

Appendix II

# Transportation Asset Management Plan

COUNCIL WORKSHOP – FEBRUARY 4TH 2022



# AGENDA

TRANSPORTATION ASSET MANAGEMENT PLAN

01. Project Overview
02. Asset Maturity
03. State of Local Infrastructure
04. Asset Lifecycle Strategy
05. Funding Strategy
  - Funding 'Gap'
  - Managing the 'Gap'
06. Questions

# PROJECT OVERVIEW

TRANSPORTATION ASSET MANAGEMENT PLAN



Why are we doing this project?  
What did we find?

# PROJECT OVERVIEW

TRANSPORTATION ASSET MANAGEMENT PLAN

## Purpose

Provide a summary on how the City manages transportation assets to deliver expected Levels of Service to its residents and in so doing meet the stated requirements of O.Reg 588/17. Its a first step in developing a program aimed towards long-term financial sustainability of Transportation Infrastructure.

## Project Scope

- **State of Local Infrastructure**
- Levels of Service
- AM Strategy
  - Demand Management
  - Risk Management
  - Governance
  - Asset Information
- **Lifecycle strategy**
- **Financing Strategy**

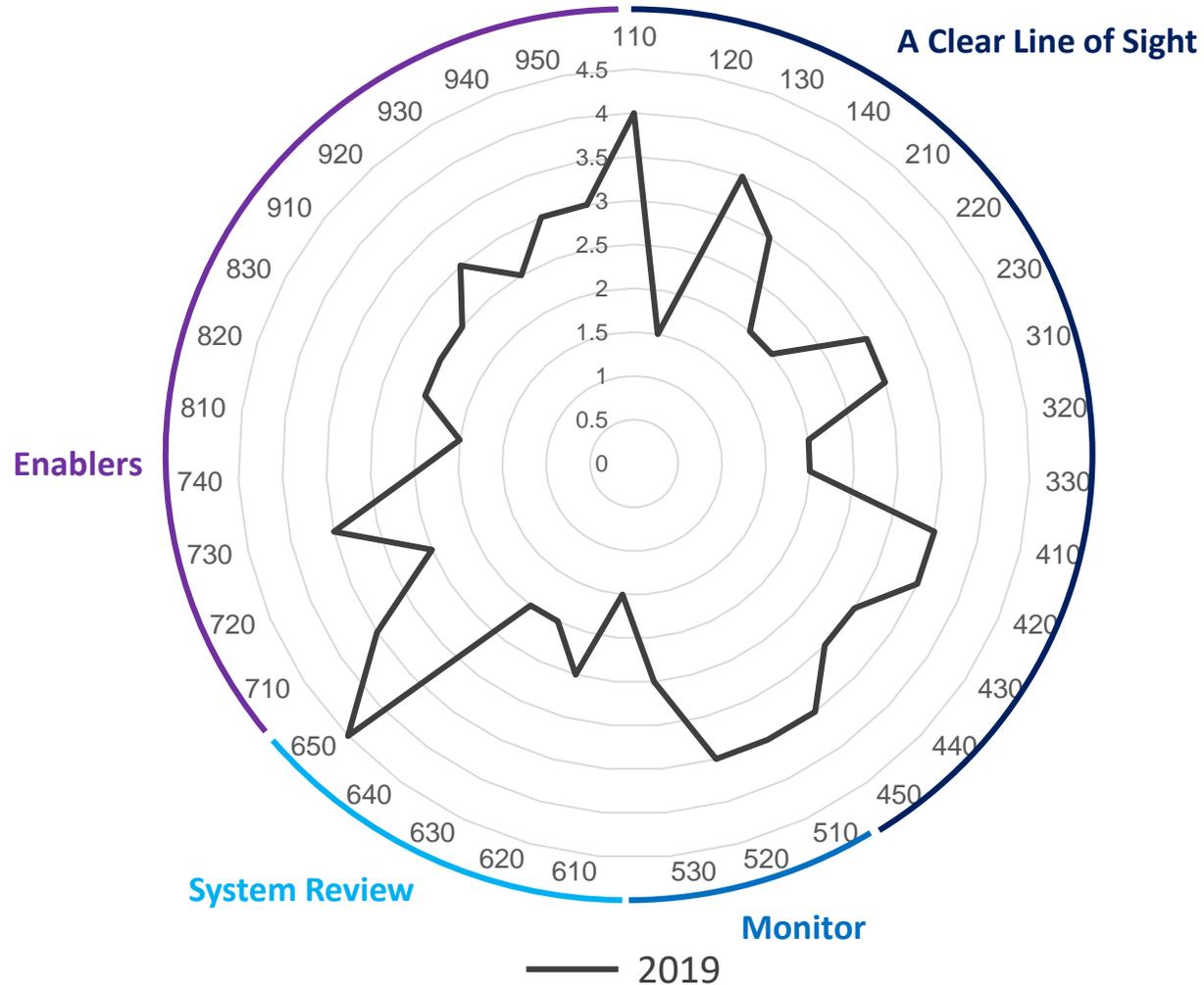
# ONTARIO REG. 588/17

TRANSPORTATION ASSET MANAGEMENT PLAN



# MATURITY

TRANSPORTATION ASSET MANAGEMENT PLAN



## Planning and Delivery - A Clear Line of Sight

- 100. Setting Direction
- 200. Programming
- 300. Preparation
- 400. Implementation

## Asset Monitoring and Performance Management

- 500. Asset Monitoring and performance management

## Asset Management System Review

- 600. Management Systems

## Asset Management Enablers

- 700. People & Organization Arrangements for asset management
- 800. Data & Information
- 900. Technology Information System

# STATE OF LOCAL INFRASTRUCTURE

TRANSPORTATION ASSET MANAGEMENT PLAN



What assets do we own?  
What are they worth and their condition?

# STATE OF LOCAL INFRASTRUCTURE

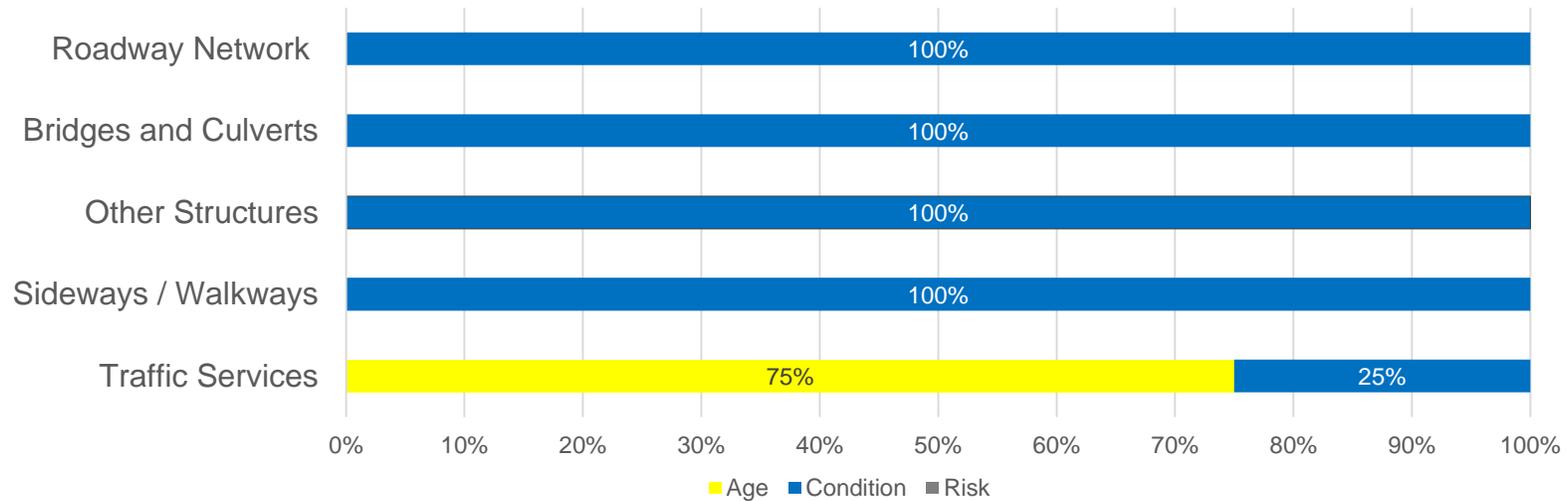
TRANSPORTATION ASSET MANAGEMENT PLAN

Asset Category	Assets	Units	Replacement Value (\$M)	Overall Weighted Condition
Roadway Network	Arterial, Collector, Local	3287 Lane Km	\$1,124.8	Good
Structures	Bridges and Culverts	87,738 m <sup>2</sup>	\$682.1	Good
Other Structures	Gateway features, Noise walls, Retaining walls, Fences, Handrails, Guiderails, Steps	85.7 Km	\$38.7	Good
Walkways & Paths	Sidewalks, Walkways and Multi-Use Paths	1,949 Km	\$230.7	Good
Traffic Services	Lighting, Signals and Signs	87,817 each	\$279.7	Good

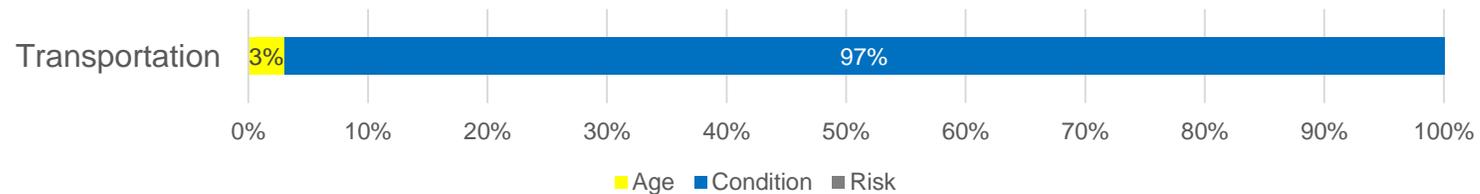
# DATA MATURITY

TRANSPORTATION ASSET MANAGEMENT PLAN

## Asset Category by Replacement Value



## Overall Transportation Service Area by Replacement Value



# ASSET LIFECYCLE STRATEGY

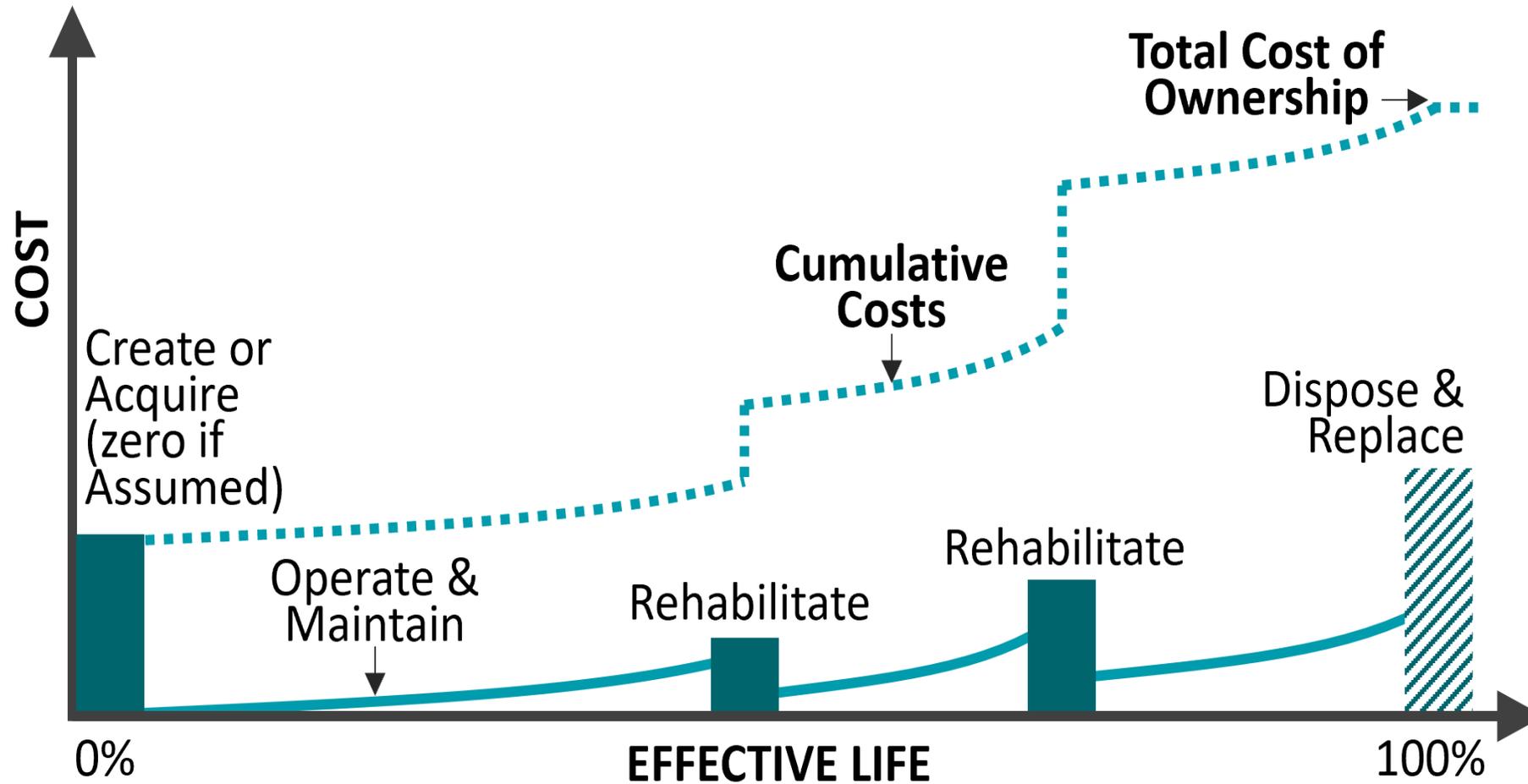
TRANSPORTATION ASSET MANAGEMENT PLAN



How can the City effectively manage the assets and provide the Levels of Service?

# LIFECYCLE STRATEGY

TRANSPORTATION ASSET MANAGEMENT PLAN



# INFASTRUCTURE NEEDS

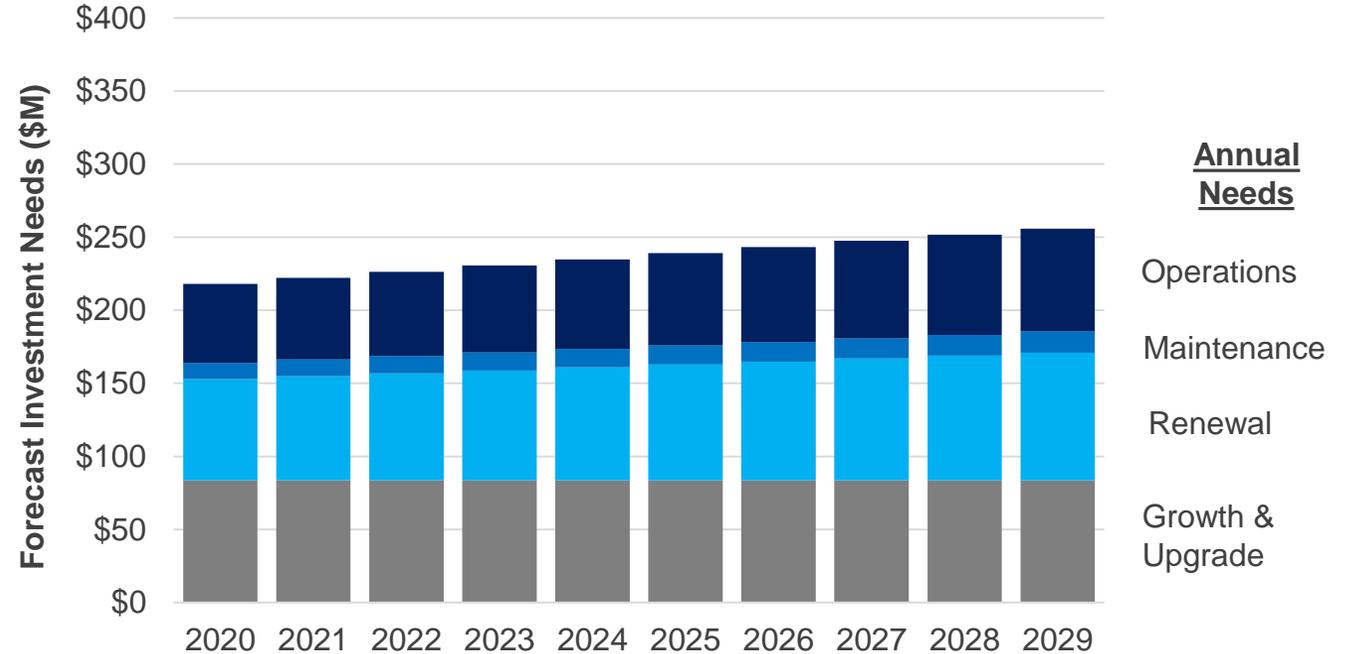
TRANSPORTATION ASSET MANAGEMENT PLAN

## What needs to be done to provide expected Levels of Service?

Lifecycle needs:

- Operations
- Maintenance
- Renewal (replace + rehab)
- Growth and Upgrade

The Replacement Program needs further assessment to confirm the 'true' lifecycle activity requirements



Activity	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	10-year Annual Average
Growth and upgrade	\$80.0	\$80.0	\$80.0	\$80.0	\$80.0	\$80.0	\$80.0	\$80.0	\$80.0	\$80.0	\$80.0
Renewal - Replace	\$47.4	\$49.6	\$51.7	\$53.9	\$56.0	\$58.1	\$60.3	\$62.4	\$64.6	\$66.7	\$57.1
Renewal - Rehab	\$33.2	\$34.7	\$36.2	\$37.7	\$39.2	\$40.7	\$42.2	\$43.7	\$45.2	\$46.6	\$39.9
Maintenance	\$12.1	\$12.7	\$13.4	\$14.0	\$14.6	\$15.3	\$15.9	\$16.5	\$17.2	\$17.8	\$15.0
Operations	\$42.6	\$44.8	\$47.0	\$49.2	\$51.4	\$53.6	\$55.8	\$58.0	\$60.2	\$62.4	\$51.9
<b>Total</b>	<b>\$215.3</b>	<b>\$221.7</b>	<b>\$228.2</b>	<b>\$234.7</b>	<b>\$241.2</b>	<b>\$247.6</b>	<b>\$254.1</b>	<b>\$260.6</b>	<b>\$267.1</b>	<b>\$273.5</b>	<b>\$244.0</b>

Note: all figures are shown in 2019 dollars

# REPLACEMENT NEED - SCENARIOS

TRANSPORTATION ASSET MANAGEMENT PLAN

**A**

100%

**B**

50%

**C**

25%

Replacement Need:

**\$57.1M**

**\$28.6M**

**\$14.3M**

Total Need:

**\$243.9M**

**\$215.4M**

**\$201.1M**

	<b>A</b>	<b>B</b>	<b>C</b>
	<u>100%</u>	<u>50%</u>	<u>25%</u>
Replacement Need:	<b>\$57.1M</b>	<b>\$28.6M</b>	<b>\$14.3M</b>
Total Need:	<b>\$243.9M</b>	<b>\$215.4M</b>	<b>\$201.1M</b>

# FINANCIAL STRATEGY

TRANSPORTATION ASSET MANAGEMENT PLAN



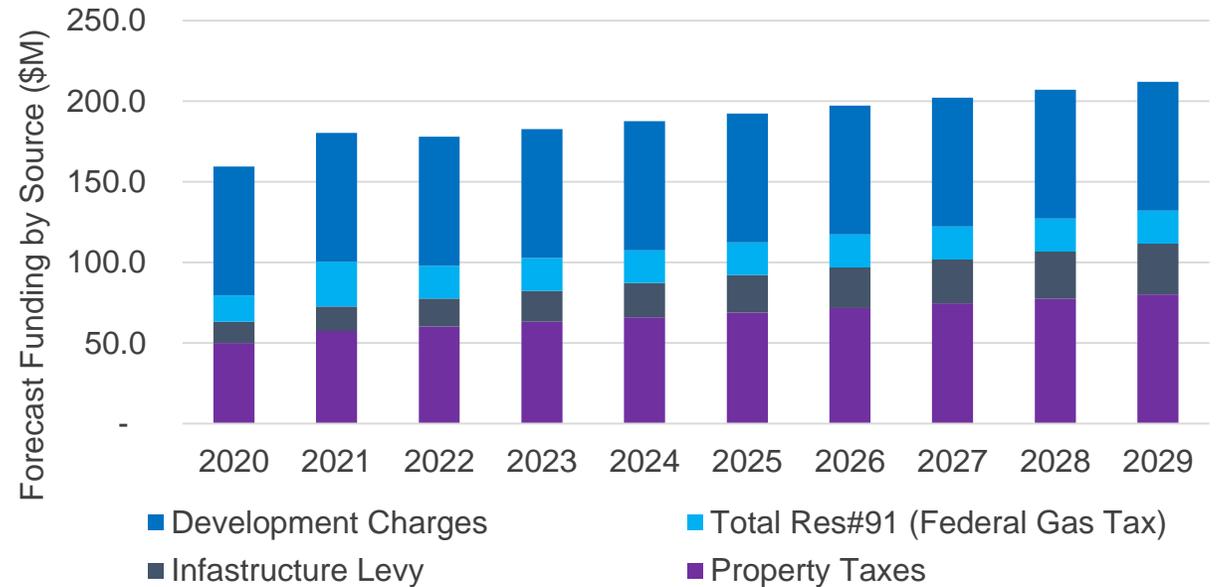
How we will manage the needs?

# FUNDING SOURCES

## TRANSPORTATION ASSET MANAGEMENT PLAN

### Funding Sources:

- Property Taxes
- Development Charges
- Grants and Subsidies
  - Federal Fuel Tax (60% to Transportation)
- Special Purpose Levy
  - Infrastructure Levy (20% to Transportation)

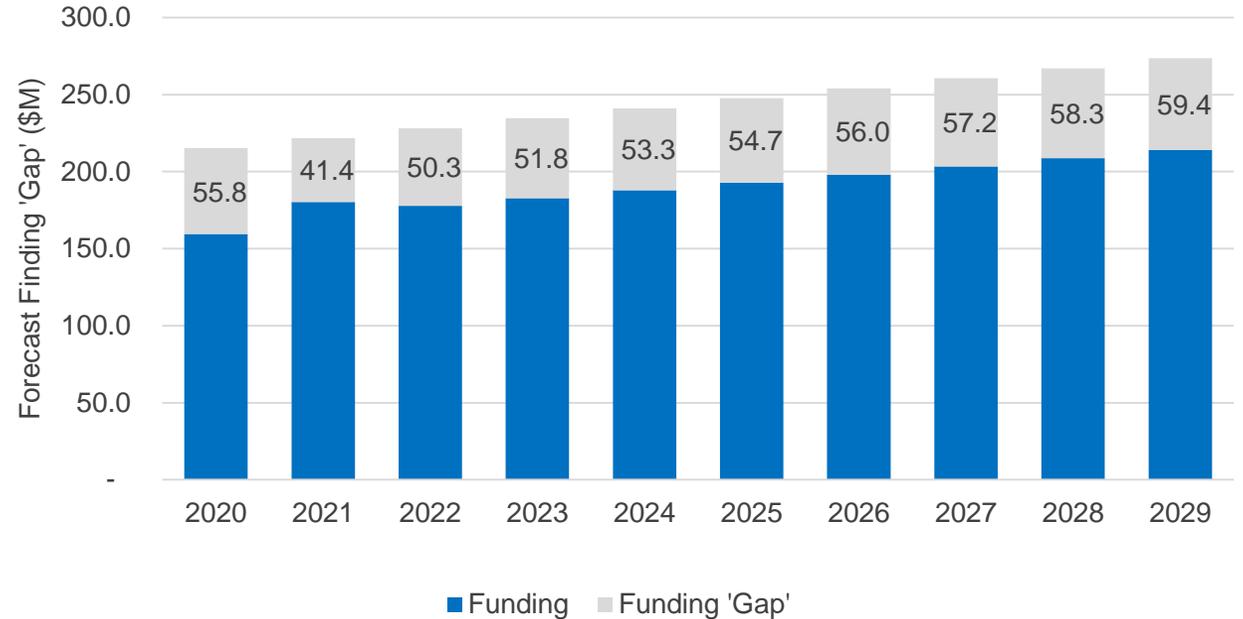


Source	Spend	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	10-year Annual Average
Property Taxes	Opex	50.1	57.5	60.3	63.2	66.0	68.9	71.7	74.5	77.4	80.2	67.0
Infrastructure Levy		13.1	15.2	17.2	19.3	21.5	23.7	26.0	28.5	31.0	33.6	22.9
Total Res#91 (Federal Gas Tax)	Capex	16.3	27.7	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.7
Development Charges		80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
<b>Total</b>		159.5	180.3	177.9	182.9	187.9	192.9	198.1	203.4	208.7	214.2	190.6

# FUNDING GAP

TRANSPORTATION ASSET MANAGEMENT PLAN

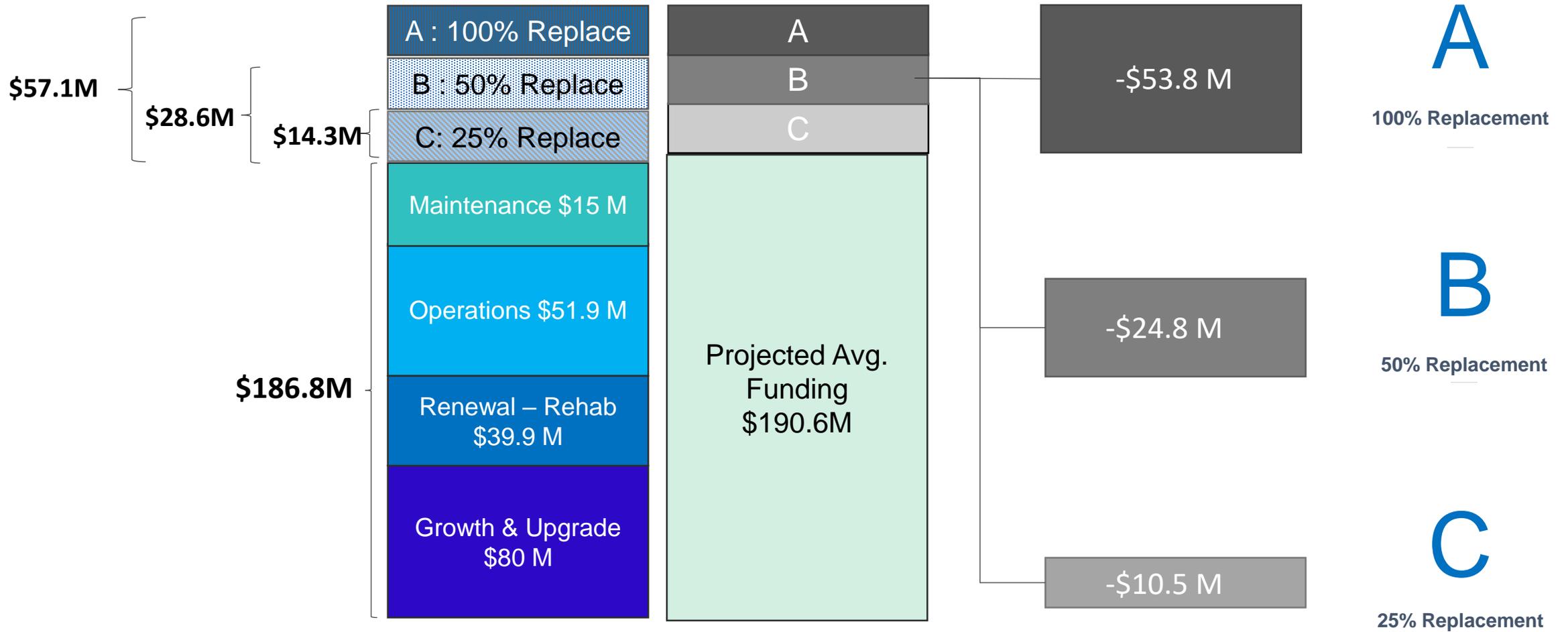
A significant contribution to the 'gap' is related to the replacement needs/program



	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	10-year Annual Average
Infrastructure Need	215.3	221.7	228.2	234.7	241.2	247.6	254.1	260.6	267.1	273.5	244.4
Funding	159.5	180.3	177.9	182.9	187.9	192.9	198.1	203.4	208.7	214.2	190.6
<b>'Gap'</b>	(55.8)	(41.4)	(50.3)	(51.8)	(53.3)	(54.7)	(56.0)	(57.2)	(58.3)	(59.4)	(53.8)
Cumulative 'gap'	-	(97.2)	(91.7)	(143.5)	(196.8)	(251.5)	(307.5)	(364.7)	(423.0)	(482.4)	(235.8)

# FUNDING GAP - SCENARIOS

TRANSPORTATION ASSET MANAGEMENT PLAN



# FUNDING IMPLICATIONS

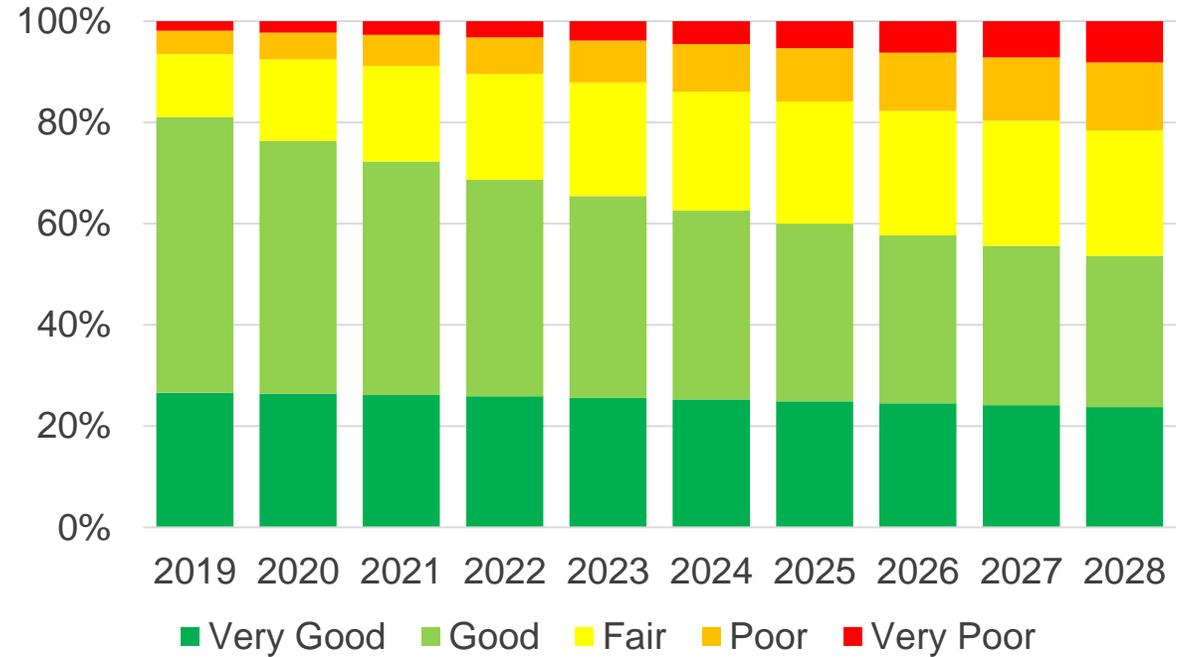
TRANSPORTATION ASSET MANAGEMENT PLAN

The implications deficit will likely result in under or delayed investment in renewal (replacement or rehabilitation).

This will result in:

- Degradation of our condition profile
- Increased risk to levels of service
- Higher overall asset life cycle cost

\*Example Scenario - 10 year asset condition profile



# CLOSING THE GAP

## TRANSPORTATION ASSET MANAGEMENT PLAN

01

### IMPROVE DATA QUALITY

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Additional tracked and historical data to support decision making and reduce reliance on assumptions

02

### STANDARDIZE FRAMEWORKS

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Implement standardized framework e.g. Risk framework

03

### PROJECT CO-ORDINATION

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Continue to enhance Project Co-ordination with strategic partners e.g. Region of Peel and Utility Companies

04

### RECALIBRATE LEVELS OF SERVICE

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Confirmation and recalibration of Levels of Services with our community

05

### ESTABLISH REINVESTMENT TARGETS

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Establish Annual Capital Reinvestment Targets

06

### ASSESS LIFECYCLE NEEDS

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Reconcile asset expansion (DC funded) with capital planning & track asset replacement

# PETITION HIGHER LEVEL OF GOVERNMENT

TRANSPORTATION ASSET MANAGEMENT PLAN

## 07

### INCREASE REVENUE

Increase taxation, special purpose  
levy and seek contribution from  
higher levels of government

**60%**

Canada's public  
infrastructure owned by  
local governments

**10%**

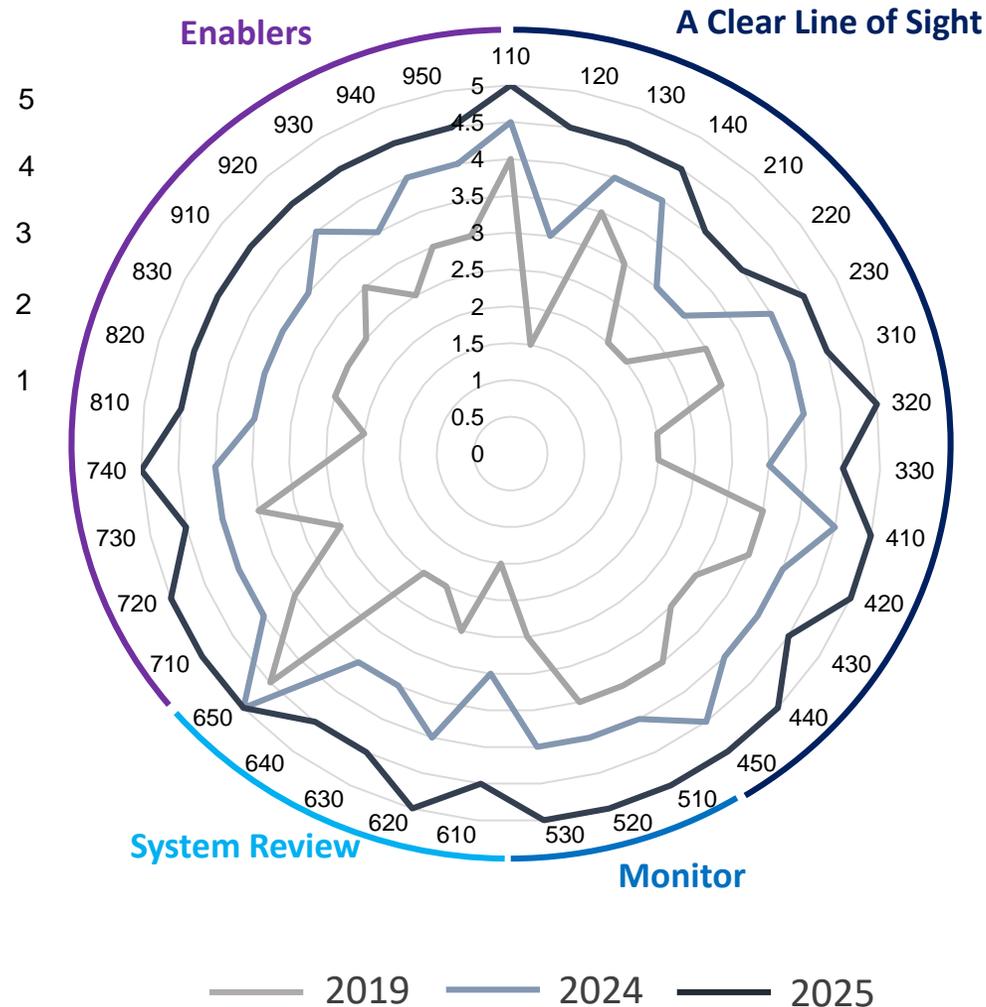
Portion of Canada's tax  
dollar available to  
municipalities

**84%**

Canadians who say the  
federal government must  
empower municipalities

# MATURITY UPDATE

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Thank you!

