

# Corporate Asset

# Management

## It's a Way of Business

Leanne Brannigan, Manager  
Corporate Asset Management  
Region of Peel



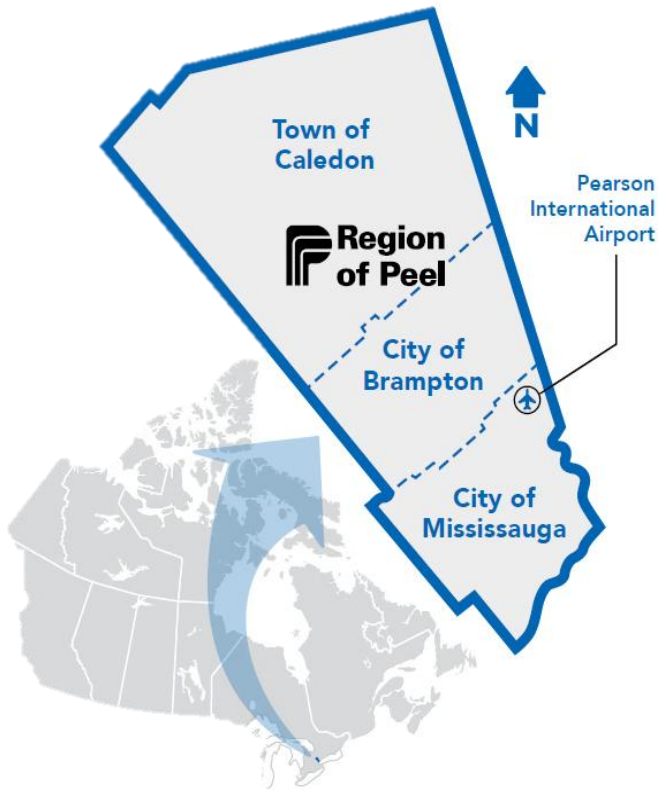
# Agenda

- Asset Management at Peel
- Connecting Levels of Service, Lifecycle and Risk
- What can you do with the information?
- Reporting
- Workshop Activity 1
- Workshop Activity 2
- Wrap-up and Key Takeaways



# The Region of Peel

- 1.3 million people
- Over \$27B in capital assets:
  - Water & Wastewater vertical & linear assets
  - Roads Infrastructure
  - Waste Management Processing
  - Long Term Care Centres
  - Paramedic Stations
  - Heritage Museum & Art Gallery
  - Affordable Housing
  - Regional Administration Offices
  - Works Yards
  - Shelters
  - Child Care Centres



# Role of CAM?

## 1. Ensure consistency of organizational Asset Management (AM) practices

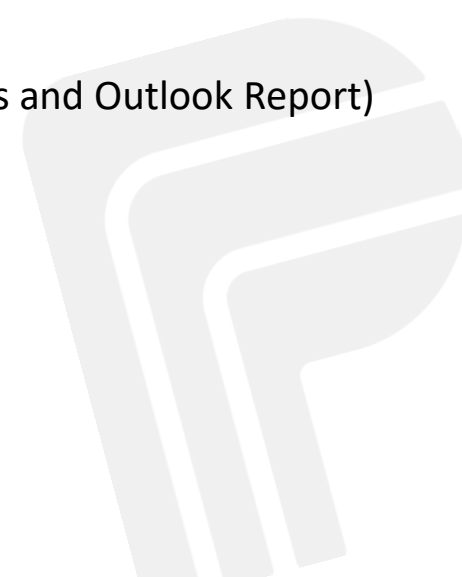
- Maintain AM Policy
- Levels of Service Strategy
- Risk Management Strategy
- Life Cycle Strategy

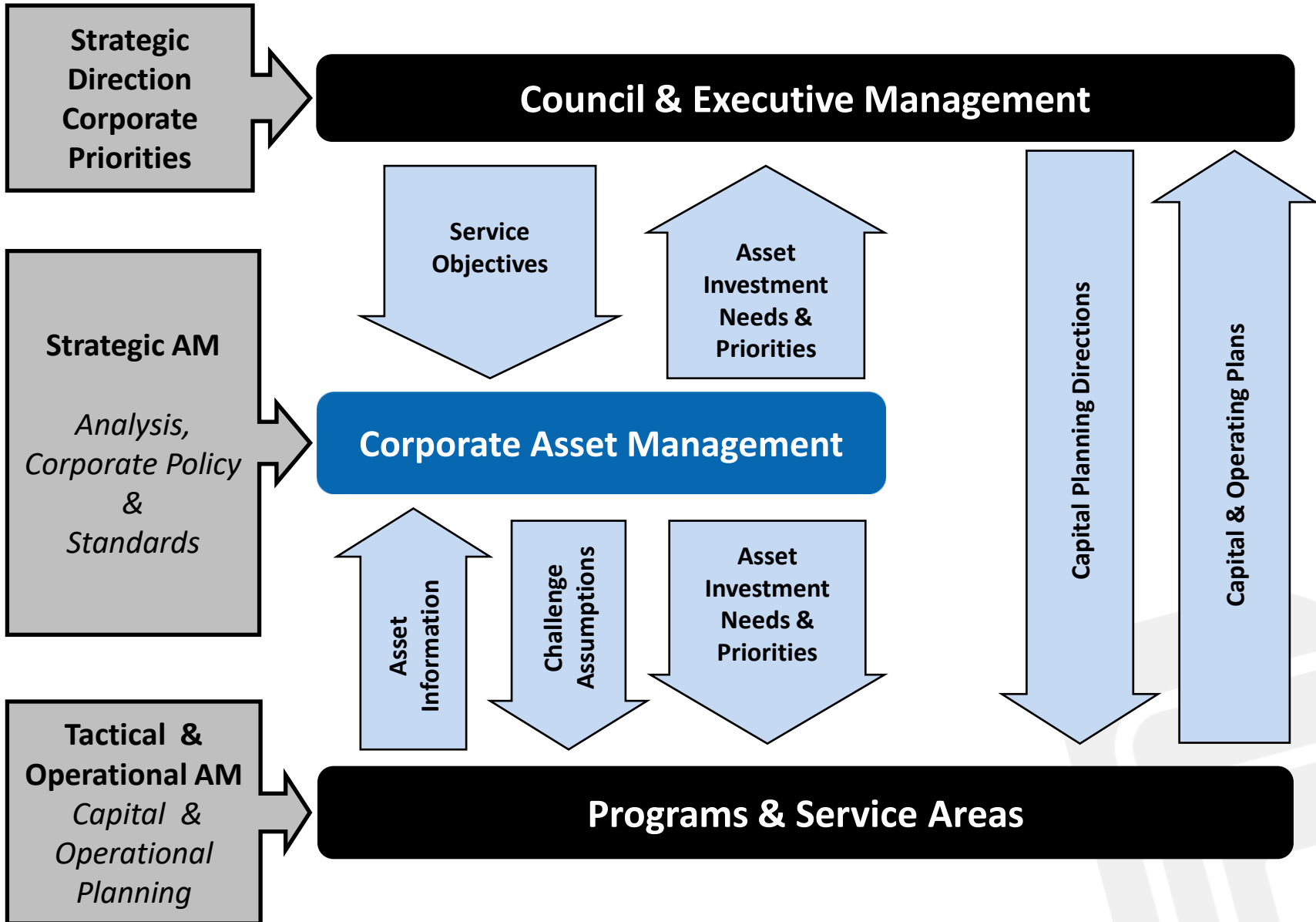
## 2. Strategic evaluation of infrastructure needs & priorities

- Investment needs
- Infrastructure priorities & risks
- Reporting
  - Internal (Pre & Post ISR's and AMIPs)
  - External (Enterprise Asset Management Plan, Infrastructure Status and Outlook Report)
  - Ad Hoc reports

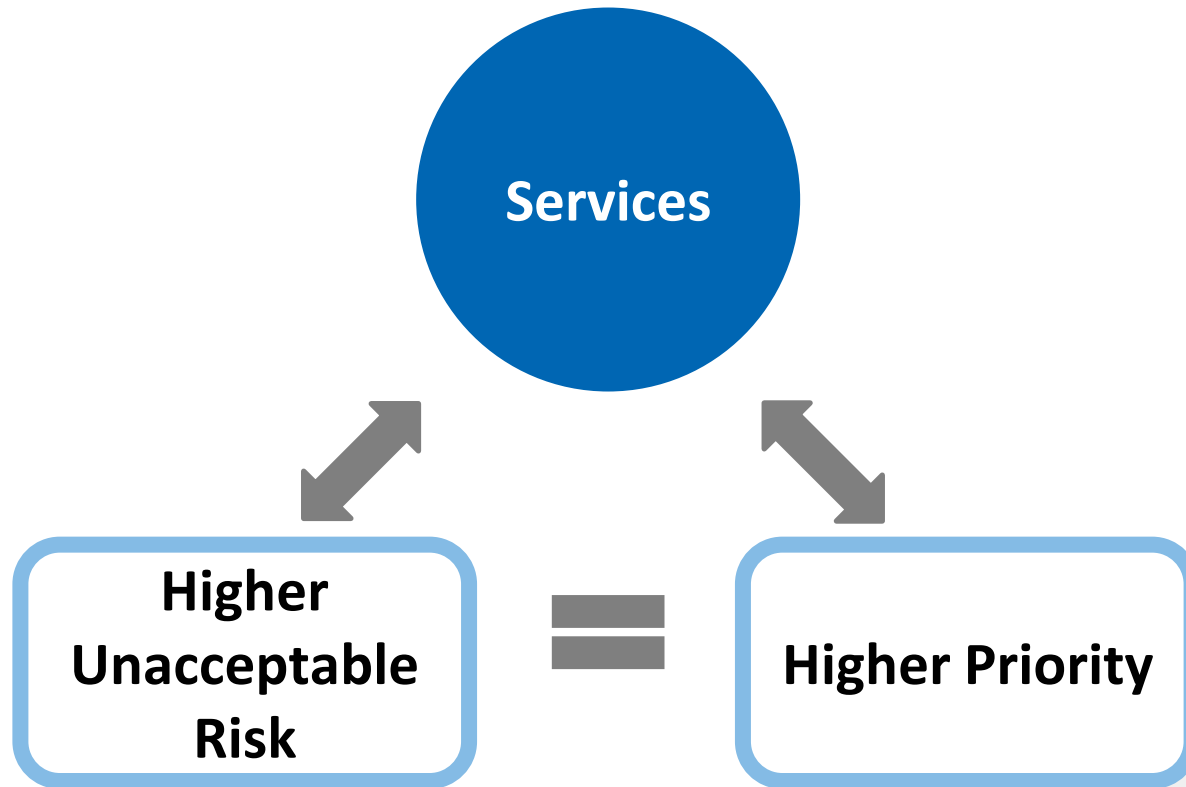
## 3. Corporate “challenge” function

- Are Programs investing in the right areas/right levels?
- Appropriate levels of service/risks?
- Appropriate asset management planning?
- Is data sufficient/accurate?



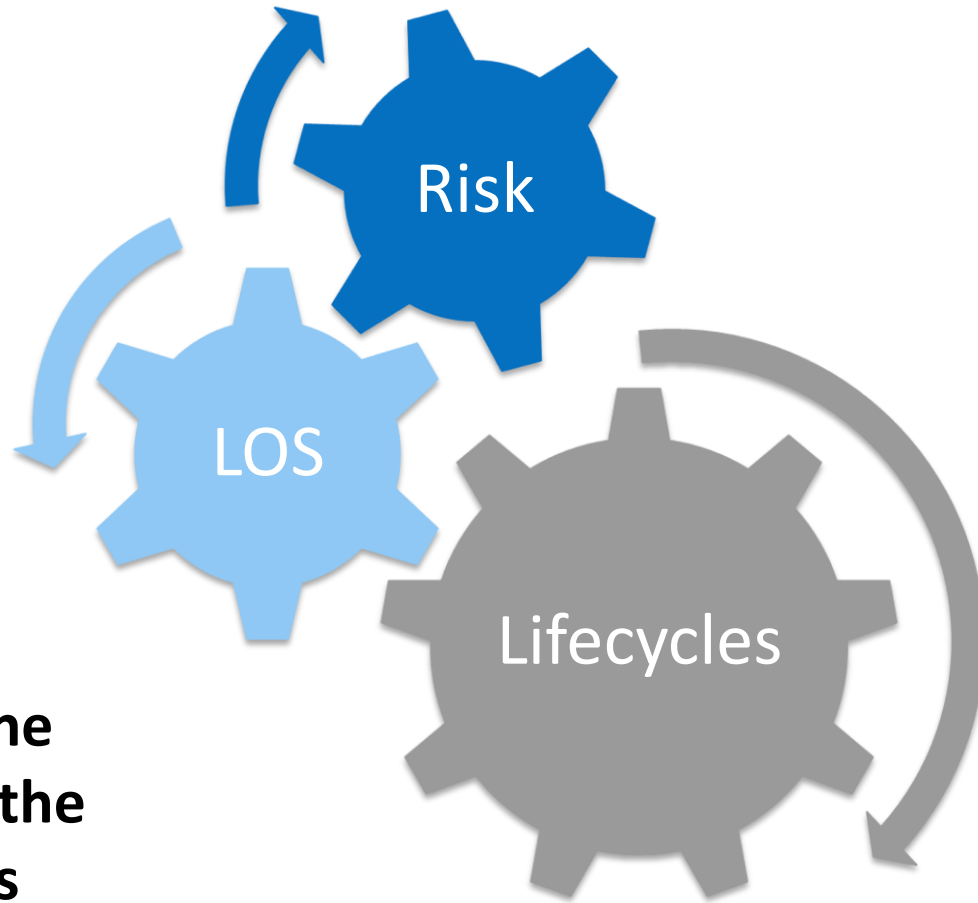


# How Does it Work?

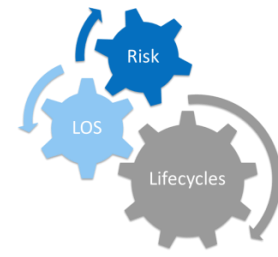


We only own assets to support the delivery of services!  
“Critical” assets are not necessarily the highest priority if their level of risk is acceptable.

# Asset Management Strategy: Making the Connections!



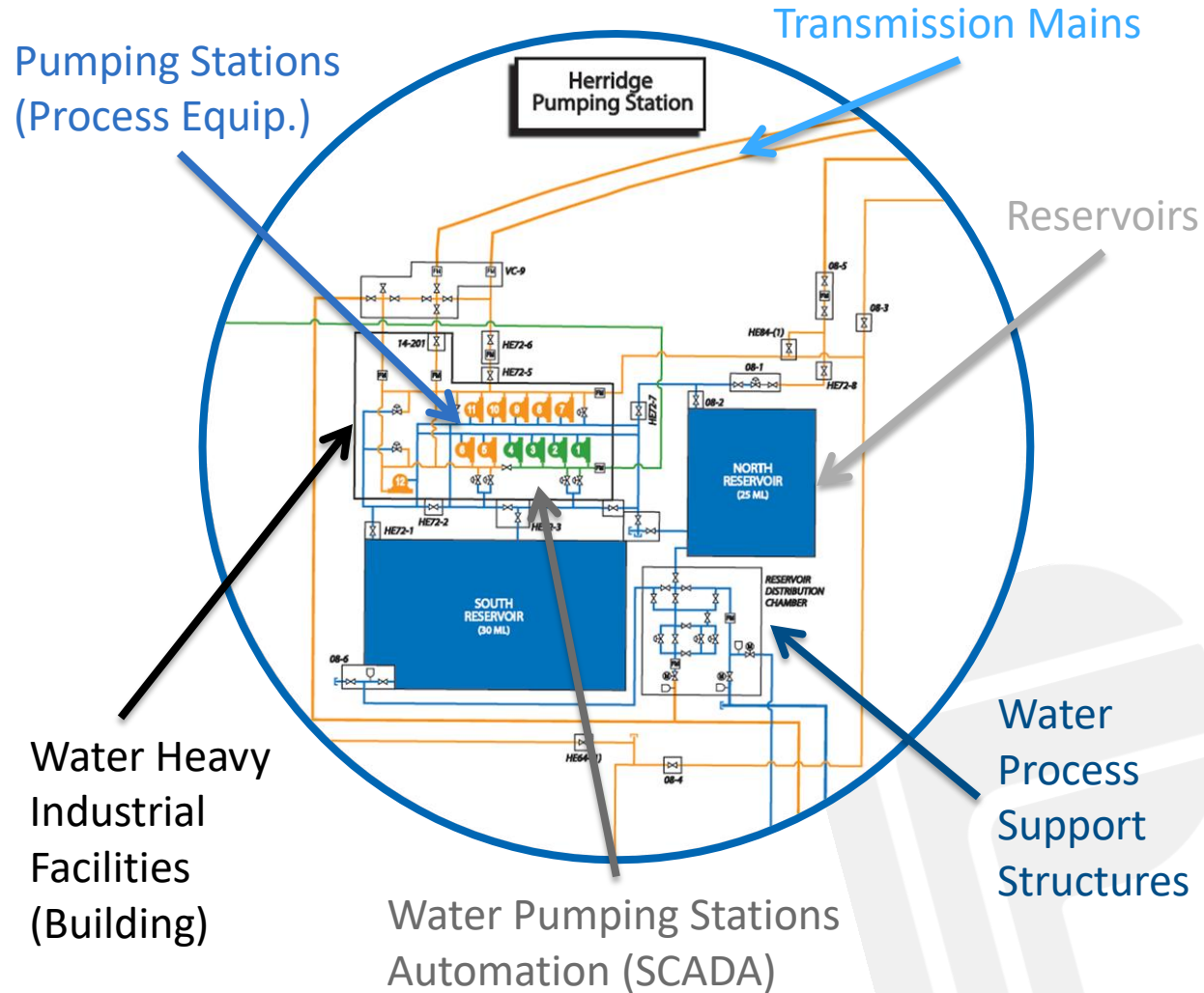
**Each One  
Impacts the  
Others**



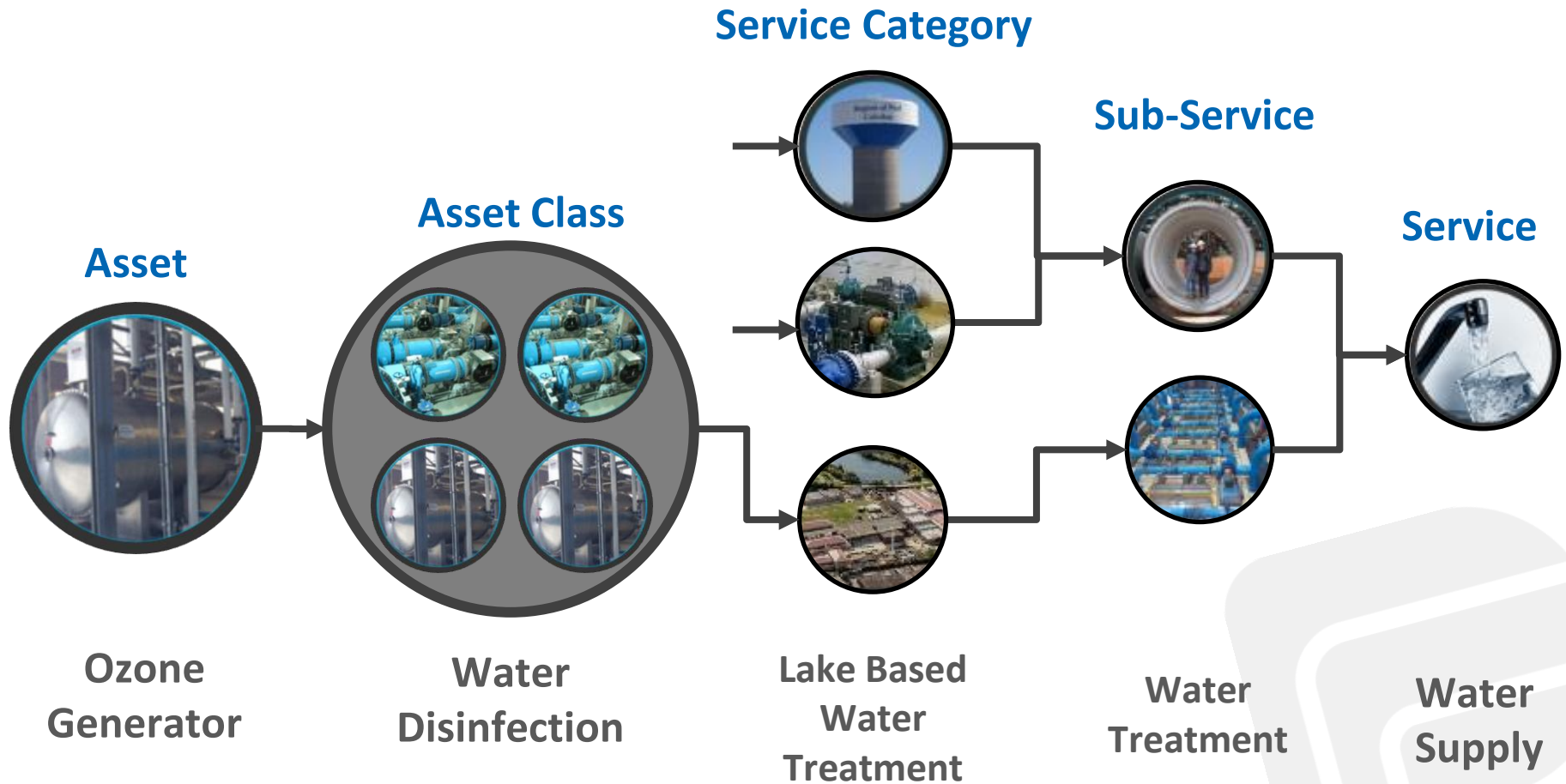
# Asset Classes

A group of Assets which share:

- Similar levels of Risk to Service
- Level of Service metrics



# Asset Management Hierarchy





# Levels of Service

## **Customer Levels of Service (CLOS)**

Describes what a Customer expects from a service.

## **Asset Levels of Service (ALOS)**

What is required of an Asset to provide the CLOS.

A specific measure.

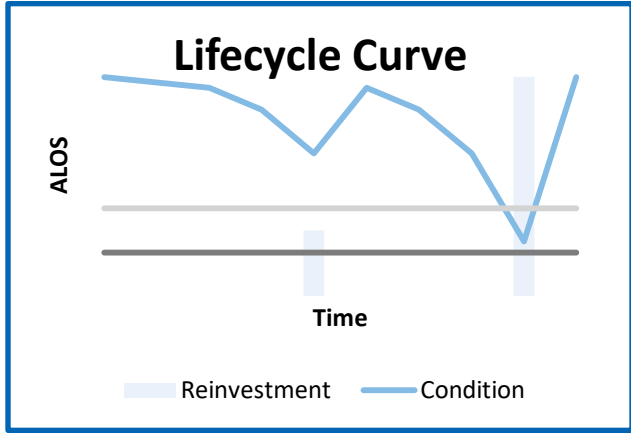
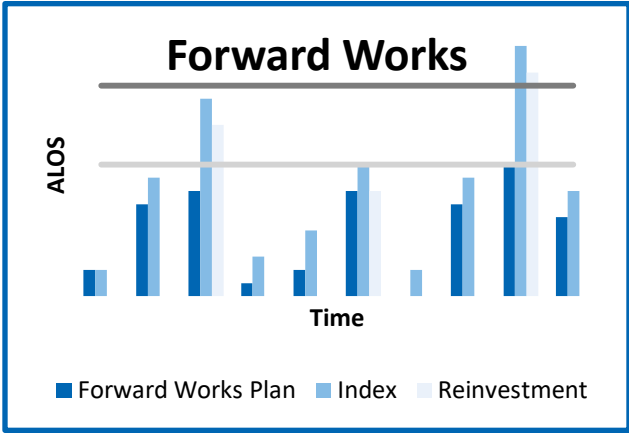
Condition based or Performance based.

**ALOS are endorsed by Council**

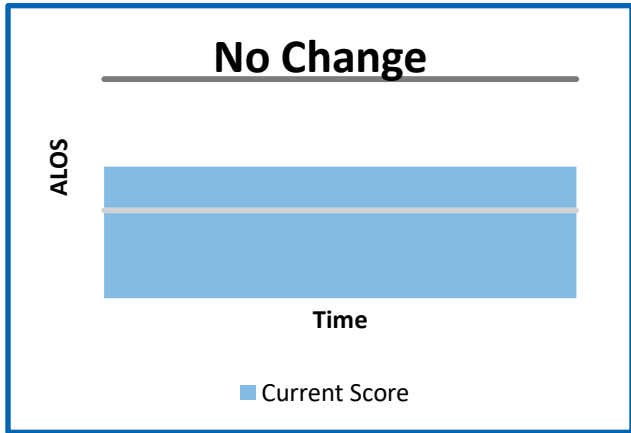
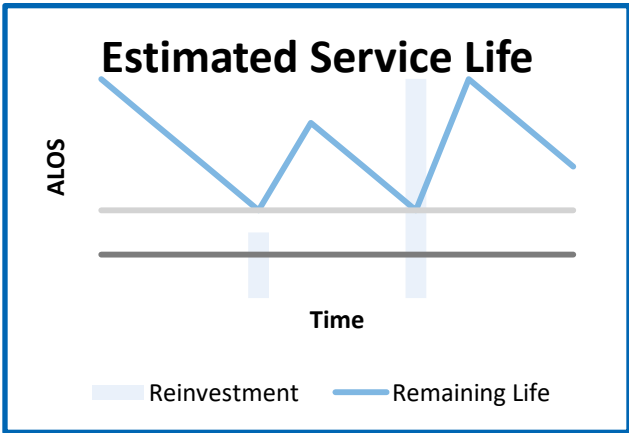




# LOS and Lifecycle Types



— ALOS Target — ALOS Failure





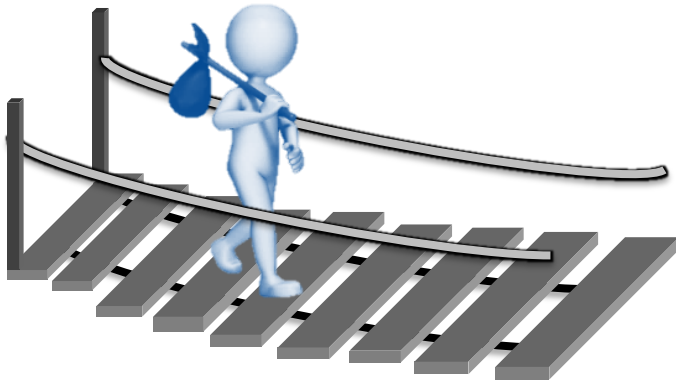
# Risk Boundaries



Consequence



Probability



## Residual (Target) Risk

Reasonable Mitigation in place  
Asset is Meeting ALOS Targets

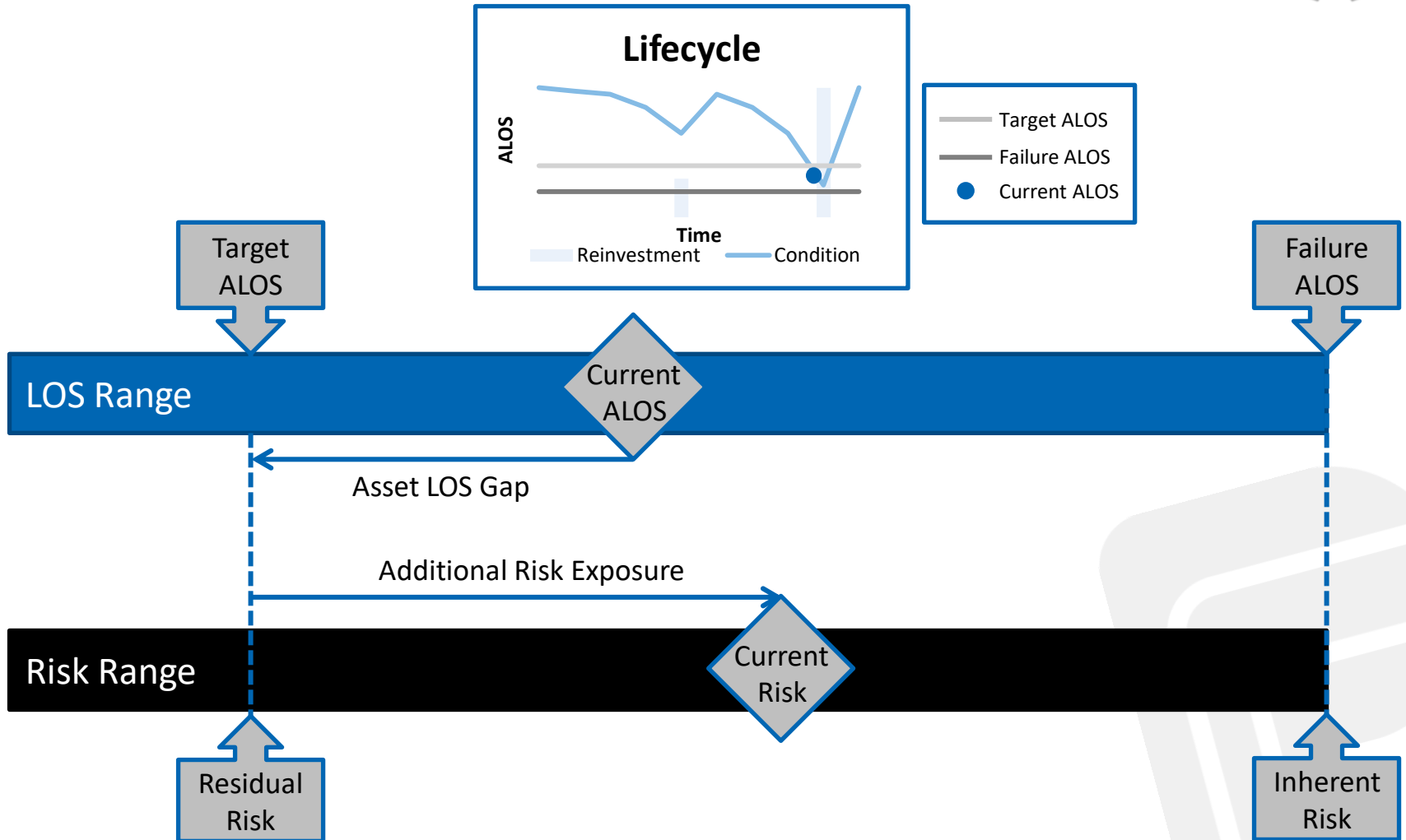
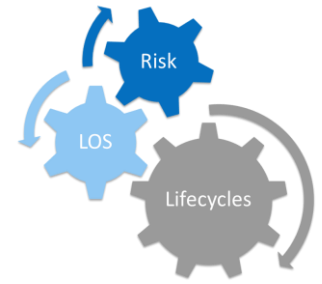
**Min. Asset Risk to Service**

## Inherent (Max) Risk

No Risk Mitigation in place  
Asset is Failing ALOS Targets

**Max. Asset Risk to Service**

# Lifecycle, LOS, & Risk



# What does this do for you?

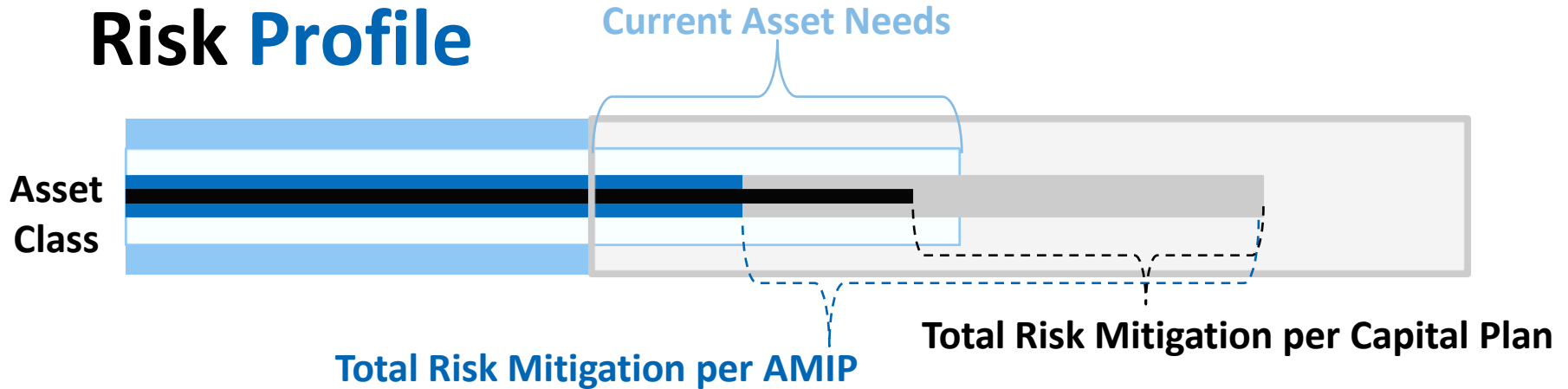
## Interpreting the risks



**Asset Levels of Services**

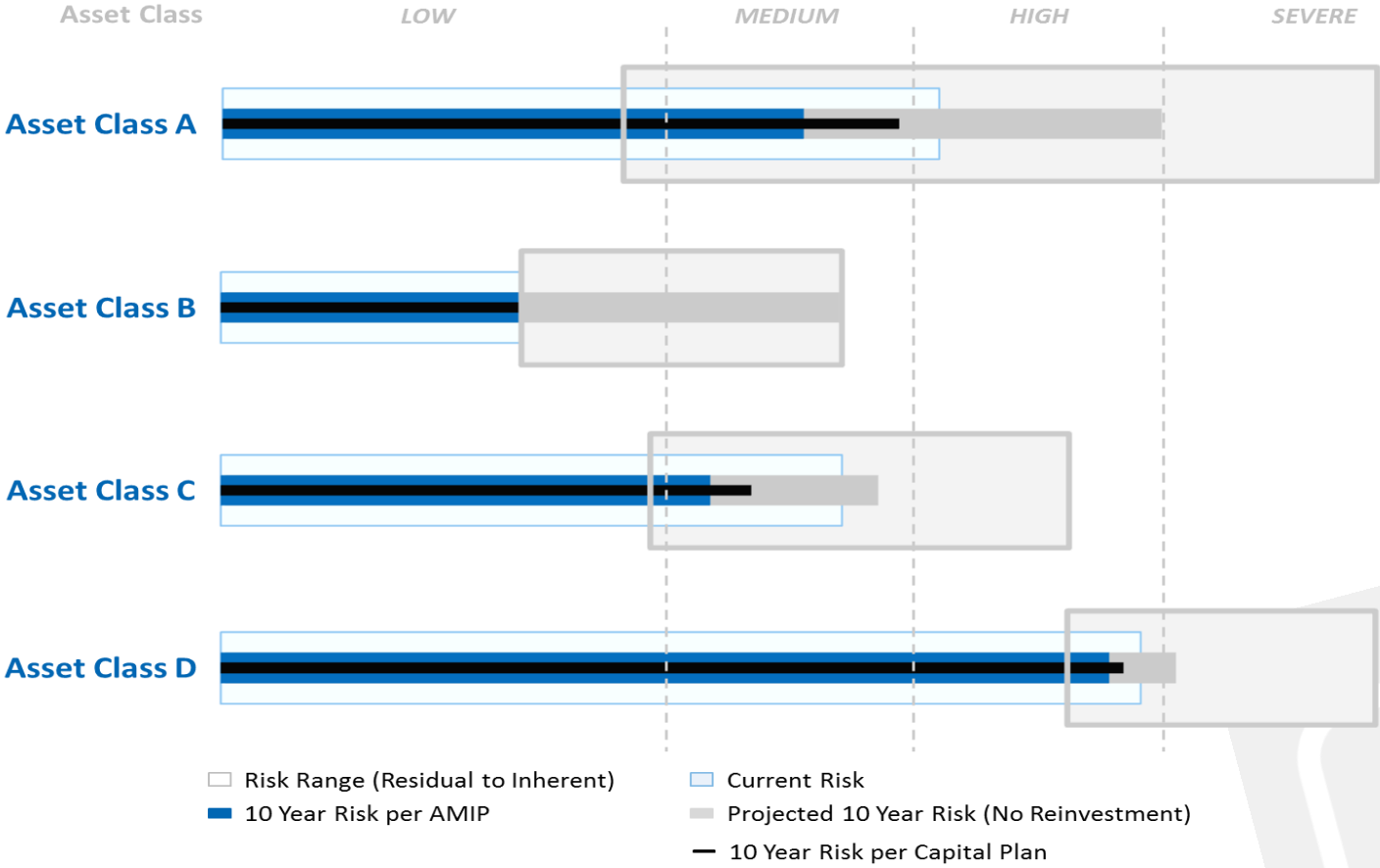
Each One  
Impacts the  
Others

# Risk Profile



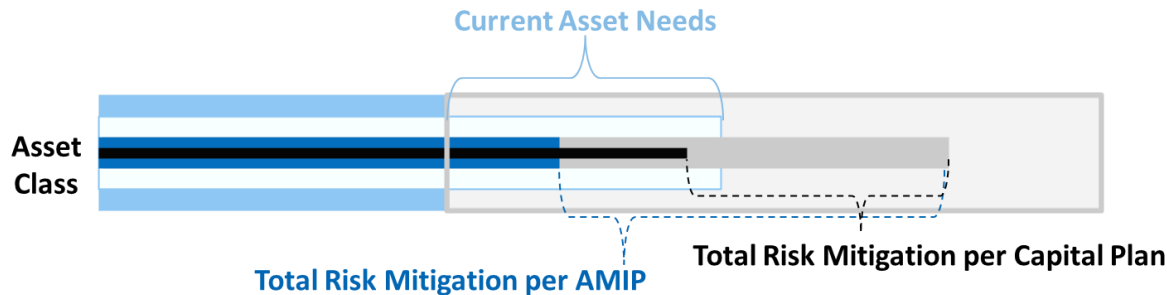
- Inherent (Unmitigated) Risk** – Maximum estimated level of risk. No ALOS controls.
- Residual (Target) Risk** – Desired risk after implementing all Practical ALOS controls.
- Risk Range** (Inherent to Residual) – The Range of risk achievable through varying levels of ALOS controls.
- Current Risk** – Estimated level of risk under Present level of ALOS controls.
- Projected 10-Yr Risk (No Reinvestment)** – Forecasted level of risk in 10 years assuming no capital reinvestment in ALOS controls.
- 10-Yr Risk per AMIP** – Forecasted level of risk in 10 years assuming the recommended capital reinvestments in the Asset Management Investment Plan are implemented.
- 10-Yr Risk per Capital Plan**- Forecasted level of risk in 10 years assuming the reinvestments in the Capital Plan are implemented.

# Comparing Risk Profiles



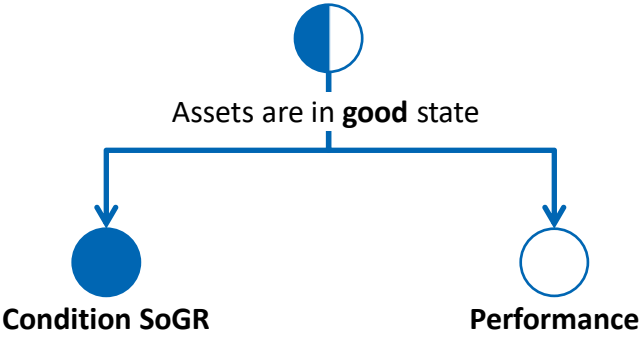
# The Metrics

- Most relate directly to portions of our risk profile



- Can be rolled up (organizational risk)
- Are comparable across programs and diverse assets
- Derive from program data and modelling

# Infrastructure Risk Management Scores



**Very Good State** – Almost all assets in the portfolio are achieving the desired targets.



**Good State** – Most asset in the portfolio are achieving the desired targets.



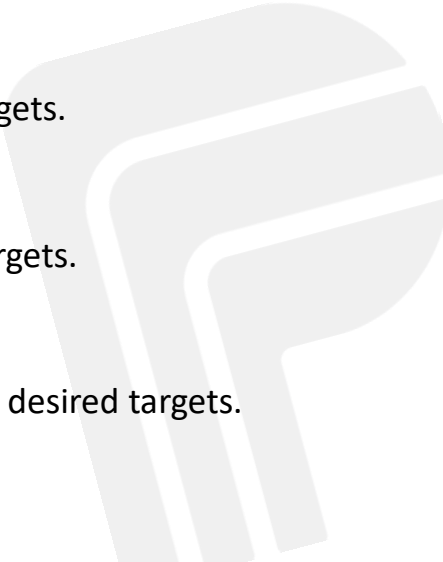
**Fair State** – Many asset in the portfolio are not achieving the desired targets.



**Poor State** – Most asset in the portfolio are not achieving the desired targets.

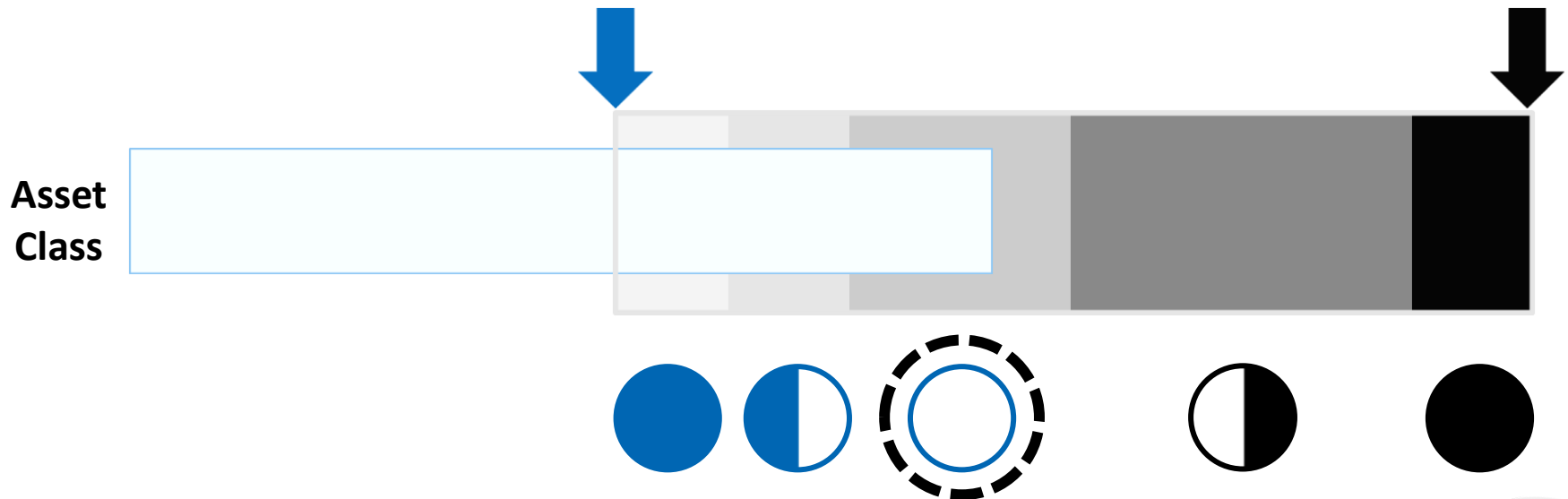


**Very Poor State** – Almost all assets in the portfolio are not achieving the desired targets.



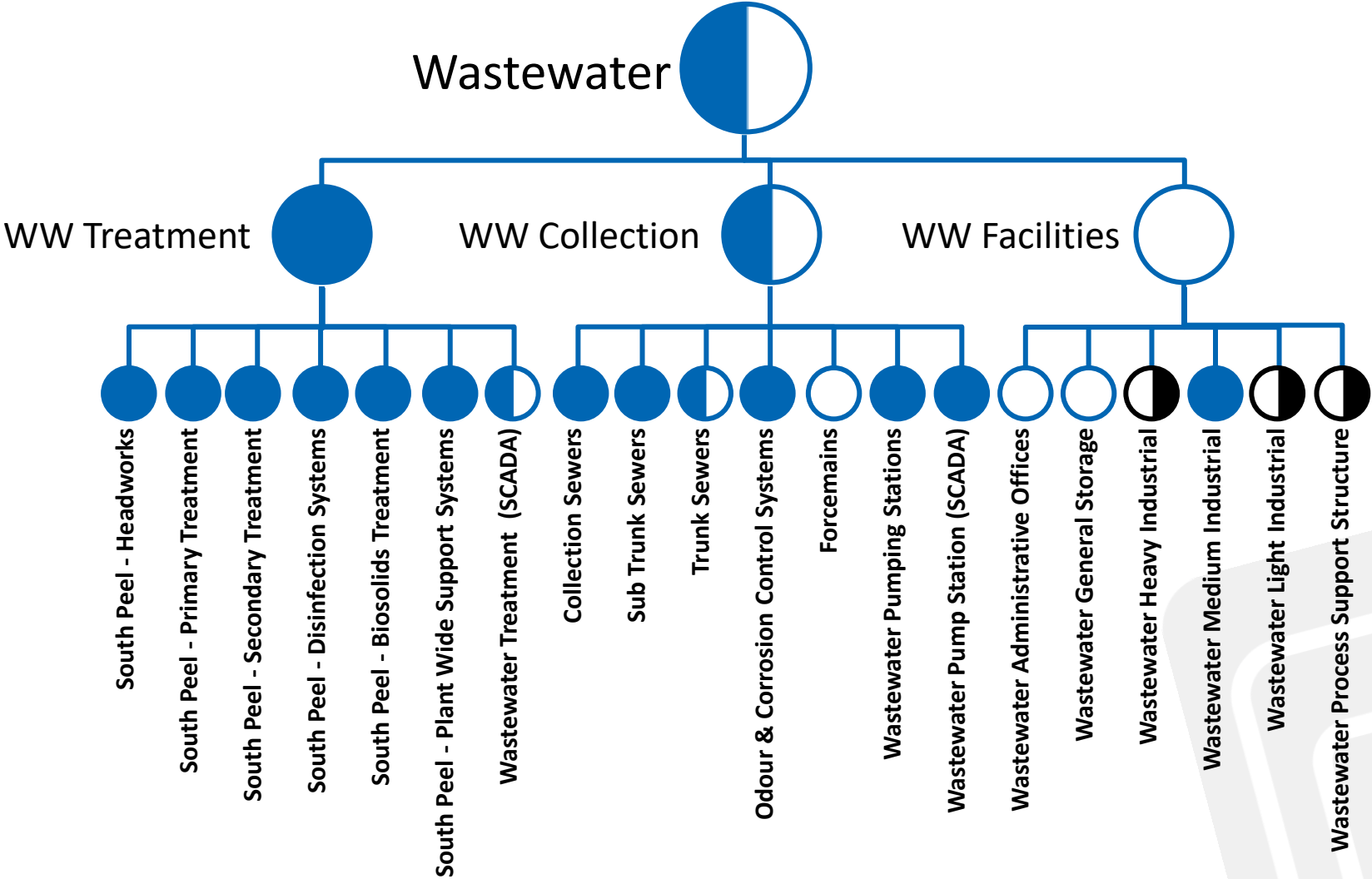
# Risk Profile

## Risk Management Score Connection

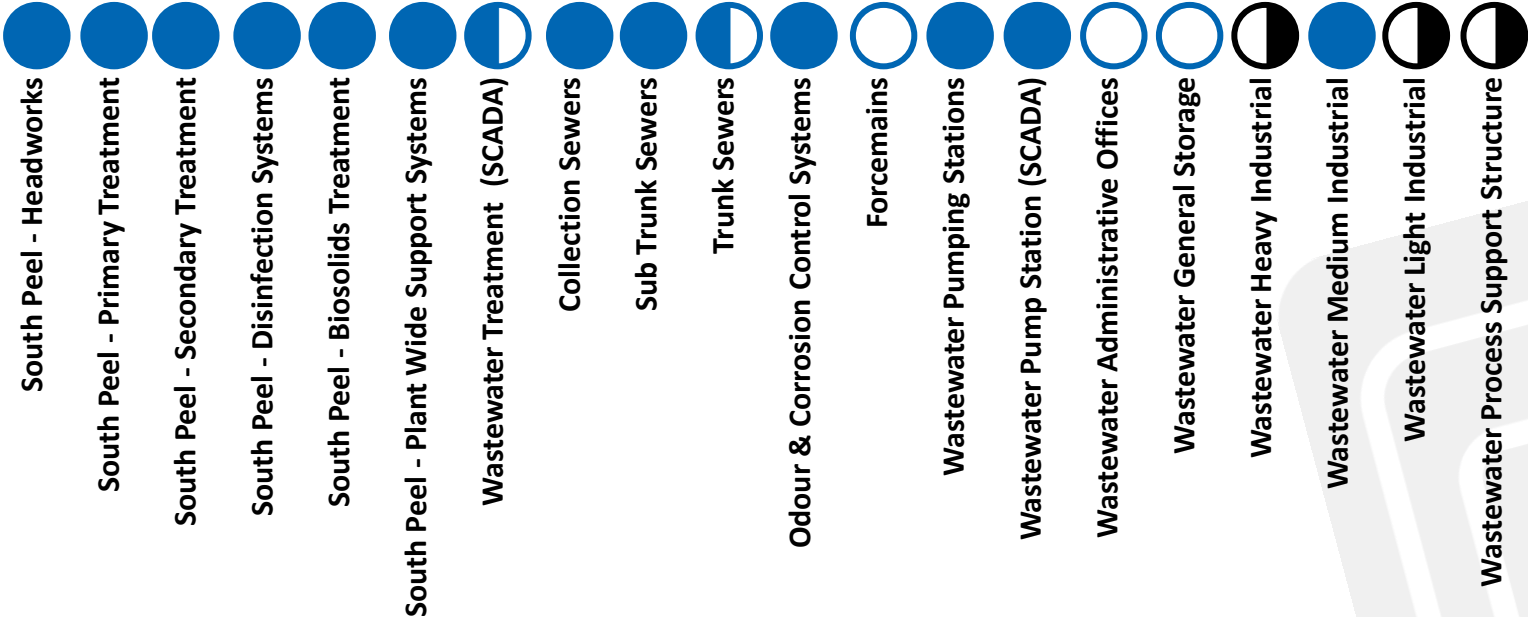
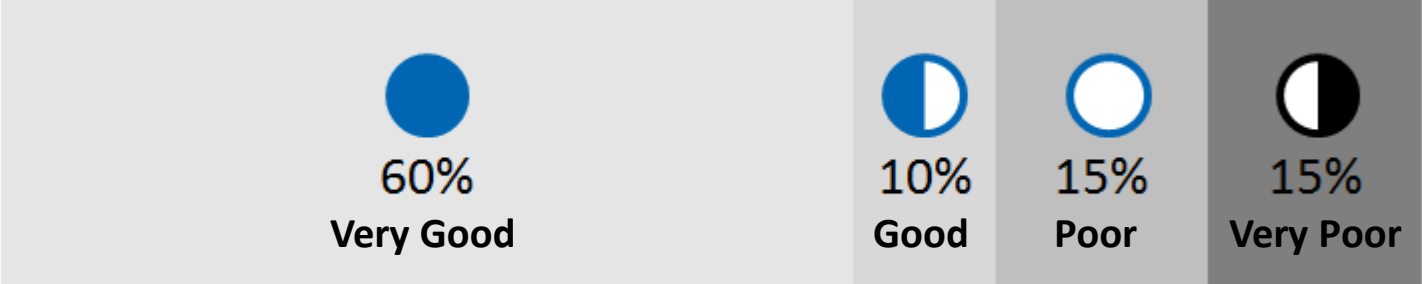


- ↓ Inherent (Unmitigated) Risk – Highest Estimated level of risk. No ALOS controls.
- ↓ Residual (Target) Risk – Desired risk after implementing all practical ALOS controls.
- Risk Range – (Residual to Inherent)
- Current Risk – Estimated level of risk under present level of controls.

# Rolling Up Scores

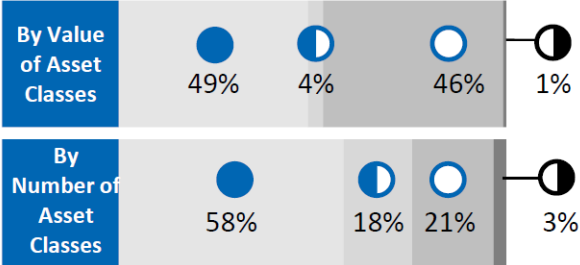


# Score Distribution

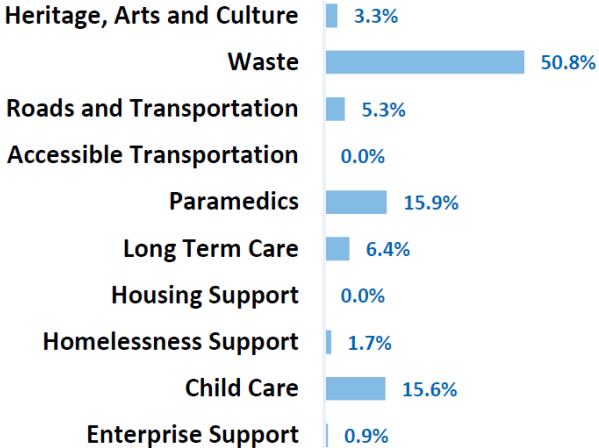


# Other Internal Metrics

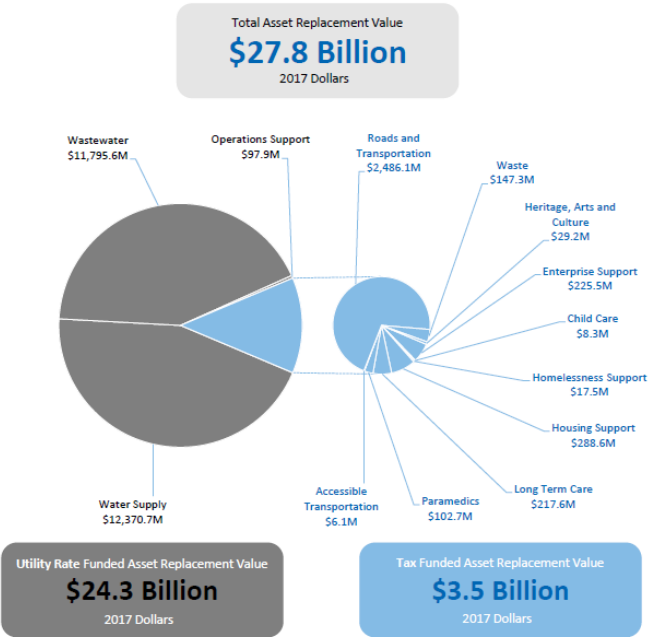
## Score Distribution



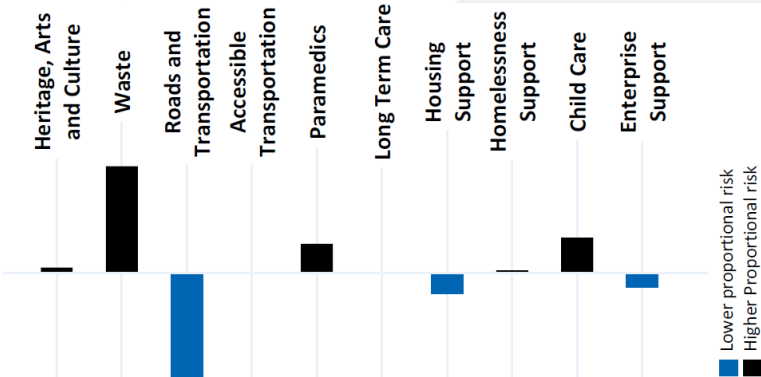
## Distribution of Surplus Risk



## Value of Infrastructure

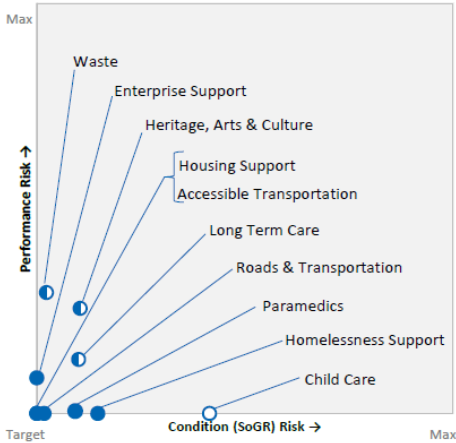


## Risk as a Proportion of Asset Value

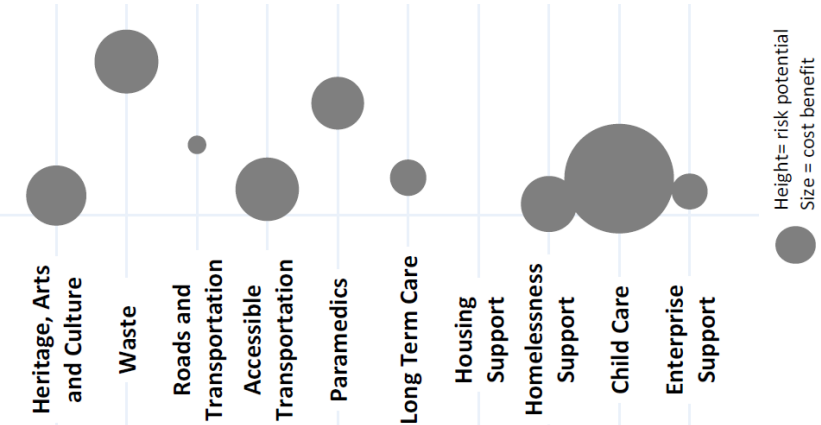


# Other Internal Metrics

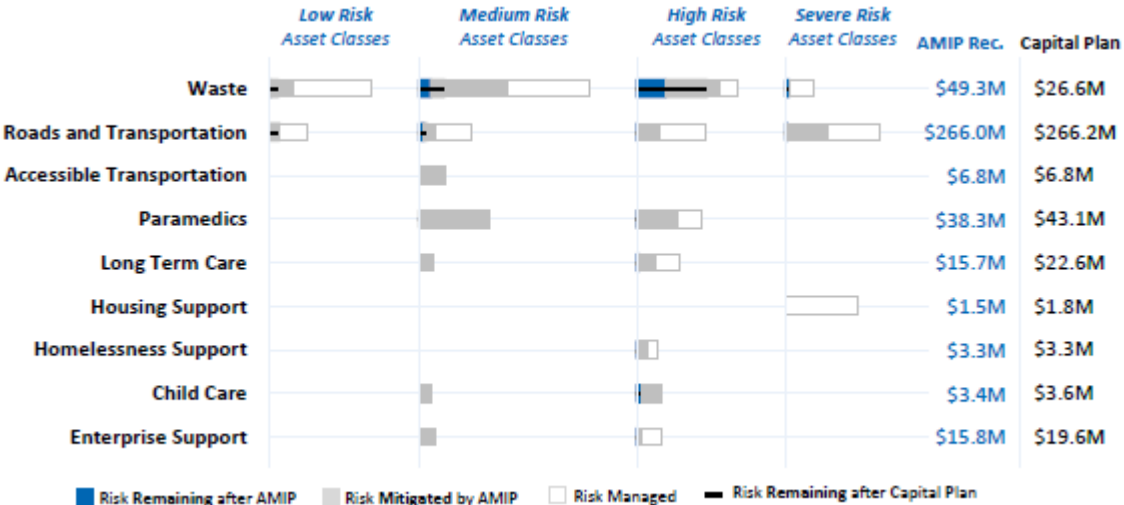
### Risk Map



### Potential Risk Reduction per \$ of Investment

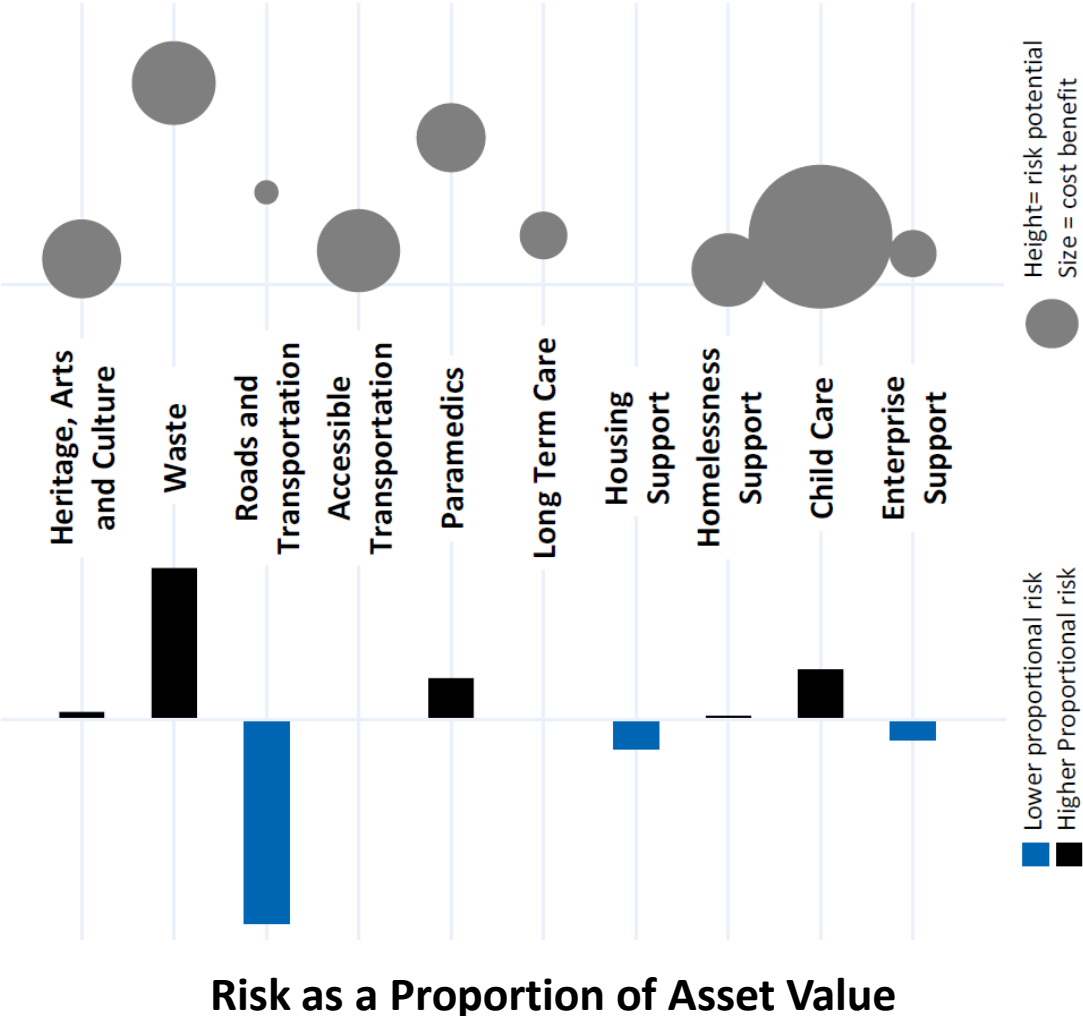


## Infrastructure Risk to Services



# Other Internal Metrics

Potential Risk Reduction per \$ of Investment



# Non-Risk Metrics

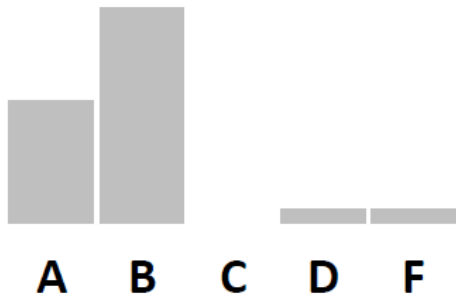
## SoGR Reinvestment Outlook



## AMIP SoGR Recommendation

- Yr 1-10 (\$15.7M)
- Yr 11-20 (\$10.0M)

## Condition SoGR Score Distribution



- A** New or like new condition
- B** In a good state of repair
- C** Some non-critical defects; some critical repairs in the near term
- D** Some critical defects; many critical repairs in the near term
- F** Many critical defects; immediate repair or replacement

# Reporting



A large, bold, black quotation mark icon consisting of two curved shapes facing each other.

The best way to build momentum  
and create a movement is to tell a  
Good Story!

Daron Roberts

# Telling the Story: Ask Yourself

- What do they **NEED** to know?
- What do they **WANT** to know?
- How can we explain complex information in a clear and simplified way?
- Remember a Picture says a thousand words!!





# From CLOS To Budget

## Customer Levels of Service

Potable water at an appropriate pressure and quality.

Efficient delivery of water services.

## Asset Levels of Service

Maintain Equipment at a Condition Rating = B (Good)

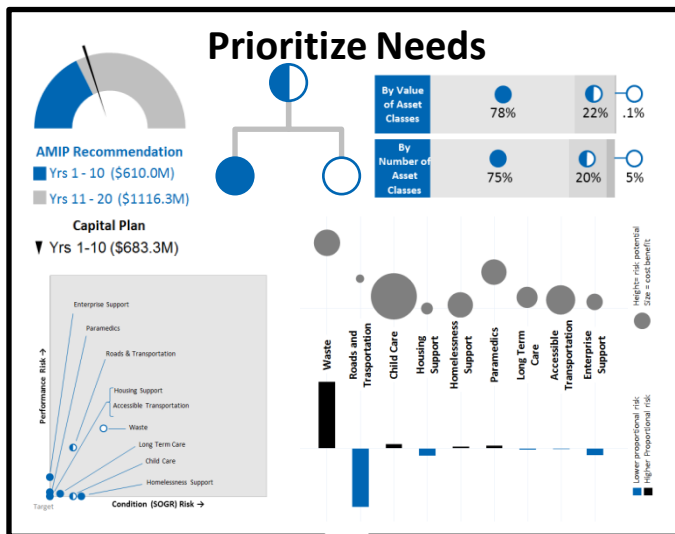
Backup capacity for all critical equipment

Provide Standby Power

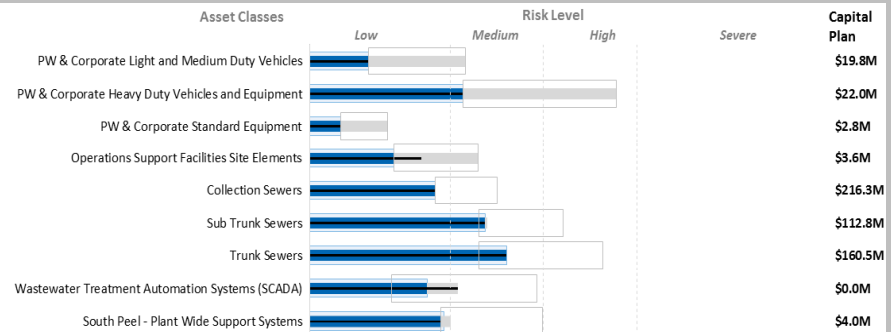
Redundant power supply

Capacity and technology to produce water of suitable quality

Automated monitoring systems in place



## Measure Risk and Identify Needs



**Break Asset Management down to the Decisions Council has to make**

# Using Reporting to

# Tell the Story...





# LINE OF SIGHT

**Strategic Plan**  
Vision & Mission

**Area of Focus**

**Service**

**Service Category**

**Asset Class**

**Asset**



**Community For Life**

**Thriving**

**Water Supply**

**Lake Based Water Treatment**

**Water Disinfection**

**Ozone Generator**

**Mission**

Working with You to create a healthy safe and connected community

**Area of Focus Outcome**

Communities are integrated, safe and complete

**Service Outcome**

Safe, reliable and high quality drinking water is available to Peel customers

**Customer Levels of Service**

- Potable water at an appropriate pressure and quality.
- Efficient delivery of water services.

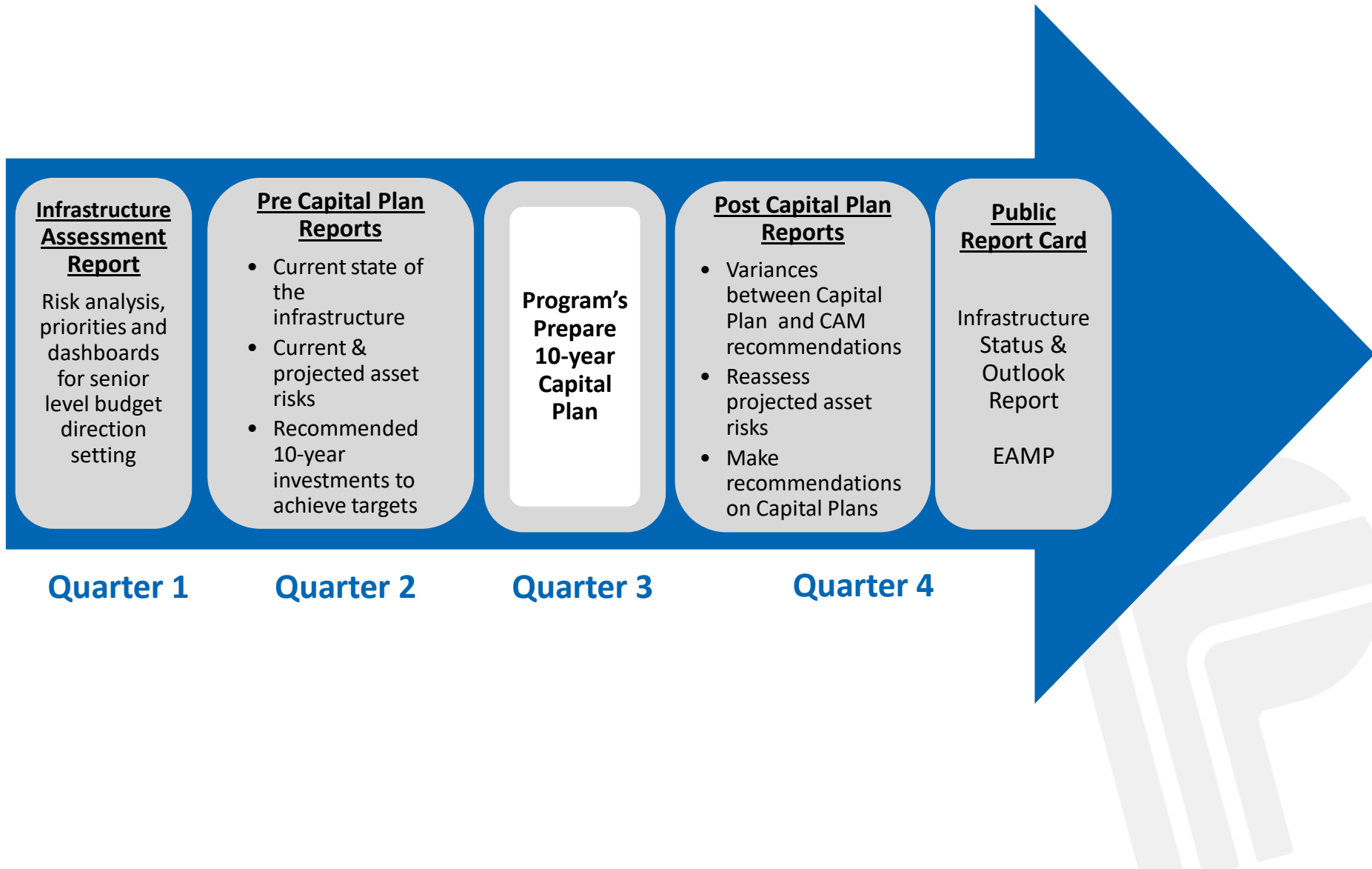
**Asset Levels of Service**

- Asset Condition = B (Good)
- Sufficient Capacity to meet demand
- Backup Power and Capacity

**Asset Information**

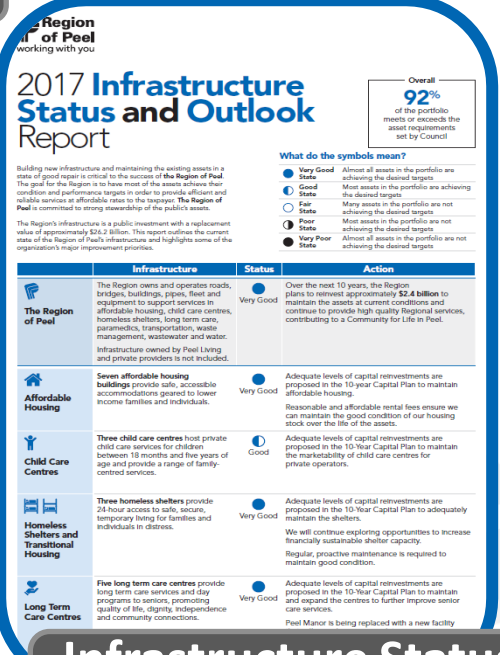
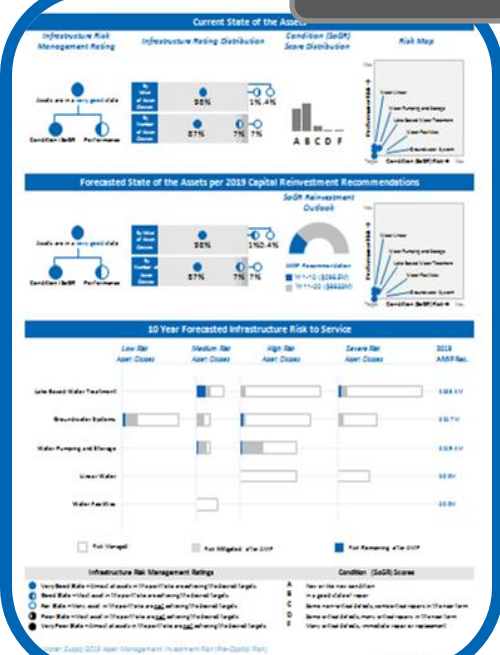
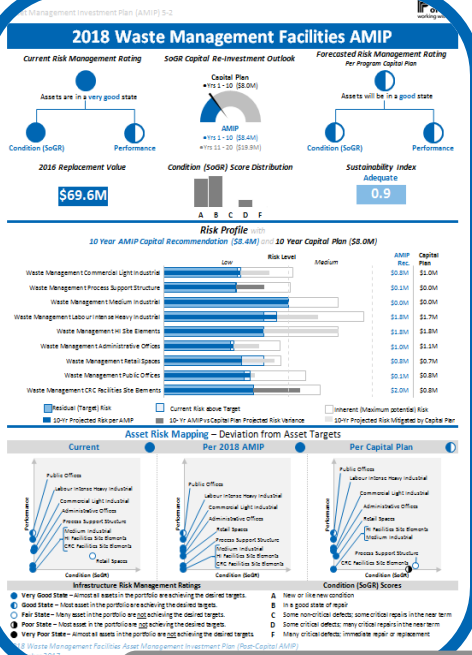
- Asset Condition
- Lifecycle/Rehabs
- Asset specific Attributes
- Suitability
- Capex & Opex

# CAM's Capital Reporting Process



# Reporting Roll-up

## Executive ISR

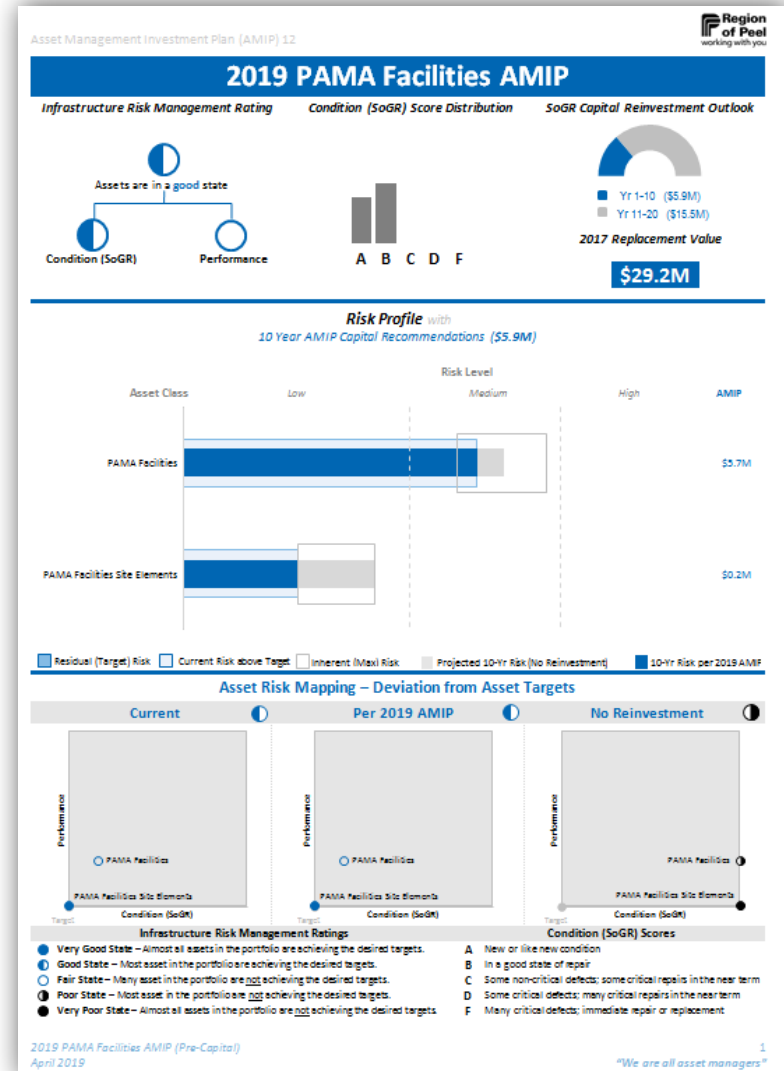


## Program AMIP's

## Infrastructure Status & Outlook Report

# Pre Capital Plan AMIP

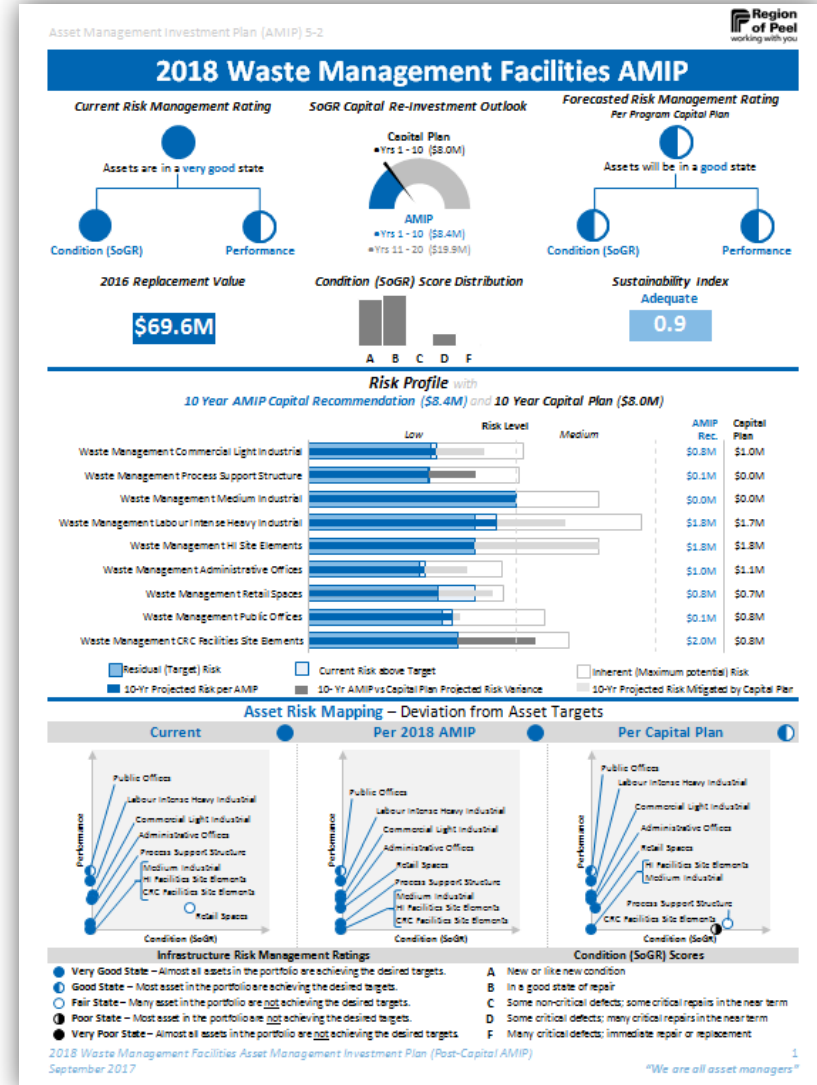
- Shows a Risk Based picture of where we are
- Provides a forecast of SOGR needs to use as a point of reference when preparing a detailed budget
- Is based on typical lifecycles using age and condition data where available
- Can be used to identify priority Asset Classes



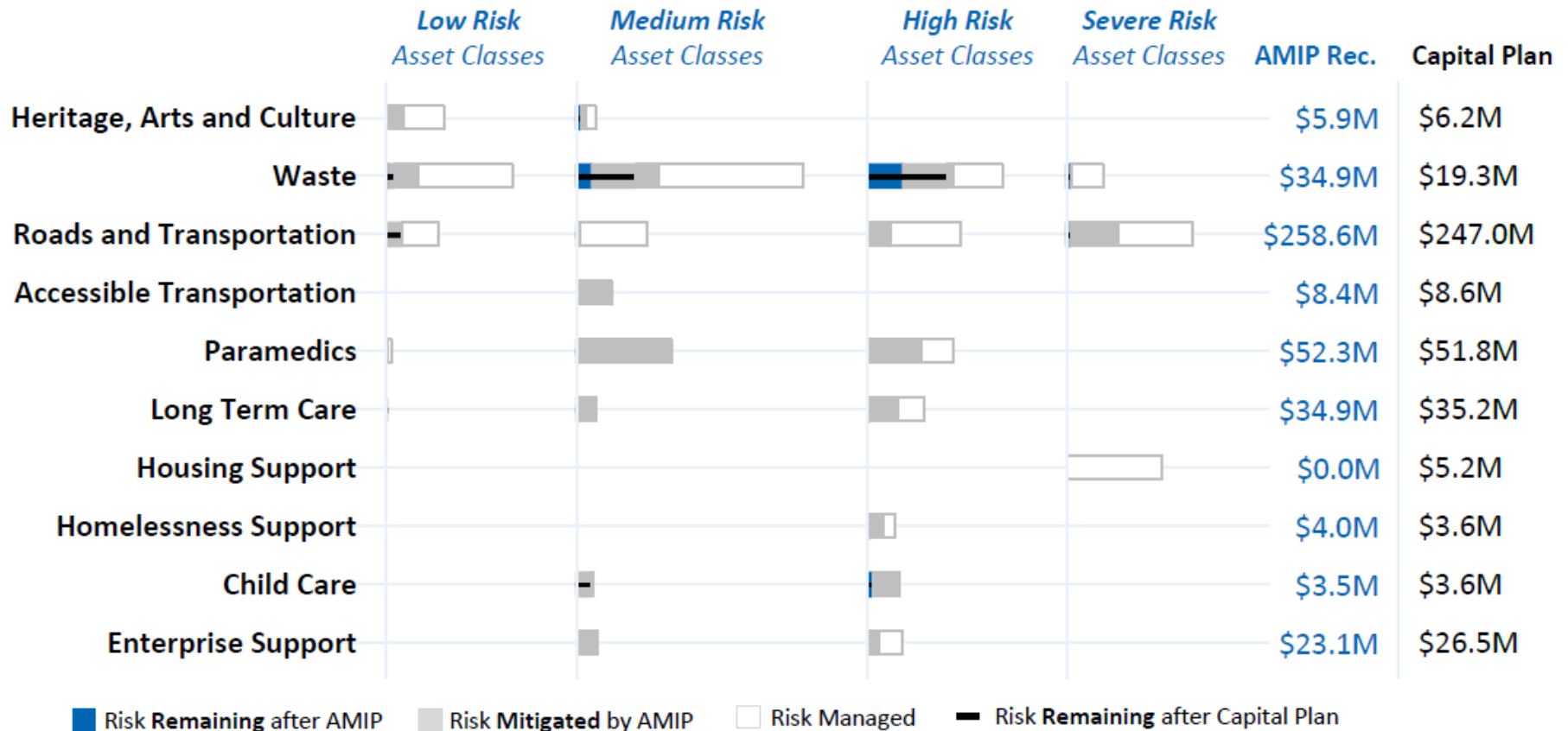
# Post Capital Plan AMIP

- Compares Programs' proposed budgets to typical lifecycle capital requirements.
- Contains Variance Analysis to explain why the proposed budget does not align with forecast
- Assets are lasting longer or failing early
- Costs have risen
- New condition assessments are available
- Strategic decisions have been made

**A Variance is not bad!**

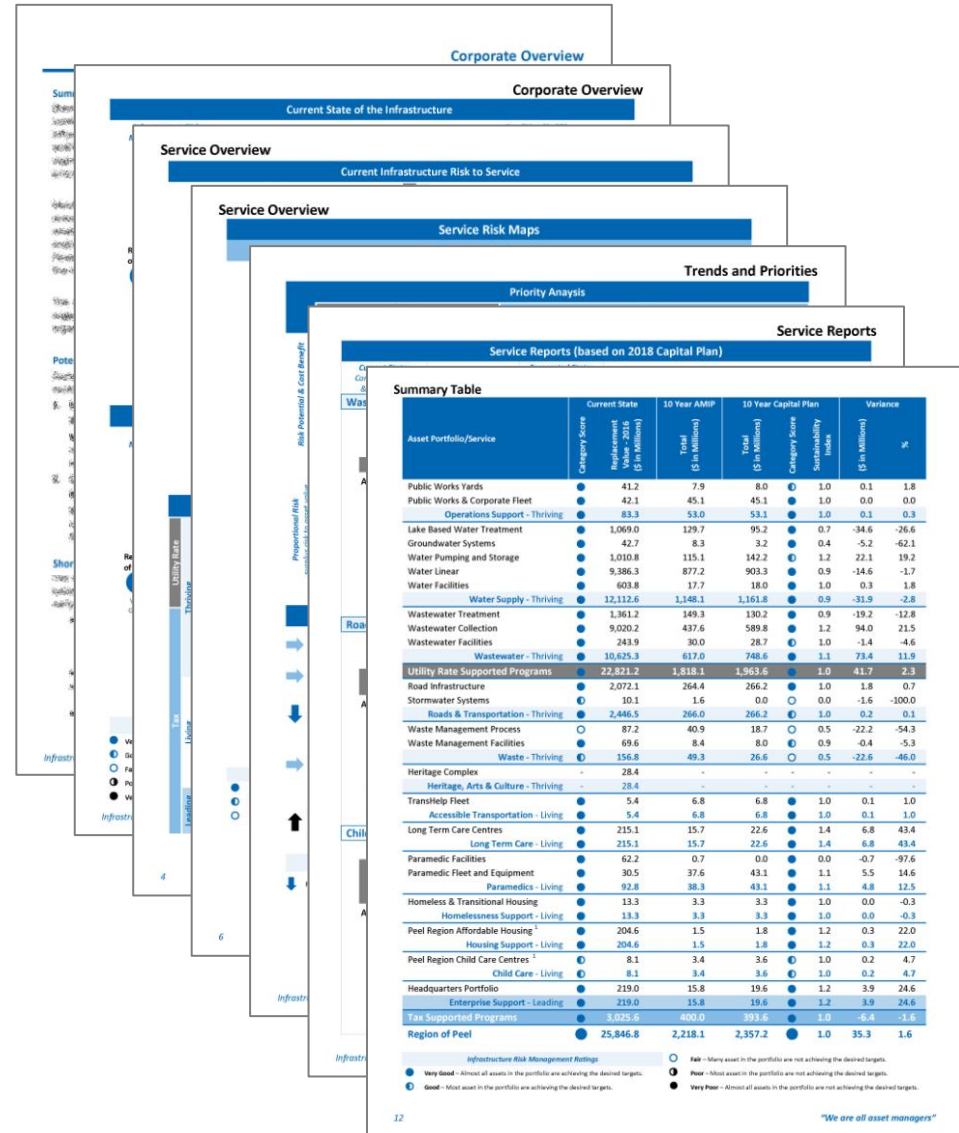


# Telling the Corporate Story...



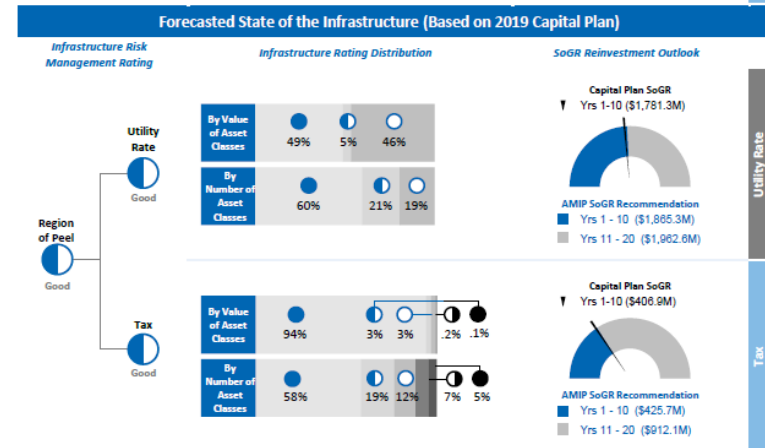
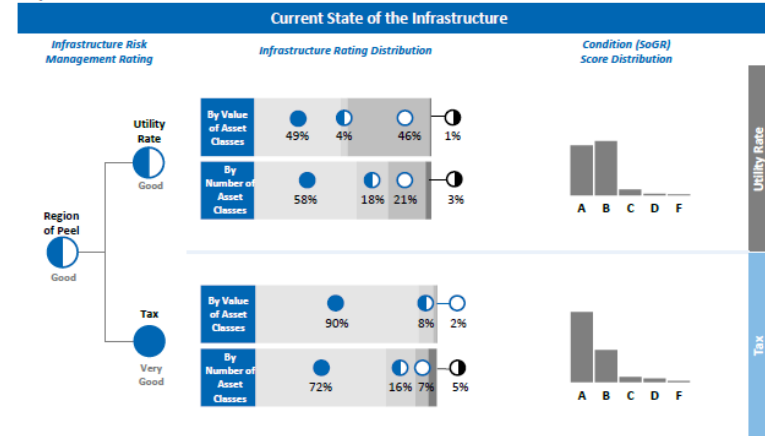
# New Infrastructure Assessment Report

- Issued in **February**
- Based on the **Previous Year's Data**, Recommendations, and Approved Budget
- Provides information to **ELT** during early budget discussions
- Highlights **Areas of Focus**, splits analysis of **Utility Rate** and **Tax** funded assets, and is broken down by **Services** in line with outcome based budgeting



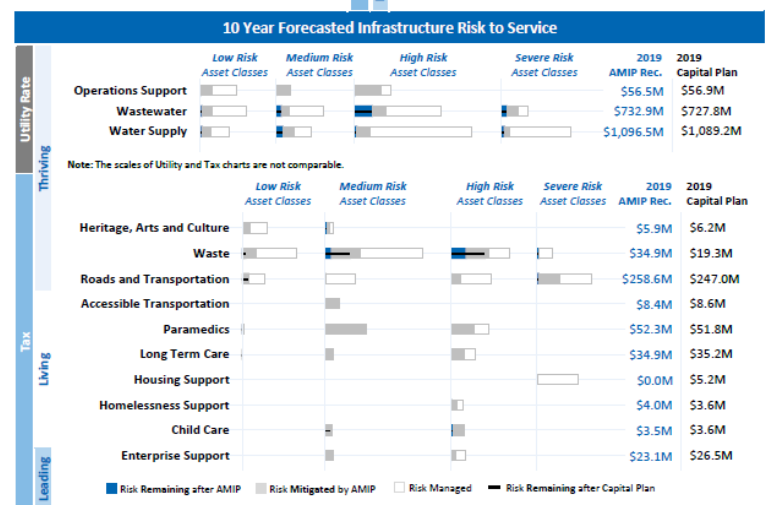
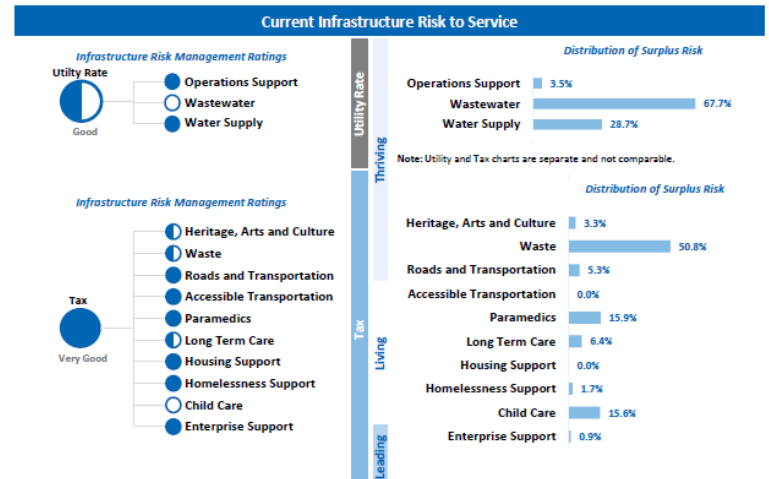
# Executive Infrastructure Stewardship Report (ISR)

## Corporate Overview

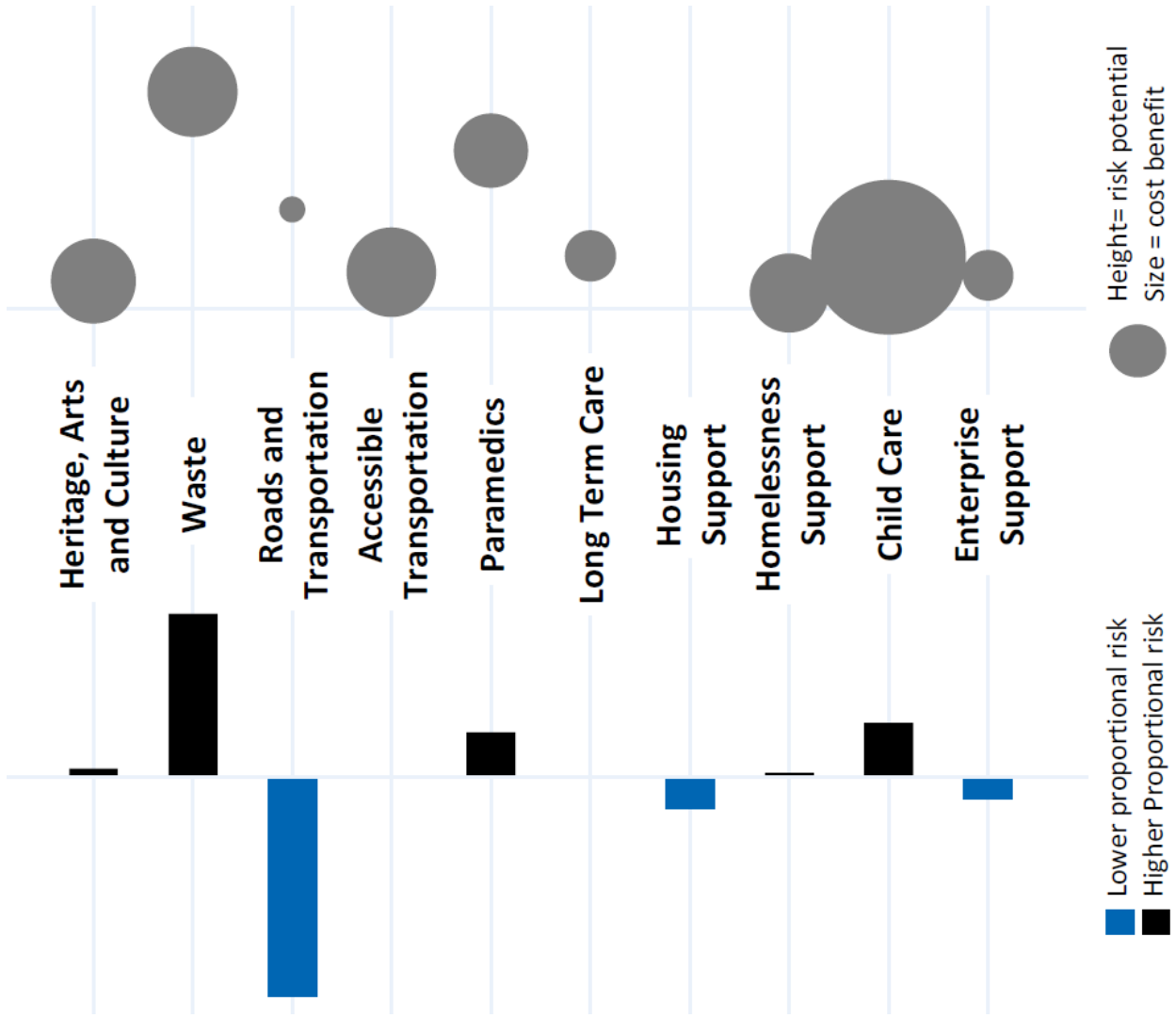


- Infrastructure Risk Management Ratings**
- Very Good State – Almost all assets in the portfolio are achieving the desired targets.
  - Good State – Most asset in the portfolio are achieving the desired targets.
  - Fair State – Many asset in the portfolio are not achieving the desired targets.
  - Poor State – Most asset in the portfolio are not achieving the desired targets.
  - Very Poor State – Almost all assets in the portfolio are not achieving the desired targets.
- Condition (SoGR) Scores**
- A New or like new condition
  - B In a good state of repair
  - C Some non-critical defects; some critical repairs in the near term
  - D Some critical defects; many critical repairs in the near term
  - F Many critical defects; immediate repair or replacement

## Service Overview



# Telling the Corporate Story...cont....



# Public Reporting

## Enterprise Asset Management Plan & Infrastructure Outlook



**Region of Peel**  
working with you

### 2017 Infrastructure Status and Outlook Report

Overall **92%** of the portfolio meets or exceeds the asset requirements set by Council

**What do the symbols mean?**

- Very Good Status**: Almost all assets in the portfolio are achieving the desired targets
- Good Status**: Most assets in the portfolio are achieving the desired targets
- Fair Status**: Many assets in the portfolio are not achieving the desired targets
- Poor Status**: Most assets in the portfolio are not achieving the desired targets
- Very Poor Status**: Almost all assets in the portfolio are not achieving the desired targets

Building new infrastructure and maintaining the existing assets in a state of good repair is critical to the success of the Region of Peel. The goal for the Region is to have most of the assets achieve their condition and performance targets in order to provide efficient and reliable services at affordable rates to the taxpayer. The Region of Peel is committed to strong stewardship of the public's assets.

The Region's infrastructure is a public investment with a replacement value of approximately \$2.8 billion. This report outlines the current state of the Region of Peel's infrastructure and highlights some of the organization's major improvement priorities.

	Infrastructure	Status	Action
<b>The Region of Peel</b>	The Region owns and operates roads, bridges, buildings, pipes, fleet and equipment to support services in affordable housing, child care centres, homeless shelters, long term care, paramedics, transportation, waste management, wastewater and water. Infrastructure owned by Peel Living and private providers is not included.	Very Good	Over the next 10 years, the Region plans to reinvest approximately \$2.4 billion to maintain the assets at current conditions and continue to provide high quality Regional services, contributing to a Community for Life in Peel.
<b>Affordable Housing</b>	Seven affordable housing buildings provide safe, accessible accommodations geared to lower income families and individuals.	Very Good	Adequate levels of capital reinvestments are proposed in the 10-year Capital Plan to maintain affordable housing. Reasonable and affordable rental fees ensure we can maintain the good condition of our housing stock over the life of the assets.
<b>Child Care Centres</b>	Three child care centres host private child care services for children between 18 months and five years of age and provide a range of family-centred services.	Good	Adequate levels of capital reinvestments are proposed in the 10-Year Capital Plan to maintain the marketability of child care centres for private operators.
<b>Homeless Shelters and Transitional Housing</b>	Three homeless shelters provide 24-hour access to safe, secure temporary living for families and individuals in distress.	Very Good	Adequate levels of capital reinvestments are proposed in the 10-Year Capital Plan to adequately maintain the shelters. We will continue exploring opportunities to increase financially sustainable shelter capacity. Regular, proactive maintenance is required to maintain good condition.
<b>Long Term Care Centres</b>	Five long term care centres provide long term care services and day programs to seniors, promoting quality of life, dignity, independence and community connections.	Very Good	Adequate levels of capital reinvestments are proposed in the 10-Year Capital Plan to maintain and expand the centres to further improve senior care services. Peel Manor is being replaced with a new facility that will provide more complete senior care services and promote opportunities for seniors to experience greater independence and more community integration.

[Continued](#)

Link: <http://www.peelregion.ca/finance/PDFs/2017-Enterprise-Asset-Management-Plan.pdf>

Link: <http://www.peelregion.ca/finance/PDFs/2016-infrastructure-status-outlook-report.pdf>

# What are the benefits?

- Clear & defensible information:
  - state of the infrastructure
  - asset & service risks
  - organizational asset needs & priorities
  - financing requirements
- Shifts the discussion from “where are we?” to “where do we go?”
- Capital Plans are aligning with SoGR needs
- Puts the information and decisions in the proper hands

**TRANSPARENCY and OBJECTIVITY!!**



**Activities:**

**Connecting LOS and Risk for  
Corporate Decision Making**



# Activities

- We will be doing two Activities this afternoon
- This is how Peel started
- You will need to:
  - Pick make sure you are in Groups of 5-6
  - Each table has a laptop to work on
  - You select an asset class that you would like to work on



# Sample Asset Classes

- Groupings of assets that provide services
- Two PDF files on your stick with examples
- Or, here are some examples (variety is best):

<b>Roads</b>	<b>Bridges</b>
<b>Long Term Care Centres</b>	<b>Social Housing</b>
<b>Distribution Mains</b>	<b>Collection Sewers</b>
<b>Fleet – Different Types</b>	<b>Pumping Stations</b>
<b>Various Processes - Equipment</b>	<b>Administrative Buildings</b>

- You will be provided with everyone's results

# Activity #1



# Activities Prep – Tools Introduction

- Excel File:
  - **Tab 1** – S2A and Levels of Service Tool
  - **Tab 2** – Risk Profile Tool
  - **Tab 3** – Activity 1 Instructions
  - **Tab 4** – Activity 2 Instructions
  - **Tab 5** – Consequence Assessment Guide
  - **Tab 6** – Likelihood Assessment Guide
  - **Tab 7** – Combined Risk Profiles
  - **Tab 8** – Consequence Weighting Tab
- PDF – Sample S2A and Risk – 6 Asset Classes
- PDF – ROP Council approved Levels of Service



# Activity 1: Creating an S2A Diagram

## Service to Asset(S2A) Diagram Introduction:

- Public Service View:
  - Program
  - Service Name
  - Customer Level of Service
- Internal Service View:
  - Asset Class
  - Inherent Risk (Activity 2)
  - Common Threats
  - Technical Levels of Service
  - Residual Risk (Activity 2)
  - Current Risk (Activity 2)



# Activity 1: Creating an S2A Diagram

- Customer Level of Service (CLOS):
  - How customers expect to receive the Service
  - A non-technical measure
- Common Threats:
  - Specific risks to the service of asset failure
  - Asset specific condition failures
- Technical Level of Service (TLOS): outcome focused..  
Avoid design criteria
  - Sets the standards for assets to meet the CLOS
  - They focus on reducing/mitigating the threats
  - They are measurable and quantifiable
  - Focus today on Condition/State of Good Repair
  - Keep the TLOS simple & as few as possible



# Activity #2



# Corporate Risk Introduction

- Risk is measured relative to the end services
- An organizational context on the level of risk
- Correlation between the asset LOS needs & risk it imparts on the services
- A dynamic comparative basis for prioritization across diverse assets
- A connection between comparative risk & funding.



# Activity 2: Risks to Services

- Event
  - Select an event to follow through the model
  - Should be possible, not of ridiculous or extreme nature (an actual event is helpful)
- Consequences
  - Relate to risk and/or opportunity
  - Impacts from the risk outcomes can be assessed across the organization
  - For consistency impact to services is used for an Organizational perspective
- Likelihood
  - measuring the potential for the risk occurrence



# Activity Review and Wrap-up



# Way Forward

- Establish your organizational asset hierarchy (**unique to your services and structure – see slide 9 or 20**)
- Select a Risk Framework (**any one will work in this model**)
- Calibrate the risk tools to your organization:
  - **Consequence and likelihood metrics have to reflect your risk to services**
- Designate a facilitator to ensure consistency of application across the organization



# 3 Key Takeaways

- Engage and communicate with staff at all levels...
  - Get their input, buy-in & tell the Asset Management Story
- Don't wait for everything to be perfect...
  - It never will be!
- You are never done...
  - services change, expectations change, technology changes and assets change... so must we



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