

то:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON MONDAY, MAY 14, 2012
FROM:	JOHN BRAAM ACTING EXECUTIVE DIRECTOR PLANNING, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	DUNDAS STREET IMPROVEMENTS FORMULATING AN IMPLEMENTATION PLAN

RECOMMENDATION

That, on the recommendation of the Acting Executive Director, Planning, Environmental and Engineering Services Department, the following actions **BE TAKEN** with respect to formulating an improvement plan for Dundas Street, from Ridout Street to Wellington Street:

- (a) This report BY RECEIVED for information;
- (b) A Dundas Street Scoping Study budget in the amount of \$100,000, excluding GST, **BE APPROVED**; it being noted that the Scoping Study purpose is to set a project plan, including budget and timelines for stakeholder consultation, design and construction; it being further noted that funding will be from other previously approved projects.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Civic Works Report, April 2, 2012, Agenda Item #27, Dundas Street Watermain Maintenance

BACKGROUND

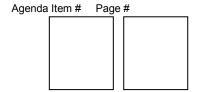
Purpose:

This report provides information and a recommendation on how to advance visions for Dundas Street being developed in the Downtown Master Plan.

Context:

On April 10, 2012 Council resolved;

- a) "the report dated April 2, 2012 from the Acting Executive Director; Planning, Environmental and Enginnering Services and City Engineer; with respect to the Dundas Street watermain maintenance **BE RECEIVED** for information;
- b) the Downtown Master Plan improvements **BE IMPLEMENTED** in two to three years, with a report back to the Civic Works Committee on the implementation plan and process; and,
- c) the Civic Administration BE REQUESTED to report back at the April 23, 2012



meeting of the Civic Works Committee with respect to the status of the implementation plan and process report noted in (b), above, and details as to proposed sources of financing so that the Downtown Master Plan improvements can be properly planned for in upcoming budgets (2012-W13-00)"

The resolution stemmed from a concern from the Municipal Council that there may be a long lag time between short term repairs to Dundas Street in 2012 and implementation of visions for the street being developed in the Downtown Master Plan (in progress). The 2012 construction work on Dundas Street is limited to: isolated concrete repairs to resolve trip/fall hazards; water valve repairs to assist in short term flow control (being able to isolate watermain lengths should repairs require a shut down); and, a 'shave and pave' of the road surface which is presently suffering from severe cracking and potholes.

The resolution indicated a report be brought back to the April 23rd meeting but because of the amount of information required, the cross-departmental exchange of information needed and the need for detailed financial information, the report is being brought to this meeting.

Background:

1) The Importance of Dundas Street

Dundas Street is the "main street" for the City of London, used since the early 1800's as a connection between London and Dundas, Ontario with connections to Hamilton and Toronto. Over time the street has been transformed many times. Today, Londoners view the health and vitality of the Downtown based on the stretch of Dundas Street between Ridout Street and Wellington Streets. It is seen as the City's primary pedestrian street or "main street".

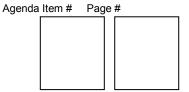
Although Dundas Street has always been an important component of both the City and Downtown, there has never been a comprehensive focus on the City's "Main Street". Most of the focus and investment has been on beautification; street trees, sidewalk pavement, street lights, "metal trees" etc. Infrastructure improvements have also been made underground in response to new development, existing problems and lifecycle improvements. The last major project for the entire corridor was the Dundas Street Reconstruction Project (Summer 1994) which reinstated on-street parking.

There have been a number of general initiatives that had an impact on Dundas Street but no specific program of comprehensive initiatives for Dundas Street. For example, in 2007-2008 the City developed a series of incentive programs to create a vibrant, distinct pedestrian-orientated area; maintain the unique heritage building stock and ensure daytime and evening activity in a "Targeted Incentive Zone" which included buildings along Dundas Street and Richmond Street. By introducing more activity to these buildings it was thought it would improve activity on the street.

"A Blueprint for Action; Report of the Downtown Task Force" (February 2008) was the first major study which focused attention on the improvement and revitalization of Dundas Street. One of the primary goals for 2008-2018 was to "Make Dundas the most exciting street in London". Dundas rejuvenation and cleaning up Dundas were two short term (0-2 years) goals identified. Creating a piazza on Dundas Street was identified as a long term (5-10 years) goal of the report.

To do this the Downtown Task Force recommended;

- 1. "a major change to the street traffic and the physical appearance of the street must be implemented.
- 2. beautify the street with plants, flowers, street furniture and big trees to make it an appealing, clean and attractive physical place.
- 3. the LDBA and Mainstreet Boards strongly endorse and support the November 14,



2007 report and proposed incentive programs from the Planning Department to Board of Control entitled "Downtown Revitalization Strategy."

Stages were recommended for improvements to Dundas Street and these included;

- 1. "Within two years, remove east-west bus travel from Dundas Street between Wellington and Ridout.
- 2. Within five years, eliminate car parking on the same stretch of road and use the reclaimed space for pedestrians and bicycles, thus freeing-up more sidewalk presence for cafes, patios, store displays, etc.
- 3. Within 10 years, limit car and truck traffic to morning and overnight, being replaced by more pedestrians and more bicycles.
- 4. Obtain an electric-powered jitney and provide free transportation."

Since 2008 a greater emphasis has been placed on urban design by the City through the creation of an Urban Design Section within the Planning Division and the establishment of an Urban Design Peer Review Panel. These events have provided the City with the capability to undertake urban design reviews and create conceptual designs. In September 2011 the Mayor's "Downtown Vision" was launched which included conceptual designs for a more flexible, people-orientated Dundas Street.

The Downtown Master Plan policies and the new Downtown Urban Design Guidelines will identify other initiatives to improve the Dundas Street corridor.

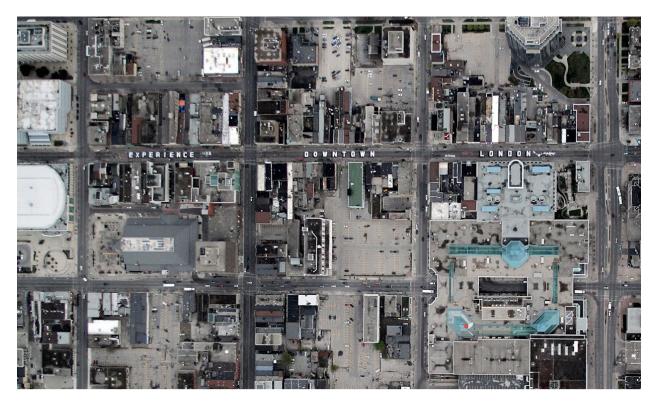
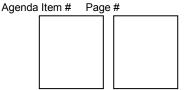


Photo 1 – Airphoto of Dundas Street, Wellington to Talbot, April 2012

2) Existing Situation/Constraints

Dundas Street Limitations

Currently, based on the 2011 State of The Downtown report, the vacancy rate on Dundas Street is approximately 15% although current value assessment has grown 47% between 2002 and 2011. Streets such as King Street are largely fully occupied but Dundas Street still has challenges.



There are two components to the Dundas Street corridor; the street wall and the street. Through the efforts of Downtown London's retail attraction efforts and the City's incentive programs it is hoped that the Dundas Street vacancy levels will decrease and condition of those buildings will improve.

The second component of the Dundas Street corridor is the street which includes both surface features (eg. sidewalks, street trees, benches, street lights, metal trees etc) and underground utilities. These include City of London (water, sanitary sewer, storm sewer fibre optic cable), Bell telephone, Rogers Cable TV, City's Steam Heating, Union Gas and London Hydro infrastructure. If you have ever had the opportunity to look down a manhole or excavation trench Downtown, it is a myriad of cables and pipes. This is elaborated upon further in this report.



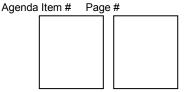
Figure 1 – Underground Utility Congestion

Because of its long term historical development, the limited size of the Dundas Street right-of-way creates some challenges. The sidewalks are narrow, parking is tight, there is little room for bicycles and pedestrians and little remaining space for sidewalk cafes, benches and display space for sidewalk sales. Pedestrians, store owners, short term and long term parkers, bicyclists, buses and automobiles all compete for this very limited space.

Downtown Master Plan Directions

The Downtown Master Plan process was started to prepare a Downtown Master Plan, Downtown Heritage Conservation District Plan and new Downtown Urban Design Guidelines and deal with all Downtown issues on a comprehensive basis. An extensive public participation process was carried out involving workshops, on-line surveys, letters to public and landowners and interaction through the City's website. A number of comments/ideas were received specifically relate to Dundas Street including;

- "closing Dundas Street to vehicles to create a pedestrian mall;
- sidewalks are too narrow to accommodate cafes and street trees;



- sidewalks are unsafe:
- · congestion at Dundas and Richmond Street;
- not enough benches;
- no drinking fountains;
- better pedestrian connection on Dundas Street from Talbot to the Forks of the Thames;
- need for on-street parking on Dundas Street;
- amount and speed of auto and truck traffic through the Downtown;
- the need for buses on Dundas Street: and.
- the need for bicycle lanes and bicycle rider facilities."

Following approval of the Downtown Heritage Conservation District Plan, planning staff are currently pulling together policy components for the Downtown Master Plan. A number of interrelated policy initiatives (such as "Smart Moves" and Downtown Parking Strategy) are nearing completion and any directions need to be included. It is expected a draft Downtown Master Plan will be available in late June or July 2012.

Transportation Master Plan ("Smart Moves") Direction

The Transportation Master Plan (TMP) provides a comprehensive review of future transportation needs with the benefit of extensive public consultation. It is anticipated that the draft master plan will be presented to the Civic Works Committee in June, 2012. Coordination with the Downtown Master Plan has been assured by placing a number of Planning staff on the TMP Steering Committee.

At this time it is anticipated that Dundas Street will continue to provide an important role in the City's transportation network. An assessment of BRT possibilities in the core area has identified two preferred options. Neither makes use of the section of Dundas Street from Ridout Street to Wellington Street. The assessment considered six options and six key factors, one of which was to support for the Downtown Master Plan and Transportation Goals. Further study as part of an Environmental Assessment will be required to finalize BRT routing Downtown, as well as Dundas Street East of Wellington, Richmond, Oxford and Wellington corridors.

3) The Flexible Street

Where did the Idea of Implementing a Flexible Street Come From?

In September of 2011 Planning Staff presented a vision for Downtown London. It included a number of "transformative projects" that have the potential to make significant impact on the revitalization of Downtown London. One of those transformative projects is the redevelopment of Dundas Street as a "flexible street" to allow activity and commerce to "spill out" from the buildings on Dundas Street, onto the street itself. This concept will be one of the building blocks of the Downtown Master Plan and a key to re-establishing the link between the Forks of the Thames River and London's authentic main street.

What is a Flexible Street?

A flexible street, "naked street" or "woonerf" is a street where cars and pedestrians share the same street. The street is raised with different materials to the level of the curb. The elevation change and the use of textured materials signals to drivers they are entering an area which is not clearly defined as pedestrian or vehicular. They have proven to be successful in slowing traffic, enhancing elements of the public realm, improving pedestrian movement and reducing traffic accidents. This will allow for maximized public usage of the streetscape for weekend events, seasonal transformations and special events. This shared space approach to main streets is being implemented in many cities with similar conditions, including;

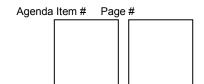




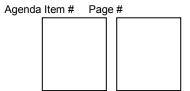




Photo Credit: IBI Group – King Street, Kitchener, Ontario



Photo Credit: Cherry Creek North BIA – Fillmore Plaza, Denver, Colorado



Dundas Street Concepts

In September of 2011, Planning Staff presented a number of design concepts for specific areas of the Downtown; one of those was a re-build of Dundas Street. The design concepts were not intended to show the "final product" but were intended to start a discussion on possible improvements to Dundas Street. It is expected that over time the concepts will evolve and refined by the public and Downtown stakeholders. The preliminary illustrations presented show three distinct "flexible street" <u>transitions</u> for the use of Dundas Street.

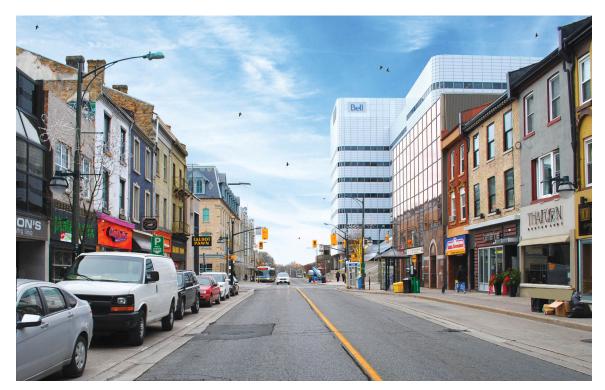
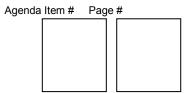


Figure 2 – Existing Dundas Street looking west towards Talbot Street



Figure 3 – Transition 1 with On-Street Parking and Delivery Spaces



The streetscape would function as it does now with the "new infrastructure improvements". In-pavement retractable bollards would separate the parking lanes from the sidewalk. With the new pavement materials and enhancement elements it would act as a traffic calming element and encourage only vehicular movement by those intending to go to Dundas Street as their destination.

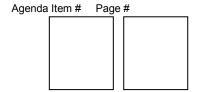


Figure 4 - Transition 2 with Extended Sidewalk

In-pavement retractable bollards would be placed to increase the width of the sidewalk to occupy curb-side parking lanes. This extension of the public domain could be used for sidewalk patios, on-street vendors, visual and performing arts and outdoor extensions of retail businesses. Overall, this would attribute to a much more desirable, pedestrian oriented space for public use.



Figure 5 – Transition 3 - Dundas/Richmond Street Intersection Street Festival



"Full street closure" with in-pavement retractable bollards would be lifted to prevent vehicular access onto block-lengths of Dundas Street. This would allow full pedestrian use of the right-of-way for events such as car free weekend, season parades, Fringe Festival, and other seasonal events.

4) Project Planning

Introduction to Project Considerations

London Engineering staff have experience in reconstruction of Downtown infrastructure and streets. That experience suggests a number of issues and expectations:

- Investment in infrastructure is expected. Knowns (watermain) and unknowns exist at this time. There is a need to resolve the unknowns with servicing partners (public and private).
- Expect sensitivity associated with working near old buildings. There are risks of damage and ways to mitigate these, and also re-servicing questions.
- Downtown and Transportation Master Plans have been coordinated. Details of Transit services and vision concepts for Downtown streets are included in TMP next steps.
- Downtown business interest in a renewed Dundas Street is expected to be high. Expect an interest in involvement from project goal setting through design.
- Expect high Downtown business and public interest in final surface features form, function, themes involvement will be required.
- Expect concerns about construction impacts to businesses. Past practice is to give a minimum 2 years notice because some throttle back their inventory.
- There is little basis upon which to set a project budget at this time. A scoping study would identify a preliminary cost sufficient to include in future year's budgets. It would be refined through design stages.
- Scheduling and staging is important to cash flow and business impacts. These should be worked out initially in a scoping study and in more detail in the design stage.
- Expect these generalized project stages:
 - 1. scoping study
 - 2. preliminary design
 - 3. final design
 - 4. construction

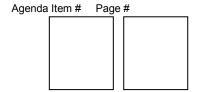
What is known about these project considerations is provided below.

Infrastructure Needs and Limits

Generally speaking, resolving subsurface utility deficiencies, and building new infrastructure to meet local needs is most cost effectively done before expensive surface features are installed. It will also reduce future construction for maintenance, failure repair and new servicing.

Several utilities are currently located in the existing Right of Way on Dundas Street and adjoining cross streets (see Appendix A for sample - a plan and cross-section of the Dundas and Clarence intersection) providing services to over 100 businesses, including: watermains; sanitary sewers and MH's; storm sewers and MH's; surface drainage features including curb & gutter and catch basins; power supply to buildings, street lights and traffic signals routed in conduit or duct banks and related vaults/MH's; telephone duct banks and related MH's; natural gas mains; district heating and communications cables.

Initial discussions with public and private utilities last year did not identified a specific major renewal program for Dundas Street; however once one utility embarks on a renewal project,



then often other utilities wish to participate as it lowers the overall renewal cost if there is more than one partner. Depending on the nature of the infrastructure need, a deep sewer or watermain could disrupt a other utilities which may be located above them, even if they are in relatively good condition.

Sewers, Maintenance Holes and Catch Basins

Although we understand there are no immediate requirements for sewer renewal (vintage 1966), many of the service connections to businesses along Dundas Street are not separated (sanitary/storm), so it would be an opportune time to refresh the Private Drain Connections (Appendix 'B'). This will complete the sewer separation anticipated in previous sewer work and reduce overflows to the Thames River near the Forks.

Watermains, Valves, and Fire Hydrants

Of the two watermains along Dundas, the 1905 vintage 150 mm cast iron main on the south side of Dundas is currently planned to be replaced in a 20 year timeframe, along with all service connections into the businesses. Major surface works such as full road re-builds have shown that the vibration loosens the joints of these older pipes, which, while still structurally sound, may result in significant leakage and consequently damage other utilities, the road surface and buildings. Stormwater catch basins are immediately above the watermain, so they would likely have to be replaced if the watermain was replaced using open cut techniques.

The 1966 vintage 300 mm cast iron watermain on the north side of Dundas is generally considered to be good condition, although this is the pipe where the dead-end connection at Wellington failed causing the sink-hole in 2007. As part of a pre-design study, cost estimates will have to be developed to determine the most cost-effective method to proceed by comparing open-cut options with trenchless technologies, and abandonment of the 150 mm watermain in favour of servicing all businesses from the 300 mm watermain, implying full width road cuts to connect new water services.

Traffic Signals and Streetlighting

The underground ducts, electrical handholds, electrical wiring and City-owned fiber communication wires are in need of replacing along the Dundas Street corridor as they have outlived their useful life. Traffic signal poles and bases will be inspected and replaced on an asneeded basis. The conversion of the impacted traffic signals to accessible pedestrian signals and countdown pedestrian signals will be incorporated into the re-building of traffic signals.

Electrical Ducts, Conduits, Vaults

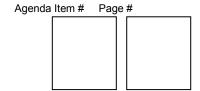
Following the 2007 sink hole, London Hydro undertook an inspection of the Electrical Maintenance Holes and Vaults in the Downtown area. Repairs have been undertaken on several of these below grade structures. The amount of repair or improvement to London Hydro infrastructure is required to be determined. We note that City watermains are generally below electrical duct banks.

Telephone Ducts and Maintenance Holes

There are a significant number of telephone ducts in the Dundas Street right-of-way. Bell Telephone does not have any immediate plans for renewal of these duct banks. Past experience has shown that once disturbed, these duct banks lose their structural integrity. City watermains are generally below the duct banks.

District Heating and Cooling

Extensive systems are located on Wellington and Dundas east of Wellington, as well as a steam line on Clarence Street crossing Dundas. Excavating the roadway would present an opportunity to install a condensation line, repair pipes that cross Dundas Street, new service crossings and possibly supply and return chilled water piping.



Impact on Existing Buildings

The number of older buildings on Dundas suggest some care must be taken to protect the structural integrity of them and their contents because of age and condition, particularly when excavating up the building face. The prevalence of sand under the road makes excavations wider and backfilling more onerous. Vibration from construction activities will be an important consideration. An evaluation of soil conditions in the proposed Scoping Study is required to set construction methods, and identify resulting costs and duration impacts.

Preliminary Engineering Design and Construction Sequencing

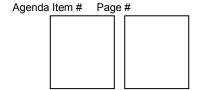
Reconstruction of Dundas Street may represent a significant undertaking in terms of servicing requirements:

- · what will be replaced based on condition assessment
- what will be left as is
- what the design life should be for the renewal work
- what improvements the 100 plus business/building owners may wish to make to their private services, e.g. separate storm and sanitary, new water service, new power service (In some cases there are multiple customers serviced off one main connection – ideally this would be resolved so each customer would have one connection)
- soil conditions
- structural condition of buildings and protection measures
- type of pavement structure
- surface run-off management for flexible street considerations
- additional power requirements for street features
- additional IT considerations for Smart City, e.g. wireless
- additional water requirements for boulevards, planters or street trees
- general understanding of type and placement of street furniture to avoid conflicts with other infrastructure components – fire hydrants, water meter pits, MH's, vaults, building ventilation louvers

Once there is a clear understanding of the necessary works through the recommended Scoping Study, then preliminary engineering can start to establish where each renewed infrastructure component will be located. This is especially important for the underground infrastructure to ensure continued service during construction and reduce interference when future maintenance work is required. Initial steps might include physically locating existing infrastructure to ensure it is where we believe it to be based on historical construction information. Once the spatial extent of the disruption is identified then strategies for providing access to businesses and traffic management plans can be developed.

Preliminary engineering should also establish whether the construction contract(s) should be for all work, i.e. underground, finished roadway and street furniture, or whether more than one contract would be let for various components of the underground and surface features. We have recently had good success including various private utilities within City infrastructure renewal projects, again resulting in shorter durations and less disruption for the public and businesses.

Preliminary engineering would range from 6 to 9 months depending on the complexity and spatial extent of the work. With the appropriate amount of ground work done in preliminary engineering, final design would be relatively straightforward. Considerable time is required to develop the contract documents (drawings and specifications) which provide the detail and constraints imposed on the contractors who will ultimately construct the works. Final Design would range from 9 to 12 months depending on the degree of innovation e.g. flexible roadway, complexity and spatial extent of the work, and public review of the design. The Draft Project Schedule in Appendix C assumes detailed design is split into two years, along with construction.



Public Participation

There will be much interest in a Dundas Street project during all four phases. Examples include:

- Downtown businesses the new function(s) of Dundas Street, traffic disruption during construction, future maintenance requirements
- General Public form and function of the street, costs
- Individual property owners on Dundas changes to parking, opportunities to expand outdoors, business impacts during construction

Costs and Funding Sources

Currently, there is no funding for the recommended Scoping Study or for construction on Dundas Street, from Ridout to Wellington in the ten year capital plan for Roads, Water or Wastewater. Funding for the Scoping Study to be completed in 2012 is identified in the attached Source of Financing Report. Upon completion of the Scoping Study, the funding required for construction will be included in the 2013 Capital Budget submission with a high priority for approval. Administration will make every attempt to defer other projects already in the capital plan so that this project can be included in the existing funding allocation.

Underground infrastructure works along Dundas Street have not been included in the 20 year asset renewal budget for water or sewer. For this project to proceed, Water will need to create a budget to address the 1905 vintage watermain by deferring another watermain project(s) elsewhere in the City. Water services would be renewed as part of the project, as a few of these have leaked in recent years and many are of similar vintage as the 1905 watermain. The 1966 vintage cast iron watermain would likely be structurally lined to ensure an extended life as well as renewal of water services, some of which may also be 1905 vintage.

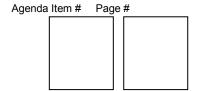
The 1966 vintage sewers do not require any additional work, other than potentially some minor works in intersections. The issue of servicing to individual buildings is less well defined. Sewer services for the 1966 sewer construction are thought to be stubbed at the building for both storm and sanitary. It would be the responsibility of the building owner to make and pay for a new connection.

Typical residential or arterial renewal costs for watermain range from \$500 to \$1200 per metre depending on whether "trenchless" or "open cut" technologies are used. Along Dundas Street and because of the constraints to support other utilities and provide pedestrian access during construction, this work is expected to much more expense. We estimate in the range of \$1500 to \$4000 per metre for the watermain. Individual water services would be in the range of \$1000 to \$3000 each depending on the constraints to access and amount of hand digging required.

The cost of a new and different purpose roadway can vary significantly with material and amenity choices. An examination of recent projects elsewhere within the recommended Scoping Study would aid in setting a budget.

Costs of other utilities/services and a possible City share under existing Franchise Agreements is not known at this time. This can be determined in the Scoping Study by rationalizing mutual needs.

The cost of new surface features can vary widely. The proposed Scoping Study will be required to set concepts and standards such that expectations are understood by stakeholders, and a preliminary budget can be struck for future years. Details and costs will be refined in the design stage.



Project Scheduling Considerations

There are many unknowns at this time about this project which can influence how long it will take to plan, design and construct. The recommended Scoping Study will close many gaps in knowledge, but some require the effort of the detailed design stage to fully understand. Meanwhile, without the benefit of either of these, we are faced with a number of questions that directly affect the project schedule:

- How much public / business / adjacent property owner involvement in planning the project?
- How much public / business / adjacent property owner involvement in designing it?
- What London Hydro / Union Gas / Bell etc. utility work is there?
- What time/cost impacts are associated with our Municipal Franchise Agreements?
- What concurrent construction activities are possible?
- How old are the old buildings condition of their foundations and reliance on adjacent soil for passive or active support (will dictate excavation, support, compaction methods, and therefore construction time).
- Soils loose sand difficult to stabilize?
- How much construction can the businesses withstand? Seasons / blocks at a time?

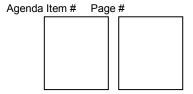
Consideration should be given to closing one or two blocks at a time completely or working on one half (north or south) of the street at a time. Full closure of individual blocks would likely result in a shorter total construction duration and likely result in less duration of significant impacts on businesses, as well as providing a safer construction environment for workers. It is anticipated that pedestrian access to all businesses could be provided, apart from minor interruptions when temporary sidewalks are moved.

As has been shown, there are many unknowns to be resolved by the proposed Scoping Study, making scheduling a guess at this stage and for this report. Project steps appear obvious. Staff has drawn upon Richmond Street and King Street reconstruction experience to develop a preliminary schedule (Appendix C), but that same experience tells us about the complicated nature of working in a tight, old, sandy soiled environment on a project with much public and business interest and input.

Scoping Study

There is insufficient information at this time to formulate with confidence a project plan, including a scope of work, budget and timelines. This report provides a high level view only. A Scoping Study is recommended to answer enough of the outstanding questions to formulate a project plan. Such work is similar to an Environmental Assessment Study and would summarize at a high level:

- Downtown Master Plan directions for Dundas Street
- Transportation Master Plan directions
- Overall project goals social, economic, environmental
- Deep infrastructure needs and limits
- Shallow infrastructure needs
- Private utility needs and limits
- Anticipated (old) building sensitivities
- Surface re-configuration concept(s) walking, cafes, lighting, parking.....
- Design consultation goals utilities, general public, Downtown London, adjacent property owners
- Construction sequencing and staging concepts
- Rough costs and sourcing opportunities
- Project scheduling considerations business disruption utilities
- Costs and sources within the 10 year budget forecast



A Scoping Study to set the timing, approach to issues and a preliminary budget would cost about 1 - 2% of the project cost. A budget is recommended at \$100,000.

Overall Project Goals are Needed

The physical and business sensitivities of Downtown London, and Dundas Street in particular, and the merging of the Downtown and Transportation Master Plans suggest a clear set of goals be established to guide changes to the function, form and use of Dundas Street. Well understood goals developed within the recommended Scoping Study with key partners will lead to common understandings on major issues, their implications and better cost control.

Acknowledgements

Input into this report has been provided by a multi-disciplined team including Chuck Parker from the Planning Division, Roland Welker from the Water Engineering Division, Maged Elmadhoon from Transportation, Tom Copeland and Ugo DeCandido from Wastewater and Drainage Division, and Alan Dunbar from Financial Planning and Policy.

SUBMITTED BY:	CONCURRED BY:			
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MANAGER, TRANSPORTATION	DIRECTOR, LAND USE PLANNING & CITY			
PLANNING AND DESIGN	PLANNER			
RECOMMENDED BY:				
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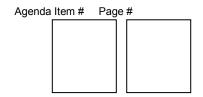
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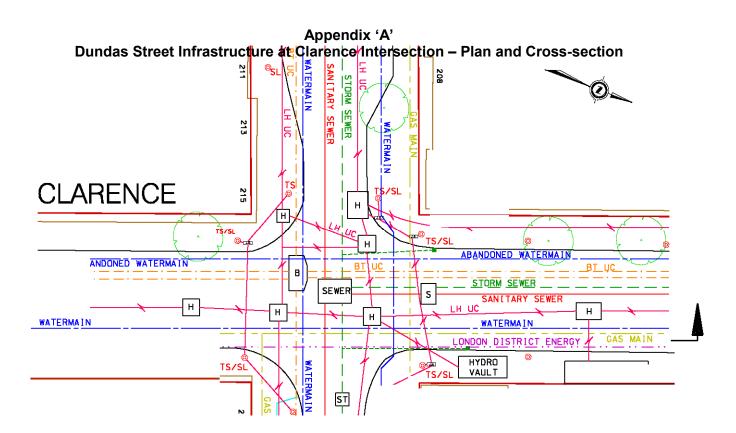
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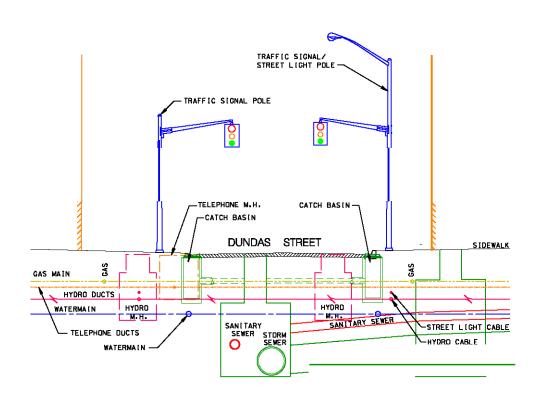
Appendix 'A' – Dundas Street Infrastructure at Clarence Intersection – Plan and Cross-section

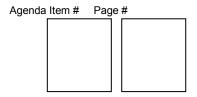
Appendix 'B' – Dundas Street Sewer Cross-section Detail

Appendix 'C' - Approximate Timeline for Major Project Activities

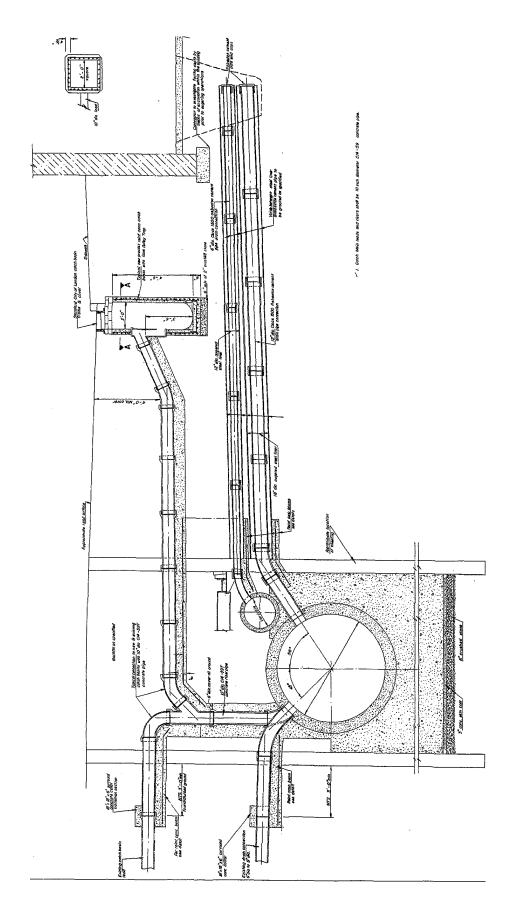




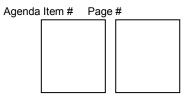




Appendix 'B'
Dundas Street Sewer Cross-section Detail



Agenda	item #	Page #		



Appendix 'C'
Draft Implementation Schedule – Dundas Street

