



City Council Retreat – February 2026

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# LEWISVILLE INFRASTRUCTURE STUDY

**NewGen**  
Strategies & Solutions

# GOALS OF INFRASTRUCTURE FUNDING PROJECT

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- Goals and Objectives

- Determine future funding needs relative to existing and planned infrastructure
- Identify gaps in currently committed annual infrastructure funding
- Develop and implement a strategy to address funding gaps
- Identify methods to gain long term cost efficiencies in the capital replacement program

- Categories Included

- Streets, Alleys, and Sidewalks (when associated with a Street asset)
- Water
- Wastewater
- Parks\*
- Other and M&E\*

*\* The current asset inventory is not yet comprehensive and will be expanded in future updates*

## REFRESH OF 2023 PROCESS (PARKS, OTHER AND M&E)

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- Capital Replacement Forecast
  - Forecasted Capital Replacement Costs
    - Escalated Original Costs to future Replacement Costs based on generally accepted indices:
      - Engineering News-Record Construction Cost Index – Construction and building cost index that is widely used in the construction industry
      - Long-Term Inflation
  - Forecasted Average Capital Funding Needed by capital asset category
    - Employed averages ranging from ten to thirty years depending on category to establish annual lower and upper bands of forecasted annual funding needs
- Future updates will expand the asset inventory and incorporate more granular, asset-level condition assessment data to improve planning and decision-making

# 2026 PROCESS REFINEMENTS

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- Water and Wastewater
  - Capital Improvement Plan
    - Condition Assessment
  - GIS Mapping Data for the Distribution and Collection Systems
    - Pipe Size and Length by Segment
    - Pipe Type
    - Pipe Age
    - Pipe Cost
    - Iowa Survivor Curves – Used to Project Asset Mortality
- Streets, Alleys, and Sidewalks
  - GIS Mapping Data for Streets and Alleys
    - Material Type
    - Lane Miles
    - Road Type
    - Pavement Condition Index (PCI)
    - Degradation Curves

# EXISTING CAPITAL REPLACEMENT PROGRAMS

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- Current Capital Replacement Plans in Place *(Underlined categories not included in analysis)*
  - Technology
  - Vehicle Replacement
  - Facilities
  - Streets/Drainage
  - Parks Equipment
  - Utility Equipment
  - Water/Sewer CIP
  - Alley Program
  - Screening Walls
  - Traffic Signals
- Multi-year plans to assist the budget process
- Priorities are adjusted as needed

# ANNUAL CONTRIBUTIONS TO CAPITAL

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- Current Capital Replacement Contribution based on recent spending by capital asset category
  - Cash Funding (2026)
    - \$ 27,531,000
  - Projected Bond Funding Annual Average (2026 – 2031)
    - General Obligation Bond
      - Streets and Alleys: \$31,631,000
      - Other Infrastructure: \$658,000
      - Parks: \$818,000
    - Water and Sewer Revenue Bond (50/50 Split Assumed)\*
      - Annual Average: \$74,000,000
  - Total Annual Capital Replacement Funding
    - Annual Average: \$134,637,000

*\* Bond proceeds to be allocated based on need in a particular year.*

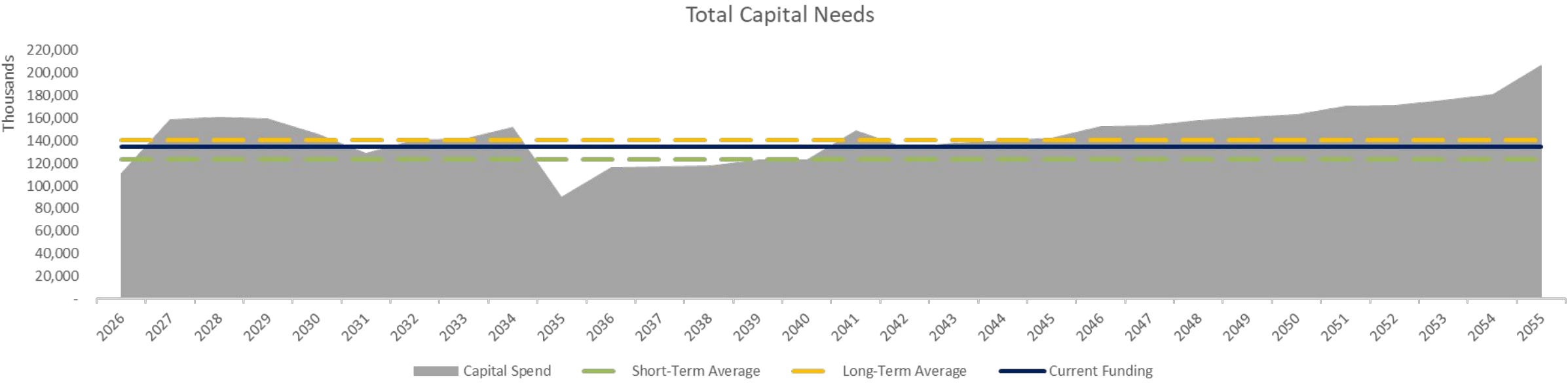
# TOTAL CAPITAL SPENDING NEEDS

- Identifying Gaps in Funding and Forecasted Capital Replacements

- Total Forecasted Annual Capital Replacement Spending Needs for City

- Current Funding: \$134,637,000
    - Short-Term Average: \$123,227,000
    - Long-Term Average: \$140,486,000

	Streets or Alleys	Water	Wastewater	Other and M&E	Parks
Short-Term Average	\$42,500,000	\$43,106,000	\$35,014,000	\$1,723,000	\$884,000
Long-Term Average	\$52,831,000	\$45,857,000	\$38,188,000	\$2,459,000	\$1,150,000



# CAPITAL SPENDING NEEDS – STREETS AND ALLEYS

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- Moving from Reactive/Proactive Analysis to Predictive Analysis:
  - GIS Mapping Data of Streets and Alleys
    - Incorporated Pavement Condition Index (PCI) for every segment of Streets and Alleys
    - Degradation Curves
    - Material Type
      - Concrete
      - Asphalt
    - Category
      - Municipal Road
      - Arterials/Highway
    - Maintenance Action Items

# CAPITAL SPENDING NEEDS – STREETS AND ALLEYS

- Current Pavement Condition Index Indications

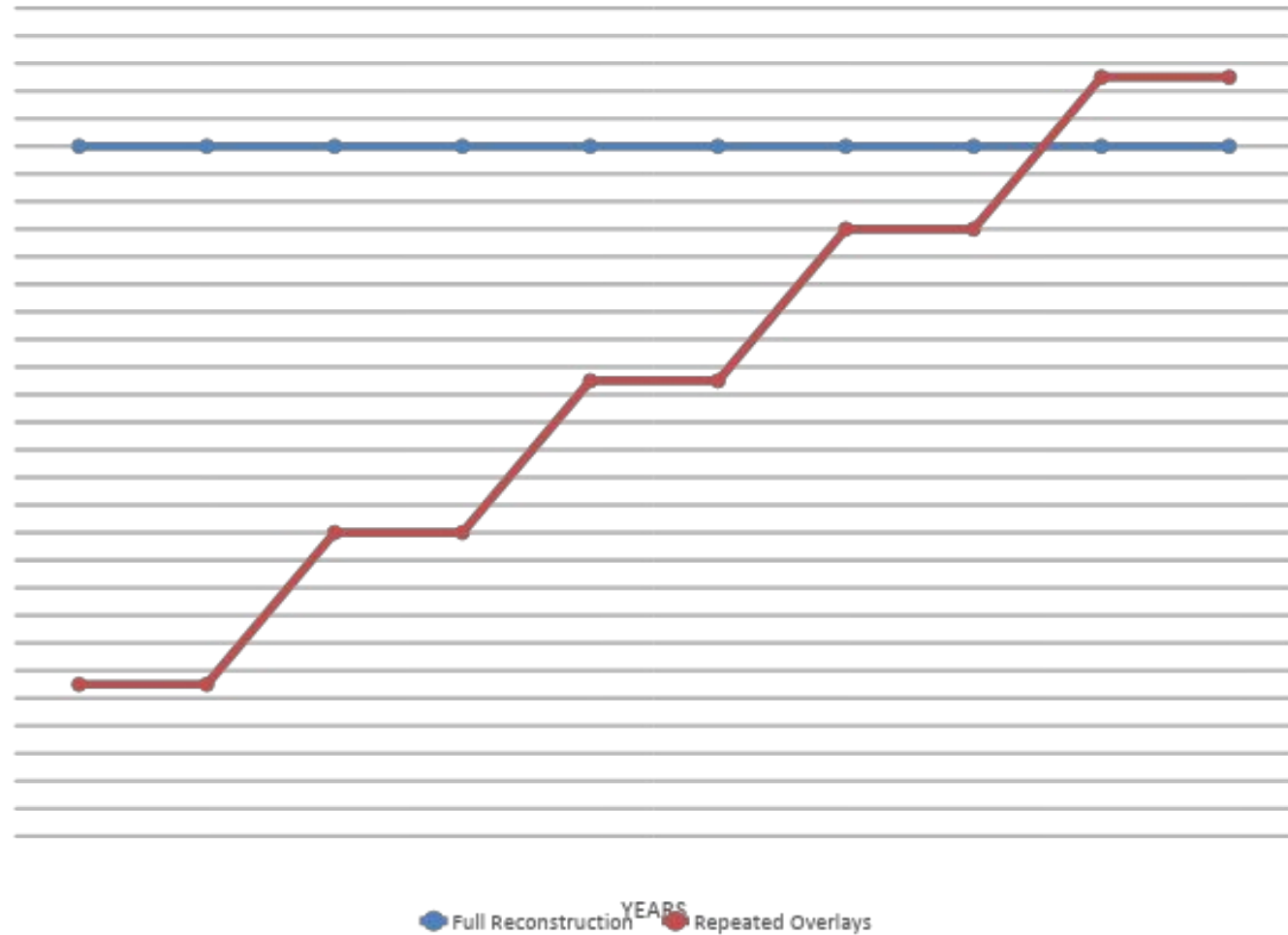
PCI Range	Condition Description	Streets (Lane Miles)			Alleys (Lane Miles)		
		Concrete	Asphalt	Percent of Network	Concrete	Asphalt	Percent of Network
86 - 100	Good	428.33	17.93	54.29%	24.32	0	21.33%
71 - 85	Satisfactory	297.17	15.85	38.08%	50.92	0.35	44.97%
56 – 70	Fair	31.30	12.47	5.32%	29.52	0	25.89%
41 – 55	Poor	1.02	4.90	0.72%	7.03	0	6.16%
26 - 40	Very Poor	0	4.31	0.52%	1.86	0	1.63%
0 - 25	Serious / Failed	0.05	8.72	1.07%	0.01	0	0.01%

# CAPITAL SPENDING NEEDS – STREETS AND ALLEYS

Treatment Options			
Asphalt Treatment	Asphalt - Typical PCI Lift	Concrete Treatment	Concrete – Typical PCI Life
Crack Seal	+3 to +7	Joint Seal/Crack Repair	+2 to +5
Micro Seal/Microsurfacing	+10 to +20	Diamond Grinding	+5 to +10
2" Overlay	+20 to +30	Partial-Depth Repair	+10 to +20
3"-6" Overlay	+30 to +40	Slab Replacement/Full-Depth Repair	+30 to +45
Reconstruction	+55	Reconstruction	+60

# CAPITAL SPENDING NEEDS – STREETS AND ALLEYS

When Reconstruction Becomes More Cost-Effective



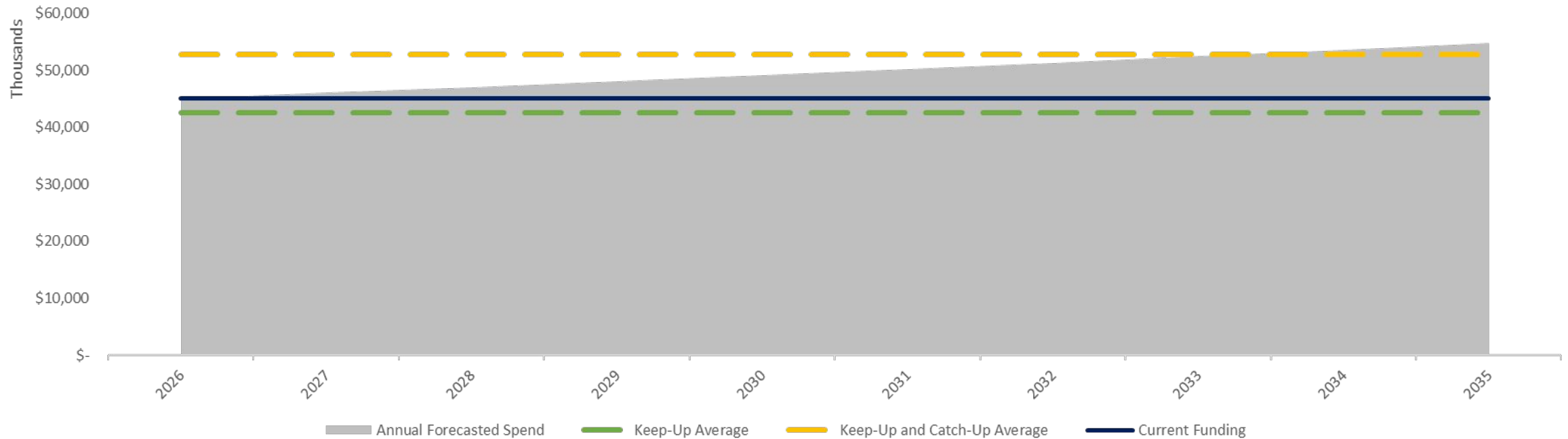
- Data-based model guides maintenance vs. reconstruction decision
- Cost-effectiveness, shifts to reconstruction when maintenance is no long cost-efficient

**\* Results vary based on classification of street and material**

# CAPITAL SPENDING NEEDS – STREETS AND ALLEYS

- 85 PCI Target
  - Current Funding: \$45,043,000
  - 10-Year Keep-Up Average: \$42,500,000
  - 10-Year Keep-Up and Catch-Up Average: \$52,831,000

Streets and Alleys

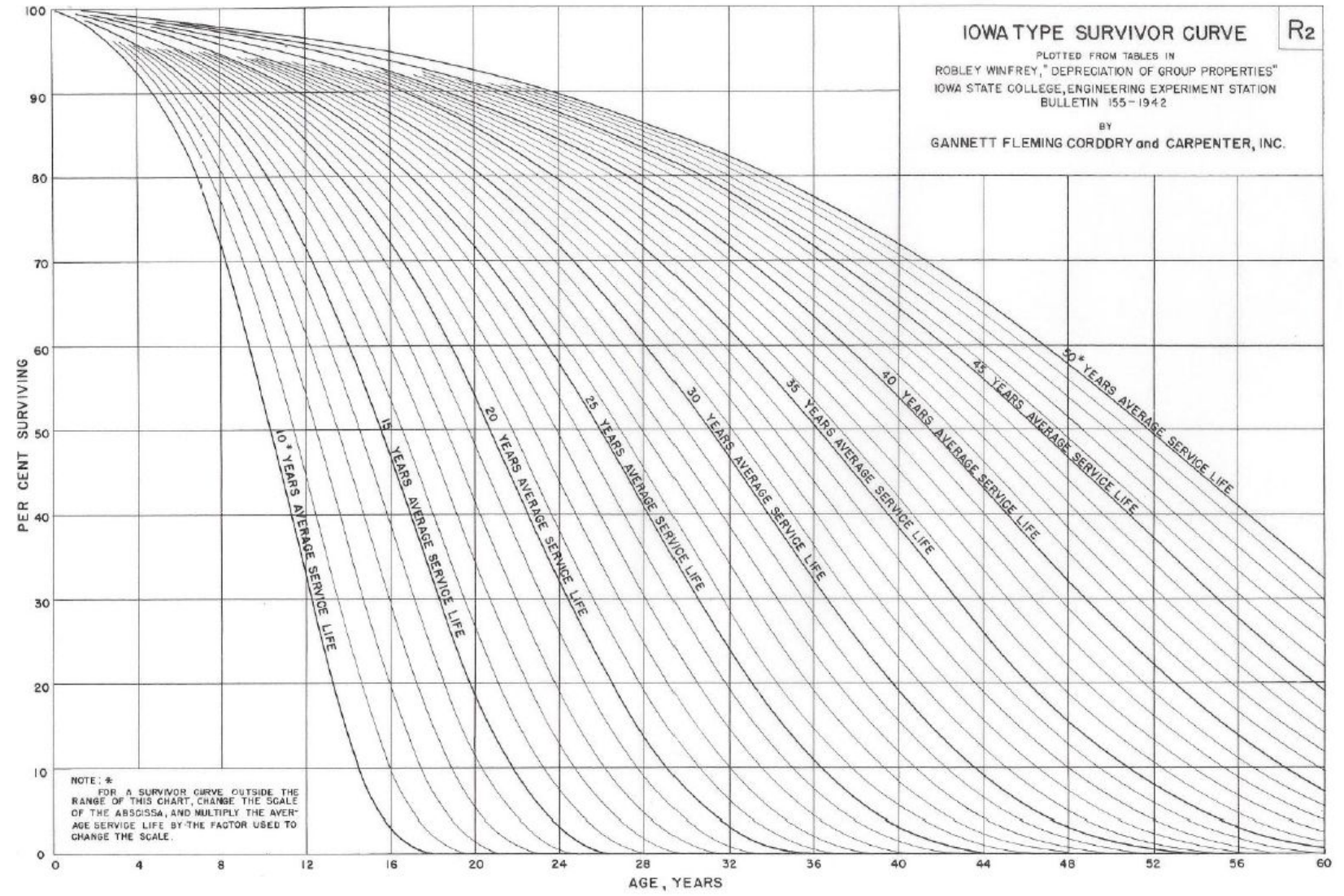


# CAPITAL SPENDING NEEDS – STREETS AND ALLEYS

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- PCI Target impact
  - What happens if the target is raised?
    - Higher short-term spend, lower overall spend long-term
    - Higher overall service and resident satisfaction
  - What happens if the target is lowered?
    - Lower short-term spend, higher overall spend long-term
    - Potential perceptible drop in street quality
  - An overall PCI rating of 85% represents strong pavement condition across the street network
- Continuing to gain efficiencies with overall maintenance spend
- Opportunity for incorporating AI
  - Improved Data Collection
  - Specific segments identified

# CAPITAL SPENDING NEEDS – WATER AND WASTEWATER



# CAPITAL SPENDING NEEDS – WATER AND WASTEWATER

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- Moving from Reactive/Proactive Analysis to Predictive Analysis
  - Capital Improvement Plan
    - First 10-Years of identifiable projects used in analysis
    - Year 11 - 30 capture the average of non-expansory capital projects that occurred in Years 1 – 10
    - Renewals and replacements related to new plant expansion assets captured by applying Iowa Survivor Curves to develop a projection of future asset mortality by year
    - Includes escalation for future inflationary impacts
  - GIS Mapping Data of Distribution and Collection System
    - Developed system total replacement cost based on Pipe Size, Length, Type, Cost, and Age
    - Applied Iowa Survivor Curves to develop a projection of future asset mortality by year
      - Includes escalation for future inflationary impacts

# CAPITAL SPENDING NEEDS – WATER AND WASTEWATER

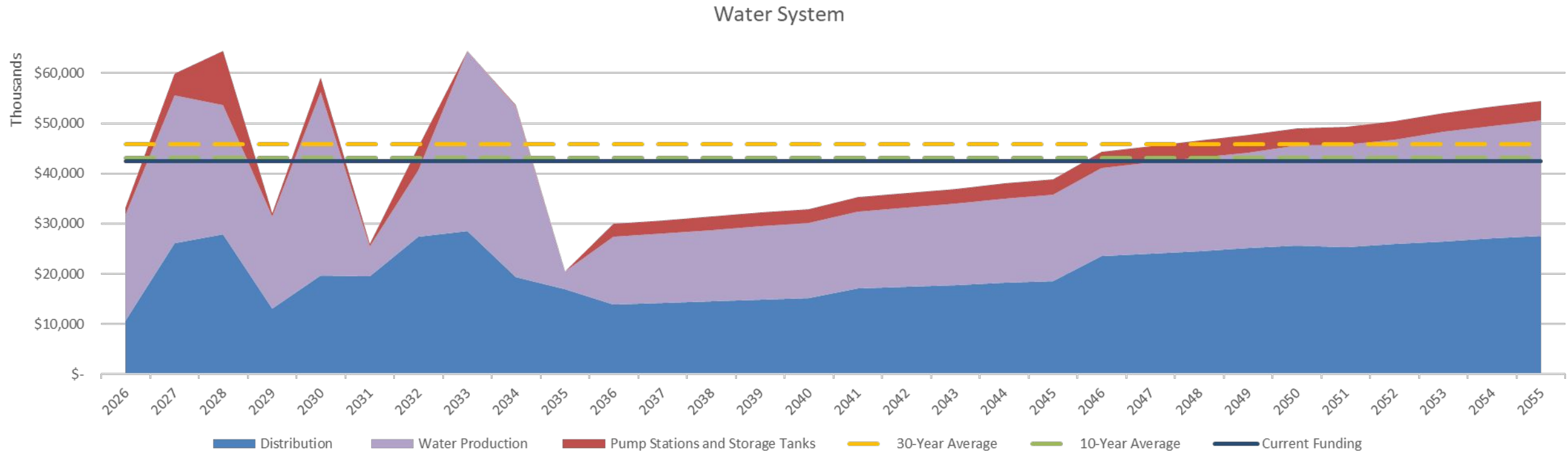
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- Total Annual Capital Program: \$85M (Water & Wastewater Combined)
- Funding Sources
  - \$11M Cash (reserves + operating revenue)
  - \$74M Bond Proceeds
    - Debt repaid through the utility operating budget
- Annual rate study ensures adequate revenues support
  - Utility operations and capital investment program
  - Debt service requirements
- Gradualism - Incremental rate adjustments to maintain affordability and stability
- Financial Sustainability - Rates structured to maintain budget balance and adequate debt service coverage

# CAPITAL SPENDING NEEDS – WATER

- Current Funding: \$42,500,000
- 10-Year Average: \$43,106,000
- 30-Year Average: \$45,857,000

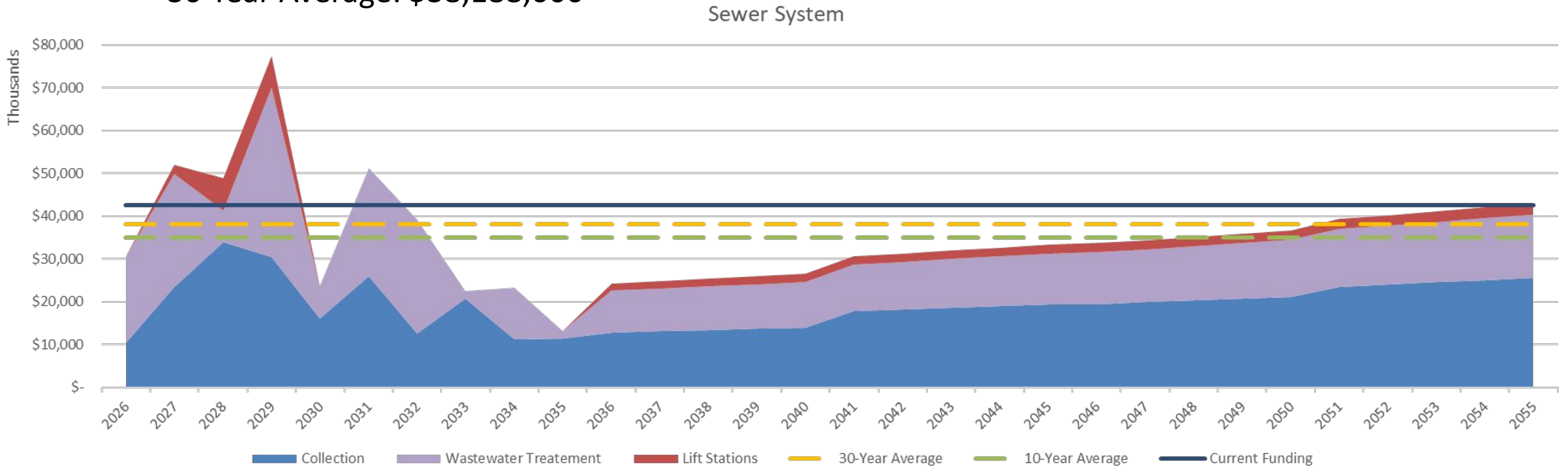
\* Large Projects: Combined Pump Station and Clearwell and Water Treatment Expansion



# CAPITAL SPENDING NEEDS – WASTEWATER

- Current Funding: \$42,500,000
- 10-Year Average: \$35,014,000
- 30-Year Average: \$38,188,000

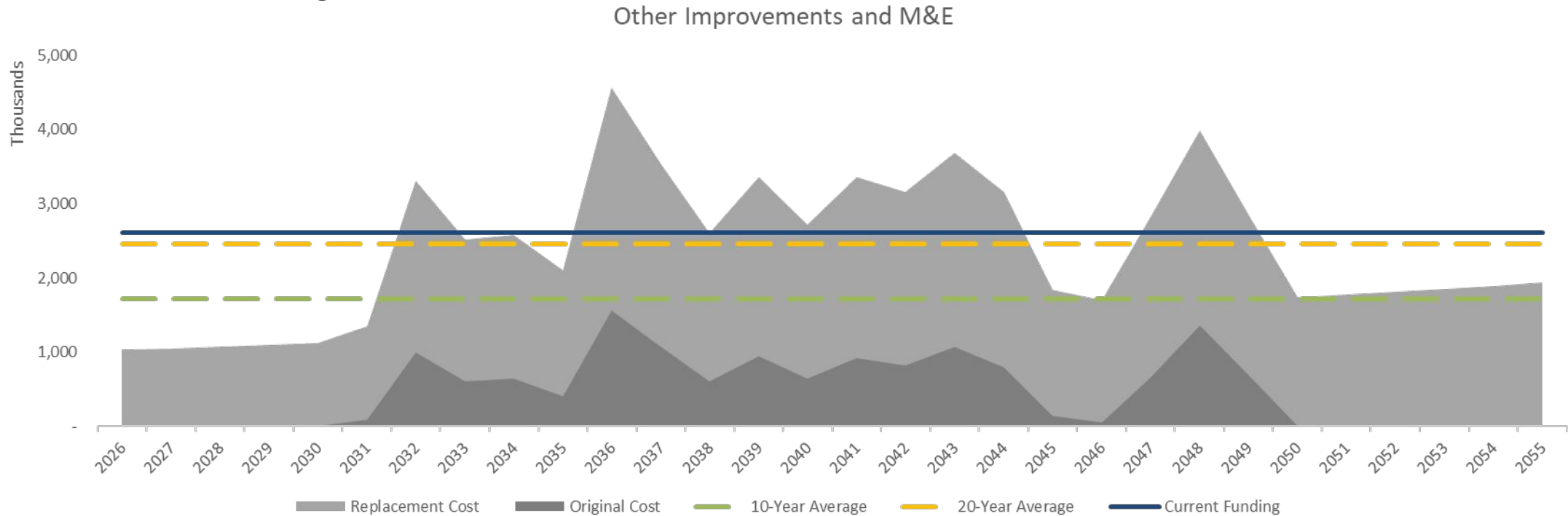
\*Large Projects: WWTP Aeration Basin Expansion and Elm Fork Gravity Sewer



# CAPITAL SPENDING NEEDS – OTHER IMPROVEMENTS AND M&E

- Current Funding: \$2,615,000
- 10-Year Average: \$1,723,000
- 20-Year Average: \$2,459,000

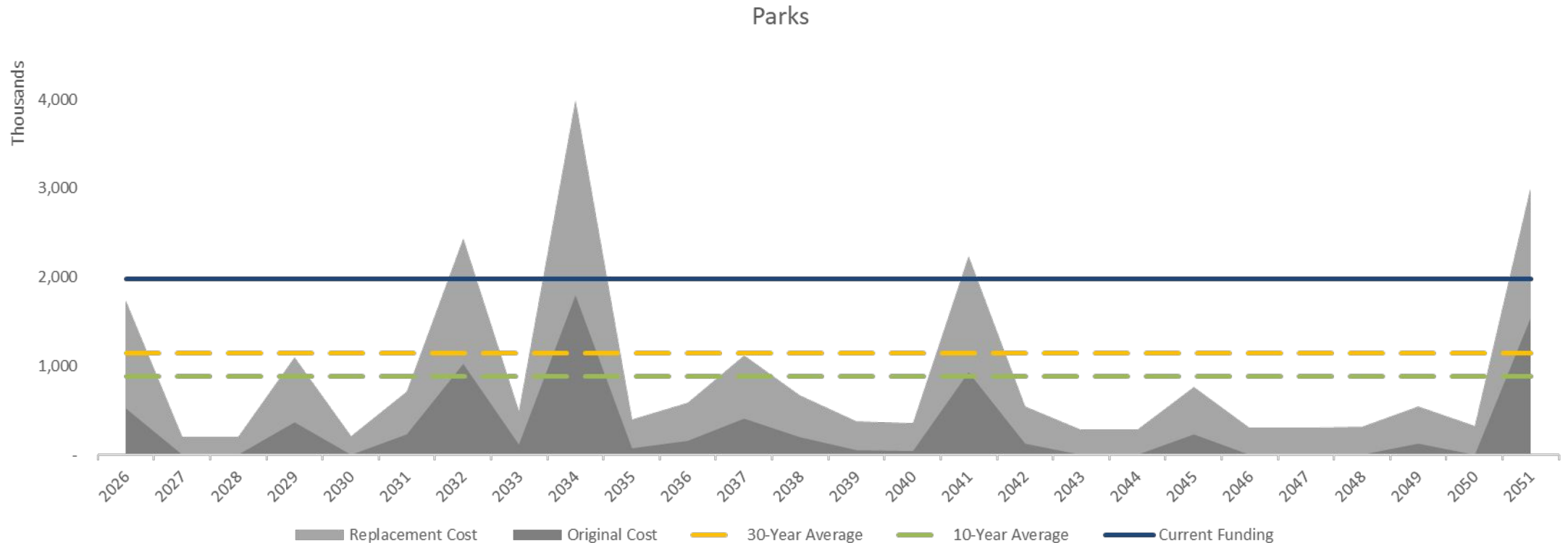
\* Does not include Facilities



# CAPITAL SPENDING NEEDS – PARKS

- Current Funding: \$1,979,000
- 10-Year Average: \$884,000
- 30-Year Average: \$1,150,000

\* Does not include Facilities

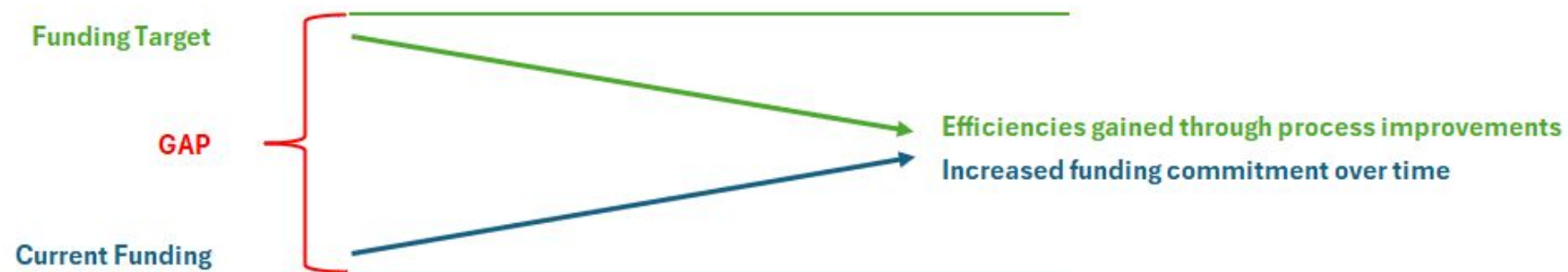


# LONG-TERM STRATEGY

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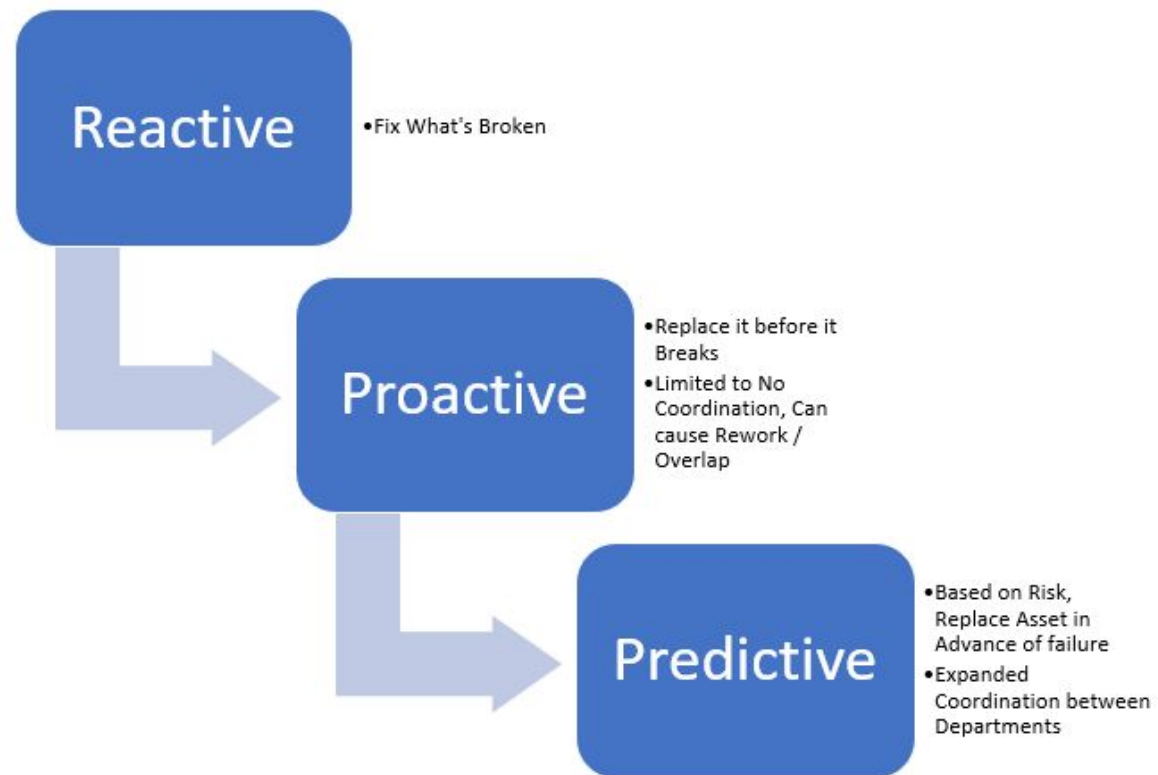
- Goal of Long-Term Strategy

- Define a long-term funding target based on the required level of service
- Continue to adjust funding, as needed, through a phased approach
- Lower overall capital maintenance costs through process and efficiency improvements
- Maintain a stable, long-term funding commitment to support asset sustainability



# LONG-TERM STRATEGY

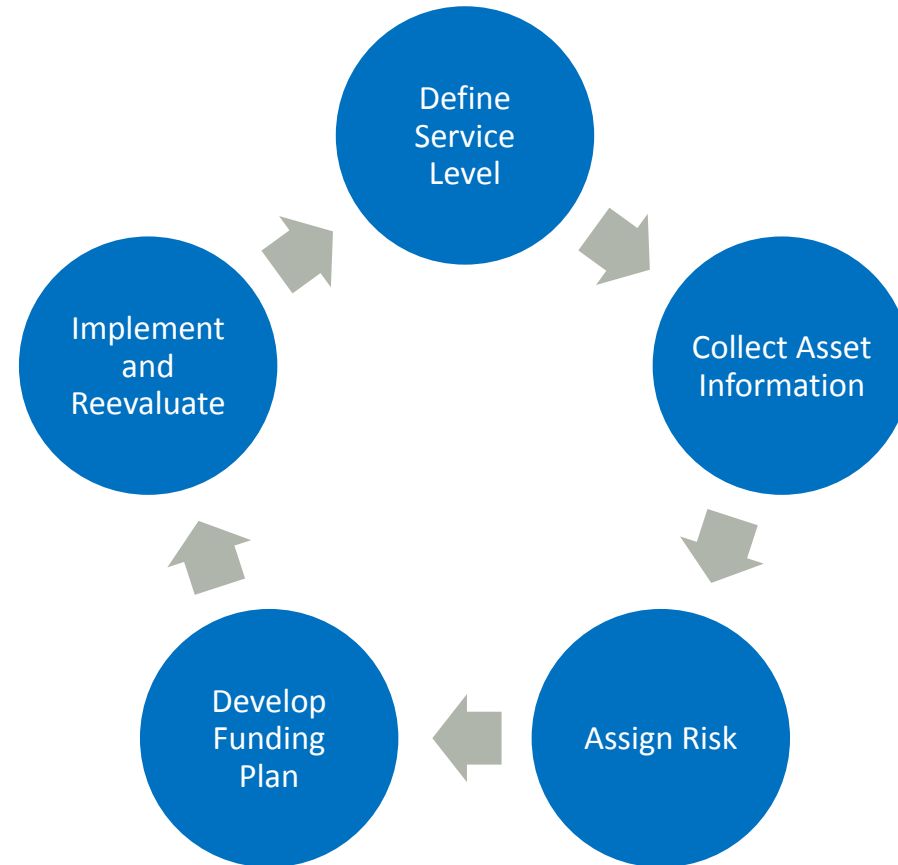
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To maintain assets at a high level we want to move from Reactive to Predictive...

# LONG-TERM STRATEGY

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# SUMMARY

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- Comprehensive review of capital assets
- Predictive modeling incorporated for Water, Wastewater, and Streets & Alleys
- Annual funding needs determined
  - Current City commitment: \$134,637,000
- Current funding levels are sufficient to support short-term (10-year) funding needs
  - Further incorporate distribution/collection lines as well as VODA AI results in future iterations
  - Funding that appears to exceed target thresholds will be evaluated for allocation to known infrastructure needs not currently reflected in this analysis: traffic signals, signs, street crew vs. contract work, etc.
- Long-term strategy
  - Strategically manage funding commitment
  - Continue to move from reactive to proactive to predictive
  - Enhance data collection, gain further efficiencies
- Analysis to be revisited on a recurring basis
  - Future increases in infrastructure funding could be requested due to assets being added to the City's infrastructure (Nature Center, Vista Ridge Park, etc.), further refinements in condition ratings, and/or inflation rates exceeding estimated inflation

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DISCUSSION/NEXT STEPS?