

Service Business Plan



Service Name Roads and Structures - Design and Construction

Service Lead Name Scott Hamilton

Service Lead Title Manager of Design and Construction

Service Description

A public service to provide design and construction services for roads and structures.

Strategic Alignment with Vision to Focus Plan

Improving integrated city mobility

Supporting sustainable infrastructure and a resilient environment

Service Goals

To deliver the capital program in a timely and efficient manner that allows the City to ensure steps are taken in order to protect the environment.

Reduce the impact on the residents and users of the road right of way while ensuring the roadway assets achieve their useful lifespan.

Current State

Customers & Their Expectations

This service is delivered to:

- The public
- Council
- Senior management
- Other City services
- Other municipalities
- Utilities
- Private companies
- Government agencies.

The most important customer is the public. The public expects that Burlington's roadways are designed and built to specifications that will provide a high level of service over a long life, at a low cost, with safety and overall customer satisfaction in mind.

This service affects Burlington residents and visitors to our community every day. The condition of the roads

	generally reflects the values, livability and prosperity of a community.
Existing Service Delivery	<p>This service is responsible for environmental assessments, permitting, planning, design, project management, construction and inspection of all road and bridge structure projects within City-owned rights-of-way. These are identified in the Capital Budget or required by third-party developers.</p> <p>This service supports other service providers in approving and coordinating all utility companies and Region of Halton municipal consent applications for works within City rights-of-way.</p> <p>This is accomplished through effective infrastructure asset management, planning and cost estimating, design and inspection of City construction works/new development and management of utility company work.</p> <p>This service is delivered in consultation and collaboration with other departments, municipalities, agencies, and utility companies.</p>
Existing Customer Engagement Tools / Methods	In person, by phone, e-mail, committee reports, City website, public questionnaires, surveys, public open house, 311 and Council-approved Annual Capital Budget.
Is this Service Provincially Legislated?	Yes Biennial bridge inspections (legislated by the Province).
For this Service are there Approved Service Standards?	No N/A

Programs

Survey	<p>Responsible for carrying out all functions required to complete a topographic field survey for the purposes of:</p> <ul style="list-style-type: none"> • Creating pre-design base drawings • Completing as-built construction drawings • Confirming property lines • Confirming public/private tree ownership.
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Design	<p>Responsible for carrying out all functions required to complete a detailed design, including:</p> <ul style="list-style-type: none"> • Class Environmental Assessments • Functional designs • Preliminary designs • Detailed designs • Preliminary and detailed cost estimates • Holding public open houses • Acquiring all necessary regulatory permits and approvals.
Construction Administration	<p>Responsible for the overall administration of the construction process, including:</p> <ul style="list-style-type: none"> • Preparing and tendering the construction specifications • Delivering public notifications • Responding to public complaints/concerns • Holding regular on-site progress meetings • Confirming quantities • Issuing payment certificates • Overall project management.
Construction Inspection	<p>Responsible for on-site field inspection to ensure that the contractor's work is carried out in a safe and professional manner, and is completed to the City's standards and specifications as tendered.</p>
Municipal Consent	<p>Responsible for the overall administration and inspection of works undertaken by a third party within the City's road allowance, including:</p> <ul style="list-style-type: none"> • Preparation/review of municipal access agreements • Periodic site inspection and review/approval or site restoration • Ensuring contractor follows current City or Provincial standards • Responding to public complaints/concerns

Recent Continuous Improvement Initiatives

Improvements continue to be made in how Capital Construction projects are tendered to achieve optimum pricing. Staff were successful in contractor prequalification for 2019 on large scale projects that resulted in shortened construction windows and reduced staff costs/public impact. This allowed staff to ensure that the Contractor had adequate resources available to deliver the project in a timely manner and control the impact on neighboring projects.

Internally, we are utilizing technology and changing skillsets to become more efficient within our existing staff complement. Through attrition, the Design and Construction section are replacing the draftsperson position with that of a Senior Designer who is able complete both the design and drafting components of a project from start to finish.

Design and Construction have transitioned to a fully online tendering process that has increased efficiency and allowed additional staff time to be spent on delivering the capital program while reducing the need to hire external consultants.

Environmental Considerations

Design and Construction has implemented the following in order to help reduce the environmental impact

- Reduction in carbon footprint by transitioning to full online tendering
- Modification of traffic signals and detailed detour plans to reduce idle times at peak hours of the day
- Increased use of recycled materials to lessen the dependency of virgin material from quarries
- Replacement of fleet vehicles with electric or plug-in hybrid vehicles when up for renewal
- Reduction in fossil fuels by geographically assigning inspector assignments and combining of construction projects.

Emerging Opportunities and Anticipated Risks

Emerging Opportunities	With a long-term Asset Management Plan, there will be an increase in the number of renewal projects we deliver each year. The added funding will allow us to reduce the infrastructure funding gap and replace/repair our roadway infrastructure at the right time.
Anticipated Risks	<p>With the added funding, staff will have to deliver more projects, putting increased workload on our Design & Construction section of the Capital Works Department. We will have to continue to improve our methods to increase project delivery.</p> <p>If staffing levels are maintained or decreased, work would be outsourced to consultants to ensure the timely delivery of the Capital Program and maintain a healthy backlog. This would increase project costs, resulting in fewer projects delivered each year for the funding provided.</p>
Enterprise Risk Considerations	<p>Labour Market and Workforce - Retention, Attraction, Skills, Competencies</p> <p>Climate Change - Severe weather events, Increasing numbers of severe weather events</p> <p>Transportation - master plans development and implementation</p>

Service Initiatives	Target Completion
Have one-third of roadway construction projects tendered	Mar 2020
Have two-thirds of roadway construction projects tendered	May 2020
Secure Ministry of Environment permits for upcoming year construction projects	Jan 2020
Complete preliminary cost estimates for upcoming year Capital Budget	Aug 2020
Have capital projects design complete 3 years in advance of its delivery date to further allow for increased council and public input.	Jan 2024

MEASURING SUCCESS

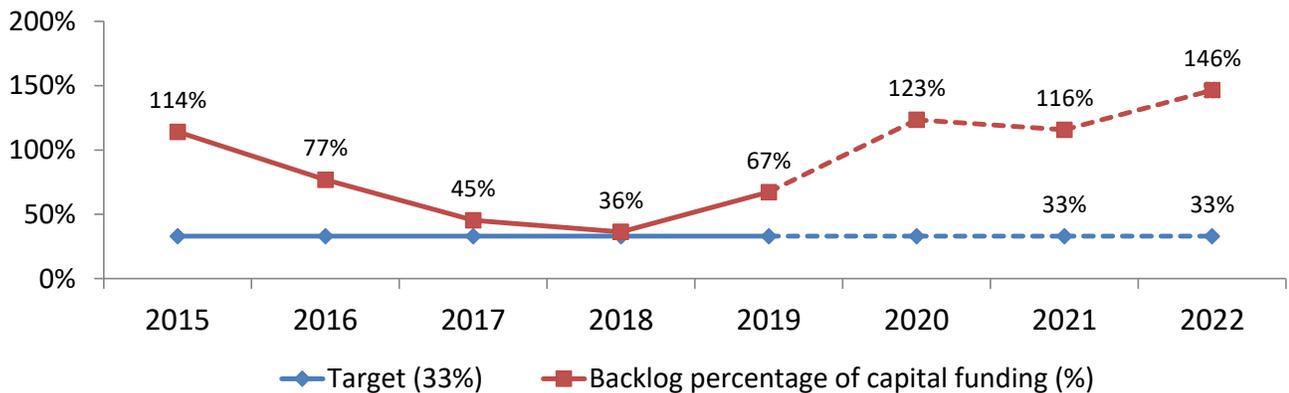
How much did we do?

Performance Measurement	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
Value of roadways annual capital budget (millions)	\$20.43	\$28.57	\$24.79	\$31.95	\$50.36	\$24.71	\$31.20	\$21.79
Value of capital project backlog (millions)	\$23.32	\$21.96	\$11.23	\$11.58	\$33.89	\$30.50	\$36.10	\$31.90
Value of capital work delivered (millions)	\$21.04	\$29.93	\$35.52	\$31.60	\$28.05	\$28.10	\$25.60	\$25.99

How well did we do it?

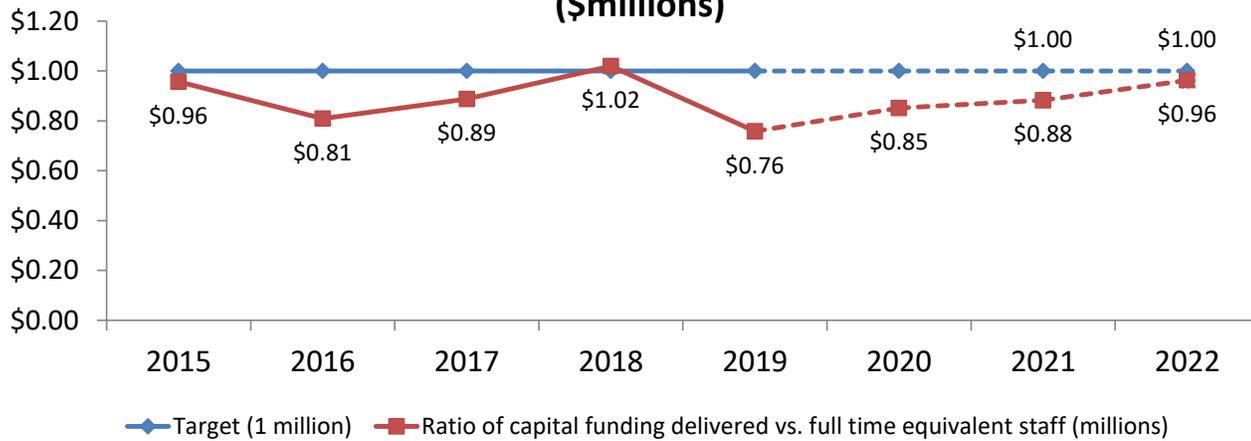
Performance Measurement	Backlog Percentage of Capital Funding for Road and Structure - Design and Construction
Story behind the data	The Capital Backlog is the unspent portion of the approved Capital Budget. We anticipate some backlog, recognizing that some projects will carry over multiple years due to their size. Best practices indicate that a normal or healthy backlog is one-third (33%) of the projected expenditure for that year. We need to maintain a healthy backlog target of 33% to ensure that the assets are being fixed/replaced at the optimum time when approved funding is already available. The backlog spike in 2019 is a result of an increase in external funding for Waterdown Road joint venture project with Hamilton. This funding is estimated at \$24 M and should taper out by 2023. There is a projected funding spike in 2020 for the Metrolinx Joint Venture projects (Burloak GS and Drury Ped Bridge) estimated at \$ 65 that will be complete by 2023.

Backlog Percentage of Capital Funding for Road and Structure - Design and Construction



Performance Measurement	Ratio of Capital Funding Delivered per Full Time Staff (\$millions)
Story behind the data	<p>This ratio measure estimates whether we have sufficient resources. This approach does have an element of variability depending on the composition of the Capital program in any given year. The staff time for Contract Administration of Regional works under joint contracts with the City are excluded from this metric as Region of Halton works are not included in the Annual Capital Budget amount.</p> <p>Best planning estimates are at \$1 Million for each staff member involved in the Capital program. A ratio of 1.0 is an efficient use of staff resources, according to industry standards. Our reliance and managing of Consultants to complete work we typically do in house in order to maintain a healthy backlog is further reducing our efficiency to deliver our Capital Program. Post budget tender/design changes and scope creep are further increasing our ability to effectively deliver the capital program.</p>

Ratio of Capital Funding Delivered per Full Time Staff (\$millions)



Is anyone better off?

Performance Management	Number of Resident Complaints for Road and Structure - Design and Construction Service
Story behind the data	<p>The number of complaints increased in 2019 as there is a negative shift in how the public views and treats city staff. This combined with Contractors inability to maintain adequately trained staff are having a trickle down effect on the projects being completed correctly and on time, thus increasing public frustration and staff time to ensure built correctly.</p> <p>As the road conditions deteriorate, the number of complaints/requests for action from residents and Councillors increases. With the growing asset backlog and the needed roadway repairs being unfunded, there will be an increase in public complaints/requests from residents for their local road renewal.</p>
Where do we want to go?	<p>We want to establish proactive and timely road repairs and reduce the number of complaints. Currently this service receives all complaints for items within the roadways (city owned, MTO, 407 owned). In 2020 going forward this will be reporting on the complaints with respect to work undertaken by this service on Burlington only projects.</p>

Number of Resident Complaints for Road and Structure - Design and Construction

