

Town of Addison Comprehensive Asset Management Plan

January 10, 2019



Order of Presentation

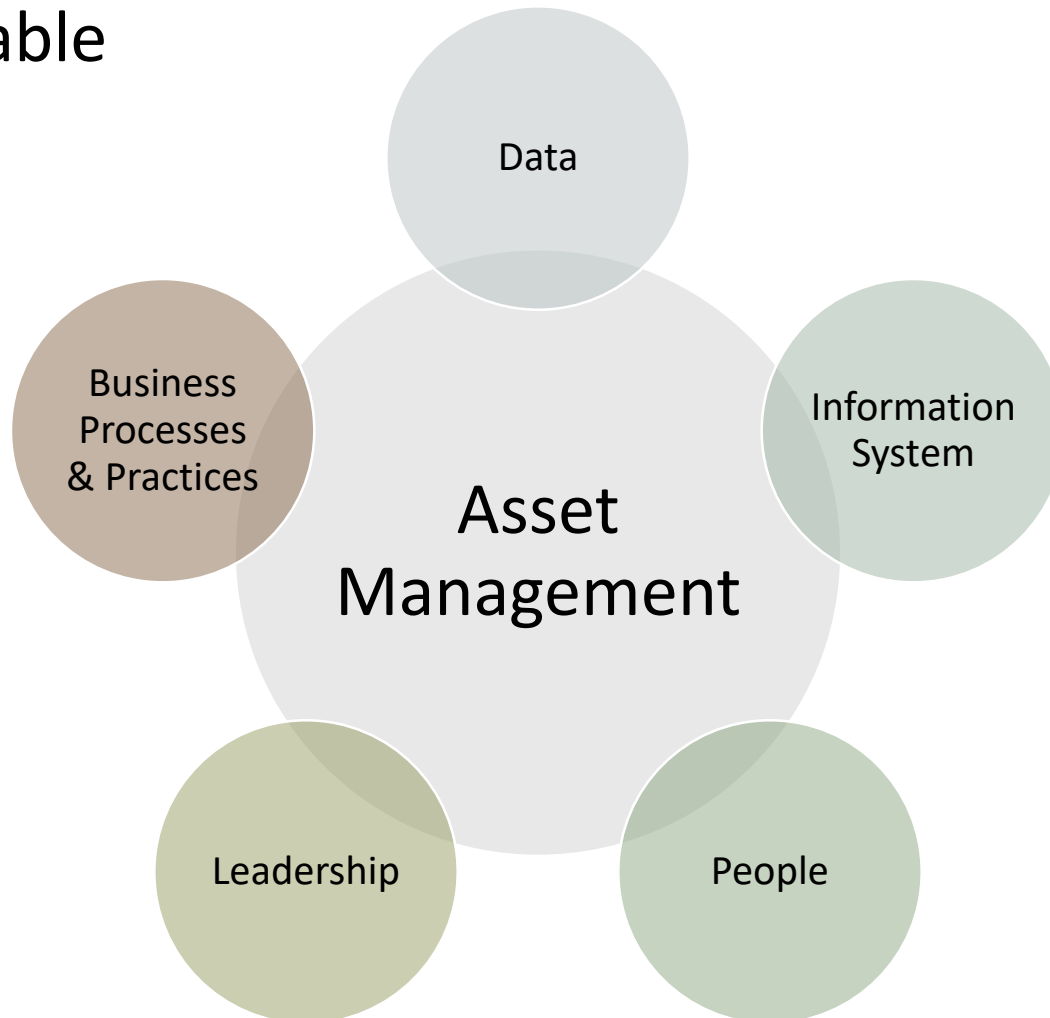
- Purpose of Asset Management Plan
- Asset Management Framework
- Project Approach
- Project Update
 - Asset Management Plans
 - IRIS
- Summary
- Policy Discussions
- Recommendations
- Next Steps

Purpose of the Asset Management Plan

“To manage assets to minimize the total cost of owning, operating, and maintaining those assets, while delivering the desired service level at an acceptable level of risk.”

Asset Management Framework

- Asset management needs to work together to be sustainable



Asset Management Objectives

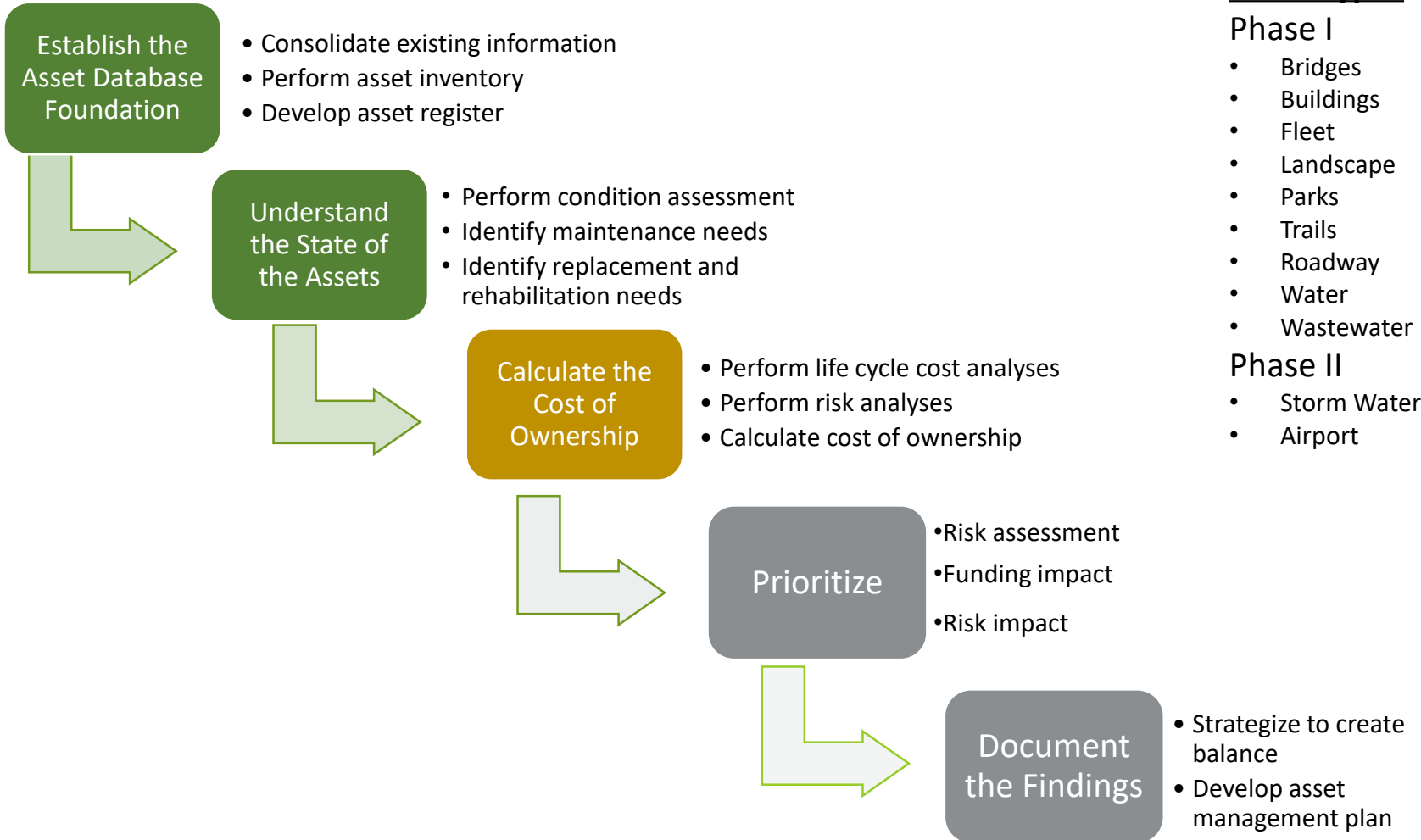
1. Consolidate asset knowledge
2. Establish asset database foundation
3. Understand current state and future asset needs
4. Assess risk and prioritize needs based on risk

Work to Date

5. Develop strategy to balance cost, service, risk, funding, and human resources
6. Transition from reactive to proactive state of practice
7. Provide a logical, transparent, and defensible decision-making platform

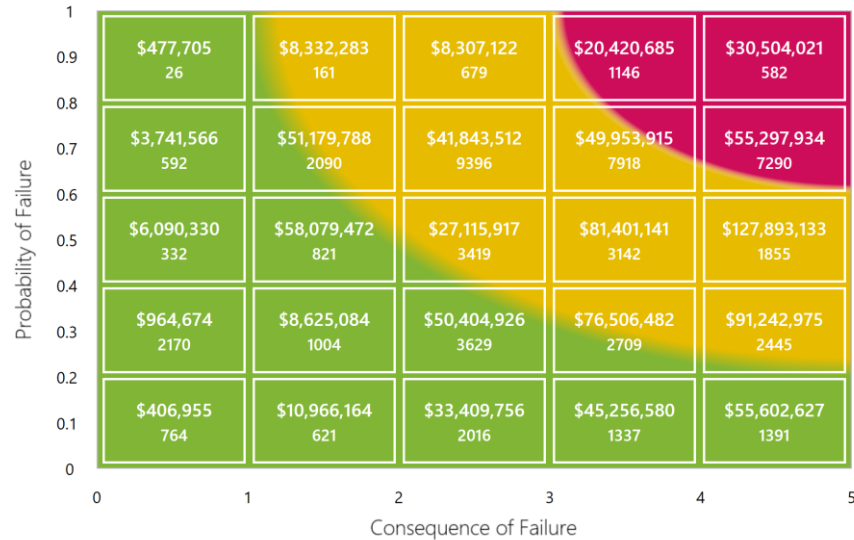
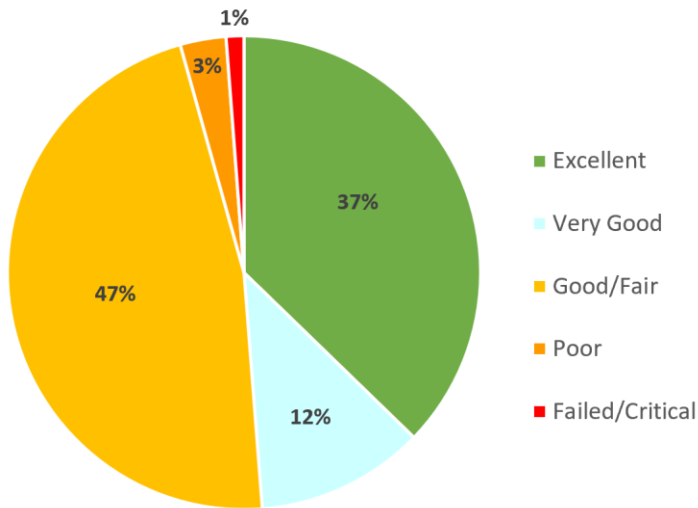
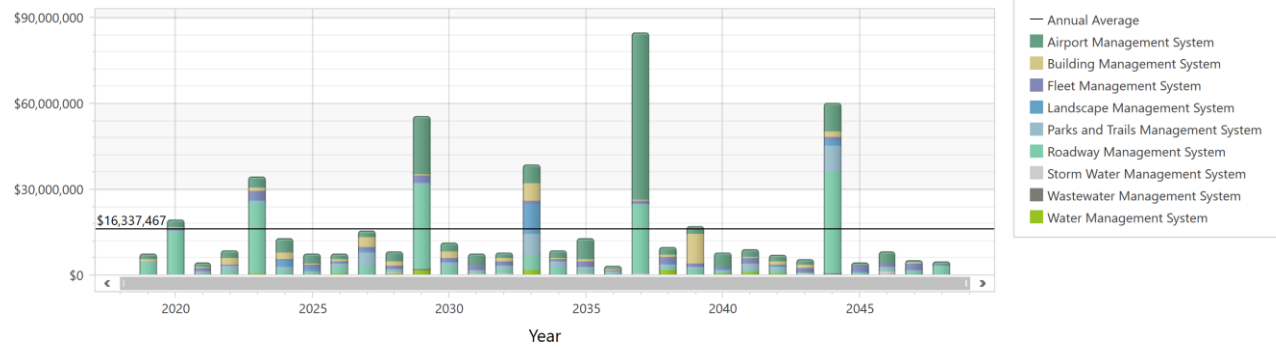
Today's Focus

Work Process to Date



Work Product to Date

Replacement & Rehabilitation (R&R)



Where Do We Go From Here?

- Achieve balance

Resident
Expectations



Cost of
Service



Level of
Service



Risk



Funding



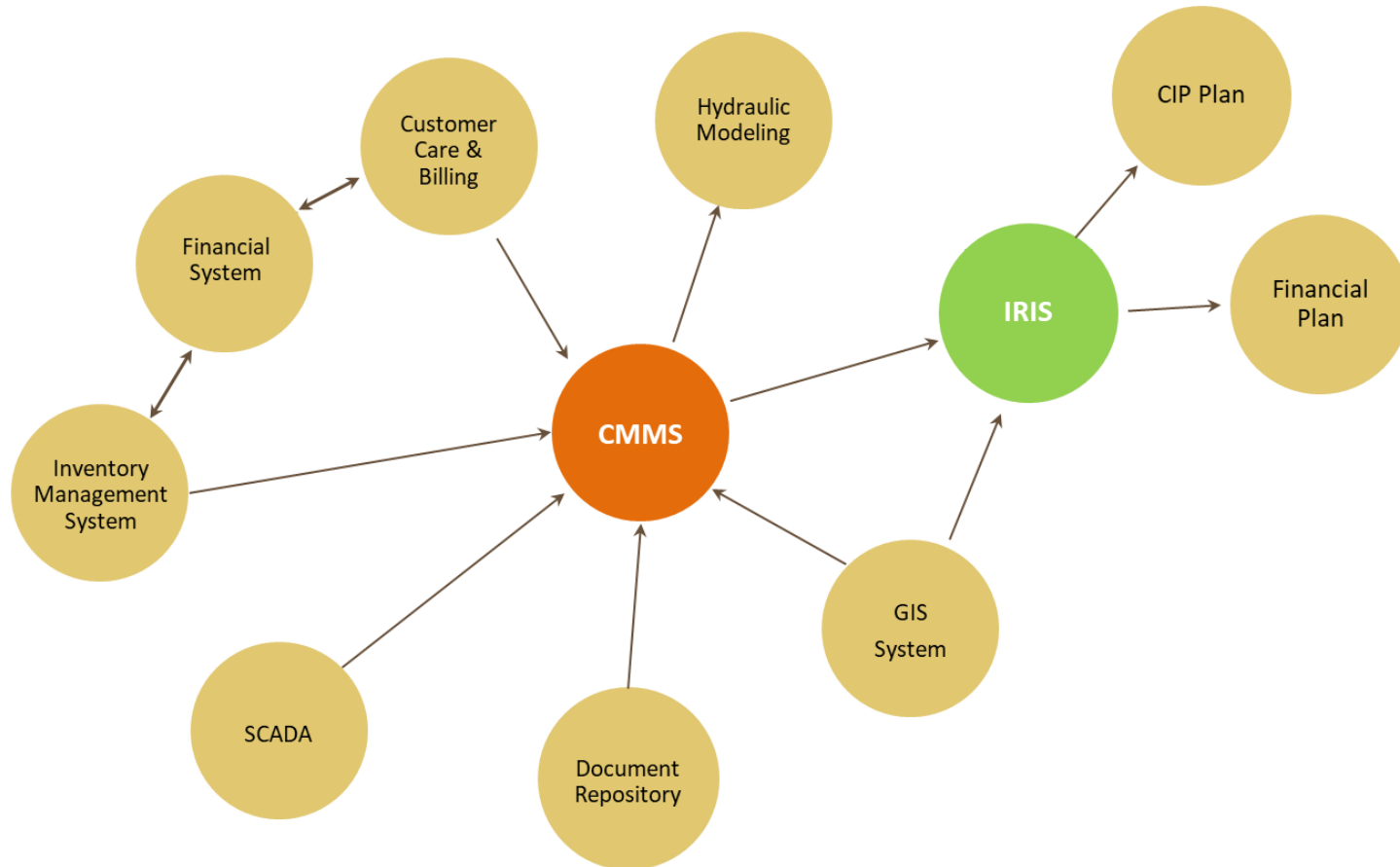
Human
Resources



ADDISON

How Do We Make it Sustainable?

- Asset management should be an on-going effort, not just a snapshot



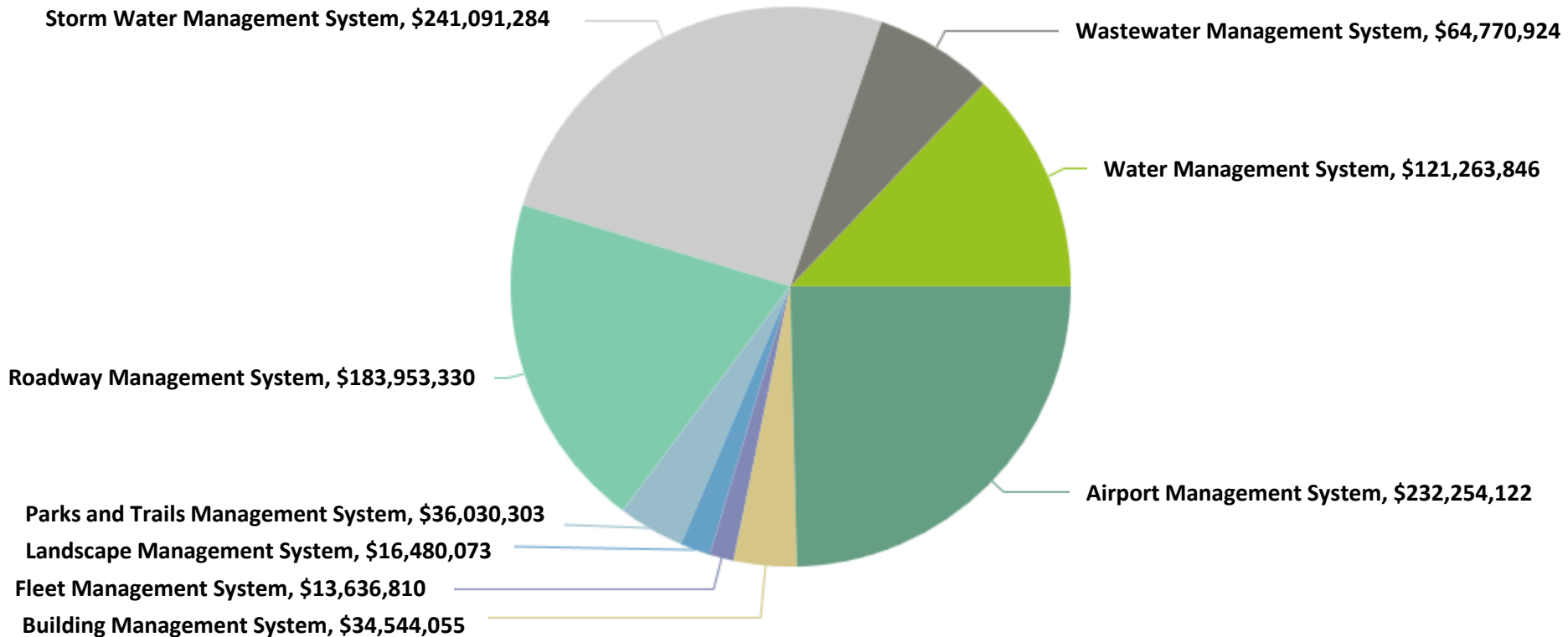
Project Update

Big Data is Here!

- Building the asset data foundation
 - 15 asset management systems assessed
 - 57,535 assets
 - Bridges – 387 assets
 - Buildings – 7,335 assets
 - Fleet – 191 assets
 - Landscape – 3,007 assets
 - Parks and Trails – 4,129 assets
 - Roadway – 10,446 assets
 - Wastewater – 3,518 assets
 - Water – 12,600 assets
 - Airport – 10,067 assets
 - Storm Water – 5,855 assets

Summation of Replacement Costs

- 57,535 assets → ≈\$950 million



Phase II - Overview

Airport Management System
Storm Water Management System

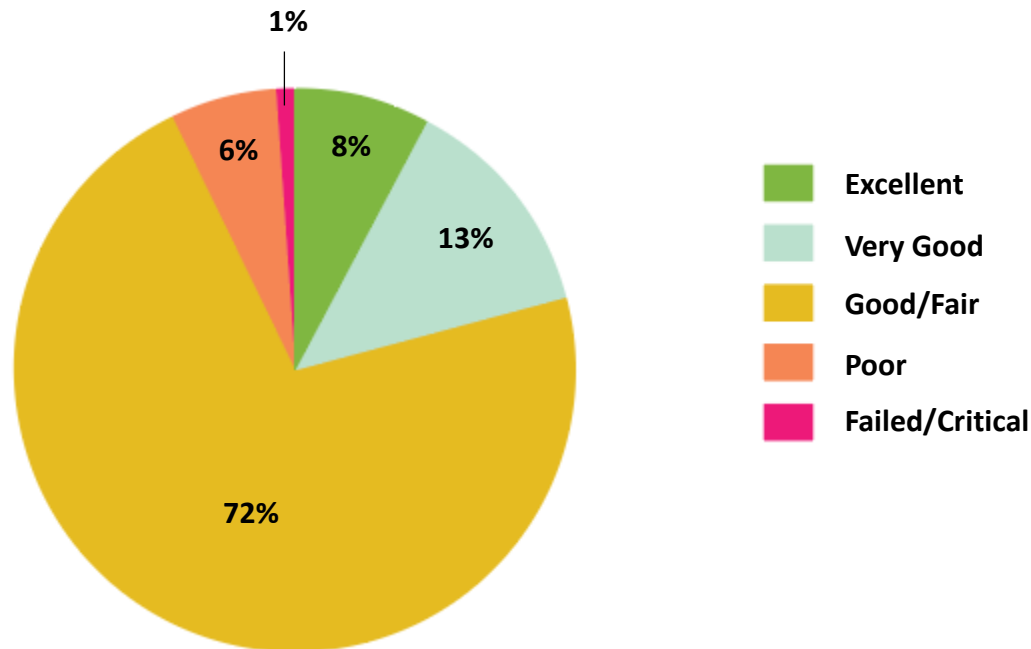
Airport Asset Management Plan Update

- Airport Assets – buildings, airfield, pavement
 - 46 city owned facilities visited
 - 10,067 assets
 - Replacement value: \$232 million

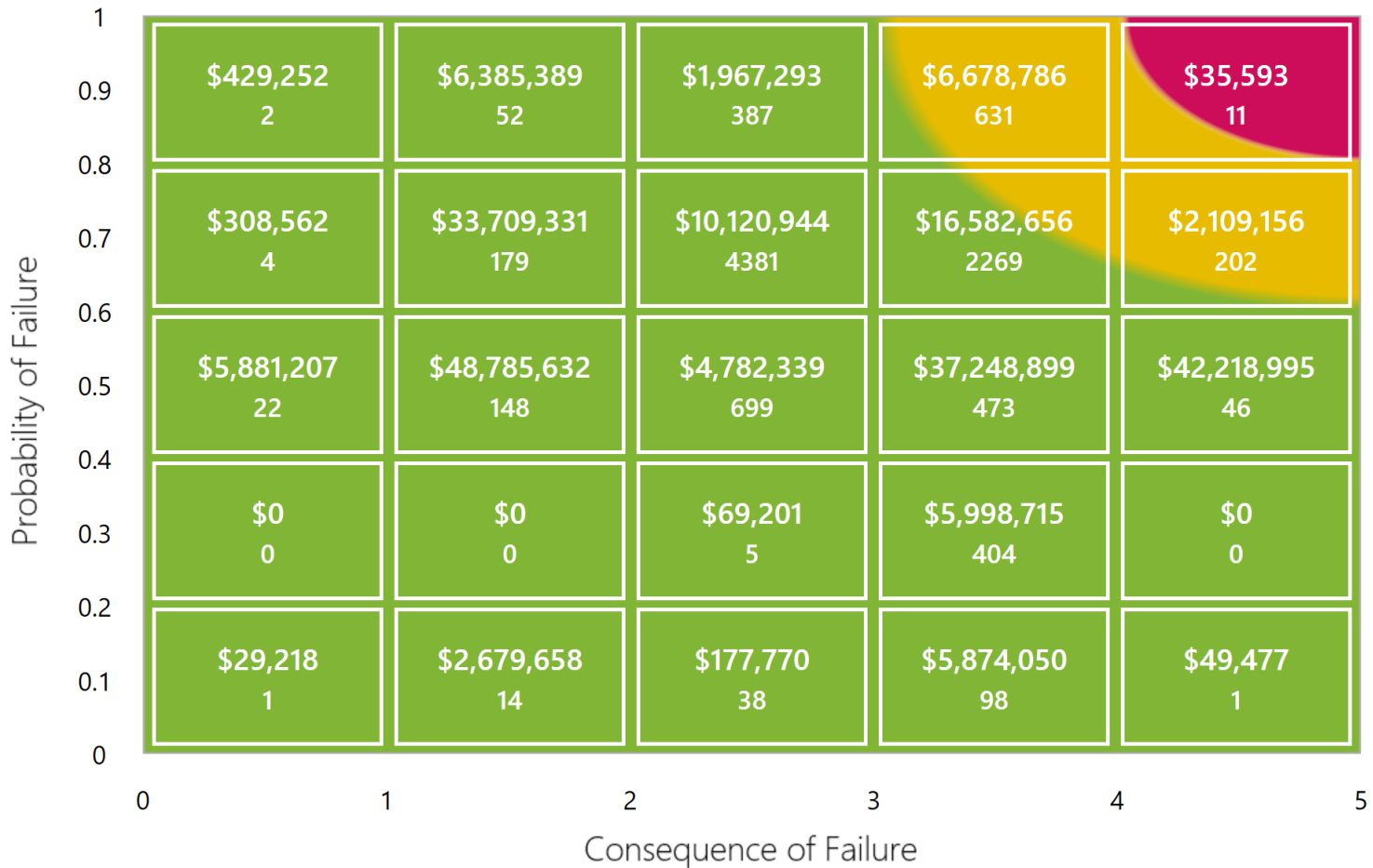
Airport Asset Management Plan Update

- Asset Condition – 1-5 Excellent to Failed/Critical

1. Excellent (New or nearly new): 8%
2. Very Good (Very good): 13%
3. Good/Fair (Good or as expected based on age): 72%
4. Poor (Poor or recommended replacement within near-term): 6%
5. Failed/Critical (Failed or nearing failure, needs immediate attention): 1%



Airport Risk Profile



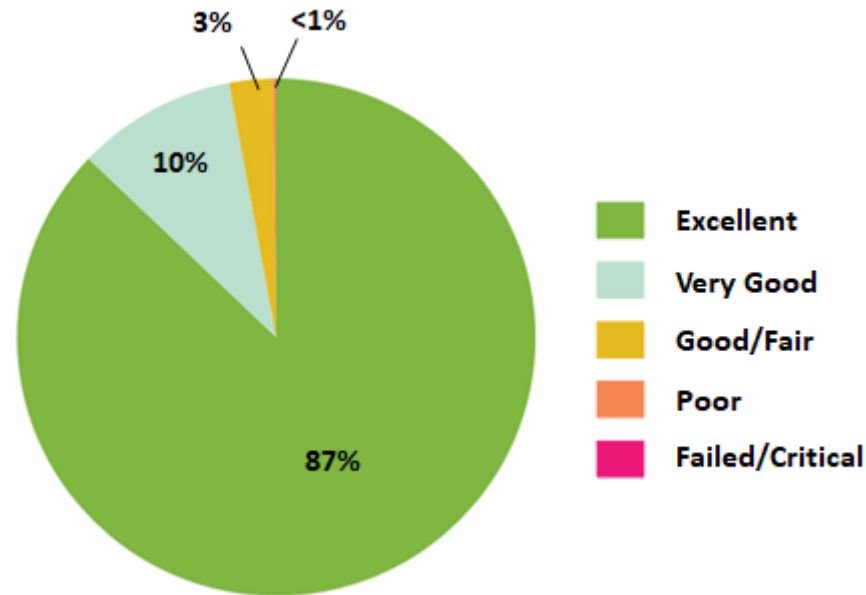
Storm Water Asset Management Plan Update

- Storm Water Assets – Channels, drainage pipes, culverts
 - 5,855 assets
 - Replacement value: \$241 million

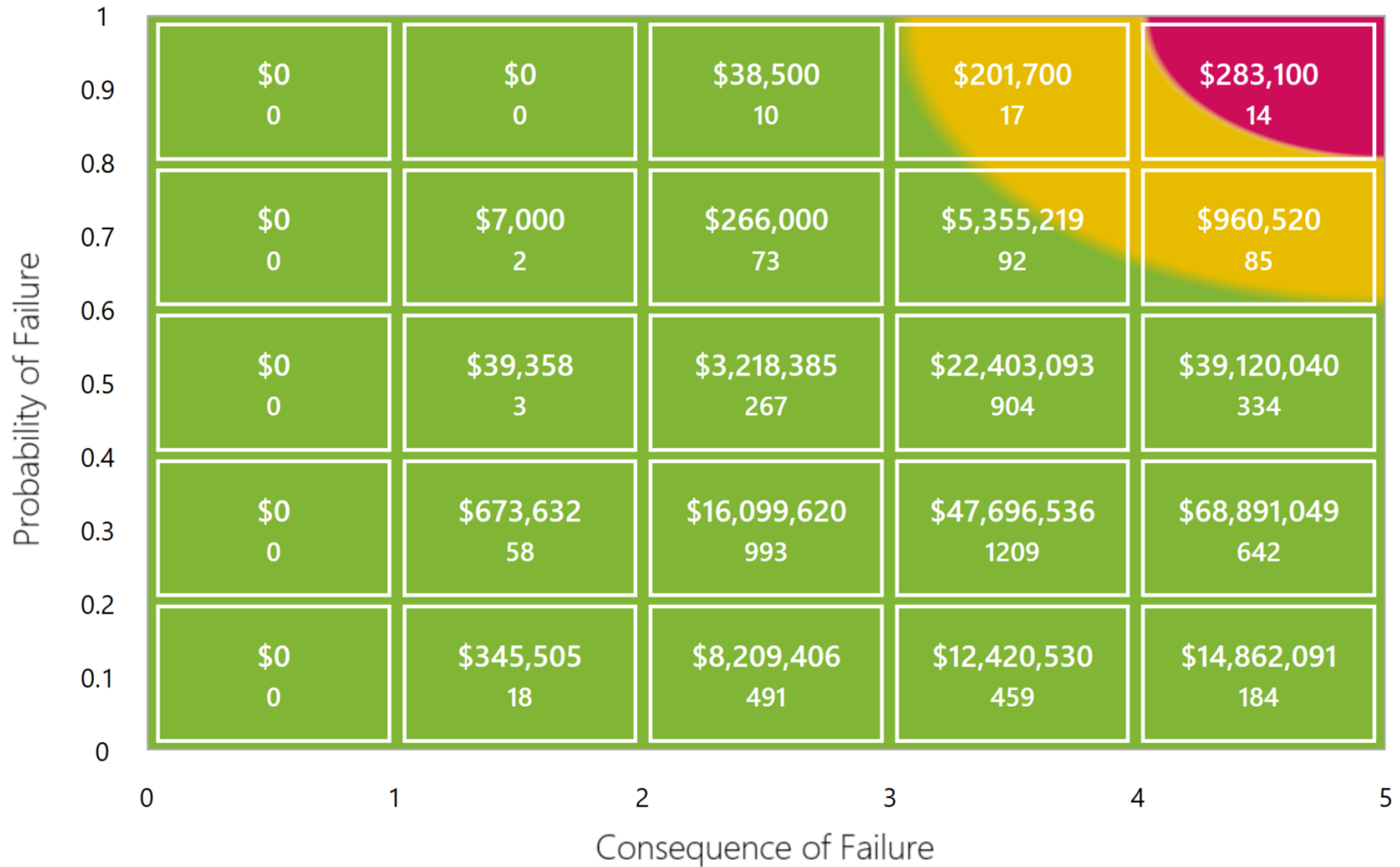
Storm Water Asset Management Plan Update

- **Asset Condition – 1-5 Excellent to Failed/Critical**

1. Excellent (New or nearly new): 87%
2. Very Good (Very good): 10%
3. Good/Fair (Good or as expected based on age): 3%
4. Poor (Poor or recommended replacement within near-term): <1%
5. Failed/Critical (Failed or nearing failure, needs immediate attention): <1%



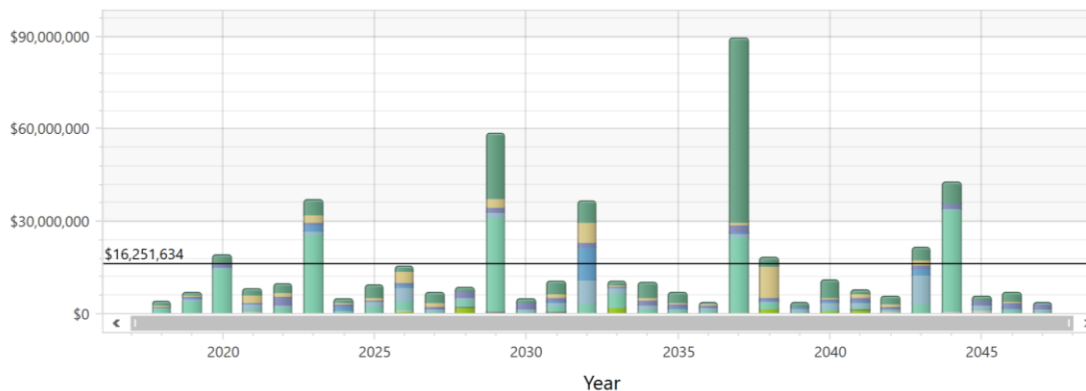
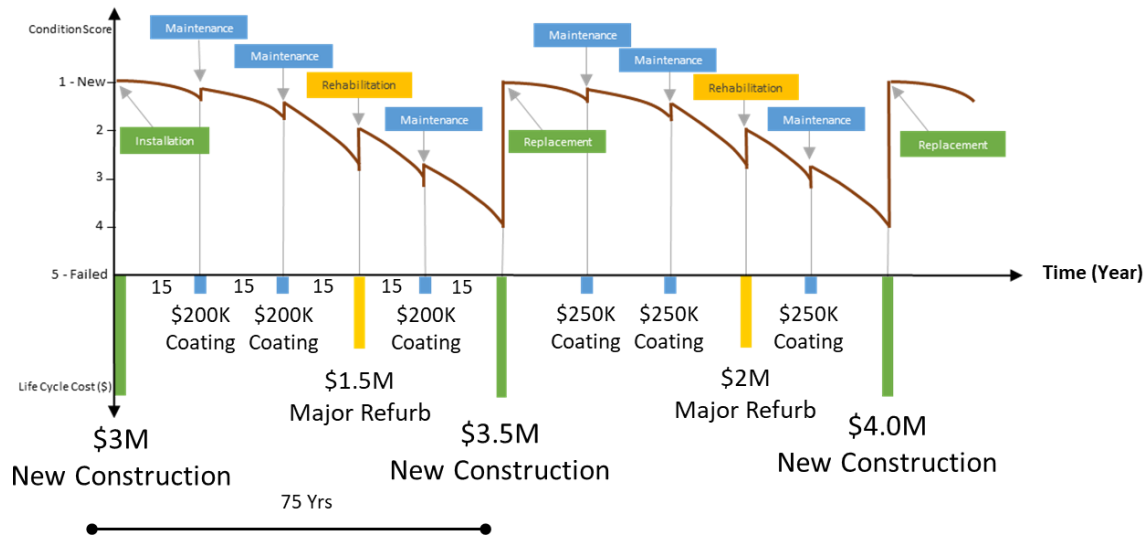
Storm Water Risk Profile



Comprehensive Asset Management Plan Results

Methodology Recap – Calculating the Cost of Ownership

- Water Tower Life Cycle Cost Example
 - Useful life 75 years



Methodology Recap – Grading Scale

$$\text{Physical Health} = \frac{\text{Sum of Poor Condition Asset Replacement Cost}}{\text{Sum of Total Replacement Cost}}$$

Category	A	B	C	D	F
Physical Health	≤5%	≤10%	≤20%	≤30%	>30%

Grading Example

Park Management System

$$\begin{aligned}
 \text{Physical Health} &= \frac{\text{Sum of Poor Condition Asset Replacement Cost}}{\text{Sum of Total Replacement Cost}} \\
 &= \frac{\$122,450}{\$36,030,303} \\
 &= 0.003 \text{ or } 0.3\% \\
 &= A
 \end{aligned}$$

Category	A	B	C	D	F
Physical Health	≤5%	≤10%	≤20%	≤30%	>30%

Buildings Asset Management Plan Score

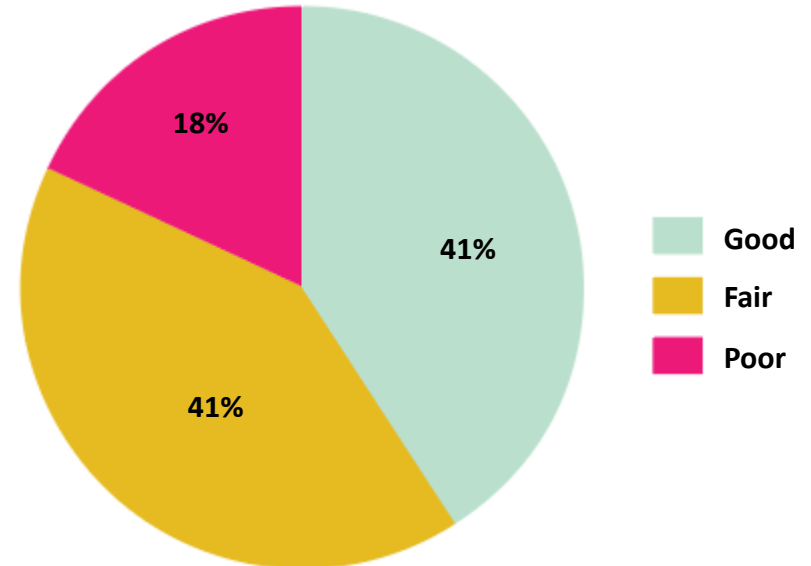
Physical Health Score



Inventory	17 buildings
	7,335 assets
Total Asset Replacement Cost	\$ 34 million

- Current allocation
 - \$450,000 per year

Facility Condition Index



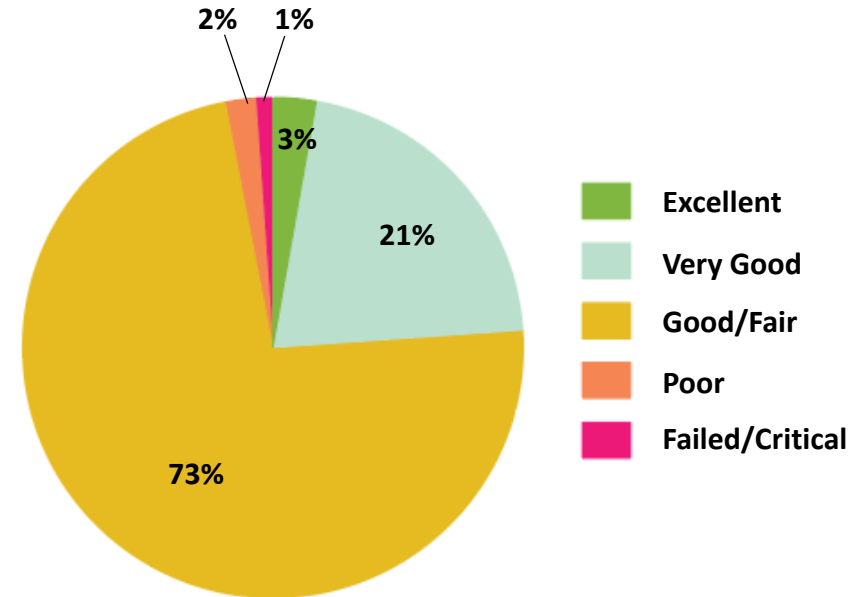
Parks and Trails Asset Management Plan Score

Physical Health Score



Inventory	19 parks and trails
	4,129 assets
	93 acres
Total Asset Replacement Cost	\$ 36 million

Condition Profile



- Current allocation
 - \$420,000 per year for parks, trails, and landscape areas*

*Current funding level is a combined budget for parks, trails, and landscape areas.

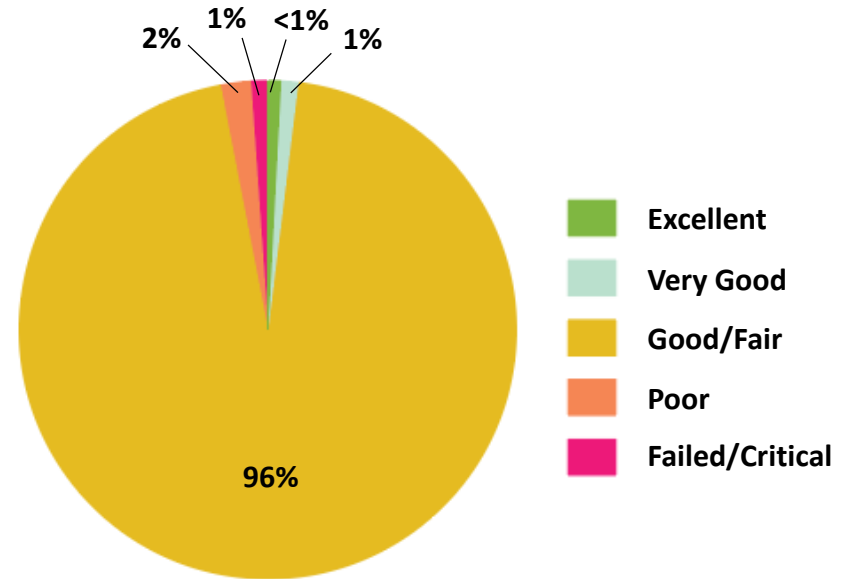
Landscape Asset Management Plan Score

Physical Health Score



Inventory	164 acres
	3,007 assets
Total Asset Replacement Cost	\$ 16.5 million

Condition Profile



- Current allocation
 - \$420,000 per year for parks, trails, and landscape areas*

*Current funding level is a combined budget for parks, trails, and landscape areas.

Water System Asset Management Plan Score

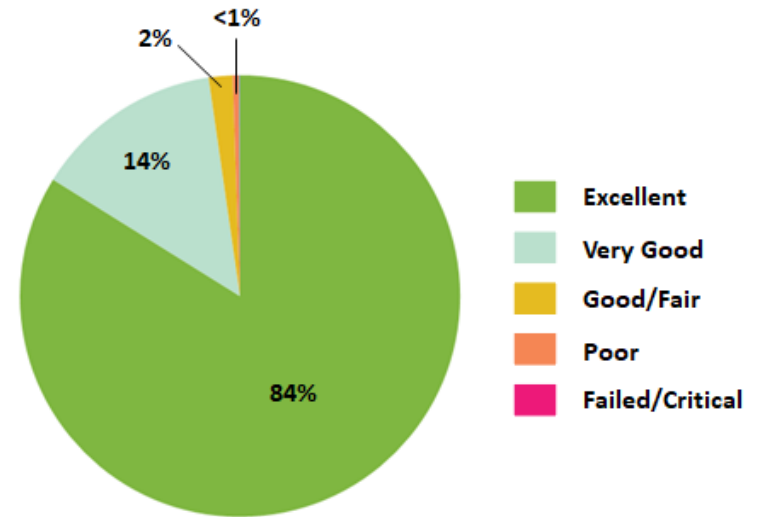
Physical Health Score



Inventory	96 miles of pipe
	2 pump stations
	4 reservoirs
	12,600 assets
Total Asset Replacement Cost	\$ 121 million

*Does not include building assets

Condition Profile



- Current allocation
 - \$290,000 per year

Wastewater System Asset Management Plan Score

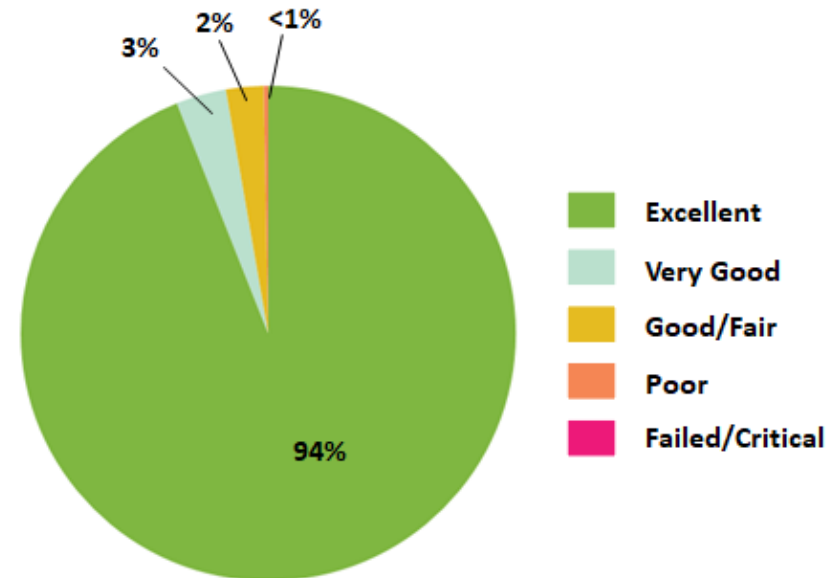
Physical Health Score



Inventory	68 miles of pipe
	1 lift station
	3,518 assets
Total Asset Replacement Cost	\$ 65 million

*Does not include building assets

Condition Profile



- Current allocation
 - \$127,500 per year

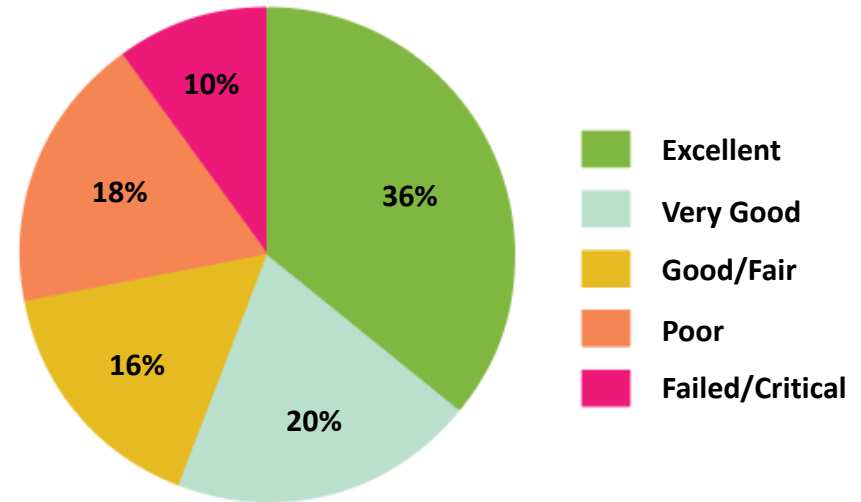
Pavement Asset Management Plan Score

Physical Health Score



Inventory	10.5 million sq ft
Total Asset Replacement Cost	\$ 137 million

Condition Profile



- Current allocation
 - \$208,000 per year for pavement, bridges, and curb ramps*

*Current funding level is a combined budget for pavement, curb ramps, and vehicular bridges.

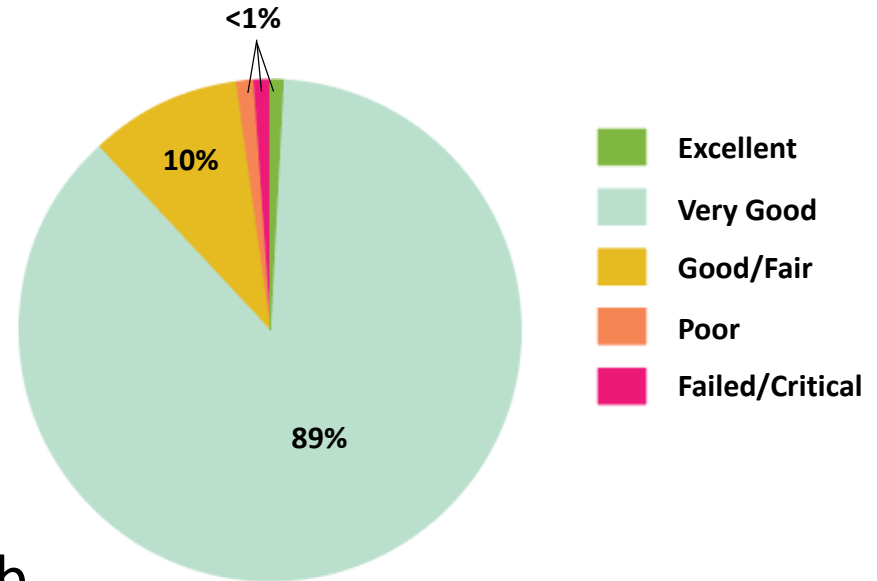
Vehicular Bridge Asset Management Plan Score

Physical Health Score



Inventory	4 vehicular bridges
	387 assets
Total Asset Replacement Cost	\$ 10.9 million

Condition Profile



- Current allocation
 - \$208,000 per year for pavement, bridges, and curb ramps*

*Current funding level is a combined budget for pavement, curb ramps, and vehicular bridges.

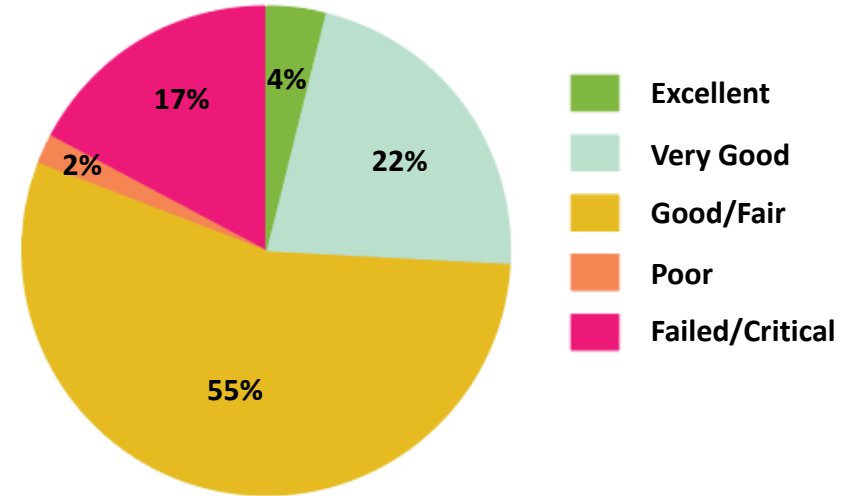
Curb Ramp Asset Management Plan Score

Physical Health Score



Inventory	1,957 curb ramps
Total Asset Replacement Cost	\$ 6 million

Condition Profile



- Current allocation
 - \$208,000 per year for pavement, bridges, and curb ramps*

*Current funding level is a combined budget for pavement, curb ramps, and vehicular bridges. Funds will be insufficient to address all three systems

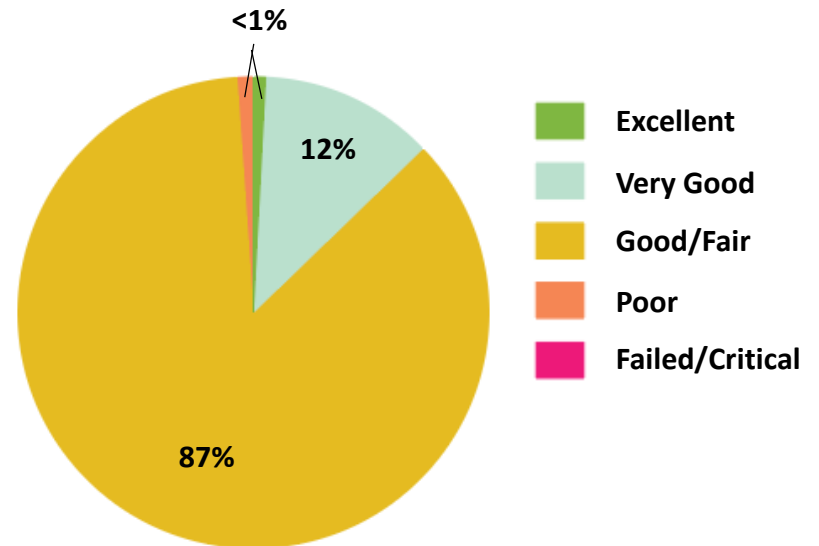
Sidewalk Asset Management Plan Score

Physical Health Score



Inventory	119.8 miles
Total Asset Replacement Cost	\$ 17 million

Condition Profile



- Current allocation
 - \$20,000 per year

Traffic Signal Asset Management Plan Score

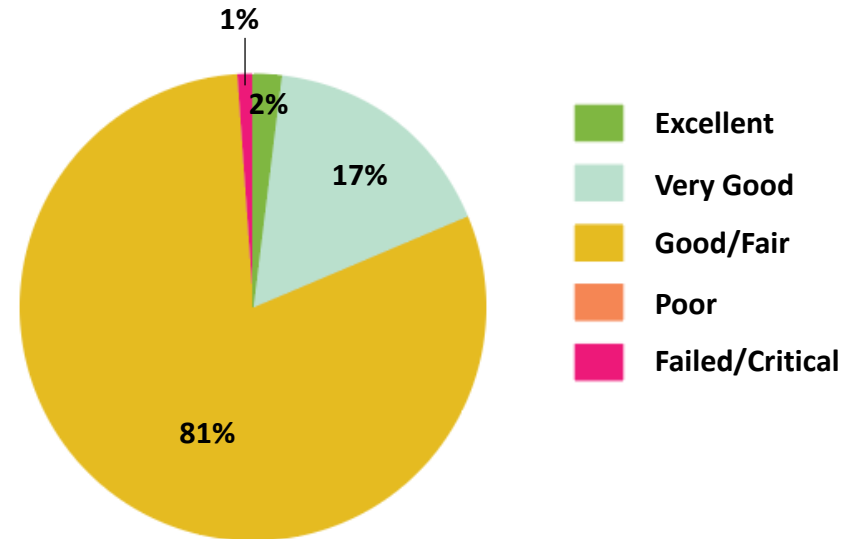
Physical Health Score

B

Inventory*	38 intersections
	1,463 assets
Total Asset Replacement Cost	\$ 9.7 million

* Does not include traffic system software and appurtenances

Condition Profile



- Current allocation
 - \$172,100 per year

Traffic Sign Asset Management Plan Score

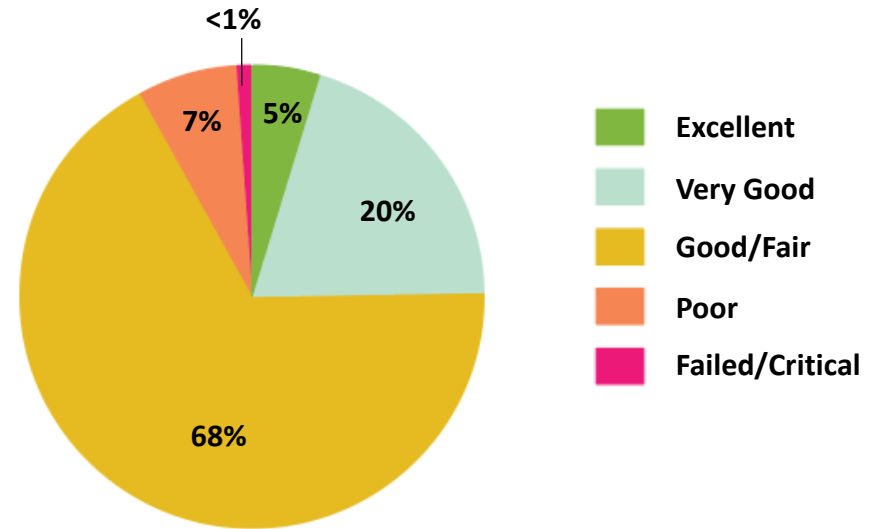
Physical Health Score

B

Inventory	1,990 traffic signs
	1,288 poles
	Pavement markings
Total Asset Replacement Cost	\$ 995,337

- Current allocation
 - \$153,500 per year

Condition Profile



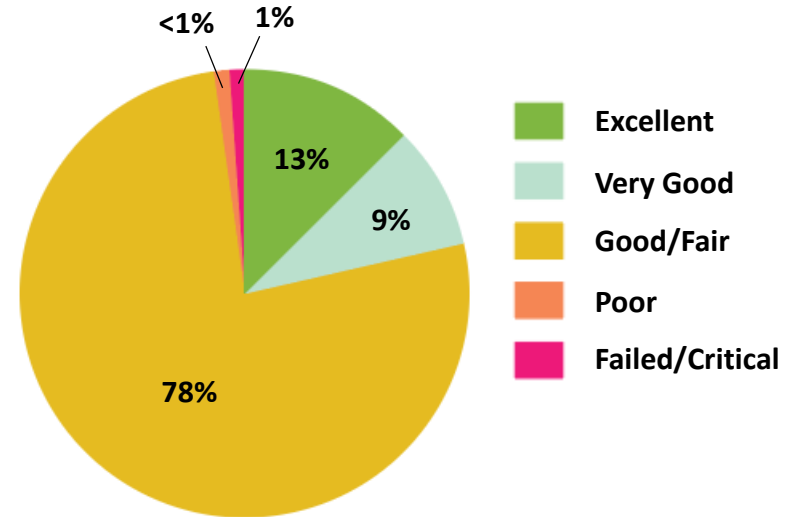
Street Light Asset Management Plan Score

Physical Health Score



Inventory	385 street lights
Total Asset Replacement Cost	\$ 2.4 million

Condition Profile



- Current allocation
 - \$150,500 per year

Fleet Asset Management Plan Score

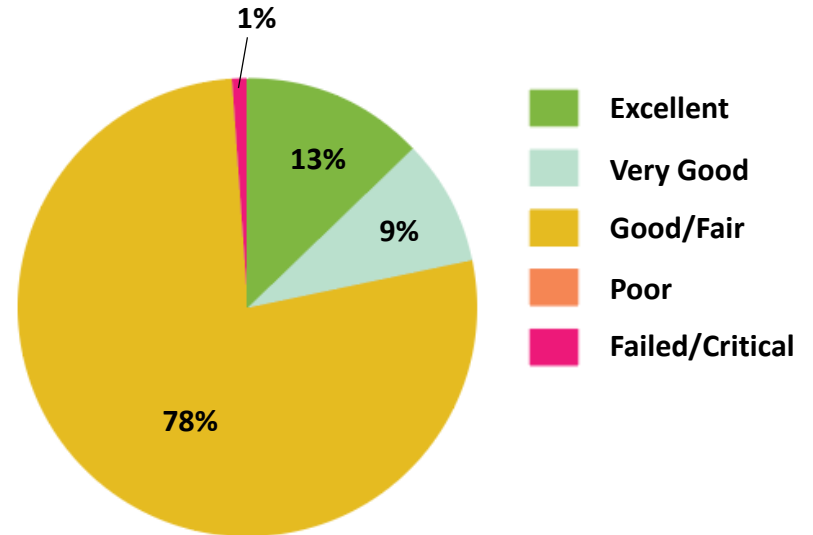
Physical Health Score

B

Inventory	191 fleet assets
Total Asset Replacement Cost	\$ 13 million

- Current allocation
 - \$800,000 per year

Condition Profile



Airport Asset Management Plan Score

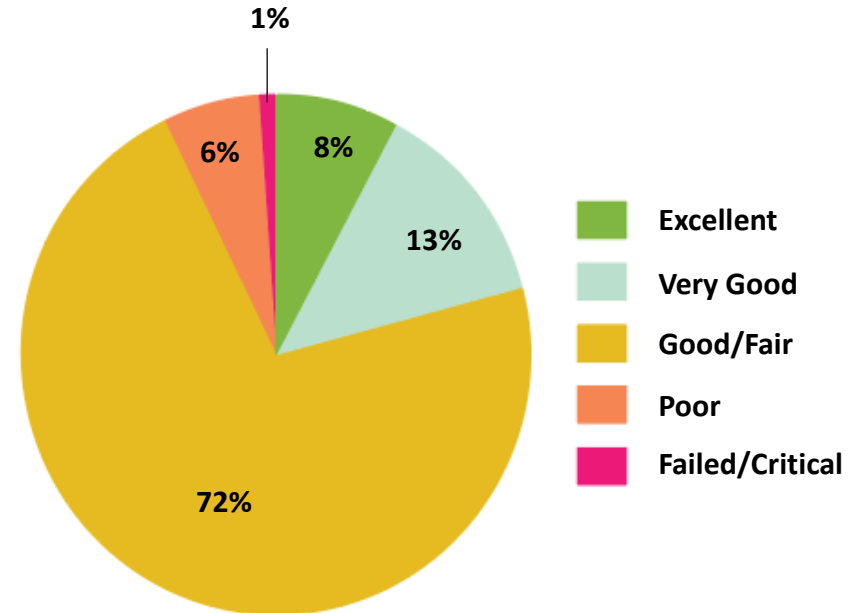
Physical Health Score

B

Inventory	Facilities	46 facilities 8,624 assets
	Site/Airfield	1,047 assets
	Pavement	6 million sq ft
Total Asset Replacement Cost		\$ 232 million

- Current allocation
 - \$576,000 per year

Condition Profile



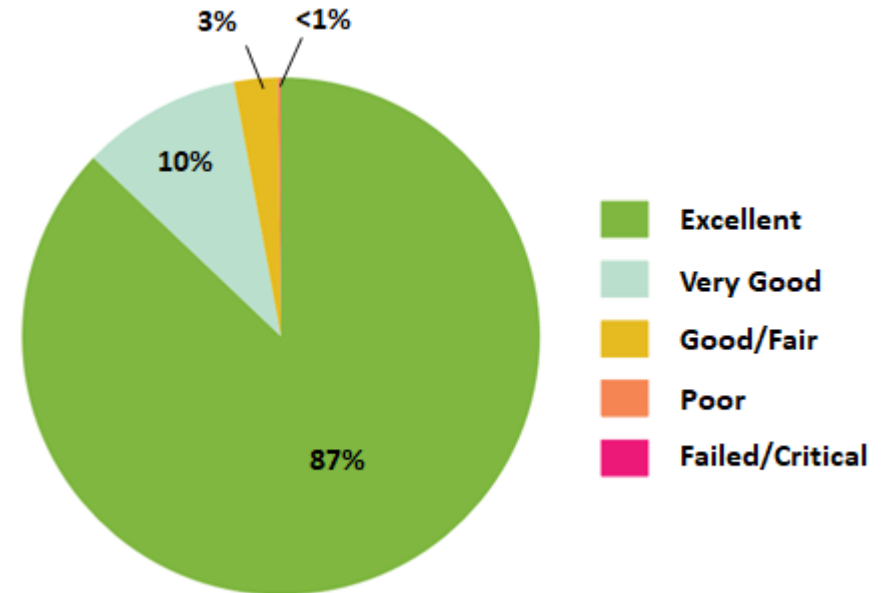
Storm Water System Asset Management Plan Score

Physical Health Score



Inventory	78 miles of pipe
	4 miles of open channels
	5,855 assets
Total Asset Replacement Cost	\$ 244 million

Condition Profile



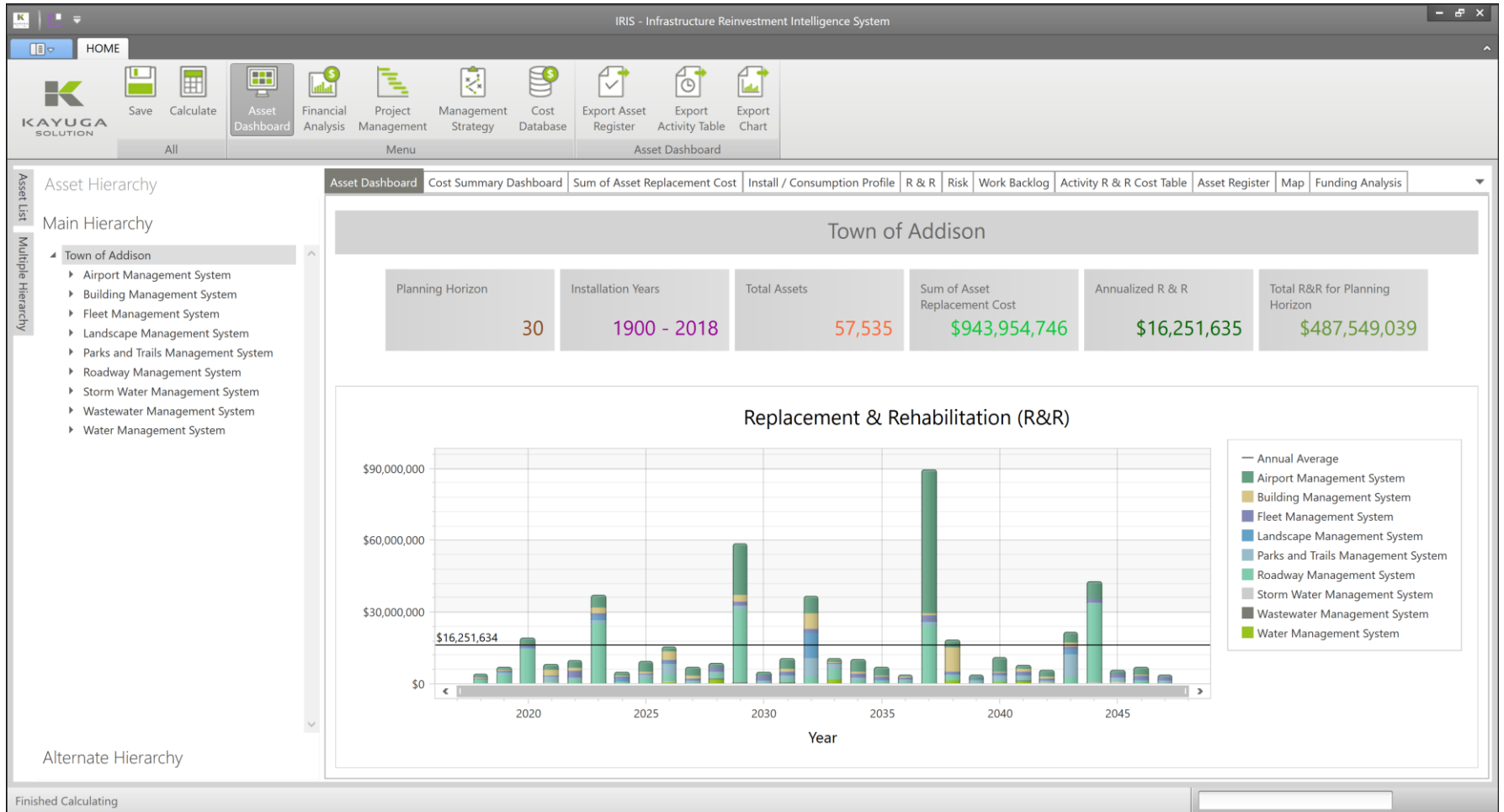
- Current allocation
 - \$125,000 per year

Using the Infrastructure Reinvestment Intelligence System (IRIS)



- To project future maintenance, rehabilitation, and replacement needs
- To understand the high-risk assets
- To understand the cost of ownership
- To calculate the appropriate operations and maintenance annual budget
- To identify the assets estimated to require rehabilitation or replacement each year

IRIS Demonstration



Summary

What We've Learned About Our Assets

- Good news story. Overall, the condition of our assets is good
 - Excellent, Very Good – 49%
 - Good/Fair – 47%
 - Poor, Failed/Critical – 4%

Management System	Physical Health Score	Management System	Physical Health Score
Buildings	C	Sidewalks	A
Parks & Trails	A	Traffic Signals	B
Landscape	B	Traffic Signs	B
Water	A	Street Lights	A
Wastewater	A	Fleet	B
Pavement	C	Airport	B
Vehicular Bridges	A	Stormwater	A
Curb Ramps	C		

Financial Health Assessment

Assumptions Used in Financial Assessment Snapshot



- 10-year planning horizon
- Annual allocated FY2019 budget for each asset system expended for maintenance activities
- Major rehabilitation and minor replacements to be funded from Infrastructure Investment Fund
 - FY2019 fund balance - \$4,500,000
- Successful \$15,000,000 bond programs in 2019 and 2023 to fund street improvements

Assumptions Used in Financial Assessment Snapshot



- Increase the Infrastructure and Investment Fund annual allocation to \$500,000 (current \$0.006201 of property tax rate plus extra contribution to equal \$500,000)
- The Infrastructure Investment Fund will not be used to fund projects in Enterprise Funds

Assumptions Used in Financial Snapshot

Asset systems assessed:

Parks	Landscape	Curb Ramps*	Pavement	Sidewalk
Street Lights	Traffic Signals	Traffic Signs	Vehicular Bridges*	Buildings

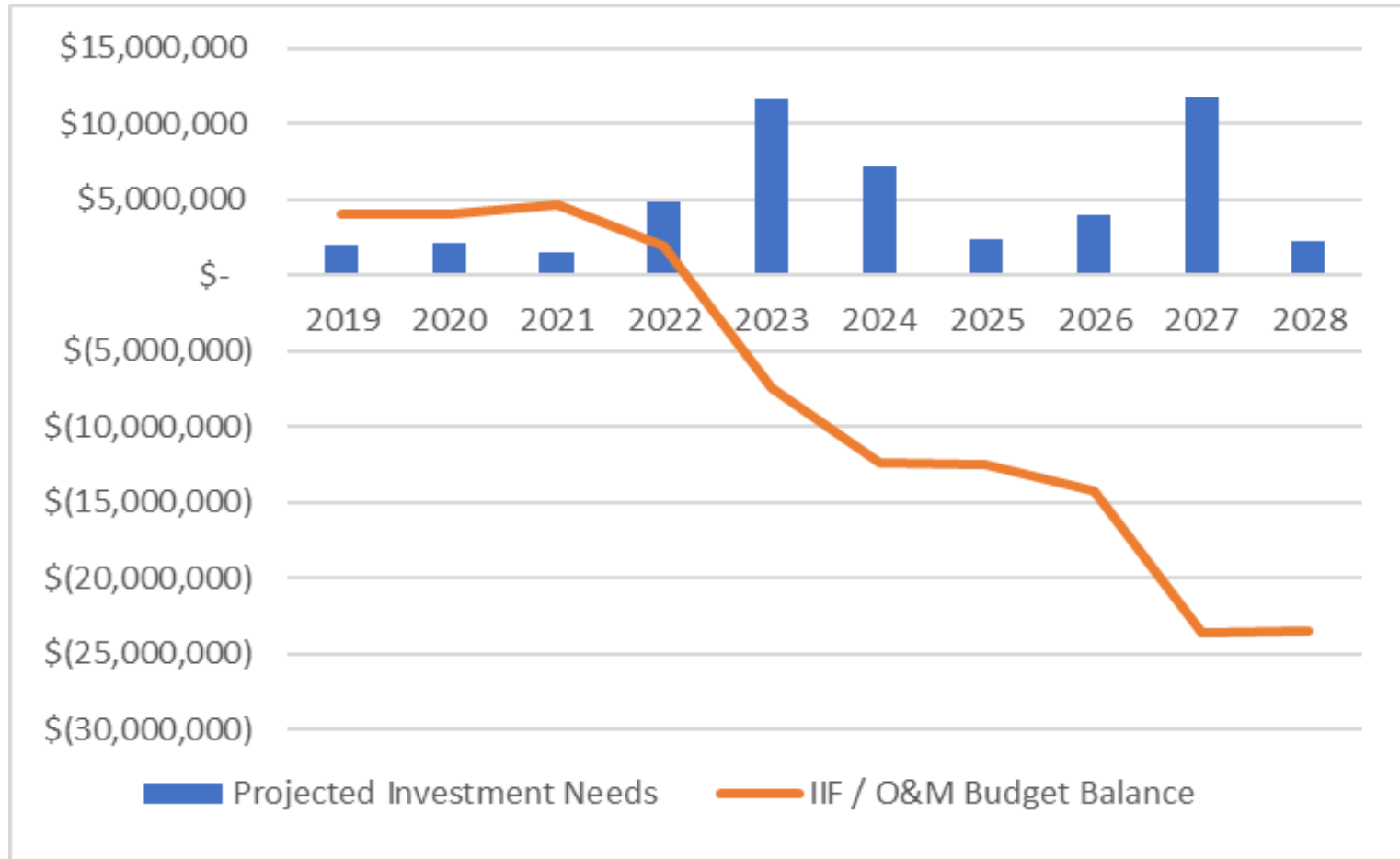
*Curb Ramps and Vehicular Bridges are included in Pavement asset system

Asset systems not included:

Fleet	Water	Wastewater	Storm Water	Airport
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- Compared asset maintenance, rehabilitation, and replacement needs to the Infrastructure Investment Fund balance, combined with the department's annual maintenance budget allocations

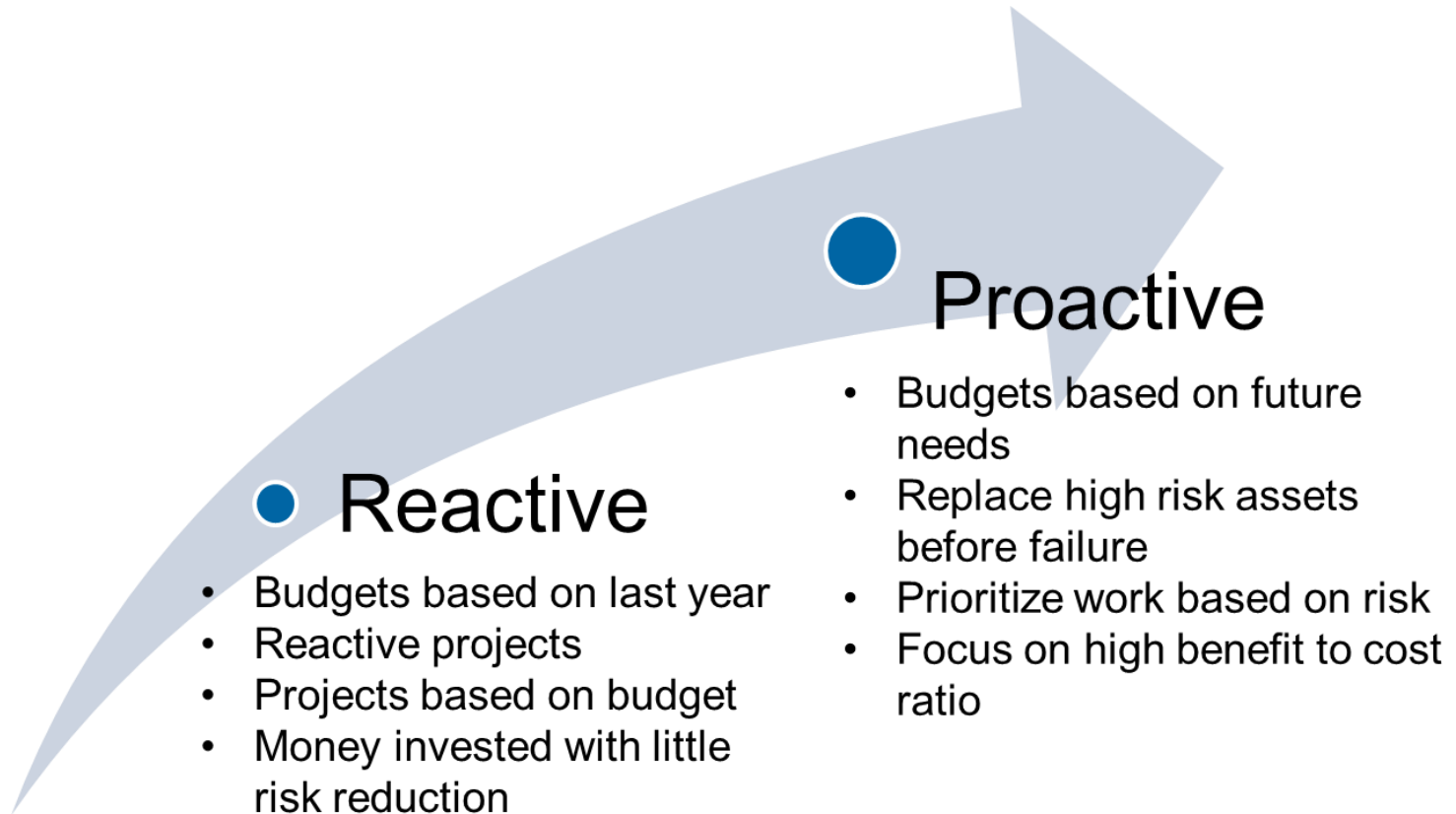
Financial Health Snapshot – FY2019 Allocations



Policy Questions and Consideration

Changing the Focus

- Goal – To move from Reactive to Proactive Approach



Accomplishing the Goal

- Objectives
 1. Proactively identify asset replacement and rehabilitation needs before failure
 2. Better align annual budget process with projected infrastructure needs
 - Last year's allocation + cost increases + inflation → Add-On Budget
 - Driving looking through the rearview mirror
 3. Acquire a Computerized Maintenance Management System (CMMS) to track maintenance activities and the associated costs

Policy Discussion and Questions

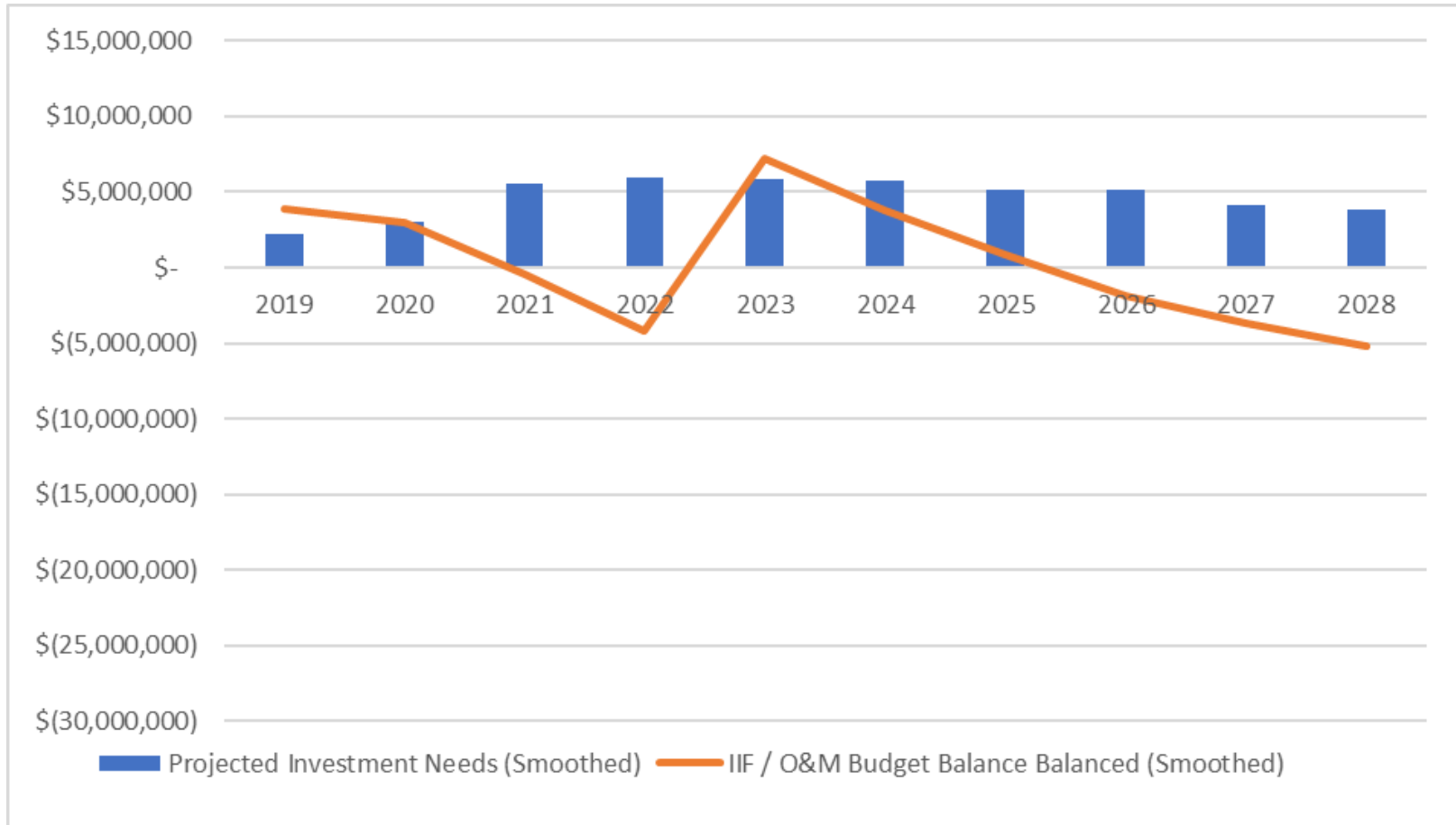
- Does Council agree with the Objectives?
 1. Identify replacement and rehabilitation needs before failure
 2. Align annual budget process with infrastructure needs
 3. Acquire a CMMS
- Should the physical condition of the asset system be maintained so that the condition of the system does not change from its current level?
- How should funding the Town's physical asset needs be prioritized when compared to other funding needs?

Management Strategy Examples

- Does the Council agree with the following management strategies?
 - Fund maintenance activities through the annual budget process
 - Fund major rehabilitation activities through special funds (e.g., Infrastructure Investment Fund) and minor replacements
 - Fund major replacements through periodic recurring bond programs

Management Strategy - Example

- Investment Needs Smoothed Over 10 Year Period



Future Council Discussions and Decisions

- Conduct a full financial analysis of investment needs compared to current available resources
- Develop management strategies to allocate resources for implementing the asset management plan
- Develop funding policies for major rehabilitation and replacement projects

Next Steps

- Use IRIS as an Asset Management Tool:
 - Develop annual operations and maintenance budget for each asset system to keep condition from going lower
 - Develop 5 year CIP for major rehabilitation activities to be funded from allocations from special funds
 - Develop periodic recurring bond programs to fund replacement of assets
- Update the asset management plan as assets are added, rehabilitated, or replaced

Next Steps

- Explore acquisition of a Computerized Maintenance Management System that will track maintenance activities, costs, and man hours
- Schedule annual updates to Council on the health of the asset management systems and a reassessment of the funding policies

Thank you!