







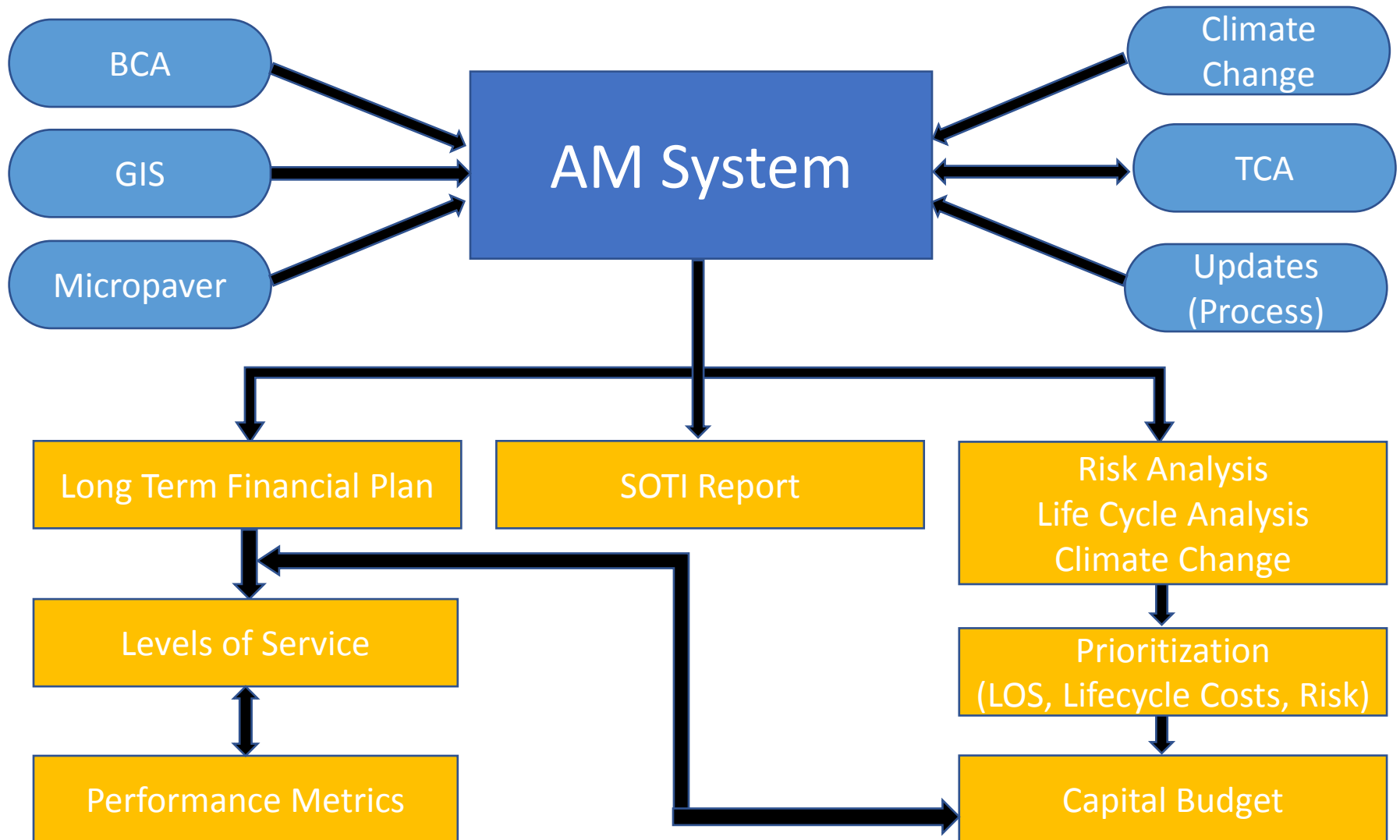
# Asset Management

**2018 State of the Infrastructure Results  
Presentation to Finance Committee  
May 29, 2019**

## Purpose

-  • Communicate the state of infrastructure repair essential to the delivery of public services
-  • Allow the comparison of state of infrastructure repair across service areas and over-time
-  • Outlines the future investments needed to replace existing infrastructure (funding requirements)
-  • Identify areas for data improvement
-  • Improve decision-making related to infrastructure assets
-  • Improve transparency and accountability of investments

## Introduction



## Changes 2016 - 2018

- Asset hierarchy adjusted (improved asset data resolution).
- Inventory basis:
  - 2016: Tangible Capital Asset (TCA) registry only
  - 2018: information management systems (GIS, MicroPaver, ...)
- Replacement costs:
  - 2016: CPI escalated acquisition cost
  - 2018: engineering, historical tenders and escalated acquisition costs
- Estimated useful lives:
  - 2016: equaled amortization period
  - 2018: staff experience, industry references and amortization periods

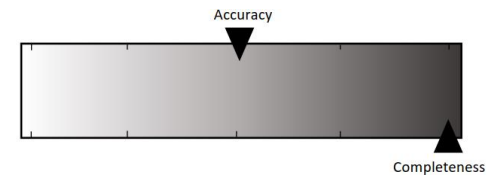
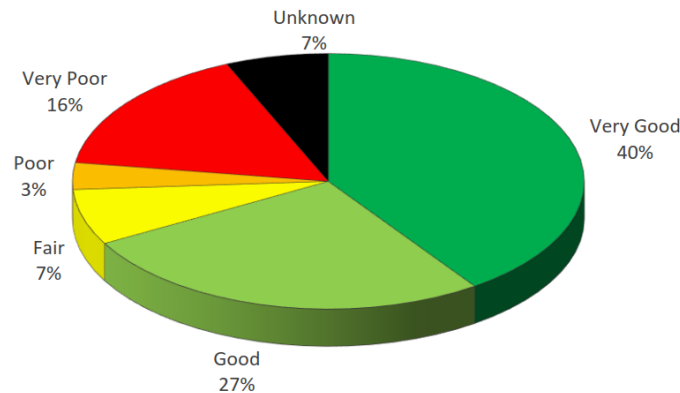
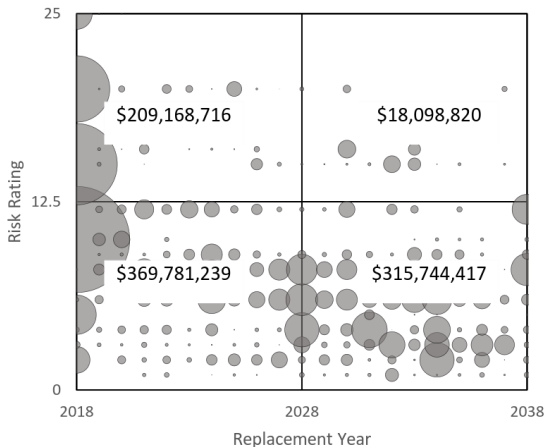
## 2018 Interpretation

- Infrastructure deficit  $\neq$  condition
- Results are based on:
  - Default level of service
  - Existing asset inventory (no growth)
  - Uniform quality of construction
- Investment priority should be based on:
  - Risk
  - Level of Service
  - Lifecycle cost (not deficit)
- Data quality is still improving

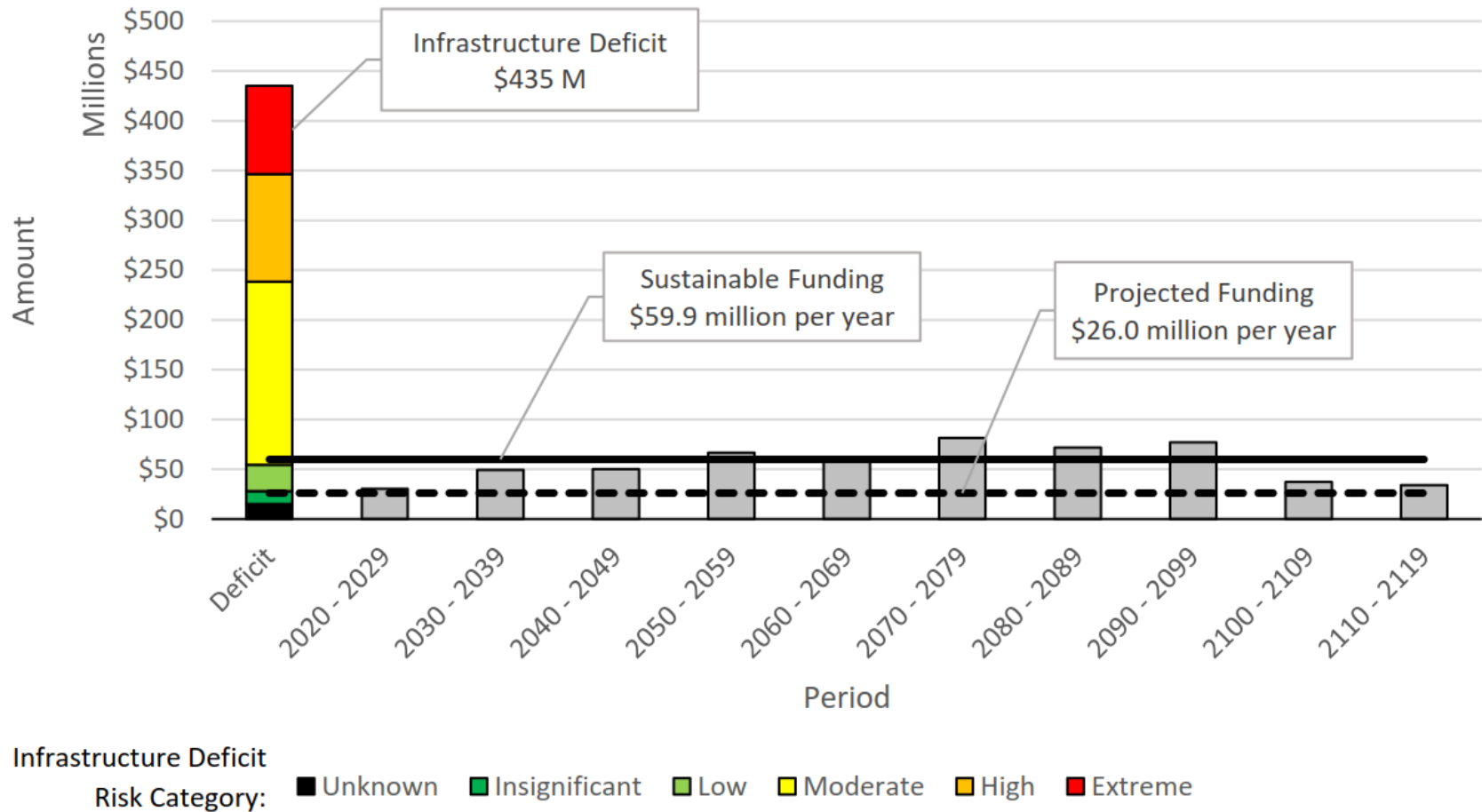
## City of Saint John

Replacement Value	Infrastructure Deficit	Letter Grade	Trend
\$2730.9 M	\$435 M	C+	↓

Asset	Replacement Value	Infrastructure Deficit	Letter Grade
Growth & Community Development	\$129,646,291	\$47,962,628	C-
Public Safety	\$69,077,926	\$13,641,277	C+
Transportation and Environment	\$1,073,263,922	\$52,650,571	B
Saint John Water	\$1,443,539,753	\$313,581,339	C+
Corporate, Finance & Administrative	\$15,357,854	\$7,137,891	C-
<b>Total</b>	<b>\$2,730,885,747</b>	<b>\$434,973,706</b>	<b>C+</b>



## City of Saint John

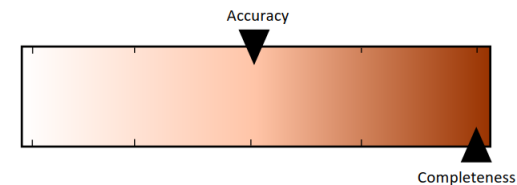
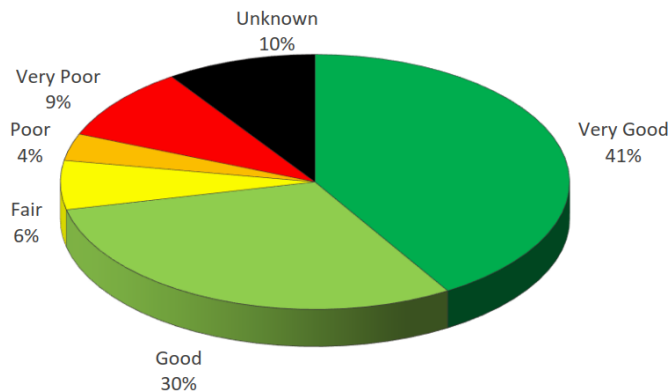
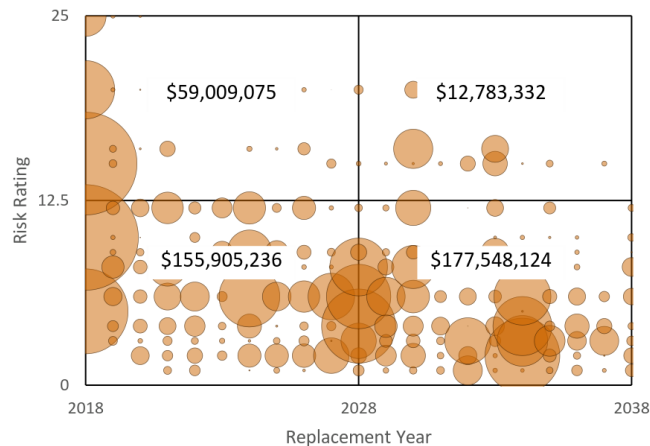




## Saint John (General Fund)

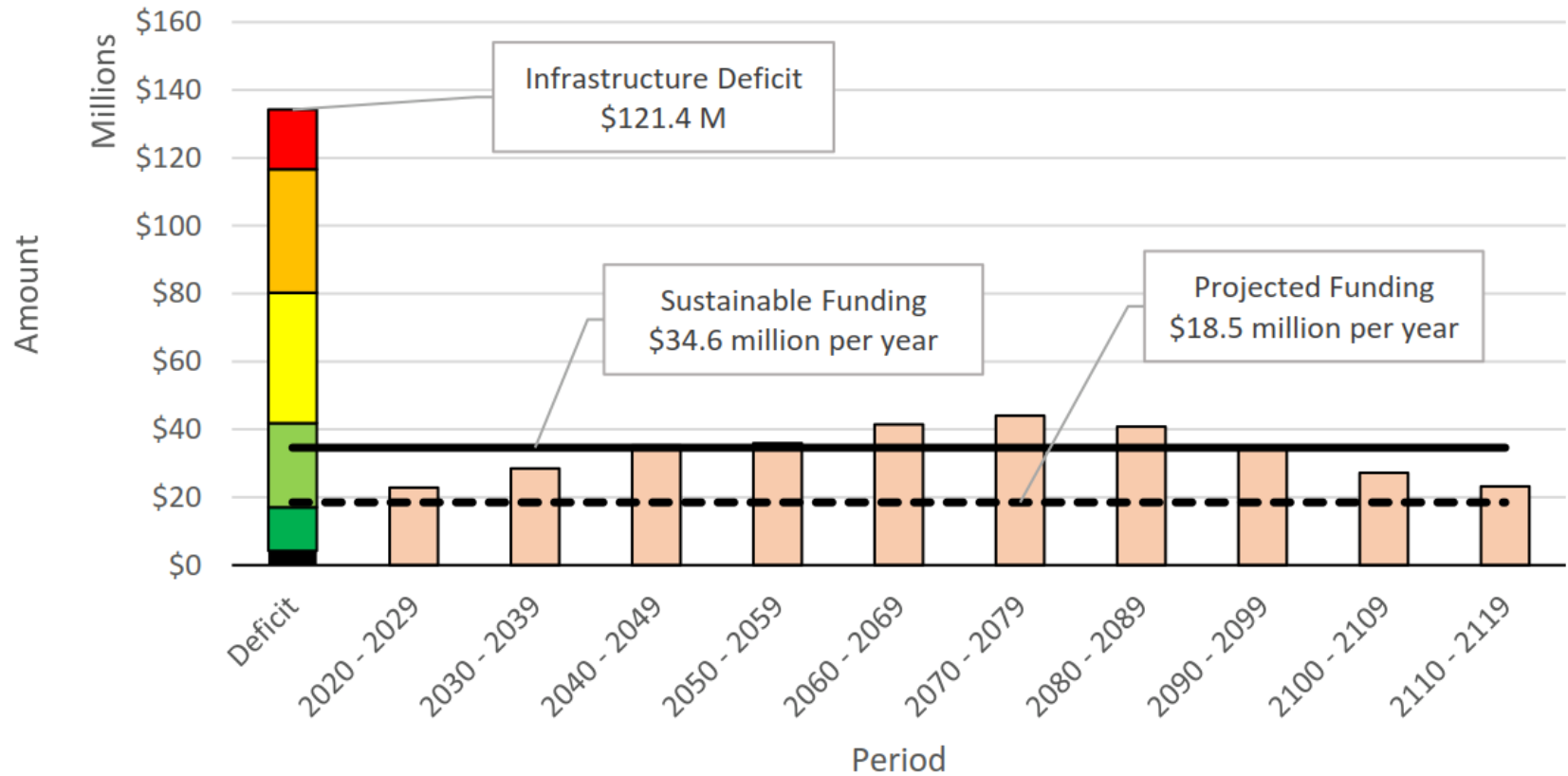
Replacement Value	Infrastructure Deficit	Letter Grade	Trend
\$1287.3 M	\$121.4 M	B	↓

Asset	Replacement Value	Infrastructure Deficit	Letter Grade
Growth & Community Development	\$129,646,291	\$47,962,628	C-
Public Safety	\$69,077,926	\$13,641,277	C+
Transportation and Environment	\$1,073,263,922	\$52,650,571	B
Corporate, Finance & Administrative	\$15,357,854	\$7,137,891	C-
<b>Total</b>	<b>\$1,287,345,993</b>	<b>\$121,392,368</b>	<b>B</b>





## Saint John (General Fund)



Infrastructure Deficit

Risk Category: ■ Unknown ■ Insignificant ■ Low ■ Moderate ■ High ■ Extreme

## Saint John Water

Replacement Value

\$1443.5 M

Infrastructure Deficit

\$313.6 M

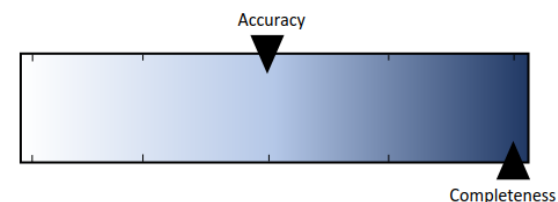
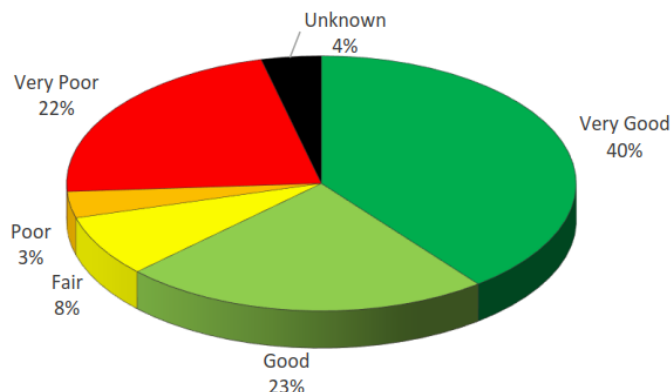
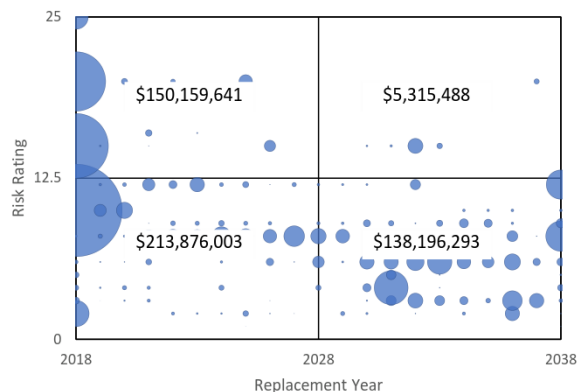
Letter Grade

C+

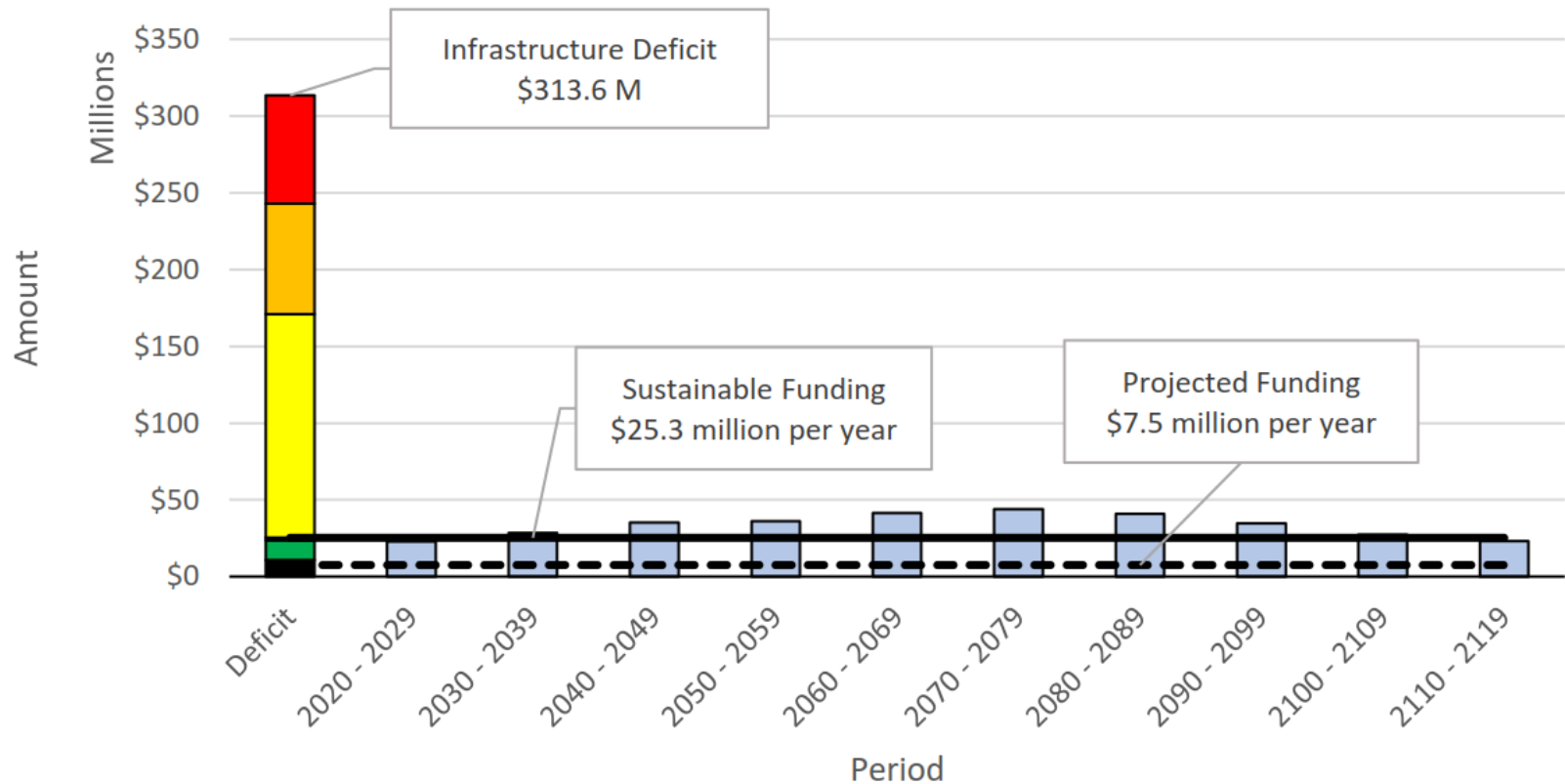
Trend



Asset	Quantity	Replacement Value	Infrastructure Deficit	Letter Grade
<u>Industrial Water</u>		<u>\$10,110,454</u>	<u>\$6,286,339</u>	<u>D</u>
Industrial Water Pumping Stations	1	\$5,285,331	\$4,629,076	D-
Industrial Water Dam & Spillways	2	\$3,167,860	\$0	B+
Industrial Water Treatment Facilities	2	\$1,657,263	\$1,657,263	F
<u>Drinking Water</u>		<u>\$836,311,060</u>	<u>\$171,933,917</u>	<u>C+</u>
Drinking Watermains	517.5 km	\$766,892,743	\$162,477,585	C
Drinking Water Pumping Stations	13	\$21,152,664	\$3,186,196	B-
Drinking Water Storage Reservoirs	8	\$22,490,736	\$4,314,491	C-
Other Drinking Water Assets		\$25,774,916	\$1,955,646	NA
<u>Wastewater</u>		<u>\$591,339,323</u>	<u>\$133,227,697</u>	<u>C+</u>
Sanitary Sewer Lines	315.6 km	\$310,899,794	\$17,928,937	B+



## Saint John Water



Infrastructure Deficit  
Risk Category:

Unknown
  Insignificant
  Low
  Moderate
  High
  Extreme

## Conclusions

Results need to be interpreted cautiously, although data confidence is **High** (not very high)

- Data completeness is very high/data accuracy is moderate
  - Information system (GIS, MicroPaver, TCA) data inventory
  - Condition and risk assessments updated
  - Replacement values and estimated useful lives updated
1. Current asset inventory of \$2.7 B with a \$435 M infrastructure deficit and \$579 M of replacement costs in the next 10 years
  2. The City is underfunding its infrastructure assets (43% funding ratio)
  3. \$97.3 M of assets in the “Extreme” risk category
  4. The City’s infrastructure scores a B<sup>-</sup> and is in a “Good to Fair” condition
  5. Infrastructure requires attention – it is approaching the “cliff” and requires corrective action



## 2016 - 2018 Comparison

Indicator	2016 Result	2018 Result	Difference
<b>Total Replacement Value</b>			
General Fund	\$1,110 million	\$1,287 million	+\$177 million
Saint John Water	\$1,088 million	\$1,444 million	+\$355 million
<b>Infrastructure Deficit</b>			
General Fund	\$219 million	\$121 million	-\$98 million
Saint John Water	\$214 million	\$314 million	+\$99 million
<b>Extreme Risk Assets</b>			
General Fund	\$51 million	\$22 million	-\$29 million
Saint John Water	\$106 million	\$76 million	-\$30 million
<b>Letter Grade</b>			
General Fund	C	B	Improved
Saint John Water	C-	C+	Improved
<b>Sustainable Funding Requirement</b>			
General Fund	\$42 million/yr	\$35 million/yr	-\$8 million/yr
Saint John Water	\$27 million/yr	\$25 million/yr	-\$1 million/yr
<b>Projected Funding</b>			
General Fund	\$19.1 million/yr	\$18.5 million/yr	-\$0.6 million/yr
Saint John Water	\$12.5 million/yr	\$7.5 million/yr	-\$5.0 million/yr
<b>Investment Gap</b>			
General Fund	\$23.0 million/yr	\$16.1 million/yr	-\$6.9 million/yr
Saint John Water	\$14.1 million/yr	\$17.8 million/yr	+\$3.6 million/yr
<b>Data Completeness</b>			
General Fund	Moderate	Very High	Improved
Saint John Water	Low	Very High	Improved
<b>Data Accuracy</b>			
General Fund	Low	Moderate	Improved
Saint John Water	Low	Moderate	Improved

## Interpretation



- Saint John infrastructure condition not atypical nor sustainable.



- 2016 & 2018 reports set baseline for future comparisons.
- Picture is clearer but not yet complete.



- Heed the results and improve/maintain data quality.

- Improve:



- Workflow (Strategy 1, Stream 2)
- Data management & software (Strategy 2&3, Stream 3)
- Define performance metrics (Strategy 5, Stream 4)



- Kudos to staff for progress to-date.

City of Saint John

## 2018 State of the Infrastructure

Report Card



### GROWTH AND COMMUNITY DEVELOPMENT

VALUATION

\$129.6 M

DEFICIT

\$48.0 M

LETTER GRADE

C-

TREND



### PUBLIC SAFETY

VALUATION

\$69.1 M

DEFICIT

\$13.6 M

LETTER GRADE

C+

TREND



### TRANSPORTATION AND ENVIRONMENT

VALUATION

\$1073.3 M

DEFICIT

\$52.7 M

LETTER GRADE

B

TREND



### SAINT JOHN WATER

VALUATION

\$1443.5 M

DEFICIT

\$313.6 M

LETTER GRADE

C+

TREND



### CORPORATE, FINANCE AND ADMINISITRATIVE

VALUATION

\$15.4 M

DEFICIT

\$7.1 M

LETTER GRADE

C-

TREND



### CITY OF SAINT JOHN

VALUATION

\$2730.9 M

DEFICIT

\$435.0 M

LETTER GRADE

C+

TREND



## How much does it cost to renew my infrastructure?

**CURRENTLY  
FUNDED**

Water &amp; Wastewater

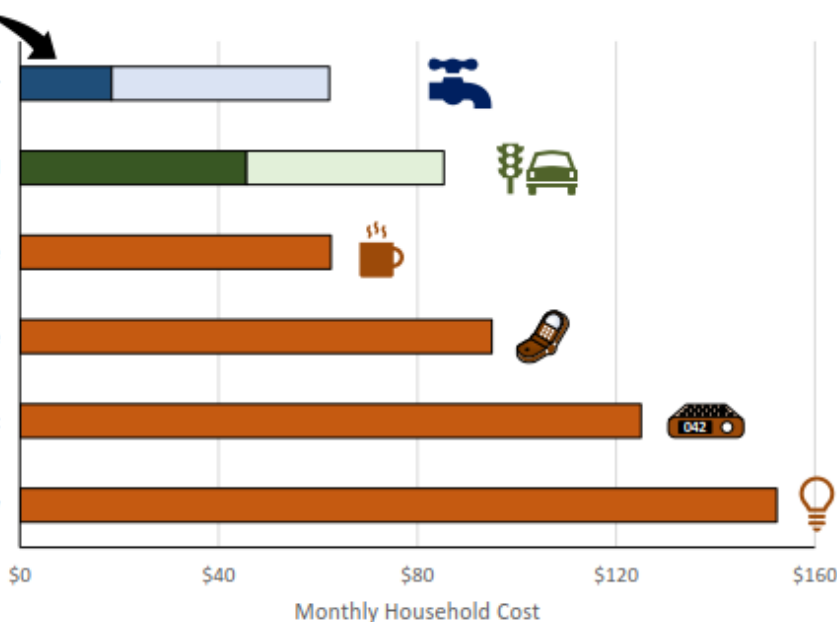
General

Daily Coffee

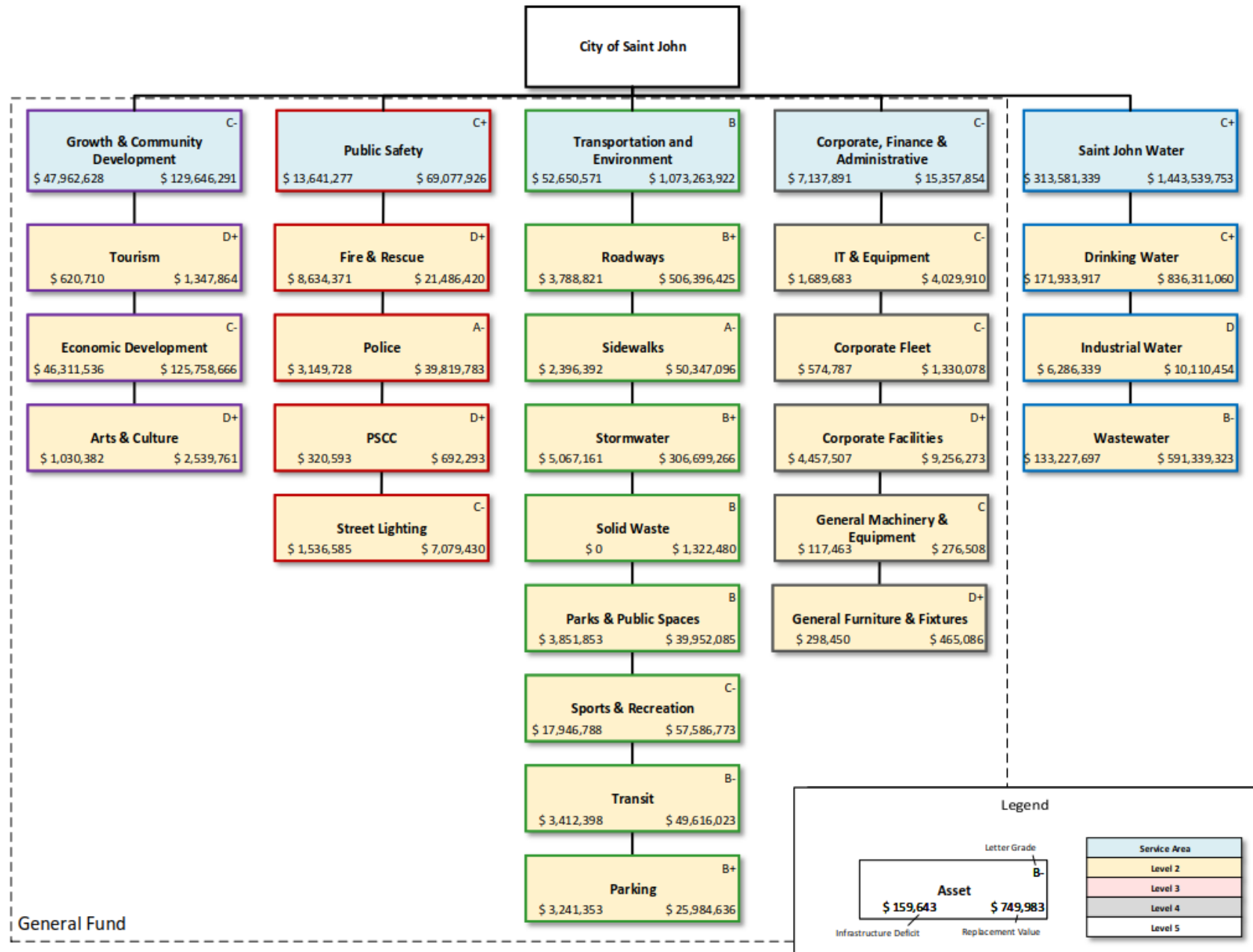
Cellphone

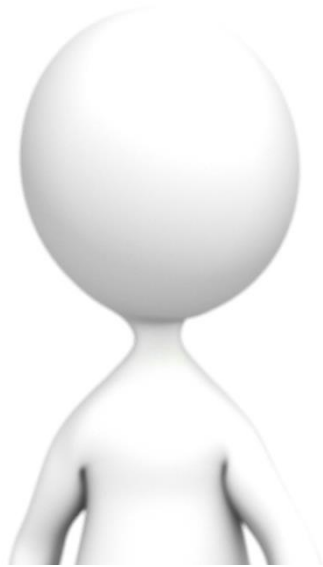
Cable TV &amp; Internet

Electricity









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## Growth and Community Development

Replacement Value

\$129.6 M

Infrastructure Deficit

\$48.0 M

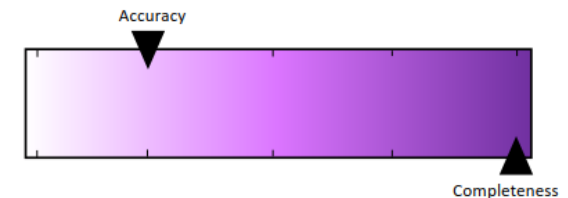
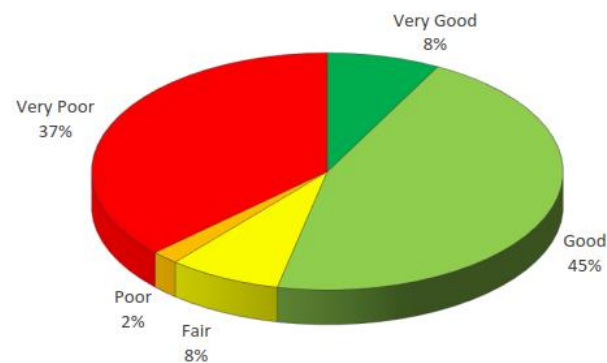
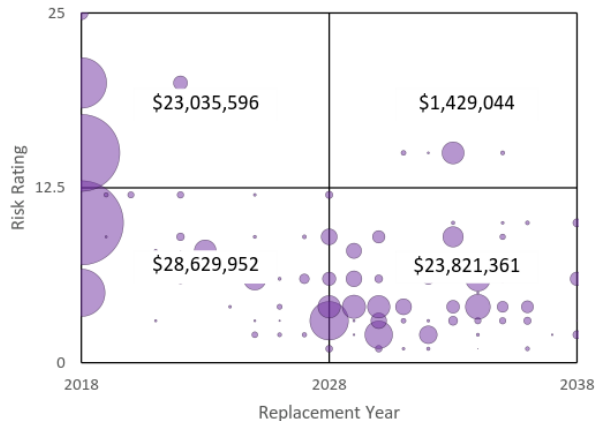
Letter Grade

C-

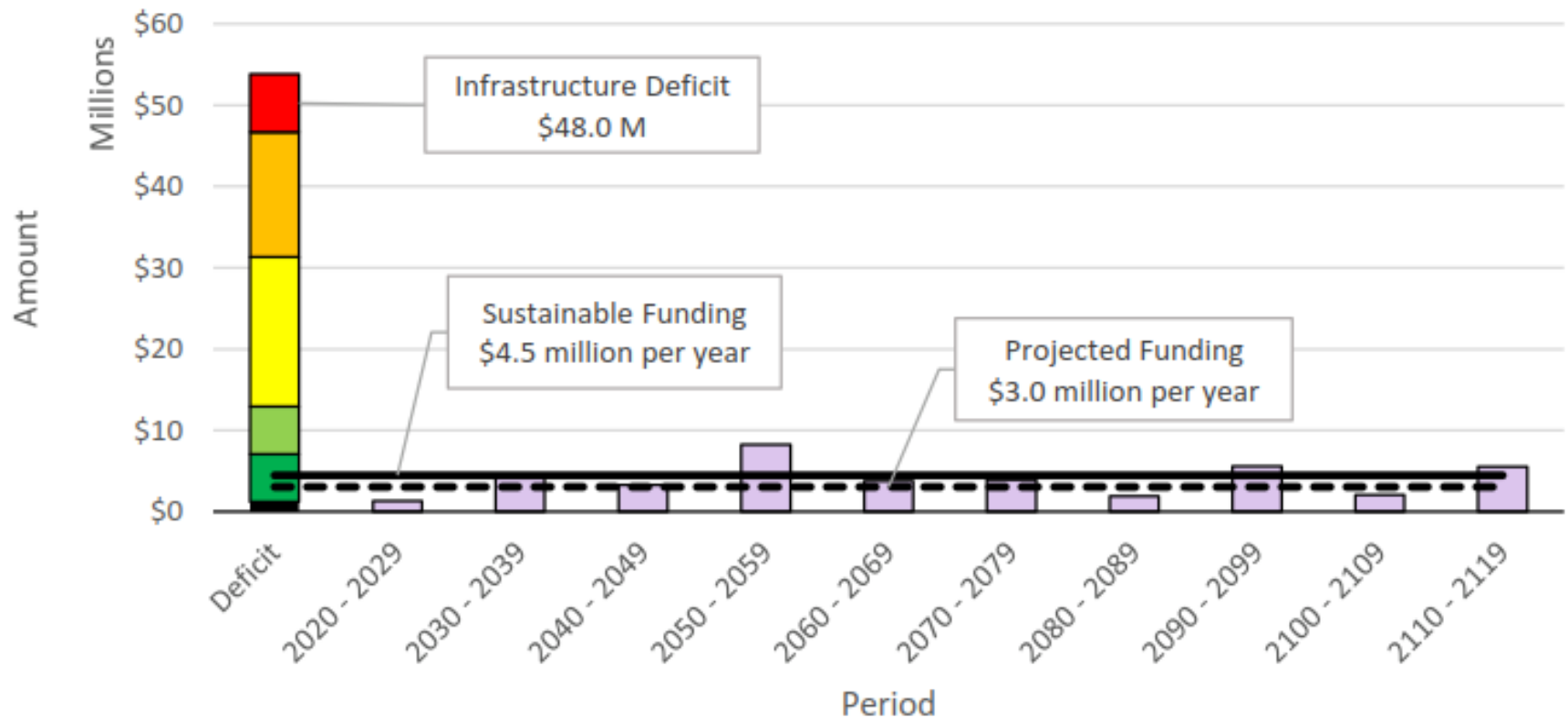
Trend



Asset	Replacement Value	Infrastructure Deficit	Letter Grade
Market Square	\$83,406,016	\$36,937,012	D+
Harbour Station	\$24,957,544	\$5,232,917	C-
Harbour Passage	\$9,016,568	\$400,220	B
City Market	\$7,966,408	\$3,705,469	D+
Arts & Culture Facilities	\$2,539,761	\$1,030,382	D+
Visitor Information Centers	\$794,064	\$456,770	D
Tourism Facilities	\$553,800	\$163,940	C+
Industrial Parks	\$412,130	\$35,919	B
<b>Total</b>	<b>\$129,646,291</b>	<b>\$47,962,628</b>	<b>C-</b>



## Growth and Community Development



Infrastructure Deficit

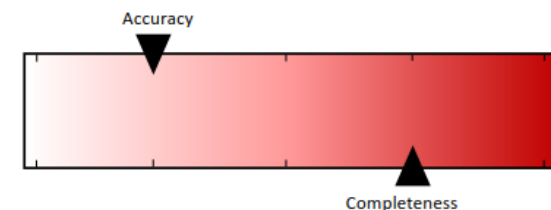
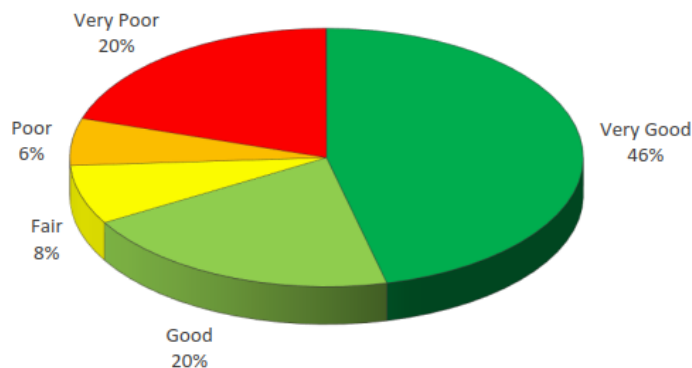
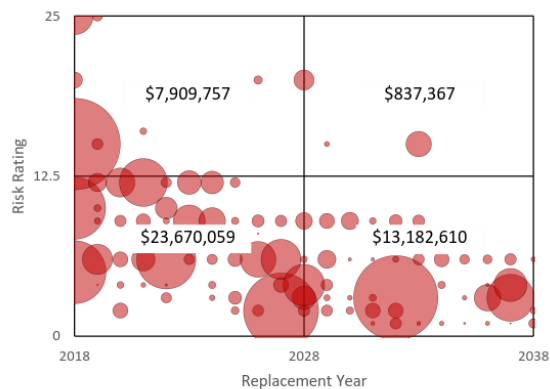
Risk Category:

Unknown
  Insignificant
  Low
  Moderate
  High
  Extreme

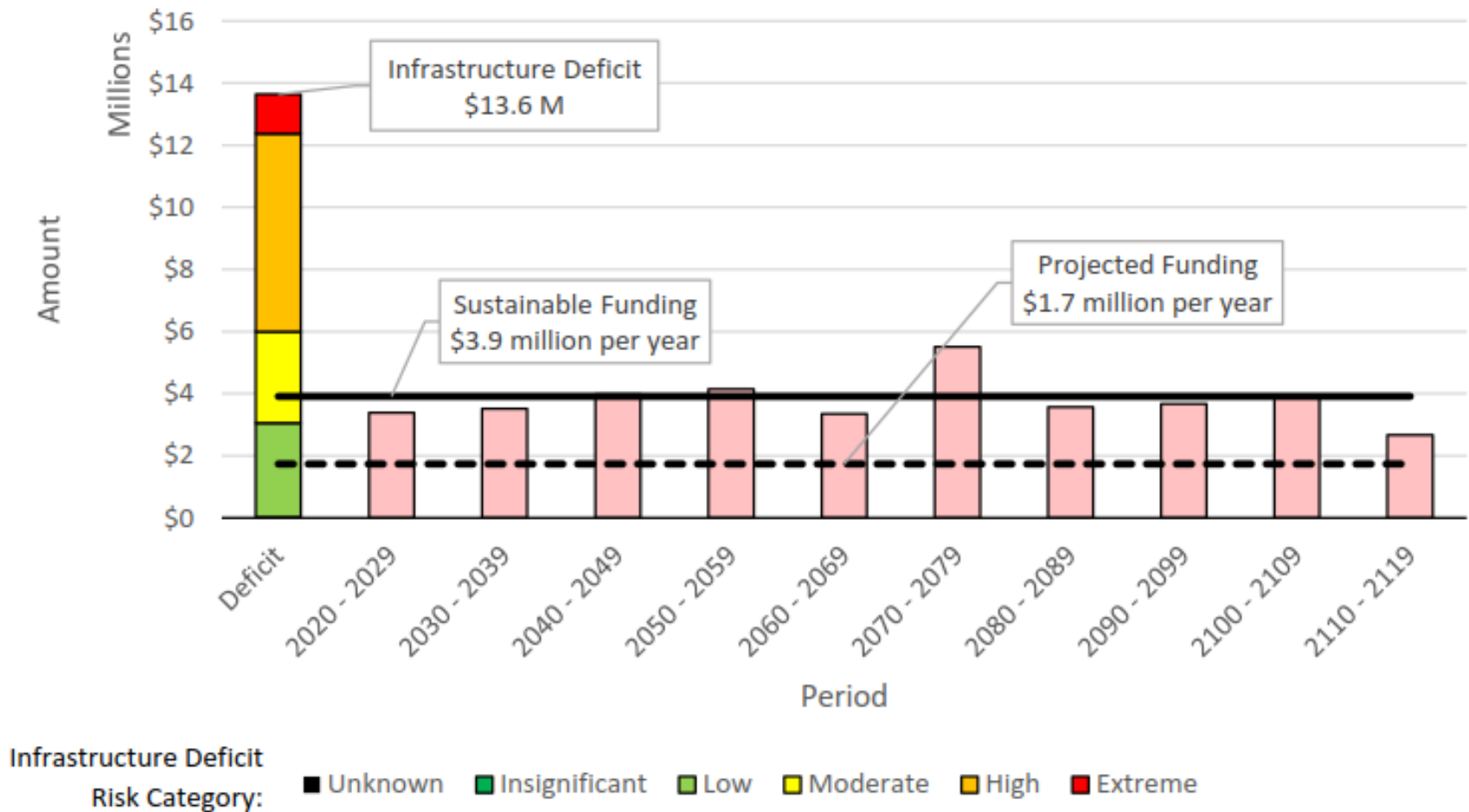
## Public Safety

**Replacement Value**
**\$69.1 M**
**Infrastructure Deficit**
**\$13.6 M**
**Letter Grade**
**C+**
**Trend**


Asset	Quantity	Replacement Value	Infrastructure Deficit	Letter Grade
<u>Fire &amp; Rescue</u>		<u>\$21,486,420</u>	<u>\$8,634,371</u>	<u>D+</u>
Fire Facilities	9	\$9,858,833	\$5,139,871	D
Fire Fleet	34	\$8,164,966	\$1,623,258	C-
Fire Machinery & Equipment	230	\$3,462,621	\$1,871,241	D
<u>Police</u>		<u>\$39,819,783</u>	<u>\$3,149,728</u>	<u>A-</u>
Police Facilities	1	\$35,457,985	\$0	A+
Police Fleet	68	\$2,429,269	\$1,575,762	D
Police Machinery & Equipment	79	\$1,932,529	\$1,573,967	D-
PSCC		\$692,293	\$320,593	D+
Street Lighting	1,041	\$7,079,430	\$1,536,585	C-
<b>Total</b>		<b>\$69,077,926</b>	<b>\$13,641,277</b>	<b>C+</b>



## Public Safety



## Transportation and Environment

Replacement Value

\$1073.3 M

Infrastructure Deficit

\$52.7 M

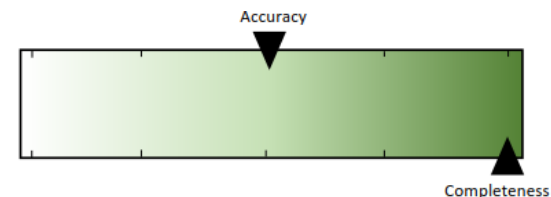
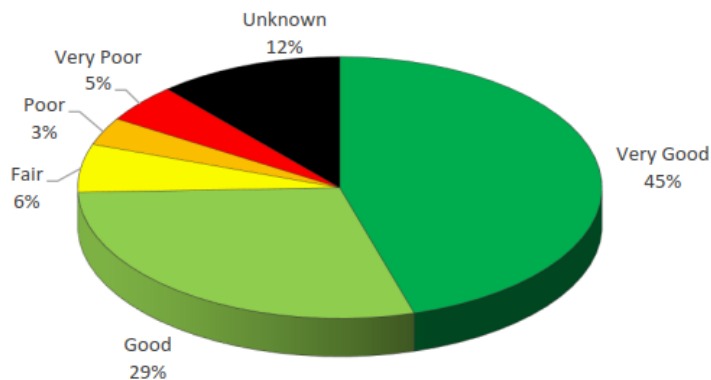
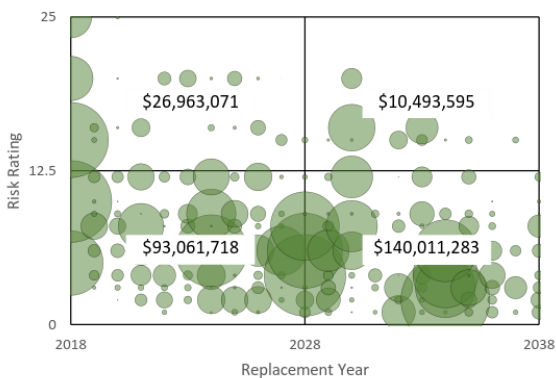
Letter Grade

B

Trend

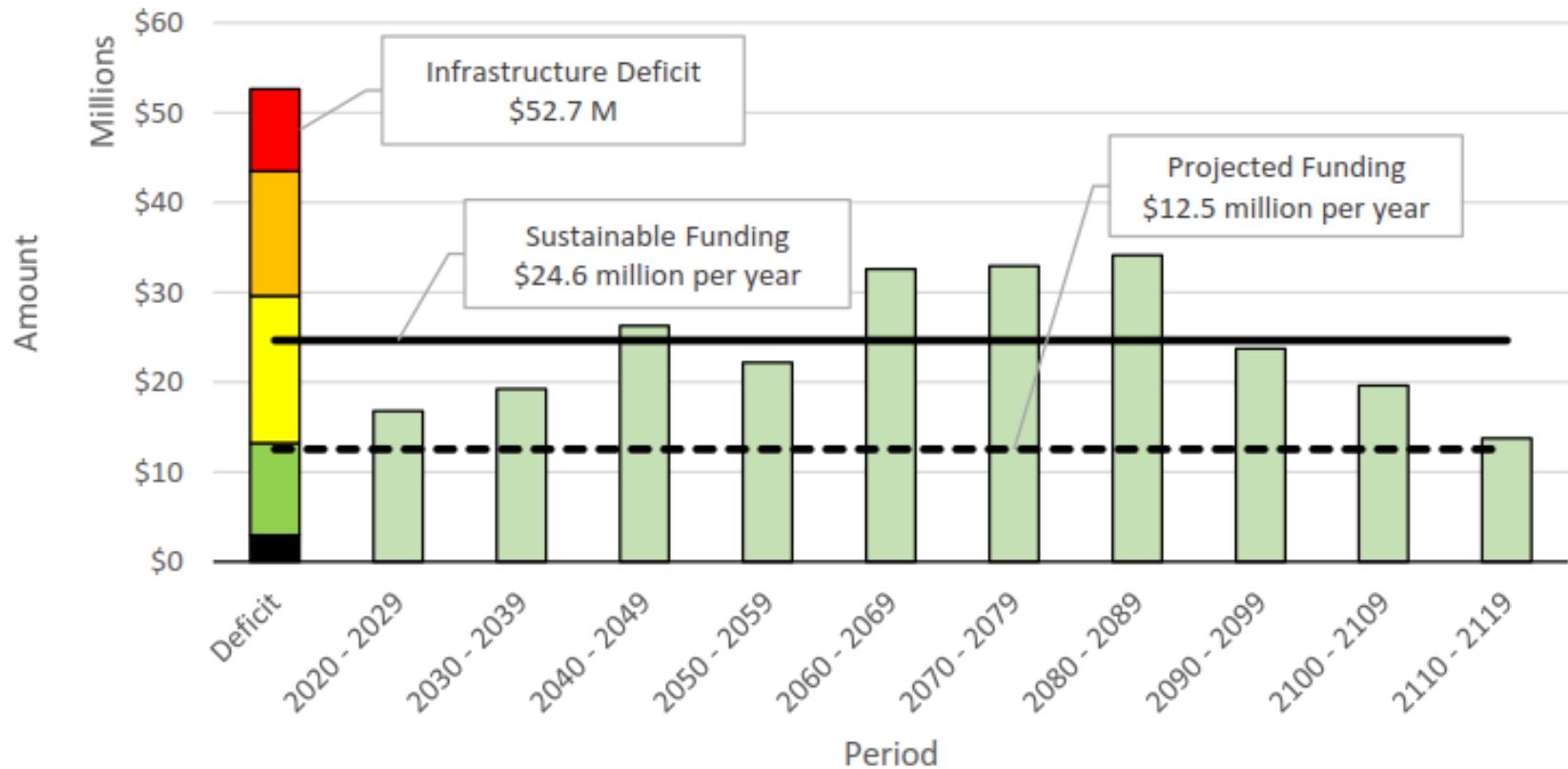


Asset	Quantity	Replacement Value	Infrastructure Deficit	Letter Grade
Road Network	1,392 lane-km	\$490,562,239	\$2,453,649	B+
Retaining Walls	194	\$6,906,278	\$598,624	C+
Sidewalk Surfaces	372.6 km	\$50,081,586	\$2,396,392	A-
Culverts	1,113	\$7,272,166	\$21,865	B
Storm Lines	318.8 km	\$299,427,100	\$5,045,296	B+
Solid Waste	7	\$1,210,413	\$0	B
Parks & Public Spaces	39	\$39,952,085	\$3,851,853	B
Arenas	5	\$26,438,521	\$9,244,452	D+
Community Centers	4	\$6,703,505	\$2,308,046	C
Outdoor Sports Fields & Facilities	29	\$8,838,490	\$2,275,343	C+
Playgrounds	37	\$6,111,650	\$1,844,731	C+





## Transportation and Environment



Infrastructure Deficit  
Risk Category:

Unknown Insignificant Low Moderate High Extreme

## Corporate, Finance and Administrative

Replacement Value

\$15.4 M

Infrastructure Deficit

\$7.1 M

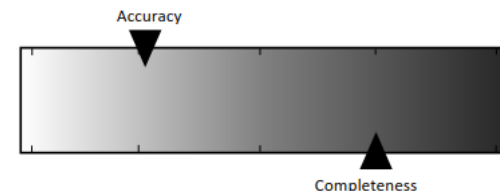
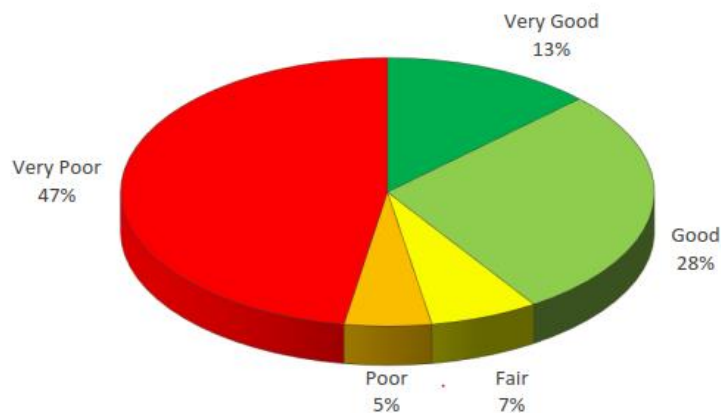
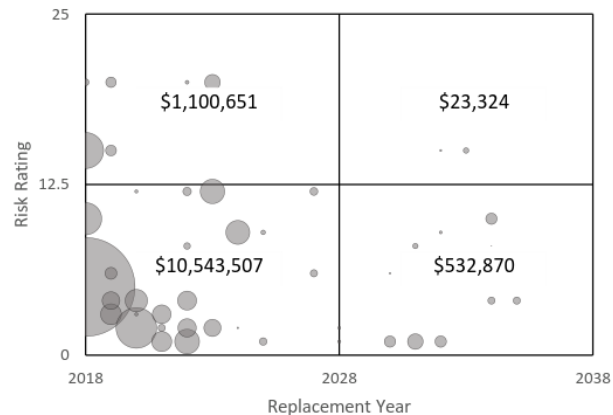
Letter Grade

C-

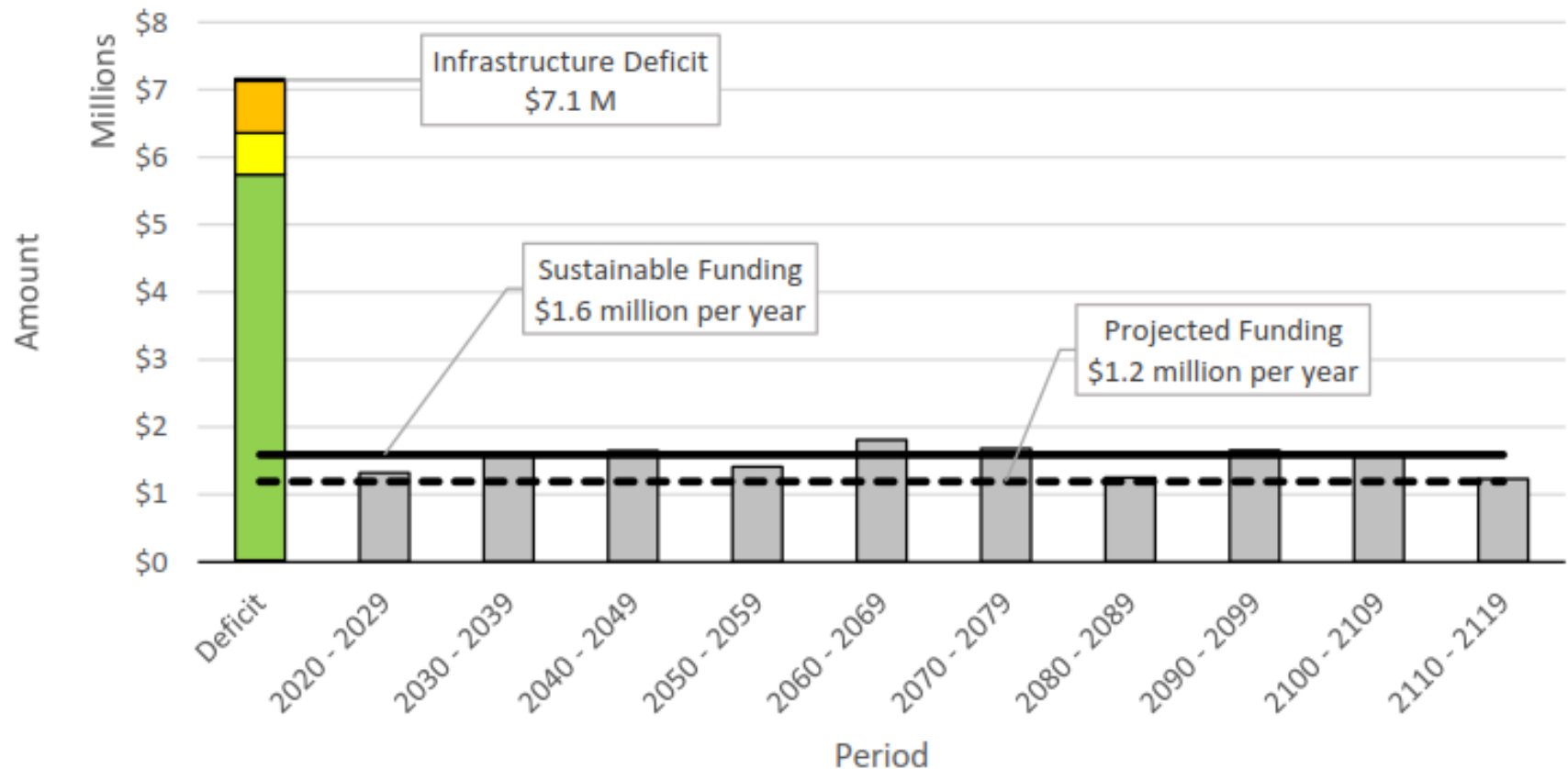
Trend



Asset	Quantity	Replacement Value	Infrastructure Deficit	Letter Grade
Corporate Facilities	7	\$9,256,273	\$4,457,507	D+
Corporate Fleet	34	\$1,330,078	\$574,787	C-
IT & Equipment	296	\$4,029,910	\$1,689,683	C-
General Furniture & Fixtures	4	\$465,086	\$298,450	D+
General Machinery & Equipment	20	\$276,508	\$117,463	C
<b>Total</b>		<b>\$15,357,854</b>	<b>\$7,137,891</b>	<b>C-</b>



## Corporate, Finance and Administrative

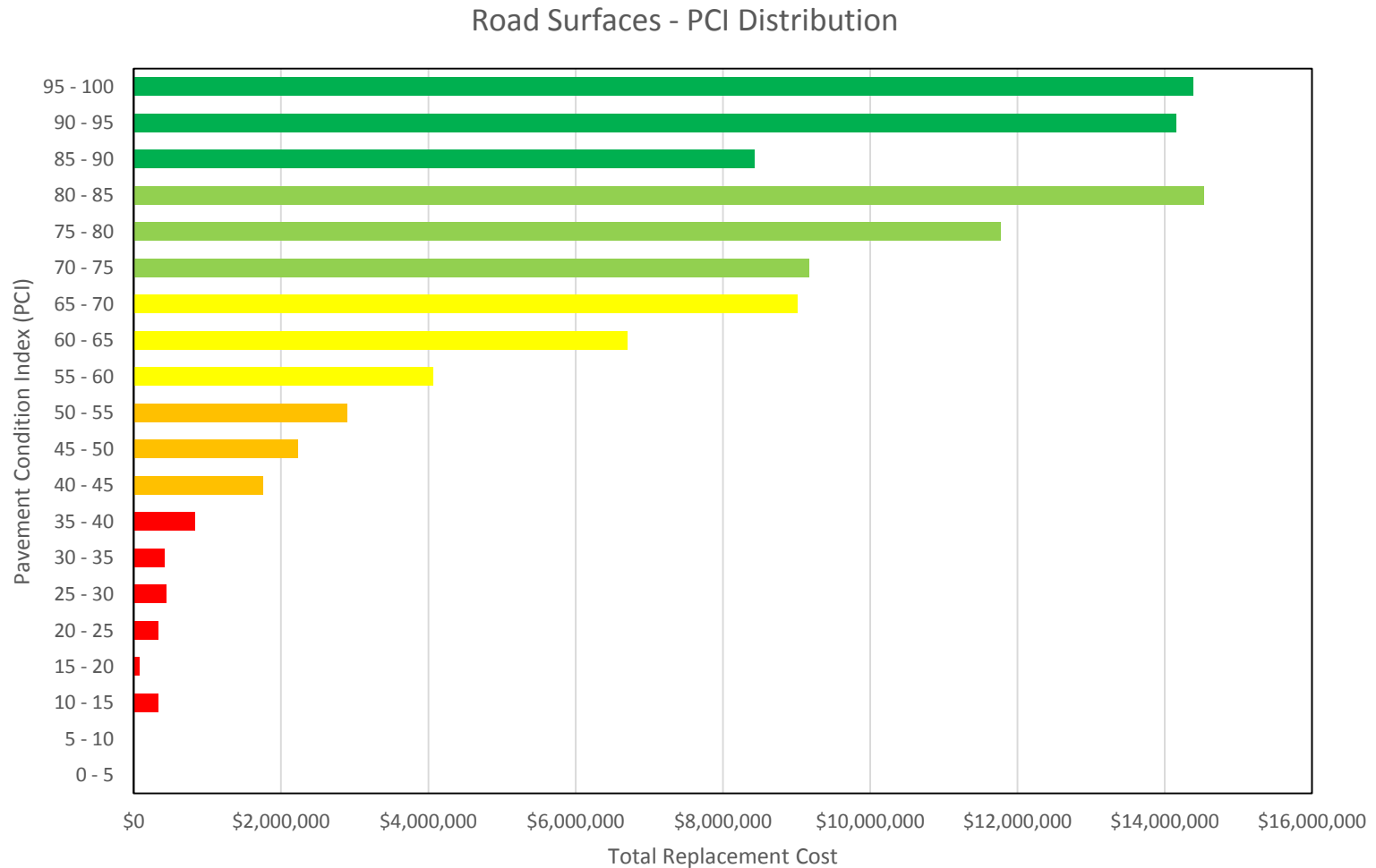


Infrastructure Deficit  
Risk Category:

■ Unknown
 ■ Insignificant
 ■ Low
 ■ Moderate
 ■ High
 ■ Extreme

## Road Surfaces

- Pavement Condition Index (PCI) ratings

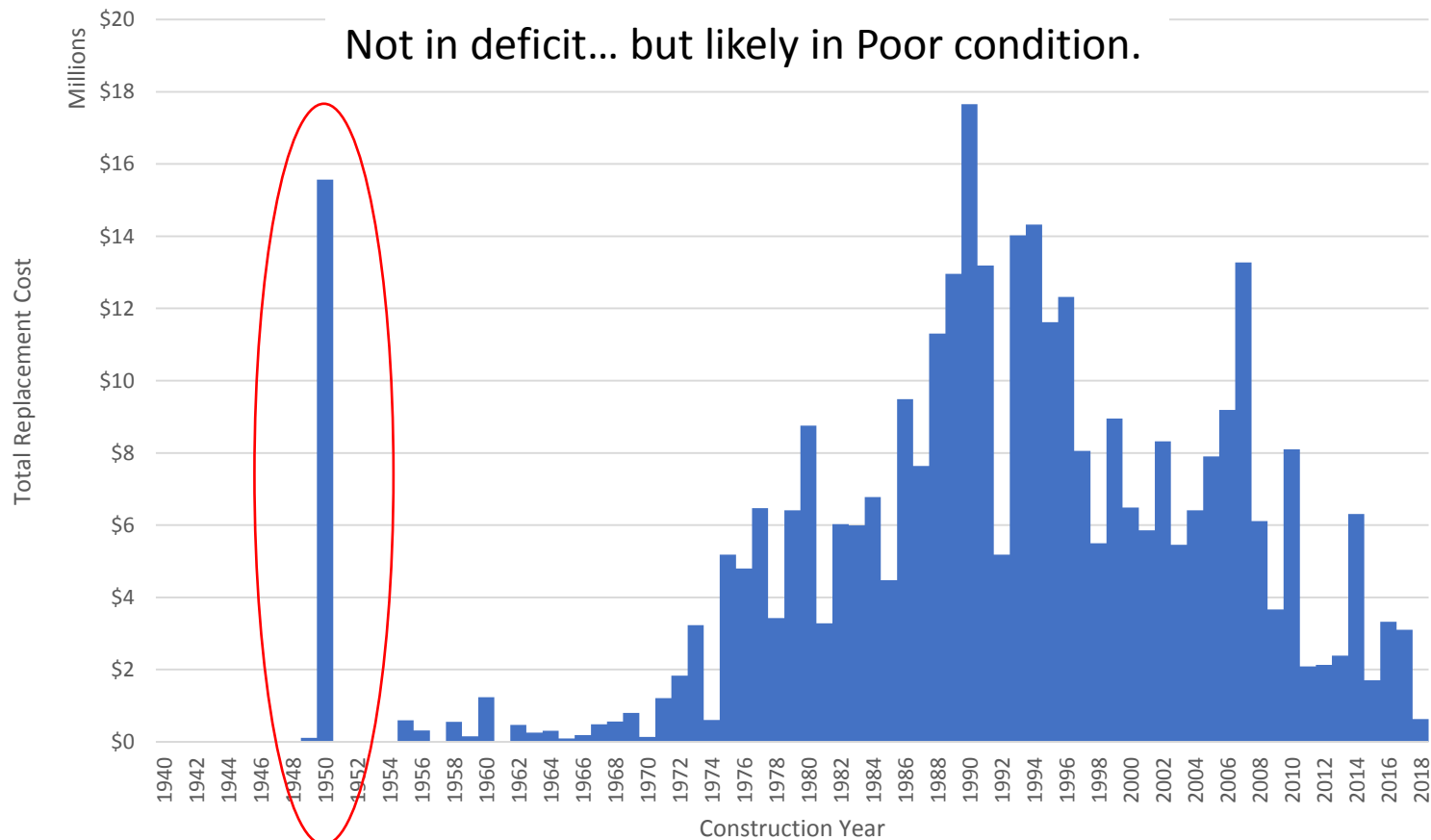


## Road Bases

- Age as a proxy

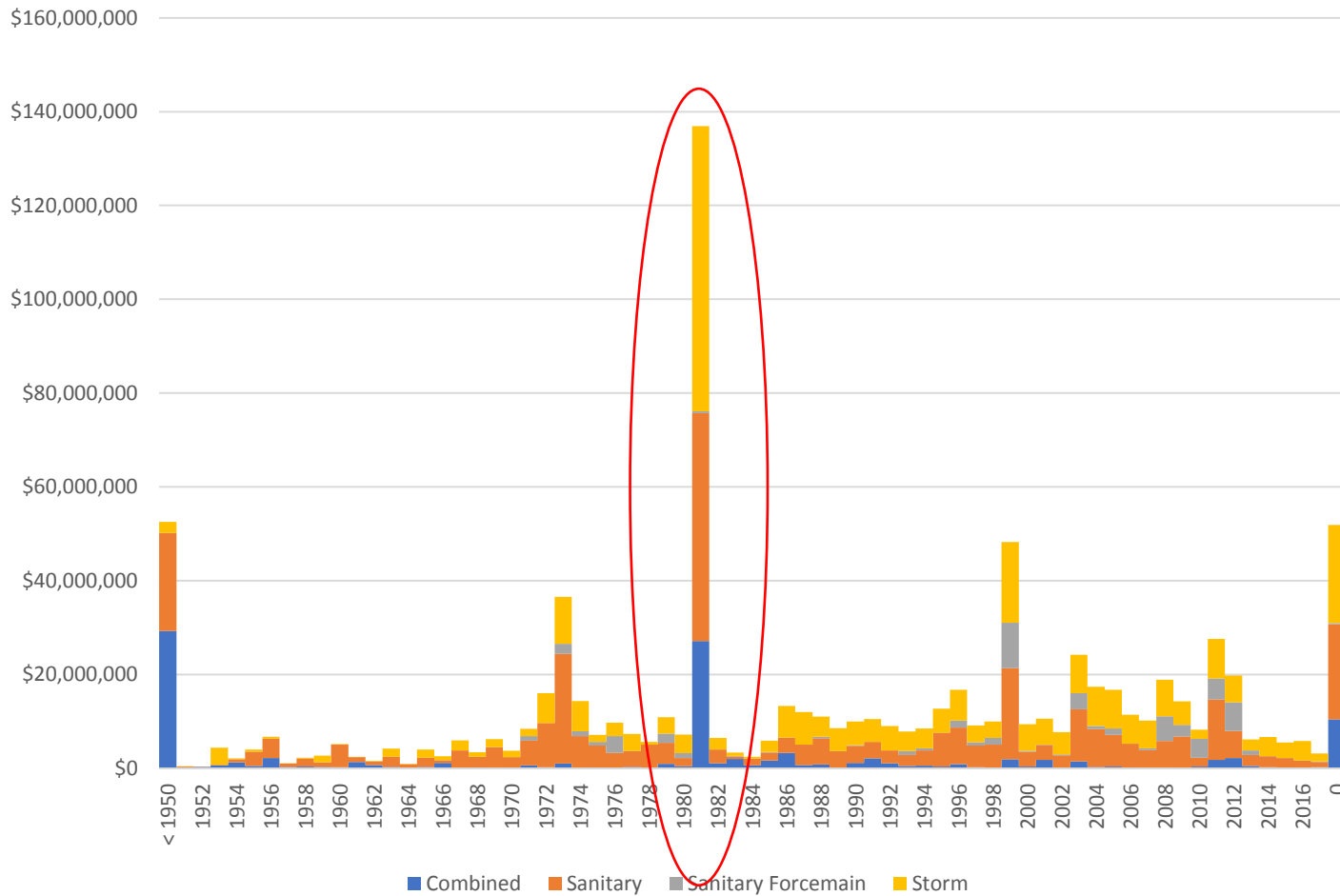
Road Base EUL = 80 years...

Not in deficit... but likely in Poor condition.



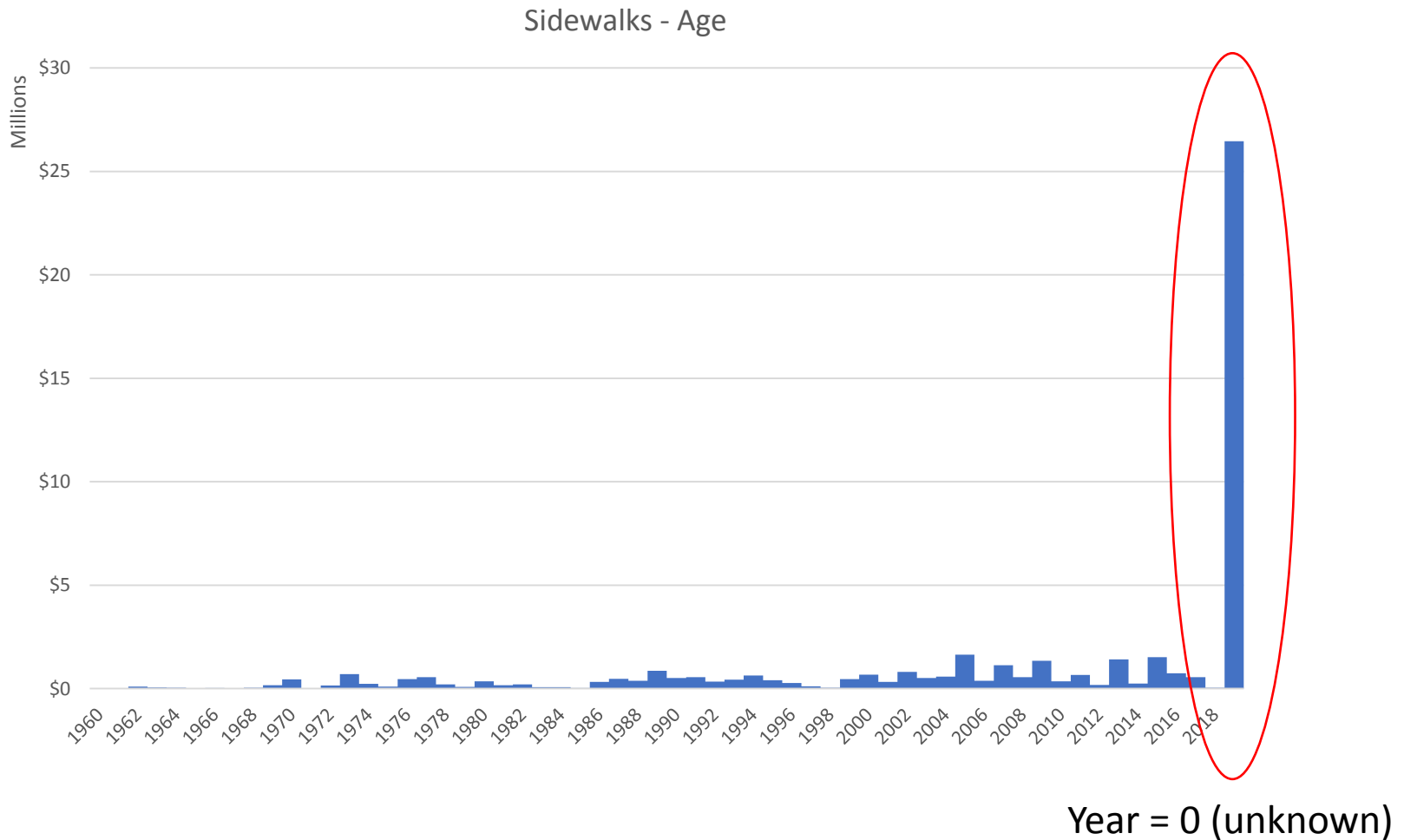
## Storm and Sewer Lines

- Age as a proxy



## Sidewalks

- Age as a proxy





## Water Lines

- Age as a proxy

