



Asset Management Success Stories

Raise the Roof: City Staff Prioritize Roofing Projects for Recreation Facilities (October 2021)

When a roofing system fails, it can cause costly property damage, disrupt services and increase safety concerns. When City staff realized several roofs belonging to recreation centres were at risk of failing in the future, the above were just some of the potential factors they weighed.

The roofing discoveries happened in phases, first in 2019 and then in 2020-21, as part of a complete condition assessment for recreational facilities, which now happen every five years. “We took photos of the equipment, put together a detailed spreadsheet with information on things like the condition of our mechanical and electrical components,” said Paolo Bovolini, Capital Projects Supervisor with Corporate Facilities.



Assessing Potential Risks

Once the data was compiled, it underwent further analysis. Part of the work was to assess any potential risk, especially for those components critical to the continued operation of a recreation facility, like pool pumps and refrigeration equipment for ice. The consequences of critical components like these pumps failing tend to be greater, as there can be safety issues and the pool or ice rink will often have to shut down during repair.

As Recreation and Culture Services staff were going through the data, what started to really stand out was the condition of the roofs. Additional analysis was conducted, including a thermal scan, which helped further detect leaks and other anomalies. For staff, this confirmed that the probability of roof failure had increased significantly. With this more detailed information, City staff could put together a budget estimation for roofing repairs.

Taking Action

According to Bovolini, these needed improvements were caught at a good time: “There’s a fine line ... you don’t want to complete repairs too early, because it may not result in the best value for our money. But if you just leave it too long, it’s going to get significantly more costly, and your risk will increase.”

At the Peggy Hill Team Community Centre, there were 10 sections that need work. However, only three needed replacement, while the other seven simply need restoration work. That means that the facility, for the most part, can stay open while repairs are being done; moreover, the cost is much lower than it would be if all 10 sections needed to be replaced over restored.

“Restoration work can happen while people are still in a building,” says Kevin Datema, Manager of Recreation and Culture Facilities. “But if you have to replace a roof, either because it fails, or the



condition is so poor, then you need to shut down amenities like the pool ... you just can't have occupancy. That's one of the most significant consequences—when people aren't able to use our services—and it can add up to a huge loss in revenue, too.”

Prevention First

While evaluating risk is a crucial aspect of prioritizing which capital projects get done, it can also be used to prioritize other work during an asset's life, such as preventative maintenance. “There's a stage ahead of the capital budget and that's the importance of preventative maintenance, particularly on the high-risk assets,” Datema says. “If we can keep our assets operating well for longer, that's key in the long term.”

As Seen on CCTV: Keeping Track of Our Underground City

(August 2021)

When most of us walk or drive down a street, we don't really think about what exists below. In Barrie, there's an underground city that includes 550 km of sanitary sewers and 400 km of storm sewers. Keeping track of these sewers and when they need repair or replacement is critical. That's where the City's closed-circuit television (CCTV) data collection program comes in.



Sometimes pipes become makeshift homes or mobility networks for our furry animal friends. And it's easy for pipes to get build-up inside from substances like grease, and (especially for older clay pipes) to get cracks in them and plant roots fracturing them.

Broken or collapsed pipes can't do their job properly, and can result in flooding, spills or damage to the road above. When a crack appears in a sanitary sewer, cleaner ground

water can trickle in, which ends up being an unneeded cost as that water eventually gets treated at the wastewater plant.

Tracking What's Below the Surface

To help us understand what's really happening underground, the City assesses the condition of our sewer annually; a camera is lowered through a maintenance hole into the sewer and moves along the sewer to the next maintenance hole.

While a portion of the sewers are reviewed through the CCTV program each year, the cameras rotate through the entire city on a longer-term basis; at the same time, if a sewer is thought to be in poor condition, or near an environmentally-protected area—then it's watched more often.



The recordings from the camera are translated into data that lets us know the condition of each section of a sanitary or storm sewer and what actions are needed to make sure our wastewater and stormwater services keep running smoothly.

“We get hundreds of videos and reports in a year,” says Scott Fraser, an Infrastructure Technologist with the City who oversees the CCTV program. “It lets us know how things are behaving in our pipes and that data can feed into planning and decisions.”

Acting on Data

In some cases, the data can reveal the need for emergency repairs underground. In other cases, the data gives a better idea of the condition overall. As Fraser notes, once a sewer starts to degrade, it can go downhill quickly; the program gives the City a much better idea of what to keep an eye on more closely and when sewers will likely need to be replaced or repaired.

Pairing Video Surveillance with Digital Technology

While the CCTV program has been running for several decades, it has also advanced as technology has advanced. Each video now comes with a report providing data points about the sewer. And all those data points can now be mapped in GIS, making it much easier to do higher-level analysis of any sewer defects. “We can really isolate where the problem areas and hot zones are in the city,” says Fraser.

The data in the CCTV reports feed into renewal programming, reconstruction and rehabilitation plans, and lets operations teams know where work is needed. And as the program, tracking and technology advances, so does the potential.

“There’s a lot of potential here to make something really special and really build a great program on top of all this CCTV data,” says Fraser. “It’s allowing us to address things so that we have the right treatment on the right asset in place for the right price and at the right time.”

Paving the Way: How a New Resurfacing Program is Saving City Streets and Money

(June 2021)

In 2018, the City decided it was time for the rubber to meet the road on pavement management. Staff and Council already knew that a “worst roads first” approach—prioritizing fixing roads in the worst condition—was not the best way to go. From a financial and long-term management perspective, it was clear that another way might be better.

Barrie's Road Resurfacing Program

The City’s Road Resurfacing Program looks at the window of opportunity for preserving roads before they’re in poor condition. By preserving roads early in their lives, deterioration can be delayed by years, meaning not only more significant cost savings, but more roads in better condition.





“We had a young network of roads, of which about 70 per cent were in good condition,” recalls Michael Brown, Supervisor of Infrastructure Renewal Planning, on the impetus for ramping up the program. “We realized that if we didn’t attempt to preserve more of those roads, a lot of them would get in worse condition, which would cost the city more money.”

Through the 10-year Road Resurfacing Program, road preservation funding will continue to increase \$1 million per year into 2024, to \$8 million per year for the five years following.

How the Program Works

When determining which roads qualify for the program, there are additional factors involved: staff consider the infrastructure buried below the road, to make sure that nothing else needs repairing; for instance if a watermain needs attention, a more coordinated approach for repairs may be better. Staff also consider traffic volumes and how frequently a road is used.

Regarding those roads within Barrie in poor condition, Adam Kiley, Manager of Linear Infrastructure, emphasizes that they’re not being ignored: “While we’re still addressing other roads in bad condition through Capital projects, the Road Resurfacing Program allows us to hit the sweet-spot for rehabilitation and return-on-investment.”

What Comes Next

While the program is still quite new, the City’s next condition assessment of roads (which happens every four years) will provide a better idea of how the program is working.

Fire Station Solution to the Rescue

(April 2021)

Back in 2010, the City knew it needed a new fire station in Barrie’s southwest to help improve response times and service delivery. But, given the nearby city boundary expansion area was still farmers’ fields, was it really the best time to build a permanent fire station for an area that, even today, has still yet to be fully developed?

A Fire Station in the Southwest

The City decided an interim solution made the most sense. And so, they ended up leasing a property from a strip mall at 360 King Street to become Fire Station 5, which opened in 2012.

While building a permanent station would have taken several years, the leasing decision allowed the City to provide service as quickly as possible, while still giving the flexibility to build a permanent fire station once more people have settled to live in what are now known as the Salem and Hewitt’s Secondary Plan areas.





“Offering yourself flexibility when you have unknowns is always a good option,” says City of Barrie Fire Chief Cory Mainprize, of the decision to lease a space over building a new station. “The decision allowed us to get the station up and running quickly, and it has allowed us to serve the community well.”

Leasing as Asset Management

The thinking behind Fire Station 5 demonstrates two good examples of asset management.

Firstly, the quick turnaround time involved with leasing allowed the City to better manage risk and more quickly mitigate a service problem—two key components of good asset management.

Secondly, the fire station’s lease was renewed in 2019. Because money had already been invested in customizing the leased space to function as the temporary station, and because the Secondary Plan areas are still being developed, it made good financial sense to stand by a model that continues to work and provides the required service. Plus, by waiting to build the new fire station until the time is right, the City is also pushing the lifespan of that building further into the future.

“We’ve already ensured is solution is something that works for the Fire Department, so there's no need to move right away,” says Rick Pews, Director of Corporate Facilities. “Delaying the permanent station means that the City is making maximum use of the investments we’ve already made and it allows us more time to collect Development Charges to pay for the station.”

A Fire Station that Works

In the meantime, Chief Mainprize says the current location of Fire Station 5 is serving his team’s needs. “The station is really well laid out; it provides an excellent workplace and meets the service requirements of our community.”

Spotlight on Stormwater Ponds

(February 2021)

Across the approximately 100 municipally owned and managed stormwater ponds in Barrie lies one example of how asset management practices can radically improve the way we work at the City.

The Need for Change

It began in 2019, when the Operations team decided to sit down with their paper records on stormwater ponds and revisit the way of doing things. “We had an ultimate dream,” says Alison Kelly, Computerized Maintenance Management System Coordinator in Operations. “We wanted to get to a point where we could record information by just pushing a button.”

Previously, every summer, co-op students, clipboards in hand, would go out to the ponds and gather information by checking off boxes and jotting down comments. The process was lengthy, involved several people, and sometimes the information recorded was subjective and hard to interpret. If any repairs were needed it could take a few days before a work order could be entered for action.

Building a Way Forward

The Operations team sat down with the paperwork, engaged the City’s Information Technology team,



and started to build a digital platform for fieldwork and recording pond information. They built the platform in stages, getting students over the summer in 2019 to test the application.

Katie Lloyd, now a Regulatory Compliance Technician with Operations, was one of those summer students and remembers it well. "It used to be that we'd have to go back into the office, review everything, write it up and then submit. Now, we can do a work order right in the field," says Lloyd.

After the testing phase and making some adjustments, the digital platform went live in April 2020.



Seeing the Results in Real Time

This new approach allows the Operations team to assess ponds in real time and simultaneously call up information on previous inspections and other stormwater ponds. Plus, repairs can be entered and filed at the click of a button. In 2019, there were 116 work orders and only 41 per cent completed, while in 2020, with the new system, 166 work orders were filed and 80 per cent of them completed.

The team is better able to track inspections and maintenance on stormwater ponds and can now take a more technical lens to asset management. "We have a much better idea of how much work we need to do and make a plan to do it," says Ken Lin, Senior Operations Technologist. "Data is something that can be analyzed in real time and now we are making it happen."

New electric ice resurfacers save energy, time and money

(October 2022)

The City of Barrie recently purchased two electric ice resurfacers that are being used at the East Bayfield Community Centre. Electric ice resurfacers have many benefits, including:



- 100% electric operation, which result in 80% energy savings annually
- Zero carbon dioxide emissions, meaning improved arena air quality for participants and spectators
- Each resurfacer will eliminate about 17-19 tonnes of greenhouse gas emissions annually
- Projected \$2,000 reduction in average annual maintenance cost
- Quick charging between ice resurfacings
- Noise reduction for drivers and spectators



The City anticipates replacing about half of the remaining natural gas-powered units with electric machines in the next five years, aligning with the City's greenhouse gas emissions reduction strategy. The remaining units will be replaced with electric units at the end of their useful lives.

Learn more about Barrie's asset management at barrie.ca/AssetManagement.