## The Regional Municipality of York

Committee of the Whole Transportation Services April 13, 2023

Report of the Commissioner of Public Works

## **Transportation Capital Infrastructure Status Update**

### 1. Recommendation

The Regional Clerk circulate this report to Clerks of local municipalities.

## 2. Summary

This annual report provides Council with a summary of 2022 accomplishments and projects that will be delivered in 2023 under the Transportation Capital Program. These projects are required to meet the needs of the Region's growing communities and maintain assets in a state of good repair.

### **Key Points:**

- In 2022, work advanced on a number of roads and transit infrastructure projects to improve the Regional Transportation network with an investment of \$281.9 million
- The 2023 Public Works 10-Year Capital Plan includes \$3.9 billion in transportation projects, comprised of \$2.15 billion for growth infrastructure to add capacity to the Regional transportation and transit networks and \$1.75 billion for roads and transit asset management. This investment over the next decade includes accelerating 13 projects, totaling \$441.6 million, partially funded through the Roads Capital Acceleration Reserve (RCAR)
- In 2023, \$377 million will be invested in roads and transit infrastructure to advance growth and asset management projects
- The Region's Transportation Master Plan guides the Transportation Capital Program, with the goal of ensuring the transportation network continues to meet the needs of our growing communities
- Delivery of the 2023 10-Year Transportation Capital Plan growth projects may be impacted by current economic conditions and is contingent on achieving forecasted development charge revenue in 2023 and beyond

## 3. Background

### Capital Plan focuses on expanding and maintaining the transportation network

Transportation infrastructure work is 39% of the Region's total 2023 10-Year Capital Plan. The work is comprised of a Growth Program, to increase capacity of the Regional road and transit network and an Asset Management Program, to optimize the lifecycle of the Region's infrastructure investments and keep these core assets in a state of good repair.

This investment aligns with the Transportation Master Plan and reflects Council's support for improving the road and transit system and maintaining assets. Work is focused on providing an efficient transportation network and enhancing the traveller experience for daily commuters, including those who use the Region's transit services.

The Region supports more sustainable and efficient delivery by building roads that integrate active and eco-friendly ways of travel and a well-thought-out transit network that helps to manage traffic congestion and reduce greenhouse gas emissions while giving travellers more options to seamlessly make connections and reach key destinations.

The number of active projects by program and project delivery phase are summarized in Table 1.

Table 1
2023 Road and Transit Projects by Project Delivery Phase

Project Delivery Phase	Growth Program	Asset Management Program	
Environmental Assessment	5	-	
Design	20	125	
Construction	14	78	
Total	39	203	

# Annual project prioritization is guided by the Transportation Master Plan and priority setting process endorsed by Council

The Region's Transportation Master Plan (TMP), updated in 2022, guides the long-term vision for the Region's transportation network. It looks ahead 30 years and considers the Region's transportation infrastructure needs to support over two million people, close to one million jobs, along with changing needs of travellers and future growth. The TMP supports healthy communities and economic growth by planning for a connected transportation network for all travellers that is safe, reliable, future-ready, sustainable and balances needs of the unique communities we serve. This plan is reviewed every five years to ensure that planned improvements continue to support changing needs of the Region.

Projects within the TMP were initially ranked using the Region's priority-setting model, a process endorsed by Council, that determines the benefit scores of each project, looking at aspects such as how much the road capacity would be increased, what type and intensity of development is expected nearby, whether the road is close to important destinations or freeways and what uses (trucking, transit and car travel) the road will support. These rankings were further refined qualitatively in consultation with subject-matter experts looking at factors such as making the overall network more efficient by including eco-friendly and active transportation infrastructure.

All growth-related road projects are reviewed and prioritized annually to ensure they meet objectives of the TMP. The prioritized list of growth projects is programmed based on available funding. Through this review, projects may be added, removed or adjustments made to project limits or timing. The 10-Year capital program is then presented to Council for approval through the budget process.

Renewal projects are prioritized each year based on the Council-approved Asset Management Program budget. A prioritized list is developed using an asset management database and software to optimize life-cycle costs, such as increasing pavement life. This list is further refined considering adjacent Regional, local municipal and utility projects and community impacts.

# The Transportation Capital Program aims to build the transportation network through partnerships with all levels of government

The Provincial, Regional and local transportation networks function as an interconnected system. Partnering with other levels of government to help fund and deliver road-related infrastructure such as missing links, highway interchanges and road-rail grade separations. Collaboration is essential for creating and expanding the transportation network and providing a seamless integrated road network.

York Region has formed important partnerships with the provincial government, local municipalities, neighbouring municipalities, conservation authorities, school boards, advocates and other interested parties. Partnerships support a network where travellers can travel in their cars and use transportation options transferring easily from one to another. A great example is the coordination between the Region, Vaughan, and the provincial government, to provide residents with better access to the Cortellucci Vaughan Hospital.

Commitments for Regional contributions to provincial, local municipal or third-party road projects, such as the Region's share of provincially led Bus Rapid Transit projects, mid-block crossings of freeways, and road-rail grade separations, are presented to Council for approval through the annual budget process.

# Roads Capital Acceleration Reserve accelerates priority growth-related road projects

The Roads Capital Acceleration Reserve (RCAR) fund was created in 2019 in response to Council's request for more investment in growth-related road projects over the near term in

advance of collection of development charges. RCAR fund is dedicated to accelerating growth-related road projects funded primarily through development charges.

In <u>February 2023</u>, an update was provided to Council on the status of projects accelerated through RCAR funding and an outlook of reserve balances. RCAR remains financially sound and has allowed 13 priority projects to be advanced.

# Numerous infrastructure projects completed in 2022 enhanced the Regional transportation network

In 2022, road and transit projects were completed, providing enhanced access to work, home, and schools across the Region. Projects included road widenings, intersection improvements, new cycling lanes and transit facilities. The total estimated expenditure for this work is \$281.9 million, based on preliminary actuals (unaudited). Road-related projects account for \$176.9 million, and transit related projects account for \$105 million. A detailed list of the 2022 accomplishments is included as Appendix A.

### 4. Analysis

Council approved a Regional investment of more than \$377 million in 2023 for transportation growth and asset management projects. Roads-related projects account for \$297 million of this investment, with \$80 million allocated to transit-related projects. The Growth Program is primarily funded from development charges and the Asset Management Program primarily through the tax levy-funded asset management reserve. A project list and a location map are included as Appendices 2 and 3, respectively.

#### GROWTH PROGRAM

The Growth Program focuses on building system improvements to Regional road and transit networks moving people and goods safely and efficiently across the Region's growing communities. Work includes widening roads in the most congested urban areas and near new development. Important components of the Growth Program include mid-block crossings over 400-series highways, improved intersections, new multi-use paths and streetscaping. While these projects take place in areas experiencing, or forecasted to have, the highest growth, they benefit all travellers in the Region by providing improved access to employment areas, shopping and recreational destinations, and major highways.

The Region must plan now for future transportation needs in these growing communities due to the time it requires to complete major projects like road widenings and implementing rapid transit corridors. Anticipating this growth helps reduce service lags and congestion. Similarly, the Province of Ontario must support this growth with new or improved 400 series and arterial highways and interchanges, GO Rail service expansion (extensions of two-way, all day and 15-minute or better service), Yonge North Subway extension and investment in additional bus rapid transit.

The Growth Program supports improvements to increase traveller safety, enhance traveller experience and environmental sustainability. These improvements include streetscaping on

key corridors and green infrastructure in road projects, and transit traveller amenities including shelters, waste/recycling receptacles, bike racks, electronic signs that provide real-time information and technology on buses to enhance traveller and pedestrian safety.

In 2023, Public Works will continue to build and maintain infrastructure to ensure the Regional transportation network is safe and responsive to traveller needs. Over \$240 million will be invested in the roads and transit growth programs on major capital infrastructure construction and new projects. Traffic volumes have generally returned to pre-pandemic levels, reinforcing the need to connect travellers to the larger transportation network of freeways and transit systems.

### **Four Lane Road Widening**

Typical four-lane widenings improve roads located near new development areas and in the most congested core urban areas by adding additional capacity and new pedestrian facilities and/or cycling facilities, where feasible. These projects may also include re-aligning the road or eliminating jogs at intersections.

#### Key Projects:

- Widening of Teston Road from Pine Valley Drive to Weston Road from a rural two-lane road to an urban four-lane road began in late 2022 and is expected to be complete in late 2024. The work includes re-aligning the intersection and installing new traffic signals at Teston Road and Pine Valley Drive, raising the road and constructing a new 45-metre span bridge at Purpleville Creek, realigning the creek channel, reinstating the natural habitat of the valley lands and installing a new trail connection under the bridge. New sidewalks, cycling paths and street lighting on both sides of Teston Road will be installed. A full road closure on Teston Road is required from July to December 2023 to facilitate construction of the new 45-metre span bridge.
- Operational improvements on Major Mackenzie Drive are underway to provide a new centre turn lane from east of McNaughton Road to Keele Street and a new eastbound right turn lane at Keele Street. Streetscaping features will be added to align with the City of Vaughan's Maple Heritage District. This project includes road rehabilitation from Jane Street to east of McNaughton Road and installation of active transportation facilities to provide access to Vaughan's proposed Super Trail creating a continuous active transportation route from Highway 50 to Keele Street. Construction began in late 2022 and is expected to be complete in Summer 2024.

## **Six Lane Road Widening**

Roads are widened to six lanes to accommodate growth, ease congestion and provide more travel options for all users. A Regional standard for six-lane roads requires two all-purpose travel lanes in each direction, a high-occupancy vehicle (HOV) lane and a dedicated 1.5-metre cycling lane, at a minimum. HOV lanes are reserved for public transit, emergency vehicles, taxis and private vehicles carrying more than one person. Their main purpose on Regional roads is to increase the total number of people moving through the corridor.

#### Key Projects:

- Widening Yonge Street between Davis Drive and Green Lane from four lanes to six lanes, including transit/HOV lanes was scheduled to begin construction in 2022, however due to high prices, the tender was cancelled. Work has been split into two phases, an advance construction works contract now (retaining wall construction, watermain and hydro relocation, and temporary traffic signals), and a second phase for a road widening and reconstruction contract. The first phase has been tendered and work is expected to begin this summer. The scope of the second phase work is being reviewed and will be tendered in 2024. All work is expected to be complete in 2026.
- Widening Rutherford Road between Peter Rupert Avenue and Bathurst Street and Dufferin Street between Apple Blossom Drive and Marc Santi Boulevard from four lanes to six lanes is underway. Construction on Dufferin Street began in 2022 and is nearing completion. Construction will continue in 2023 on Rutherford Road and is expected to be complete in 2025.
- Widening Rutherford Road between Jane Street and Westburne Drive from four lanes to six lanes began in 2021 and is expected to be complete in 2024. This project includes installing left-turn lanes, widening the bridge over the Canadian National Railway (CN Rail) tracks, replacing and/or extending four large culverts, installing new boulevard bicycle lanes and sidewalks, raised median planters and enhanced streetscaping features. Working in close proximity to the rail tracks and maintaining railway traffic at one of the busiest rail yards in North America while addressing the discovery of poor soils under an existing culvert has created additional complexities on this project. Extended hours of work and/or additional lane reductions are tactics applied to help keep the work on schedule.
- Widening Keele Street between Steeles Avenue and Snidercroft Road/Great Gulf Drive (south of Highway 407ETR) from four lanes to six lanes began in 2021 and is expected to be complete in 2024. This project includes replacing the bridge over the CN Rail tracks with a new, wider structure, adding on-street bicycle lanes and extending the sidewalks to create continuous pedestrian access to Highway 407ETR on both sides of Keele Street.
- Widening Major Mackenzie Drive between Highway 400 and Jane Street from four lanes to six lanes began in late 2020 to improve access to the Cortellucci Vaughan Hospital. The project includes reconfiguring the bridge over Highway 400 and adjusting the on/off ramps, as well as extending the existing multi-use path west of Highway 400 easterly to Jane Street. Construction will be completed in 2023.

### Missing Links and Mid-Block Crossings of 400 Series Highways

Building mid-block crossings (crossings over freeways, mid-block between interchanges) to connect communities across barriers such as 400 series highways and completing missing links in mature urban areas offers more route options. The Region is looking to fill missing links in the Regional transportation network where major arterial roads are discontinuous such as extending Teston Road between Keele Street and Dufferin Street and extending of Langstaff Road over CN Rail MacMillan yard.

#### **Key Projects:**

- Construction will begin in 2023 on the second mid-block crossing of Highway 404, north of 16<sup>th</sup> Avenue, to link Orlando Avenue in Richmond Hill with Markland Street in Markham. This project is a partnership between the Region, Markham and Richmond Hill. Costs for this crossing will be shared based on an established funding policy for these types of projects. Additional local infrastructure will be delivered by the Region and funded by the respective local municipal partner. Construction is expected to be complete in 2026.
- The Region is in the final stages of completing an Individual Environmental Assessment (IEA) to study the "missing link" area of Teston Road between Keele Street and Dufferin Street. In this case, the study area includes the former Keele Valley landfill, the former City of Vaughan landfill and the environmentally sensitive McGill Valley area of the East Don River tributary. The first stage of an IEA is to complete a Terms of Reference (ToR) which establishes the planning and decision-making process for the subsequent IEA study. The Ministry of the Environment, Conservation and Parks approved the Teston Road Area ToR in 2018. The IEA began in spring 2020 and is expected to be completed in late 2023.
- The Region has completed an environmental assessment study for widening Langstaff Road from Weston Road to Dufferin Street to six lanes, including a recommendation for a new section of Langstaff Road with an elevated structure crossing over the CN Rail MacMillan Yard. At this time, the design and widening for the six-lane road is not programmed in the Region's 10-Year Capital Plan due to the high cost (estimated total \$615 million). Advancing this large complex infrastructure is very much contingent on significant additional funding from higher levels of government. An interim project for widening Langstaff Road from Keele Street to Dufferin Street to four lanes has been prioritized and is included in the 10-Year Capital Plan with construction expected to commence in 2026.

### **Active Transportation Projects**

Active transportation network improvements, such as construction of walking, cycling or multi-use paths, and trail connections at bridge crossings, are considered in all growth capital road improvement projects. Where a particular need is identified, active transportation projects may be delivered independently.

Two trails of Regional significance are the Lake-to-Lake Cycling Route and Walking Trail and the new South York Greenway route.

The Lake to Lake Route is a 121-kilometre recreational and commuter trail that connects Lake Simcoe to Lake Ontario. It is a transformative project forming a key spine of the Region's active transportation network connecting to trails like the Greenbelt Route, PanAm Path and Waterfront Trail, destinations like transit hubs, and other attractions such as beaches, community centres, and parks. Trail construction is being delivered in phases with over 85% of the trail in York Region already built.

The South York Greenway route will span more than 50 kilometres for recreational and commuter active transportation. This route will connect the Region's western and eastern borders from Vaughan to Richmond Hill and Markham. Once completed, it will be a significant active transportation connection to major mobility hubs, Region-wide trails and other key destinations such as the Vaughan Metropolitan Centre, Richmond Hill Centre and Markham Centre. This project will form a vital part of the Region's active transportation network and support local municipal active transportation initiatives. South York Greenway trail will be delivered in phases depending on available funding.

#### **Key Projects:**

- This year detailed design of priority segments of the South York Greenway is underway.
  The first two traffic signal-controlled intersections along the trail alignment will be
  reconstructed at Donald Cousens Parkway/14th Avenue and Donald Cousens
  Parkway/Copper Creek Drive to provide enhanced connections for pedestrians and
  cyclists into Rouge Urban National Park.
- Six priority segments of the Region's active transportation network will begin detailed design this year to prepare them for future delivery when funding is available. These priority segments will assist in closing missing gaps in the system.
  - Bayview Avenue from Vandorf Sideroad to Wellington Street
  - Yonge Street from Doane Road to Queensville Sideroad
  - Don Mills Road from Steeles Avenue to John Street
  - 14th Avenue from Warden Avenue to McCowan Road
  - Yonge Street from Sawmill Valley Drive to Joe Persechini Drive
  - Major Mackenzie Drive from Dufferin Street to Ilan Ramon Boulevard

### Transit Terminals and Operations and Maintenance Facilities Upgrades

Transit's Business Plan outlines the near term and long term forecasted growth for transit service. To keep up with demands, transit terminals and bus operations and maintenance facilities need to support service delivery by having adequate operational capacity. This requires either new or expanded transit terminals and bus operations and maintenance facilities. Transit's growth portfolio is reviewed annually as part of the Capital Budget with a 10-year outlook.

#### Key Projects:

 Constructing a new transit terminal on Major Mackenzie Drive, opposite Cortellucci Vaughan Hospital. The terminal is expected to be complete and fully operational in 2023.

- Expanding the existing YRT bus operations, maintenance and storage facility at 55
  Orlando Avenue in Richmond Hill to align with Contract and Facility Strategy. The
  expansion is expected to be complete in 2023.
- Continuation of planning and design for future expansion of YRT bus operations, maintenance, and storage facility located at 8300 Keele in Vaughan to support service needs.

### **Transit Fleet Expansion and Electrification**

Transit meets the growth needs identified in its Transit Business Plan by expanding its fleet. The Region's Transit Fleet Electrification Plan outlines a recommended approach to electrification with a mix of electric and diesel buses being purchases between 2021 and 2029, transitioning to exclusive purchase of electric buses by 2030. This will achieve targets set out in Vision 2051 and the Energy Conservation and Demand Management Plan. Through the Zero Emissions Transit Fund, Transit will accelerate the Transit Fleet Electrification Plan by converting 30% of the YRT fleet to battery electric buses by 2026.

#### Key Projects:

- Installing electric bus infrastructure at two bus operations, maintenance, and storage facilities to support the original Transit Fleet Electrification Plan
- Planning and design of electric bus charging infrastructure required at transit terminals and bus operations, maintenance, and storage facilities
- Develop and issue procurements for electric bus and infrastructure related to Zero Emissions Transit Fund work

#### **Pre-construction Activities**

On average, it takes eight to ten years to deliver a major capital road infrastructure project. Before construction can commence, a Municipal Class Environmental Assessment (EA) study must be completed which can take more than 24 months.

After a Class EA is approved, detailed design advances. This includes identifying property requirements and any utility conflicts to be resolved through either design refinements or utility relocation. Permits are required during pre-construction and due to the increasing complex regulatory environment, and depending on the project, type of permit and its requirements, it may take a number of years before work can move forward.

Staff are currently working on pre-construction activities for 25 projects in preparation for construction in future years. 2023 pre-construction projects are listed in Appendix B and their locations shown on the map in Appendix D.

#### ASSET MANAGEMENT PROGRAM

The Asset Management Program focuses on renewal (rehabilitation or replacement) of the Region's transportation assets to keep core assets in a state of good repair, maximizing its

investment by extending the life of assets and reducing life-cycle costs. Public Works Transportation manages over \$6.6 billion in roads and transit infrastructure, including Regional roads, bridges, intersections, cycling lanes, transit terminals, buses, fleet vehicles and maintenance facilities. The Region has a planned \$1.75 billion investment in the asset management program over the next decade, including \$136.5 million invested in 2023 at more than 75 locations, across all local municipalities.

The Region's asset management plan is based on optimal timing of asset rehabilitation and replacement. Asset renewal, accounts for 45% of the 10-Year Capital Plan and is largely funded from asset management reserves.

Over 80% of the Region's core transportation assets, including pavement, storm systems and bridges, have a condition assessment rating of fair or better.

### Pavement Preservation, Repair, and Rehabilitation

Regional staff use a pavement management system to determine necessary rehabilitation techniques for sections of Regional roads. Pavement condition data which represents the extent and severity of pavement distresses is obtained for each section of road every two years. Data is entered into the pavement management system which evaluates the condition of all paved Regional road sections. Different rehabilitation techniques are considered to correct any deficiencies.

Network-wide optimization is then carried out to develop a program of pavement preservation or rehabilitation for each year over a ten-year time frame. Specific rehabilitation approaches are based on the cost/benefits of undertaking a particular technique to maintain road and traffic conditions to acceptable service levels. Staff prioritize work areas based on specific required repairs. Proposed works are coordinated with local municipal and other regional contracts to avoid potential conflicts and minimize traffic impacts.

In 2023, 275 lane-kilometres of roads, such as Bloomington Road from Woodbine Avenue to Kennedy Road in Whitchurch-Stouffville, and Kennedy Road from Steeles Avenue to 14th Avenue in Markham, will be rehabilitated or preserved.

### **Bridge and Culvert Rehabilitation or Replacement**

In 1997, Provincial Legislation was introduced under the *Public Transportation and Highway Improvement Act* requiring the structural integrity, safety and condition of every structure with a span of three metres and greater be determined through inspections carried out every two years. Condition data from inspections is fed into a bridge management system which analyses data and provides recommendations for periodic maintenance or repair to maximize the life of bridge and culvert structures. Projects are then prioritized and programmed based on factors such as coordination with road construction projects, safety improvements, traffic characteristics and funding.

In 2023, three large structures will be rehabilitated, and six large structures replaced. This includes Elgin Mills Road culvert replacement, east of Bayview Avenue, in Richmond Hill and Leslie Street culvert replacement, north of Green Lane, in East Gwillimbury.

### **Intersection Improvement**

The Intersection Improvement Program consists of geometric, operational, development and safety improvements along the Regional road network. Each year numerous requests for operational improvements and traffic control signals are received from local municipalities and members of the public. Requests are reviewed and added to the program based upon their merits, such as traffic control signal warrants, safety concerns, capacity improvements, improvements to meet *Accessibility for Ontarians with Disabilities Act* standards and cost. Improvements include modernizing all intersections on sections of road that are part of the road resurfacing and rehabilitation program.

Intersection improvements that are more substantial in nature, requiring significant civil work and property acquisition or utility relocations, are typically included in the 10-Year Road Capital Program. Projects are advanced subject to funding approved by Council through the budget process.

In 2023, 42 intersections will be improved, including installing of new traffic signals at Aurora Road and Ninth Line in Whitchurch-Stouffville and implementing pedestrian and cyclist safety measures at three locations in Markham. Thirty of these intersections will be improved in conjunction with road rehabilitation projects.

### Transit Terminal, Station and Bus-stop Repair and Rehabilitation

Transit manages the condition of its on-street assets through state of good repair programs. These programs include transit bus stop concrete rehabilitation, transit shelter replacement, and signage and lighting replacement. These programs are informed by annual inspections of on street stops, stations and terminals. Transit terminals are rehabilitated on an annual basis to ensure a state of good repair and to extend service life of Transit assets.

Key Projects in 2023:

- Renewing assets at facilities and on-street, including signage, transit shelters, accessible concrete bus pads and lighting retrofits
- Rehabilitating the pedestrian bridge at Richmond Hill Centre Terminal which connects YRT passengers to Langstaff GO Train station
- Rehabilitating the roadway, electrical and operational support spaces at Bernard Terminal, in Richmond Hill and Promenade Terminal in Vaughan

### **Transit Bus Overhaul and Replacement**

Transit extends the service life of its fleet using state of good repair programs. The mid-life overhaul program ensures overhauls of engines and transmissions are carried out in a proactive manner. The fleet undergoes an exterior and interior refresh at defined intervals. Fleet vehicles are replaced when they reach the end of their useful life with new replacement buses as required by the Transit Business Plan. End of life buses deemed surplus are decommissioned once replacement buses are in service.

Key Projects in 2023:

- Performing fleet mid-life overhauls and mechanical refreshes to extend service life of transit fleet
- Decommissioning of surplus end of life Transit Fleet
- Accepting and putting 26 replacement Bus Rapid Transit buses into service

### Current economic conditions have impacted project delivery and transit services

In 2022, several projects under construction were subject to resource constraints including market labour shortages and disruptions, agency responsiveness, material shortages and shipping delays. These challenges have continued into 2023. While there are delays to some projects, staff continue to work closely with contractors and external partners to minimize impacts.

While the COVID-19 pandemic resulted in a major drop in ridership, this ridership is rebounding with full recovery back to pre-pandemic levels forecasted in 2026. Service levels will continue to be adjusted to meet ridership demand and operate efficiently, including the ongoing assessment of transit fleet procurement.

Traffic on the road network decreased in early 2020 and by 2021, volumes were back near pre-pandemic levels. Traffic patterns, however, have changed, with a flattening of the historic morning and evening peaks.

### 5. Financial

# \$3.9 billion of roads and transit infrastructure works are included in the 2023 Public Works Budget and 10-year Capital plan

The 2023 budget for Public Works transportation projects includes a 10-Year Capital Plan totalling \$3.9 billion. The following sections provide an update on key transportation projects within the 10-Year Capital Plan under the Growth Program and Asset Management Program. A summary of key infrastructure project costs, based on the 2023 approved budget, is provided in Table 2.

As the Region makes increased investments in the growth program, there will be a corresponding need to increase the operating budget to include routine maintenance for this new or expanded infrastructure.

Table 2
Cost Estimates for Key Infrastructure Projects

Project	Estimated Total Project Cost	10-Year Capital Plan Expenditures <sup>1</sup> (2023-2032)
Mid-Block Crossing of Highway 404 North of 16 <sup>th</sup> Avenue	\$119.70M	\$88.80M
Widening Yonge Street between Davis Drive and Green Lane	\$94.15M	\$76.05M
Widening Rutherford Road between Peter Rupert Avenue and Bathurst Street and Dufferin Street between Apple Blossom Drive and Marc Santi Boulevard	\$64.49M	\$43.28M
Widening Kennedy Road between YMCA Boulevard and Highway 7	\$60.81M	\$57.08M
Elgin Mills Road/CN Rail Crossing Grade Separation, East of Yonge Street	\$49.39M	\$48.76M
Widening Stouffville Road between Bayview Avenue and Highway 404	\$49.06M	\$46.66M
Electric Bus Infrastructure Expansion	\$177.90M	\$125.56M
Bus Expansion (Mobility Plus, Conventional and Viva)	\$444.61M	\$252.22M
Transit Garage Expansion at 55 Orlando Avenue	\$66.20M	\$31.00M
Estimated Total Project Cost and Remaining Budget in 10-Year Plan	\$1,126.31M	\$769.41M

<sup>1.</sup> Costs are reviewed as projects advance and will be updated as part of annual budget process

# Managing longevity of existing infrastructure through comprehensive asset management

One of Public Works key strategic goals is to proactively maintain infrastructure to maximize the Region's investment and keep Regional assets in a state of good repair. A breakdown of estimated costs for key programs and other components of the entire capital program is provided in Table 3.

Table 3
Public Works Transportation Services 10-Year Capital Plan Expenditures

Capital Program Area	Expenditures (2023 - 2032)	
Key Infrastructure Projects (detailed in Table 2)	\$769.4M	
Other Roads Growth Capital Projects	\$1,227.7M	
Other Transit Growth Capital Projects	\$153.5M	
Roads Rehabilitation/Replacement	\$1,054.3M	
Transit Rehabilitation/Replacement	\$699.2M	
Total	\$3,904.1M	

# Delivery of growth projects in the 2023 10-Year Capital Plan are dependant on Development Charge Revenue

Growth project timelines established in the 2023 10-Year Capital Plan are dependant on the Region achieving its growth and development charge revenue projections. Development charge collections depend on market conditions and development approvals. As part of the budget process, the Region continues to assess development charge collections and adjust project timelines as needed to address actual population and employment growth. In November 2022, the Province enacted Bill 23, *More Homes Built Faster Act*, 2022. This legislation will reduce development charge collections and, without sustainable new funding, may impact growth related infrastructure delivery.

These risks are managed through the annual budget process by communicating advances in project development and any associated changes in capital cost estimates. Projects continue to be advanced through all pre-construction activities to be ready for changes in delivery timing or funding opportunities.

### 6. Local Impact

# The Region continues to work closely with local municipalities to coordinate capital works projects

Staff continue to work with local municipal staff to ensure concerns are addressed and local municipal infrastructure requirements, such as streetlights, sidewalks, streetscaping and active transportation facilities are included in Regional projects where possible. This work is funded by local municipalities and incorporated into Regional projects to coordinate infrastructure delivery, increase efficiency, provide local municipalities with cost and time savings, and reduce overall impact to residents and travellers.

Travellers in the Region's growing communities need safe and efficient services. This continues to be a priority for the Region and construction is managed to minimize disruptions to travellers while building and maintaining the transportation network. The Region has

comprehensive communication plans to keep residents, businesses, local municipalities and other stakeholders informed.

### 7. Conclusion

The Region continues to make significant investments in expanding and maintaining the Regional road and transit system, with several large projects underway to better move people and goods safely and efficiently across the Region's growing communities.

Potential long-term trends resulting from current economic conditions and new legislation will be key considerations as the Region continues to enhance travel options and maximize road network capacity, while ensuring the Region's assets are properly maintained and financially sustainable.

For more information on this report, please contact Salim Alibhai, Director, Capital Planning and Delivery, Public Works at 1-877-464-9675 ext. 75229. Accessible formats or communication supports are available upon request.

Recommended by: Erin Mahoney, M. Eng.

Commissioner of Public Works

Approved for Submission: Bruce Macgregor

Chief Administrative Officer

March 24, 2023

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Appendix A – Summary of 2022 Accomplishments

Appendix B – Summary of Current 2023 Projects

Appendix C – Map of 2023 Transportation Construction Projects

Appendix D – Map of 2023 Transportation Pre-Construction Projects

# Transportation Capital Infrastructure Status Update Summary of 2022 Accomplishments

Committee of the Whole

**Public Works** 

April 13, 2023

#### **GROWTH PROGRAM**

### Roads — Construction — 2 Projects Completed

Project Name	Municipality	Total Project Cost*
CP Rail Bridge Replacement on Highway 27 south of Rutherford Road	City of Vaughan	\$32.2M
Rutherford Road Grade Separation, Westburne Drive to Peter Rupert (Delivered by Metrolinx)	City of Vaughan	\$20.2M**

<sup>\*</sup> includes multi-year costs for projects that span more than one year

### Transit — Construction — 1 Project Completed

Project Name	Municipality	Total Project Cost*
Transit Shelter, Concrete Platform and Bus Stop Sign Expansion	Various	\$0.7M

<sup>\*</sup>includes multi-year costs for projects that span more than one year

<sup>\*\*</sup> Region is a funding partner and not the project proponent, Total Project Cost includes York Region's share of total cost

## **ASSET MANAGEMENT PROGRAM**

## Roads-Rehabilitation/Preservation-25 Locations Completed

Project Location	Municipality	Total Project Cost
Crack Sealing	Various Locations	to OM
Grind and Pave	Various Locations	- \$3.0M
Guide Rail Renewal and Replacement	Various Locations	\$1.5M
Road Rehabilitation and Preservation		
Road Rehabilitation — 143 lane kilometres		
16th Avenue and Leslie Street Intersection	City of Richmond Hill	
Bathurst Street, Elgin Mills Road to Gamble Road / 19th Avenue	City of Richmond Hill / City of Vaughan	
Bathurst Street, Henderson Drive to Mulock Drive	Town of Aurora/Town of Newmarket/Township of King	
Highway 27, Kirby Road to King-Vaughan Road	City of Vaughan	
Highway 27, Rutherford Road to Major Mackenzie Drive	City of Vaughan	
Holland Landing Road, Yonge Street to Bathurst Street	Town of East Gwillimbury	\$39.2M
Islington Avenue, Langstaff Road to Highway 7	City of Vaughan	
King Vaughan Road, Weston Road to Jane Street	City of Vaughan	
Major Mackenzie Drive, Warden Avenue to McCowan Road	City of Markham	_
Ninth Line, Highway 407 to 16th Avenue	City of Markham	
Yonge Street, Highway 11 to Holland Landing Road (section adjacent to the retaining wall to be completed in 2023)	Town of East Gwillimbury	
Yonge Street and Wellington Street intersection (delivered by Town of Aurora)	Town of Aurora	
Road Preservation — 113 lane kilometres		
Black River Road, Dalton Road to Park Road	Town of Georgina	

Project Location	Municipality	Total Project Cost
King Road, Highway 27 to 8th Concession	Township of King	
Leslie Street, Holborn Road to Ravenshoe Road	Town of East Gwillimbury	
McCowan Road, Elgin Mills Road to Stouffville Road	City of Markham/Town of Whitchurch-Stouffville	
Old Homestead Road, Warden Avenue to Station Road	Town of Georgina	
Rutherford Road, Highway 50 to Huntington Road	City of Vaughan	
Stouffville Road, Yonge Street to Bayview Avenue	City of Richmond Hill	
Vivian Road, Highway 48 to York-Durham Line	Town of Whitchurch-Stouffville	
Warden Avenue, Ravenshoe Road to Old Homestead Road	Town of Georgina	
Wellington Street, Bathurst Street to Yonge Street	Town of Aurora	

# $Roads-Structure\ Rehabilitation/Replacement-7\ Locations\ Completed$

Project Location	Municipality	Total Project Cost
Davis Drive Bridge Rehabilitation, east of Main Street	Town of Newmarket	
Highway 27 Culvert Rehabilitation, north of Lloydtown-Aurora Road	Township of King	
King Road Culvert, east of Keele Street	Township of King	\$9.1M
Lloydtown-Aurora Road Culvert Replacement, east of Jane Street	Township of King	·
McCowan Road Culvert Rehabilitation, north of 16th Avenue	City of Markham	
Woodbine Ave Culvert Rehabilitation, south of Denison Street	City of Markham	
Yonge Street Culvert Rehabilitation, north of Eagle Street	Town of Newmarket	\$5.1M

## $Roads-Intersection\ Improvements\ and\ Modernization-40\ Locations\ Completed$

Project Location	Municipality	Total Project Cost
Baseline Road, west of Dalton Road	Town of Georgina	
Davis Drive and McGregor Farm Trail	Town of Newmarket	
Highway 7 and Bowes Road	City of Vaughan	
Highway 7 and east of Montgomery Court	City of Markham	
Highway 7 and Main Street City of Markham		
Highway 7 and Red Maple Road	City of Richmond Hill	
Highway 27 and Sheardown Drive	Township of King	
Major Mackenzie Drive E. and Sussex Avenue	City of Richmond Hill	\$5.0M
Major Mackenzie Drive E. and Newkirk Road / Essex Avenue	City of Richmond Hill	ψ3.0Μ
Major Mackenzie Drive E. and Cedar Avenue	City of Richmond Hill	
Mount Albert Road and Ninth Line	Town of East Gwillimbury	
Ninth Line and Elm Road	Town of Whitchurch-Stouffville	
Vivian Road and Kennedy Road	Town of Whitchurch-Stouffville	
Yonge Street and Crestwood Road	City of Vaughan	
Illumination at Various Locations	Various Locations	
Traffic Signal Modernization in conjunction with Road Re	ehabilitation Projects	
Bathurst Street and Kennedy Street		
Bathurst Street and St. John's Sideroad	Township of King / Town of Aurora / Town of Newmarket	
Bathurst Street and Wellington Street		
Bathurst Street and Woodland Acres Crescent / Shaftsbury Avenue	City of Richmond Hill/City of Vaughan	Included in Cost
Islington Avenue and Woodbridge Avenue		of Road Rehabilitation
Islington Avenue and Thistlewood Avenue	City of Vaughan	
Islington Avenue and Davidson Drive / Willis Road	Oity Of Vaugnan	
Islington Avenue and Hayhoe Lane		
Major Mackenzie Drive and Angus Glen Arena	City of Markham	

Major Mackenzie Drive and Angus Glen Boulevard		
Major Mackenzie Drive and Kennedy Road		
Major Mackenzie Drive and William Berczy Boulevard		
Major Mackenzie Drive and Ridgecrest Road		
Major Mackenzie Drive and McCowan Road		
Ninth Line and Delmark Boulevard / Kenilworth Gate		
Ninth Line and Highway 7		
Ninth Line and Rose Way	City of Markham	
Ninth Line and Church Street		
Ninth Line and Cornell Park Avenue		
Ninth Line and 16th Avenue		
Woodbine Avenue and Denison Street		
Woodbine Avenue and Riviera Drive		
Woodbine Avenue and 14th Avenue	City of Markham	
Woodbine Avenue and Shields Court		
Woodbine Avenue and Burncrest Road / Miller Avenue		

## Transit — Ongoing Rehabilitation and Replacement

Project Name	Total Project Cost
Transit Terminal Rehabilitation and Bus Shelter, Concrete Platform, and Bus Stop Sign Replacement	\$1.2M
Bus Operations, Maintenance and Storage Facility Rehabilitation – Various locations	\$1.6M
Transit Conventional Bus Major Structural Refurbishment & Mechanical Overhaul – Asset Life Extension (40 conventional buses)	\$5.7M
Transit Fleet Retirement and Replacement – Purchase of 61 conventional buses and 45% milestone payment for 26 Viva buses	\$61.8M

<sup>\*</sup>includes multi-year costs for projects which span more than one year

# Transportation Capital Infrastructure Status Update Summary of Current 2023 Projects

Committee of the Whole Public Works April 13, 2023

### **GROWTH PROGRAM – CONSTRUCTION**

## Roads — Construction — 10 Projects

Project Location	Municipality	Total Project Cost*	Construction Completion
Continuing Construction — 7 Contracts			
16th Avenue, Highway 404 Interchange (Delivered by MTO)  **Total cost of 16th Avenue, Leslie Street to Woodbine Avenue project	City of Markham/City of Richmond Hill	\$55.7M**	2023
Keele Street Widening, Steeles Avenue to Highway 407	City of Vaughan	\$43.6M	2024
Major Mackenzie Drive Widening, Highway 400 to Jane Street	City of Vaughan	\$37.6M	2023
Major Mackenzie Drive Operational Improvements, Jane Street to Keele Street	City of Vaughan	\$12.2M	2024
Rutherford Road Widening, Jane Street to Westburne Drive	City of Vaughan	\$67.3M	2024
Rutherford Road Widening, Peter Rupert Avenue to Bathurst Street and Dufferin Street Widening, Apple Blossom Drive to Marc Santi Boulevard	City of Vaughan	\$64.5M	2025
Teston Road Widening, Pine Valley Drive to Weston Road	City of Vaughan	\$49.3M	2024
New Construction — 3 Contracts			
King Road Reconstruction, Bond Crescent to Yonge Street	City of Richmond Hill	\$32.2M	2024
Mid-Block Crossing, Highway 404 north of 16th Avenue	City of Richmond Hill/ City of Markham	\$119.7M	2026
Yonge Street Widening, Davis Drive to Green Lane	Town of Newmarket/ Town of East Gwillimbury	\$94.2M	2026

<sup>\*</sup>includes multi-year costs for projects which span more than one year

## Transit — Construction — 4 Projects

Project Name	Municipality	Total Project Cost*	Construction Completion
Continuing Construction — 2 Projects			
55 Orlando Avenue – Bus Operations, Maintenance and Storage Facility Expansion	City of Richmond Hill	\$66.2M	2023
Major Mackenzie Drive West Terminal, opposite Cortellucci Vaughan Hospital	City of Vaughan	\$17.3M	2023
New Construction — 2 Projects			
Electric Bus Infrastructure	Various Locations	\$3.8M	2023
Transit Shelter, Concrete Platform and Bus Stop Sign Expansion	Various Locations	\$1.0M	2023

<sup>\*</sup>includes multi-year costs for projects which span more than one year

## **ASSET MANAGEMENT PROGRAM – CONSTRUCTION**

## Roads — Rehabilitation/Preservation — 19 Locations

Project Location	Municipality	2023 Program Budget	
Crack Sealing	Various Locations	Ф2 GM	
Grind and Pave	Various Locations	- \$3.6M	
Guide Rail Renewal and Replacement	Various Locations	\$1.0M	
Road Rehabilitation and Preservation			
Road Rehabilitation — 177 lane kilometres			
Bloomington Road, Woodbine Avenue to Kennedy Road	Town of Whitchurch-Stouffville		
Dufferin Street, Steeles Avenue to Major Mackenzie Drive	City of Vaughan	\$45.2M	
Jane Street, Steeles Avenue to Langstaff Road	City of Vaughan		
Kennedy Road, 16th Avenue to Major Mackenzie Drive	City of Markham		

Project Location	Municipality	2023 Program Budget
Kennedy Road, Steeles Avenue to 14th Avenue	City of Markham	
King-Vaughan Road, Pine Valley Drive to Weston Road	City of Vaughan	
Leslie Street, Mulock Drive to Gorham Street	Town of Newmarket	
Lloydtown-Aurora Rd, Jane Street to Dufferin Street	Township of King	
Major Mackenzie Drive, Bathurst Street to Yonge Street	City of Richmond Hill	
Major Mackenzie Drive, Vaughan City Hall to Peter Rupert Avenue	City of Vaughan	
Yonge Street, St John's Sideroad to Sawmill Valley Drive	Town of Aurora / Town of Newmarket	
Road Preservation — 98 lane kilometres		
Aurora Road, Kennedy Road to Highway 48	Town of Whitchurch-Stouffville	
Dalton Road, Baseline Road to O'Connor Drive	Town of Georgina	
Highway 7, Bayview Avenue to Highway 404	City of Richmond Hill	
Highway 7, Highway 400 to Bowes Road	City of Vaughan	
King Road, Albion-Vaughan Rd to 10th Concession	Township of King	

# $Roads-Structure\ Rehabilitation/Replacement-9\ Locations$

Project Location	Municipality	2023 Program Budget
Carville Road Retaining Wall Rehabilitation, East of Bathurst Street (continued from 2022)	City of Richmond Hill	
Davis Drive Culvert Repair, East of Prospect Street	Town of Newmarket	
Elgin Mills Road Culvert Replacement, East of Bayview Ave	City of Richmond Hill	
Holland River Bridge (Yonge Street) Rehabilitation, North of Bathurst Street	Township of King	\$19.8M
Keele Street Culvert Replacement, North of Langstaff Road (continued from 2022)	City of Vaughan	
Kennedy Road Culvert Replacement, North of Vandorf Sideroad	Town of Whitchurch-Stouffville	
Leslie Street Culvert Replacement, North of Green Lane	Town of East Gwillimbury	

Project Location	Municipality	2023 Program Budget
Lloydtown-Aurora Road Culvert Replacement, East of Jane Street	Township of King	
Mulock Drive Culvert Replacement, East of Bayview Avenue	Town of Newmarket	

## Roads — Drainage System Renewal — 3 Locations

Project Location	Municipality	2023 Program Budget
Weston Road Drainage Improvements, North of 16th Sideroad	Township of King	\$1.5M
St. John's Sideroad Culvert Replacement, East of Bathurst Street	Town of Aurora	
King Road Culvert Replacement, West of Highway 27	Township of King	

## Roads — Intersection Improvements — 42 Locations

Project Location	Municipality	2023 Program Budget
16th Avenue and Elm Avenue	City of Richmond Hill	
16th Avenue and Main Street Markham / Highway 48	City of Markham	
16th Avenue and Spadina Road/Valleymede Drive	City of Richmond Hill	
16th Avenue and York Durham Line	City of Markham	
Aurora Road and Ninth Line	Town of Whitchurch-Stouffville	
Baseline Road and John Link Avenue	Town of Georgina	¢E OM
Dufferin Street and Maurier Boulevard	City of Vaughan	\$5.0M
Illumination at Various Locations	Various Locations	
Langstaff Road and Pine Valley Drive	City of Vaughan	
Leslie Street and Minthorn Boulevard	City of Markham	
McCowan Road and Carlton Road/Raymerville Drive	City of Markham	
Wellington Street and Kaleia Ave /Elyse Court	Town of Aurora	

Project Location	Municipality	2023 Program Budget
Traffic Signal Modernization in conjunction with Road R	ehabilitation Projects	
Dufferin Street and Autumn Hill Boulevard	City of Vaughan	
Dufferin Street and Beverly Glen Boulevard	City of Vaughan	
Dufferin Street and Confederation Parkway	City of Vaughan	
Dufferin Street and Draper Boulevard	City of Vaughan	
Dufferin Street and Glen Shields Avenue	City of Vaughan	
Dufferin Street and Racco Parkway	City of Vaughan	
Dufferin Street and Valley Vista Drive	City of Vaughan	
Dufferin Street and Viceroy Road	City of Vaughan	
Glenwoods Avenue and Lowndes Avenue	Town of Georgina	
Glenwoods Avenue and Our Lady of the Lake Catholic Academy	Town of Georgina	
Jane Street and Doughton Road	City of Vaughan	
Jane Street and Peelar Road	City of Vaughan	Part of the Road
Jane Street and Pippin Road	City of Vaughan	Rehabilitation and Preservation
Keele Street and Administration Road	City of Vaughan	Program
Keele Street and Bowes Road	City of Vaughan	
Keele Street and Rivermede Road	City of Vaughan	
Kennedy Road and 14th Avenue	City of Vaughan	
Kennedy Road and Bur Oak Avenue	City of Markham	
Kennedy Road and Clayton Drive	City of Markham	
Kennedy Road and Denison Street	City of Markham	
Kennedy Road and Duffield Drive	City of Markham	
Kennedy Road and Gorvette Road	City of Markham	
Kennedy Road and Highglen Avenue	City of Markham	
Kennedy Road and Lee Avenue	City of Markham	
Major Mackenzie Drive and Arnold Court	City of Richmond Hill	

Project Location	Municipality	2023 Program Budget
Major Mackenzie Drive and Don Head Village Boulevard	City of Richmond Hill	
Major Mackenzie Drive and Hill Street	City of Vaughan	
Major Mackenzie Drive and Peter Rupert Avenue	City of Vaughan	
Major Mackenzie Drive and Trench Street	City of Richmond Hill	
Yonge Street and Joe Persechini Drive	Town of Newmarket	

## Roads — Other/Miscellaneous — 5 Locations

Project Location	Municipality
Bathurst Street, north of Mill Street - Creek realignment and gabion basket wall repair	City of Richmond Hill
Donald Cousens Parkway and 14th Avenue – Intersection Improvements in support of South York Greenway	City of Markham
Donald Cousens Parkway and Copper Creek Drive – Intersection Improvements in support of South York Greenway	City of Markham
Yonge Street Embankment Repair at Silverline Helicopters (continued from 2022)	Town of East Gwillimbury
Leslie Street at Vandorf Sideroad – Berm Removal	Town of Aurora

## Transit — Ongoing Rehabilitation and Replacement

Project Name	2023 Program Budget
Transit Terminal Rehabilitation and Bus Shelter, Concrete Platform, and Bus Stop Sign Replacement	\$1.6M
Bus Operations, Maintenance and Storage Facility Rehabilitation – Various locations	\$2.2M
Transit Conventional Bus Major Structural Refurbishment & Mechanical Overhaul – Asset Life Extension (27 conventional diesel buses)	\$5.8M
Transit Fleet Retirement and Replacement – Purchase of two electric buses, with an additional 10 electric buses to be purchased subject to Zero Emission Transit Fund funding, and delivery of 26 Viva buses	\$30.1M

<sup>\*</sup>includes multi-year costs for projects which span more than one year

## **GROWTH PROGRAM — PRE-CONSTRUCTION**

## Roads — Environmental Assessments — 5 Studies

Project Location	Municipality	
Continuing Environmental Assessments — 4 Studies		
Elgin Mills Road, from Yonge Street to Bayview Avenue (Railway Grade Separation)	City of Richmond Hill	
Kennedy Road, Major Mackenzie Drive to Elgin Mills Road	City of Markham	
Teston Road, Highway 400 to Bathurst Street (Individual Environmental Assessment)	City of Vaughan	
Warden Avenue, Major Mackenzie Drive to Elgin Mills Road	City of Markham	
New Environmental Assessments — 1 Study		
Jane Street, Teston Road to Kirby Road	City of Vaughan	

# Roads - Detailed Design - 19 Projects

Project Location	Municipality	
Continuing Detailed Design — 17 Projects		
16th Avenue, Leslie Street to Woodbine Avenue	City of Richmond Hill/City of Markham	
16th Avenue, Woodbine Avenue to Warden Avenue	City of Markham	
16th Avenue, Warden Avenue to Kennedy Road	City of Markham	
19th Avenue, Bayview Avenue to Leslie Street	City of Richmond Hill	
Bathurst Street, North of Highway 7 to Major Mackenzie Drive	City of Vaughan/City of Richmond Hill	
Bayview Avenue, North of Highway 7 to 16th Avenue	City of Richmond Hill	
Cedar Avenue, Langstaff Road to High Tech Road	City of Richmond Hill/City of Markham	
Dufferin Street, Major Mackenzie Drive to Teston Road	City of Vaughan	
Elgin Mills Road, Bathurst Street to Yonge Street	City of Richmond Hill	

Project Location	Municipality	
Highway 50, Rutherford Road to Albion-Vaughan Road	Peel Region/City of Vaughan	
Kennedy Road, North of Highway 407 to Highway 7	City of Markham	
Langstaff Road, Keele Street to Dufferin Street	City of Vaughan	
McCowan Road, 14th Avenue to Highway 7	City of Markham	
Ninth Line, Steeles Avenue to Box Grove By-Pass	City of Markham	
Stouffville Road, Bayview Avenue to Highway 404	City of Richmond Hill	
Weston Road, Highway 407 to north of Highway 7	City of Vaughan	
Weston Road, North and South of Rutherford Road	City of Vaughan	
New Detailed Design — 2 Projects		
Kennedy Road, Major Mackenzie Drive to Elgin Mills Road	City of Markham	
Warden Avenue, Major Mackenzie Drive to Elgin Mills Road	City of Markham	

## Transit — Design — 1 Project

Project Location	Municipality
8300 Keele St Bus Operations, Maintenance and Storage Facility Expansion	City of Vaughan



