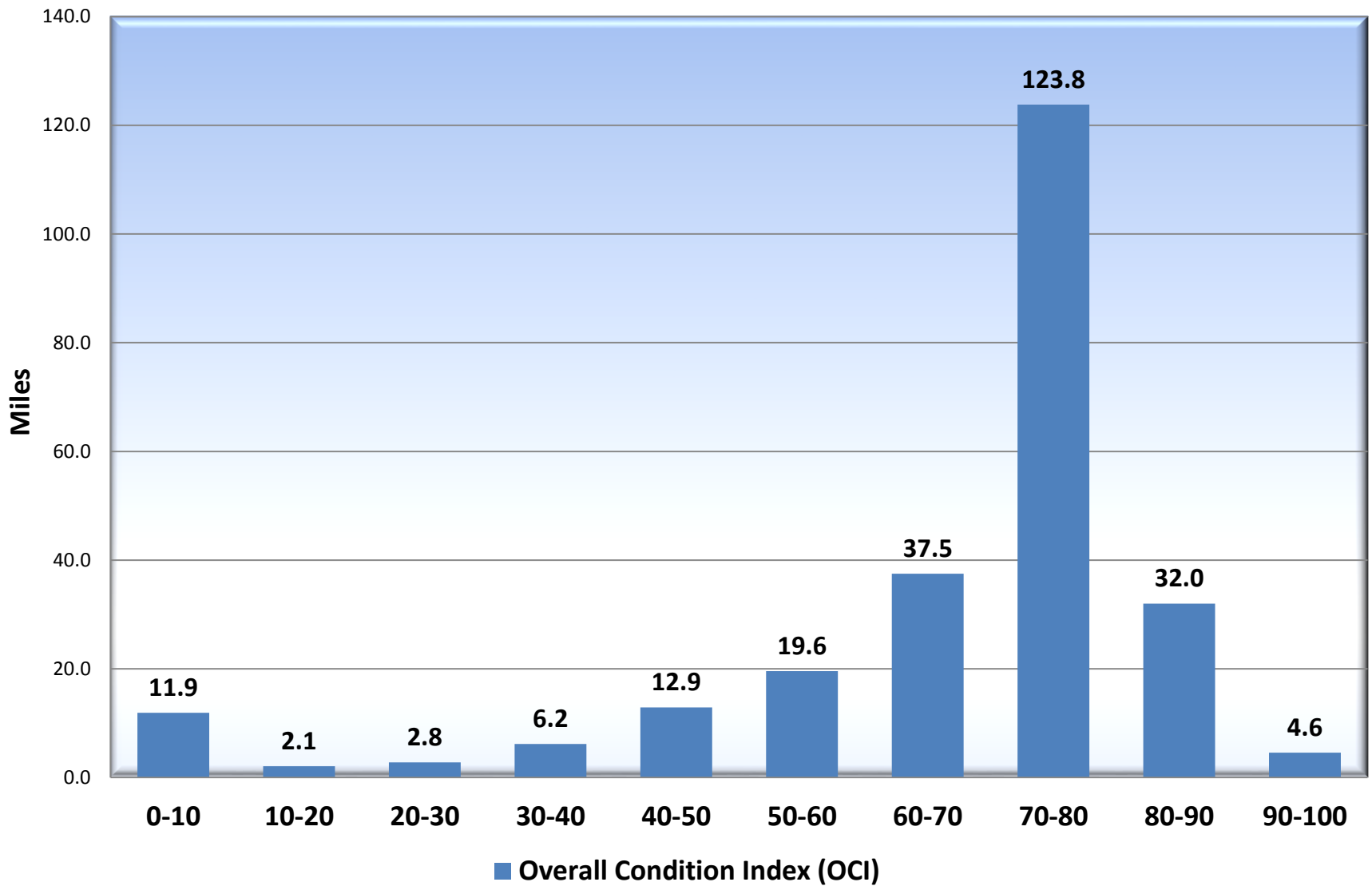
- Rating system used to determine the relative condition of a street segment
- Includes: distress type, quantity & severity
- Work Plan identifies a goal of 60 OCI

85-100	<i>Excellent</i>
70-84	<i>Good</i>
50-69	<i>Fair</i>
30-49	<i>Poor</i>
< 30	<i>Very Poor</i>

2008 Miles and OCI by Functional Class of Roadway



2008 Pavement Condition (Miles of Streets by OCI)



Maintenance Types

Routine:

- Planned; cyclical
- Reactive to problems; performed after a deficiency occurs in the pavement
- Does not extend service life

Examples:

- Crack sealing/filling
- Full depth crack repair with mastic material
- Joint sealing (concrete)
- Pothole patching
- Leveling low spots

Maintenance Types

Preventive:

- Performed to protect the existing pavement through surface treatments
- Extends the service life
- Does not add any structural strength
- Proactive/applied to pavements in good condition

Examples:

- Slurry Seal
- Chip Seal
- Microsurfacing

Maintenance Types

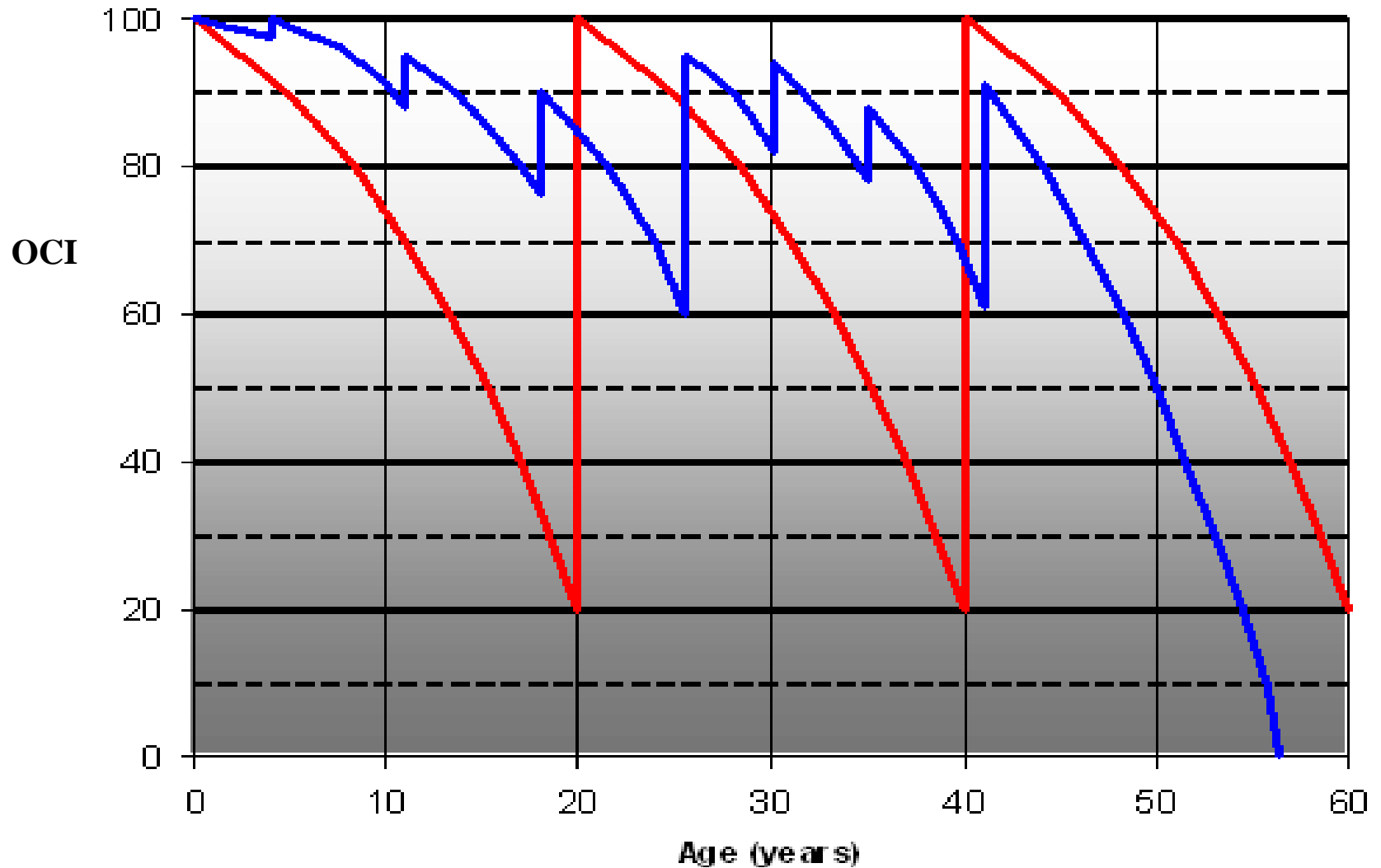
Corrective:

- Reactive
- Extends the service life through structural enhancements
- Performed when deficiencies are so significant that preventive maintenance is no longer effective
- More extensive and more expensive

Examples:

- Mill and Overlay (Resurfacing)
- Full Depth Reclamation
- Hot Mix Overlay (with or without leveling course)

Periodic Maintenance versus Reconstruction



Cracks



Cracks



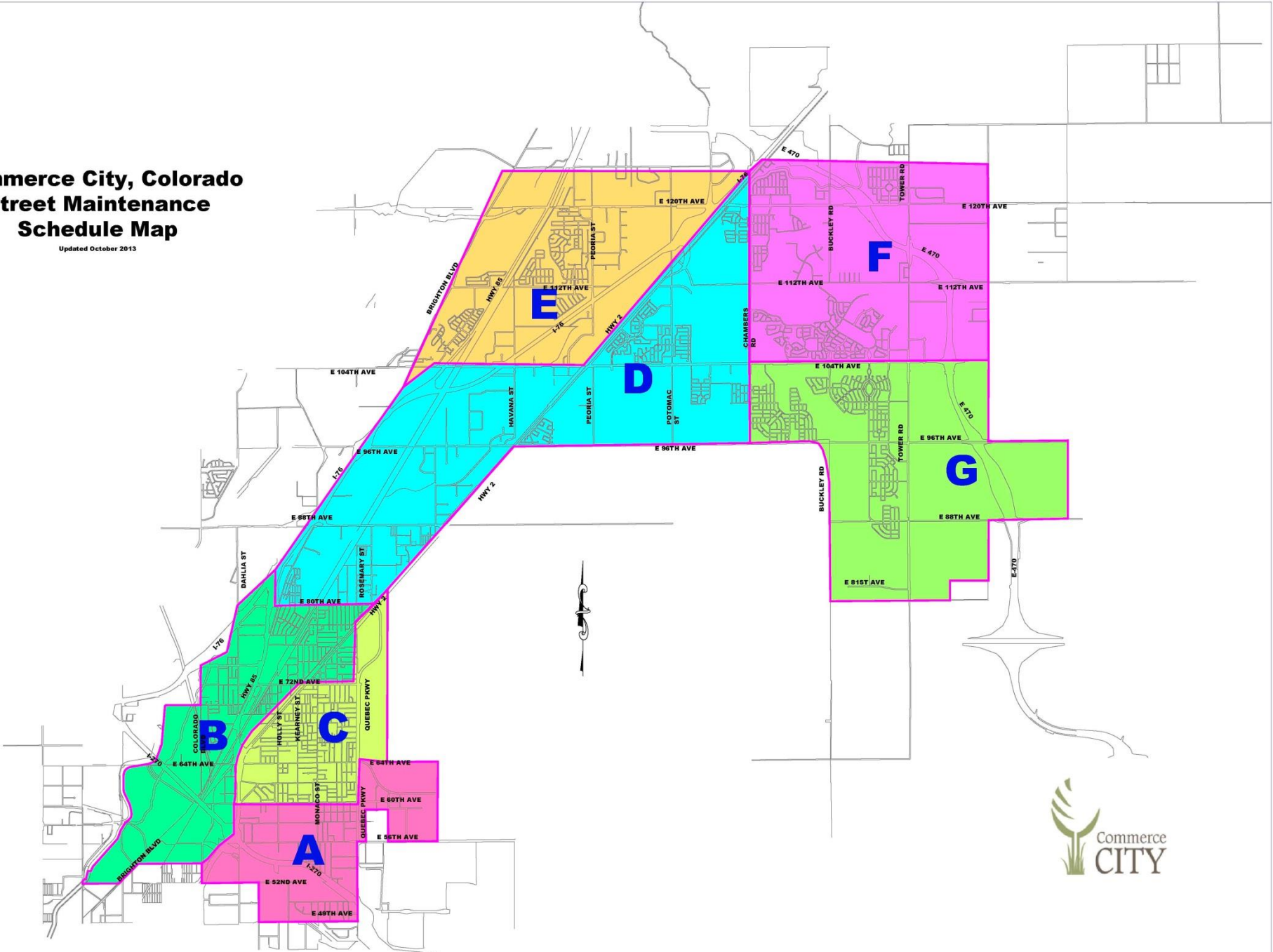
Program Methodology

Streets divided into two categories:

Arterials and Collectors	74.2 miles
<u>Local/Neighborhood</u>	<u>184.7 miles</u>
Total	258.9 miles

**Commerce City, Colorado
Street Maintenance
Schedule Map**

Updated October 2013



Program Methodology – Local Streets

- Locals were divided into 7 areas of roughly equivalent square foot area of pavement
- Routine, Preventive and Corrective repair strategies applied in one area each year, on a cyclic basis
- Not all streets will receive a treatment in any given year

2018



Local Street Schedule

AREA	CORRECTIVE	ROUTINE	PREVENTIVE
F	2018	2022	2023
E	2019	2023	2024
G	2020	2024	2018
A	2021	2018	2019
C	2022	2019	2020
D	2023	2020	2021
B	2024	2021	2022

2019



Program Methodology – Arterial & Collector Streets

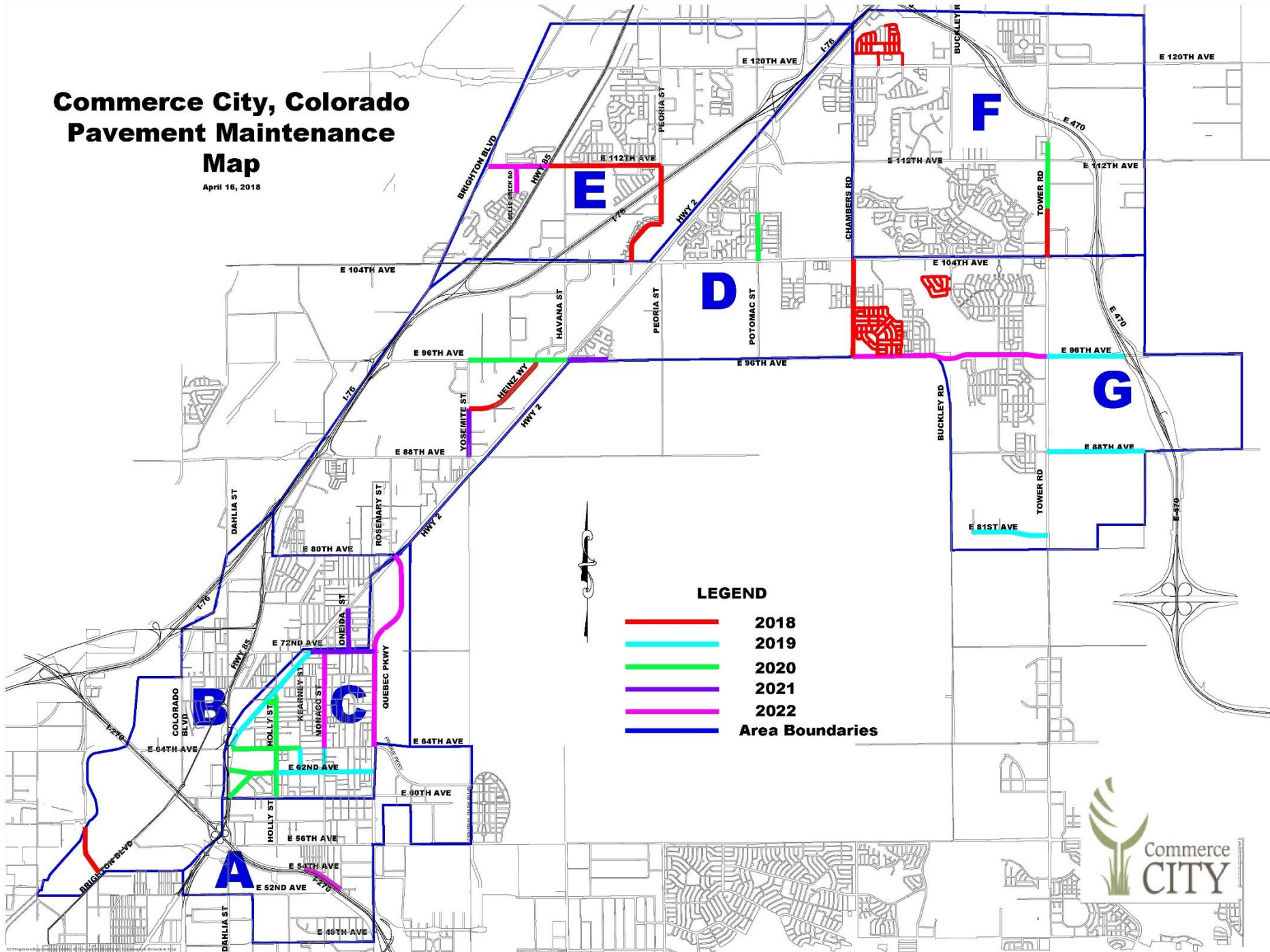
Arterials and Collectors were divided into 80 segments and then evaluated based on:

- Average OCI
- Current Traffic Volumes
- Roadway Classification
- Snow routes
- Proximity to schools, transit, parks and commercial businesses
- Economic development potential

Several sections eliminated from this program because more extensive work (reconstruction) is needed

Commerce City, Colorado Pavement Maintenance Map

April 16, 2018



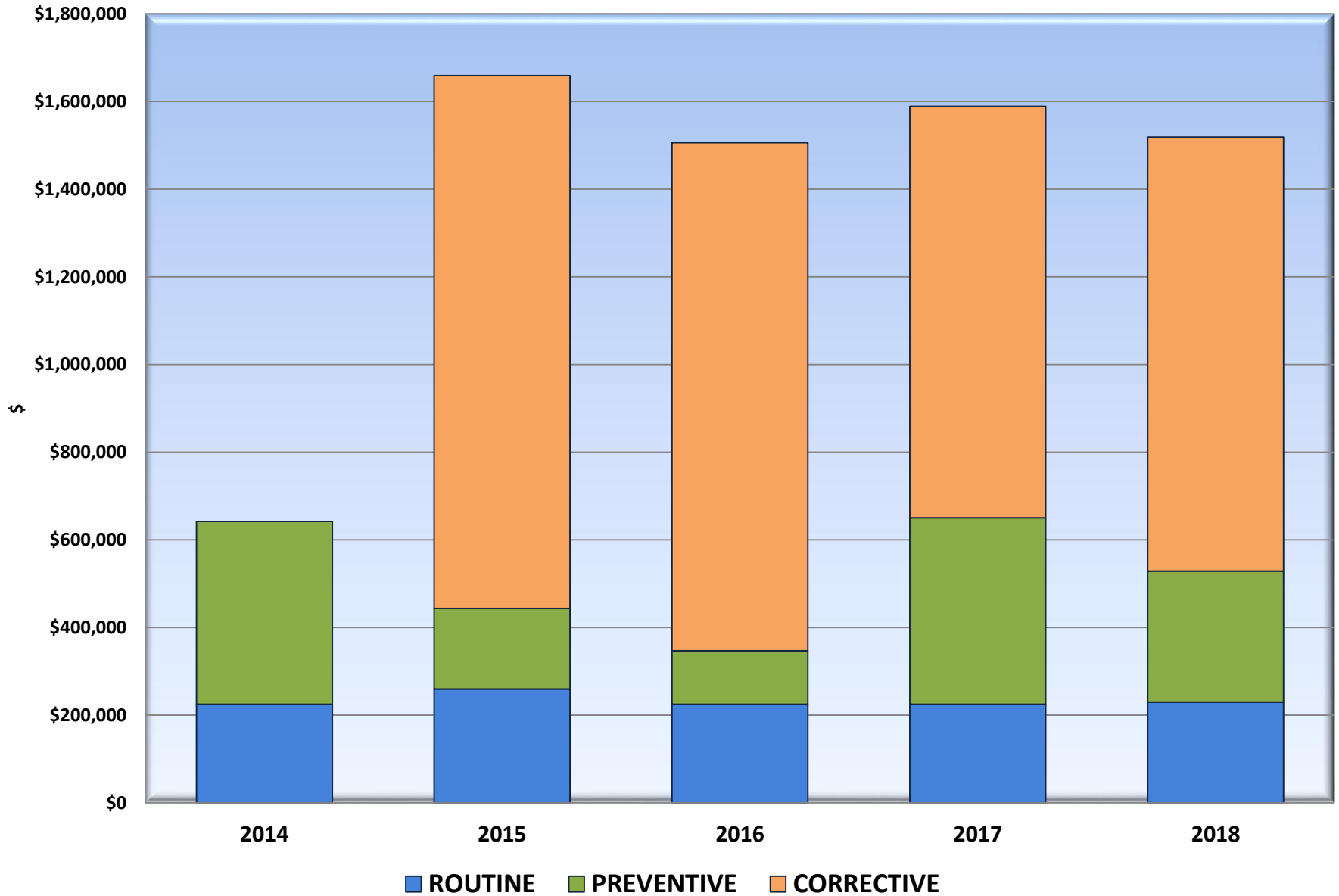
Program Benefits

- Focuses resources in one area and a few key streets in any given year
- Schedule allows for:
 - ***Preventive repairs five years after corrective repairs; and***
 - ***Routine repairs to be completed one year prior to preventive repairs***
- Allows for improved communication to residents and businesses
- Improves utility coordination
- Improves planning
- Possibly lower mobilization costs

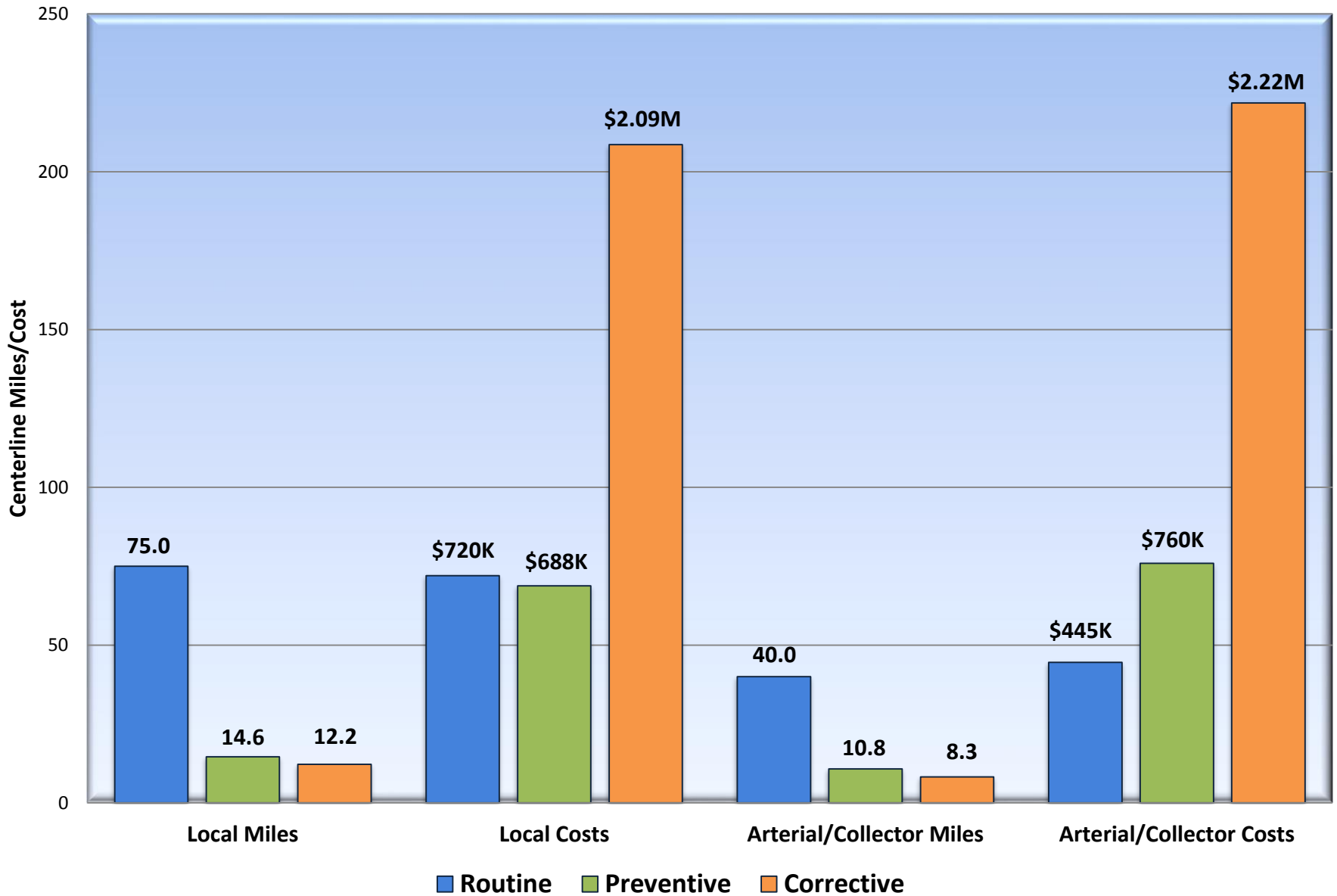
Other Factors

- Utility repair and replacement coordination
- Concrete repair (sidewalks, curb & gutter, crossspans)
- Upgrade curb ramps to meet ADA guidelines (Corrective areas only)
- Street signage evaluated & upgraded
- Lane striping evaluated & modified as needed to incorporate pedestrian & bicycle plan elements

Total Pavement Management Costs by Year



Miles of Improved Roadway versus Costs - 5 Year Plan



2017 Benchmarking

Jurisdiction	Lane-Miles	2017 Pavement Maint. Budget	Cost/Lane Mile	OCI
Greenwood Village	225	\$2,275,000	\$10,111	81
Golden	242	\$2,119,000	\$8,756	81
Parker	494	\$4,075,000	\$8,249	76
Centennial	979	\$7,700,000	\$7,865	79
Littleton	351	\$2,500,000	\$7,123	66
Castle Rock	640	\$3,940,000	\$6,156	75
Wheat Ridge	283	\$1,600,000	\$5,654	80
Northglenn	230	\$1,250,000	\$5,435	73
Lakewood	1,345	\$6,700,000	\$4,981	70
Denver	5,647	\$22,800,000	\$4,038	71
Commerce City	540	\$1,900,000	\$3,519	69
Fort Collins	1,901	\$6,580,000	\$3,461	71
Aurora	4,356	\$13,700,000	\$3,145	69

2018 Project Funding & Costs

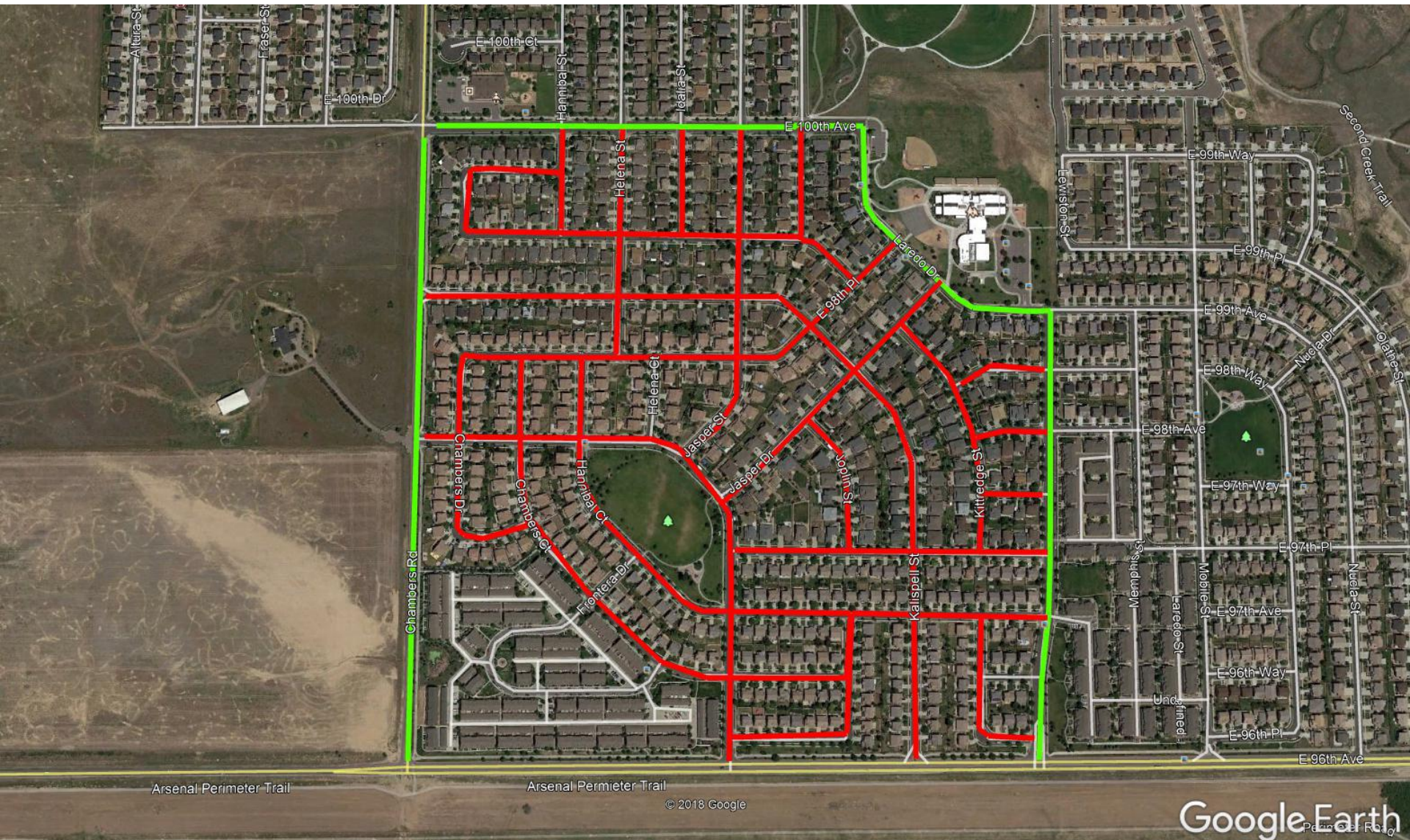
Funding	Amount
2018 Appropriation	\$1,820,363

Costs	Amount
Slurry Seal	\$380,000
Pavement Rehabilitation (Outlook)	\$90,000
Mill & Overlay	\$910,000
Concrete Panel Replacement & Repairs	\$200,000
Contingency (10%)	\$158,000
Testing, Design & Plan Preparation	\$60,000
Total	\$1,798,000
Net	\$22,363

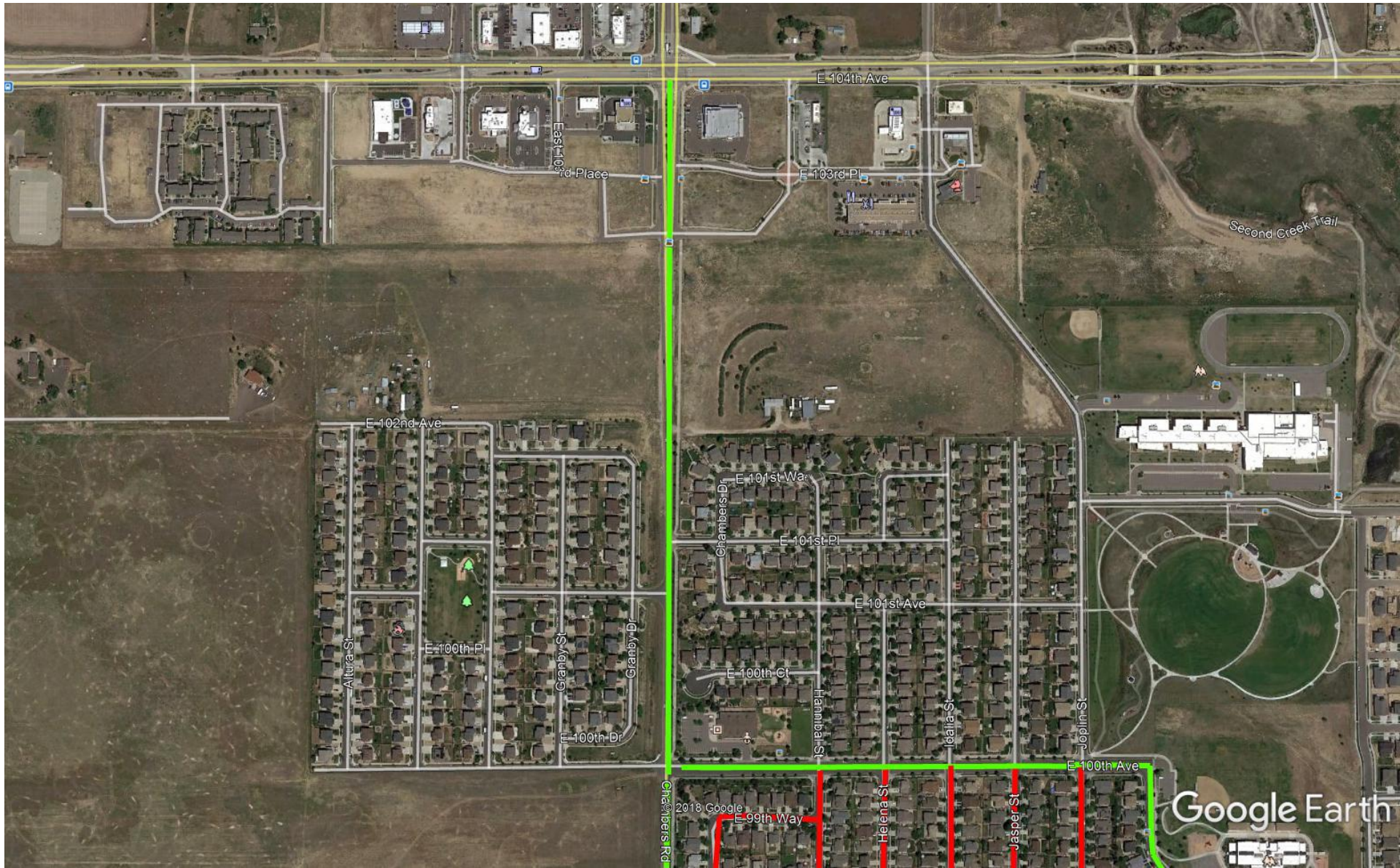
2018



Fronterra



Chambers Road, 104th Ave. to 100th Ave.



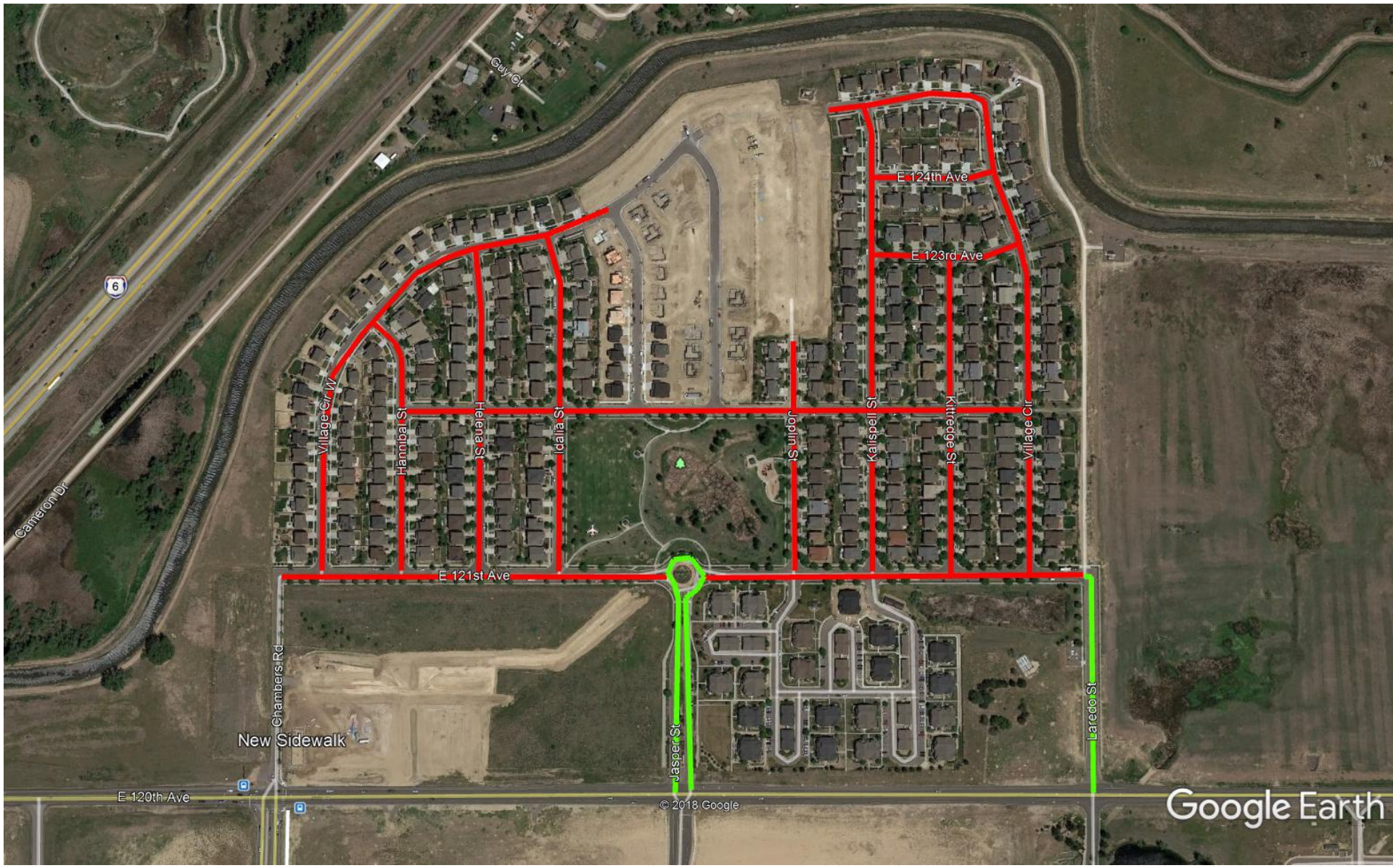
Buckley Ranch



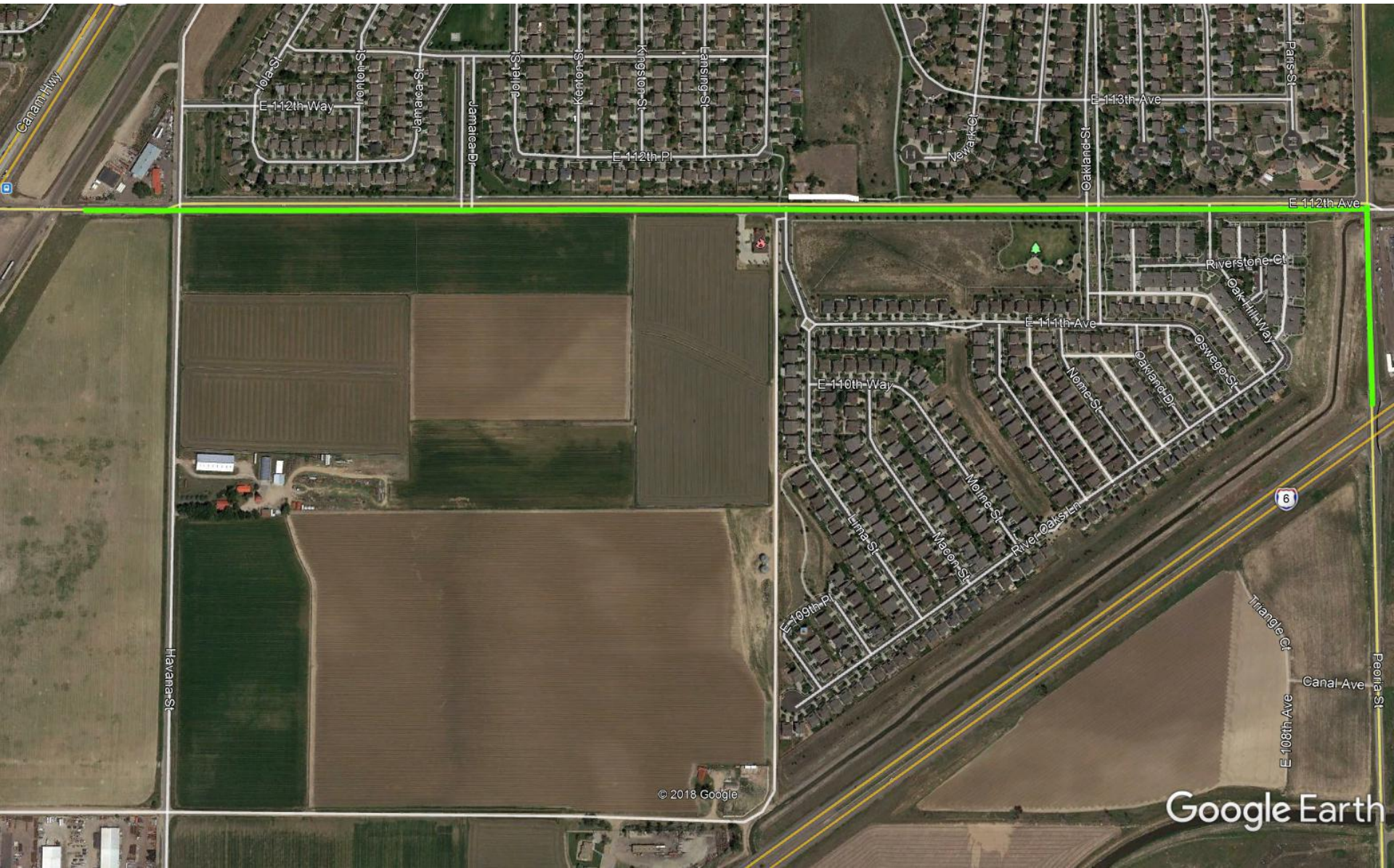
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Google Earth

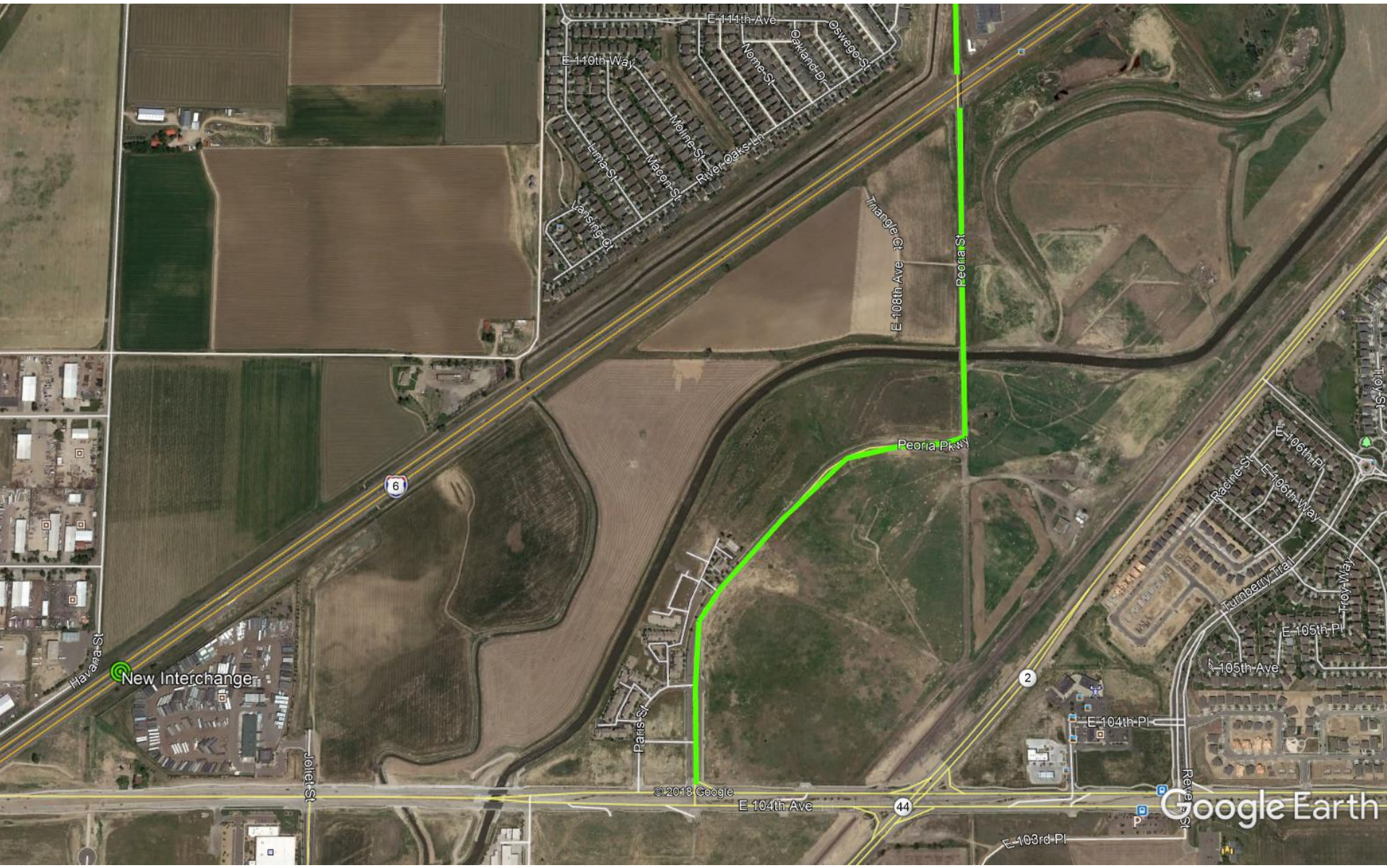
Outlook



112th Ave. & Peoria St.



Peoria Parkway



York Street



Communication Efforts

Outreach Methods:

- City Website
- Construction Hotline, *303-289-8118*
- Direct Mailer with Frequently Asked Questions
- Door Hangers
- Variable Message Boards

Project Schedule

Slurry Seal:

July-September

Mill & Overlay:

August-October

Concrete Pavement Repair:

September-October

Questions & Discussion