

Asset Management



It's a Way of Business

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Peel's Asset Management Status

Asset management is a way of business at Peel:

- Asset Management Policy
- Approved asset levels of service
- AM embedded in our Long Term Financial Planning Strategy
- Enterprise Asset Management Strategy
- Asset Class Strategy Library
- Enterprise Asset Management Plan issued annually
- The annual Infrastructure Status & Outlook Report
- Regular reporting to Executive Management:
 - State of the infrastructure
 - Infrastructure investment needs
 - Updates on key infrastructure issues & risks
- Regular risk assessments for all asset classes
- Regular condition assessments for all assets
- Program asset management plans in progress

The Asset Management Challenge

How to determine asset priorities?:

- Dissimilar asset types across Peel
- Function to differing LOS
- Differing criticalities
- Serving different programs & LOS

The Goal:

- *Develop a way to prioritize assets across the organization*

Peel's Answer – Risk!

- The chance of something happening that will impact the achievement of objectives
 - Used the Australian & New Zealand frameworks (AS/NZS 4360) to start
 - Developed impact & likelihood measurement tools customized to the Peel business environment
 - Triple Bottom Line risk assessment (Social, Environmental & Financial)

“Other risk frameworks could be applied within the RMS developed at Peel”

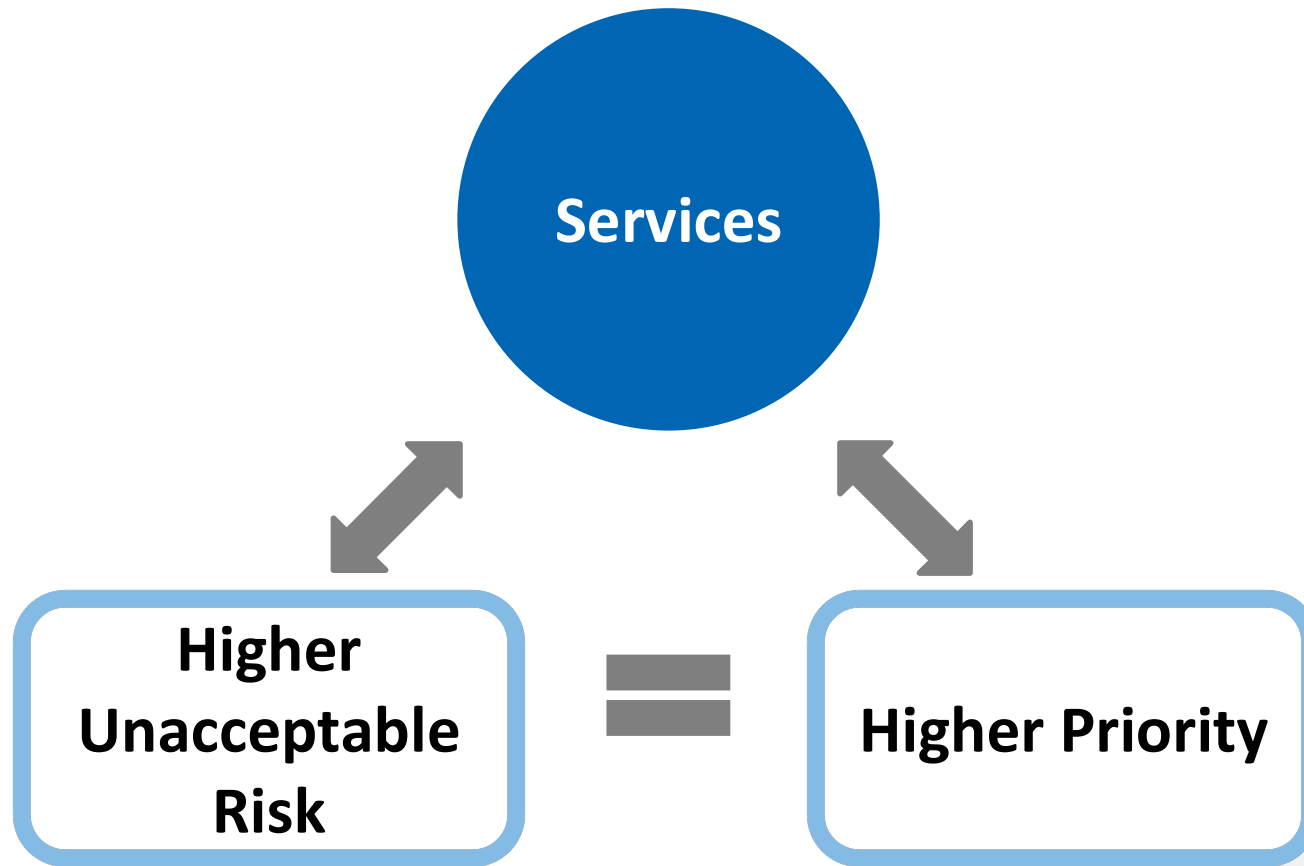
What's missing?

- Gaps in other existing methodologies to meet all of the needs.
- Highest Risk Score ~~≠~~ Funding Priority
- Detailed asset risk scores DO NOT roll up to support organizational cross-asset/service prioritization
- Peel developed a methodology that:
 - Determines level of additional organizational risk that a group of assets are imparting on the organization
 - Indicates where the most cost effective risk reductions can be made
 - ID's the amount of risk can be mitigated

Goals of Peel's Risk Approach

- ✓ 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

The Core Principle



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.

Peel's Organizational AM Framework



<https://committee.iso.org/files/live/sites/tc251/files/guidance/ISO%20TC251%20WG4%20MACAM%20May%202017%20EN2.pdf>

Strategic Risk Management for AM

- Focus on technical levels of service (TLOS), risks and L/C strategies relating to the **condition & performance** of assets
- Strategic AM is done at the “Asset Class” Level of the asset hierarchy
- ALOS & the risk profile are identified for each **asset class**
- Programs leverage our **Organizational Risk** to evaluate their detailed asset risks

Advantages...

1. The establishment of a link between an asset's current LOS and current risk,
 - Allows performance monitoring of assets across the organization
 - If you can forward model LOS, you can forward model Risk accordingly
2. The Risk gaps can be used to prioritize asset needs across many classes.
3. Applying cost to LOS needs enables a direct relationship between Risk and \$. Dollars can be optimized for Risk Reduction.

Advantages...

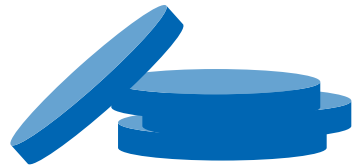
4. Performance measures can be established to track improvements in LOS and risk over time.
5. Boundary risk scores can be adjusted at any time, as programs & the environments in which they operate change.
6. This holistic view of the asset infrastructure enables the establishment of risk tolerances & changes to LOS
7. Proven beneficial at a portfolio basis as evidence to support program level decision making.

The Risk Profile

- A Risk Profile is required to establish:
 - Risk tolerance or appetite
 - Key risk areas
 - Risk priorities
 - Options to deal with risks
- Does not necessarily indicate that a risk will occur, but is more of an indicator of the relative criticality & potential vulnerability of the asset classes
- Risk Profiles are the basis for our:
 - Risk Analysis
 - Organizational Prioritization and recommendations
 - Many of the State of the Infrastructure and Asset Management reporting metrics

So how do we do it?

Risk Boundaries



Consequence



Probability



Residual (Target) Risk

Reasonable Mitigation in place
Asset is Meeting ALOS Targets

Min. Asset Risk to Service

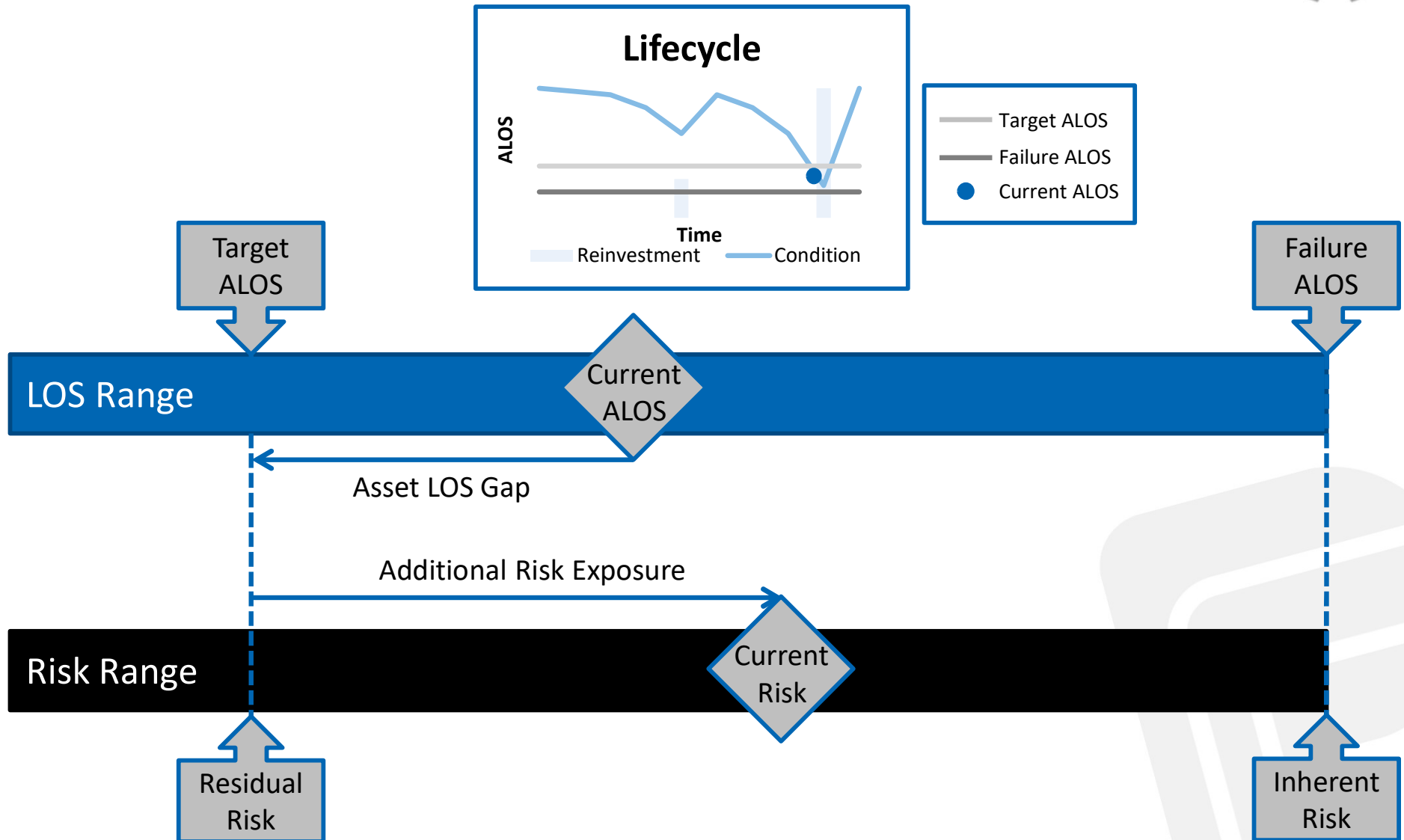
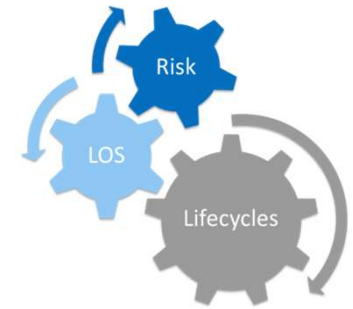


Inherent (Max) Risk

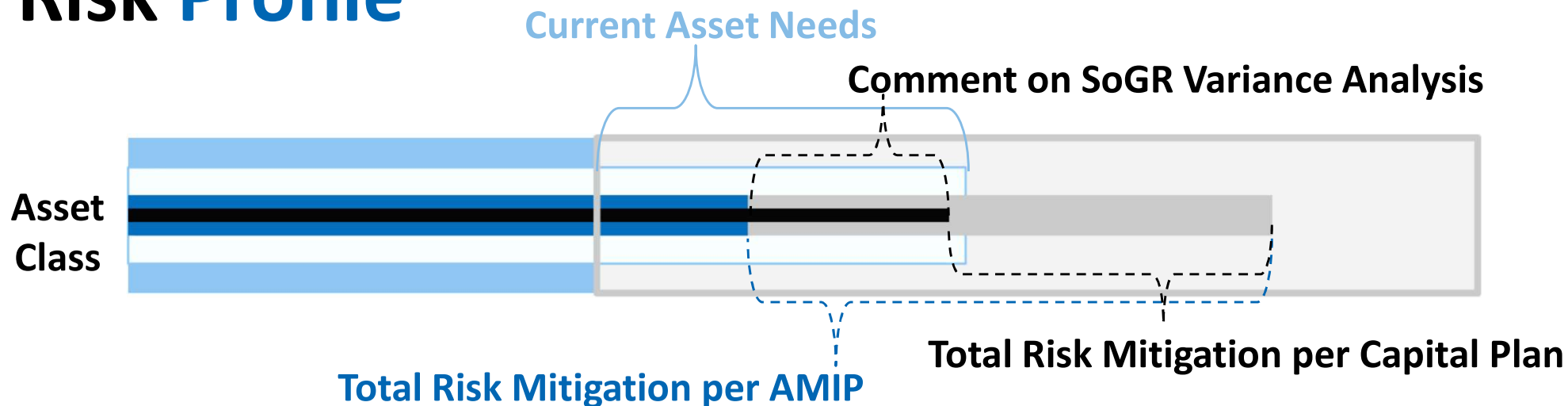
No Risk Mitigation in place
Asset is Failing ALOS Targets

Max. Asset Risk to Service

Lifecycle, LOS, & Risk Connected



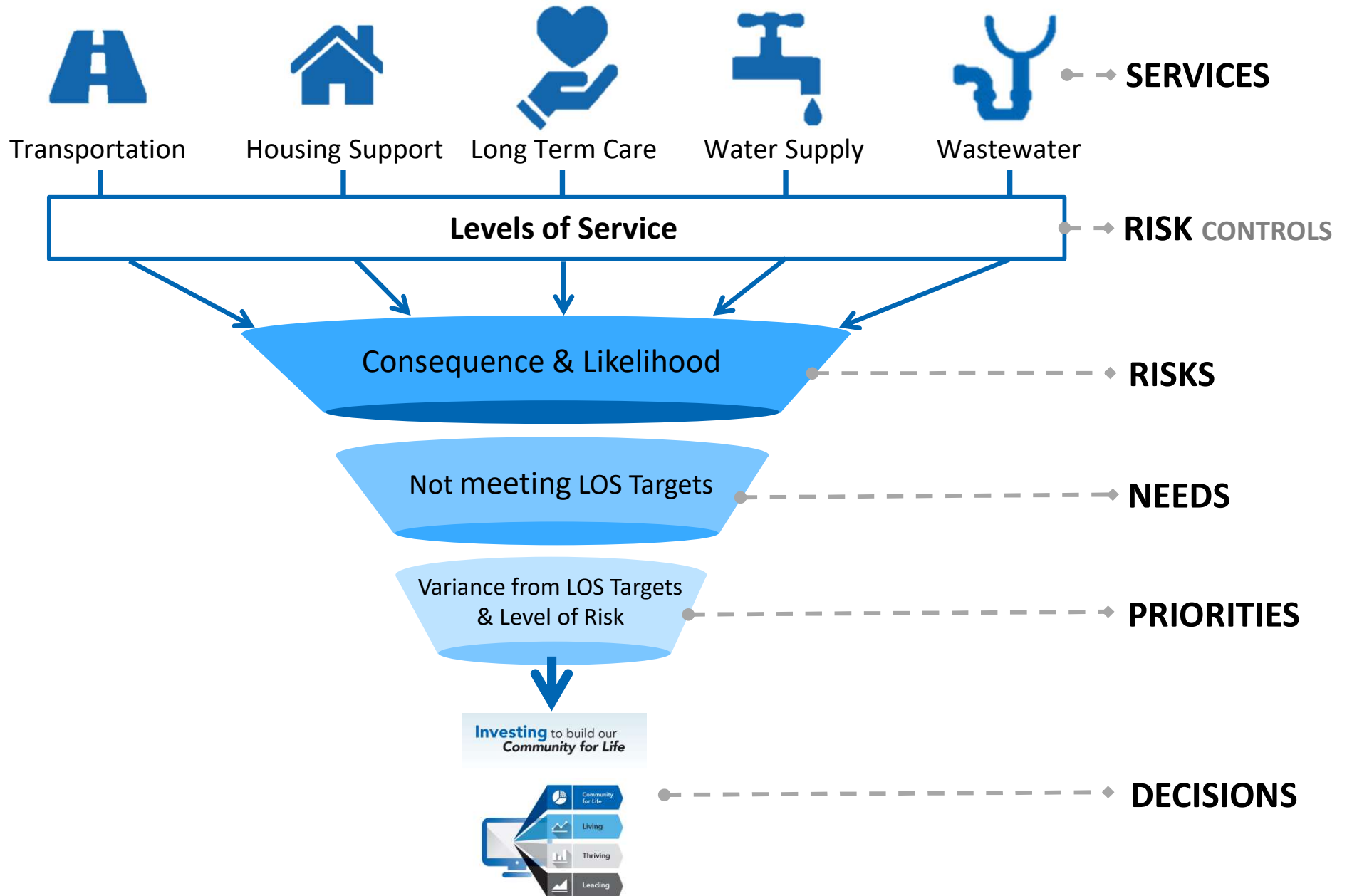
Risk Profile



- 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.

What does this do for us?

PEEL'S ASSET MANAGEMENT STRATEGY



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

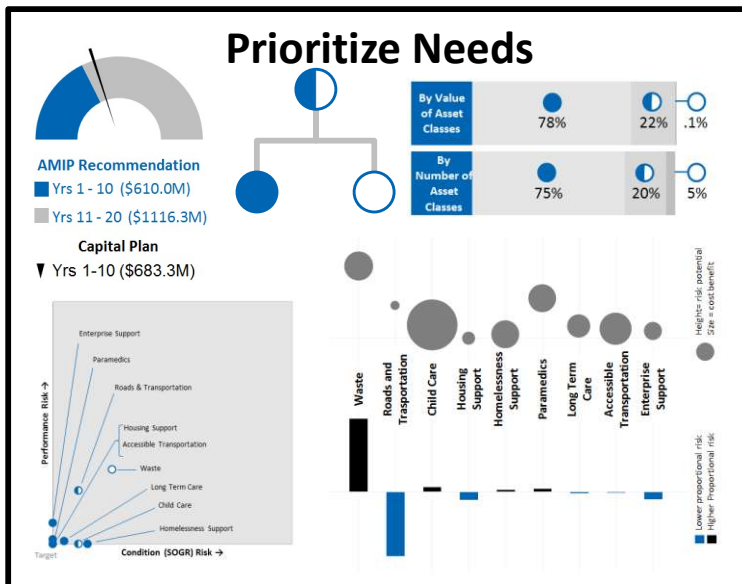
Provide Standby Power

Redundant power supply

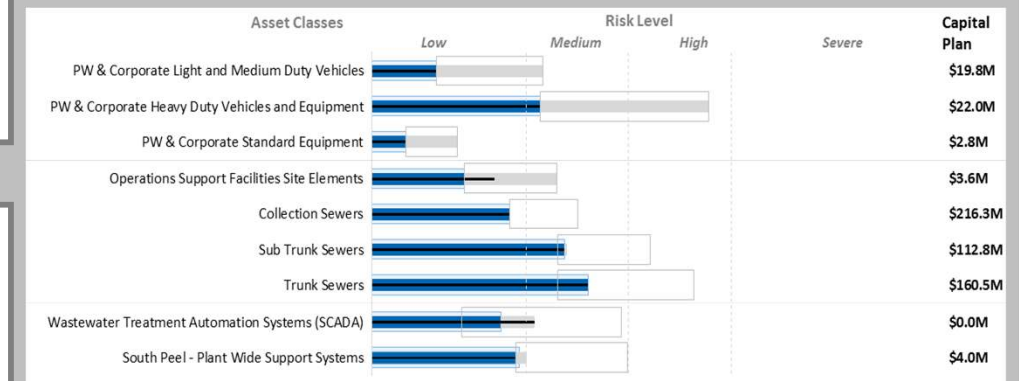
Capacity and technology to produce water of suitable quality

Automated monitoring systems in place

Prioritize Needs



Measure Risk and Identify Needs



Break Asset Management down to the Decisions Council has to make

What are the benefits?

- Clear & defensible strategic 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
- Program experts are driving their detailed plans and managing their assets
- Puts the information and decisions in the proper hands

TRANSPARENCY and **OBJECTIVITY**



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