



INFRASTRUCTURE
DEVELOPMENT

2022 Delivery Report



In 2022, the City of Vaughan effectively progressed the 2018-2022 Term of Council Service Excellence Strategic Plan, delivering many city-building milestones. Major strides continue toward improving the flow of traffic around the city. Innovative initiatives, including the Kirby Road Extension and Canada Drive-America Avenue Bridge, will transform how residents and goods move throughout Vaughan. In addition, the City's award-winning active transportation infrastructure continues to advance, and planning is underway for future projects that will build upon our strong foundation.

Table of Contents

A Message from the Mayor.....	4
A Message from the City Manager.....	5
A Message from the Deputy City Manager, Infrastructure Development.....	6
Executive Summary.....	8
Strategic Alignment.....	17
2022 Delivery Updates by Asset Group.....	18
◆ Roads and Bridges.....	18
◆ Water, Wastewater and Stormwater.....	20
◆ Facilities.....	22
◆ Parks and Open Spaces.....	24
◆ Active Transportation.....	26
Development Engineering Update.....	29
Infrastructure Planning Studies and Third Party Projects.....	30
Real Estate Services.....	32
Municipal Excellence.....	33
Grant Funding.....	34
Project Communications.....	35
2023 Outlook.....	36
Appendix.....	37

Development Engineering | Facility Management | Infrastructure Delivery |
 Infrastructure Planning and Corporate Asset Management |
 Parks Infrastructure Planning and Development | Real Estate

MESSAGE FROM THE Mayor



The City of Vaughan's Infrastructure Development portfolio is essential to driving forward-looking, prudent and strategic investments

in Vaughan's current and future infrastructure projects. The portfolio plays an important role in implementing many of the strategic priorities outlined in the Council-approved 2022-2026 Term of Council Service Excellence Strategic Plan, including City Building, Transportation and Mobility, and Active, Engaged and Inclusive Communities.

Featuring a transit system anchored by the subway that offers seamless connectivity throughout the Greater Toronto Area, the Vaughan Metropolitan Centre (VMC) is a dynamic and vibrant city centre. The heart of Vaughan's downtown core houses the VMC Subway, SmartCentres Place Bus Terminal and the vivaNext rapidway transit system – all a short distance away from Niagara University's Vaughan campus, Cortellucci Vaughan Hospital and the 900-acre North Maple Regional Park. These and other significant city-building initiatives are at the forefront of global city-building.

I want to thank the City's Infrastructure Development team for their diligent work in building upon and improving Vaughan's transportation network. Together, we are working hard to advance Vaughan as a fully connected community and ensure the City's many infrastructure assets and amenities are enjoyed for years to come.

Steven Del Duca
Mayor



MESSAGE FROM THE City Manager



I want to extend my appreciation to the Infrastructure Development portfolio for their continued dedication to designing, delivering and

maintaining infrastructure that improves the quality of life for residents.

Each team within the portfolio supports critical city-building. These initiatives include parks and trails, renovated libraries and community centres, fire stations, roads, bridges and the things we cannot see, like underground water mains and so much more. These important elements bring the community together and provide services residents rely on each day.

On behalf of the Senior Leadership Team – Executive, I want to thank the Infrastructure Development team for ensuring exceptional customer service and consistent delivery of municipal facilities, amenities infrastructure that contribute to the community's well-being. Congratulations on the initiatives, awards and recognitions outlined in this report.

Thank you,

Nick Spensieri
City Manager



Fire Station 7-12 rendering



MESSAGE FROM THE Deputy City Manager, Infrastructure Development



2022 was a year distinguished by numerous achievements and milestones thanks to an enhanced delivery rate across all City infrastructure projects.

In 2022, \$166 million worth of work was completed – more than double the value of work accomplished compared to the \$66 million spent in 2021.

The achievements and significant increase in the volume of work completed in 2022 advanced delivery in all strategic priority areas, with a focus on Transportation and Mobility, where \$38 million of infrastructure work was completed. Design for

major projects such as the Kirby Road Extension, Canada Drive-America Avenue Bridge, and Jane Street Uptown Link Cycle Tracks and Sidewalk was completed in 2022, setting the foundation to further enhance the City's transportation network in 2023.

Substantial growth in the delivery of infrastructure across all asset groups was evident as projects advanced with an impressive cashflow rate of more than 100 per cent. Major projects progressed in 2022, including Carrville Community Centre, Library and District Park, Fire Station 7-12, Edgeley Park Pond, Black Creek Renewal and the North Maple Regional Park redevelopment, reflecting the portfolio's proficiency in applying a strategic approach to infrastructure delivery.



Our projects have received recognition and awards across different categories from industry organizations and associations. Most notably, the Active Transportation program received accolades for service excellence. In 2022, the Clark Avenue Active Transportation Facility project – which included the City's first retrofit cycle tracks – was awarded the Ontario Public Works Association's 2021 Project of the Year Award in the transportation category. With significant progress in expanding Vaughan's network of separated cycling facilities, the City's 2022 Citizen and Business Survey showed a six per cent increase in satisfaction as it relates to cycling infrastructure in comparison to 2018.

The portfolio continues to exemplify fiscal responsibility by leveraging grant opportunities and partnerships to fund and provide in-kind support for various infrastructure projects across the city. More than \$6.6 million of grant funding supported infrastructure projects in 2022, with an opportunity to offset \$14.5 million of spending through received or pending funding for Active Transportation initiatives.

The 2022 Delivery Report showcases the numerous capital programs and projects that advanced throughout the year to effectively manage and maintain roads, facilities, parks and more. The portfolio pushed forward with all opportunities to build, revitalize and enhance municipal infrastructure, so residents can continue to access world-class amenities and receive high-quality public services for years to come. Building on the successes of 2022, the Infrastructure Development portfolio is geared up to deliver even more in 2023!



Vince Musacchio

Deputy City Manager
Infrastructure Development



Executive Summary

The Infrastructure Development portfolio was created on July 1, 2019

Following a corporate re-organization on July 1, 2019, the Infrastructure Development portfolio was created by consolidating all of the City's capital delivery departments with the mandate to more efficiently deliver on Vaughan's approved and planned capital program. The portfolio oversees the majority of the City's infrastructure planning and delivery, asset management, facility management and real estate functions.

In support of the City's vision, mission, values and Service Excellence Strategic Plan, the portfolio developed a purpose statement to provide staff with the "what, how and why" as it relates to their vital roles and functional responsibilities.

"We deliver City spaces through creative and inspired thinking to shape exceptional experiences."

In addition, the portfolio's supplementary core values and corresponding behaviours help foster a culture of innovation, collaboration and creativity. These supplementary core values complement the City's values of respect, accountability and dedication, further supporting and advancing our purpose.

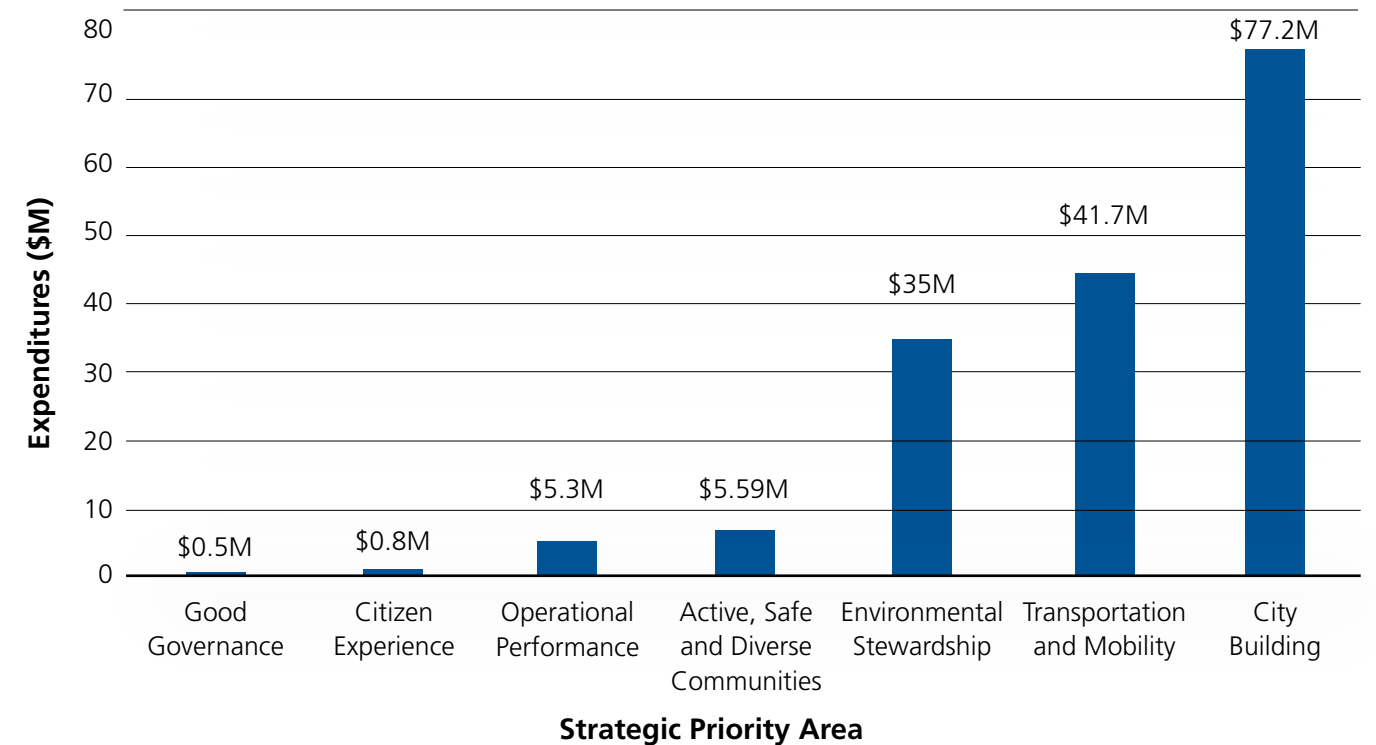
Infrastructure assets are built, owned, operated and maintained by the City

Assets are essential to provide the necessary services that contribute to the high quality of life enjoyed by Vaughan residents. It is imperative to ensure services are delivered in a safe, reliable and efficient manner while sustaining a growing community. Important elements of the asset management cycle are the acquisition, renewal and replacement of infrastructure that provide municipal services.

Strong alignment with the 2018-2022 Term of Council Service Excellence Strategic Plan

Infrastructure Development continued to contribute to the City's Strategic Plan by planning, designing, initiating and completing projects that support Active, Safe and Diverse Communities; City Building; Environmental Stewardship; and Transportation and Mobility. This contribution significantly aids in delivering on Vaughan's vision to become a city of choice that promotes diversity, innovation and opportunity for all residents, as well as fostering a vibrant community life that is inclusive, progressive, environmentally responsible and sustainable.

2022 Expenditures by Strategic Priority



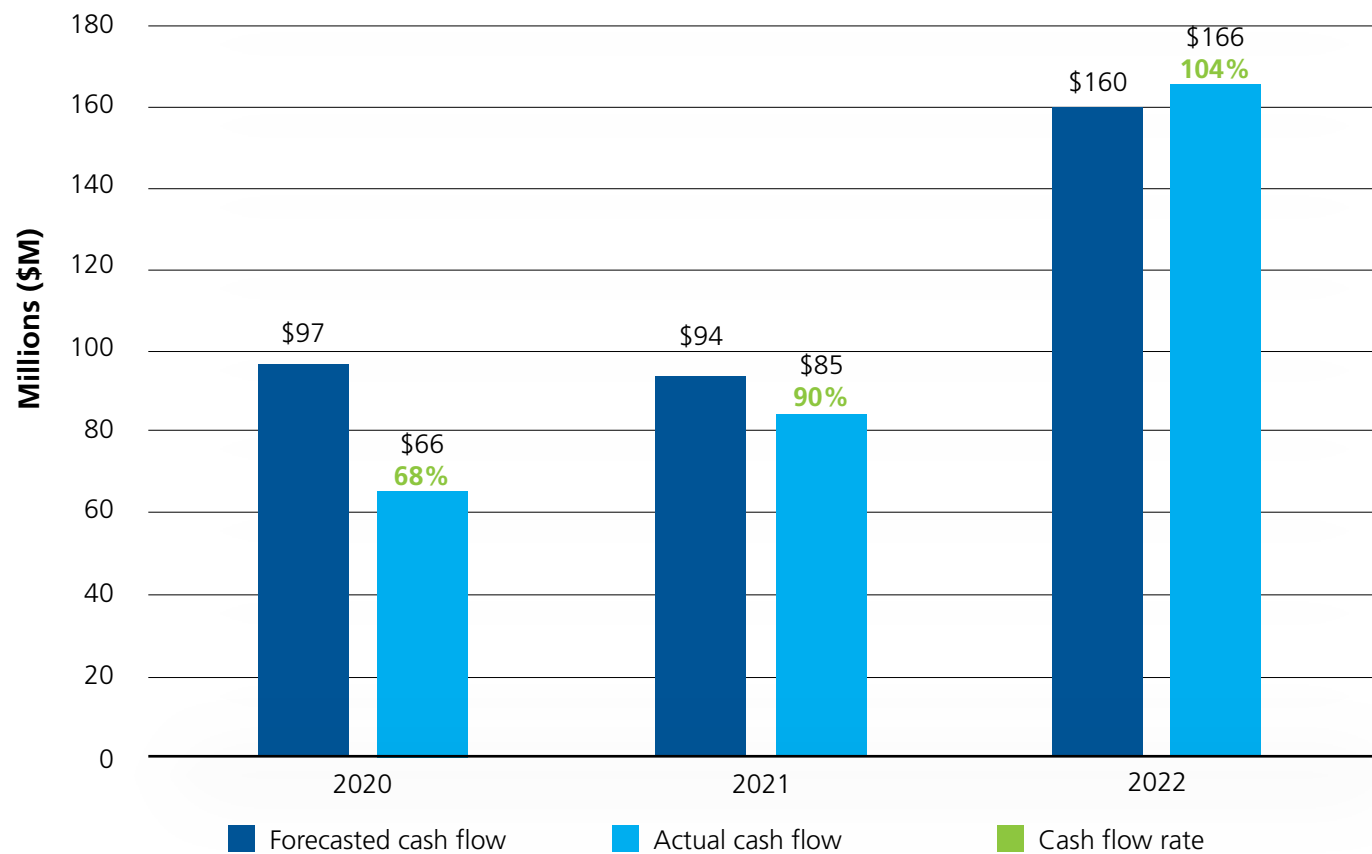


The portfolio has continued to improve the delivery of the annual capital program since its creation in 2019

The main key performance indicator (KPI) to measure the effectiveness of capital delivery for the portfolio is the aggregate cash flow delivery rate. On an annual basis, the portfolio details the delivery plan for the year and determines the required budget utilization (cash flow) to support

the delivery of the capital program. This forecasted cash flow is then measured against the actual cash flow to determine the cash flow rate. A 95 per cent cash flow rate has been established as a benchmark and serves as an appropriate performance measure for the successful delivery of the program. The following is the annual cash flow rate comparison for the past three years.

Annual Expenditures Forecast vs. Actual



The Infrastructure Development portfolio achieved a 104 per cent cash flow rate in 2022

The portfolio achieved the best cash flow delivery rate since its inception in 2019. In 2022, the portfolio achieved a 104 per cent cash flow rate with a total delivery of over \$165 million. The delivery target of 95 per cent was surpassed for the first time.

In 2022, the City invested \$73.32 million in State of Good Repair projects and \$92.34 million in Growth-Related projects, for a total of \$165.66 million in expenditures



The City's capital program can be subdivided into two categories: State of Good Repair and Growth-Related programs.

State of Good Repair Program: This program is established through a risk-based review of the condition of City infrastructure and its ability to provide the required Level of Service to Vaughan's Citizens. Each asset class is reviewed, and the investment requirements (including rehabilitation and replacement) are determined to ensure that the City achieves maximum Value for Money. Funding sources for this program are generally capital through taxation, infrastructure reserves and the provincial Gas Tax.

Growth-related Program: This program is established to deliver new infrastructure to support growth. This includes community infrastructure (such as community centres, parks, fire stations, etc.), as well as linear infrastructure (such as watermains, sewers, roads, etc.). These programs are typically established through the City's Growth Management Strategy and the corresponding master plans that support development. The funding sources for this program are primarily Development Charges.



A detailed review of these expenditures, summarized per asset class, is noted below.

In 2022, an investment of \$38.8 million across 104 projects was made to the City's road network.

The roads asset class consists of a network of arterial, collector and local roadways and associated assets that provide the safe passage of vehicles throughout the community. The bridges asset class consists of structures that provide a roadway or walkway for the passage of vehicles, pedestrians or cyclists across an obstruction, gap or facility and are greater than or equal to three metres in span.

The following is a summary of road network projects that were underway throughout 2022:

- 23 in the study phase (includes Master Plans, Environmental Assessments, Feasibility Studies, Pre-Design, etc.)
- 17 in the detailed design phase
- 27 in the construction phase
- 37 were completed



An investment of \$44.49 million across 49 projects was made to the City's water, wastewater and stormwater network

The water, wastewater and stormwater asset class consists of a network of water and sewer mains and associated assets that provide the safe conveyance of drinking water, sanitary and storm water. This asset class also includes residential and commercial service connections, maintenance holes and stormwater management ponds.

The following is a summary of water, wastewater and stormwater projects that were underway throughout 2022:

- 5 in the study phase (includes Master Plans, Environmental Assessments, Feasibility Studies, Pre-Design, etc.)
- 9 in the detailed design phase
- 10 in the construction phase
- 25 were completed



An investment of \$47.94 million across 90 projects was made to the City's facilities assets.

The facilities asset class consists of all buildings owned by the City that serve residents, businesses and City staff.

The following is a summary of facilities projects that were underway throughout 2022:

- 6 in the study phase (includes Master Plans, Environmental Assessments, Feasibility Studies, Pre-Design, etc.)
- 10 in the detailed design phase
- 29 in the construction phase
- 45 were completed

An investment of \$39.45 million across 96 projects was made to the City's Parks and Open Spaces Assets.

The parks and open space asset class consists of play spaces and amenities for residents as well as linear open spaces that either expand on the park system or create enhanced linkages between the system of parks and open spaces.

The following is a summary park and open space projects that were underway throughout 2022:

- 14 in the study phase (includes Master Plans, Environmental Assessments, Feasibility Studies, Pre-Design, etc.)
- 35 in the detailed design phase
- 11 in the construction phase
- 36 were completed



Cannes Park



An investment of \$11.34 million across 24 projects was made to the City's Active Transportation network.

The active transportation asset class consists of walking and cycling infrastructure and facilities offering residents recreational transportation and feasible transportation alternatives to the automobile.

The following is a summary of active transportation projects that were underway throughout 2022:

- 6 in the study phase (includes Master Plans, Environmental Assessments, Feasibility Studies, Pre-Design, etc.)
- 8 in the detailed design phase
- 4 in the construction phase
- 6 were completed

The Infrastructure Development portfolio continues to develop long-range infrastructure planning studies to support future growth.

The portfolio works closely with the Planning and Growth Management portfolio to develop important infrastructure plans to help support and guide future growth within the City. Infrastructure Development oversees a number of long-range master plans, strategies and studies, which integrate infrastructure requirements with environmental assessments and planning principles.

Real Estate Services continues to support Growth-Related Projects, ensuring the timely delivery of infrastructure.

The Real Estate Services team supports city-wide initiatives by securing property rights such as Permissions to Enter, Temporary Easements and, where required, securing and/or disposing of land. In 2022, non-tax revenue of more than \$11 million was generated from the sale of surplus City lands and/or easements. More than 130 Development Applications were reviewed and commented on, resulting in more than \$15 million cash-in-lieu of parkland revenue.

In addition, Real Estate Services works with the Regional Municipality of York and the Province to secure property required for regional and provincial infrastructure initiatives in the city, including roads, sewers, transit and rail.

Development Engineering joined the Infrastructure Development portfolio in January 2022, further standardizing City-wide Capital Delivery.

With the City's new organizational structure introduced in January 2022, the portfolio welcomed the Development Engineering department. The team is responsible for the expeditious review, approval, inspection and processing of municipal services for land development. The addition of the department to the Infrastructure Development portfolio will help ensure that the vast majority of infrastructure is delivered in a standardized manner. Synergies between the infrastructure planning and delivery groups will allow for a coordinated and efficient approach to growth-related infrastructure projects.

A consolidated delivery approach was developed in 2021 and continued in 2022 to ensure effective and efficient capital delivery.

Following a rigorous review of how capital projects are delivered (from project initiation to project completion), a delivery approach was developed to ensure that capital delivery was standardized. The delivery approach is guided by the Program Management Process (PMP), governance and reporting, coupled with resources, procedures, tools and templates.



Block 27



Program Management Process Governance and Oversight

Program management process governance is provided through the Program Management Committee. The committee is made up of all of the senior leadership members of the Infrastructure Development team. The committee was responsible for:

- aligning projects with the 2018-2022 Term of Council Strategic Plan.
- prioritizing capital project funding submissions.
- approving project changes.
- providing oversight on all delivery projects and programs.

Communications for all projects were significantly enhanced in 2022

Throughout 2022, Infrastructure Development – in collaboration with other City departments, consultants and our partners in Corporate and Strategic Communications – developed and executed comprehensive communications strategies to promote awareness and support vital connections with clients, stakeholders, City Council, staff and the community. A total of 630 project communications were released to support the 2022 capital program.



Black Creek VMC perspective

Strategic Alignment

Throughout 2022, the Infrastructure Development portfolio made significant contributions to the City's 2018-2022 Term of Council Strategic Plan by achieving objectives under the following strategic priority areas: Active, Safe and Diverse Communities; Citizen Experience; City Building; Environmental Stewardship; Good Governance; Operational Performance and Transportation and Mobility.

2022 Expenditures by Strategic Priority



Our Purpose and Values

In support of the City's vision, mission, values and Service Excellence Strategic Priorities, the Infrastructure Development portfolio's purpose statement provides staff with the "what, how and why" as it relates to their vital roles and functional responsibilities.

"We deliver City spaces through creative and inspired thinking to shape exceptional experiences."

In addition, the portfolio's supplementary core values and corresponding behaviours help foster a culture of innovation, collaboration and creativity. These supplementary core values complement the City's values of RESPECT, ACCOUNTABILITY and DEDICATION, and further support and advance our purpose.

Portfolio Core Values

We are a TEAM

We treat everyone with dignity, value their contributions and help one another succeed.

We build COMMUNITY

We plan, design, deliver and maintain infrastructure that improves quality of life for citizens.

We are INNOVATIVE

We explore creative solutions that keep ourselves and the organization relevant.

2022 Delivery Updates by Asset Group

ROADS AND BRIDGES

The **roads asset group** consists of pavement, curb, traffic signal and streetlight components of the City's arterial, collector and local roadways network that provide the safe passage of vehicles throughout the community

The **bridges asset group** consists of pavement, curb, traffic signal and streetlight components of the City's arterial, collector and local roadways network that provide the safe passage of vehicles throughout the community

Types of Assets

- Concrete and steel bridges and culverts
- Pedestrian and vehicular bridges and culverts
- Roadways, concrete curbs and roadway safety barriers
- Guiderails and timber bridges
- Streetlights, traffic signals and pedestrian signals

Inventory of Assets and Overall Value

	Total Amount	Overall Value
All road assets	2,400 lane kilometres	\$2.0B+
Inventory Breakdown		
Bridges and major culverts	196 units	
Roadside curbs	3,000 kilometres	
Roadside barriers	26 kilometres	
Streetlights	29,000 units	
Traffic signals	96 units	



104
Total number of projects



\$38.47M
Total 2022 expenditures

Breakdown by Project Phase

Phase	Number of Projects per Phase
Study	23
Design	17
Construction	27
Complete	37



2022 Project Highlights

- **Bass Pro Mills Drive Extension Environmental Assessment**
- **Block 59 - Streets F and G**
- **Canada Drive-America Avenue Bridge:** Completed the preliminary design to facilitate procurement of the design builder in 2023
- **Kirby Road Extension - Dufferin Street to Bathurst Street:** Completed preliminary design and issued tender to retain a design builder
- **Kirby Road Widening Environmental Assessment**
- **Teston Road Operational Environmental Assessment**
- **Woodbridge Avenue Improvements Project:** Initiation of bridge rehabilitation and underground works including watermain and sanitary sewer replacement

WATER, WASTEWATER AND STORMWATER

The **water asset group** consists of linear and non-linear assets throughout the community that enables the delivery of safe drinking water.

The **wastewater asset group** consists of linear and non-linear assets throughout the community that enables the collection and conveyance of wastewater to regional trunk sewers and treatment facilities.

The **stormwater asset group** consists of linear and non-linear assets throughout the community that manages the stormwater runoff that occurs as a result of rain and snow.

Types of Assets

- Water assets include watermains, valves, chambers, hydrants, etc.
- Wastewater assets include sanitary sewers, manholes, pump stations, etc.
- Stormwater assets include storm sewers, catch basins, stormwater management ponds, etc.

WATER Inventory of Assets and Overall Value

	Total Amount	Overall Value
All wastemains	1,200 kilometres	\$1.6B
Inventory Breakdown	Amount	
Chambers	10,645	
Hydrants	10,600	
Service connections (commercial)	3,700	
Service connections (residential)	88,000	
Mainline valves	9,800	
Water booster stations	2	

WASTEWATER Inventory of Assets and Overall Value

	Total Amount	Overall Value
All wastewater assets	1,020 kilometres	\$1.0B
Inventory Breakdown	Amount	
Mains (sanitary sewers)	1,020 kilometres	
Maintenance holes	16,520	
Pump stations	11	
Service connections	88,000	

STORMWATER Inventory of Assets and Overall Value

	Total Amount	Overall Value
All stormwater assets	1,000 kilometres	\$2.0B
Inventory Breakdown	Amount	
Catch basins	22,300	
Inlet/outlet structures	810	
Mains (storm sewers)	1,000 kilometres	
Maintenance holes	16,300	
Management ponds	184	
Service connections	88,000	

Water, Wastewater and Stormwater



49
Total number of projects



\$44.49M
Total 2022 expenditures

Breakdown by Project Phase

Phase	Number of Projects per Phase
Study	5
Design	9
Construction	10
Complete	25

2022 Project Highlights

- **Black Creek Renewal:** Continued to advance the design within the Vaughan Metropolitan Centre, including completion of technical review and validation of findings for the preferred creek alignment per the approved Environmental Assessment study
- **Keele Street Watermain Replacement** (Jardin Drive to Langstaff Road)
- **Old Maple Area Improvements - Phase 1:** Watermain replacement, drainage improvements, storm sewer enhancements and road reconstruction work
- **Stormwater Management Facility - Phase 1:** Ashbridge Circle Pond, Blackburn Pond, Fieldstone Pond, Franklin Pond and Pondview Pond
- **Watermain Improvements - Phase 1**
- **Woodland Acres Area Improvements**

FACILITIES

The **facilities asset group** consists of all buildings owned by the City of Vaughan to serve residents, businesses and City staff.

Types of Assets

- Administration buildings
- Community centres
- Fire stations
- Heritage buildings
- Libraries
- Operations yards
- Sport/senior clubs/other



Sports Village skating trail



North Thornhill Community Centre gymnasium
LED lighting retrofit

Inventory of Assets and Overall Value

	Total Amount	Overall Value
All facilities	97 buildings; more than 2.2M square feet	\$650M*
		<i>*excludes land value</i>
Inventory Breakdown	Total	Total Area (square feet)
Administration buildings	2	414,500
Community centres	10	1,110,000
Fire stations	10	98,600
Heritage buildings	19	59,200
Libraries	10	174,000
Operations yards	3	44,000
Sport/senior clubs/other	43	350,000



90

Total number of projects



\$47.94M

Total 2022 expenditures

Breakdown by Project Phase

Phase	Number of Projects per Phase
Study	6
Design	10
Construction	29
Complete	45

2022 Project Highlights

- **NEW Carrville Community Centre, Library and District Park:** construction advancing with scheduled completion in 2024
- **Courtyard fountain renovation at Vaughan City Hall**
- **Facility renewals and upgrades included:** arena board cladding replacement, gymnasium floor refurbishment at Al Palladini Community Centre; gymnasium refurbishment at Dufferin Clark Community Centre; pool changeroom shower upgrades at North Thornhill Community Centre; pathway lighting and trail replacement at Sports Village; new drainage pit installation

at Vellore Village Community Centre; refrigeration upgrades at Woodbridge Pool and Memorial Arena

- **NEW Fire Station 7-12:** to be built at 9511 Weston Rd., advanced through design phase with construction to begin in 2023
- **Garnet A. Williams Community Centre:** major renovation is underway featuring new activity rooms, an updated pool and outdoor patio area, improved fitness change rooms, an outdoor splashpad and more
- **Heritage site renewals and improvements included:** basement waterproofing and structural reinforcement at Beaverbrook Home; main floor refresh and basement structural reinforcement at Vellore Hall
- **LED Lighting Retrofit Program:** City Playhouse Theatre, Dufferin Clark Library, Maple Community Centre and North Thornhill Community Centre
- **NEW Main Service Counter at Vaughan City Hall — Service Vaughan Project:** construction of a new main service counter, private and semi-private meeting rooms and a digital service area at City Hall

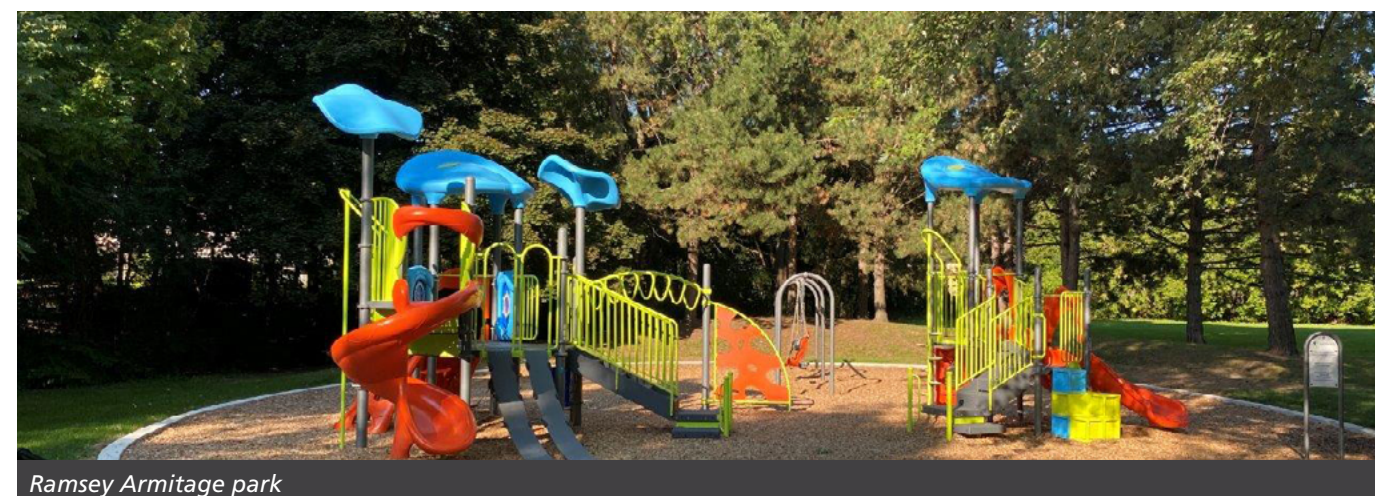
PARKS AND OPEN SPACES

The **parks and open space asset group** consists of play spaces, sports fields and amenities for community use and enjoyment, as well as linear open spaces that either expand on the park system or create enhanced linkages between the parks system and open spaces.

For information about multi-use pathways and recreational trails, refer to the Active Transportation section.

Types of Assets

- Playgrounds
- Skateboard areas
- Soccer and baseball fields
- Splash pads and waterplay areas
- Tennis and basketball courts



Ramsey Armitage park

Inventory of Assets and Overall Value

	Total Amount	Overall Value
Parks	233	\$243M*
<i>*excludes land value</i>		
Inventory Breakdown	Amount	
Baseball fields	58	
Basketball courts	73	
Tennis court play surfaces	136	
Playgrounds	272	
Soccer fields	150	
Splashpads and waterplay areas	20	



96

Total number of projects



\$39.45M

Total 2022 expenditures

Breakdown by Project Phase

Phase	Number of Projects per Phase
Study	14
Design	35
Construction	11
Complete	36

2022 Project Highlights

- **Bartley Smith Greenway Trail Feasibility Study:** completed the study to close a three-kilometre gap in the trail between McNaughton Road and Rutherford Road
- **Glen Shields Park Redevelopment completed**
- **Land acquisitions for future parkland:** Black Creek Renewal initiative and future Block 59 District Park

- **North Maple Regional Park:** completion of trail improvement works funding through a Federal Investing in Canada Infrastructure Program grant; 30 per cent completion of enabling works construction and 75 per cent detailed design completion for site grading, servicing and ecological restoration of 130 acres of parkland, including the expansion of Vaughan CARES Way with a secondary access road into the park; Feasibility review for a National Soccer Training Centre
- **Martin Tavares Park (Block 18 District Park):** Advanced detailed design for this new park
- **Off-leash dog areas:** completed design and construction of four new local off-leash dog areas in Wards 1 to 4 and advanced consultation for one in Ward 5
- **Studies:** **Parkland Dedication Guideline Study** completed and implemented new Parkland Dedication By-law 168-2022 for the provision of parkland conveyance and payment-in-lieu of parkland; **Pickleball Study** finalized and implemented line painting for shared-use pickleball courts at four additional park locations, with dedicated pickleball courts to be provided at the new Carrville Community Centre and District Park and LeParc Park



ACTIVE TRANSPORTATION

The active transportation asset inventory consists of walking and cycling infrastructure that offers residents the ability to use “human power” or lightweight electric-powered forms of transportation, for both regular travel and recreational opportunities. There are two types of active transportation assets, ones that are located within the road allowance and ones that are located within the City’s open spaces and parks. Assets within the road allowance include concrete sidewalks, asphalt in-boulevard multi-use pathways, cycle tracks and on-street bike lanes. Assets within the City’s open spaces are primarily granular, asphalt or natural material multi-use recreational trails and asphalt or concrete pathways.

Active transportation is using “human power” to get from one place to another primarily by walking, using a mobility device or riding a bike. Micromobility, an emerging mode in Vaughan, generally refers to lightweight electric-powered modes of travel such as e-rollerblades, e-skateboards, e-bikes, e-scooters and limited-speed motorcycles. Staff have been studying the opportunity to accommodate electric micro-users in cycling facilities.

Types of Assets

- **Bike lanes** (on road pavement) – dedicated space for cycling, physically separated from pedestrians but no physical separation from motorists, delineated using pavement markings on the roadway
- **Cycle Tracks** (in-boulevard within road allowance) – designated space for cycling, paved and physically separated from pedestrians and motorists. Can be located on the road pavement with physical separation, or in the boulevard either adjacent to the sidewalk or adjacent to the curb
- **Multi-use pathways** (in-boulevard within road allowance) – shared space for walking, cycling and other forms of active transportation in the boulevard that are generally constructed out of asphalt
- **Multi-use recreational trails** (within open spaces) – shared space for walking, cycling and other forms of active transportation within open spaces, constructed out of various materials including asphalt, granular and natural, etc.
- **Pathways** (shared space within parks and around civic buildings) – shared space for walking, cycling and other forms of active transportation within parks and around civic buildings in either asphalt or concrete
- **Sidewalks** (in-boulevard within road allowance) – dedicated space for walking in the boulevard generally constructed out of concrete

Inventory of Assets and Overall Value

	Overall Value
All Active Transportation	\$230M
Inventory Breakdown	Amount
Bike lanes (on roads) and cycle tracks	15 kilometres
Multi-use pathways (in-boulevard)	32 kilometres
Multi-use recreational trails	42 kilometres
Toronto and Region Conservation Authority recreational trails*	78 kilometres*
Pathways	104 kilometres
Sidewalks	1,110 kilometres

**excluded from overall value*

For the total inventory of municipal, regional and partner active transportation assets in the City as of December 2022, refer to the [Highlights of Accomplishments Brochure](#) (PDF) as part of the [Active Transportation Programs Third Annual Update](#) (PDF) presented to Council in February 2023.

Active Transportation

Active transportation projects are implemented using two methods. The first is through “routine accommodation” which leverages already planned capital projects such as road rehabilitation or water service replacement, as well as opportunities through development applications. The second is through the implementation of “standalone projects” through an established active transportation implementation program which is reviewed annually through the budget approval process.



24
Total number of projects (standalone only)



\$11.34M
Total 2022 expenditures (standalone only)

For a comprehensive list of standalone active transportation projects and active transportation assets delivered through “routine accommodation” as part of other capital projects (i.e. sidewalks or cycle tracks advanced as part of a road reconstruction project or a multi-use recreational trail crossing as part of a culvert replacement), see the [2022 Active Transportation Capital Infrastructure Projects List](#) from the Active Transportation Programs Third Annual Update.



In 2022, there were a total of 60 projects that delivered active transportation infrastructure – 24 standalone projects and 36 additional projects that were leveraged to accommodate active transportation. This number does not include active transportation infrastructure advanced through the development application approval process.

Breakdown by Project Phase

Phase	Number of Projects per Phase (standalone only)
Study	6
Design	8
Construction	4
Complete	6

2022 Project Highlights

- Advanced active transportation infrastructure:** In collaboration with City partners, more than 120 kilometres of active transportation infrastructure for all ages and abilities were advanced, including the Jane Street Uptown Link, Vaughan Super Trail and Thornhill Neighbourhood Network
- Courtland Avenue multi-use pathway:** connected the employment area just north of the Vaughan Metropolitan Centre to transit along Jane Street
- Jane Street Uptown Link (Jane Street from Portage Parkway to Teston Road):** 60 per cent detailed design was completed and is now awaiting approval of grant funding for construction
- New Westminster Drive, Atkinson Avenue and Hilda Street:** Detailed designs advanced in 2022 in support of the build out of the Thornhill Neighbourhood Active Transportation Network signature project as identified in the Pedestrian and Bicycle Master Plan

Development Engineering Update

The Development Engineering department is responsible for the expeditious review, approval, inspection and processing of municipal services for land development.

2022 Intake Summary	Total Number
Pool permits	457
Grading permits	1,979
Inspections performed	10,494

2022 Assumption Summary

Municipal infrastructure delivered through the development approval process and growth-related projects that were assumed by the City.

15 Land Development projects with a value of \$15M

- 11.5 lane kilometres of road
- 6.3 kilometres of watermain
- 4.8 kilometres of sanitary sewer
- 5.7 kilometres of sidewalk
- 4.8 kilometres of storm sewers
- 160 streetlights
- 1 stormwater management pond

2022 Development Services	Total Number
Active agreements	15
Committee of Adjustment files processed	350
Fully executed agreements	22



46

Total number of active projects

5

Total number of new projects

2022 Project Highlights

- **Barons Street Extension to Nashville Road:** \$2.4M
- **Garnet Williams Way Extension Opening** – scheduled for Q2 2023: \$3M
- Completed agreements to facilitate development of road network and servicing in support of the Block 27 Municipal Class Environmental Assessment: \$0.4M
- **Block 34 East** - continued to facilitate the development of Block 34 East (Walmart site): \$7.4M

Infrastructure Planning Studies and Third-Party Projects

The portfolio oversees a number of long-range master plans, strategies and studies which integrate infrastructure requirements with environmental assessment and planning principles.

The team is committed to protecting the City's interests and needs as it oversees third-party projects, plans and initiatives which may impact Vaughan's linear infrastructure.

2022 Project Highlights

- **Bass Pro Mills Drive Extension Environmental Assessment** (Highway 400 to Weston Road) completed in 2022
- **Integrated Urban Water Plan** advanced with significant progress in establishing new existing condition water, wastewater and stormwater management system capacity models, and identifying where system upgrades are needed to accommodate continued population growth
- **Kirby Road Environmental Assessment** (Jane Street and Dufferin Street) was completed in 2022
- **Micromobility White Paper** was completed, studying the potential need for accommodating motorized micromobility and micro-utility devices in Vaughan's cycling facilities

- **Promenade Centre Secondary Plan – Comprehensive Transportation Study:** was completed in partnership with Policy Planning and Special Programs team to support the intensification of the Promenade Centre area
- **Rutherford and Maple GO Mobility On-Request pilot** launched in May 2022 to study the impact of providing novel transit services to residents travelling to or from the Maple or Rutherford GO Stations during the morning and afternoon rush hours; the pilot accommodated more than 2,500 trips
- **Teston Road Environmental Assessment** (Pine Valley to Kleinburg Summit) advanced with several recommended safety and operational improvements for all modes of transportation
- **Vaughan Transportation Plan** progressed with the proposed future transportation network and major transportation policies evaluated reviewed by the public in 2022



INFRASTRUCTURE DEVELOPMENT

Technical Analysis, Reviews and Support

- **Development Charges:** Area specific Development Charges By-law update and Subdivision Agreement Revenue Recovery Planning.
- **Development Applications:** Technical analysis and support provided on key projects in the city, including Nashville Pumping Station options analysis, Block 34 East sanitary sewer capacity constraints analysis, Keele Street sanitary drainage alternative options analysis and Promenade Area options analysis.
- **Policy Development Support:** Developed a national standard on I/I reduction in new construction (will be published in Q2 2023); initiated the review of the City's Sanitary Sewer Design criteria to bring it into conformance with York Region I/I reduction requirements and to address inconsistencies between management objectives and staff practices; provided advice on Strata Policy; mapped roles and responsibilities in a number of areas; begun efforts on an internal routine disclosure procedure.

- **Third-Party Project Reviews:** Tracking more than 40 projects underway by our partners at York Region, the Ontario Ministry of Transportation, Metrolinx and Peel Region, and neighbouring municipalities. These projects include regional road improvements, highway improvements such as the Langstaff Road Environmental Assessment (Weston Road to Highway 7), Teston Road Individual Environmental Assessment (Highway 400 to Bathurst Street) as well as the Yonge North Subway Extension and GO Station upgrades. Participation in and review of each of these projects protect the City's interests for these key infrastructure studies.
- **York Region Capital Projects:** Technical review and support provided on various York Region projects, including the decommissioning of the hospital pumping station, the analysis of the Kleinburg wastewater treatment plant capacity and the northeast Vaughan water and wastewater system expansions.

Real Estate Services

The Real Estate team supports city-building initiatives by securing property rights, including full Buy-out, Temporary Easements and/or Permissions to Enter. On occasion, City-owned property is declared surplus and sold to generate non-tax revenue. In 2022, over \$11 million dollars were generated from the sale of surplus City lands.

Over 130 development applications were reviewed, resulting in the determination of over \$15 million dollars of Cash-in-lieu of Parkland obligations.

Real Estate Services manages over 80 leases and licenses, supporting numerous community organizations, including seniors and sporting groups. In 2022, four lease/license renewals were completed.

In 2022, Real Estate Services completed the acquisition of property required for:

- Black Creek Renewal Initiative
- Future Block 59 District Park
- Kirby Road Extension

In addition, Real Estate Services works with the Regional Municipality of York and the Province to secure property required for regional and provincial infrastructure initiatives in the city, including roads, sewers, transit and rail.



North Maple Regional Park

Municipal Excellence

Awards and Accolades

Active Transportation

The **Ontario Public Works Association's 2021 Project of the Year Award** in the transportation category for the **Clark Ave. Active Transportation Facility**.

Project details are available at vaughan.ca/ClarkAve.



Certifications

Achieved Zero Carbon Building Design — Certification for new City Facility

The City's new Carrville Community Centre, Library and District Park has achieved the Canada Green Building Council's Zero Carbon Building – Design Certification. This achievement demonstrates climate change leadership and innovative sustainability approaches. Approaches include a geothermal system, photovoltaic arrays, lower water use, low-impact landscaping, improved indoor air circulation and quality, electric vehicle charging stations, high-performance heating and cooling and improved

Rick Hansen Foundation Accessibility Certifications

Rick Hansen Foundation Accessibility Certification™ (RHFAC) is a rating system that measures the accessibility of buildings and sites. It promotes increased access through the adoption of universal design principles.

To date, 21 City facilities have received RHFAC certifications:

- Nine Accessibility Certified Gold sites (achieving a minimum score of 80 per cent)
- 12 Accessibility Certified sites

Grant Funding

Numerous Infrastructure Development projects have progressed with the support of grants, reflecting our continued commitment to exploring alternate funding opportunities with a focus on good governance and accountability.

In 2022, grant funding contributed to several of the City's strategic priorities, including the

advancement of projects such as the Doctor McLean Park Redevelopment, Keele Street multi-use pathway, Sports Village skating trail and various renewal, accessibility and environmental stewardship initiatives.

Total Grant Funding awarded in 2022 relating to infrastructure projects: More than \$6.6M

Grant Name	Organization/ Agency	Amount Awarded	Description
Capital Infrastructure			
Strategic Priorities Infrastructure Fund	Government of Ontario	\$3.6M	Doctors Mclean Park Redevelopment and Riverwalk Trail (Humber River Trail)
Canada Community Revitalization Fund	Government of Canada through FedDev Ontario	\$2.9M	<ul style="list-style-type: none"> Pierre Berton Heritage Centre parking lot: \$375K Playground resurfacing and sensory gardens: \$375K Woodbridge Library entrance renovation: \$731,250 Keele Street multi-use pathway: \$750K Woodbridge Avenue streetscape: \$750K
Zero Emission Vehicle Infrastructure Program & EV Station Fund	Government of Canada & The Atmospheric Fund	\$11K	Pierre Berton Heritage Centre Electric Vehicle charging infrastructure
Operational			
Municipal Asset Management Program	Federation of Canadian Municipalities	\$50K	Management Plans for non-core assets: Funding was awarded to the City's Infrastructure Planning and Corporate Asset Management department to help strengthen asset management practices
TD Greenspace	TD Bank	\$25K	Pollinator garden at York Hill District Park

Project Communications

Enhancing Communications

Throughout 2022, the portfolio – in collaboration with City departments, consultants and our partners in Corporate and Strategic Communications – employed numerous communication tactics to support vital connections with the community, clients, stakeholders, Vaughan Council and staff.

630 Project Communications:

- project memos
- newsletters
- notices
- public service announcements
- meetings/consultations
- reports



Page Views by Project Webpage: 2022



2023 Outlook*

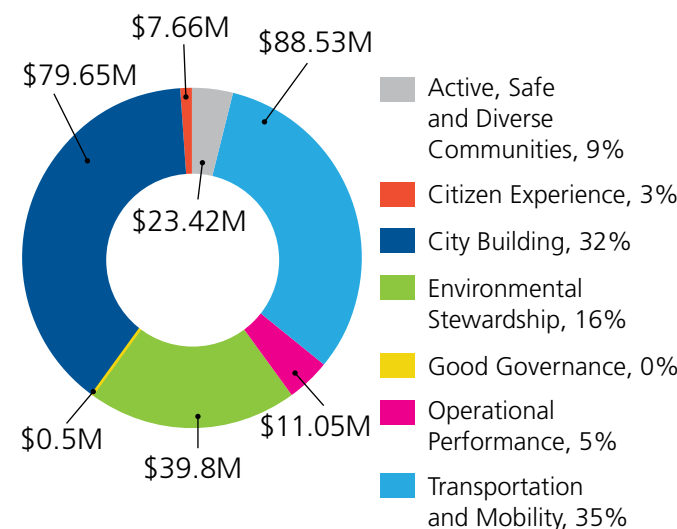
PROJECTED EXPENDITURES:

Breakdown by Strategic Priority

Strategic Priority*	Projected Expenditure**
Active, Safe and Diverse Communities	\$23.42M
Citizen Experience	\$7.66M
City Building	\$79.65M
Environmental Stewardship	\$39.80M
Good Governance	\$0.86M
Operational Performance	\$11.05M
Transportation and Mobility	\$88.53M
TOTAL:	\$250.97M

* Based on 2018-2022 Strategic Priorities **rounded

Breakdown by Strategic Priority

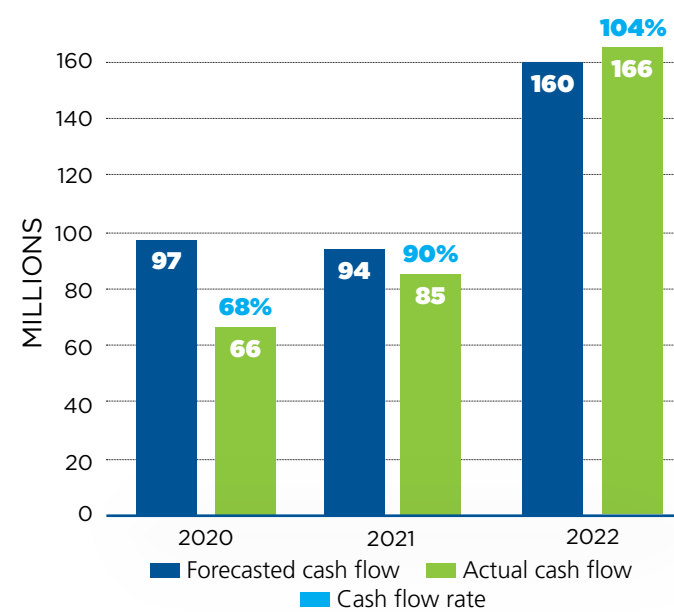


Breakdown by Asset Group

Asset Group	Projected Expenditure**
Active Transportation	\$ 17.42M
Facilities	\$ 82.19M
Non-asset Related	\$ 0.34M
Parks and Open Spaces	\$ 41.50M
Roads and Bridges	\$ 80.74M
Water, Wastewater and Stormwater	\$ 28.78M
TOTAL:	\$250.97M

**rounded

Annual Expenditures Forecast vs. Actual Cash Flow



Appendix

2022 DELIVERY APPROACH

The Delivery Approach is guided by the Program Management Process (PMP), governance and reporting, coupled with resources, procedures, tools and templates.

Project Management Process



The Program Management Process demonstrates how the need for an asset transforms into a project to deliver a new asset or make changes to an existing asset. The process ensures that asset and project information is gathered, analyzed, monitored and shared with appropriate stakeholders to support evidence-based decision-making.

Program Management Process Governance and Oversight

Program management process governance is provided through the Program Management Committee. The committee is responsible for aligning projects with the City's Strategic Plan, prioritizing capital project funding submissions, approving project changes and providing oversight on all delivery projects and programs.

Program Management Office (PMO)

The **PMO** is responsible for overseeing the entire Program Management Process, which includes overseeing the selection of delivery approach, charter development and prioritization, facilitation of monthly reporting and project change approvals, providing staff with the methodology, tools and systems needed to support the Program Management Process, quality checks on project artefacts and applying a gated approach to ensure compliance to the methodology.



Project Prework

Within the **Project Prework Phase**, assets are selected to move forward for replacement or refurbishment, including new growth-related assets. Selected assets are bundled into projects using draft charters and further defined with information that can be used to support prioritization and capital funding requests. The Program Management Committee governs the prioritization of draft charters and decides via a valuation exercise which charters will move forward into the Capital Budgeting Process through the Corporate Budget Approval phase.



Project Approval

Within the **Project Approval Phase**, selected project charters initiate the capital funding submissions. Financial Planning and Development Finance manage the Project Approval Phase and facilitate the City's annual capital budget approval. Draft charters provide information to support this decision-making process.



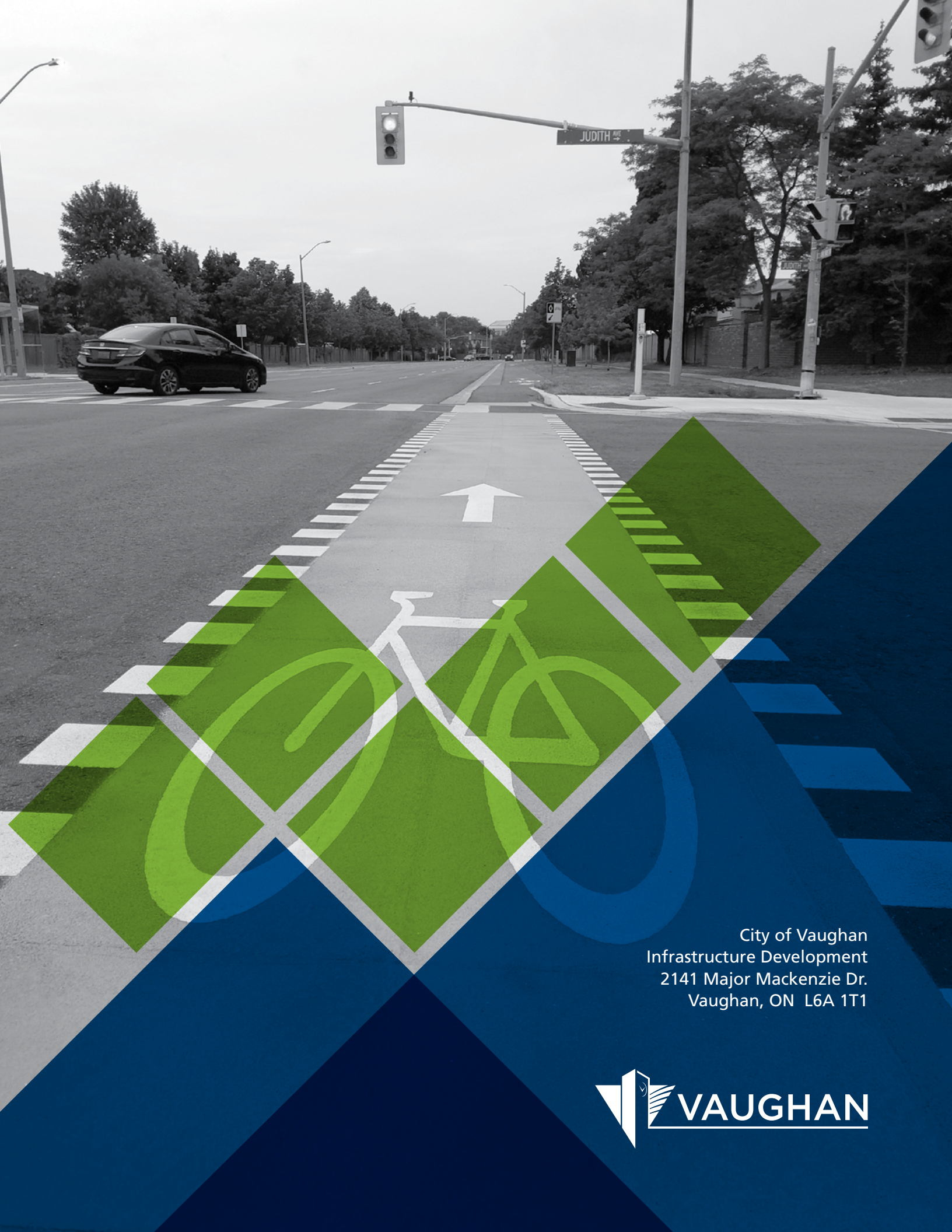
Project Management

The **Project Management Phase** ensures that the infrastructure capital plan is baselined and delivers assets in a consistent and accountable manner. Project scope, schedule, budget, risks and issues are monitored through monthly reporting. Requested changes to baselined scope, schedule and budget are authorized through a project change approval process. Projects are closed out, and assets are transitioned into the community for the operational department to maintain. Revised or new asset information is fed back into corporate asset management systems.



Investing in infrastructure is ultimately about investing in people:

- ◆ helping to ease the flow of people and goods
- ◆ delivering parks, sports and leisure spaces for families to play and stay healthy
- ◆ upholding water and wastewater systems for the community to enjoy clean water and pristine environments
- ◆ preserving, protecting and promoting environmental values for future generations
- ◆ contributing to social inclusivity and promoting accessibility for Canadians of all backgrounds



City of Vaughan
Infrastructure Development
2141 Major Mackenzie Dr.
Vaughan, ON L6A 1T1

