

# City of Dallas Infrastructure Management Program

**Mobility Solutions,  
Infrastructure, &  
Sustainability Committee  
Briefing  
November 12, 2018**

**Robert M. Perez, Interim Director  
Department of Public Works  
City of Dallas**



# Purpose of Briefing

- Provide an overview of the FY 2019-2023 Infrastructure Management Program (IMP)
- Review of the City's Pavement Condition Index (PCI) Ratings
- Present program information on:
  - Streets
  - Sidewalks
  - Alleys
- Future Actions

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# FY 2019-2023 IMP Overview

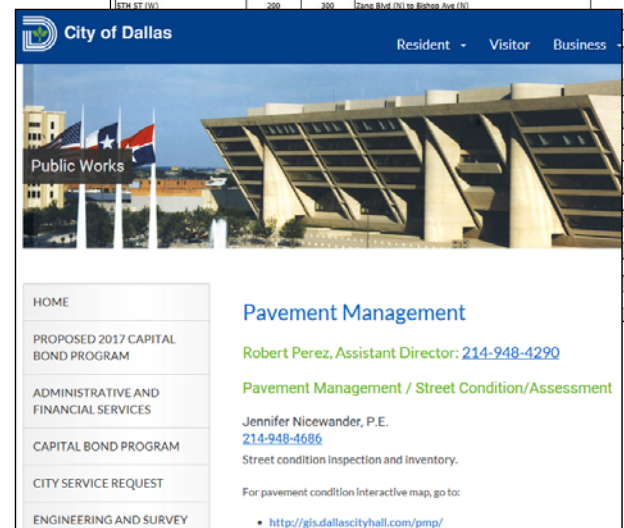
- City of Dallas' Public Works Department has developed a 5-Year Infrastructure Management Program (IMP)
  - Lists the streets, alleys, and sidewalks programmed for maintenance outside of the Bond Program
  - Will be utilized for program/project planning, budgeting, and coordination
  - Provides pavement condition assessment data

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# FY 2019-2023 IMP Overview

- Consistent with the City’s goal of transparency, the IMP, the project listings by Council District, and tracking of the completion of projects is posted on the Public Works’ Pavement Management Website

Public Works Street Maintenance Projects - FY 18					
Project Street	From Block	To Block	Project Description	Council District	Treatment Type
10TH ST (E)	300	300	Dead-end to Patton Ave (S)	1	Preservation
10TH ST (E)	800	900	Being Ave (S) to R.L. Thomson Serv W (S)	1	Maintenance
10TH ST (W)	2200	2300	Hollywood Ave to Tennant St (S)	1	Preservation
12TH ST (W)	1500	1600	Windomere Ave (N) to Rosemont Ave (N)	1	Maintenance
12TH ST (W)	2500	2600	Franklin St (S) to Superior St	1	Maintenance
15TH ST (W)	200	300	Zone Blvd (N) to Bishop Ave (N)	1	Preservation
				1	Maintenance
				1	Preservation
				1	Preservation
				1	Maintenance
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<https://dallascityhall.com/departments/public-works/Pages/pavement-management.aspx>

# FY 2019-2023 IMP Overview

- The IMP will be developed on an annual basis based upon infrastructure assessments and funding availability

<i>Proposed Five-Year IMP Program Budgets</i>						
<i>Program</i>	<i>FY 19</i>	<i>FY 20</i>	<i>FY 21</i>	<i>FY 22</i>	<i>FY 23</i>	<i>Total</i>
<b>Streets</b>	\$60.2M	\$50.8M	\$50.5M	\$50.5M	\$50.5M	<b>\$262.5M</b>
<b>Sidewalks</b>	\$2.2M	\$2.2M	\$2.2M	\$2.2M	\$2.2M	<b>\$11.0M</b>
<b>Alleys</b>	\$1.6M	\$4.0M	\$4.0M	\$4.0M	\$4.0M	<b>\$17.6M</b>
<b>Total</b>	<b>\$64.0M</b>	<b>\$57.0M</b>	<b>\$56.7M</b>	<b>\$56.7M</b>	<b>\$56.7M</b>	<b>\$291.1M</b>

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# FY 2019-2023 IMP Overview

- Over the next five years, \$531.0M of street reconstruction and maintenance is planned
- \$60.2M of maintenance/preservation projects in FY 2019

<i>Funding for Street Improvements/Maintenance - FY 2019-2023</i>						
<i>Funding Source</i>	<i>FY 19</i>	<i>FY 20</i>	<i>FY 21</i>	<i>FY 22</i>	<i>FY 23</i>	<i>Total</i>
<b>Bonds*</b>	\$46.5M	\$106.2M	\$56.7M	\$9.1M	\$50.0M**	<b>\$268.5M</b>
<b>Maint.</b>	\$60.2M	\$50.8M	\$50.5M	\$50.5M	\$50.5M	<b>\$262.5M</b>
<b>Total</b>	<b>\$106.7M</b>	<b>\$157.0M</b>	<b>\$107.2M</b>	<b>\$59.6M</b>	<b>\$100.5M</b>	<b>\$531.0M</b>

\*Street Reconstruction and Resurfacing in 2017 Bond

\*\*Assumes passage of new bond in 2020

# FY 2019-2023 IMP Overview

- Breakdown of FY 2017 Bond Proposition A – Streets and Transportation

Resurfacing	\$145.0M <sup>a</sup>
Reconstruction	\$108.7M <sup>a,b</sup>
Projects with Matching Funds	\$ 55.2M <sup>a,d</sup>
Misc. Projects	\$ 50.7M
Traffic Signals	\$ 38.5M
Alley Reconstruction	\$ 38.4M
Complete Street	\$ 30.7M
Thoroughfares	\$ 26.9M
Street, Alley Sidewalk Petition	\$ 13.5M <sup>a,c</sup>
Target Neighborhood	\$ 11.6M
Sidewalk	\$ 7.2M
Streetscape	\$ 5.1M
Street Lighting	\$ 2.6M
<b>Total Proposition A</b>	<b>\$534.0M</b>

a - Used for Modeling in IMP; b - Construction costs only used in IMP development, c - \$12.5 allocated for Street Petition Projects, d – portion of funds used in IMP development

# Pavement Condition Index (PCI) Ratings

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# Pavement Condition Index (PCI) Ratings

- As part of the City's Pavement Management Strategy, each street segment is assigned a Pavement Condition Index (PCI) rating of 0-100
  - Score of "0" is a completely failed street and "100" would be a brand new street
- PCI data is obtained through field assessment and data modeling (consultant)
- ¼ of the City is updated through field assessment annually

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# Pavement Condition Index (PCI) Ratings

- Street conditions have been reported in Percent Satisfaction (A-C Streets; 77%)
- Moving forward, staff will be reporting the average PCI as a more comprehensive assessment
- Average PCI of Dallas' 11,775 miles of streets is 65.4

<i>City of Dallas PCI Ranges</i>	
<b>Letter</b>	<b>PCI Range</b>
A	100-85
B	70-84.9
C	55-69.9
D	40-54.9
E	0-39.9

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# Pavement Condition Index (PCI) Ratings

- District street condition ratings
- Takes into account all work (bond and maintenance) completed in FY 2018

<i>Street Lane Miles and Citywide and District Ratings - FY18</i>			
City	Lane Miles	Percent Satisfaction	Average PCI
1	751	69%	61.0
2	938	71%	61.8
3	992	88%	71.3
4	922	72%	62.2
5	709	73%	63.5
6	1,071	81%	66.4
7	874	77%	66.0
8	877	80%	70.0
9	909	77%	63.9
10	734	86%	69.0
11	622	82%	66.3
12	626	90%	72.4
13	1,010	77%	64.3
14	740	60%	58.2
<b>Total</b>	<b>11,775</b>	<b>77%</b>	<b>65.4</b>

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# Program Information – Streets

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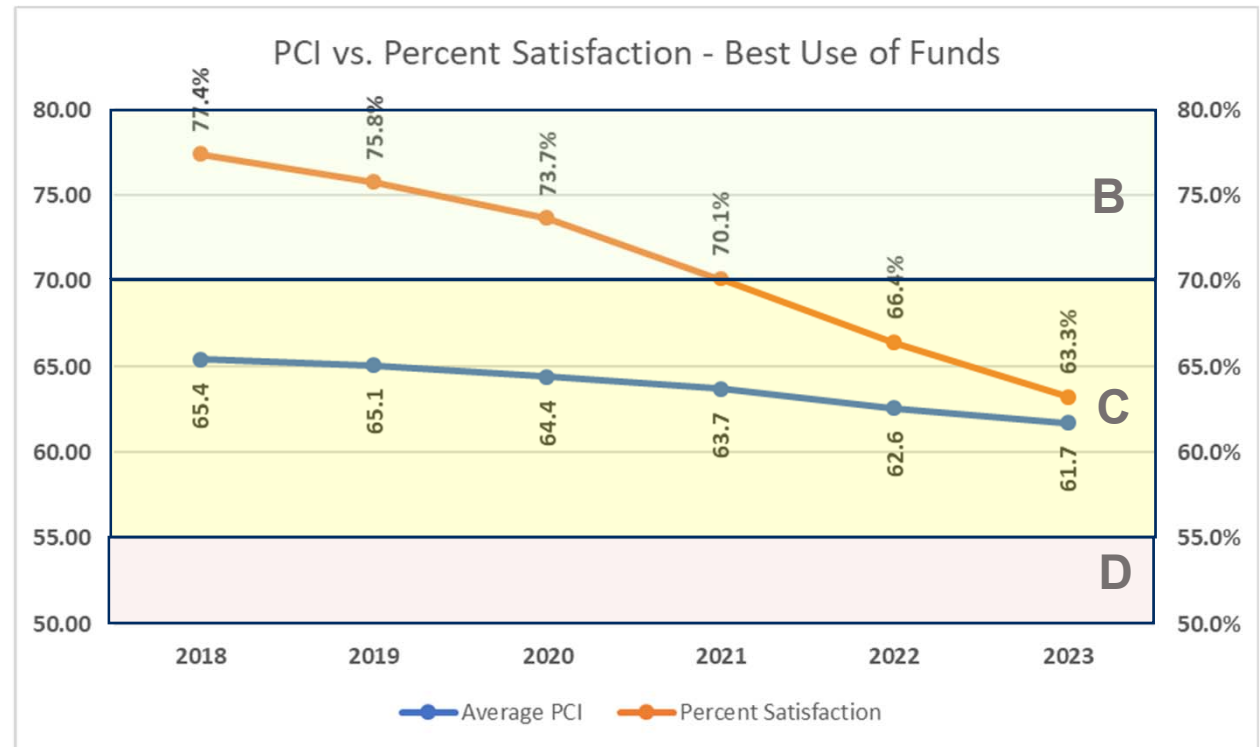
# Program Information - Streets

- Three approaches to Pavement Management
  - Maintain current programmed repairs vs. “Best Use” model
  - Achieve Zero Degradation
  - Increase PCI 1 point per year over the next 10 years to achieve average PCI of 75

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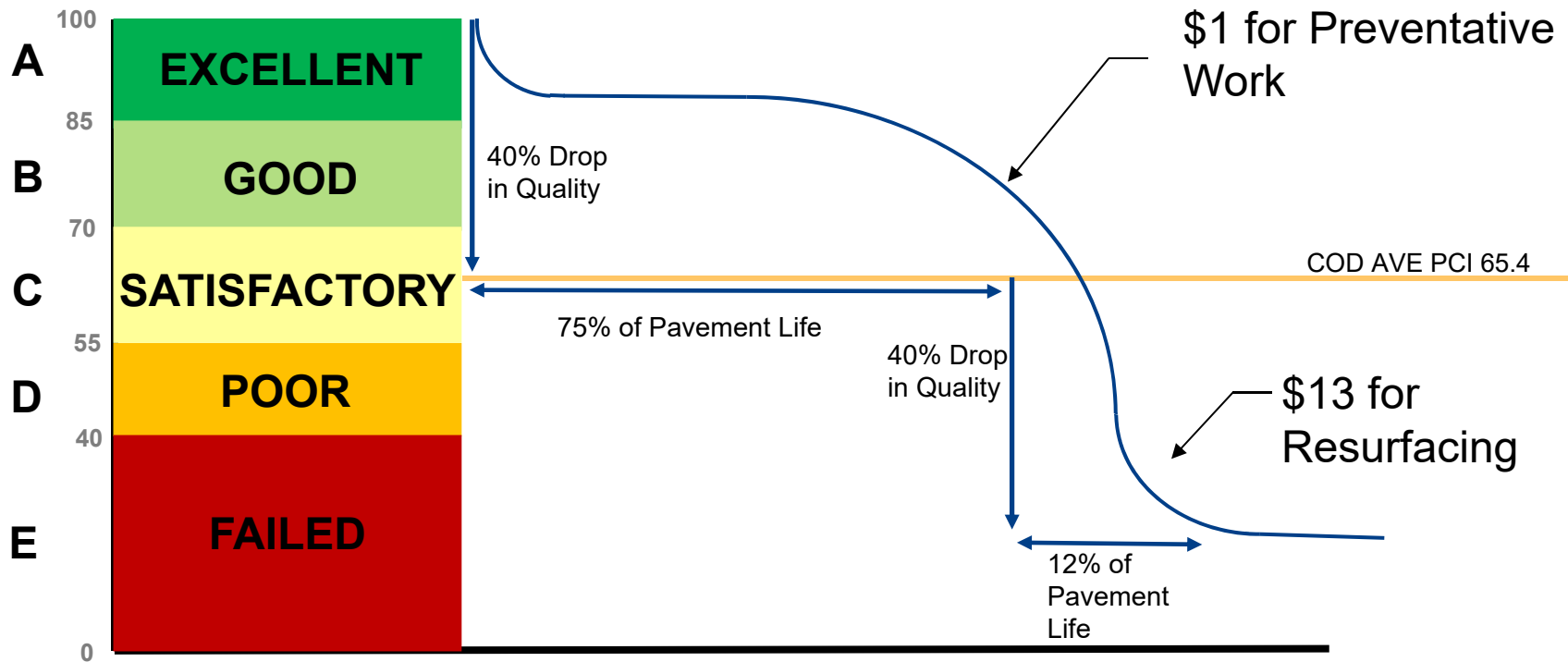
# Program Information - Streets

- Maintain current budget and programmed repairs vs. “Best Use” model



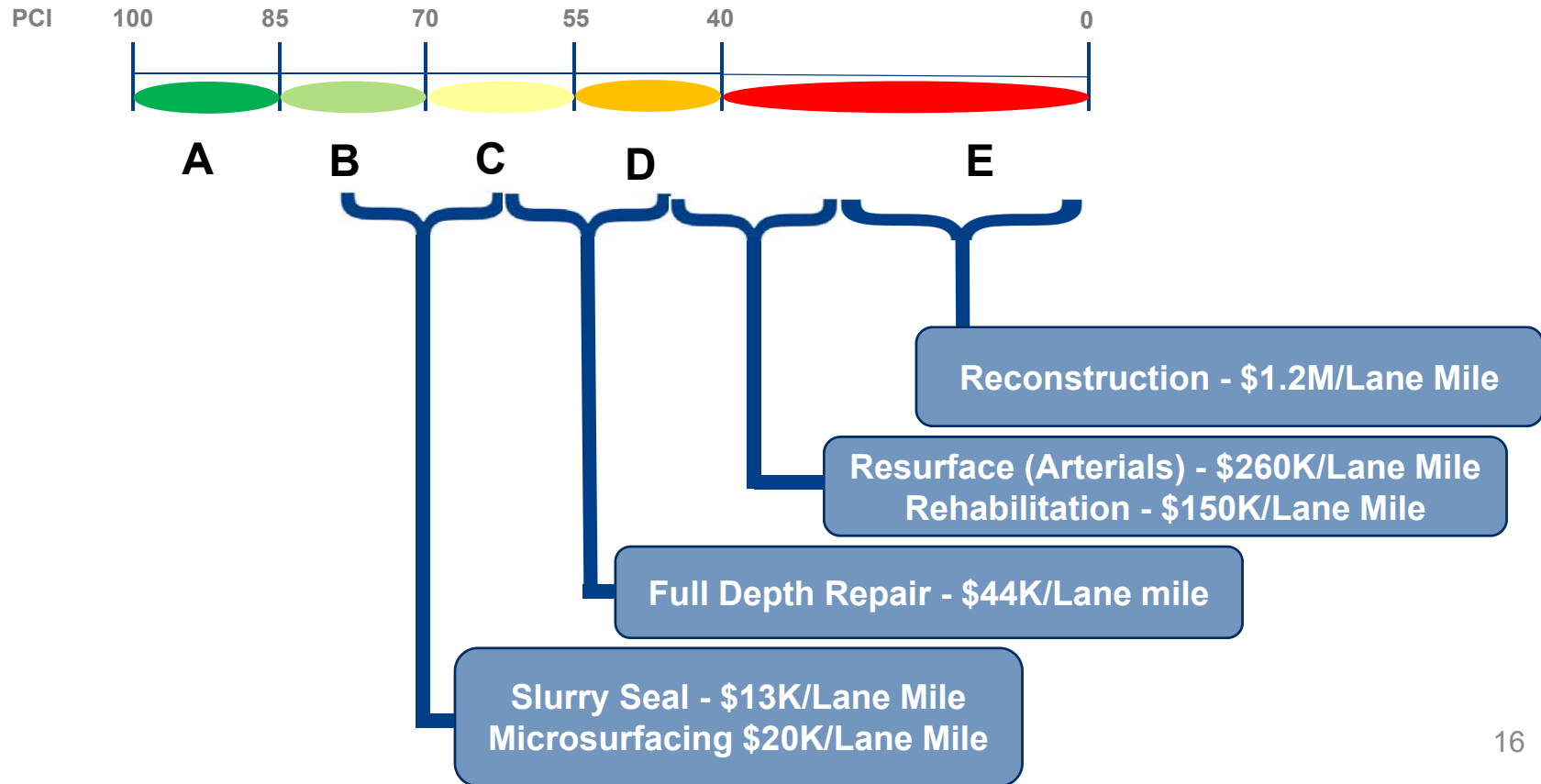
# Program Information - Streets

## Maintenance Cost Comparison



# Program Information - Streets

## Maintenance Cost Comparison





# Program Information - Streets

- Zero Degradation using Best Use of Funds approach
- Using this approach:
  - Additional funding needed beginning in FY 2021
  - Avg. annual budget need: \$269.4M

<b>Zero Degradation Budget Needs</b> <i>(in millions)</i>				
<i>Year</i>	<i>FY</i>	<i>Budget Needed</i>	<i>Projected Budget</i>	<i>Annual Shortage</i>
1	19	\$103.0	\$106.7	\$3.20
2	20	\$149.0	\$157.0	\$8.40
3	21	\$201.0	\$107.2	(\$94.00)
4	22	\$290.0	\$59.6	(\$229.90)
5	23	\$281.0	\$100.5	(\$180.10)
6	24	\$352.0	\$100.5	(\$251.60)
7	25	\$353.0	\$100.5	(\$252.30)
8	26	\$320.0	\$100.5	(\$219.50)
9	27	\$321.0	\$100.5	(\$220.90)
10	28	\$324.0	\$100.5	(\$223.60)
<i>Average</i>		<i>\$269.4</i>	<i>\$103.4</i>	<i>(\$166.0)</i>
<i>Total</i>		<i>\$2,694</i>	<i>\$1,033.5</i>	<i>(\$1,660.0)</i>

# Program Information - Streets

- Increase PCI by 1 point using Best Use of Funds approach
- Using this approach:
  - Additional funding needed beginning in FY 2019
  - Avg. annual budget need: \$351.0M

<i>Citywide PCI of 70 Budget Needs (in millions)</i>				
<i>Year</i>	<i>FY</i>	<i>Budget Needed</i>	<i>Projected Budget</i>	<i>Annual Shortage</i>
1	19	\$132.3	\$106.7	(\$25.6)
2	20	\$199.1	\$157.0	(\$42.1)
3	21	\$310.5	\$107.2	(\$203.3)
4	22	\$367.5	\$59.6	(\$307.9)
5	23	\$460.4	\$100.5	(\$359.9)
6	24	\$429.5	\$100.5	(\$329.0)
7	25	\$406.8	\$100.5	(\$306.3)
8	26	\$402.1	\$100.5	(\$301.6)
9	27	\$401.7	\$100.5	(\$301.2)
10	28	\$400.4	\$100.5	(\$299.9)
<i>Average</i>		<i>\$351.0</i>	<i>\$103.4</i>	<i>(\$247.7)</i>
<i>Total</i>		<i>\$3,510.3</i>	<i>\$1,033.5</i>	<i>(\$2,476.7)</i>

# Program Information – Sidewalks

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# Program Information - Sidewalks

<i>Proposed Five-Year IMP Sidewalk Maintenance Program Budgets</i>						
<i>Program</i>	<i>FY 19</i>	<i>FY 20</i>	<i>FY 21</i>	<i>FY 22</i>	<i>FY 23</i>	<i>Total</i>
<b>Sidewalks</b>	\$2.2M	\$2.2M	\$2.2M	\$2.2M	\$2.2M	<b>\$11.0M</b>
<b>Sidewalk Miles*</b>	5	5	5	5	5	<b>25</b>

- IMP has programmed \$11.0M for 49 sidewalk projects over the next five years
- Assumes an annual program budget of \$2.2M (only FY 2019 funded)

# Program Information - Sidewalks

- IMP project focus on smaller scale projects to fill-in gaps of missing sidewalk and broken panel
  - Projects were identified by former City Safety Advisory Committee, Needs Inventory, and sidewalk condition
- 5,079 linear miles of sidewalks adjacent to its improved and unimproved roads
- 670 miles, or 13.2% of the City's sidewalks, are in unsatisfactory condition

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# Program Information – Alleys

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# Program Information - Alleys

- The proposed IMP includes \$17.6M for 544 alley maintenance projects over the next five years
- Projects in the Five-Year IMP would provide maintenance to a total of 116 miles, or 8.3%, of the City's 1,400 miles of alleys

<i>Proposed Five-Year IMP Alley Maintenance Program Budgets</i>						
<i>Program</i>	<i>FY 19</i>	<i>FY 20</i>	<i>FY 21</i>	<i>FY 22</i>	<i>FY 23</i>	<i>Total</i>
<b>Improved Alleys Funding/Miles</b>	-	\$2.0M/16 miles	\$2.0M/16 miles	\$2.0M/16 miles	\$2.0M/16 miles	<b>\$8.0M/64 miles</b>
<b>Unimproved Alleys Funding/Miles</b>	\$1.6M/8 miles	\$2.0M/11 miles	\$2.0M/11 miles	\$2.0M/11 miles	\$2.0M/11 miles	<b>\$9.6M/52 miles</b>
<b>Total</b>	<b>\$1.6M/8 miles</b>	<b>\$4.0M/27 miles</b>	<b>\$4.0M/27miles</b>	<b>\$4.0M/27 miles</b>	<b>\$4.0M/27miles</b>	<b>\$17.6M/116miles</b>

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# Program Information - Alleys

- Unimproved Alley Program
  - \$1.6M programmed for 80 projects
  - Treatments would include brush clearing, remove and replace 6"-8" of base material, install 1" of rock, and address any known drainage issues
- Ranking of the alleys based on the following criteria:
  - Gravel Alley
  - Sanitation – currently used by Sanitation for trash pick up
  - Alleys in "C" condition

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# Program Information - Alleys

- Improved Alley Program
  - \$2M programmed for 16 miles of partial reconstruction (only replacement of damaged panels) of concrete alleys
- Ranking of the alleys based on the following criteria:
  - Sanitation – currently used by Sanitation for trash pick up
  - Alleys in “C” condition
  - Partial repairs make up less than 25% of entire alley
- Program would begin in FY 2020 if funded

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# Future Actions

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# Future Actions

- Evaluate including additional City assets such as traffic signals, sidewalks, bike lanes, stormwater facilities, striping, etc.
- Proposed Modification to Pavement Design Manual to include asphalt street sections
- Full Council briefing early 2019

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