

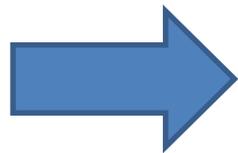
Stormwater System Asset Management Plan



June 2018

Citizens,
stakeholders

City Council

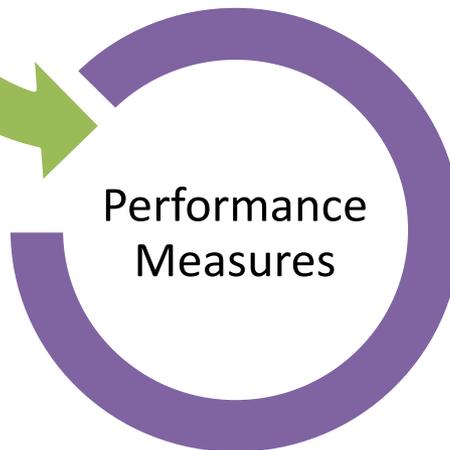


Strategic
Priorities

Level of
Service Goals

Performance
Measures

What actions
are needed to meet
Level of Service
Goals
cost effectively?



Departmental Priorities

Protect, Rehabilitate and Maintain our Existing **Infrastructure** for Long-Term Reliability

Invest in New **Natural & Built Systems** to Protect Public Health & Improve Watershed Health

Responsibly Manage taxpayer Funds to Provide Services That **Address Community Needs** Now and in The Future

Build and Expand Partnerships to Better Meet our Mission and Vision

Cultivate **Leadership and Excellence** in our **Workforce**

Canadian Infrastructure Report Card

- Surveys over 120 municipalities in Canada
 - Results:
 - 1/3 of infrastructure is in fair, poor or very poor condition
 - Total value across Canada is \$1.1 trillion or \$80,000 per household
- CIRC average for stormwater systems was 0.3% of systems value.
- CIRC recommendation for stormwater systems is 1.0%

Stormwater System

- Currently worth approximately \$30 million in all linear assets
- As of 2016, system is supported by the parcel tax
 - Quite common across the country to move the stormwater system to a 'utility'
 - No reserves because the system used to be part of general revenues (and therefore general reserves)
 - Difficult to track and prioritize spending within general funding

Revenues – Operating Expenditures = \$425,000 for infrastructure upgrades and replacement

Asset Management Planning

- Projects identified based on risk (condition and climate change), capacity and need
- Three scenarios considered:
 1. Baseline – Asset lifespan based on industry averages
 2. 125% of Baseline – Asset lifespans extended 25%
 3. 150% of Baseline – Asset lifespans extended 50%

Results

	Average Annual Investment		
Time Frame	Baseline Scenario (\$)	125% Scenario (\$)	150% Scenario (\$)
0 – 5 years	\$711,145	\$486,816	\$486,816
5 – 10 years	\$767,401	\$767,401	\$767,401
10 – 20 years	\$96,744	\$96,744	\$96,744
Average	\$418,008	\$361,926	\$361,926

Recommendations

- Staff recommends the 125% scenario for the following reasons:
 - As mentioned earlier, the storm system network is comprised of mostly clay, HDPE and PVC pipes. The baseline scenario estimates a service life of only 80 years which is below even current industry standards.
 - Stormwater pipes are easy to repair instead of replace. Unless there is a catastrophic failure non-invasive techniques can be utilized to extend service lives.
 - The replacement of storm pipes can be coordinated with replacement of water or sewer pipes to save on surface rehabilitation costs.

125% Scenario: Revenues – Funding = \$425,600 - \$361,926 = \$63,674

Service Level Considerations

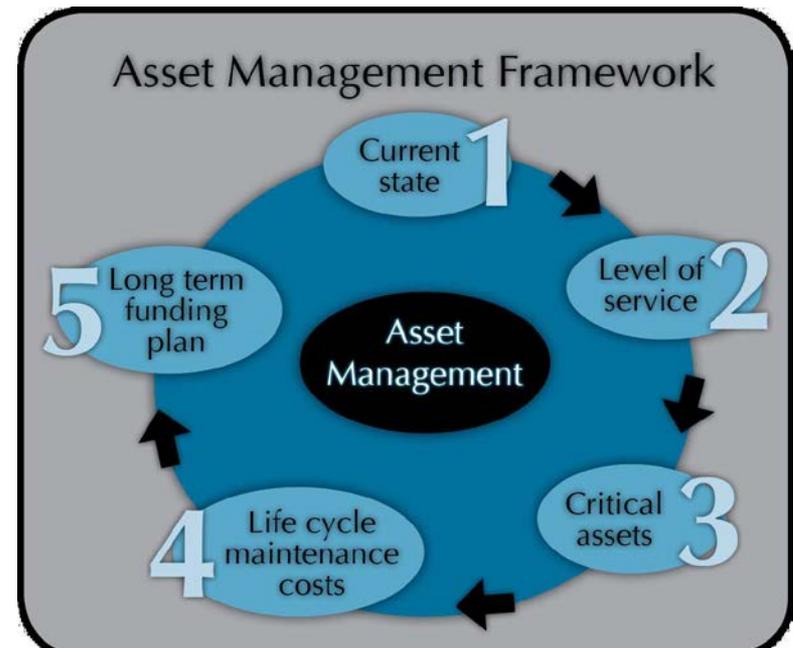
Maintenance vs. replacement?

Policy considerations?

Inspection and maintenance – leak detection, pipe condition sampling

Other options – relining pipes instead of replacement

System optimization



Summary

The Columbia Avenue upgrades are a massive investment in infrastructure renewal over the next couple of years

The parcel tax is a common method for ensuring that the stormwater network is being properly funding outside of the general revenues (similar to sanitary and water)

Although there is no funding gap consideration should be given to inflationary increases in the coming years

The City has a backlog of stormwater projects that will be completed in the next 5 years. After this, some of this funding should be redirected into maintenance

Revisit stormwater system funding plan in 10-15 years