Brent Schmitt, District of Mission
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September 26, 2018, 3:00pm
Agenda

1. Introduction
2. The Destination
   - Realizing Value
   - The Balanced Scorecard
3. The Journey
   - Selecting an LOS Framework
   - Developing an LOS Register
   - Setting LOS Targets
4. Q&A
Introduction
Learning Objectives

- Explain the concept of value
- Distinguish between fit-for-purpose and good-state-of-repair
- List some of the key steps in moving from an asset-centric to a service-focused approach to asset management
The Destination
**Assets**

Anything that has real or potential **value** to an organization

**Asset Management**

Coordinated activity of an organization to realize **value** from assets
Value is Realized through Stakeholder Requirements
Value is Realized through Stakeholder Requirements
Every Stakeholder has a Perspective
Value is Realized at Different Levels of our Organization
Value is Realized through Cross-Functional Teamwork
Value is Realized Over the Life of Our Assets
Value is Realized through our Organizational Processes
Value is Realized in our Competency Framework
Value is Realized by Making Optimized Trade-offs
Value is Realized through Alignment with Org. Objectives
Three Types of Asset Health
(the “Balanced Scorecard”)

[Image of a person holding tools]
Asset Condition from Three Perspectives

Functional Condition

Physical Condition

Demand Condition

Fit for Purpose

State of Good Repair

Growth
Asset Condition from Three Perspectives
The Interplay of the Three Facets of Asset Health

- LOS (Level of Service)
  - Traffic is often speeding on the road near the school

- Functional Condition
  - The road has cracks & potholes

- Physical Condition
- Demand Condition

- PCI (Pavement Condition Index)

- AADT (Average Annual Daily Traffic)
  - Traffic is often congested on that street
Levels of Service as Part of our Suite of KPIs
The Health Interplay Measured Quantitatively
Physical Condition & Decision-Making
Functional Condition & Decision-Making
Demand Condition & Decision-Making

- Asset Rationalization, Mothballing, etc.
- Balanced
- Underutilized
- Matched
- Overloaded
- Functional
- Physical
- Demand
- Incentives, Regulation, Twinning, etc.
## Asset Condition Examples

<table>
<thead>
<tr>
<th>Asset Problems</th>
<th>Physical Condition</th>
<th>Functional Condition</th>
<th>Demand Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The heating boiler is corroded and keeps breaking down</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Community library #5 is always overcrowded</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3 There are no washroom facilities at park #27</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>4 The old water main pipe has burst</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 The old vehicle fleet is running strong but does not burn fuel efficiently</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>6 There is no lighting at the sports field for evening sports play</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>7 The road is dangerous due to speeding drivers</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 The airspace above the landfill cell only has two years of capacity remaining</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>9 Our youth centre has been empty as the demographics in the neighbourhood have changed</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
CLOS and TLOS for Parks, Recreation & Culture

The grass is cut to the right length for my soccer game.

We mow the grass 64 times per year.

Customer LOS

Technical LOS
CLOS and TLOS for Parks, Recreation & Culture

This field is not good. We won’t be back

This field is great. Let’s come back every week

38 mowings per season

64 mowings per season
CLOS & TLOS for Parks and Recreation

I’m unhappy with the condition of the sports field and I’m going to complain.

We did not mow the grass enough and fell behind on our maintenance.

Leading indicator

Lagging indicator

Customer LOS

Technical TLOS
The LOS Journey
The Journey of Continual Improvement
Successful Rollout of the LOS program
The Journey is Different for Each Service Area
Navigating the Path to Value
The LOS Framework
**LOS Framework**  
(derived from best practice)

How all the pieces are pulled together in a cohesive way.

e.g.
- Risk-cost-performance
- People-planet-prosperity
- Inputs-outputs-outcomes
- TLOS-CLOS-ELOS

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**LOS Register**  
(uniquely developed for the municipality)

The itemized list of each performance measure

e.g.
- No. of water main breaks per year (<5)
- No. of complaints per year (<100)
Example #1 of an LOS Framework
**Customer LOS**
(Lagging indicators)
What has happened

How often do I slip on the **sidewalks** at the bus stop?

How long does it take for the **fire truck** to arrive when the alarm goes off?

How far do I have to walk to the nearest **park**?

**Technical LOS**
(Leading indicators)
What we want to happen

How often do we clear the snow and ice during inclement weather conditions?

What percentage of our **fire trucks** are in “good” condition?

How many **parks** per hectares of land?
Example #2 of an LOS Framework
From Aspirational to Transactional
Translation of Aspirations into Initiatives

**Aspirations**
- Safe
- Well Run
- Liveable
- Healthy
- Prosperous
- Sustainable

**Initiatives**
- Create more jobs
- Reduce homelessness
- Improve earthquake preparedness
- Create more affordable housing
- Reduce traffic congestion
- Use less energy
- Improve emergency response times
- Increase recreation opportunities
- Implement performance management
Qualitative Statements

- Subjective
- Difficult to measure

e.g.
- To be the friendliest City in Canada
- To provide a reliable water supply for our residents

Quantitative Statements

- Objective
- Measurable mathematically

e.g.
- Customer complaints less than 0.1% / capita / year
- Main break <5 per year
Establishing a Service Framework

**The Customers**
- Property Owner
- Citizen
- Other

**The Services**
- Water
- Solid Waste
- Police
- Fire
- Other

**The Service objectives**
- Safety
- Quality
- Accessibility
- Reliability

**The Service goals**
- Water will not have adverse health effects
- Our employees work in a safe environment

**Customer LOS and Technical LOS**
- % compliance with WQ license requirements
- % of Asset base compliant with fire code
- # of Water boil advisories
- # of Reportable safety incidents per year
- # of near misses
- # of employee days lost due to illness or injury
# Translation from Qualitative to Quantitative

<table>
<thead>
<tr>
<th>Statements</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provide a reliable and safe water supply</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2. The majority of culverts are inspected per year</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3. A manageable number of complaints from customers</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>4. A quick and prompt response time to fire alarms</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>5. Less than 5 water main breaks per year</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>6. One third of the length of mains are CCTV inspected/yr</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>7. 75 percent of sidewalks in satisfactory condition</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8. Few complaints regarding poor water quality</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>9. All fire trucks are serviced each year</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>10. No slip and fall incidents</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
The LOS Register
The Translation for Parks, Recreation & Culture

Service Areas (Depts.)
- Parks, Recreation, Culture
- Facilities
- Counter Service & IT
- Transportation
- Storm Water
- Sewer
- Wastewater
- Solid Waste

Qualitative Statements

“Maintain parks and trails, including the ecosystems and urban forest, in good condition” OCP, 2017

“Provide recreation and leisure opportunities close to all residents”, OCP, 2017

Quantitative Statements

- No. of hazardous tree complaints per year
- Etc...
- No. of registrants in swimming lessons
- Etc...
Setting Realistic Targets

Service Areas (Depts.):
- Parks, Rec, Culture
  - Facilities
  - Counter Service & IT
  - Transportation
  - Storm Water
  - Water
  - Wastewater
  - Solid Waste

Feedback loop for reporting

We want to register for swim lessons

No. of hazardous tree complaints per year
- Actual = 50
- Target = 0

No. of registrants in swimming lessons
- Actual = 4414
- Target = 4500

Etc...
- Actual = 50
- Target = 0

We were able to register
The Core Measures for each Service Area

Service Areas (Depts.):
- Parks, Recreation, Culture
- Facilities
- Counter Service & IT
- Transportation
- Storm Water
- Water
- Wastewater
- Solid Waste

No. of participants in civic engagement initiatives
- Actual = 2,100
- Target = 3,800

Response time to medium priority ticket requests
- Actual = 3 days
- Target = 2 days
The Scoring System
LOS Scoring by Service Area

Service Areas (Depts.)
- Parks, Recreation, Culture
- Facilities
- Counter Service & IT
- Transportation
- Storm Water
- Water
- Wastewater
- Solid Waste

Measures:
- Measure 1
- Measure 2
- Measure 3
- Measure 4

2018

Measure Score
Dept. Score
City Score
LOS Scoring for the Municipality at Large

Service Areas (Depts.)
- Dept. 1
- Dept. 2
- Dept. 3
- Dept. 4
- Dept. 5
- Dept. 6
- Dept. 7
- Dept. 8

2017 2018 2019 2020
The Sensitivity Analysis
## Optimizing the Level of Service

<table>
<thead>
<tr>
<th>1 Level of Service</th>
<th>2 Cost of Service</th>
<th>3 Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour unit rate per year</td>
<td>Labour per year, Total</td>
<td>Equipment Costs</td>
</tr>
<tr>
<td>Actual is 80%</td>
<td>$102,000</td>
<td>$11,504 Per month</td>
</tr>
<tr>
<td>Target is 100% per 1% of asset</td>
<td>$127,000</td>
<td>$138,000</td>
</tr>
<tr>
<td>Drop to 50%</td>
<td>$63,000</td>
<td>$138,000</td>
</tr>
</tbody>
</table>
The Cost of Service

Service Areas (Depts.)

- Parks, Recreation, Culture
- Facilities
- Counter Service & IT
- Transportation
- Storm Water
- Water
- Wastewater
- Solid Waste

% of road gutter/curb swept monthly

Actual = 80%
Current budget: $240,000

Target = 100%
Required budget: $265,000
Funding shortfall: $25,000
Selecting a **Level of Service**

<table>
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<tr>
<th>1 Level of Service</th>
<th>2 Cost of Service</th>
<th>3 Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual = 20%</td>
<td>Muni Labour Unit rate for CCTV: $3,982</td>
<td>$1,990 per 1% of asset: $3,982</td>
</tr>
<tr>
<td>Half = 10%</td>
<td>Muni Labour per year for CCTV: $3,982</td>
<td>% of asset affected: 20</td>
</tr>
<tr>
<td>Double = 40%</td>
<td>Muni Labour per year for CCTV: $3,982</td>
<td>% of asset affected: 40</td>
</tr>
</tbody>
</table>
Cost of Service

Service Areas (Depts.):
- Parks, Recreation, Culture
- Facilities
- Counter Service & IT
- Transportation
- Storm Water
- Water
- Wastewater
- Solid Waste

% of length CCTV inspected per year:

Actual = 20%
Current budget: $44,000

Target = 20%
Required budget: $44,000
Funding shortfall: zero
LOS Targets vs. Actuals
LOS Trends Across a Single Service Area
LOS Trends Across all Service Areas
Questions

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