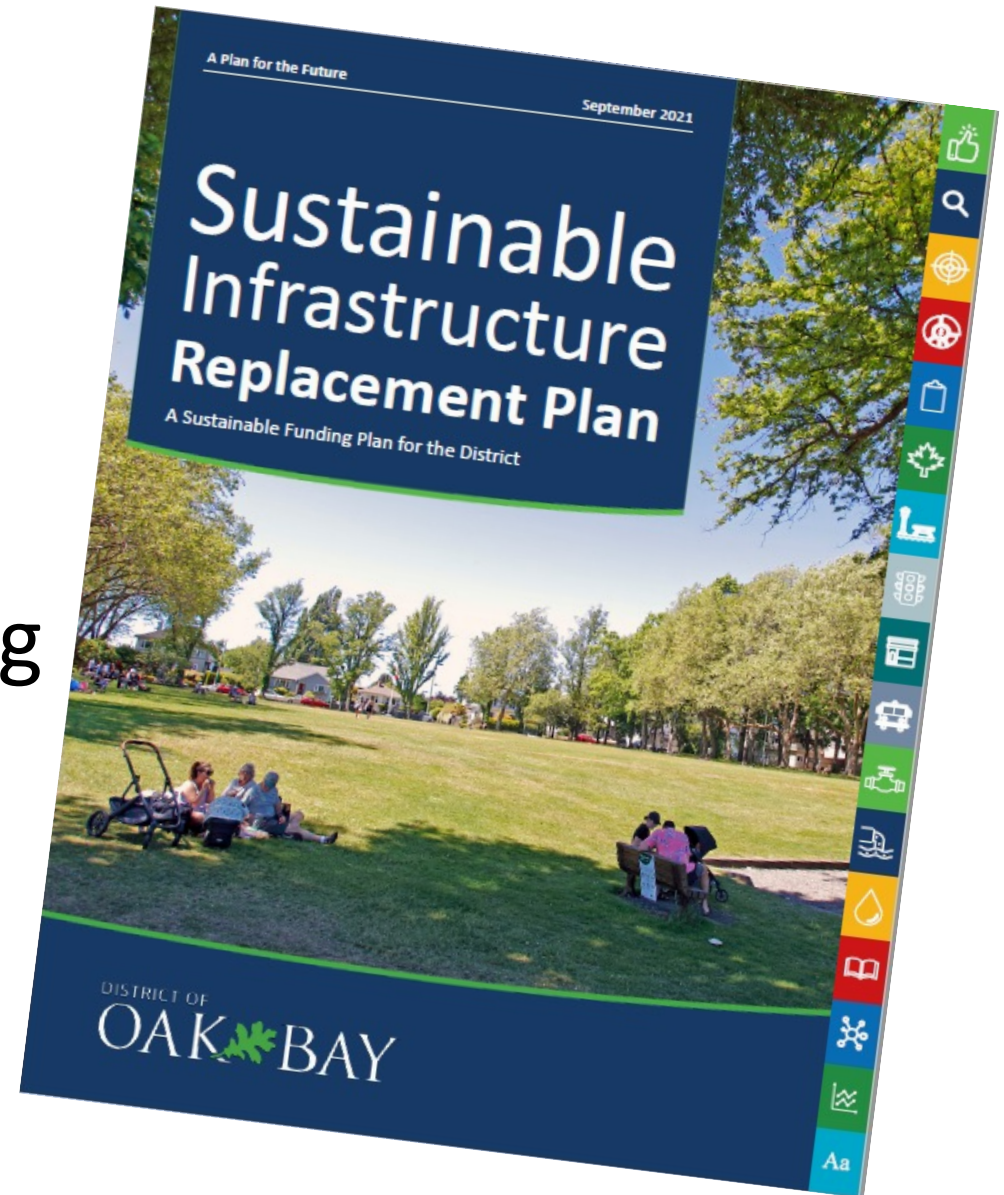




Case Study in Infrastructure Funding

Asset Management BC Conference
2023





OUTLINE

- What is sustainable funding
- Why sustainable funding?
- Background
- Oak Bay Findings
- CASE STUDY: City of Colwood
- Long-term Funding Fundamentals

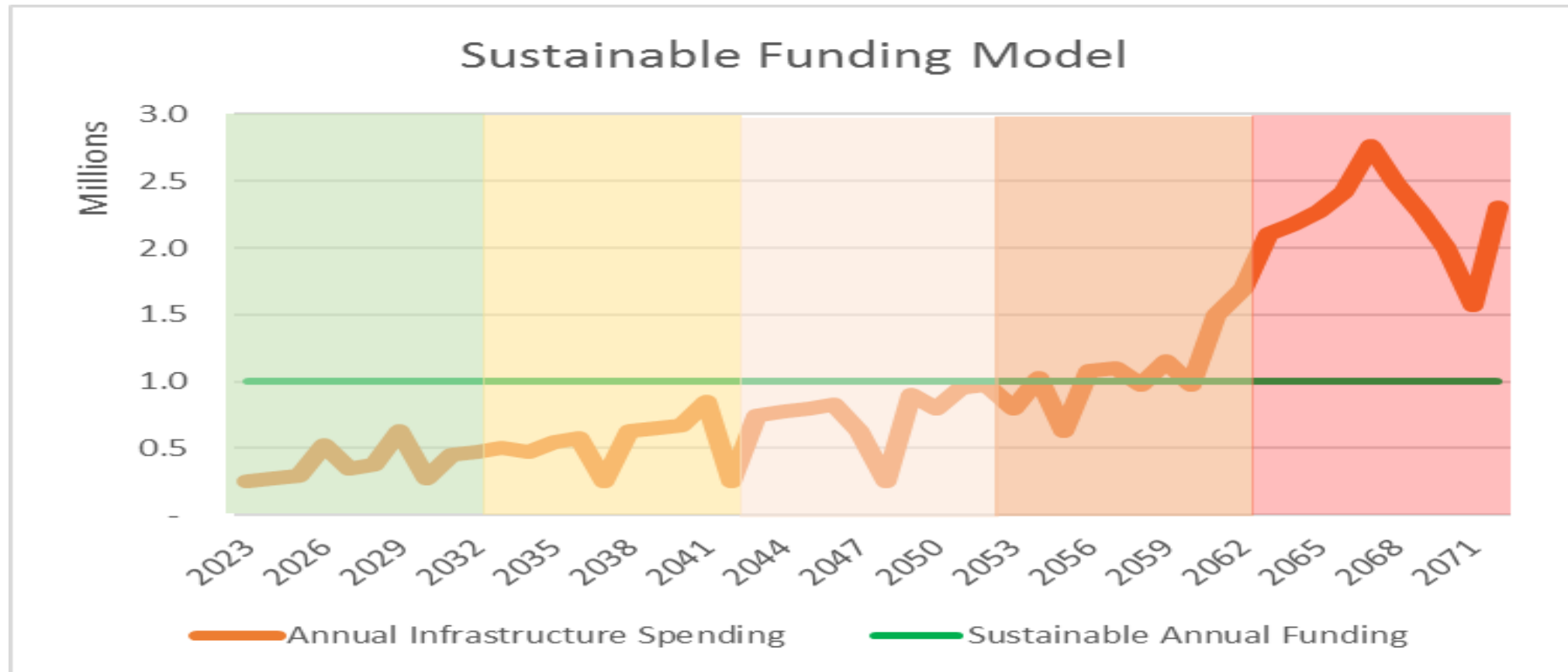


What is sustainable funding?

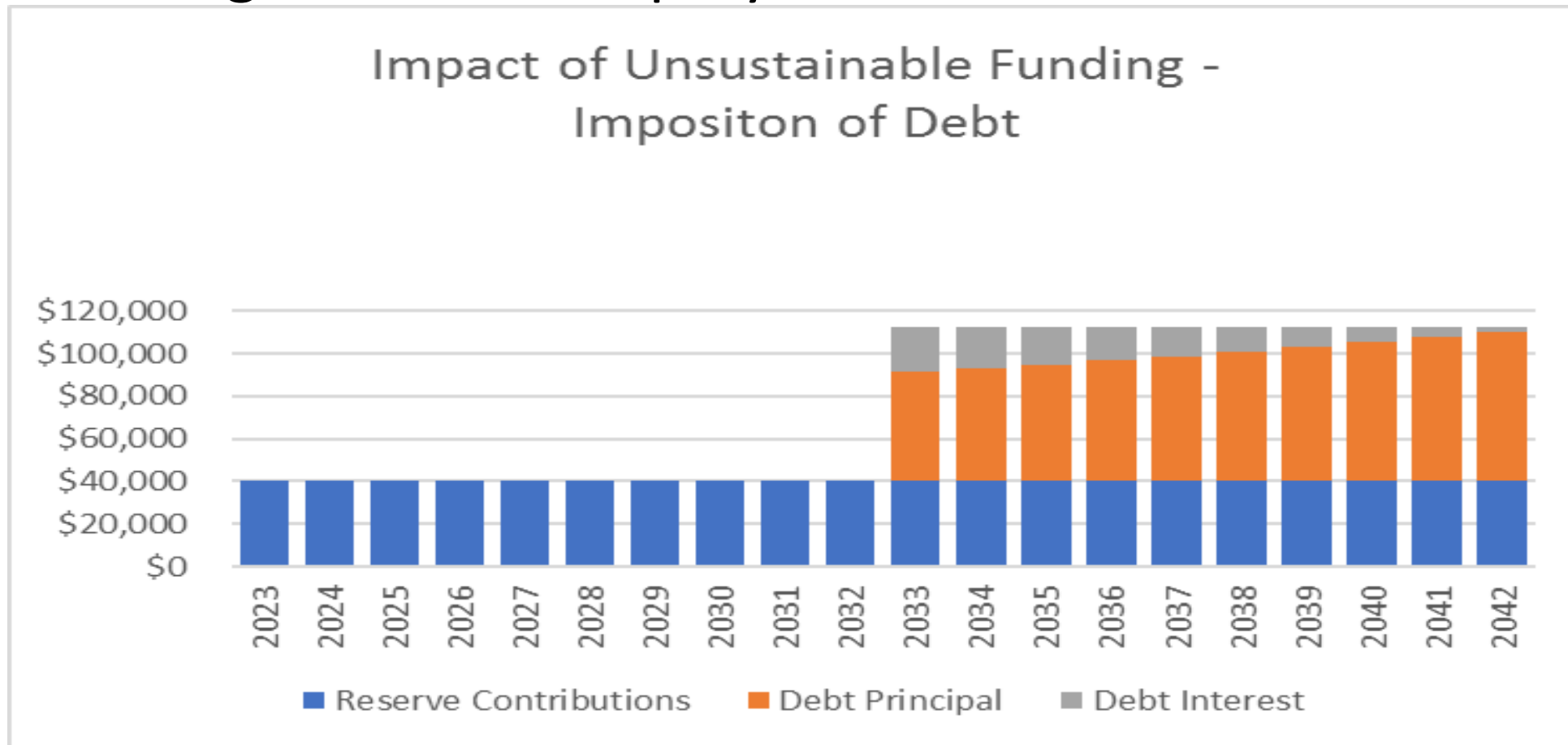
- Proactive reserve contributions, early on
- Reserve contributions through the life of the asset
- Spreads out the cost as much as possible
- Intergenerationally equitable

Why Sustainable funding?

- Lifecycle costs aren't evenly distributed

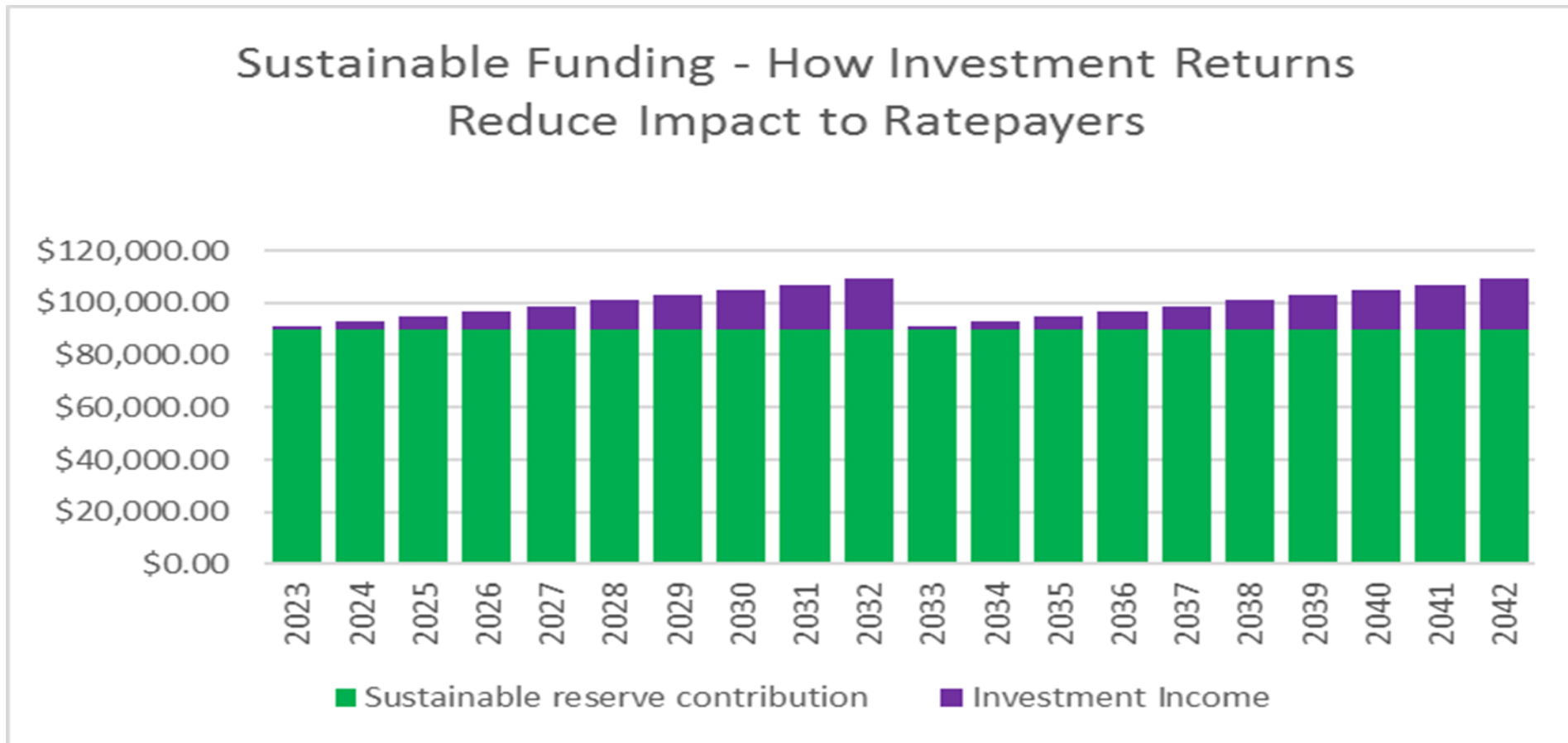


- Intergenerational Equity



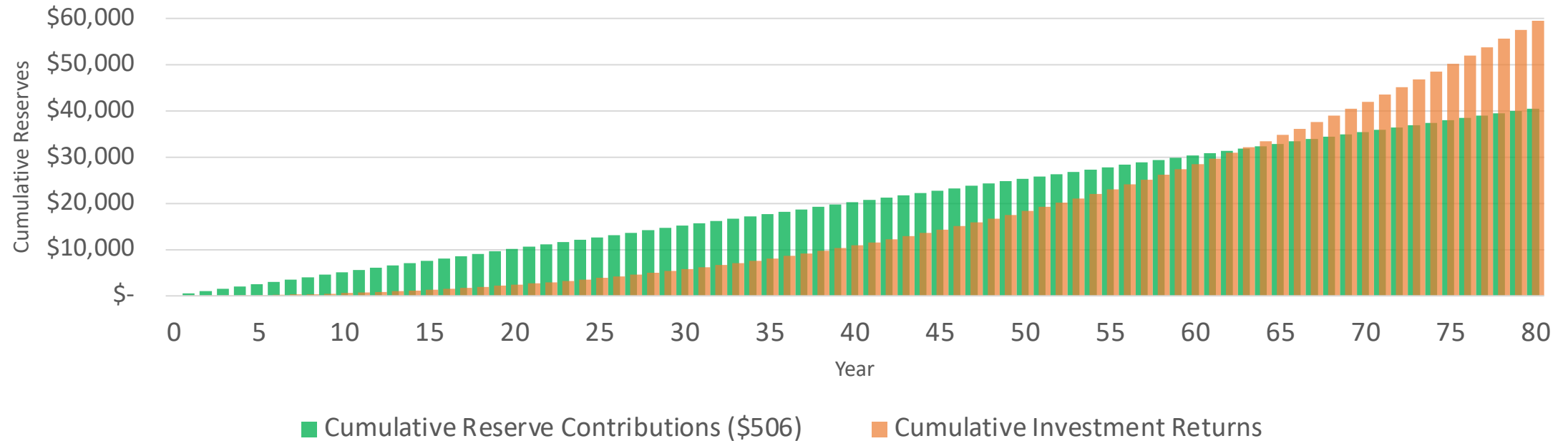
Why Sustainable funding?

- Intergenerational Equity



- Leveraging Investment Returns

Sustainable Funding
Reserve Contributions & Investment Returns
2% Return, 80 Year Life, 100K Replacement Cost



DISTRICT OF

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BACKGROUND

- Council directed that staff develop a multi-year Asset Management (AM) Program in 2015
- In 2018 the AM Strategy was endorsed which detailed multiple components including Long Term Infrastructure Replacement Plan
- In 2021 Council directed that Plan be fast-tracked and delivered by September 2021
- This is the first time Council has seen this Draft Plan

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OBJECTIVES OF PLAN

1. Estimate replacement cost for all depreciable assets
2. Forecast infrastructure spending over the next 100 years
3. Analyze current funding levels
4. Forecast reserve balances and the need for debt financing if applicable

- 1. Approximate Replacement cost: \$900.3M**
- 2. Overdue Assets: \$273.9M**
- 3. Annual Funding Gap: \$4.6M, 36% (\$8.2M vs \$12.8M)**
- 4. Cumulative Infrastructure Funding Gap: \$463.5M**
- 5. Spending/Debt: approximate \$1.3B for the next 100 years**

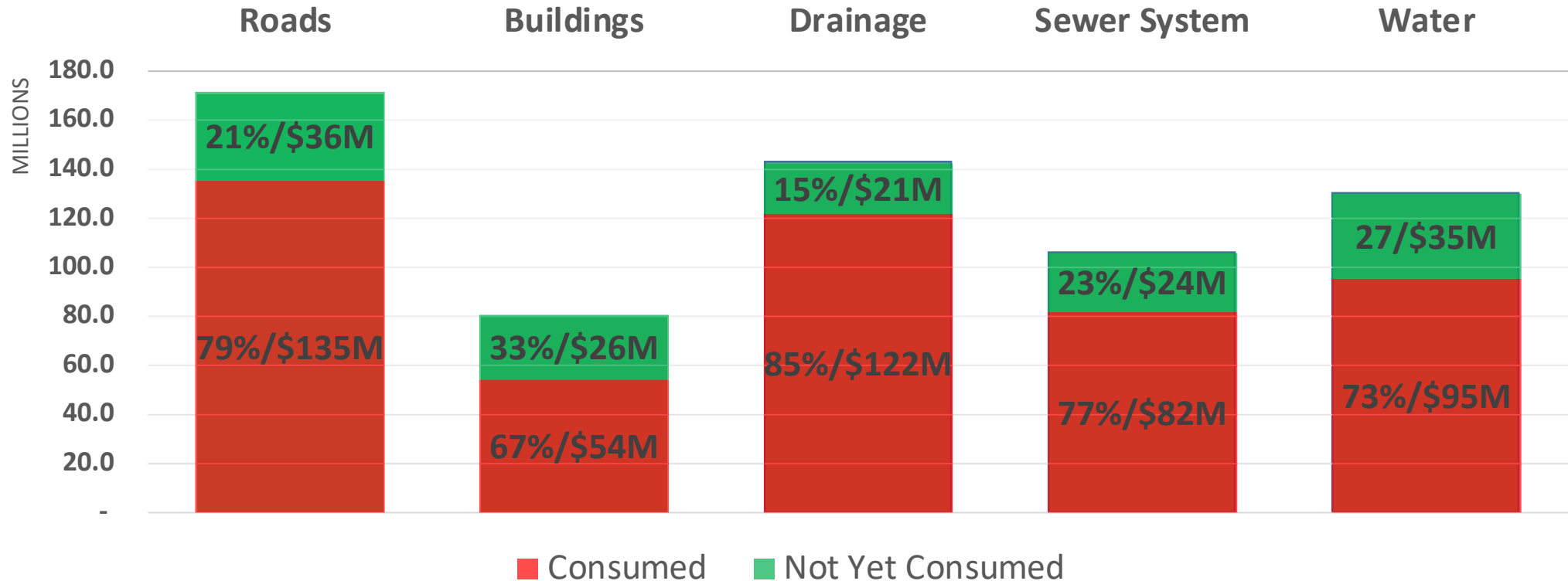
OVERVIEW OF ASSET INVENTORY

Asset	Quantity	Replacement Value
Natural Assets	N/A	Unknown
Land	75.68 ha	\$149.1 M
Park Structures	45+	\$6.7M
Roads	106.1km/ 944k m ²	\$171.5M
Buildings	30+	\$80.7M
Vehicles & Equipment	100 units +	\$15.7M
Drainage	141km	\$171.2M
Sanitary Sewer	100km	\$137.4M
Water	116km	\$168.0M
TOTAL		\$900.3M

Notes:

1. Land value is based on BC Assessment value

MAJOR ASSETS - PORTION CONSUMED



SUSTAINABLE RESERVE TARGET

Asset	Value Consumed	Reserve Balance	Funding Gap
Natural Assets	N/A	\$1.2M	\$(1.2)M
Park Structures	3.1M	0.4M	2.7M
Roads	135.3M	4.6M	130.7M
Buildings	54.3M	4.2M	50.1M
Vehicles & Equipment	10.3M	6.5M	3.8M
Drainage	121.7M	5.0M	116.7M
Sanitary Sewer	81.9M	8.7M	73.2M
Water	95.4M	7.9M	87.5M
TOTAL Sustainable Reserve Target	\$502.0M	\$38.5M	\$463.5M

Sustainable Funding Target = \$502.0M

Actual reserves = \$38.5M

Cumulative Funding Gap = \$502.0M – \$38.5 = \$463.5M

Note that the District had a total of \$16.7M undedicated reserves which has been included in the \$38.5M balance. These reserves have been allocated in the plan using forecasted spending over the next 20 years.

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Annual Funding Gap

How does a Cumulative Infrastructure Funding Gap Occur?

- Annual funding is less than sustainable annual funding
- Annual Funding Gap accumulates year after year

What is Sustainable Annual Funding?

- $\text{Replacement cost} / \text{useful life} = \text{annual Sustainable Funding}$

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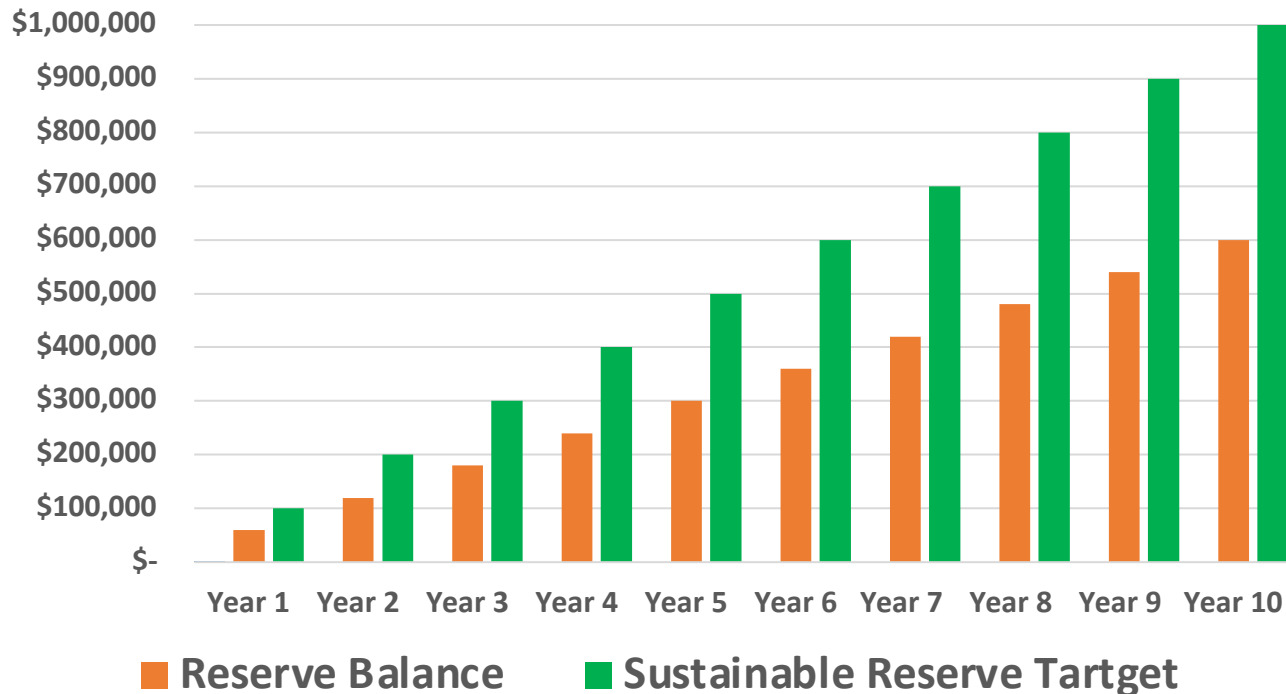
UNSUSTAINABLE ANNUAL FUNDING EXAMPLE

Assume:

- Fire truck replacement cost: \$1M
- Useful life = 10 years
- Annual Sustainable funding = $\$1\text{M}/10 = \$100,000$
- Assume Annual unsustainable funding = \$60,000
- Annual Funding Gap = \$40,000 ($\$100\text{k} - \60k)

UNSUSTAINABLE ANNUAL FUNDING EXAMPLE

Unsustainable vs Sustainable
 Annual Funding Example

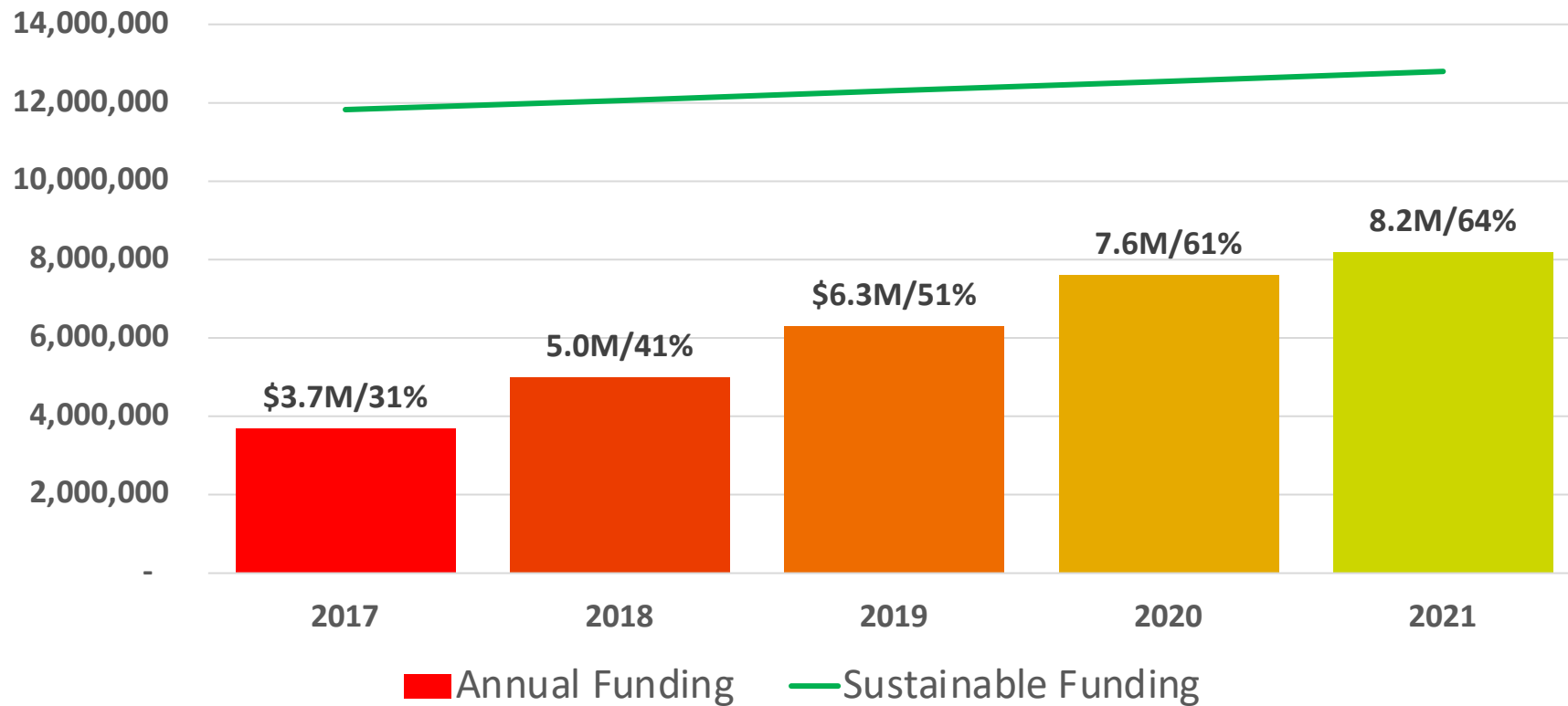


Notice after 10 years sustainable funding would result in a reserve balance of \$1M so the fire truck could be replaced.

However in this example, only \$600,000 was saved (10 years of \$60k contributions)

So the Cumulative Infrastructure Funding Gap is \$400,000

Annual Sustainable Funding Progress

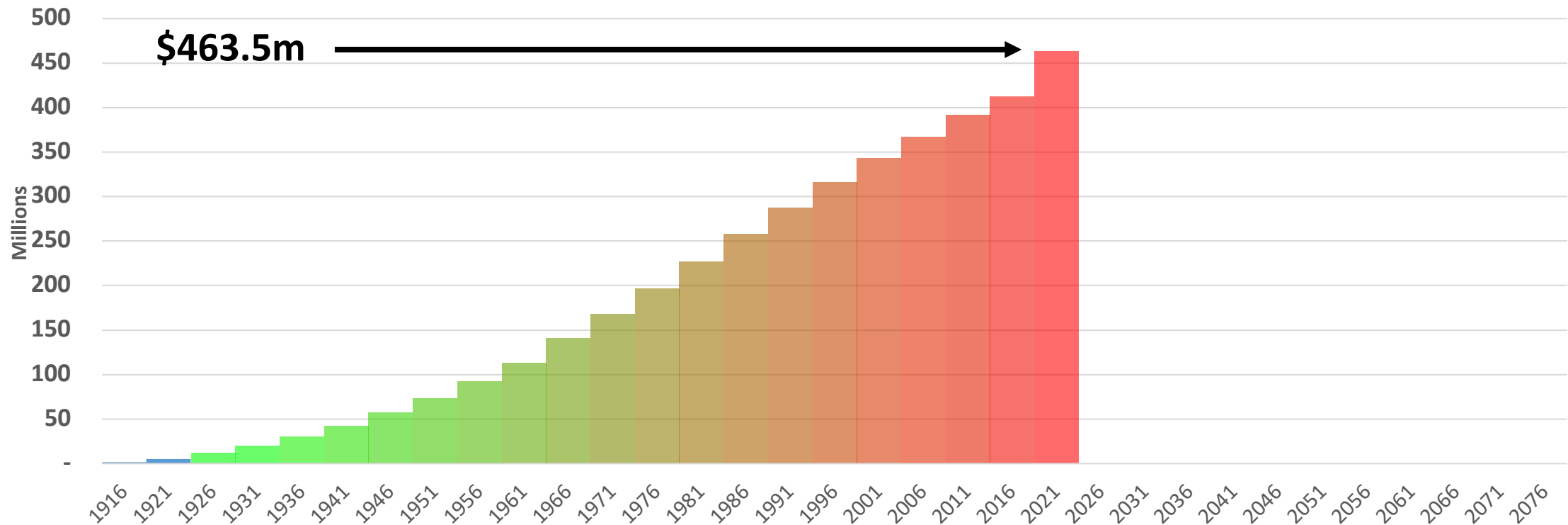


The SIRP estimates annual sustainable funding to be \$12.8M

Previous estimate \$9.3M (in 2021-2025 Financial Plan)

Funding Gap Growth 1916-2021

Forecasted Cumulative Infrastructure Gap
1916-2076 (2021 \$s)



DISTRICT OF



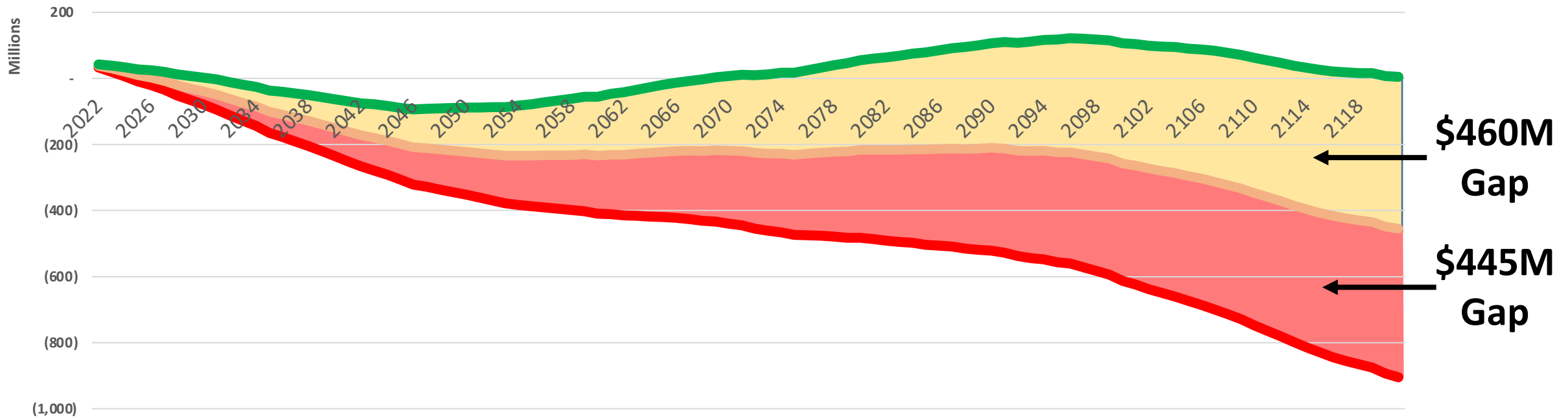
KEY RECOMMENDATIONS

1. Increase Annual Reserve Contributions

- Taxes: 6 years of 2.06% (\$66 per median residential property per year)
 - ✓ Pace is governance decision
- Water Utility Rates: 8 years of 2.50% (\$10 per average residential property per year)
- Sewer Utility Rates: 8 years of 2.50% (\$7 per average residential property per year)

Reserve Forecasts 2017 vs Current vs Sustainable Funding

2017 Funding Current Funding Sustainable Funding



**\$460M
Gap**

**\$445M
Gap**

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KEY RECOMMENDATIONS

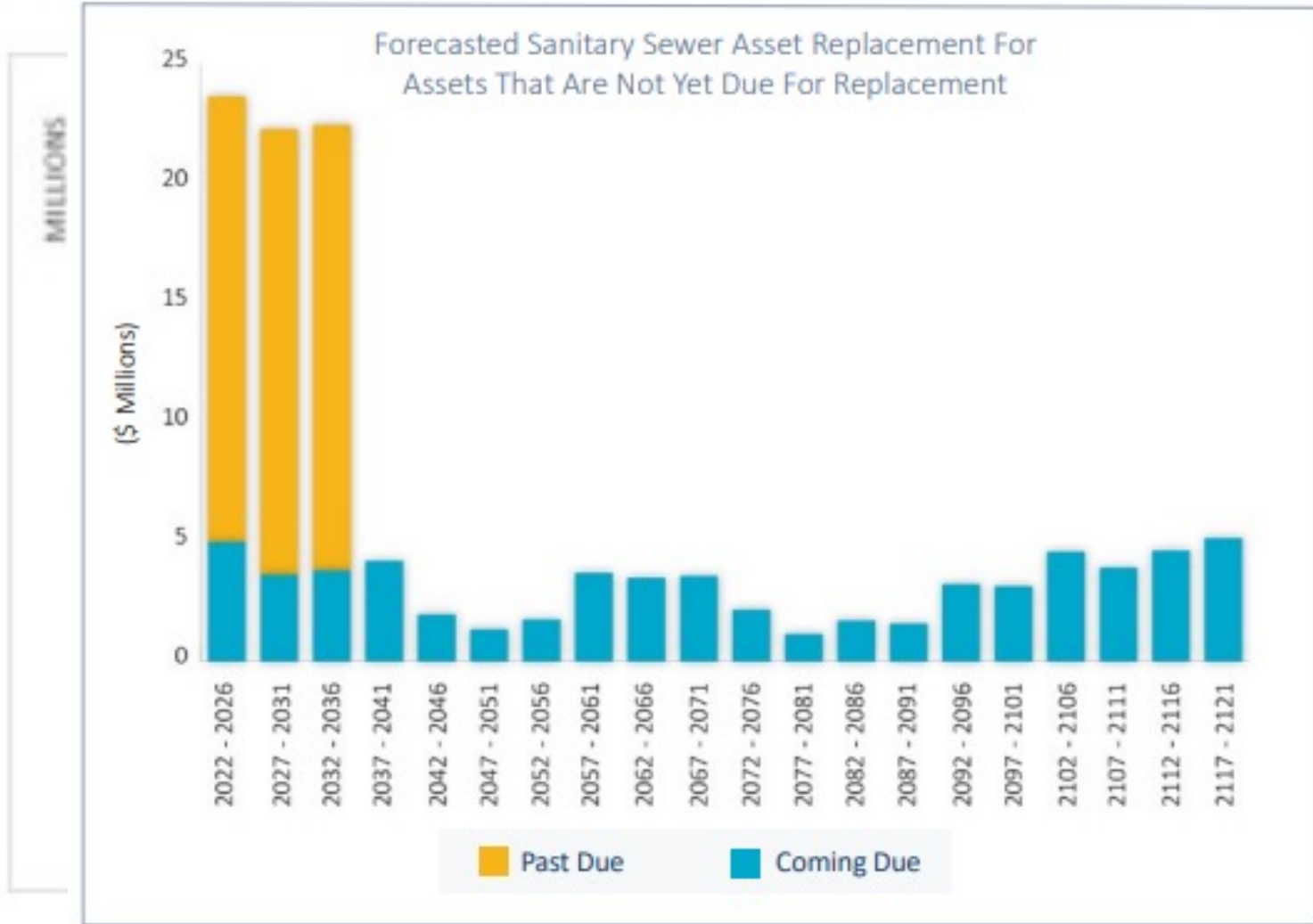
2. Replace \$273.9M overdue assets over next 25 years, and
3. Significantly increase replacement of road, water, storm and sanitary sewer infrastructure

COLWOOD vs Oak Bay

	Colwood	Oak Bay
Year of Incorporation	1985	1906
Census	16,859	18,094
Area	17.7 square KMs	10.5 square KMs
Capital Services	<ul style="list-style-type: none"> ✓ Roads ✓ Sanitary Sewer (30%) ✓ Buildings ✓ Vehicles ✓ Storm ✓ Parks No Water 	<ul style="list-style-type: none"> ✓ Roads ✓ Sanitary Sewer ✓ Buildings ✓ Vehicles ✓ Storm ✓ Parks ✓ Water

COLWOOD vs Oak Bay

	Colwood	Oak Bay
Replacement Value Assets	373M (2017 \$s)	901M (2021 \$s)
Annual Sustainable Funding	4.9M (2017 \$s)	12.8M (2021 \$s)
Actual Annual Funding	2.0M (2017 \$s)	8.2M (2021 \$s)
Annual Funding Gap	2.9M (2017 \$s)	4.6M (2021 \$s)
Annual Funding Gap (%)	59%	36%
Forecasted 100-year funding gap	\$200M (2018-2118)	\$460M (2022-2122)
\$ value of assets past recommended useful life	negligible	\$297M
Forecast Investment revenues if annual funding made sustainable immediately	50M	\$45M
Forecasted debt interest paid if annual funding made sustainable immediately	\$0	175-225M

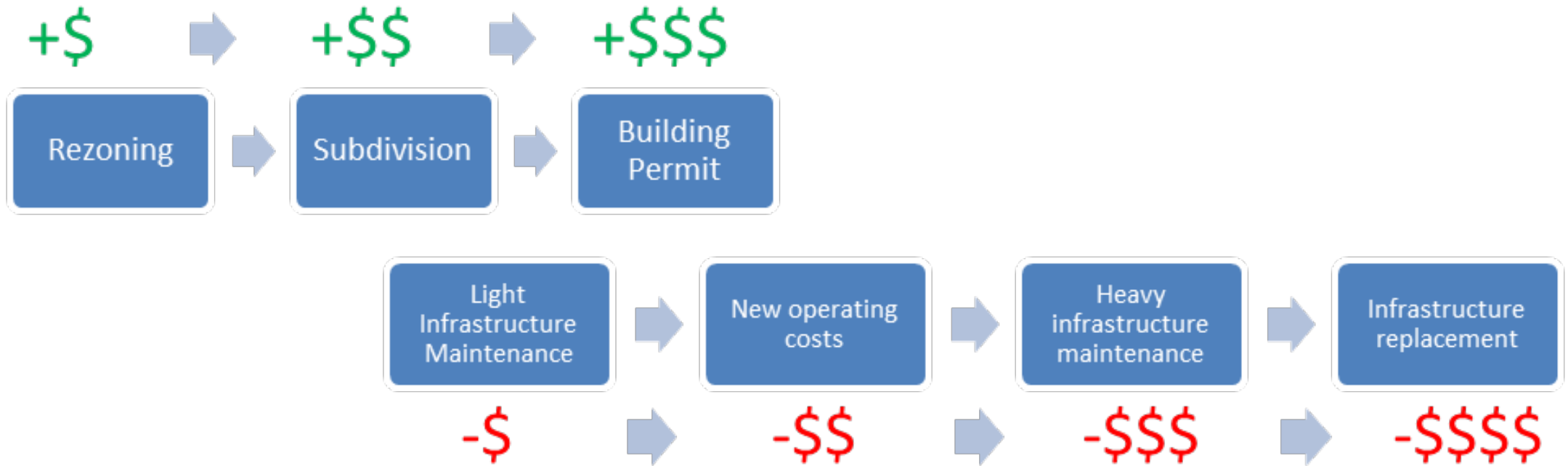




COLWOOD vs Oak Bay

	Colwood	Oak Bay
Annual Funding Gap	2.9M (2017 \$s)	4.6M (2021 \$s)
Annual Funding Gap (%)	59%	36%
Value of Infrastructure Consumption	Less than 40%	Over 75%
Tax increases to close annual funding gap	1% per year for 12 years	2% per year for 6 years
Tax increase per average residential property to close funding gap	\$215	\$396

NON-MARKET CHANGE





LONG-TERM FUNDING FUNDAMENTALS

- Life-cycle costing for budgeting
- Integrate into land-use and Asset Management
 - Use of Non-Market Change Revenue
 - Developer Contributed Assets
- Leverage investment returns and align investment horizon
- Don't let the perfect be the enemy of the good