



City of Dallas

Five-Year Infrastructure Management Program (IMP) Update FY 2024-2028

**Council Briefing
February 21, 2024**

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City of Dallas

Overview



- Background
- Equity
- Streets
- Sidewalks
- Alleys
- Bridges
- Discussion/Questions



Background



- This is PBW's sixth annual Infrastructure Management Program (IMP)
- More details can be found on the Public Works website:
(<https://dallascityhall.com/departments/public-works>)
- Hard Copies will be delivered to council in February





Background

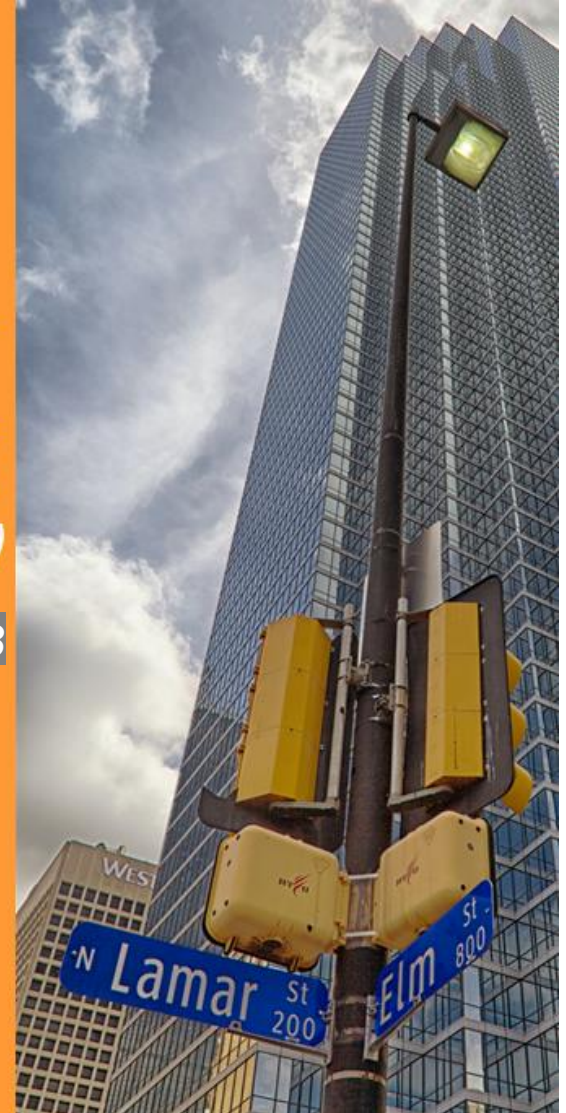
The FY 2024 IMP includes \$154.0M Total Funds for streets, sidewalks, alleys, and bridges

<i>Proposed Five-Year IMP Maintenance Program Budgets</i>						
<i>Program</i>	<i>FY24</i>	<i>FY25</i>	<i>FY26</i>	<i>FY27</i>	<i>FY28</i>	<i>Total</i>
Streets	\$141M	\$68M	\$68M	\$68M	\$68M	\$413M
Bridge	\$4.4M	\$4.4M	\$4.4M	\$4.4M	\$4.4M	\$22.0M
Sidewalks	\$5.3M	\$5.3M	\$5.3M	\$5.3M	\$5.3M	\$26.5M
Alleys - Unimproved	\$1.3M	\$1.3M	\$1.3M	\$1.3M	\$1.3M	\$6.5M
Alleys - Improved	\$2.0M	\$2.0M	\$2.0M	\$2.0M	\$2.0M	\$10.0M
Total	\$154.0M	\$81.0M	\$81.0M	\$81.0M	\$81.0M	\$478.0M

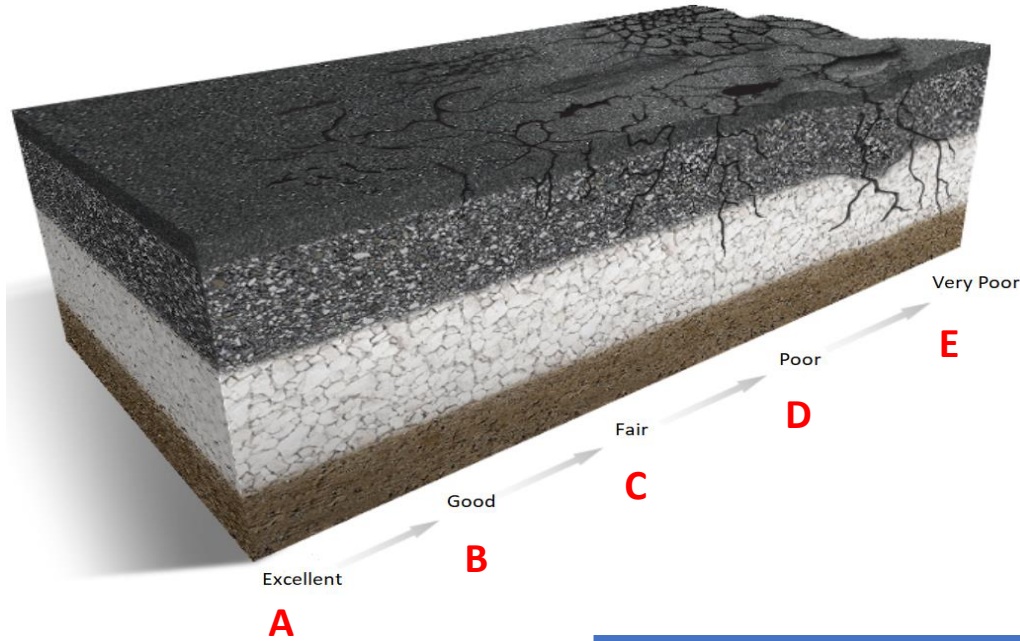
Note: grayed out values are subject to future annual appropriations.

City of Dallas
Five-Year
Infrastructure
Management
Program (IMP)

FY 2024- 2028

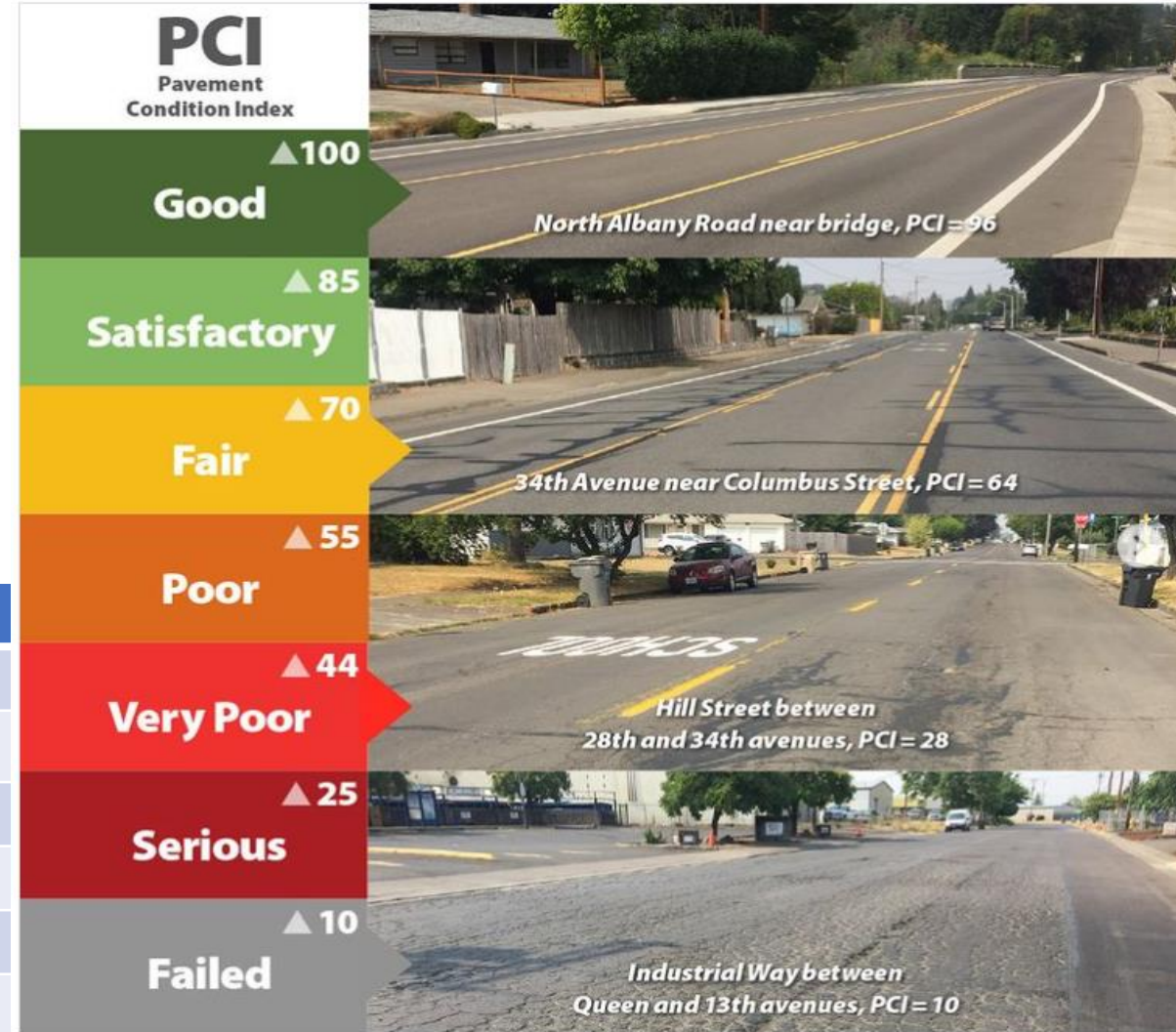


Background



- Each street segment in the City of Dallas has a Pavement Condition Index (PCI) Rating of “0-100”
- A street with a PCI of “100” would be a brand-new street and a street with a “0” PCI would be a completely failed street

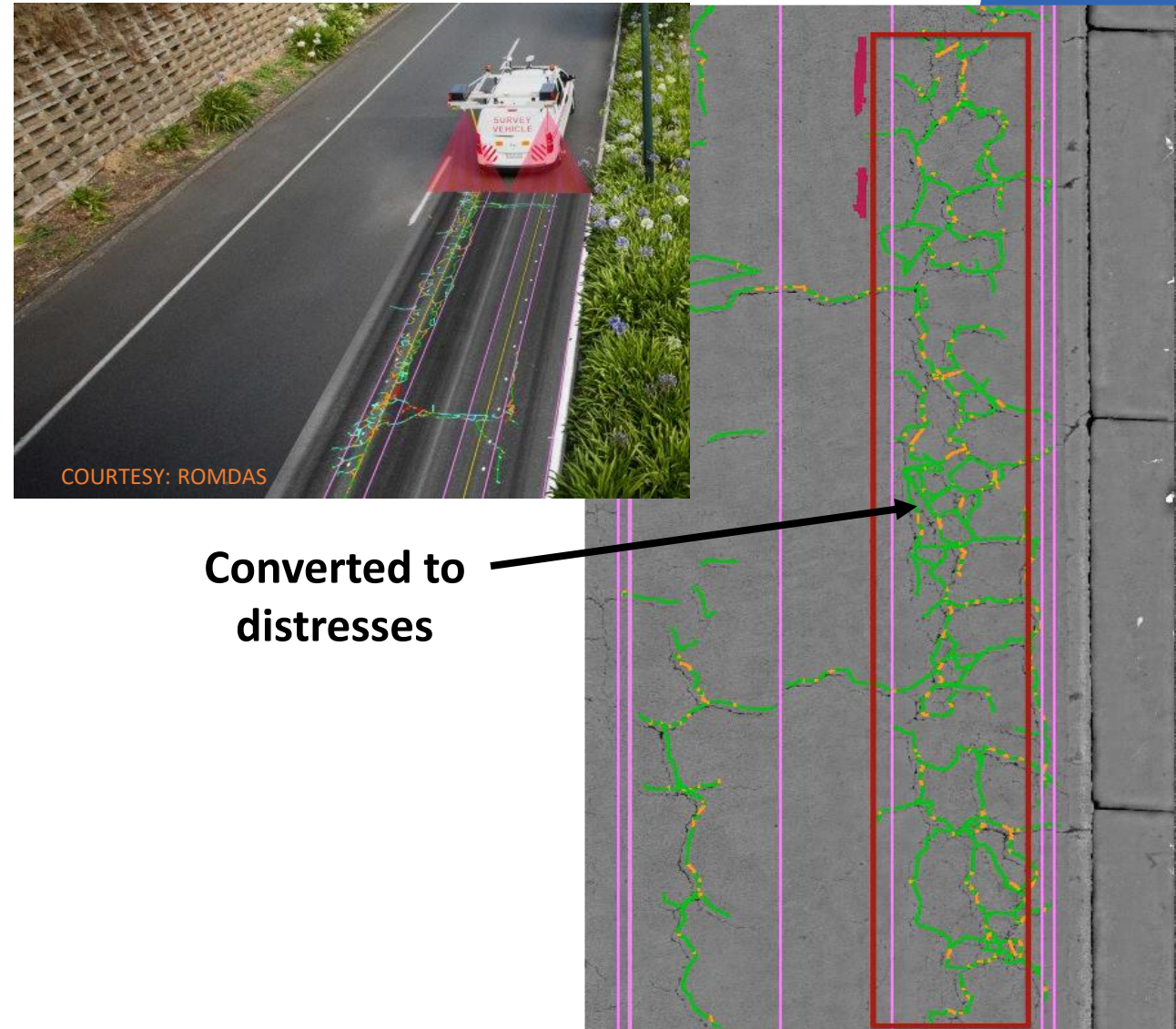
City of Dallas PCI Ranges		
Rating	Ranking	PCI Range
A	Excellent	100-85
B	Good	70-84.9
C	Fair	55-69.9
D	Poor	40-54.9
E	Failed	0-39.9



Background



- New pavement data was recently collected (FY23)
- Data collection process included:
 - Vehicle Mounted Data Collection Equipment
 - Right-of-Way Imagery
 - Laser Crack Measurement System (LCMS)
 - Rut Depths
 - International Roughness Index (IRI)
 - Data processing was fully automated for some distresses, but manual for others
- Current Model Network
Overall PCI = 71.5

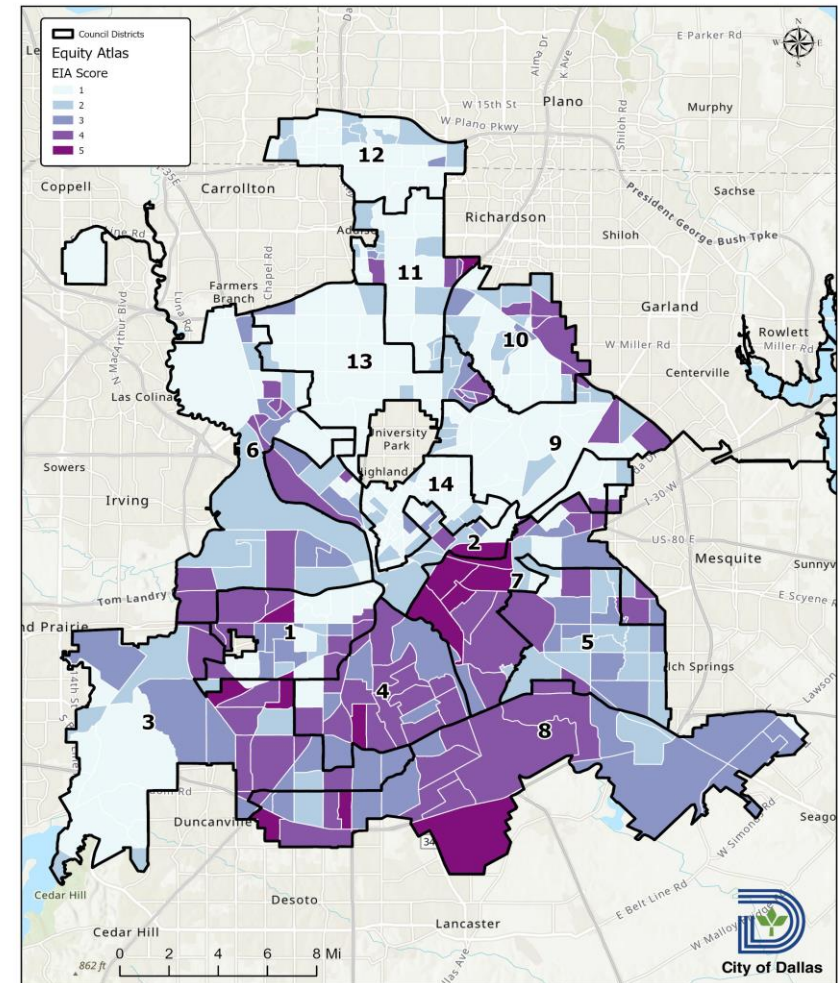


Equity



- Equity/Underserved Areas Funding:
- Pavement Model configured to maintain minimum 20% Fund Allocation to Equity Priority Areas
- In FY24, a minimum total of \$28.18M will be allocated to infrastructure improvements for Equity Priority Areas

Equity Priority Areas, City of Dallas



Streets



- Recently collected data was utilized in the paving model to develop the pavement deterioration curves
- A higher inflation rate was used on treatment costs (5.0% a year), while budget projections remained stagnant
- Incorporated current higher contract pricing
- Looked at various scenarios to optimize results with a focus on a long-term benefits



Streets



Evaluated multiple Modeling Scenarios:

- \$68M/Year IMP + Bond Allocation of \$500M for Proposition A
- Zero Pavement Degradation Scenario Prediction
- Pavement Performance Prediction will vary based on the actual allocated fund
- Network PCI, Backlog Lane Miles, and Backlog Costs will vary based on the final bond and IMP budget allocations, future construction costs, updated data collection, etc.



Streets



- Budget per year scenario for IMP and Bond Funds:

Streets Scenario	FY 24	FY 25	FY 26	FY 27	FY 28	Total
IMP + \$500M Bond	\$204.1M	\$107.2	\$143.3	\$151.2	\$210.0	\$815.8M
Zero Degradation	\$194.6M	\$253.8M	\$293.7M	\$308.9M	\$311.5M	\$1.36B

- Note: grayed out values are subject to future annual appropriations
- FY24 Budget to include \$141M IMP+ Bond Projection
- FY25-FY28 Budgets presented above to include \$68M Annual IMP+ Bond Projection
- Five-year average annual need of approximately \$272.5M to maintain zero degradation



Streets



- Projected PCI over the next 5 years by council district
- PCI data below is subject to change with the updated data collection cycle

PCI by Council District - IMP + \$500M Bond					
District	2024	2025	2026	2027	2028
1	71	71	70	70	70
2	68	67	67	66	67
3	76	75	74	74	73
4	70	69	68	67	67
5	71	70	70	70	69
6	72	71	71	70	70
7	73	72	71	71	70
8	76	76	75	75	75
9	70	70	70	69	68
10	76	76	75	74	73
11	70	70	69	69	68
12	78	78	77	75	74
13	68	67	68	67	66
14	63	63	63	63	63
Avg.	71.5	71.0	70.6	69.9	69.6

PCI by Council District - Zero Degradation					
District	2024	2025	2026	2027	2028
1	71	71	71	70	71
2	67	68	70	70	70
3	76	76	75	75	74
4	70	69	69	68	69
5	71	70	71	71	71
6	71	71	72	71	72
7	73	72	72	72	72
8	76	76	75	76	76
9	70	71	71	70	70
10	76	76	75	74	73
11	70	70	69	69	67
12	78	77	76	75	74
13	68	68	69	68	68
14	63	66	68	68	69
Avg.	71.4	71.5	71.5	71.3	71.3



Streets



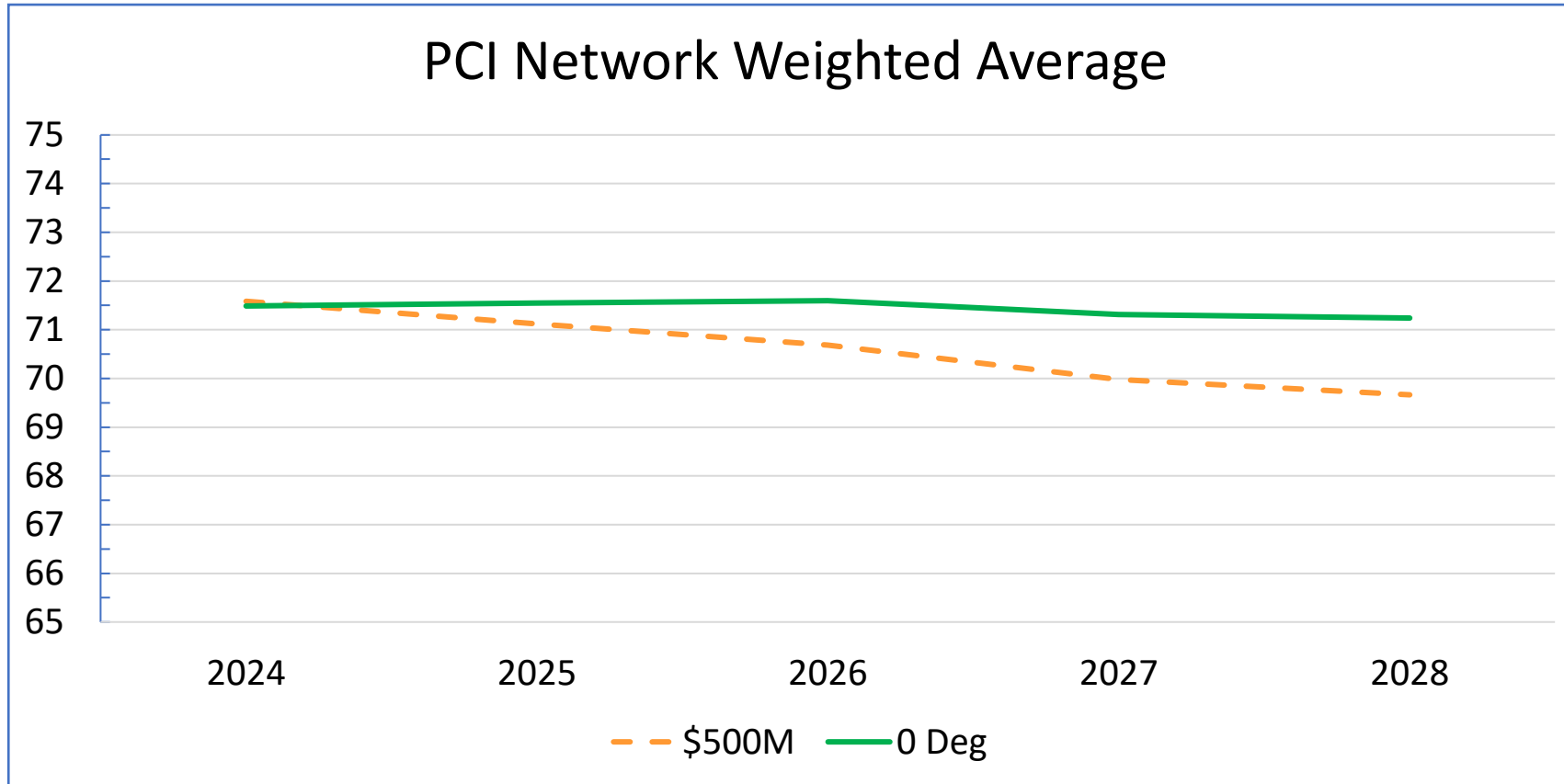
- Backlog analysis comparison between scenarios

Scenario	Impact to PCI	Recon. Backlog Cost (\$521M in 2024)	Recon. Backlog Lane Miles (197 LM in 2024)	Resurf. Backlog Cost (\$1.145B in 2024)	Resurf. Backlog Lane Miles (1,156 LM in 2024)
IMP + \$500M Bond	Slight Decline	\$830M ↑	206 LM ↑	\$1.834M ↑	1,842 LM ↑
Zero Degradation - IMP + \$949M Bond	Maintains Current	\$642M ↑	164 LM ↓	\$1.517B ↑	1,499 LM ↓





- Network PCI Comparison



Streets



Future Opportunities:

- Exploring the implementation of the new standard (ASTM E3303)
 - Fully Automated Pavement Evaluation that uses AI Technology for crack detection and analysis
- Enhance the frequency of pavement evaluation and data collection to an annual cycle to boost data accuracy and enhance comprehension of trends
- Implement a Data Quality Control Plan in our upcoming procurement process to dictate data collection procedures, calculations, and QA/QC process, to help minimize PCI variances between different data collection vendors
- Update the Pavement Management System including the pavement model to operate within a single pavement software, streamlining all tasks in one place for better efficiency in pavement management



Sidewalks



Sidewalk Program

- In June 2021, the Department of Public Works completed the City's first Sidewalk Master Plan (DSWMP)
- A data-driven system was utilized to identify the most impactful projects to:
 - Increase accessibility for pedestrians,
 - Improve safety for all city residents,
 - Address sidewalk needs in historically underserved communities



Sidewalks



Sidewalk Program

- The DSWMP provides guidance for decision makers on budgeting, project selection, and implementation of planned projects included in the Five-Year IMP-Sidewalk Maintenance Program
- The Dallas Sidewalk Master Plan's 12 Focus Areas, originally identified \$30 million in priority projects across all 14 City Council Districts
- Cost estimates have increased since then due to inflation



Sidewalks



- Sidewalk Program Five-Year Budget

Program	FY 24	FY 25	FY 26	FY 27	FY 28	Total
Sidewalk- General Funds	\$0.3 M	\$0.3 M	\$0.3 M	\$0.3 M	\$0.3 M	\$1.5 M
Sidewalk- Certificate of Obligation (CO)	\$5.0 M	\$5.0 M	\$5.0 M	\$5.0 M	\$5.0 M	\$26.0 M
Funding Total	\$5.3 M	\$5.3 M	\$5.3 M	\$5.3 M	\$5.3 M	\$26.5 M

Note: grayed out values are subject to future annual appropriations.



Sidewalks



Sidewalk Program Budget – Next 5-Years

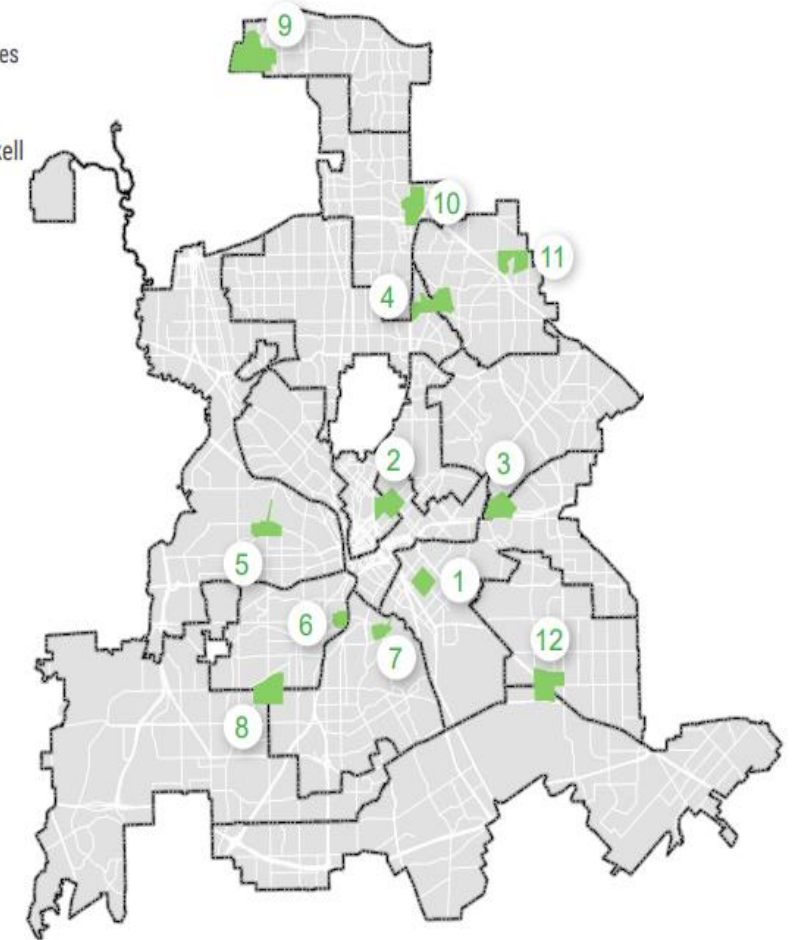
- \$25.5M Programmed
- expanding Dallas' sidewalk network

FY24

- \$5.3M programmed
- 7.3 miles of sidewalk improvements
- focused on priority projects included in the DSWMP's 12 Focus Areas

All Focus Area Locations

- # Focus Area Numbers
 - Focus Areas
 - Council District Boundaries
1. Martin Luther King, Jr.
 2. Renaissance Oaks & Haskell
 3. Tenison Park East
 4. Fair Oaks
 5. Hampton Crossing
 6. Southern Gateway
 7. Cedar Creek
 8. Hampton & Illinois
 9. Denton County Gateway
 10. Coit & 635
 11. Woodridge
 12. Elam Creek

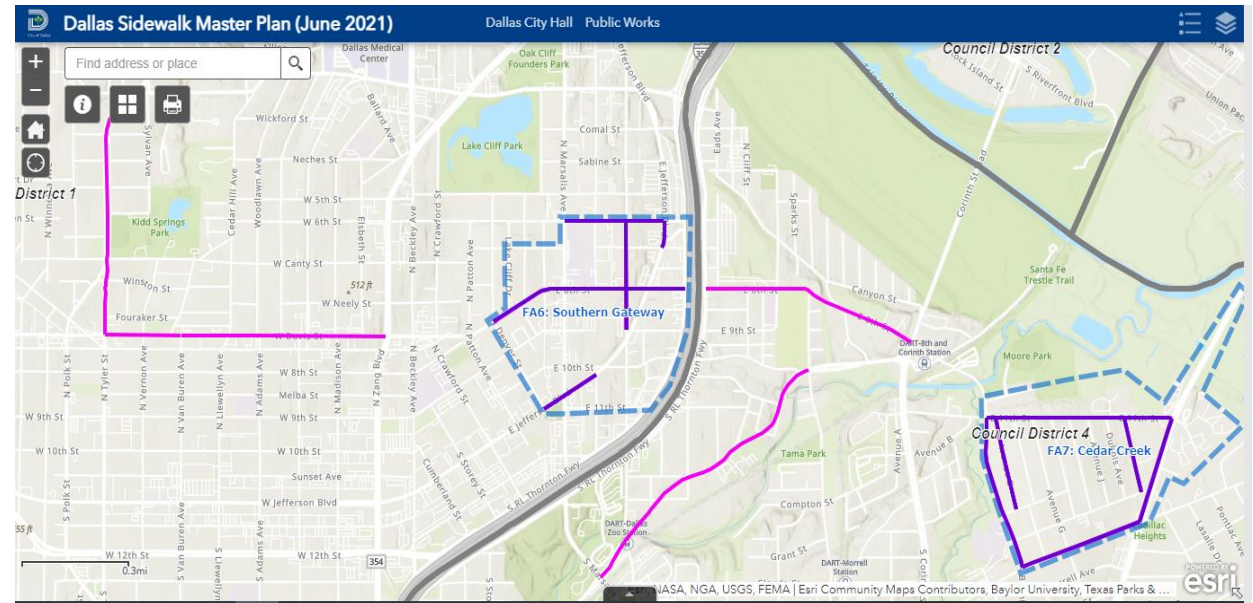


Sidewalks



Sidewalk Program – DSWMP Application

- Project tracking system and publicly available map showing progress of sidewalk improvements



Resources

- [Dallas Sidewalk Master Plan](#)
- [Dallas Sidewalk Master Plan Map](#)



Alleys



Alleys- Improved:



<i>Proposed Five-Year IMP Improved Alley Maintenance Program Budgets</i>						
<i>Program</i>	<i>FY 24</i>	<i>FY 25</i>	<i>FY 26</i>	<i>FY 27</i>	<i>FY 28</i>	<i>Total</i>
Funding Needed	\$2.0M	\$2.0M	\$2.0M	\$2.0M	\$2.0M	\$10.0M
Miles	10.43	6.7	6.7	6.7	6.7	37.23

Note: grayed out values are subject to future annual appropriations.

- Improved alleys are defined as alleys that have been constructed with concrete or asphalt
- The projects included in the IMP were prioritized and selected based upon pavement condition and Sanitation routes
- Construction contract awarded and approved by council
- Construction start anticipated by Feb 2024

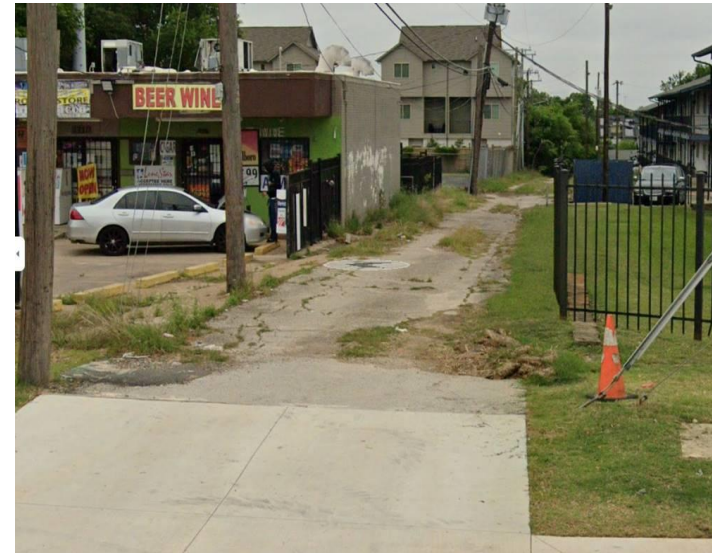


Alleys



Alleys- Unimproved:

- The Unimproved Alley program began in FY 19; to date, the Street Operations team has completed 51.1 alley miles for 449 separate alley projects
- The IMP assumes a program budget of \$1.3M to complete an average of 5.0 miles of maintenance for unimproved alleys
- The reduction in alley miles is the result of increase in material cost for Asphalt



Proposed Five-Year IMP Unimproved Alleys Maintenance Program Budgets

Program	FY 24	FY 25	FY 26	FY 27	FY 28	Total
Funding	\$1.3M	\$1.3M	\$1.3M	\$1.3M	\$1.3M	\$6.5M
Miles	5.0 miles	5.0 miles	5.0 miles	5.0 miles	5.0 miles	25.0 miles

Note: grayed out values are subject to future annual appropriations.



Bridges



- Finalizing the development of a rolling 5-year maintenance program to address routine maintenance
- Current estimated backlog \$30M of routine maintenance
- In October 2022, a construction contract was awarded for the Bridge Maintenance Program
- Bridge Maintenance Program next goal is to implement a preventative maintenance program for Dallas bridges.



REFERENCE IMAGE AT TYPICAL MISALIGNED BEARING
NOT TO SCALE



Example of emergency repairs on the SH356 Bridge

<i>Proposed Five-Year Bridge Maintenance Program Budgets</i>						
<i>Program</i>	<i>FY 24</i>	<i>FY 25</i>	<i>FY 26</i>	<i>FY 27</i>	<i>FY 28</i>	<i>Total</i>
Maintenance Program	\$3.4M	\$3.4M	\$3.4M	\$3.4M	\$3.4M	\$17.0M
Reserve for Emergency Repair/ Consultant	\$1.0M	\$1.0M	\$1.0M	\$1.0M	\$1.0M	\$5.0M
Bridges Impacted	25	20	20	20	20	105

Note: grayed out values are subject to future annual appropriations.





Discussion/Questions





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