

# Making Progress in Asset Management: Achieving 2025 Regulatory Compliance

**Municipal Asset Management Webinar Series**

March-April 2025

# Four-Part Webinar Series on Asset Management in the Context of Ontario Regulation

❖ Objective: Enable municipalities to meet regulatory requirements and advance their asset management programs for effective infrastructure management and long-term financial planning.

❖ Four sessions:

- ❖ Proposed Levels of Service & Performance
- ❖ Risk Assessment
- ❖ Lifecycle Management & Financial Strategy
- ❖ Growth

# Asset Management Compliance

## Canada Community-Building Fund (CCBF)

- ❖ Permanent, predictable, and upfront
- ❖ [Administrative Agreement](#) and [Municipal Funding Agreement](#)
- ❖ Develop and implement an asset management culture, methodology, and plan in accordance with Ontario regulation

## O. Reg. 588/17

- ❖ **2019**: Asset Management Policy
- ❖ **2022**: Asset Management Plan for Core Assets
- ❖ **2024**: Asset Management Plan for All Assets
- ❖ **2025**: Asset Management Plan with Proposed Levels of Service

# AMO Support

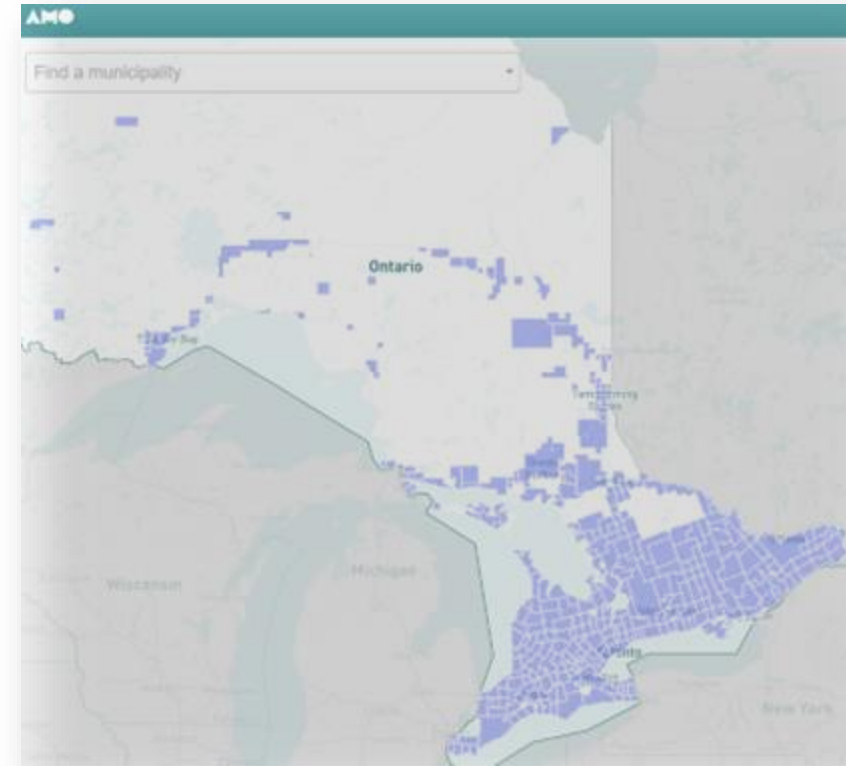
❖ [Webinars](#)

❖ [Research](#)

❖ Ongoing AMP analysis

❖ Asset management questionnaire  
(2024 CCBF reporting)

❖ Contact us at: [ccbf@amo.on.ca](mailto:ccbf@amo.on.ca)



Session 1: Proposed Levels of Service & Performance  
Part A

Troy Mander, AMONTario

# Session 1: Proposed Levels of Service and Performance

Date: March 6, 2025



# Thank you!

For more questions or support, please reach out.

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AMONTario: [info@amontario.ca](mailto:info@amontario.ca)





# Proposed Levels of Service

Preparing for Compliance with O.Reg 588/17 by July 1st, 2025

March 6, 2025



# O.Reg 588/17 Compliance Requirements for July 1<sup>st</sup> 2025

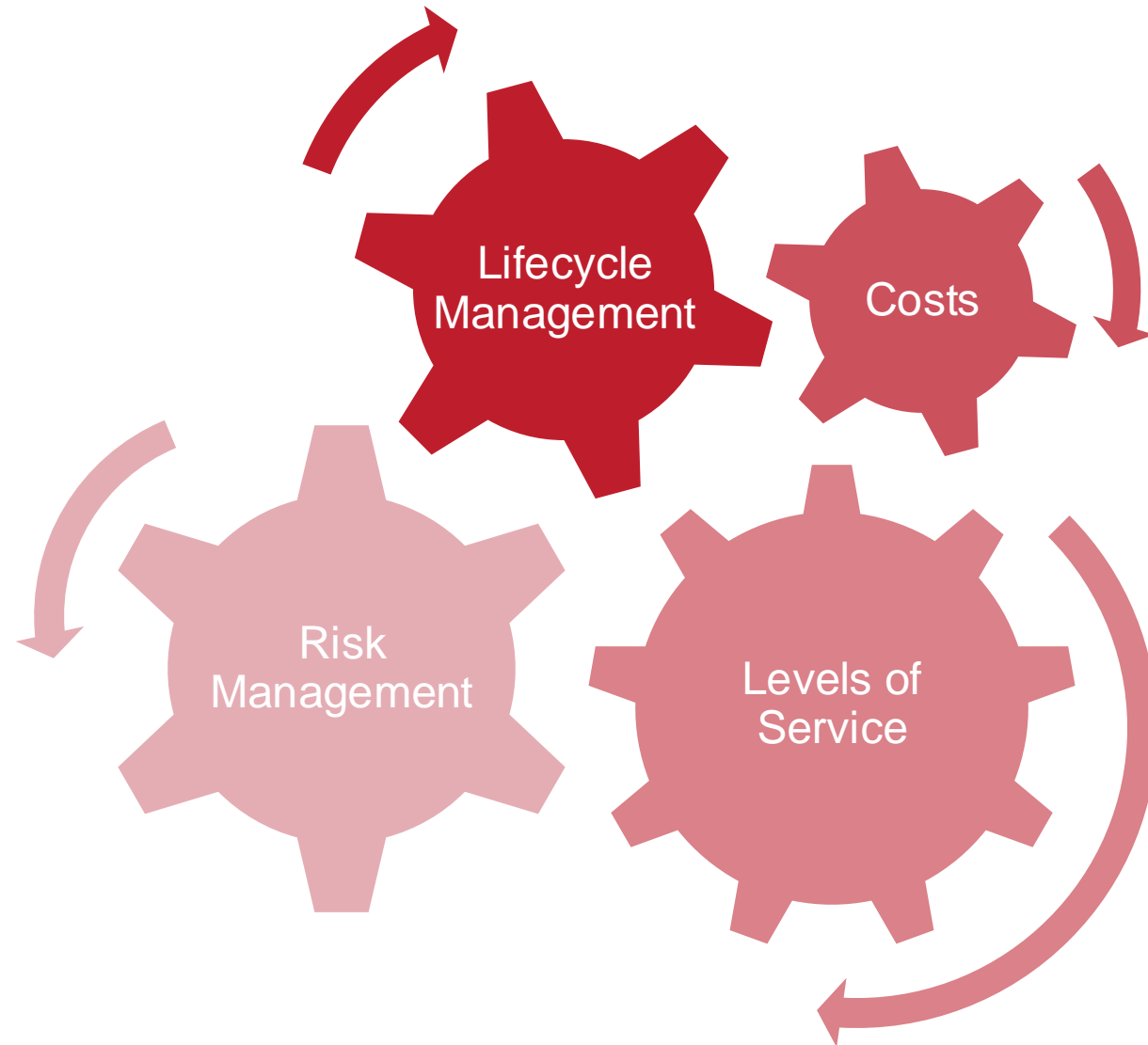
Earlier requirements focused on current levels of service, asset conditions, and high-level risk management. The 2025 update requires a forward-looking approach that directly connects risk, lifecycle planning, and financial strategies to proposed levels of service.

## Key additions:

- **Proposed Levels of Service** – Define future service targets for each asset category and service
- **Risk Assessment Tied to Service Levels** – Risks must be evaluated in relation to their impact on achieving proposed service levels.
- **Lifecycle Management Strategy** – Plans must detail how assets will be maintained, rehabilitated, and replaced to sustain proposed service levels.
- **Financial Strategy for Service Sustainability** – Outline how asset needs will be funded while meeting service targets over the long term.

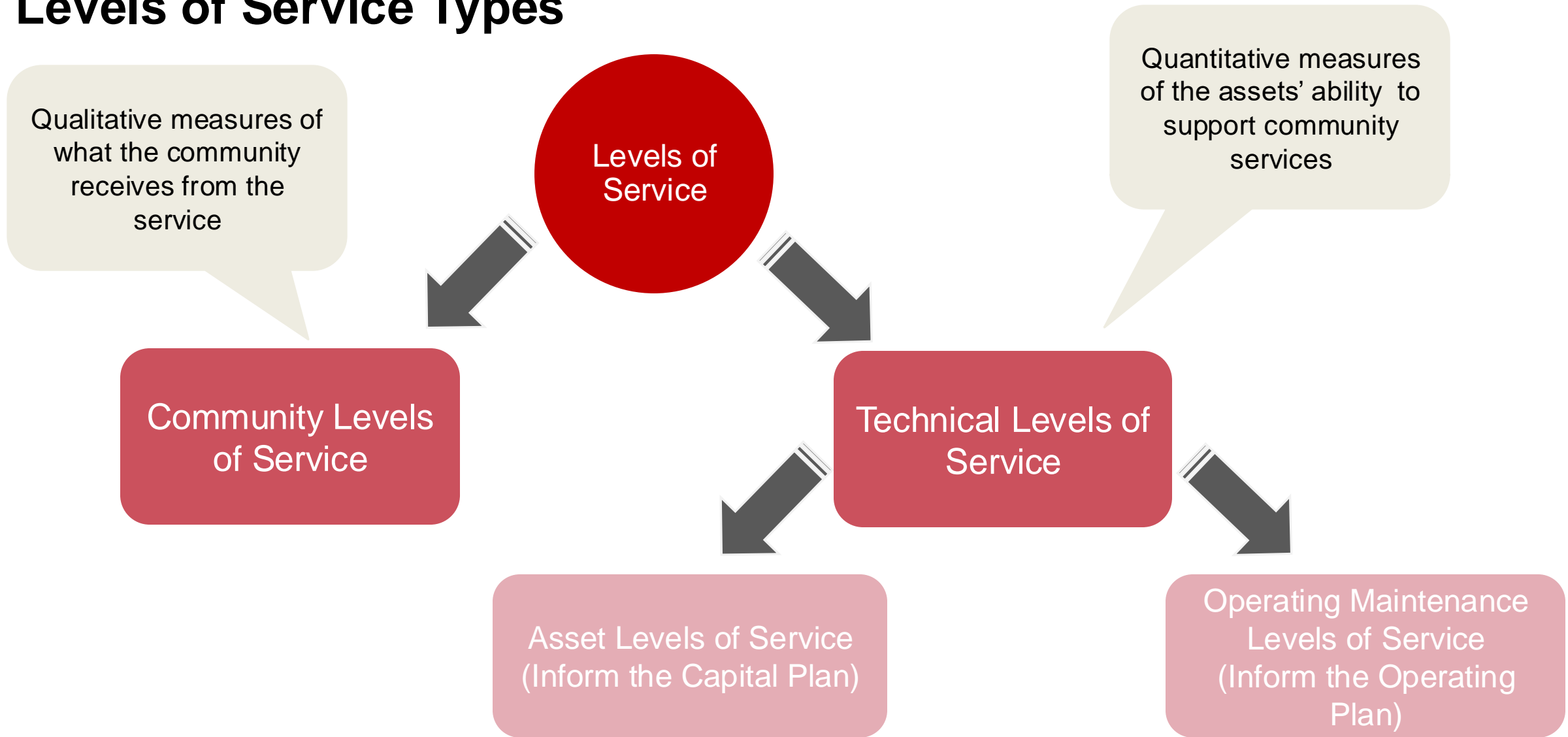
# Proposed Levels of Service

# Asset Management Strategy



Each One  
Impacts the  
Others

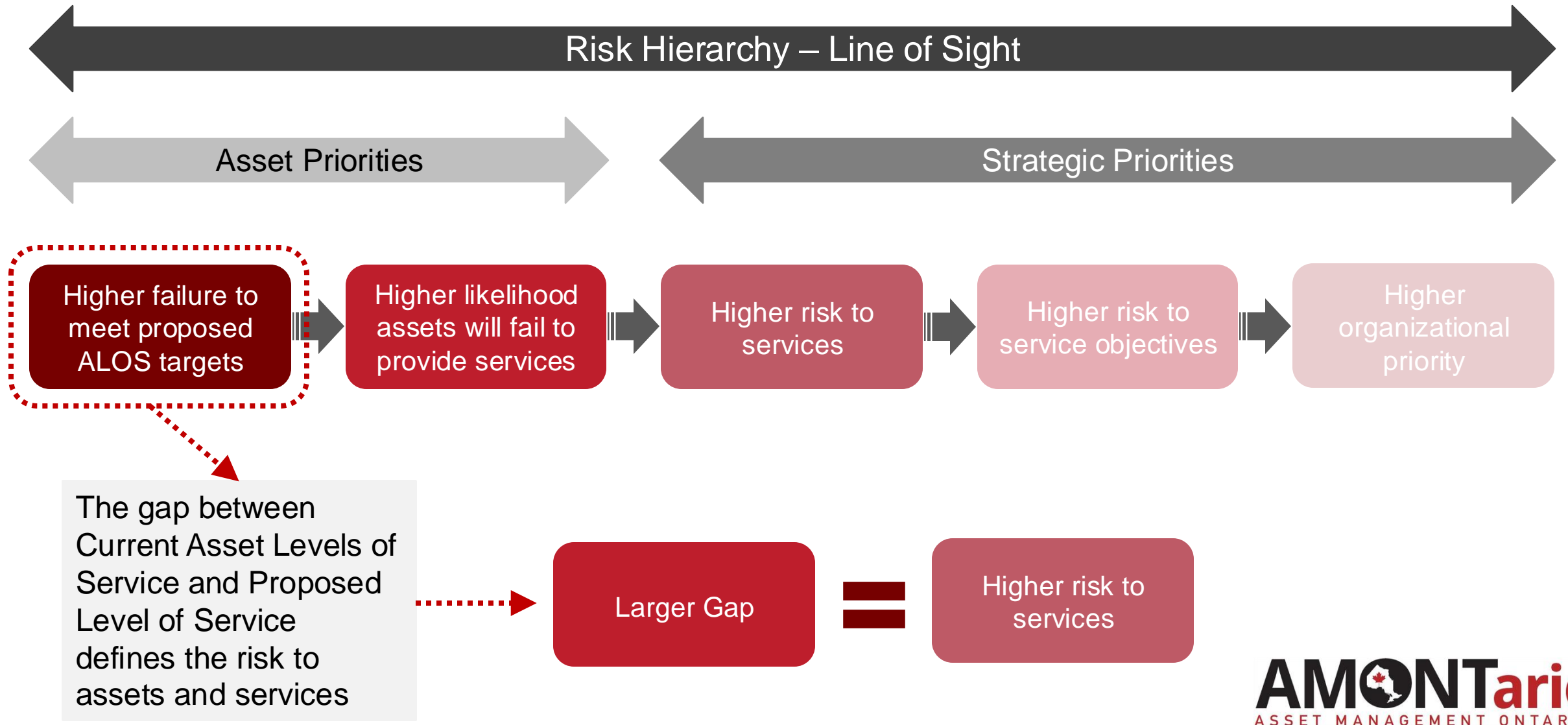
# Levels of Service Types



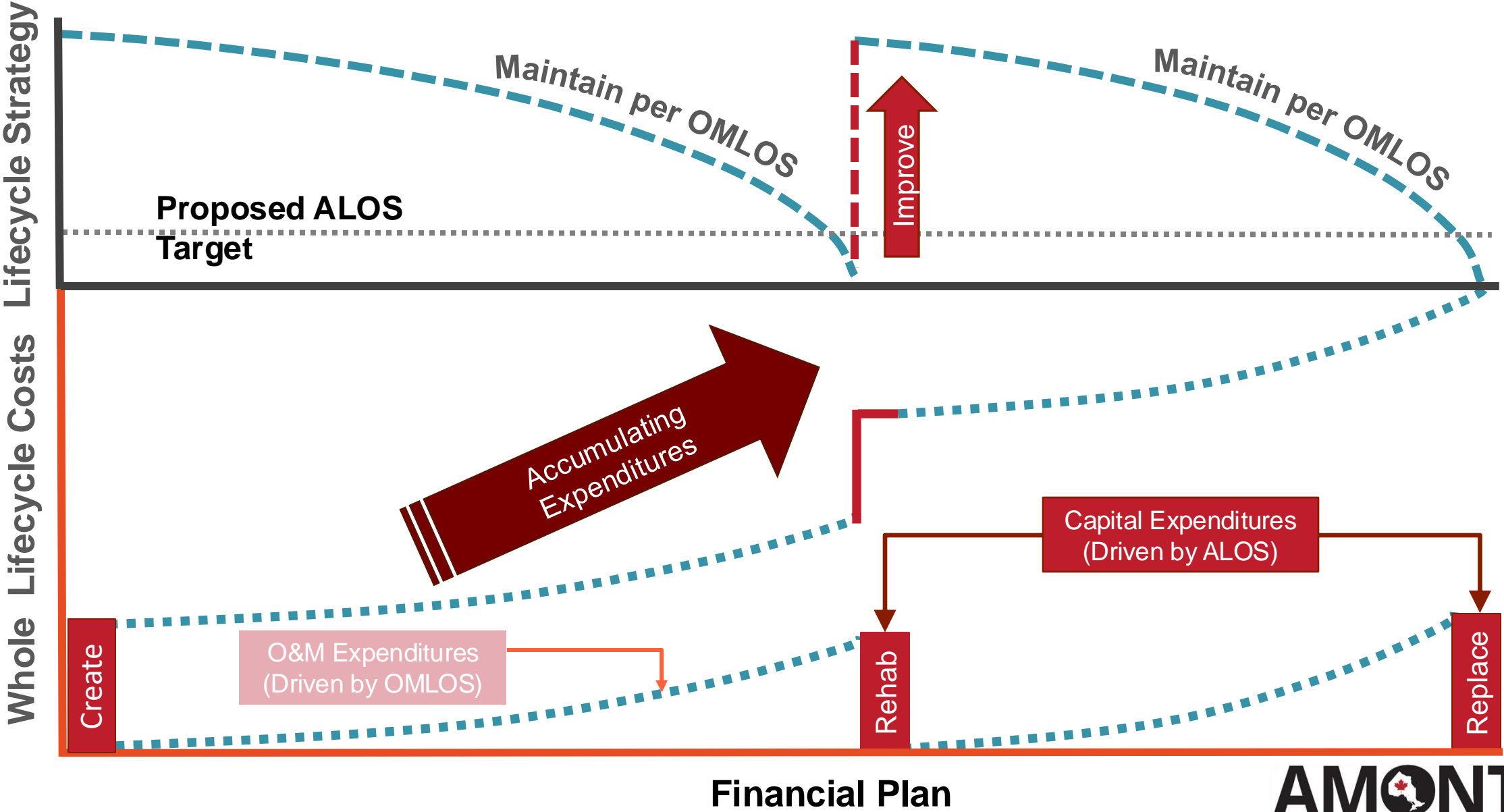
# Current TLOS vs Proposed TLOS

Asset Class	Current TLOS	Proposed TLOS
<p>Groups of like assets serving a similar service function and governed by common LOS measures typically established by industry precedent.</p>	<p>The averaged ratings of all the assets in the asset class. Typically applies only to ALOS.</p>	<p>Targets selected by the municipality to ensure safe, adequate, efficient, effective and accessible services. Used for both ALOS and OMLOS.</p>
<p>Bridges</p>	<p>Average BCI = 65 (Fair)</p>	<p>ALOS: Minimum BCI = 70 (Good) OMLOS: Washed annually</p>
<p>Recreation Facilities</p>	<p>Average FCI = 12% (Fair)</p>	<p>ALOS: Minimum FCI = 5% (Good) OMLOS: Repaint every 4 years</p>

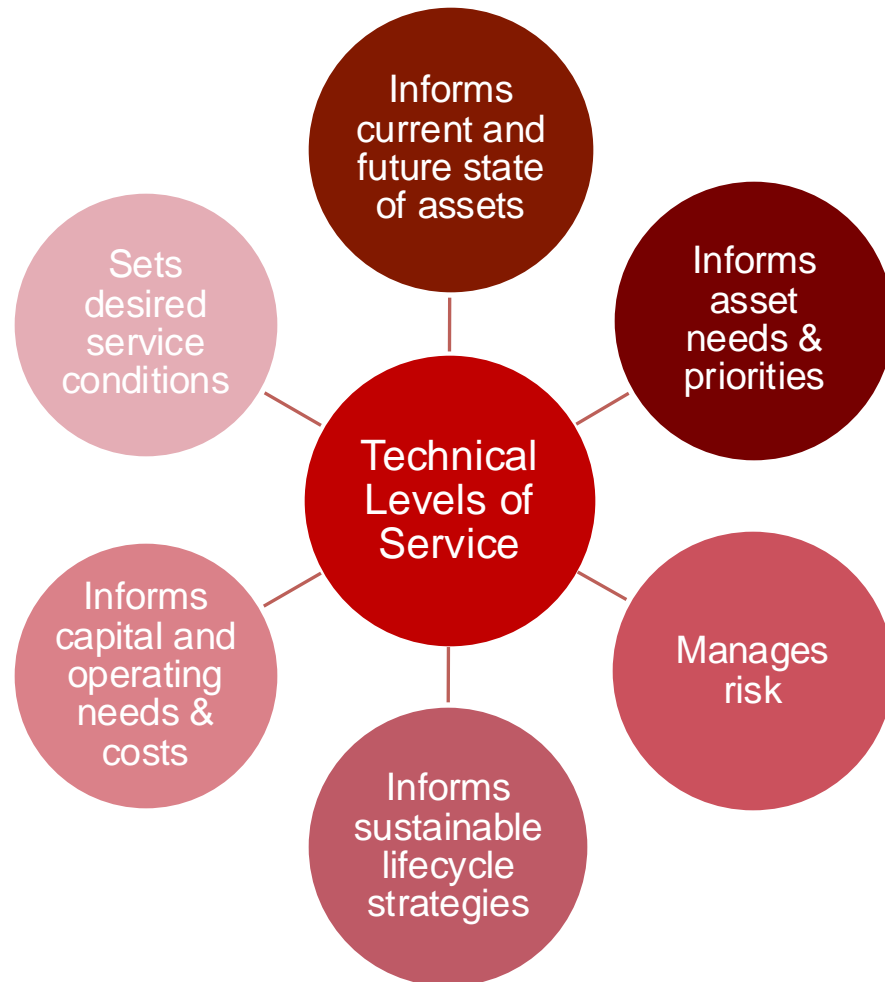
# Proposed ALOS informs Enterprise Risk Management



# Proposed Levels of Service Drive Financial Planning



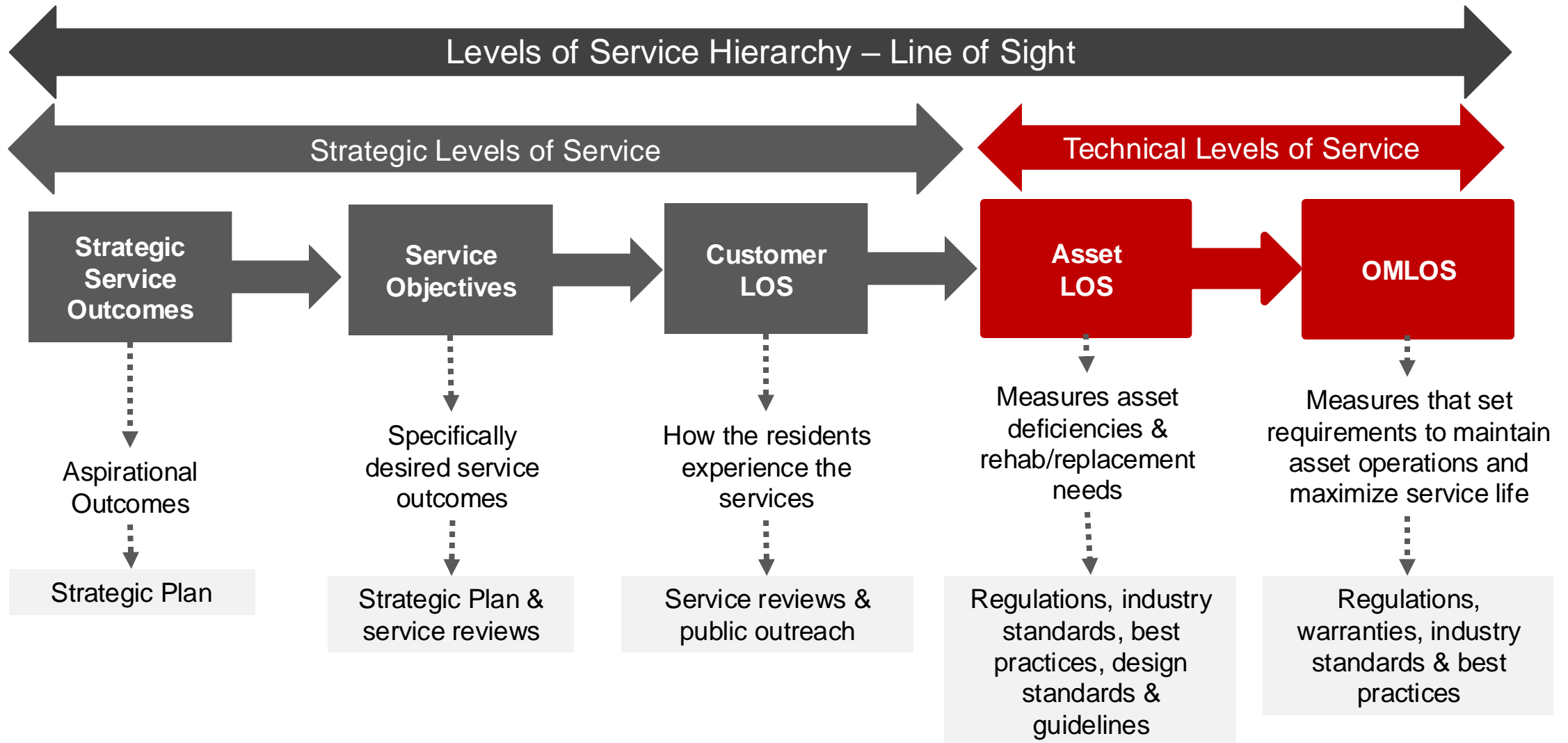
# Technical Levels of Service



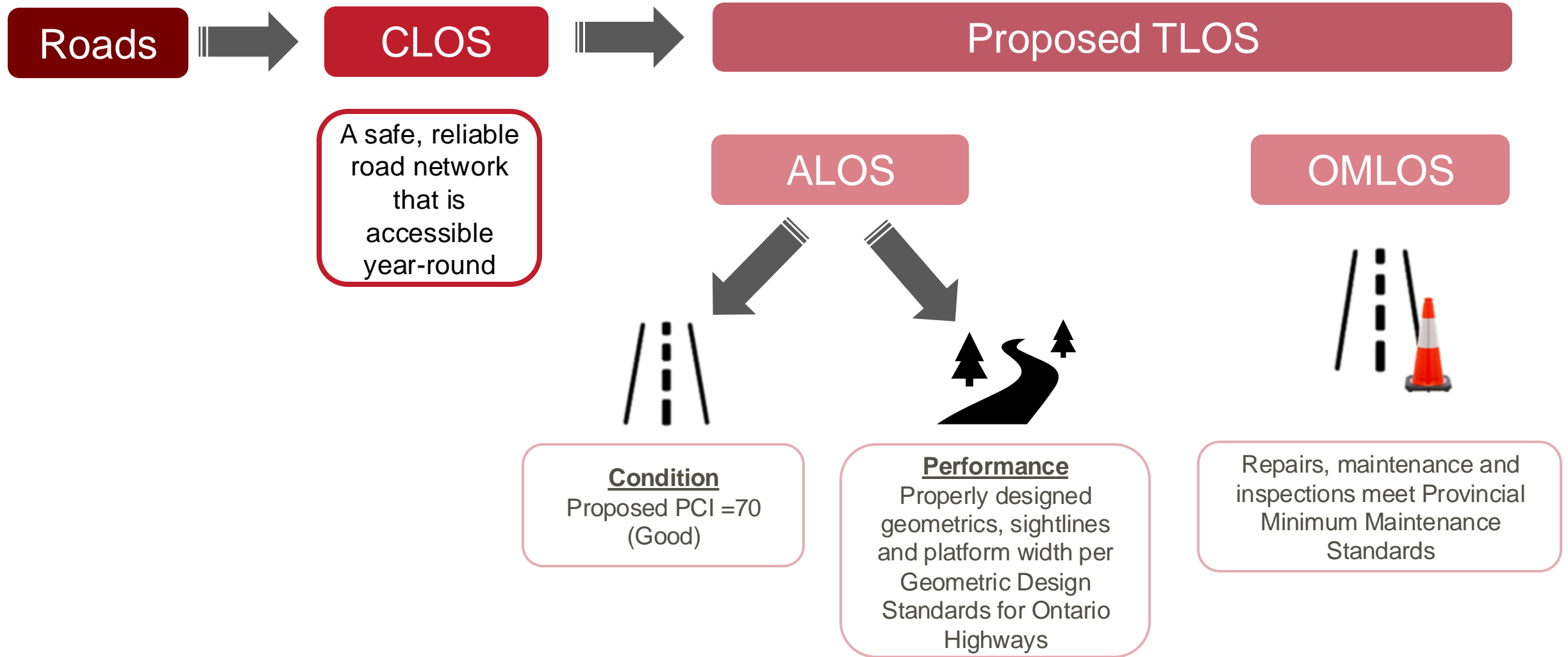
- Align with strategic service objectives
- Applied consistently across the asset class to measure each assets' ability to provide services
- Maximize asset value
- Provide multifunctional uses for planning & decision making
- Are simple, outcome-based & few as possible
- Use industry precedent & regulations as much as possible when defining LOS



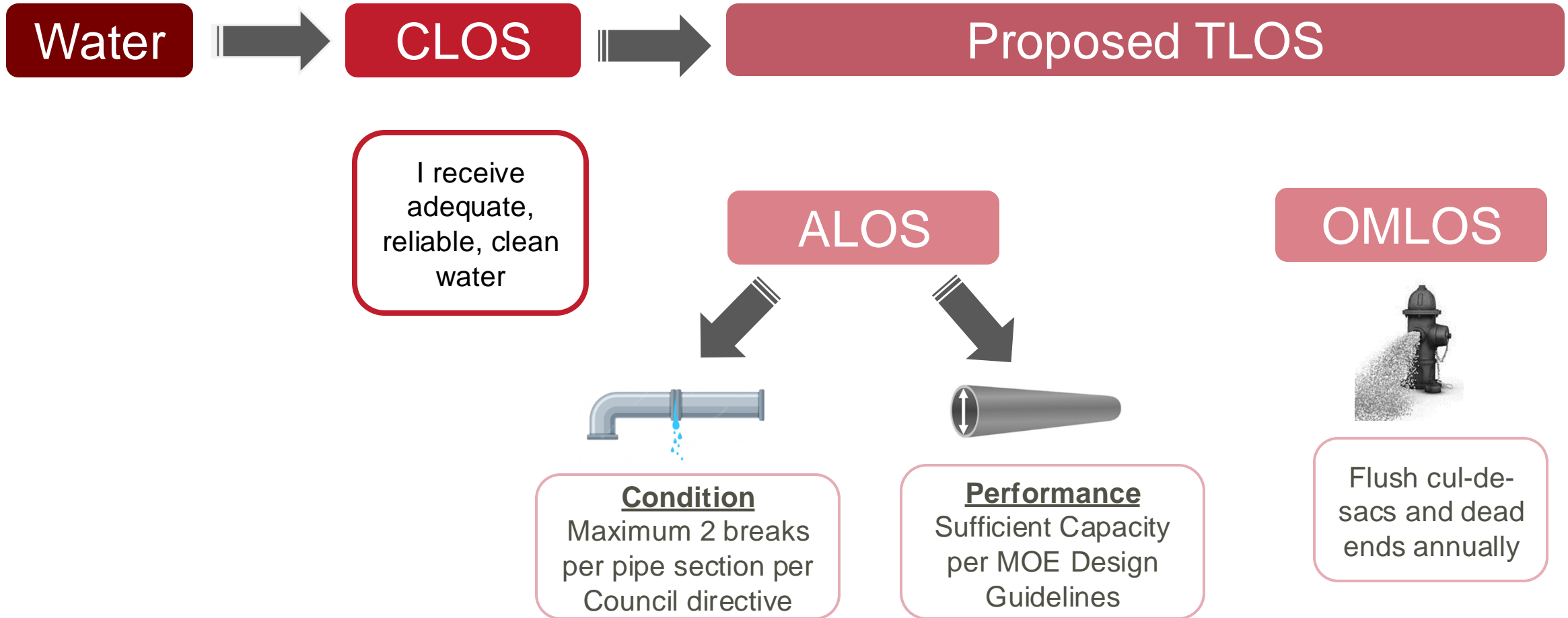
# Connecting Service Objectives to Asset Requirements



# Proposed Levels of Service – Roads



# Proposed Levels of Service – Water



# AMONTario Level of Service Template Example: Water

Service	Program Service Objectives	Community Levels of Service	Service Division	Supporting Asset Classes	Technical Levels of Service										
					Asset Levels of Service Description (by Asset Class)	Proposed Target	Current Asset Levels of Service					Operating Maintenance Levels of Service			
							Asset Class Average	Distribution by Asset Rating					Activity	Current LOS	Target LOS
								%	%	%	%	%			
Water	Safe, reliable and efficient potable water services	Consistent and reliable water supply	Distribution	Pumping Stations	Condition		Condition								
					Mechanical Process Systems	Good	Fair		20	80			Vibration Testing	Every 5 years	Every 2 years
					Electrical Process Systems	Good	Fair		10	80	10		Major Equipment Inspection	Every 2 years	Annually
					Distribution Civil Assets	Good	Fair	10	10	70	10		Standby Generator Testing	Annually	Annually
					Performance		Performance								
					Operational Functionality	Good	Fair	2	66	5	22	6			
		Capacity to Meet Demands		Good	Good		80	10	10						
		Operational Resiliency		Good	Fair		71	7	15	6					
		Environmental Resiliency		Good	Good		100	50	50						
		The system is efficiently designed and managed		Treated Water Storage	Condition		Condition								
					In-ground Storage Cells	Good	Fair			80	20		Condition Inspection	Annually	Annually
					Performance		Performance								
			Operational Functionality		Good	Good		60	40						
			Capacity to Meet Demands		Good	Fair		40	60						
			Operational Resiliency		Good	Good		100							
		The water system is kept in good condition	Performance		Performance										
Operational Functionality	Good		Good		60	40									
Capacity to Meet Demands	Good		Fair		40	60									
Operational Resiliency	Good		Good		100										
Environmental Resiliency		Good	Good		100										

## Performance Ratings and Corresponding Likelihood of Failure

VERY GOOD	GOOD	FAIR	POOR	VERY POOR
- Exceeds or fully meets performance requirements. - No affect to services	- Meets performance requirements. - No affect to services	- Just meets performance requirements with some limitations - Possible minor affects to services.	- Does not meet several performance requirements. - Minor to moderate and/or sporadic affects to services	- Does not meet many or most performance requirements. - Moderate to significant and/or ongoing affects to services.
Likelihood of Failure Very Unlikely	Likelihood of Failure Unlikely	Likelihood of Failure Possible	Likelihood of Failure Likely	Likelihood of Failure Very Likely or Certain

# Technical Levels of Service vs Key Performance Indicators

Technical Levels of Service		Key Performance Indicators (KPIs)
ALOS	OMLOS	
Measures used to assess the state of each asset and to identify specific deficiencies and capital needs.	Measures of the regular ongoing activities to keep assets properly operating and/or maximize service life.	Measures the outcomes of Technical Levels of Service Targets
<p><b>Proposed Condition ALOS:</b> Minimum condition of Storm Sewer Pipes must be PACP 3 (Fair) or better.</p> <p><b>Decision:</b> All pipes below PACP with PACP = 4 or 5 ('Poor' or 'Very Poor') need relining or replacement to mitigate potential failures.</p>	<p><b>Proposed OMLOS:</b> Condition assessments are performed on 10% of the stormwater sewer network each year.</p> <p><b>Decision:</b> Are the pipes being inspected frequently enough to mitigate potential failures?</p>	<p>Percentage (%) of stormwater sewer assets in 'Fair' condition or better.</p> <p><b>Decision:</b> How are we progressing toward meeting proposed ALOS and OMLOS targets?</p>
<p><b>Proposed Performance ALOS:</b> Sufficient urban road storm sewer capacity to accommodate a 5-year storm event.</p> <p><b>Decision:</b> All pipes with less than 5-year storm capacity need upgrading to mitigate excessive overland flooding.</p>	<p><b>Proposed OMLOS:</b> Inspect and clean catch basins every 2 years.</p> <p><b>Decision:</b> Are catch basins being inspected and cleaned frequently enough to ensure proper operation to mitigate excessive overland flooding?</p>	<p>Number of road flooding occurrences during 5-year or less storm events.</p> <p><b>Decision:</b> How are we progressing toward meeting proposed ALOS and OMLOS targets?</p>

# Selecting Effective Proposed Asset Levels of Service

## ➤ A good proposed Condition Asset Level of Service

### ➤ *“Maintain recreation facilities at a facility condition index of 5% (Good) or better”*

#### ◦ Decision outcomes:

- Sets a clear target that states that every facility not meeting an FCI of 5% or better requires capital upgrades
- Provides a measure for determining the risk at each facility
- Uses a common industry measurement
- Says to the community that safe, efficient and accessible facilities are important to the municipality

## ➤ A poor proposed Condition Asset Level of Service

### ➤ *“ Maintain the average FCI of the recreation facility portfolio at 5% (Good)”*

#### ◦ Decision Outcomes: Incomplete

- Does not state or require that all buildings need to be to the same standard (some can be “Very Good”, and some can be “Very Poor but the proposed ALOS is met if the average is ‘Good’)
- Does not say to the community that all buildings are valued equally and maintained to the same standard
- Potentially understates the portfolio needs and risks complicates decisions.

# Selecting Effective Proposed Operating Maintenance Levels of Service

## ➤ A good proposed Operating Maintenance Level of Service

- *“Public spaces in recreation facilities are cleaned daily”*
- *“The interior of the facilities are painted every 4 years”*
- *“Critical systems are inspected and/or tested monthly”*

- Decision outcomes:

- Defines the specific operating activity and frequency
- Sets a benchmark against which to evaluate, calculate and validate operating costs
- Says to the community that safe, clean and appealing facilities are important to the municipality

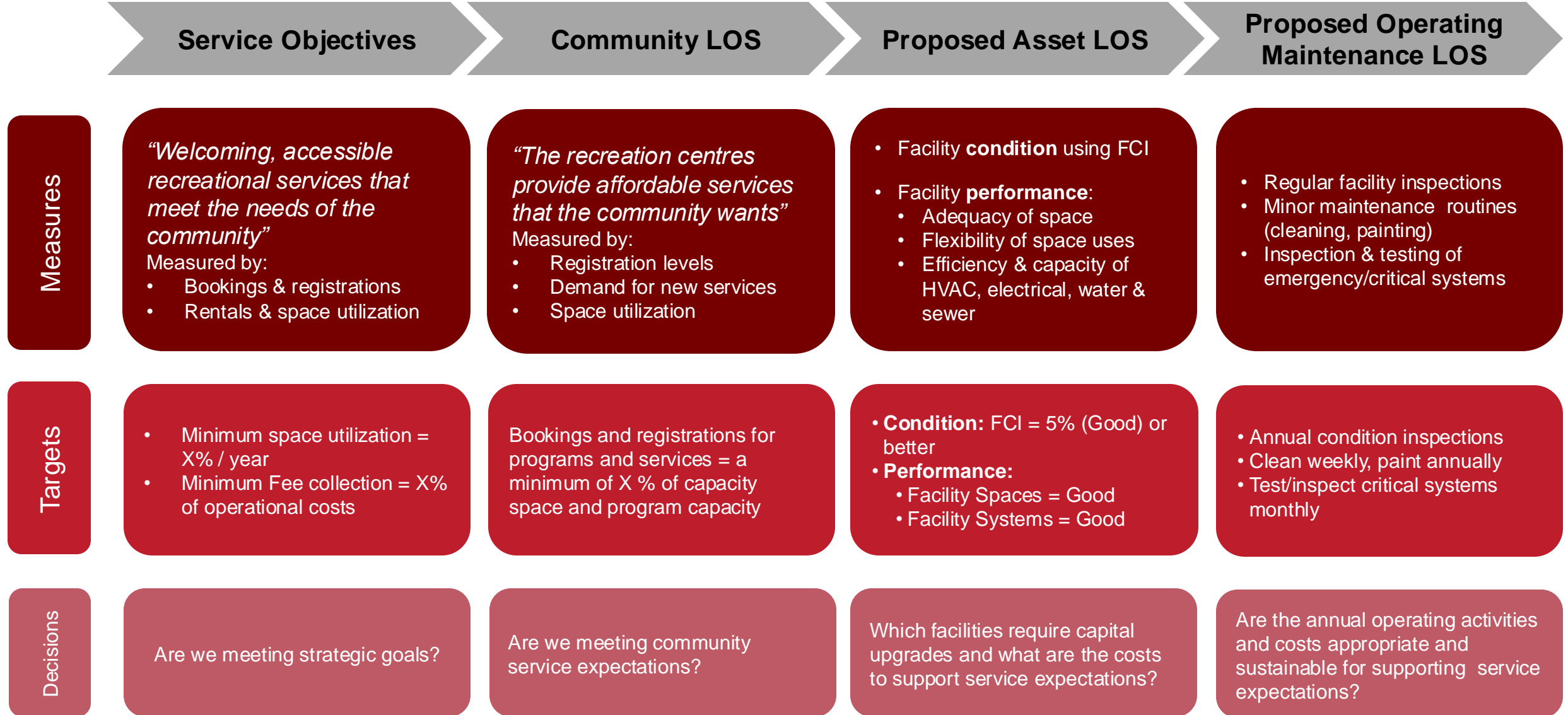
## ➤ A poor proposed Operating Maintenance Level of Service

- *“Maintain the average operating costs of the recreation facilities at \$X per square metre”*

- Decision Outcome: Unclear

- Does not set specific activities or targets necessary to maintain facilities at desired service levels or costs.
- Does not provide the transparency to analyze what is driving costs and what to adjust to manage costs
- Does not state what is valuable to the customer (safe, clean, appealing facilities)

# LOS and Decision Outcomes – Recreational Facilities





# Tips for Selecting Technical Levels of Service

- Critical assets should be given higher LOS targets
  - i.e. use measures that equate to “Good”
- Use precedent as much as possible when selecting measures and targets:
  - Industry standards and guidelines
  - Regulations
  - Best practices
- Focus on selecting effective Technical Levels of Service
  - Avoid using design criteria: too numerous and detailed
  - Measures must have a clear relationship between the assets and services
  - Should lead to effective decision outcomes
  - Avoid KPIs
- The measures can be applied consistently to each asset in the asset class
  - Strong enough to detect critical deficiencies in the asset portfolio

# AMONTario Levels of Service Strategy

Asset Levels of Service	Measurement Attributes Using Industry Measures, Ministry Design Guidelines, Regulations, & Other Precedents	Proposed ALOS Targets
Condition	<p>Physical state of the asset measured by condition rating systems:</p> <ul style="list-style-type: none"> <li>• PCI, BCI, FCI, PACP, “Very Good” to “Very Poor,” etc.</li> </ul>	<p>Use measures that equate to “Good” or “Fair” depending on asset criticality</p>
Operational Functionality	<ul style="list-style-type: none"> <li>• Efficiency and effectiveness of service delivery.</li> <li>• Ability to meet minimum current design and/or safety requirements.</li> <li>• Level of operational problems experienced and whether they affect community services.</li> <li>• Compliance with current Regulations and/or Standards (including the level of “grandfathering”).</li> <li>• Whether all required elements are present.</li> <li>• Relevance and effectiveness of technology.</li> <li>• Efficiency of resource consumption.</li> </ul>	
Capacity to Meet Demands	<ul style="list-style-type: none"> <li>• To what degree capacity satisfies current demands and minimum community service levels.</li> <li>• Level of operational problems experienced.</li> <li>• Are there noticeable negative impacts on community service levels or stakeholders.</li> </ul>	
Operational Resiliency	<ul style="list-style-type: none"> <li>• To what degree minimum service requirements are maintained/protected with back-up systems, spare capacity, or alternative supply.</li> <li>• To what extent the assets are secure from acts of vandalism, trespassing, theft, assault, or terrorism.</li> </ul>	
Environmental Resiliency	<ul style="list-style-type: none"> <li>• To what extent the assets are resilient to environmental stresses; e.g., impacts from wind, fire, flooding, excessive rainfall/snowfall, etc.</li> <li>• To what extent are the assets are made resilient to the impacts of climate change.</li> </ul>	

# AMONTario Levels of Service Strategy

Asset Levels of Service	Predominant Community Service Outcomes					
	Health & Safety	Reliability	Quality	Quantity	Efficiency	Accessibility
Condition	X	X	X	X	X	X
Operational Functionality	X	X	X		X	X
Capacity to Meet Demands	X	X	X	X	X	X
Operational Resiliency	X	X				X
Environmental Resiliency	X	X				X

# AMONTario Levels of Service and Risk Management Strategy

Asset Level of Service and Corresponding Likelihood of Failure							
Condition Levels of Service				Performance Levels of Service			
ALOS Measures	Corresponding Likelihood of Failure Measures			ALOS Measures	Corresponding Likelihood of Failure Measures		
	Likelihood of Failure Ratings	Estimated Timeframe	% Likelihood of Failure		ALOS Rating	Likelihood of Failure Ratings	% Likelihood of Failure
Varies by asset type and rating method.				Operational Functionality			
Very Good to Good	Very Unlikely	>20 yrs.	<10%	Capacity to Meet Demands	Very Good	Very Unlikely	<10%
Good to Fair	Unlikely	11-20 yrs.	10%-30%		Good	Unlikely	10%-30%
Fair to Poor	Possible	6-10 yrs.	30%-60%	Operational Resiliency	Fair	Possible	30%-60%
Poor to Very Poor	Likely	1-5 yrs.	60%-90%		Poor	Likely	60%-90%
Very Poor	Very Likely or Certain	<1 yr.	>90%	Environmental Resiliency	Very Poor	Very Likely or Certain	>90%



# Thanks!

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Session 1: Proposed Levels of Service & Performance  
Part B

Kareem Mostafa, City of Ottawa

# Proposed LOS and performance

*What does the future hold?*



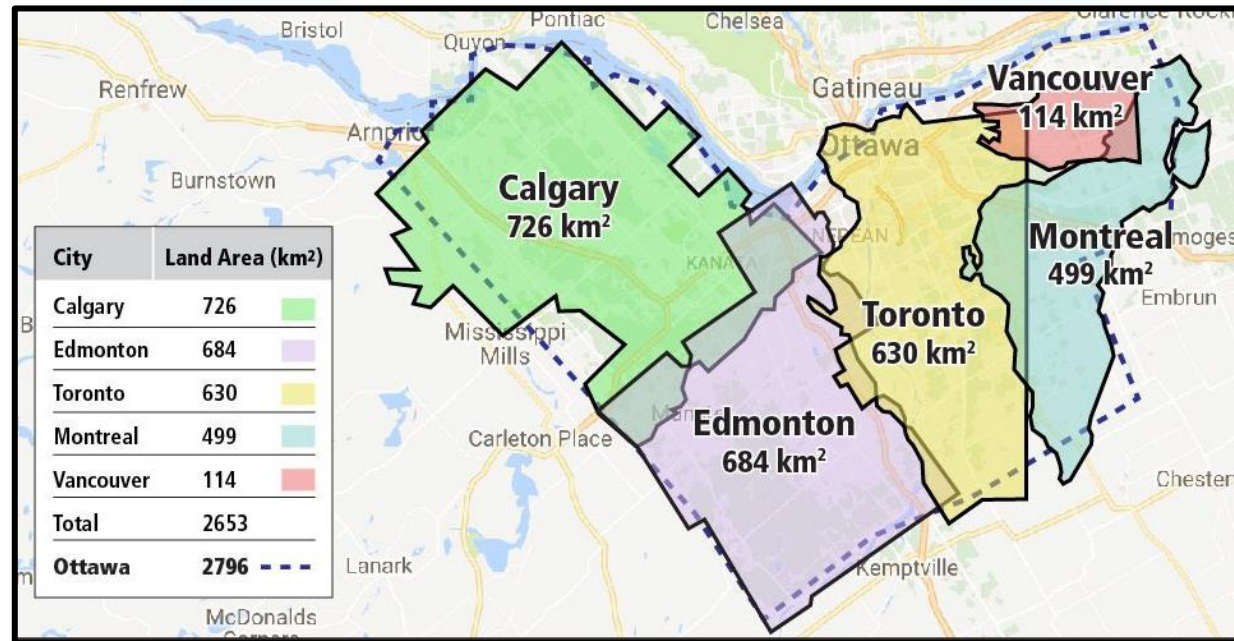
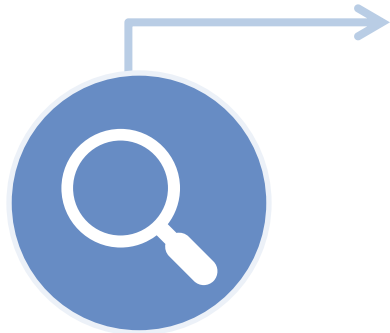
**Kareem Mostafa**

**March 2025**

# City of Ottawa

We own:

- 12,400 lane-kms of roads
- 2,600 kms of sidewalks & pathways
- 8,200 kms of underground pipes
- 6,000 acres of parks
- 9 million sqft of building space





# City of Ottawa: History of Asset Management

## 2001 Amalgamation

*(1 Municipality, 6 Cities, 4 Townships & 1 Village)*

**Long Range  
Financial Plans**  
(v.1 2002 – v.6 2025)

**Various Master  
Plans**  
(i.e. Transportation,  
Infrastructure, etc.)  
(2009 - Ongoing)

**Asset  
Management  
Roadmap**  
(2010)

**Comprehensive  
Asset  
Management  
Program**  
(2012)

**State of the  
Asset Reports**  
(2012 & 2017)

**Strategic Asset  
Management  
Plan (2017)**

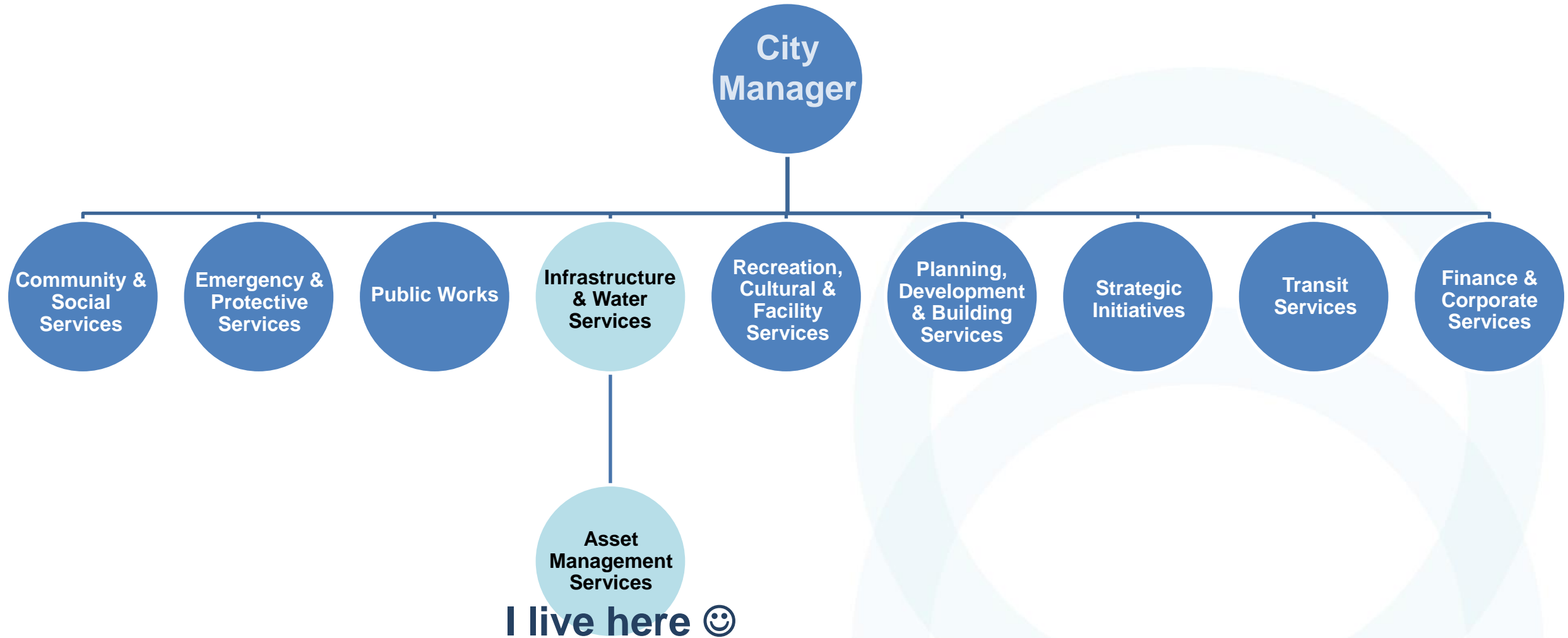
*Following the Introduction of O.Reg. 588/17*

**Core Asset  
Management Plans**  
(2022)

**Non-Core Asset  
Management Plans**  
(2024)

**Core & Non-Core  
Asset Management  
Plan Updates**  
(2025)

# City of Ottawa: Asset Management



# City of Ottawa: Asset Management Plans

**Emergency and Protective Services**  
Asset Management Plan  
May 2024

**Government Services and Information Technology**  
Asset Management Plan  
May 2024

**Drinking Water**  
Asset Management Plan  
March 2022

**Community and Social Services**  
Asset Management Plan  
May 2024

**Library Services**  
Asset Management Plan  
May 2024

**Stormwater**  
Asset Management Plan  
March 2022

**Recreation and Cultural Services**  
Asset Management Plan  
May 2024

**Transit**  
Asset Management Plan  
May 2024

**Transportation**  
Asset Management Plan  
March 2022

**Greenspace and Forest Services**  
Asset Management Plan  
May 2024

**Solid Waste Services**  
Asset Management Plan  
May 2024

**Wastewater**  
Asset Management Plan  
March 2022

# Levels of Service (LOS)



## Proposed LOS

How our assets **should** perform if “we do everything right”



## Expected LOS



How our assets **will** perform given our current financial status

## Current LOS

How our assets are performing right now

# Levels of Service (LOS)

Proposed LOS	Expected LOS
<p>How the assets will perform if we:</p> <ul style="list-style-type: none"> <li>• Do renewals and rehabilitations on time</li> <li>• Achieve other municipal targets on time</li> </ul>	<p>How the assets will perform if we:</p> <ul style="list-style-type: none"> <li>• Do the best we can with the money we have</li> </ul>
Unconstrained	Constrained
“Aspired” Performance	“Forecasted” Performance
Discussed under <b><i>Levels of Service</i></b>	Discussed under <b><i>Funding Analysis</i></b>

# Levels of Service (LOS)

## How to Calculate *Proposed* LOS

**1) Proposed LOS = Target Set by another municipal legislation or plan**

E.g., Ottawa is set to reach zero GHG emissions by 2050

E.g., Paramedic response time, Water quality metrics

# Levels of Service (LOS)

## How to Calculate *Proposed* LOS

**2) Proposed LOS = The results from an unconstrained lifecycle modelling**

E.g., The proposed average condition for facilities after performing all Building Condition Audit (BCA) suggestions

# Levels of Service (LOS)

## How to Calculate *Proposed* LOS

### 3) Proposed LOS = maintain or improve current LOS

Only use when methods 1 and 2 are unavailable

Qualitative narrative

E.g., number of road collisions per 100,000 people



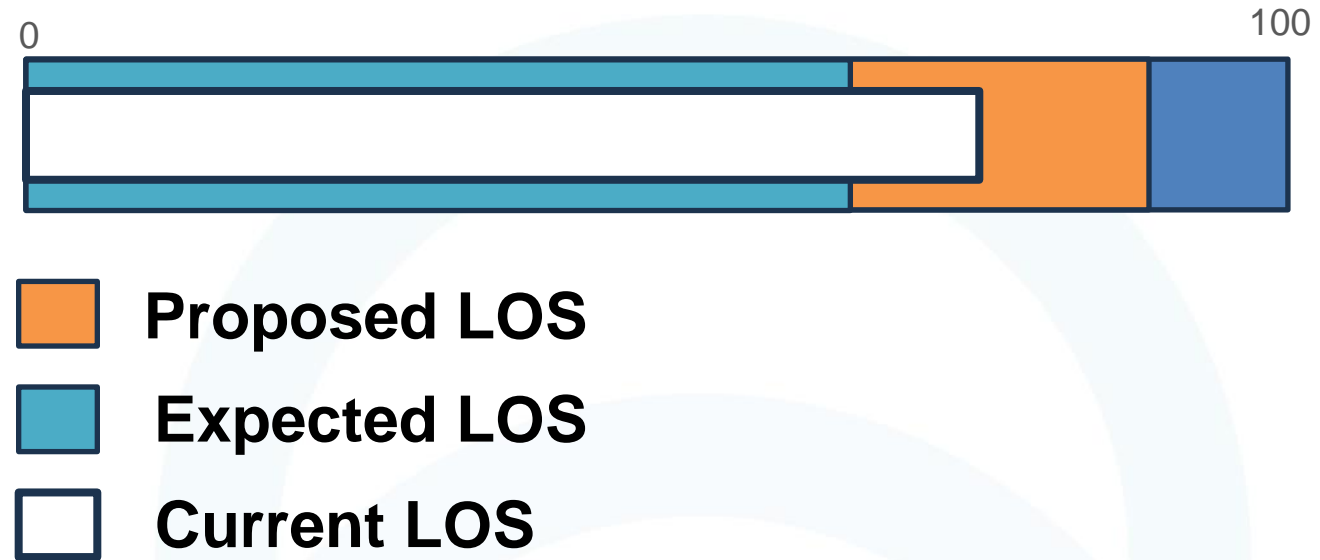
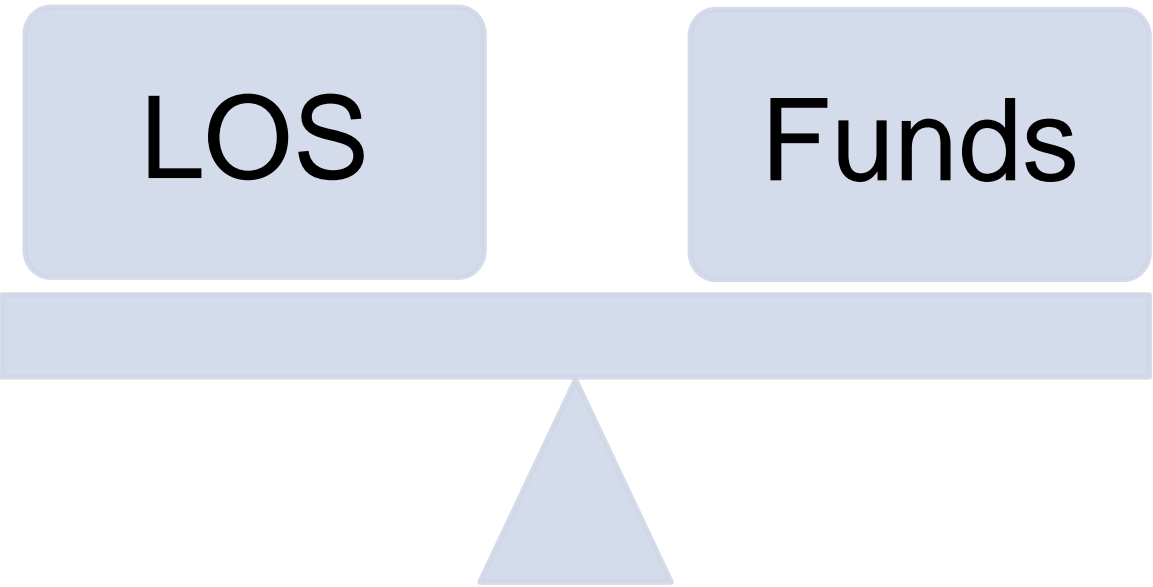
# **Levels of Service (LOS)**

## **How to Calculate *Expected* LOS**

**Existing financial forecasts  
(e.g., Budget, Long Range Financial Plans)**

**Funding-constrained Lifecycle Modelling**

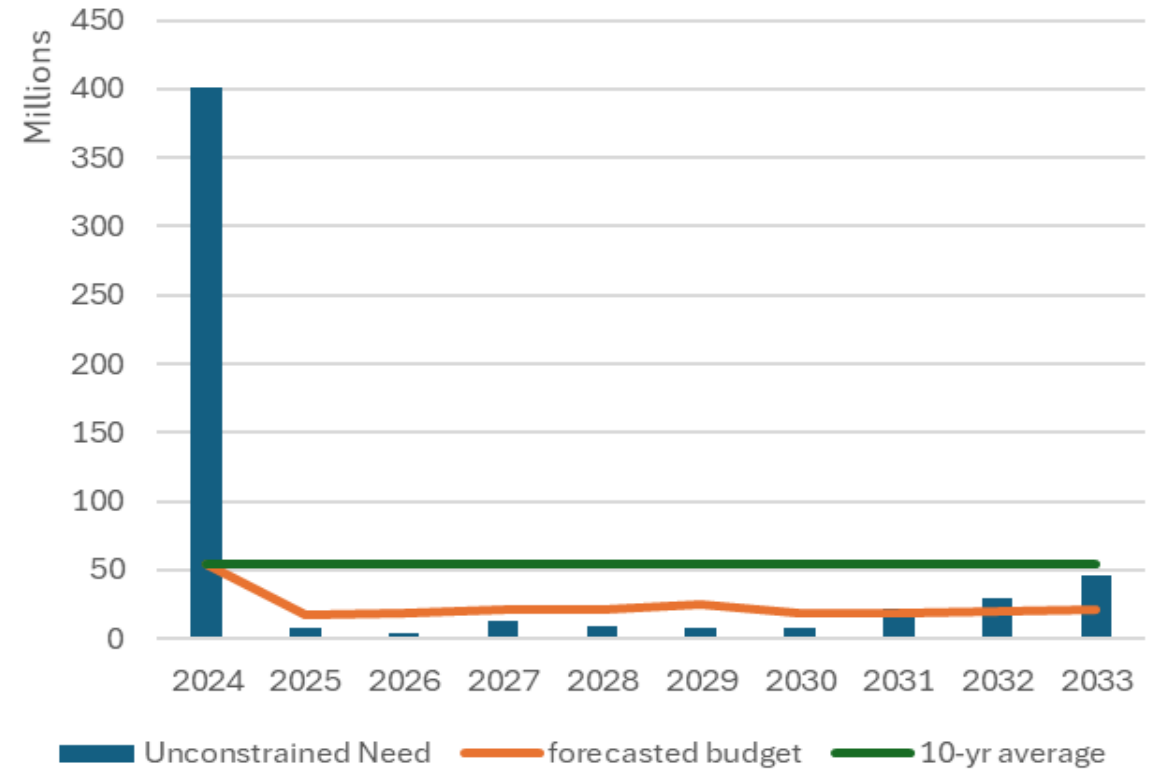
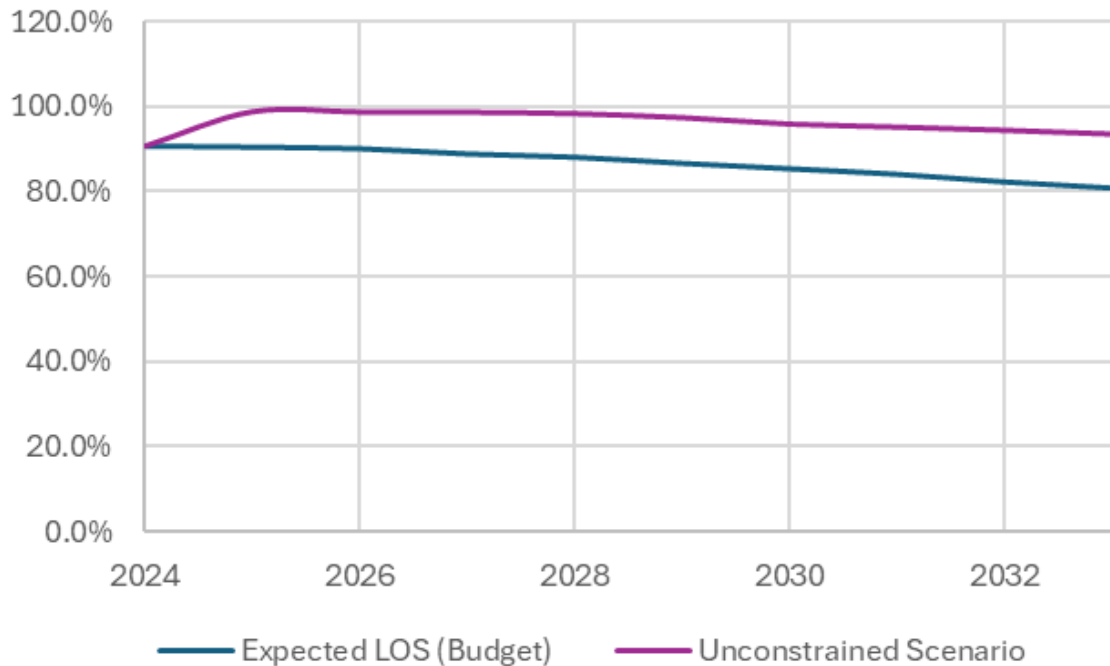
# Levels of Service (LOS) Tying them all together



How much does it cost to reach our *proposed* LOS?  
What is the LOS we *expect* to achieve with our budget?

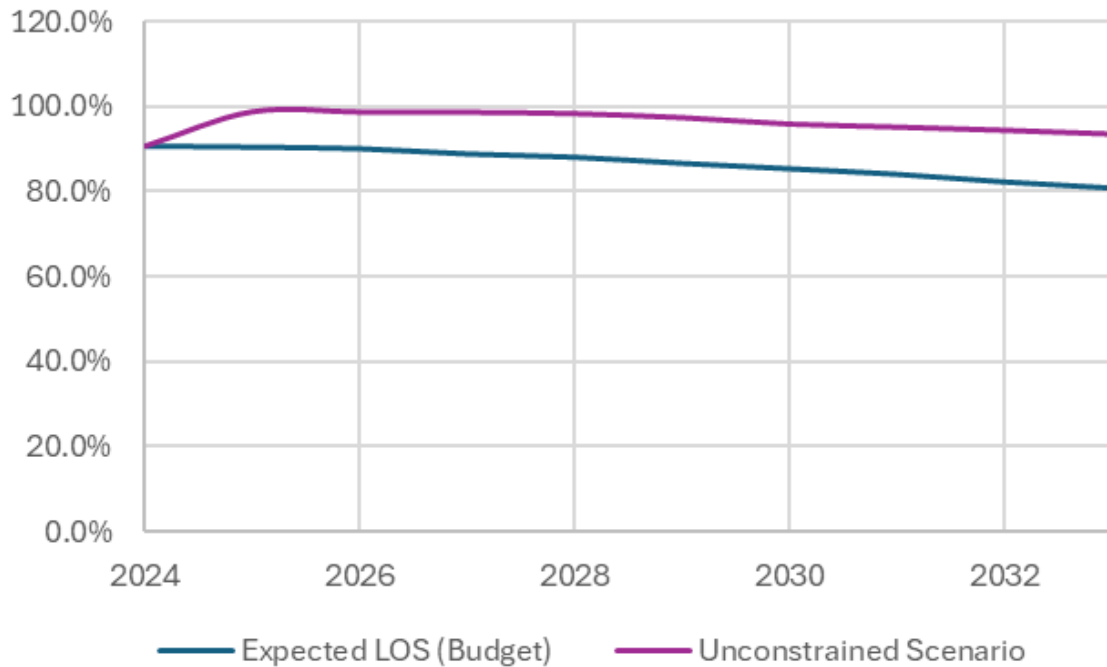
# Levels of Service (LOS) Tying them all together

Level of Service (% Fair or Better)

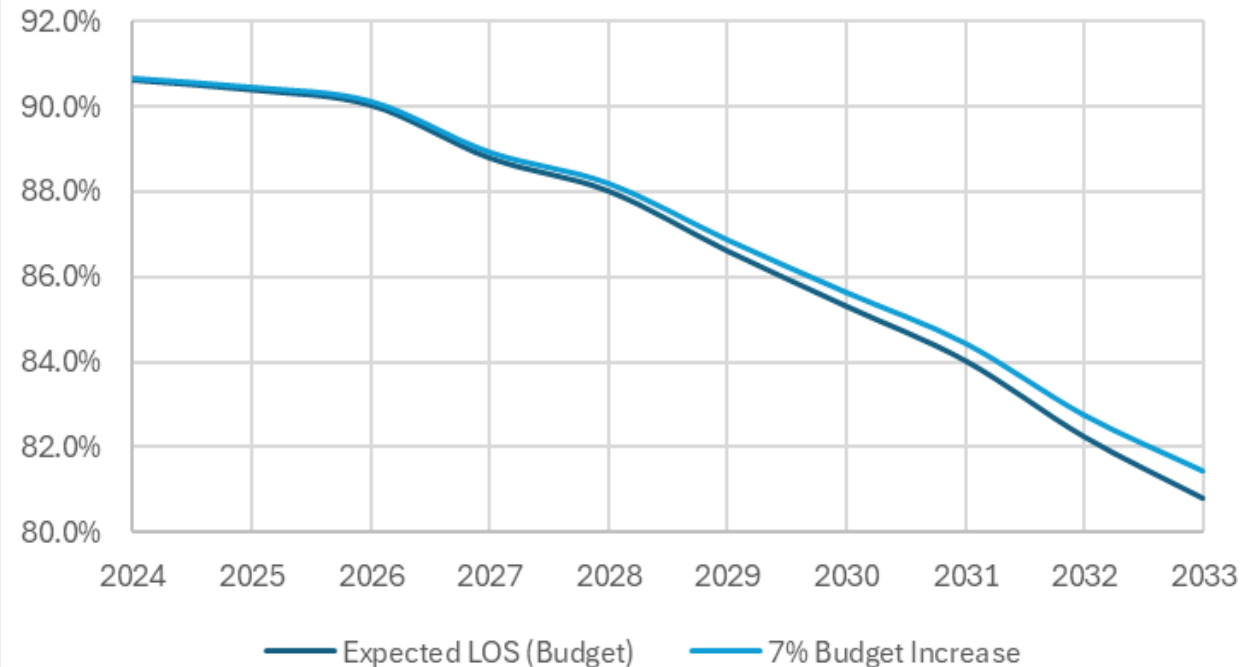


# Levels of Service (LOS) Tying them all together

Level of Service (% Fair or Better)



Level of Service (% Fair or Better)



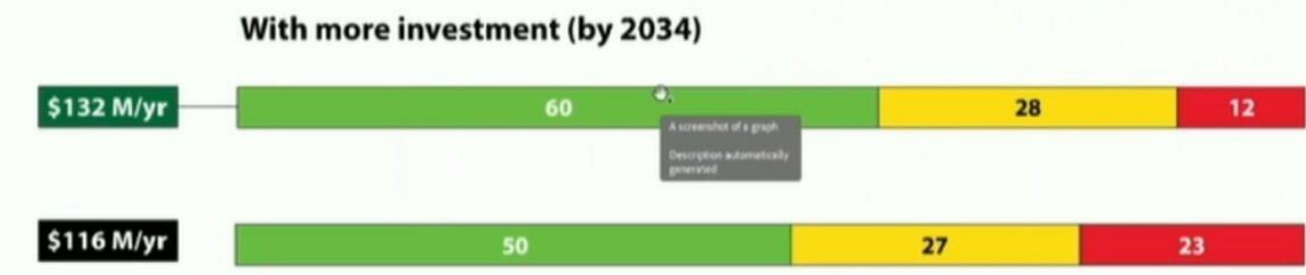
# Levels of Service (LOS)

## Tying them all together

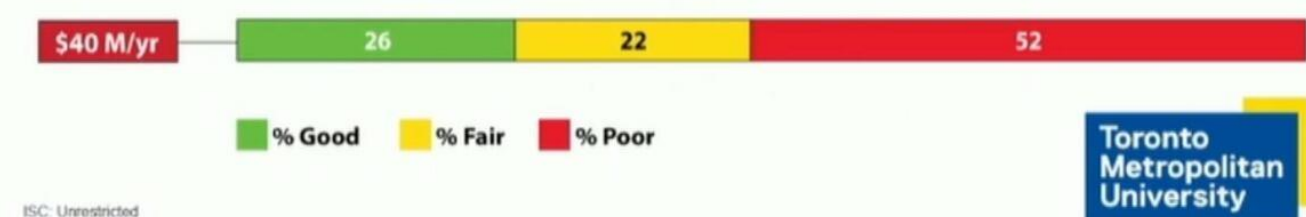
Current LOS



Proposed LOS



Expected LOS



Source: [Report suggests \\$40 million a year isn't enough to keep up with Calgary road deterioration | CBC News](#)

# Levels of Service (LOS) Areas for Improvement

- Rely more on methods 1 and 2 for Proposed LOS
- Revisit and update the lifecycle models
- Be more able to cost the different LOS
- Review LOS performance levels for other municipalities

# Levels of Service (LOS) Tying them all together

## **Proposed LOS**

The future we wish for

## **Expected LOS**

The future we can achieve

# Questions/thoughts?



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