ASSET MANAGEMENT

2020-2021 YEARS IN REVIEW

CITY OF
PRINCE GEORGE

eDoc #627692

Introduction

To fulfill the responsibility under the Renewed Gas Tax Agreement between Canada, British Columbia and the Union of BC Municipalities, and in accordance with the Community Works Fund Agreement, all local governments must demonstrate progress made towards asset management (AM) improvements.

Municipalities in BC are required to progress in their AM practices by identifying planned improvements and committing to these actions within the 2018 - 2022 Gas Tax Agreement. The City of Prince George (the City) is required to share back its progress over the last five years by Sept 30, 2022 by completing a UBCM Measurements of Progress questionnaire. In preparation for this reporting, the City's Asset Manager has been providing reports to the City's AM Steering Committee and Council which highlight the AM activities that have been completed or are underway. These reports serve as a reference when completing the UBCM Measurements of Progress questionnaire. The accomplishments in this report are grouped under the same improvement categories identified in the Gas Tax agreement.

> Asset management was identified as the preferred avenue for "…building local government capacity to take an integrated, long-term approach for planning, building and maintaining strong sustainable communities…"
> *(UBCM AM Commitment Questionnaire 2018)*

Areas of Progress in 2020/21

1. Capacity Building:

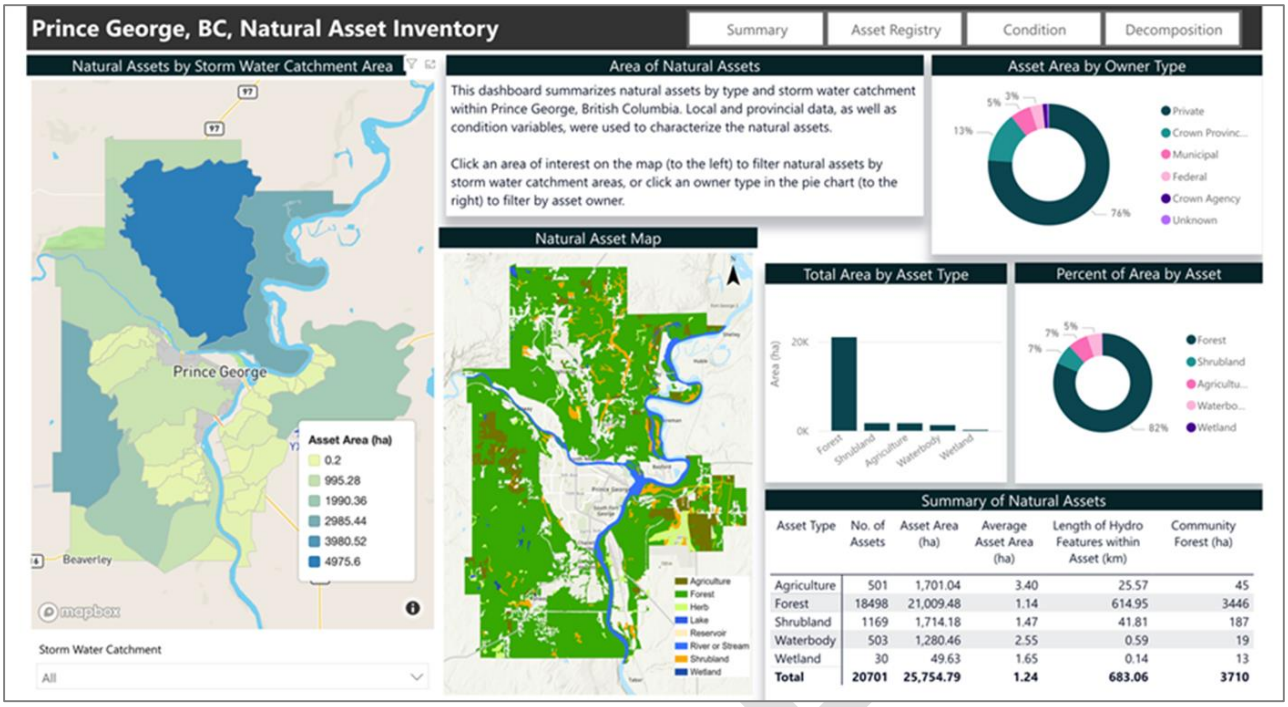
2020/21 Accomplishments:
Municipal Natural Assets Initiative (MNAI) - Inventory

A growing number of local governments recognize that it is as important to understand, measure, manage and account for natural assets as it is for engineered ones. Doing so can enable local governments to provide core services, such as, stormwater management, water filtration, and protection from flooding and erosion, as well as additional services such as those related to recreation, health and culture.

The first step in managing natural assets was to inventory them. An organization called the Municipal Natural Assets Initiative (MNAI) offered an opportunity for Canadian municipalities to build their capacity related to natural assets. This project included collecting natural asset inventory, conducting a desktop condition assessment, and identifying risks to the City's natural assets. Natural assets include; rivers, creeks, marshes, wetlands, and forests.

AM staff, along with planning and environment staff participated in this project and learned a lot throughout the process. The final deliverable was an informative dashboard and geodatabase of the inventory which will be added to the GIS in the near future. See the PowerBI dashboard on the following page.

This initiative has built capacity for City staff in the field of natural asset management. The next step is to integrate these natural assets into Asset Management Plans (AMP's) and continue collecting asset management data about them, ie. Replacement values and required Average Annual Reinvestment, same as what the City has for its engineered assets.



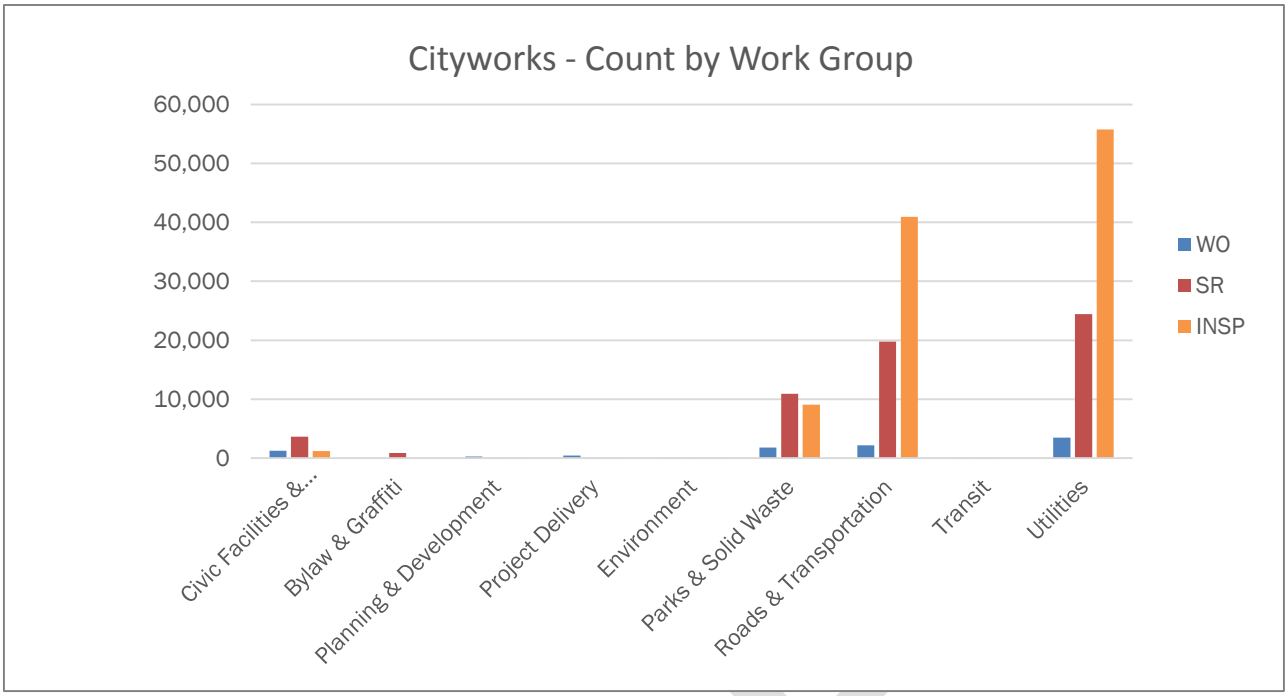
MNAI recently provided another opportunity to continue the natural asset management journey. The City submitted an expression of interest to participate in their Natural Asset Management Roadmap cohort program and was selected to participate starting in September 2022 along with nine other local governments. This program will provide support for the City to develop a natural asset management roadmap. The City has chosen a cross-functional team to participate and build internal capacity in natural asset management. This project will provide the participants with the opportunity to learn from each other and contribute to the larger body of data that is being generated across Canada about natural assets. The final roadmap will complement the City's existing AM Strategy and provide more detailed actions on how to become more mature in natural asset management.

2. Leadership:

2020/21 Accomplishments:
2020/2021 Cityworks Utilization

The City is continuing to be a leader in the organization-wide utilization and development of its computerized maintenance and asset management system, Cityworks, which has been in place since 2014. The various Divisions in Civic Operations, Planning & Development, Service Centre, and Bylaw have created a total of 9,431 work orders, 60 thousand service requests, and almost 107 thousand inspections from January 2020 to December 2021. That is a significant amount of work and asset management data collection across the organization! See the graph on the following page for more details.

The City of Prince George has been awarded the ***Cityworks Excellence in Enterprise Practice Award*** for 2022 from the Cityworks developer, Trimble. This award recognizes clients who use Cityworks throughout their organization in a high-quality manner. These clients offer great examples of how Cityworks enterprise solutions help improve work, planning, budgeting, and communication across an entire organization. Trimble selects one of its clients who are doing an exemplary job of providing exceptional service to their communities through the use of Cityworks and ArcGIS and they chose the City of Prince George this year!



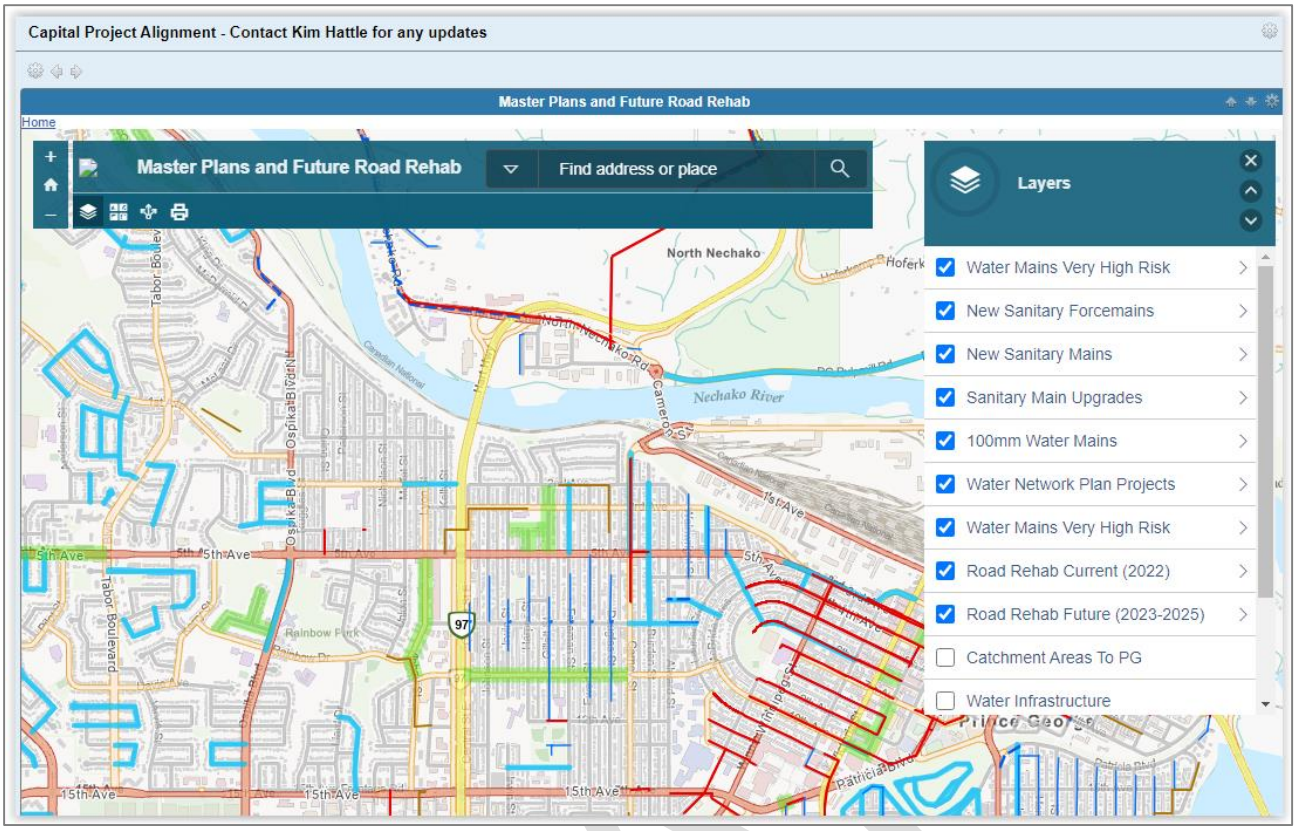
3. Integration:

2020/21 Accomplishments:
Development Services Cityworks Implementation
Capital Project Alignment Tool

Asset Management (AM) practices are continuously being integrated across City departments/divisions. Most Divisions participated and provided input for the update to the AM Policy, Strategy & Roadmap. The AM Steering Committee also assists in keeping AM practices integrated across the organization.

Over the last year, various Development Services processes have been integrated into Cityworks including, new service connections and inspections of development constructed assets. There are future plans for Planning & Development to fully integrate with Cityworks. This allows for smooth workflow between Planning & Development and Civic Operations Departments.

A capital project alignment tool was created in 2021 and is accessible within Cityworks (see map on following page). It is an interactive map that includes water and sewer masterplan recommendations, stormwater risk data, road condition scores and other asset data. These layers can be turned on and off depending on what the user wants to see. The tool allows staff to plan and coordinate capital work across all major asset types and to align road and surface work with the assets that need replacing underneath them.



4. People & Information:

2020/21 Accomplishments:
118 New Cityworks Users
10 Exempt Leaders learned about AM through the City's Exempt Leader Orientation Passport Program
Integrated Stormwater Management Plan (ISMP) Public Engagement

The City's computerized maintenance and asset management system, Cityworks, has seen 118 new users trained in 2020/21. As of Dec 2021, there are a total of 334 active Cityworks users. Training and work procedure development within Cityworks is provided on a continual basis.

The City has an Exempt Leader Orientation Passport program coordinated through Human Resources. This provides Exempt Leaders with information and familiarity about each divisional area including Asset Management (AM). In 2020/21, ten new Exempt Leaders learned about what AM is all about and how the City integrates its AM program throughout the organization.

Public engagement is an important part of the City's AM program. Stormwater management was a focus for 2021 engagement as part of the Integrated Stormwater Management Plan (ISMP) project. A well thought out communication plan was foundational to the success of the final ISMP. Because of COVID-19, careful consideration was needed to plan for a variety of online options to engage the community. A short video was created to explain why stormwater management matters, along with a survey that provided the community with a place to learn about the ISMP and have input on how it could be improved. Facebook, twitter, and LinkedIn were also utilized to spread the word about why stormwater management matters. Traditional media also played a key role in drawing the community's attention towards the importance of stormwater management and the challenges that we face in ensuring that the stormwater system is in place not just for us, but for future generations. See this link for a CKPG Today story:

https://ckpgtoday.ca/2021/09/22/stormwater-plan-coming/. There were also 5 Council presentations throughout the development of the ISMP.

The City's annual budget consultation started shortly after the ISMP public engagement concluded. Part of the budget consultation is a survey asking the public where they would like the City to focus its spending. When the results came in, it was obvious that the ISMP public engagement efforts made a significant impact on the results of the budget survey. Previous budget surveys ranked stormwater drainage spending second to last of all of the City service categories. After the ISMP engagement, the 2021 budget consultation survey showed that residents now rank stormwater drainage the 2nd most important service to spend money on.

There was also a new City webpage published that includes an ArcGIS Storymap that provides an innovative way to condense a lot of information into an easy to follow story including pictures; 'a picture is worth a thousand words'. Link to the City's Stormwater page including the StoryMap: https://www.princegeorge.ca/City%20Services/Pages/Utilities/Stormwater.aspx

From a staff AM education standpoint, the National Asset Management System (NAMS) Canada offers an eight (8) week online Professional Asset Management Planning Certification, developed by the Institute of Public Works & Engineering Australasia (IPWEA) with subsidized funding from the Federation of Canadian Municipalities (FCM). Part of the AM team achieved this professional designation in 2018 and two more staff are currently participating in this program in 2022. The final assignment for this professional certification is a draft Asset Management Plan (AMP) for the City's Streetlights & Traffic Signals system and for the Sanitary Sewer System.

5. Assets

2020/21 Accomplishments:
Data Governance Committee Established
Utilization of ArcGIS Dashboards
2020 Paved Road Condition Assessment & Sign Inventory Collection
Civic Parking Lots and Hard Surface Courts Condition Assessments
Levels of Service Framework
NWWBI (CIBI) 2020 & 2021
Infrastructure Report Cards 2020 & 2021
ISMP – Risk Assessment

There are five (5) key focus areas included in this section of the UBCM Gas Tax Agreement that are also incorporated into the City's AM Policy & Strategy:

1) Information on the location of existing assets,
2) Information on the condition of existing assets,
3) Information on the level of service for existing assets;
4) Information on asset expenditures;
5) Risk register – a risk register accounts for the consequence and probability of a failure occurring for existing assets by taking into account the asset users, the service the asset provides, and expected service level.

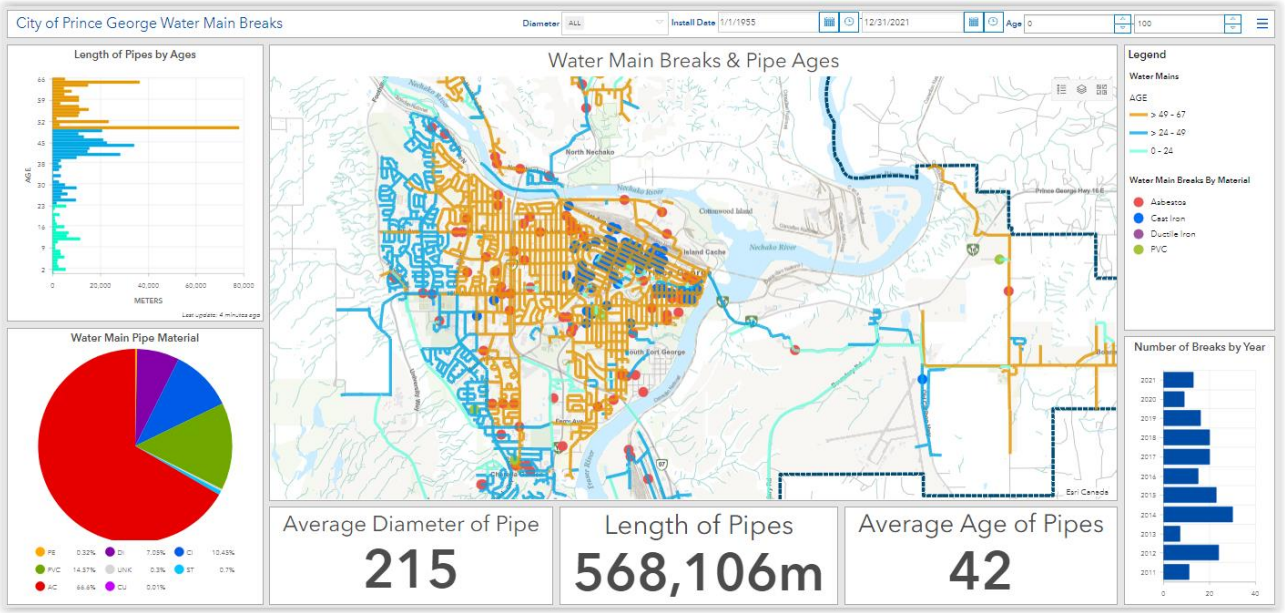
Several initiatives related to these focus areas have been completed in 2020/21 or are currently underway.

1) Asset Location:

It is important to have standards in place for keeping the City's GIS asset database current. The Asset Data Governance Standards project was completed and provides the City with recommendations on procedures, timelines, and tools for keeping the GIS up-to-date when changes are made to infrastructure

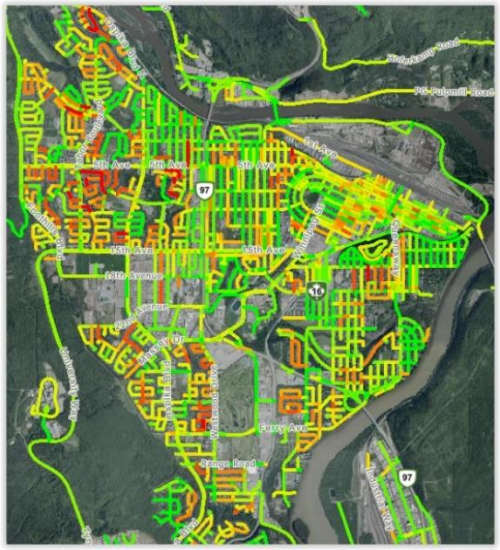
assets or new ones are installed. Since the development of the Asset Data Governance Standards in 2019, a committee was created to develop specific procedures for the organization to use in order to keep GIS data accurate and current. This committee meets on a monthly basis and consists of staff from IT, GIS, AM, and Civic Operations.

New ESRI tools are now being utilized by City staff. The ArcGIS Portal and ArcGIS Dashboards illustrate where the City's assets are and what asset management data is associated with them. These tools use the City's GIS and Cityworks data. Here is an example of a dashboard illustrating information about the City's water system.



2) Asset Condition:

Condition assessments have been a focus for the City over the last seven (7) years. Civic facilities, Utility facilities, paved roads, sidewalks, trails, hard surface courts, parking lots, streetlights, major bridges, playgrounds, and some sanitary sewer mains and storm culverts have been inspected for condition. In 2020, the paved road network was re-assessed for condition using a vehicle equipped with lasers and cameras to identify and record defects and condition scores. Condition assessments of the paved road network is scheduled to occur every 3-6 years. The 2020 inspection included the inventory collection of the City's road signs. Over 17,000 signs were collected and will be added to the GIS in the near future.



Condition assessments were also conducted for paved civic parking lots and hard surface courts in 2020 and 2021 respectively.

The results from these assessments are important for planning and prioritizing required work. Much of the condition data is housed in Cityworks and the GIS. This graphic represents the road condition scores that are stored in the GIS and available in Cityworks.

The City's predictive modeling software, Powerplan AMP (formerly called RIVA) and BUILDER SMS, use condition scoring to determine upcoming renewals and help to better plan how much funding is needed in the long-term to keep the City's infrastructure assets in good working order.

Condition re-assessments for several civic facilities are currently underway. All civic buildings are planned to be assessed for condition every 5 years.

3) Level of Service for Existing Assets:

Level of Service (LoS) Framework was completed in 2020. The City utilized the experience and expertise of AECOM Canada Ltd to help with this project. Organization wide workshops were held in early February 2020 to begin developing customer LoS statements and corresponding customer and technical LoS measures. Currently AM is working on putting procedures in place and gathering the data to populate the key performance indicators (KPI's) included in the LoS Framework. KPI's such as *'# of catchbasin sumps cleaned'* and *'% of civic facilities that meet universally accessible standards'* all help identify whether the City is meeting its targets and customer expectations.

The next step is to engage with customers to identify preference on key service level options and costs and to seek comment and verification of preferred service levels. Some of this is already being communicated through the annual Citizen Budget process.

Documenting Level of Service (LoS) is a proven practice for these reasons:

- Service Levels need to be explicitly described and accepted by the community the City serves,
- Community expectations and organization capacity are important elements of any discussion about service level,
- Public trust and confidence increases when the City can describe service levels and performance using a variety of financial and non-financial data,
- Understanding the community's expectations and clarifying whether the way things have been done is acceptable or just a habit,
- Identifying priorities, whether service is acceptable or change is needed, to help the City determine where resources/effort should be directed, including what the appropriate funding levels will need to be to sustain desired service levels, and,
- Assess internal and external factors that have the potential to impact the City's ability to deliver services (i.e., climate change, pandemics).

The City participates in the Canadian Infrastructure Benchmarking Initiative (CIBI) (Previously known as National Water & Wastewater Benchmarking Initiative (NWWBI)) with over 30 municipalities across Canada comparing water, wastewater, and stormwater. Many of the key performance indicators measured in this program are included in the City's LoS Framework. The KPI's show the City's current level of service and how it compares with other local governments. Some highlights from the 2020 and 2021 benchmarking for the City include:

- The City is performing well on # of Watermain breaks/100km with 1.2 main breaks per 100 km of the water distribution system which is fairly low.
- The City's wastewater related customer complaints have decreased.
- The City's sewer charge for a typical residential service connection is below the 25th percentile value for the group.
- Downward trend in water and wastewater corrective maintenance hours over the past six years, which indicates a shift to a more preventive approach to maintenance.

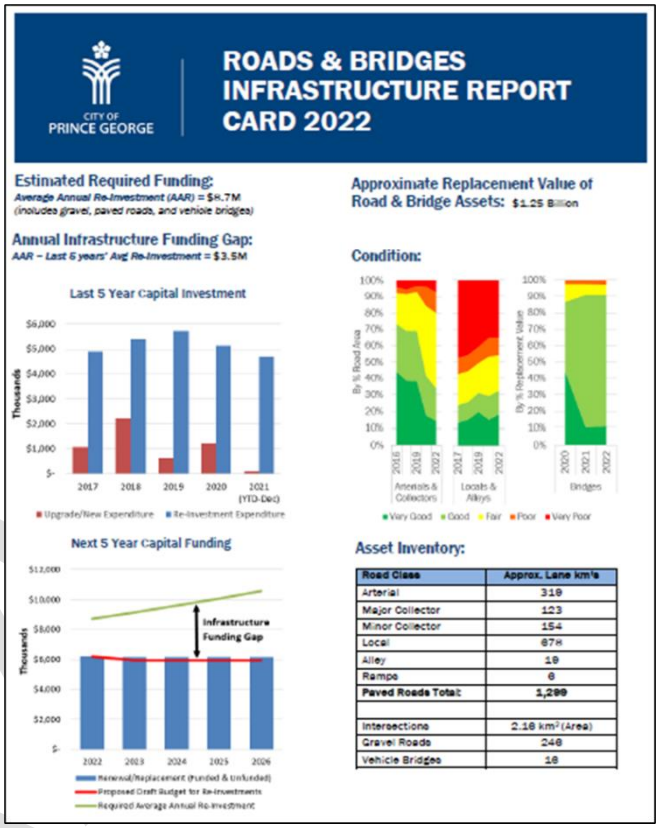
- The number of stormwater catchbasins cleaned has increased over the past couple of years, but is still well below the group median. Sediment can negatively impact the capacity of the downstream storm system and harm the natural receiving environment. Increased funding for stormwater maintenance would allow the City to clean more catchbasins.
- High cost to provide water distribution compared to the group median.
- One of the lowest water and sewer rates.

4) Asset Expenditures:

Infrastructure Report Cards are developed annually and included in the City's Financial Plans. The following asset categories are included;

1. Civic Facilities
2. Parks & Trails
3. Roads & Bridges
4. Sidewalks & Walkways
5. Storm Drainage
6. Street Lights
7. Sanitary Sewer
8. Water

Each report card includes asset inventory, condition, replacement value, required funding, last five (5) year funding, next five (5) year funding and the annual infrastructure funding gap.



5) Risk Register:

The recently developed Integrated Stormwater Management Plan (ISMP) includes risk scores for the majority of the assets in the system. This risk data is also accessible in Cityworks/GIS now. Risk registers will be incorporated into AM Plans and used to prioritize work.

6. Planning:

2020/21 Accomplishments:

Integrated Stormwater Management Plan

One of the significant action items from the City's AM Strategy was to develop and implement an Integrated Stormwater Management Plan (ISMP). This strategic plan was completed in the Fall of 2021 and included several presentations to Council and public engagement initiatives.

Under the direction of the Asset Management Steering Committee, staff is currently finalizing a Stormwater Drainage AM Plan. These tactical plans describe what the City needs to do to keep its infrastructure assets working properly including capital projects and O&M programs. They summarize what the City is able to do with the resources it has and what it can't do. These plans assist Senior Leadership and Council in understanding and deciding upon what is an acceptable risk and what resources are needed if the risk is too high and must be dealt with. AM will also be creating a Civic Facilities AM Plan this year.

AM Plans communicate the actions required for the responsive management of assets (and services provided from those assets), compliance with regulatory requirements, and funding needed to provide

the required levels of service over a 20-year planning period. These plans take strategies, such as the ISMP, and bring them down to the tactical level.

7. Implementation:

This section of the UBCM Gas Tax agreement is about measuring positive outcomes of asset management planning and implementation. Measuring the following indicators annually will assist in tracking continuous AM implementation:

2020/21 Asset Management Implementation Proposed KPI's: