

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON NOVEMBER 21, 2017
FROM:	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	DOWNTOWN INFRASTRUCTURE CONSTRUCTION PROJECT COORDINATION

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following report on Downtown Infrastructure Project Coordination **BE RECEIVED** for information.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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- Planning and Environment Committee - April 7, 2015 - Our Move Forward: London's Downtown Plan
- Council Resolution – July 28, 2015 - Coordination of Environmental Assessments with Shift Rapid Transit Initiative (Item on the Civic Works Committee Deferred Matters List)
- Strategic Priorities and Policy Committee – January 28, 2016 – Downtown Infrastructure Planning and Coordination
- Civic Works Committee – November 29, 2016 – Irregular Bid Engineering Services for the Detailed Design of the First Phase of York Street Sewer Separation
- Civic Works Committee – November 29, 2016 – RFP 16-49 Irregular Bid Engineering Services for City Centre Servicing Strategy
- Civic Works Committee – November 29, 2016 - Wharncliffe Road South Environmental Assessment Update
- Civic Works Committee – February 7, 2017 – Dundas Place Detailed Design & Tendering Appointment of Consulting Engineer
- Strategic Priorities and Policy Committee – July 24, 2017 – Shift Rapid Transit Master Plan and Business Case
- Civic Works Committee – September 26, 2017 - Transit Rerouting Off Dundas Street in Downtown

2015-19 STRATEGIC PLAN

The 2015 – 2019 Strategic Plan identifies several initiatives that effect the downtown. Projects such as Dundas Place, downtown sewer separation and Rapid Transit contribute to the Strategic Plan in the Growing Our Economy and Building a Sustainable City Areas of Focus. These projects support the plan by facilitating urban regeneration through investment in London's downtown as the heart of our City and providing convenient and connected mobility choices for all users.

BACKGROUND

Purpose

The purpose of this report is to continue to inform Council about upcoming large infrastructure investments planned for the downtown and associated coordination efforts.

These infrastructure projects are consistent with The London Plan that focuses on goals of growing inward and upward, regenerating downtown London, offering quality mobility choices, and protecting and improving our Thames River. These are exciting opportunities that will transform our city, affect our mobility, and enhance the City's image through a re-imagined downtown, a more sustainable transportation system and a healthier river. A previous report considered broad principles that has guided the progress of these projects. This report provides an update on near-term construction phasing.

DISCUSSION

Public and private investments in the downtown are signs of progress and vitality and create opportunities to shape growth and create the City envisioned by the London Plan. Current initiatives scheduled in the City's approved four-year capital budget and 10-year forecast that are to be considered in the context of downtown construction coordination include:

Dundas Place

Council adopted "Our Move Forward: London's Downtown Plan" which plans for a number of transformational projects aimed at improving our Downtown, elevating our city image, stimulating small business development, attracting a high quality labour force and supporting economic development. Dundas Place is the first transformational project in the Downtown Plan.

The project will convert Dundas Street between Ridout Street and Wellington Street into a multi-functional facility that can serve both as a transportation corridor as well as a gathering place. Toggling between these functions is intended to be seamless so that Dundas Street can retain its transportation functionality when not closed to automobile

through-traffic, but can also be the centre of a vibrant people-oriented downtown. The design of this project is nearing completion and has been guided by significant information sharing with business and property owners.

The scope of the construction is large and includes major works by London Hydro and other utility companies that will prolong the construction schedule. The construction of Dundas Place is planned for 2018 and 2019. The construction will be disruptive and require the closure of Dundas Street to vehicles in phases. The first year of construction in 2018 will effect the west half of the project from Ridout Street to just east of Richmond Street. The second year will extend construction to Wellington Street. Business access will be maintained via pedestrian walkways.

The Dundas Place project is an approved Public Transit infrastructure Fund (PTIF) project. Project expenditures prior to the program funding deadline of March 31, 2019 are 50% supported by federal funding.

Downtown Core Sewer Separation

General Scope

The Pollution Prevention and Control Plan, to be completed by year's end, will provide the City of London with a "road map" for the budgeting and future implementation of infrastructure improvement capital projects that will mitigate the impacts of wet weather sewer system overflows to the Thames River and provide increased protection against localized basement flooding.

York Street (Thames to Colborne), King Street (Richmond to Colborne), Talbot Street (King to CNR tracks), Richmond Street (Dundas to York), Clarence Street (Dundas to York), and Wellington Street (Dundas to York) are not only served by combined sewers but also include some of the first sewers built in the city, with construction dates going back as far as 1853. That they are still in service today is a testament of the workmanship of the double bricked walled sewers excavated and installed by hand.

With the many changes occurring in the downtown core, including new intensified growth and others mentioned within this report, it is time to replace these combined sewers with a new separated system, in advance of these new initiatives, that will have the capacity to not only service existing and new growth but to also significantly reduce overflows to the Thames River in the downtown core. With some 20 blocks of combined sewers to separate it is imperative, for the wise use of infrastructure dollars and to limit, as much as possible, the social and business related impacts to the downtown core.

A full sewer separation phasing strategy with cost estimates, is being developed through the City Centre Servicing Strategy (see previous reports pertinent to this matter). As mentioned previously, the phasing of this sewer separation work will be coordinated with other downtown initiatives.

York Street Phase 1 Works

The first phase of this sewer separation work is on track to be tendered early in 2018 and will be comprised of the section on York Street from the Thames River to Talbot Street. This work, which will be similar for the rest of the sewer separation work, will

generally involve the removal and replacement of the existing sanitary and where present storm sewers and private drain connections and the removal and replacement of existing watermains including water services and hydrants. The typical depths of the sewers will range between 3.0 and 6.5 metres and the watermain depth is typically 2.2 metres.

The road surface will be totally removed and reconstructed back to its current configuration including new concrete sidewalks and improved street lighting. No improvements to the traffic signals at Ridout Street or Talbot Street are anticipated at this time.

London Hydro will be taking the opportunity to coordinate the installation of significant new underground infrastructure, ducts and chambers as well. The typical depth of the new London Hydro ducts will be between 1.1 and 1.9 metres with chambers having a typical depth of 3.0 metres.

On this first phase, the municipal right of way varies from 20 metres to 23 metres and carries a daily traffic volume of approximately 15,000 to 19,500 vehicles.

It is anticipated that the existing concrete sidewalks will be left in place, to the longest extent possible, while the construction is ongoing in order to allow for the orderly and safe movement of pedestrians. There will be times when the sidewalk will be disturbed, for instance while installing sanitary and storm private drain connections and water services. However the disturbed sidewalk will be backfilled and restored with a suitable granular surface or temporary asphalt surface.

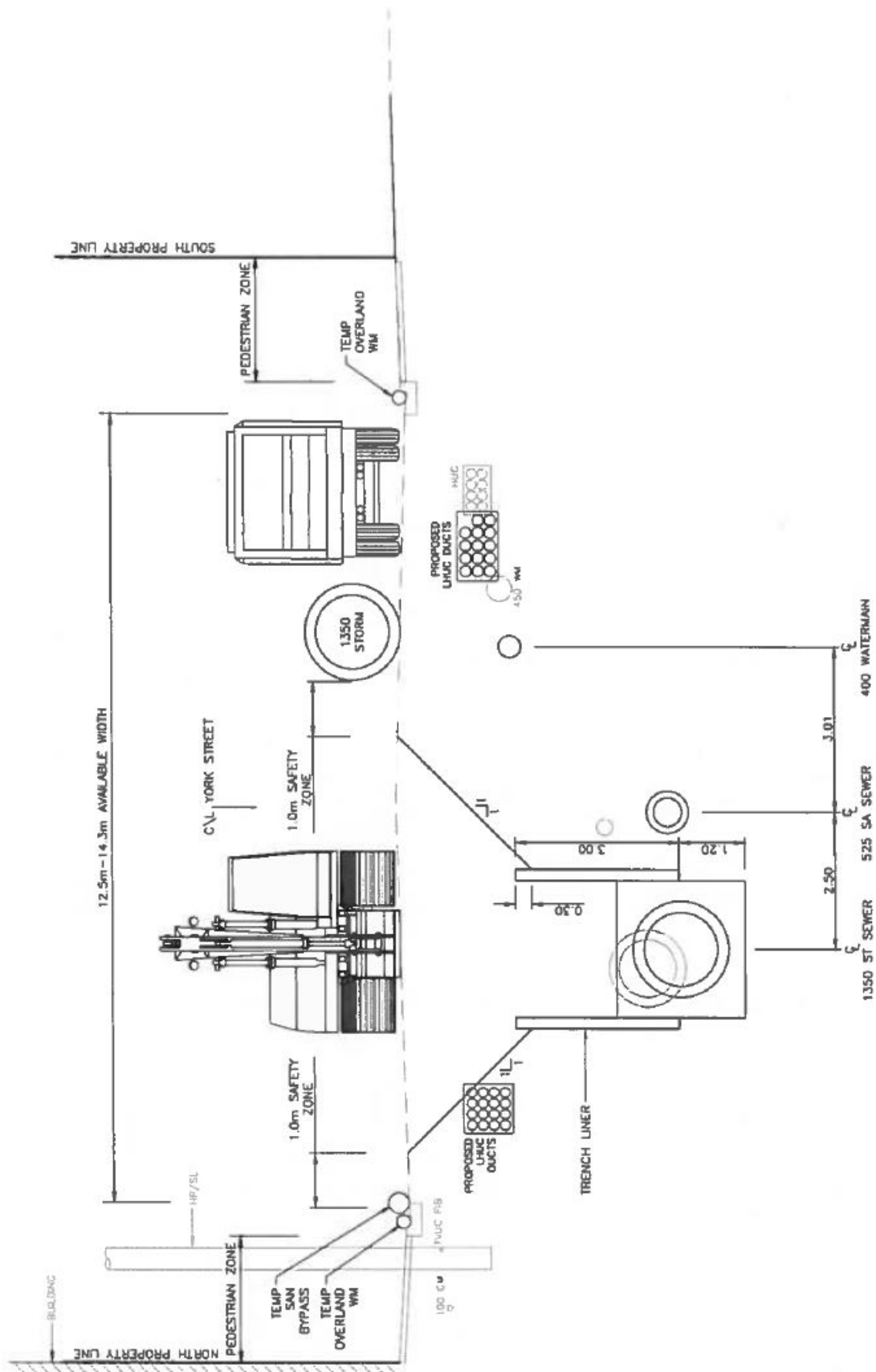
York Street Phase 1 Traffic Control

Traffic control will be a key factor, perhaps the key factor, in the successful completion of this project. The presence of significant underground infrastructure, the significant extensive new infrastructure and the lack of staging area will present significant problems with regards to maintaining safe and manageable traffic flow through the construction zone. The significant pipe diameter plus weight of the storm and sanitary sewer and manholes through the construction zone will result in the need to utilize large excavation equipment which generally has a width of about 3.5 metres. Not only will the longitudinal mainline sanitary and storm sewers, watermain and hydro ducts be installed but there will also be individual lot servicing that have to cross perpendicular to York St. in many locations.

In addition to the complete replacement of underground infrastructure it will be required to provide two temporary overland watermains and a sanitary bypass pumping forcemain on the surface to provide water and sanitary servicing to existing properties during the construction of these new works.

See Figure 1 of a typical cross section, between Ridout Street and Talbot Street, which illustrates the tight space constraints.

Figure 1 York Street – Typical Working Area



YORK STREET - RIDOUT STREET TO TALBOT STREET
N.T.S.

These factors along with general public safety will necessitate a full road closure (local access only) to traffic during construction.

Initial discussions have taken place with Greyhound Bus (at the corner of York Street and Talbot Street) and LTC in order to accommodate and be as least disruptive as possible to their day to day operations.

Staff have also opened up a line of communication with the Tricar Group and their consulting engineers regarding the construction at 40 York Street.

It is expected that a full construction season (April to October) will be required in order to complete the construction work noting that the final surface lift of asphalt would be placed in 2019. In order to minimize the impact on the general public, local businesses and residents it is generally proposed to undertake this 2018 first phase of the project in stages as follows:

Stage 1 – Thames River to just west of Ridout Street

Stage 1 could be subdivided into two if necessary as follows:

Stage 1a – Thames River to just east of Thames Street

Stage 1b – Just east of Thames Street to just west of Ridout Street

Stage 2 – Ridout Street intersection

Stage 3 – Just east of Ridout Street to just west of Talbot Street

Stage 4 – Talbot Street intersection and Talbot Street south of York Street

It should be noted that the breaking down of the construction into stages has the advantage of minimizing the inconvenience to the general public, local businesses and residents however it also creates challenges from a constructability and cost perspective. A balance needs to be established that satisfies both objectives.

York Street Phase 1 Traffic Control Summary

Based upon past experience a full road closure is planned for the first phase of the York Street sewer separation works, and it is very likely that this pattern will hold for the other future sewer separation phases in the downtown core, for the following points:

- In order to avoid unforeseen circumstances (poor soils, unforeseen underground infrastructure issues, Ministry of Labour orders, etc.) that might result in an unscheduled road closure thus causing confusion and driver frustration.
- To allow the contractor to work in a more efficient and unrestricted manner thus allowing the work to be undertaken in a more expeditious manner.
- To allow the contractor to work in a safer environment with less safety related distractions.
- To avoid the time and cost of building and removing temporary road surfaces.
- To avoid the need and cost of providing temporary traffic signals.

London's Bus Rapid Transit Network

Rapid transit is the primary recommendation of the Smart Moves Transportation Master Plan (TMP), is identified in the current Official Plan, and represents a cornerstone of The London Plan and Council's 2015 - 2019 Strategic Plan. At its meeting on July 25th 2017, City Council approved the Rapid Transit Master Plan (RTMP) and Updated Business Case and the project is now progressing through Transit Project Assessment Process to develop a Preliminary Engineering Design for Public review.

Rapid Transit (RT) will provide a higher order transit network that will attract more riders and make a significant contribution to the modal shift goals in the Smart Moves Transportation Master Plan. Strengthening local transit service to work together with Rapid Transit is an important part of the proposed plan to better serve London citywide as well as support the downtown core.

The Phasing Plan included in the approved Rapid Transit Master Plan identifies preliminary timing for implementation of the BRT Network.

- (2019) Quick Start program introducing elements of rapid transit
- (2020-2023) East Corridor
- (2022-2026) North Corridor
- (2023-2026) South Corridor
- (2025-2028) West Corridor

These timelines will be refined through the balance of the EA with development of the Preliminary Engineering Design and completion of a Procurement Option Analysis.

The Rapid Transit project team is working with colleagues in EES to coordinate underground services and utilities, considering condition, capacity and potential conflicts to determine the extent of underground infrastructure work to be aligned with RT. In some cases, timing of RT Project phases will need to align with other downstream projects that provide required outlet capacity, such as the York Street Sewer Separation.

Construction of dedicated lanes is expected to begin with segments of the downtown couplet as this will support circulation of RT buses within the core for the first operational sections of the network. This work is anticipated to start on King Street in 2020 and 2021.

As part of the Rapid Transit project, Travel Demand Management Plans will be developed to help mitigate construction impacts. TDM Plans address the needs of all modes (vehicular, transit, pedestrian and cycle) to manage access and keep users informed to help them understand how to avoid disruption and carry out their travel effectively.

Wharncliffe Road / CN Grade Separation Underpass (north of Horton Street)

Improvements to the Wharncliffe Road South / CN Grade Separation north of Horton Street needs to be considered in terms of transportation movements to the downtown. The existing reduction to three lanes under the CN railway line creates a bottleneck at the Horton Street intersection. The EA process currently underway is reviewing options for the widening of the roadway under the CN structure, improvements to the Horton

Street intersection and Wharncliffe Road corridor to the south. The completion of this major improvement to the transportation system prior to Shift rapid transit implementation is important for construction-related network traffic management.

The grade separation reconstruction is a large multiphase, three year construction project involving numerous property acquisitions, utility relocations and approvals. Construction of this multi-year project will not be able to proceed until at least 2020. Wharncliffe Road and the intersection of Horton Street intersection must be lowered to achieve proper clearance beneath the new structure. Considerable road closures will be necessary, including a lengthy total closure of Wharncliffe Road. Lane reductions and closures of Horton Street over a period of several months will also be necessary. Traffic will be rerouted onto alternative routes. Further details of the construction phasing will be provided upon the completion of the EA in early 2018.

The project construction would be coordinated with other local infrastructure renewal needs to maximize project benefits. These other infrastructure improvements include the rehabilitation of the Wharncliffe Road bridge over Thames River and local trunk sewer and watermain replacements on Wharncliffe Road and Horton Street.

Other City Projects

Other projects with impacts to transportation to and around the downtown include renewal of the Queens Avenue, Kensington (Riverside Drive) and Victoria (Ridout Street) Bridges across the Thames River. The bridges over the Thames River are critical links for both vehicular and active transportation purposes. The Thames River presents a transportation constraint to those travelling to and from the downtown from the south and west parts of the City. Therefore, the existing bridges need to be considered carefully. Renewal investments are required on all three of these bridges in the near term.

Downtown Developments

In the past few years, applications have been received for several developments in the downtown area. Staff will assess and coordinate potential external works requirements for developments that may occur within the next four years to minimize any future road cut or excavation (e.g., boulevard works, large servicing road cuts, internal works, etc.). Below is a list of all major developments that could potentially commence within the next few years and may require road right-of-way (ROW) modifications and traffic disruptions:

- 40 York Street (*Site Plan application*)
 - Developer: The Tricar Group
 - 24-storey residential tower
 - Demolition may occur in the near term
 - The construction access may need to co-ordinate with the 2018 York Street Sewer Project
 - ROW Modifications: boulevard & service connections

- 100 Fullarton Street (*Site Plan application*)
 - Developer: Rygar Properties Incorporated
 - 29-storey & 38-storey residential towers
 - The construction of the development will need to be co-ordinate with the 2018 Talbot Street Reconstruction
 - ROW Modifications: boulevard, external works (turn lane on Fullarton) & service connections

- 89 King Street (*Rezoning application*)
 - Developer: Market West (London)
 - 31-storey mixed use tower
 - ROW Modifications: to be determined

- 150 Dundas Street (*Site Plan consultation & Rezoning application*)
 - Developer: Rygar Properties Incorporated
 - 27-storey residential tower
 - The construction of this tower will need to coordinate with the Dundas Place construction
 - ROW Modifications: to be determined

- 89 York Street (*Site Plan consultation & Rezoning application*)
 - Developer: Jing for Jing Limited
 - 10-storey mixed use building
 - Construction date (unknown)
 - The construction of this building may need to co-ordinate with the York Street Sewer Project
 - ROW Modifications: external works (right turn layby) & service connections

- 329 / 331 Richmond Street (*Site Plan consultation & Rezoning application*)
 - Developer: Youth Opportunities Unlimited
 - 6-storey mixed use building: two stories office and four residential
 - The construction of this building may need to co-ordinate with the York Street Sewer Project
 - ROW Modifications: boulevard & service connections

- 455 Clarence Street (*Rezoning application*)
 - Developer: 1016790 Ontario Ltd.
 - 31 – 32 storey residential tower
 - ROW Modifications: boulevard & service connections

- 515 Richmond Street (*Rezoning application*)
 - Developer: Old Oak Properties
 - 32-storey residential tower
 - ROW Modifications: boulevard & external lay-by & service connections

- 661 / 667 Talbot Street (*Site Plan application & Rezoning application*)
 - Developer: Drewlo Holdings Inc.
 - 16-storey residential tower
 - ROW Modifications: boulevard, external turn lane & service connections

- 639 York Street (*Site Plan application & Rezoning application*)
 - Developer: Start Communications
 - 3-storey public utility building
 - ROW Modifications: boulevard & service connections

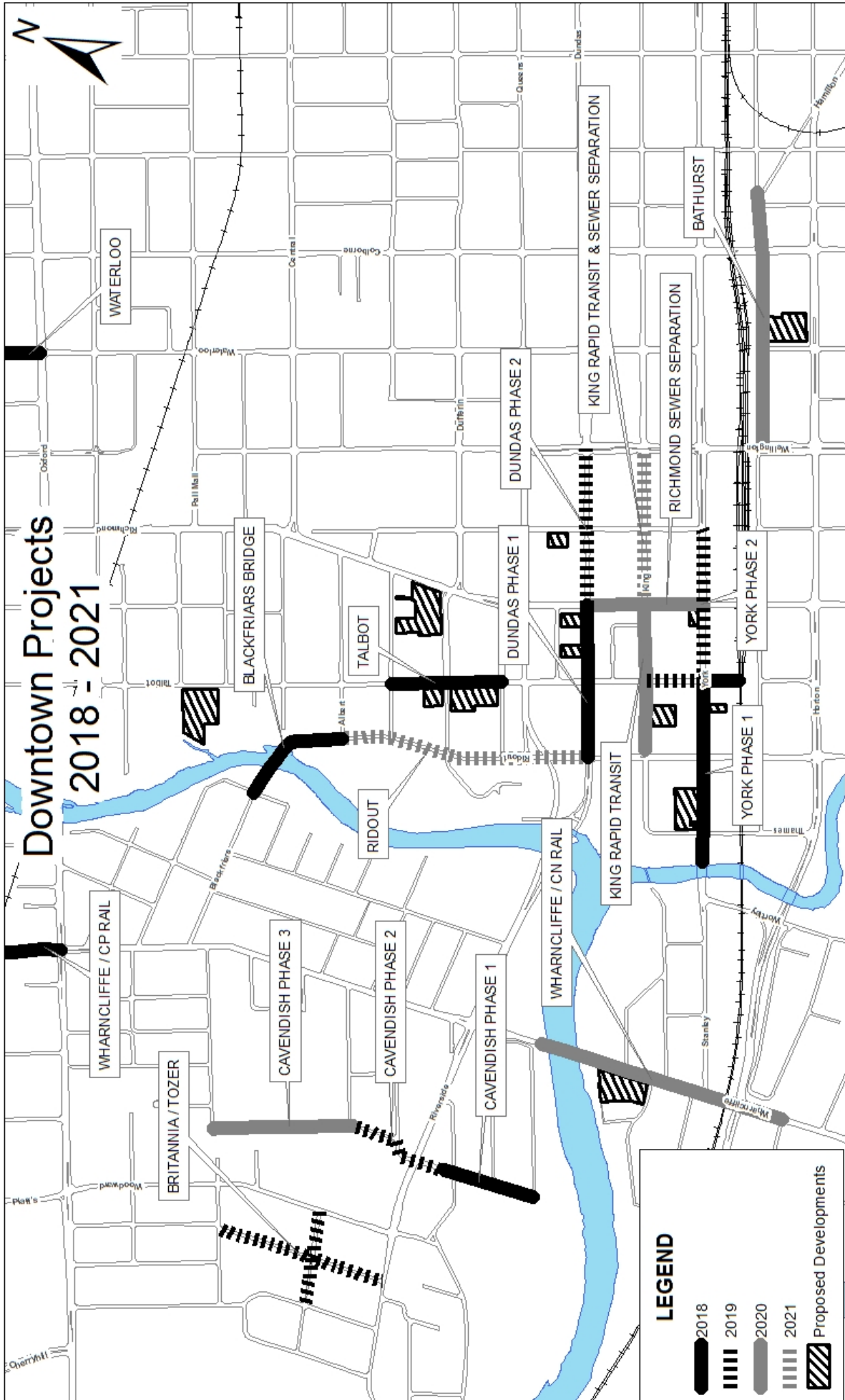
CONSTRUCTION COORDINATION AND MANAGEMENT

The downtown projects currently under consideration are multi-faceted and are driven by infrastructure renewal, mobility improvements, development needs and urban regeneration. The amount of infrastructure work planned for the downtown requires a focused look at the area and an integrated approach. Coordination activities and discussions have been initiated with stakeholders such as London Hydro, other utilities, London Transit Commission, My Big Yellow Bus, emergency services and Downtown London.

The influences on project timing are numerous and program schedules are often in flux. Influences include the coordination of unlike asset renewal work, growth work, private utility needs, available funding, and traffic management considerations. Project schedules are often adjusted to implement all city infrastructure and private utility work in unison to avoid multiple disruptions in a given area.

The construction impacts will be disruptive. A scheduling plan to mitigate the impacts as much as possible is continually under development. The transportation management of east-west routes across the river and through downtown are an area of coordination focus. A current snapshot of the envisioned timing of major downtown projects is illustrated on Figure 2. The timing of projects includes assumptions regarding RT funding commitments and individual project approvals.

Figure 2 – Downtown Projects, 2018 to 2021



A key consideration is the construction and road closures of the York Street and Dundas Place projects in 2018 and 2019. These closures will significantly limit east-west connectivity between west London and the downtown, particularly in 2018 when York Street crossing of the Thames River is closed. This situation was identified in the January 2016 report to the Strategic Priorities and Planning Committee and has been thoroughly scrutinized. Deferral of either project to eliminate the conflict is not recommended. Deferral of Dundas Place would not meet the growing expectations of project stakeholders, delay project benefits and lose the 50% federal funding allocated through the PTIF for work completed before March 31, 2019. Deferral of the York Street Phase 1 project would delay the entire downtown sewer separation program. This would delay upstream infrastructure works that are required to be coordinated into the Rapid Transit project and would also prolong an unquantifiable risk to downtown developments created by the presence of combined sewers.

Mitigation

Construction is disruptive. City staff manage programs to mitigate the impacts as much as possible. The transportation network is managed to absorb the disruptions from construction. Traffic signal timing adjustments are made in the network surrounding construction projects to facilitate deflected traffic. The City strives to minimize the disruption to the public during construction and maintain access to the maximum extent possible. There are however times when road closures are necessary for the safety of the contractor and the public. This is particularly true in the constrained downtown rights-of-way. A benefit of road closures can be the benefit of shortening the duration of construction.

Pedestrians and Mobility Services

Moving pedestrians safely and efficiently through and around construction sites remains a priority for the downtown projects in particular. Imposition of pedestrian accessibility is also required of private applicants through the work permit and transportation management plan processes. Hard surface walking surfaces will be maintained as much as possible noting that sidewalks will sometimes be closed where no other option is feasible.

Special users of the transportation network include London Transit, school bus and emergency services. Discussions are commenced with these groups during the design phase of projects to share information and modify construction plans as possible. Daily lines of communication are established to enable these services to operate.

Good construction communication is key and this is an area of continuous improvement. Every effort is made to ensure Londoners are aware of construction zones and traffic detours resulting from road work using on- and off-site signage. Property owner letters are sent out in advance of construction and daily updates are provided through the City's website, www.london.ca/roadwork with information about road closures, and ongoing/ upcoming projects on city streets. Social media and media releases are also used for larger impacts. Lines of communication with significant stakeholders are commenced early and maintained. The Dundas Place and York Street projects have dialogues underway.

A key component of construction management is business outreach. This begins during the design phase and extends throughout construction. Specific plans for each project will be developed related to construction management of access, business loading and parking in consultation with business owners. Access and loading needs are often business specific and plans can cater to the types of business. Parking demands are also variable and will also be managed on a project-by-project basis considering the constraints of the project construction.

Coordination of street events and parades is a priority in the downtown, particularly for large events. This includes events such as Culture Days to Sesquifest. The possibility of the Juno Awards being held in London in 2019 is particularly noteworthy and would be managed carefully with Dundas Place and York Street Phase 1 construction. The Dundas Place project aims to further grow the vibrancy in the downtown that Londoners have become accustomed to and the project team is developing a plan to manage the construction disruption. Facilitation of events during construction is required to support local communities and businesses and can be leveraged to gain local support for projects. The Dundas Place project team is working with Downtown London to develop a multi-faceted plan to support the area businesses during construction. The plan development is considering specific contract items to facilitate communications with businesses and improve contractor accountability, pedestrian wayfinding unique to the nature of the Dundas Street, cleanliness around the construction site. Development of this plan is being informed by face-to-face meetings with many of the property and business owners in the corridor to understand opportunities and concerns with the project.

Alignment of different infrastructure needs to maximize the benefit/cost ratio of road disruptions including the alignment of unlike city asset renewals and coordination of City and private works in the right-of-way. The City's internal Capital Coordinating Committee (C3) accomplishes this for transportation, water, sewer and other City-owned infrastructure. Integration of renewal works on private infrastructure in partnership with external partners is also integrated where requested and feasible. Much of the private utility infrastructure in the downtown is in need of upgrades. For example, the construction of Dundas Place will also undertake renewal and upgrades to London Hydro, Rogers, Bell Canada, Telus, Start Communications, LARGnet and Union Gas.

There individual construction activities by third parties within the right-of-way also impacts traffic flow. These private initiatives include works such as utility cuts for service repairs or new installations and lane closures to support development projects. Advance planning of infrastructure work in the municipal right-of-way for 21 different public and private organizations is the mandate of the Utility Coordinating Committee (UCC). Coordination is complicated by hundreds of emergency and routine operational repairs undertaken by City Transportation, Water, Sewer and Forestry Operation teams annually. Coordination of all these works is a challenge.

UCC-approved work permits include conditions such as scheduling restrictions, proper traffic control signage and road construction quality. Current City resources are inadequate to hold private contractors accountable for the field enforcement of permit requirements. Given the pending high volume of work in the downtown, the limited resources available will need to focus on this area. In particular, careful management of adjacent corridors will be necessary. Municipal consent applications for private works requiring disruptions to parallel corridors of King Street and Horton Street during the simultaneous York Street and Dundas Street closures will be deferred wherever possible.

As part of the Council approved Service London Implementation Plan, 2016 was the first year of Customer Relationship Management (CRM) implementation as it relates to construction projects. The software captures all customer interactions and complaints and filters them back to Project Managers assigned to City construction projects. Construction Administration received and responded to over 700 calls in the first year. Program features will be enhanced in upcoming years which will make the interaction with our customers even better over time.

CONCLUSION

London is experiencing a renewed vitality in its downtown as the city grows. Council's Strategic Plan, The London Plan, Shift Rapid Transit Master Plan and EA Initiative, London's Downtown Plan, the City Centre Servicing Strategy and the Pollution Prevention and Control Plan all strive for downtown regeneration with the goals of strengthening our community, city-building, growing our economy and improving our river. Many public infrastructure projects are proposed that will contribute to London's downtown regeneration.

The coordination of the construction of these projects is a continual process. The magnitude and timing pressures of the large projects will create significant road user disruption, particularly in 2018 with the simultaneous closure of York Street and Dundas Street. Project coordination and mitigation measures will be implemented to the extent possible to reduce the impacts to London road users, residents and visitors to the downtown.

Acknowledgements

This report was prepared with the assistance of Doug MacRae and Maged Elmadhoon of the Transportation Planning & Design Division, Tom Copeland of the Wastewater and Drainage Engineering Division, Jennie Ramsay of the Rapid Transit Implementation Office and Ugo Decandido of the Construction Administration Division.

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