

# TOTAL COST OF OWNERSHIP (TCO):

*DATA DRIVEN APPROACHES TO M&O AND CAPITAL RENEWAL*



# INTRODUCTION

## Our Speakers



Randy  
Ledbetter

Vice-President  
SSC



Randall  
Merrill

Past Superintendent  
Provo School District



Doug  
Christensen

President  
CFG

# A REAL LIFE SCENARIO

Provo School District

- Demographics
- No growth
- Stressed budgets
- Politics
- Insufficient asset data
- Lack of a formalized process



# TCO IS PRINCIPLES BASED

## **Rule -based:**

- A rule-based regulation prescribes in detail how to behave

## **Principle -based:**

- A fundamental, primary, or general law or truth from which others are derived
- A fundamental doctrine or tenet
- A distinctive ruling opinion

# WHAT ARE THE TCO PRINCIPLES?



**INVESTMENT**



**DATA**



**RESOURCES**



**RISK**

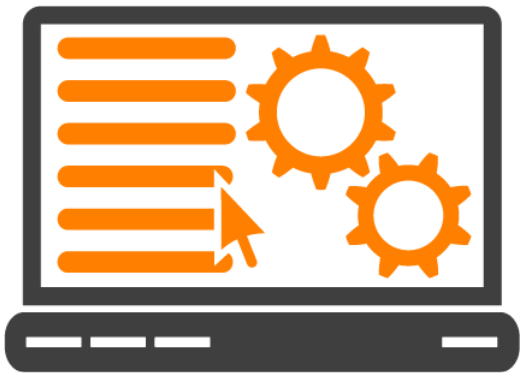


**SUSTAINABLE**



**NEEDS**

# TCO FRAMEWORK



Project Delivery



Maintenance &  
Operations



Recapitalization

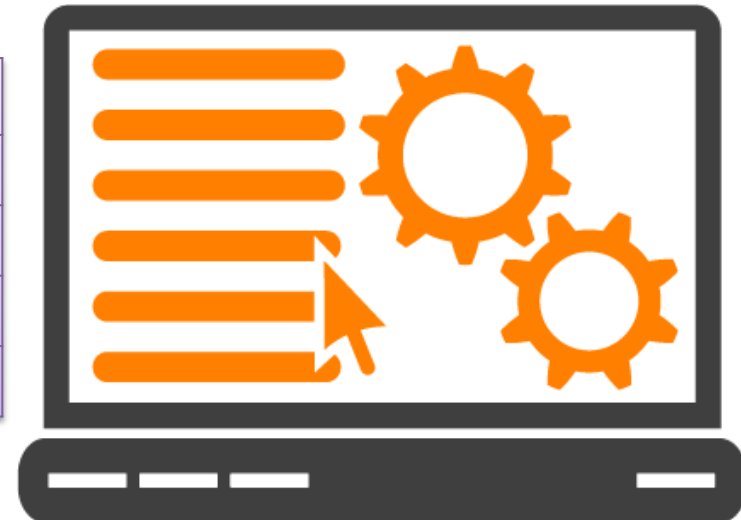
# TCO FRAMEWORK

## Project Delivery

- Concept
- Master Planning
- Design
- Construction – 30% of costs

### Birth & Burial/Project Delivery (non-recurring)

<b>cost A</b>	Concept to Bid
<b>cost B</b>	Financing
<b>cost C</b>	Construction/ Install
<b>cost K</b>	Decommission/Demolition/Disposal



# TCO FRAMEWORK

## Maintenance & Operations

- Planned Maintenance
- Repairs/Breakdowns
- Utilities
- Operations

<u>Maintenance &amp; Operations</u> (annual recurring)	
<b>cost D</b>	Operations
<b>cost E</b>	Planned Maintenance/Routine
<b>cost F</b>	Repairs/ Breakdowns
<b>cost G</b>	Utilities





# TCO FRAMEWORK

## Recapitalization

- Retrofits
- Improvements
- Replacements

<u>Recapitalization</u>	(periodic recurring)
<b>cost H</b>	Retrofits/ Improvements
<b>cost I</b>	Programmatic Upgrade
<b>cost J</b>	Replacement/ Renewal



# TCO FRAMEWORK



# RESULTS FROM A TCO APPROACH

Provo School District



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Provo School District

- What did we learn?
- What did we do?
- How did we gain?



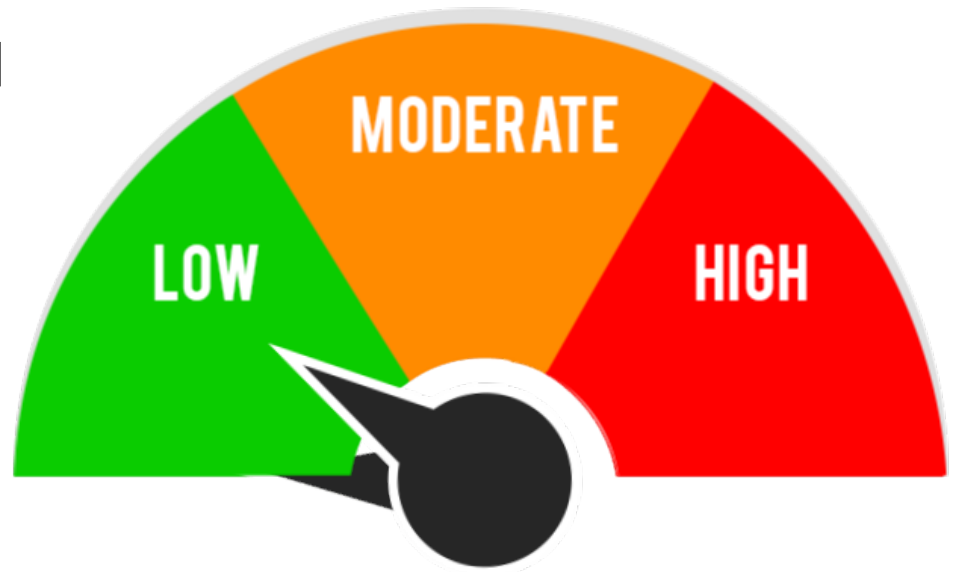
# WHAT IS YOUR RISK?



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## LOW RISK

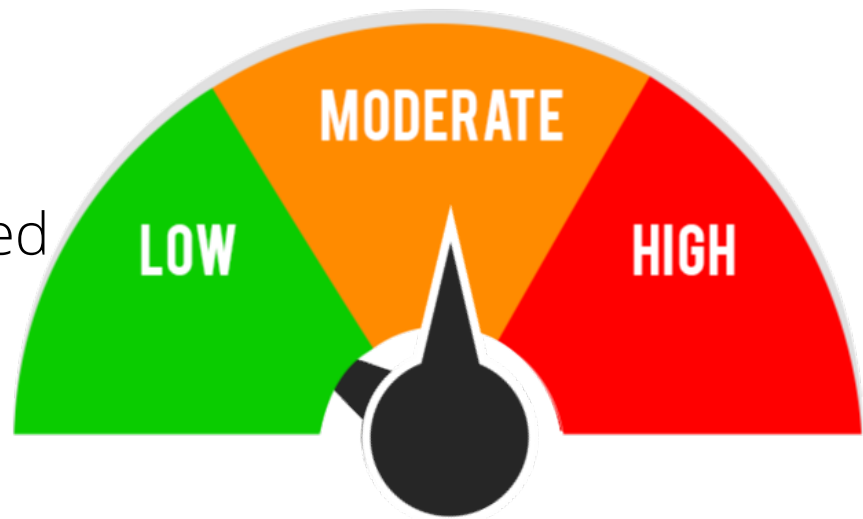
- Embraced TCO at the highest level
- Have the data to make decisions and are doing so despite budget constraints
- Deferred maintenance and life cycle needs are minimal and managed



# WHAT IS YOUR RISK?

## MODERATE RISK

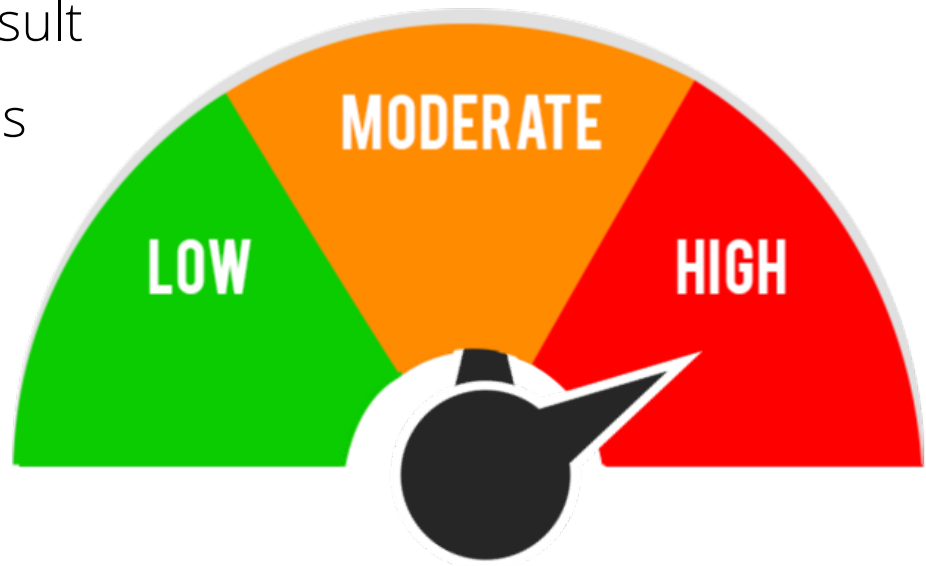
- Understand and agree a TCO approach is best, but do not have buy-in
- Have some data, but not complete
- Are making good recommendations, but do not have control
- Some progress is being made to reduce deferred maintenance and lifecycle gaps



# WHAT IS YOUR RISK?

## HIGH RISK

- No formalized process, still in silos
- Living year to year, fighting fires
- Using maintenance dollars to finance capital expenditures due to emergencies, lack of data, and planning
- High M&O costs as a result
- Deferred maintenance is continuing to grow





# WHAT IS YOUR RISK?

## Questions to ask to determine your risk

- Do you have a complete/comprehensive asset inventory down to the component level?
- What is your current replacement cost/CRV/value of existing assets?
- Have you planned for all changes within your master plan? Is it aligned with mission and vision?
- Do you have a mechanism in place to track all costs associated with your assets?
- Is there a process to use data for sound business decision making?
- Do you have an ongoing inspection process to update/validate asset data?

# QUESTIONS



# THANK YOU

- For more information contact Randy Ledbetter at [randy.ledbetter@compass-usa.com](mailto:randy.ledbetter@compass-usa.com)
- Try SSC's FREE Risk Meter at [http://sscserve.com/risk\\_assessment.html](http://sscserve.com/risk_assessment.html)