

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services
and City Engineer

Subject: 2021 Renew London Infrastructure Construction Program
and 2020 Review

Date: March 30, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following information report concerning the 2021 Renew London Infrastructure Construction Program **BE RECEIVED** for information.

Linkage to the Corporate Strategic Plan

The following report supports Municipal Councils 2019-2023 Strategic Plan by contributing to the following expected results:

Building a Sustainable City

- Build infrastructure to support future development and protect the environment
- Manage the infrastructure gap
- Protect and enhance waterways, wetlands, and natural areas
- Improve the quality of cycling and pedestrian environments to support healthy and active lifestyles

Growing our Economy

- Increase public and private investment in strategic locations; revitalize London's downtown and urban areas

Leading in Public Service

- Londoners experience exceptional and valued customer service delivered by Renew London Construction Program which focuses on efficiency, timely communication, and coordination to minimize impacts to the public
- Increase community and resident satisfaction of their experience with the City

Analysis

1.0 Background Information

1.1 Purpose

The purpose of this report is to provide Committee and Council with an overview of the major City construction projects planned for 2021 and to provide an overview and evaluation of the 2020 Renew London Construction Program. This report will identify potential risks for the upcoming construction season, and outline lessons learned from 2020.

1.2 Context

The Environmental and Engineering Services Department undertakes approximately 200 capital works projects and programs each year. Our goal is to provide mobility choices for all Londoners that are safe, dependable, affordable, and environmentally responsible that help London's communities thrive, and the city prosper.

The Renew London Construction Program manages the sustainability of city infrastructure through a combination of road, bridge, bicycle, sewer, water, sidewalk and intersection improvements. The program addresses existing lifecycle needs, system improvements, and growth-related priorities. It was created to drive efficiency in infrastructure delivery and minimize delays and inconveniences to the public during construction.

As leaders of the program, City staff are responsible for overseeing City construction projects and providing onsite inspection where required. This oversight ensures projects are well-communicated, completed on time, and built in accordance with plans, specifications, and City standards. It also helps make sure projects follow proper safety procedures and are delivered within budget.

2.0 Discussion

2.1 2021 Renew London Infrastructure Construction Program

The 2021 budgets will invest in key priority areas to support the city's growing population needs and make improvements to our aging infrastructure. Focus remains on essential infrastructure and investments in replacing or building much-needed roads, water, and wastewater infrastructure.

The City is committing approximately \$170 million in construction improvements in 2021. This 2021 program includes lifecycle renewal investments of \$40 million for road improvements, \$31 million for sewer improvements, and \$38 million for water system improvements. Growth and external provincial and federal funding also contributes to projects such as the Adelaide Street Underpass project and the first phase of the Downtown Loop project in 2021. These total investments provide for integrated projects which reduce costs by coordinating underground infrastructure work with rehabilitation roads, curbs, and sidewalks. This will improve and extend the lifecycle of London's critical road, water and sewer infrastructure and the reliability of its systems while protecting the environment.

There will be 75 lane-kilometers of road reconstructed, 14 kilometers of sanitary and storm sewers replaced or added, and 10 kilometers of watermain rebuilt in 2021. Approximately 1.5 kilometers of combined sewer will be removed, having a significant benefit to the environment. Over 15 intersections will be rebuilt to improve intersections and address safety concerns in growing areas. More than 5 kilometers of cycling and sidewalks infrastructure will be built to improve safety, connectivity and accessibility.

In addition, 5.5 kilometers of watermain and 11 kilometers of sewers will be lined without having to dig trenches. These trenchless programs accomplish the goals of upgrading the infrastructure while allowing for significant capital avoidance and minimized social impact to residents and businesses by avoiding open cut construction.

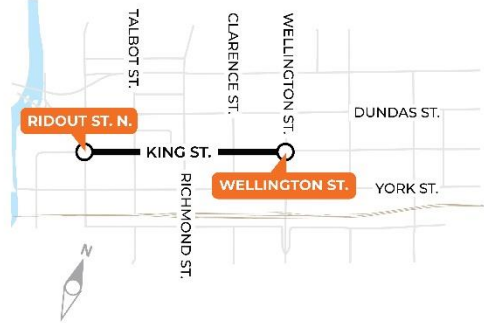









A complete map of city-wide 2021 construction projects can be viewed by residents on the City's website.
















Top 10 City Projects

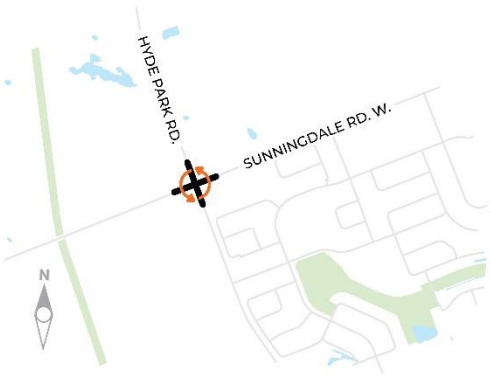














The top 10 City projects are selected each year to provide an overview of the upcoming year's work and impacts. City staff have identified the top 10 projects that will take place during the 2021 construction season. This year's projects involve areas across London and include the start of Downtown Loop construction, essential underground infrastructure upgrades, and continued improvements to our cycling network.











The top 10 are selected based on the following criteria:

- Scope of work (e.g., complete utility and sewer rebuild, asphalt resurfacing)
- Construction duration
- Location in relation to other nearby projects and the expected future benefits
- Road classification
- Road user impact
- Transit impact
- Impact to neighbours
- Proximity to events, schools, community centres, parks, cycle routes
- Economic impact and Government funding

<p>1</p>		<p>Downtown Loop Phase I</p> <p>Work Type: Rapid Transit</p> <p>Tender: \$8.2 M</p> <p>Benefits: Improved mobility, connectivity to transit, streetscaping, and water and sewer infrastructure to accommodate future growth</p> <ul style="list-style-type: none">  Temporary sidewalk closures  LTC route impacts  Road Closure  Phased road closures <p>Website: london.ca/downtownloop</p>
<p>2</p>		<p>Adelaide St North Underpass</p> <p>Work Type: Improved Mobility. Road Improvements</p> <p>Benefits: Improved mobility, new sewer infrastructure, and enhanced lighting.</p> <ul style="list-style-type: none">  Temporary sidewalk closures  LTC route impacts  Road closure  Road closure <p>Website: london.ca/adelaide</p>

<p>3</p>		<p>Dundas Street (Old East Village)</p> <p>Work Type: Infrastructure Renewal</p> <p>Tender: \$12.5 M (2020)</p> <p>Benefits: Improved underground infrastructure, connectivity to transit, streetscaping, and a separated bike lane</p> <ul style="list-style-type: none">  Temporary sidewalk closures  LTC route impacts  Road closures  Road closures <p>Website: london.ca/oev</p>
<p>4</p>		<p>Dundas Street TVP Connection</p> <p>Work Type: Cycling Infrastructure Improvements</p> <p>Tender: \$2.4 M</p> <p>Benefits: New cycling infrastructure connecting to the core, sewer improvements</p> <ul style="list-style-type: none">  Temporary sidewalk closure  LTC stop impacts  Lane restrictions  Lane restrictions <p>Website: london.ca/corecycling</p>
<p>5</p>		<p>Highbury Avenue – Wenige Expressway Bridge Renewal</p> <p>Work Type: Infrastructure Renewal</p> <p>Tender: \$8.9 M (2020)</p> <p>Benefits: Improved bridge condition and multi-use pathway below the bridge</p> <ul style="list-style-type: none">  Temporary TVP closure  LTC route impacts  Road closure  Road closure <p>Website: london.ca/highburyave</p>

<p>6</p>		<p>Hyde Park and Sunningdale Roundabout</p> <p>Work Type: Intersection Improvements</p> <p>Tender: Estimated \$3.7 M</p> <p>Benefits: Improved intersection safety and operations</p> <ul style="list-style-type: none">  Temporary restrictions  No LTC impact  Road closure  Road closure <p>Website: london.ca/hyde-sunningdale</p>
<p>7</p>		<p>Brydges Street</p> <p>Work Type: Infrastructure Renewal</p> <p>Tender: \$5.9 M</p> <p>Benefits: Removal of approx. 850m of combined sewer, and addition of new bike lanes</p> <ul style="list-style-type: none">  Temporary sidewalk closure  No LTC impact  Road closure  Road closure <p>Website: london.ca/brydges</p>
<p>8</p>		<p>Saskatoon and Brydges/Wavell Bike Lanes</p> <p>Work Type: New Cycling Infrastructure</p> <p>Tender: Estimated \$1.5 M</p> <p>Benefits: Improved cycling infrastructure</p> <ul style="list-style-type: none">  Temporary sidewalk closure  LTC stop impacts  Lane restrictions  Lane restrictions <p>Website: london.ca/saskatoon-brydges</p>

9		<p>Mornington Storm Management Pond Expansion</p> <p>Work Type: Infrastructure Renewal</p> <p>Tender: Estimated \$4.7 M</p> <p>Benefits: Future upstream servicing capacity</p> <ul style="list-style-type: none">  Temporary sidewalk closure  No LTC impact  Road closure  Road closure <p>Website: london.ca/mornington</p>
10		<p>Wortley Road</p> <p>Work Type: Infrastructure Renewal</p> <p>Tender: \$2.9 M</p> <p>Benefits: Replacement of water and sewer infrastructure underground</p> <ul style="list-style-type: none">  Temporary sidewalk closure  No LTC impact  Road closure  Road closure <p>Website: london.ca/wortley</p>

2.2 Emerging Issues

There are several risks for the upcoming construction season that may impact project budgets, schedules, staff resources and project success outcomes.

COVID-19

When projects were tendered for construction to begin in 2020, the impacts of a global pandemic were just emerging. COVID-19 was declared a pandemic by the World Health Organization in March 2020. Soon after, the Government of Ontario ordered the closure of all non-essential businesses pursuant to its powers under the *Emergency Management and Civil Protection Act*. On March 23, 2020, the provincial government unveiled a list of essential workplaces that would be exempt from the closure, which was updated to include municipal construction projects. Of most importance was Schedule 3 of the Order, which required contractors to comply with all applicable health and safety laws, including the *Occupational Health and Safety Act* and the advice and instructions of public health officials, including matters regarding physical distancing, cleaning and/or disinfecting.

The COVID-19 pandemic added additional pressures to an already busy construction season and quickly became the biggest risk to the 2020 construction season.

As the economy slowed in April and May 2020, City Administration and Council grappled with how best to respond to COVID-related disruptions on integrated infrastructure projects in London. After quick and careful review of contractor ability and

commitment, Council proceeded with tender awards which not only would improve critical infrastructure, but also strengthen the local economy, creating jobs and laying the foundation for London's long-term recovery.

After a brief pause on some early 2020 projects, the construction season resumed with new contractor-led health and safety protocols in place to support safety of City staff, contractors and consultants working during the pandemic.

In addition, the Canadian Construction Association (CCA) continuously released updated versions of the COVID-19 Standardized Protocols for All Canadian Construction Sites throughout the 2020 construction season. CCA also maintained an open dialogue with stakeholders throughout the pandemic to ensure the industry remained proactive in addressing any emerging risks.

Contractors were able to keep production going, and COVID-19 did not ultimately have as large an impact on the local construction industry as originally predicted. All teams were able to focus on safety and adjust to new circumstances in a very short time frame, the most important being wearing of masks, screening daily for symptoms and working two meters apart. Productivity impacts stemming from scheduling work crews, providing training on new safety protocols, and evolving industry standards were well-managed.

City Construction Administration staff were provided the necessary equipment to work remotely to continue oversight and remain in contact with each other and with the public and stakeholders. In anticipation of communication concerns the public would have regarding projects, staff also updated the Construction Notices that were distributed to communities within the construction project limits. Staff also advised residents and property owners of the COVID-19 precautions with which the contractors were required to comply.

Today, despite the first vaccines being available, closures and changes to business operations are expected to continue - many implemented on short notice - that may affect the availability of materials, labour, and access to work sites. Safe work on construction sites will continue to include new COVID-related environmental, health and safety requirements, including any additional personal protective equipment, cleaning, maintenance, and social distancing.

The City's project teams continue to plan for COVID-related disruptions and are prepared to implement mitigation measures to minimize their effects and keep each other safe while advancing construction projects to completion.



Photographed above (left to right):

Signage about COVID-19 protocols posted at a construction site.

A hand washing station at a construction site.

Business Impacts

The volume and duration of construction in 2021 will be greater than what was experienced in 2020. Some of the impacts that typically accompany the large-scale projects include the loss of parking spaces and loading zones, diverted traffic, unexpected service interruptions, noise, and dust.

Reducing potential disruption for businesses and their customers is always a priority. The City will continue to work closely with impacted businesses by communicating in advance of construction and working together through the course of a project to identify and resolve issues. Most businesses impacted by construction continue to be located in the core and will again be supported by the City's Core Construction Program, launched in 2018. Additional support will be provided in 2021 through funds allocated from the Core Area Action Plan in 2021 for the Construction Dollars and temporary free municipal parking promotions.

Tree Impacts

With the City of London declaring a Climate Emergency, tree protection and preservation is of the utmost importance during construction projects. Despite best efforts, tree removals are often required to successfully complete infrastructure projects. To address this impact, trees requiring removal are assessed and replaced with new trees selected from an approved list of native species that is managed by the City's Forestry division. These species help to encourage pollinators and provide exceptional benefits to urban wildlife and insects.

Specialized construction methods are employed wherever reasonable to minimize the disturbance to trees and minimize root damage. The City also requires contractors to follow a rigorous tree protection plan. While City staff and their consultants diligently monitor the contractor's use of tree protection strategies, damage can still occur. Contractors who damage trees are financially penalized through the City contract process.

Construction Act Changes

The province of Ontario has updated the provincial legislation in Ontario that governs the rules for owners, contractors, and subcontractors in the construction industry. Initial changes affecting construction lien and holdback rules came into effect on July 1, 2018, while new prompt payment and adjudication processes came into effect on October 1, 2019.

The changes that came into effect on October 1, 2019 present several changes to processes that the City implemented in the 2020 construction season. These changes included:

- Timelines for processing payments to contractors
- Timelines for reviewing invoices from contractors
- Adjudication process for disputes

These changes affected a number of groups within the City, including but not limited to: Engineering and Environmental Services, Procurement, Legal, Accounts Payable, Tangible Capital Assets, Facilities, and Financial Services. A committee was developed with representatives from each team to coordinate processes and determine responsibilities using Lean Six Sigma methodology.

Additional outreach has been done by the Construction Administration group to work with service areas, contractors, and consultants to ensure all parties involved in the changes are working together in a collaborative manner. This year will bring significant challenges as all parties continue to become more familiar with the updated requirements of the new construction legislation.

Safety

Contractor and worker safety is a priority for the City. The 2020 construction season saw several incidents around the city where passing drivers endangered workers on site by not following work zone signage, temporary traffic signals and flag persons, and by speeding through construction zones. Public education and enforcement are critical in improving driver habits, and City staff are committed to working with contractors to report dangerous drivers and educate the public wherever possible on the importance of complying with construction signage.

The safety of pedestrians visiting core projects in 2020 was a concern that was identified during construction. As a result, 2021 Core Construction projects such as Phase 2 of the Dundas Street (OEV) Infrastructure Renewal project and Phase 1 of the Downtown Loop on King Street will include enhanced site security, improved lighting, additional signage, and enhanced walkways to improve public safety. These improvements for pedestrians are intended to provide a more comfortable and secure construction environment for residents, businesses, and visitors.

2.2 Coordination and Considerations

Utility Coordinating Committee

The mandate of the Utility Coordinating Committee (UCC) is to provide advanced planning of infrastructure work in the municipal right-of-way for over 20 different public and private organizations. Coordinating this work is a complex challenge compounded by hundreds of emergency and routine operational repairs undertaken by City Roads, Water, Sewer and Forestry Operation teams annually.

Advanced cumulative planning through the UCC allows the City to better respond to proposed and unplanned work and helps visualize the effects of all projects relative to others and promotes better definition of specifications around scheduling of our contracts. The City's goal is to ensure that construction is planned and sequenced in a manner that minimizes impacts on traffic and disruption to the public.

Traffic Mitigation

Congestion and disruption caused by public and private construction is disruptive to all road users. City staff manage programs to mitigate the impacts as much as possible by reviewing all projects from a traffic and construction detour impact perspective. Some projects will require road closures to complete the planned construction for the safety of the contractor and the public, while others may only require lane restrictions. In any case, a detour to safely redirect traffic around the disturbed areas and permit the work to be completed in a timely manner will be implemented.

Notwithstanding posted detour routes, increased traffic volumes are often observed on some neighbourhood streets near construction areas as drivers look for shortest routes around the closures. In some cases, temporary neighborhood traffic calming measures may be implemented to mitigate this behavior.

The City strives to minimize the disruption to the public during construction and maintain access to the maximum extent possible. Separating a construction project into stages to maintain use is often considered. However, it can often lengthen the duration of a project, creates challenges from a constructability and increased capital cost perspective. A balance needs to be established that satisfies both objectives. City staff believe this balance has been achieved with the 2021 Renew London construction Program.

Pedestrian Impacts

Accessibility around construction projects is a key consideration for all the City's construction activities. City contracts require that an accessible pathway through a construction site be maintained to the extent possible. When encountering certain project and site-specific constraints or disruptions, it is not always possible to continuously provide a safe and accessible route through a construction site. When construction activities require the temporary closure of an existing sidewalk for safety, the public will be notified of the disruption as per O. Reg. 191/11, Part IV.2, s. 80.48 (Accessibility for Ontarians with Disabilities Act, 2005, "AODA"). Where applicable, signage will be erected on site at either end of the work indicating that the sidewalk is closed. This will alert pedestrians to use an alternate route. While this alternate route may not always be most convenient way to reach a particular destination, it will ensure that the public is not entering into an unsafe situation.

Where possible, City projects include requirements to construct temporary hard surface sidewalks and, in some cases, temporary ramps to better facilitate accessible pedestrian movement. Navigational signage is also placed on site around large core area construction projects to support pedestrians and businesses.

Cyclist Impacts

Cyclists are an important consideration when designing and planning all infrastructure projects. While many of our projects include building new bike lanes and improving existing bike infrastructure, construction sites themselves are potential hazards for cyclists. When possible, the City creates detour routes for cyclists, posts signage around construction, and shares notices, public service announcements and maps online about closures.



Photographed above (left to right):

Additional bike parking and signage added around construction in Old East Village. Examples of construction signage help identify detours for cyclists.

Transit Impacts

City staff work closely with the London Transit Commission (“LTC”) to identify construction impacts affecting bus routes. LTC prepares and communicates detour routes as needed throughout construction projects. Several projects for 2021 will impact LTC routes, and these route changes will be listed on the Detours section of LTC’s website.

Driver Impacts

To optimize vehicle traffic flow in the areas affected by planned detours, the City may adjust traffic-signal timing, in addition to installing advance warning signage and optimizing apps such as Waze to recognize the closure. As an effective and highly visible tool, more electronic Portable Variable Message Signs are being utilized throughout the city to provide drivers with current updates/detour routes digitally, on a larger screen.

Communications and Customer Service

As London experiences larger and more disruptive construction projects, the City is taking important steps to enhance communication before and during construction.

Before work begins on a typical construction project, discussions take place with stakeholders to review impacts to property access, accessibility issues or special accommodation requests, and to collect feedback and contact information. Information gathered during these conversations is then used to develop the appropriate communications plan for the area impacted.

To ensure up-to-date information is always accessible, a Construction Project Manager is established and contact information shared with those impacted before construction starts. Members of the public are invited to connect with the Construction Project Manager to verify details or ask questions during the project. Clearly identifying a point of contact allows us to resolve issues in a timely manner.

Road closures, lane restrictions and sidewalk disruptions change throughout a project, making it difficult to predict what the exact impacts will be at any given time. Due to the complexity and number of construction parties involved, unforeseen delays or changes can occur. Key private partners such as transit and emergency services are kept informed on an ongoing basis through direct communication with Construction Project Managers, public service announcements, and the daily Renew London Road Report email.

While frequency of correspondence may differ depending on the project’s location, scope, duration and social impact, the following communication methods can be expected when living, working, or owning property in proximity to a City-led capital construction project:

Typical Construction Projects

- Direct line of communication with City Project Manager
- Construction notice letter
- Advanced warning / detour signage
- Updates on the Renew London website

Major Construction Projects

Any of the techniques above, plus:

- A minimum of three letters
- Project-specific web page on london.ca
- Public meeting (During COVID-19, in-person opportunities to meet have been replaced with live video webinars or recorded presentations. These presentations can also be emailed to residents, community groups, or posted online.)
- PSAs posted on london.ca/newsroom
- Social media updates posted on Facebook and Twitter

Core Construction Projects

Any of the techniques above, plus:

- Opportunity to sign up for project-specific email updates
- Project meetings held in partnership with BIA as needed

Navigation

To assist the public when navigating construction, the City continues to promote the use of the following tools:

- Waze app: Through our official partnership with Waze, City staff keep the app updated with the most current local road information.
- Renew London interactive map: By visiting london.ca/roadwork, residents can search by street to learn more about road impacts.
- Honk app: Through our official partnership with Honk, drivers can continue to find and pay for parking nearby during construction.
- LTC's online trip planner: City staff work alongside LTC to promote use of their trip planner and Google Maps, especially during construction.

Core Construction Program

London continues to experience revitalization downtown and in the core area as the city grows. Not only are there several City-led projects planned in the core in 2021, but continued private development and private utility projects will continue to occur as well.

Beginning in 2018 and the start of the Dundas Place construction, the City has supported major construction projects in the core with enhanced communication and opportunities for engagement. The program supports core area businesses and residents with additional resources such as a construction tool kit, enhanced wayfinding signage, small events, and marketing campaigns all using a consistent tagline "Connecting our future."

Recognizing the impact construction has on the city's most dense urban area, the City of London continues to create and support opportunities to engage residents, businesses, and visitors during construction.

Community Relations

Based on lessons learned between 2018-2020, the City continues to build its formalized construction mitigation program in the core. This program provides enhanced resources and communications on core construction projects to:

- Make change a positive experience for all
- Encourage movement in and around the construction zone
- Enable easy access to City services and staff
- Promote the impacted areas

- Achieve consistency and clarity in the delivery of project updates
- Foster community collaboration where possible

Program elements can be identified by its tagline: Connecting our future.



Core Area Construction Coordination Committee (CAC3)

Coordination of all construction activities in these densely developed parts of the city, which are used intensively day and night by multiple diverse users, involves collaboration across several City divisions. Constant communication is paramount internally and with the City's private partners, transit, and emergency services. City staff remain focused on anticipating and minimizing impacts and achieving equity in the travel experiences of all road users (pedestrians, cyclists, transit users and motorists) through weekly meetings during the construction season, of the Core Area Construction Coordination Committee (CAC3), established in 2018. The CAC3 was established to better coordinate transportation impacts in the core stemming from known projects and permits in or affecting right-of-way, to inform core construction communications. In 2021, the core-area boundary being monitored by the Downtown Construction Coordination Committee extends from Horton Street to Oxford Street and from the Thames River to Ontario Street.

Measurement

To better understand the effectiveness of the core construction program, the City launched a post-construction survey in early 2020 targeted towards residents, businesses, and property owners in the core area.

The most effective and well received communications identified through the survey were:

- Email notifications
- Sidewalk signs
- Construction letters and notices
- Project website
- Construction blog

The survey also identified the top five areas suggested for improvement:

- Pedestrian/sidewalk access
- Motor vehicle access
- Receiving deliveries
- Service (utility) interruptions
- Cleanliness of work site

A second post-construction survey will be planned for late 2021, asking visitors to the core to share their feedback and perspectives. City staff are using these survey results to refine our core construction program and are currently exploring ways to incorporate the feedback into other construction projects across London.

3.0 2020 Program Review

3.1 Overview of 2020 Projects

The chart below identifies the top 10 City projects in 2020, the status and tendered contract amount.

Project	Tendered Contract Amount (Millions)	Status
Dundas Street (Old East Village) Infrastructure Renewal	\$12.5 M	2-year project. Phase 1 mostly completed in 2020 with streetscape, sidewalks to be completed in 2021. Phase 2 scheduled for 2021.
Richmond Street Downtown Infrastructure Renewal	\$6.0 M	Streetscape features, sidewalk, top coat of asphalt to be completed in 2021.
Egerton Street (Phase 3) Infrastructure Renewal	\$4.6 M	Top coat of asphalt to be completed in 2021.
Wilton Grove Road Improvements	\$10.9 M	Restoration and top coat of asphalt to be completed in spring 2021.
Wonderland Road South	\$7.2 M	Restoration and top coat of asphalt to be completed in 2021.
Dundas Street & Colborne Street Cycle Tracks	\$6.3 M	Dundas streetscape and 60% of Colborne work and surface asphalt remaining.
Veterans Memorial Parkway North Extension & Huron Street Improvements	\$11.2 M	Surface asphalt on some sections remain.
Highbury Avenue – Wenige Expressway Bridge Renewal	\$8.8 M	2-year project. Phase 1 was completed in 2020. Phase 2 will begin in 2021.
Oxford Street East Infrastructure Renewal	\$0.4 M	Complete
Wellington & Exeter Intersection Improvements	\$2.9 M	Complete

In addition to the top 10 projects from 2020, several other significant projects were completed across London.

One of these noteworthy construction projects was phase 1 of the Mud Creek Rehabilitation project. This channel remediation project cost approximately \$7.5 million, was tendered in the summer of 2020, and involved specialized trenchless microtunnelling of two large diameter tunnels under the CN Rail tracks northeast of Riverside Drive and Wonderland Road South. The project was successfully completed in fall 2020 with minor work to be finished in 2021. These tunnels were constructed in preparation for the significant channel expansion of Mud Creek north and south of the

CN Rail tracks. The work is being done to better direct water flowing towards the Thames River and reduce flooding north of Proudfoot Lane.

A new link in the Thames Valley Parkway's north branch was also constructed in 2020. Two new bridges were delivered to the area and constructed over the course of the year. Between these two bridges, new multi-use recreational paths now allow path users to cross the Thames River between Ross Park and the North London Athletic Fields for the first time. Construction of the project totaled \$6.3 million and was completed in October 2020.

Minor finishing touches remain on some of 2020's construction projects. This work is often surface work including the top layer of asphalt and installation of permanent pavement markings. These finishing touches are included in 2020 tenders but generally placed on road reconstruction projects the year following construction to optimize material placement in better weather. The City plans on placing top coat of asphalt for 32 lane-kilometres of road in 2021. This work is coordinated with the 2021 construction program to ensure conflicts or constructor issues are avoided with projects in nearby areas.



Photographed above (left to right):

A large pipe is lowered into a shaft as part of the microtunneling operation for Mud Creek Phase 1.

Cyclists and pedestrians cross one of the two new bridges between Ross Park and the North London Athletic Fields along the Thames Valley Parkway.

Cyclists ride on the newly constructed separated bike lane along Dundas Street in Old East Village.

3.2 Budget and Schedule

The City managed approximately \$120 million in infrastructure construction project work in 2020. All projects nearing or at completion and are currently within the approved contract value to-date.

Construction contracts for the City of London are usually tendered based on a specified number of “working days” allowed to reach substantial completion (contract milestone). Rain days, Saturdays, Sundays, and holidays do not count towards the working day count. Contracts are sometimes configured to encourage work on weekends and nights. Additional work and unforeseen conditions may increase the number of working days allowed within a contract when there is justification. All projects completed in 2020 are within their contractually allotted number of working days. Major projects from 2020 that encountered extended project schedules due to unforeseen challenges that could not have been anticipated by the contractor, consultant, or the City include:

- Richmond Street
- Dundas Street – Old East Village Phase 1

- Wilton Grove Phase 2
- Colborne Cycle Track Extension

3.3 Accomplishments

Public Engagement (city wide)

The City of London launched a new London.ca website in 2020, and construction webpages have experienced improvements to accessibility, navigation, and content.

The City also launched improvements to its public engagement website Get Involved in 2020. This platform offers an online space for residents to provide comments, questions, and feedback on different projects across London. The improvements made to the Get Involved website allow new and different types of engagement opportunities online, and the website has been used to host information about multiple construction projects.

One of the many impacts of the COVID-19 pandemic involves public engagement and communication with Londoners regarding important City projects. As in-person opportunities to meet with residents and businesses were affected in 2020 by COVID-19, these improvements to London.ca and Get Involved have allowed the City to share construction information online differently using recorded presentations, live video webinars, and online Q&A's.

It is recognized that not all Londoners are able to access project information online. Project teams also offered a variety of other options and accommodations to ensure that everybody was able to receive this information. This included mailed letters, phone conversations, and printed construction information delivered to residents and businesses.

Email Notifications (core area)

All core construction projects provide the added benefit of direct email notifications to residents, business and property owners who choose to subscribe. Through this channel, our Construction Administration team has been able to provide advance notification about service interruptions, work occurring near properties, and major site changes. This method of communication also achieved an above-average open rate of 52.6% and was identified as the most effective communication tactic in the post-construction survey.

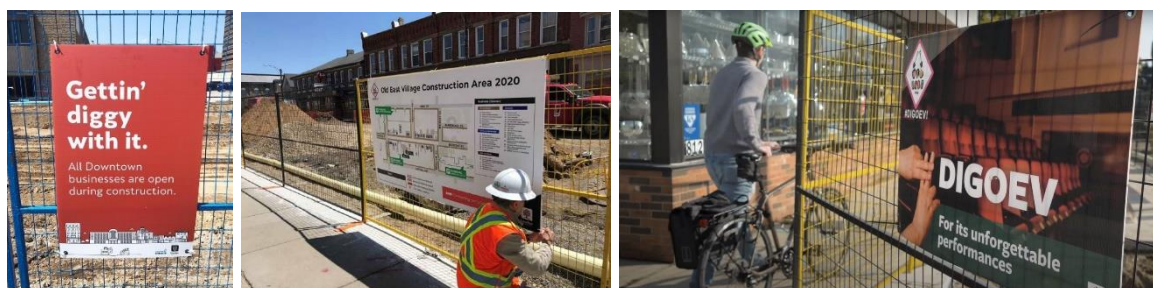
Construction Letters and Notices (city-wide)

To equip residents with more accessible, easy-to-read project information, the City of London has made all its construction letters AODA compliant with the goal of improving readability for all. Additional improvements include a reorganization of content where necessary and making information about project impacts, timelines, and options to stay informed more prominent.

Signage (core area)

The City of London and Downtown London partnered on multiple signage initiatives in the core area to offer some "surprise and delight" within construction zones. Song-themed signs with construction puns garnered a great deal of social media attention, earning thousands of impressions online and drawing more attention to our downtown core during construction. In Old East Village, the City partnered with the BIA to create signage promoting the #DIGOEV hashtag used in promoting construction and nearby

businesses. Moving forward, we will continue to work with BIAs & community members to exercise creativity through signage and other methods.



Photographed above (left to right):

A sign downtown promotes that businesses are open and was part of a series of new signs using construction themed puns.

A navigational sign shows the location of pedestrian crossings, businesses, and nearby parking in Old East Village.

A sign in Old East Village promotes #DIGOEV and that businesses are open.

Wayfinding (core area)

In 2019, improved construction signage for pedestrians was introduced to help label accessible routes within core construction zones. These additions were received positively by residents and businesses, and they were applied to 2020's core area projects. When possible, signage is now posted in advance of sidewalk closures and temporary narrow or uneven surfaces. Regularly updated, clearly labeled pedestrian navigation maps are also produced and posted where applicable. All signs have been carefully designed to clearly state the specific impact without dissuading people from travelling through the area(s) leading up to the closure.

Construction blog (core area)

Weekly blog posts were a new tactic used during Dundas Place's construction in 2018 and 2019. These blogs were posted online and sent to an email list of more than 800 subscribers every week during the construction season. While not every project is supported with blog posts, it remains a consideration for larger projects. In 2020, the City partnered with the Old East Village BIA to apply this same approach to the Dundas Street Infrastructure Renewal project helping promote the area during construction. The Old East Village blog received 5,241 visits in 2020.

Promotion of the Core during Construction (core area)

Promoting the core with the help of the area's BIAs continued in 2020. Much like during Dundas Place's construction in 2018 and 2019, radio, billboards, and other advertising were used to communicate construction impacts and support businesses.

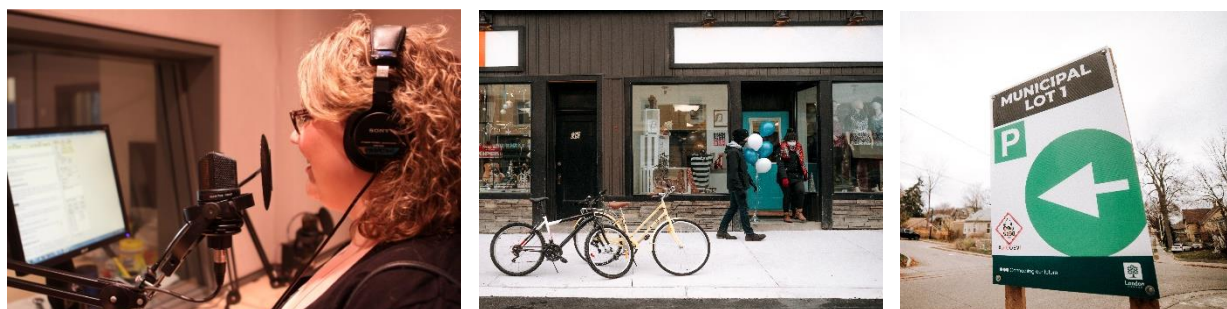
Radio advertising in partnership with the Downtown London and Old East Village BIA helped explain what the construction projects were accomplishing and promoted how visitors can reach the core during construction.

Promotional videos were filmed in partnership with the Old East Village BIA featuring businesses speaking about their community and promoting their area.

Construction Dollars as part of the Core Area Action Plan were distributed to customers in the form of contest prizes, promotions, and giveaways through the BIAs and their businesses. In total, \$55,350 Construction Dollars were spent at businesses in Old East Village and Downtown in 2020.

Parking promotions for customers were also coordinated. Discount codes for free parking were offered using the Honk app, additional bike parking was added in Old East

Village, and temporary signage was created to point towards nearby parking options for both drivers and cyclists.



Photographed above (left to right):

A downtown business owner participates in recording a radio ad promoting the core. Shoppers visit a business in Old East Village during a Construction Dollar giveaway. A sign in Old East Village promotes nearby parking during construction.

3.4 Applying Lessons Learned

Pedestrian/sidewalk access (core area)

Maintaining sidewalk access throughout construction zones, especially in the core area, continues to be a challenge when sidewalk work is required. Contractors are asked to maintain clearly labelled pedestrian maps and signage in advance of pathway closures. Where necessary, crews also provide a temporary smooth surface of plywood, asphalt, or concrete within the sidewalk area for pedestrians.

Motor vehicle access (core area)

While maintaining road access is not possible in all construction zones, free parking is being offered through the recently approved Core Area Action Plan to incentivize drivers to continue to visit despite the removal of on-street parking in the work zone. We will also assist visitors through the use of advance warning signs and the Waze app.

Receiving deliveries (core area)

Local businesses rely on the delivery of goods to operate. Understanding this, temporary loading zones have been designated in advance and will be clearly marked for retailers, suppliers, and rideshare services. In exceptional circumstances, new loading areas may be negotiated and installed. Concierge services can also be made available to assist with large or complex deliveries.

Service (utility) interruptions (core area)

Service interruptions can be extremely disruptive to businesses. Over the past few years, communication has been improved around planned service interruptions in the core area. Bi-weekly emails are sent to businesses from the project manager detailing what work has been completed, and what upcoming work is expected in the area. Tailored email notifications are also shared with impacted businesses at least 24 hours in advance of a service disruption, unless there is an emergency, in which case notice is provided as soon as possible.

Cleanliness of work site (core area)

Clean work zones are an important factor to deliver on positive experiences during construction. Sidewalk and street sweeping, sharps management, cigarette butt

disposal, periodic window-washing, garbage/recycling receptacles for the general public and waste pickup for those living and working in the area will be included in tenders where possible.

Coordination at/near key destinations (city-wide)

Major closures led by third parties at or near critical destinations, such as hospitals, schools, community and seniors' centres are critical to our community. Though internal training, increased efforts with regards to communication plans in these important locations. This includes increased oversight of third parties such as CN/CP Rail and utility groups.

Conclusion

The City has \$6.8 billion of water/wastewater infrastructure and \$2.1 billion of transportation infrastructure. The timely replacement and upgrade of these assets is critical to ensuring long term sustainability of services and managing the infrastructure gap. The Renew London Infrastructure Construction Program has been planned to address asset needs for infrastructure lifecycle renewal while at the same time ensuring that the growth requirements of the community are met in a timely manner.

The COVID-19 pandemic added additional pressures to an already busy construction season and quickly became the biggest risk to the 2020 construction season. The City's response in working with its many partners in industry was to keep moving forward, safely, by continuing to invest in infrastructure.

While COVID-19 was an undeniable impediment, the budgets for construction projects generally remained unaffected and only minor impacts to schedules experienced. Overall, 2020 was a successful construction season with the reconstruction of 80 lane kilometers of road, 15 kilometers of sanitary and storm sewers, and 12 kilometers of watermains. The City managed a portfolio of Council approved projects totalling approximately \$120 million. All of these projects are nearing or at completion and are currently within the approved contract values.

The top 10 projects for 2021 have been identified noting the downtown core will experience interruptions as the first phase of the Downtown Loop project begins on King Street and Phase 2 of the Dundas Street Infrastructure Renewal project continues in Old East Village. The Adelaide Street grade separation will also begin later in the year and will be closely coordinated with the core projects.

While the 2021 projects have been scheduled to minimize disruptions to traffic, commuting around the city will be impacted. Residents are encouraged to plan ahead and exercise patience when traveling around construction zones.

The City strives to deliver sustained, sincere, and strategic communications as part of its core construction program and city-construction projects. Lessons learned from 2020 projects and anticipated risks associated with the 2021 construction season have been communicated to project managers to support design and future project planning. The City's project teams continue to plan for potential COVID-related disruptions and are prepared to mitigate the impact of construction and keep each other safe while advancing projects to their completion.

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Transportation Advisory Committee
London Transit Commission
Downtown London Business Improvement Association
Old East Village Business Improvement Association