

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 7, 2013
FROM:	JOHN BRAAM, P. ENG. MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER AND MARTIN HAYWARD MANAGING DIRECTOR, CORPORATE SERVICES AND CITY TREASURER, CHIEF FINANCIAL OFFICER
SUBJECT:	TRANSPORTATION INFRASTRUCTURE GAP

RECOMMENDATION

That, on the recommendations of the Managing Director, Environmental & Engineering Services and City Engineer and Managing Director, Corporate Service and City Treasurer, Chief Financial Officer, the following actions **BE TAKEN** in respect to the Transportation Infrastructure Gap:

- a) the Civic Administration **BE DIRECTED** to develop a long term Financial Implementation Strategy to address the Transportation Infrastructure Gap as part of the overall Corporate Asset Management Strategy;
- b) the Province of Ontario **BE REQUESTED** to enable new revenue tools for municipalities to fund transportation and transit infrastructure.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

- Civic Works Committee - June 19, 2012: London 2030 Transportation Master Plan
- Civic Works Committee – February 25, 2013: Timeline for Major Environmental & Engineering Report
- Corporate Services Committee – July 23, 2013: Metrolinx Report

BACKGROUND

Context

The City of London is responsible for a transportation system that promotes the movement of goods and services to strengthen our economic growth, provides for sustainable transportation mobility choices for residents that improve our quality of life and shape our community, and ensure that our roads and bridges remain safe and in good repair.

Good roads and structures promote business, create employment, provide social opportunities, create markets, and save lives. Essential to the existing transportation system is the need for sustainable funding sources to support life cycle replacement, maintenance and operations.

When the transportation infrastructure is deficient, business suffers, accident frequency increases, wear and tear on vehicles increases, emergency response deteriorates, the environment is negatively impacted, congestion increases and opportunities are lost.

The London 2030 “Smart Moves” Transportation Master Plan (TMP), which was completed in 2013, provides a long term transportation plan that covers all modes of how people and commerce move about the City. The TMP identified an investment of \$930 million in

transportation system needs and \$378 million for the Bus Rapid Transit (BRT) system over a 20 year period.

The need for renewed increased funding in transportation infrastructure has become increasingly more apparent and pressing given the state of the transportation system and the increasing operating costs associated with maintaining deteriorating infrastructure.

Purpose

The implementation of the transportation system improvements identified through the TMP (road widening’s and BRT) are financially challenged. These constraints, when combined with the associated lifecycle renewal funding challenges, are the driving force behind the transportation infrastructure gap. In order to garner support and obtain approvals for funding, a clear understanding of the existing and future state of the infrastructure is required.

The purpose of this report is to present to Committee and Council with an assessment of the overall transportation infrastructure system that identifies the current and projected transportation system needs (lifecycle and growth) consistent with the goals and objectives of the TMP. The assessment identifies the gap in capital and operating budget funding, staffing and resource requirements needed to deliver the various elements and identifies the financial implications of the overall transportation funding gap. This report is divided into three sections, a discussion related to Transportation Infrastructure, Asset Valuation and the Infrastructure Gap, a Financial Impact analysis and Summary.

DISCUSSION

The transportation system in London is a complex network of freeways, expressways, arterial roads, collector and local roads, public transit system, airport, rail lines, sidewalks, bikeways and trails. The system impacts the life of every resident and business across the City. A safe, efficient and reliable major road network plays an important role in the movement of people and goods and is central to our quality of life. Traffic congestion is a growing concern, with limited opportunities for expansions to the major road network. The TMP focused on improving mobility for residents of the City by providing viable choices through all modes of travel.

Corporate Asset Management

The City of London owns, manages and operates an estimated \$10 billion (2012 replacement value) in assets. This includes billions of dollars’ worth of roads, sewers, water pipes, parks, buildings, land, vehicles, equipment and much more. These assets are relied upon every single day by all Londoners, to support the delivery of services. The City’s manages various asset classes that make up the infrastructure base to provide services to the citizens. As with most municipalities, the City faces challenges including limited funding, growth, ageing infrastructure, potential loss of knowledge through retirements, and environmental change (climate, demographics, global pressures).

The City has identified Asset Management (AM) as a key initiative to help meet these legislative requirements and address future challenges by setting the stage for continued high performance and organizational sustainability. In 2011, the City established a Corporate Asset Management (CAM) office, and has retained CH2M HILL Canada Limited (CH2M HILL) to support it in developing a corporate asset management program that is both cost effective, and represents industry best practices.

This report has been prepared in conjunction with the Corporate Asset Management Strategy and provides an overview of the transportation infrastructure assets that are consistent with the State of Infrastructure Report that will outline the needs of all asset categories.

Transportation Infrastructure Overview and Asset Valuation

The transportation and traffic system consists of the linear roads of various types and associated linear assets such as curbs and sidewalks, transportation structures such as bridges and culverts and traffic infrastructure such as street lights, traffic control signals, signs and markings.

Transportation Asset Values

Asset Type	Asset		Inventory	Unit	Replacement Value (\$K)
Roadways	Roads	Local	1,750	Lane.km	\$630,255
		Secondary Collector	507	Lane.km	\$206,672
		Primary Collector	135	Lane.km	\$56,166
		Arterial	1,264	Lane.km	\$455,004
		Freeway	22	Lane.km	\$8,360
		Expressway	39	Lane.km	\$13,503
	Sidewalks		1,471	km	\$78,309
Structures	Bridges		101	Ea.	\$271,507
	Major Culverts (> 3m id)		94	Ea.	\$56,393
	Footbridge		4	Ea.	\$10,448
	Pedestrian Tunnel		7	Ea.	\$7,149
	Noise Wall		44	Ea.	\$29,289
	Major Retaining Walls		13	Ea.	\$9,061
Signals & Lighting	Lighting		33,444	Units	\$120,000
	Signals		388	Locations	\$93,200
	Signage		8,687	Units	\$1,737
TOTAL					\$2,047,053

The City owns, operates and maintains approximately \$2.1 billion of transportation infrastructure. The value of these assets translates to an average of \$20,400 per property or \$5,700 per resident.

Existing Asset Condition Assessment

The maintenance of the assets is legislated through the Provincial Minimum Maintenance Standards (MMS) for Municipal Highways (Ontario Regulation 239/02). The Provincial regulation under the new Municipal Act specifies minimum maintenance standards for roads, bridges, lighting, road shoulders and signs. Regulatory signage is governed by the Highway Traffic Act, and local bylaws. Guide or information signs are posted according to City policy and as defined in the Ontario Traffic Manual.

Transportation infrastructure assets have long service lives and as such it is critical that these assets be properly maintained. The following table provides typical service life expectancy for different transportation infrastructure assets.

Transportation Asset Life Expectancy

Asset	Typical Useful Life
Road	
Expressway/Freeway	15 – 18 years
Arterial Road	15 – 18 years
Collector Road	25 – 35 years
Local Road	30 – 40 years
Curbs and Sidewalks	40 - 50 years
Bridges	70 – 80 years
Traffic Signals	20 years
Street Lighting	30 years

Components of transportation infrastructure are constructed at different times. They have varying service lives and deteriorate at different rates depending on design, construction or

Agenda Item #	Page #

maintenance practices. Asset management is also necessary to avoid future failures and unaffordable reconstruction costs.

While the use of best management practices can help mitigate required maintenance, the majority of the infrastructure, even if in good to very good condition today, will require increasingly larger investments as it ages.

The City manages its major transportation infrastructure (roads, bridges and sidewalks) utilizing an asset management approach whereby the condition of the assets is evaluated on a regular basis.

Roadways

The road pavement quality is evaluated using Pavement Quality Index (PQI) criteria. Roadways are maintained on a lifecycle basis through the selection of the optimal treatment based on their current condition and projected deterioration. Treatments range from patching and crack sealing, to resurfacing, to total reconstruction, and are selected to minimize the lifecycle cost of operating each asset within its target state. Road sections that are at an optimal time for specific rehabilitation treatments are placed on a list for rehabilitation. The highest priority roads are repaired dependent on budget availability.

Sidewalks are annually walked and rated visually to identify trip hazards and major deficiencies. Repairs to the sidewalks are made based on the assessment results or feedback from the public and staff. Temporary sidewalk repairs are made quickly until full repairs can be made.

Structures

Structures, including bridges, culverts, pedestrian bridges, pedestrian tunnels, retaining walls and overhead sign structures are inspected on a bi-annual basis by a Professional Engineer as mandated by the Public Transportation and Highway Improvement Act. While all infrastructure assets need to be maintained, structures like bridges and overpasses are in a class of their own due to the consequences of failure, which can be catastrophic, and a higher emphasis must be placed on their maintenance and repair.

The deficiencies are managed through the City’s Bridge Management System (BMS) database. Repairs and rehabilitations are undertaken at the critical life cycle stages for the structures to ensure the optimization of the asset’s lifecycle.

Signals and Lighting

Signals and lighting assets are managed based on age and expected useful life. Maintenance of Lighting and Signals infrastructure is contracted out. The nature and frequency of re-lamping and pole maintenance are based on best practices and requirements in the contracts. Electrical equipment tends to have a shorter useful life than other types of City infrastructure.

Signage and pavement line marking are maintained by City Operations staff. Regulatory signs (e.g. Stop Signs) are tested for reflectivity on a rotating basis and maintained based on the evaluation results. Minor regulatory (e.g. No Parking) and guide/information signs are managed reactively based on citizen inquiries and staff observations. Pavement line markings on major routes are reapplied semi-annually. The condition of the line markings vary throughout the year based on traffic, type of marking and time since reapplication. There are 1271 km of line markings not including intersections.

Existing Infrastructure Rating

Roadways

The rating categories for roads are based on the following:

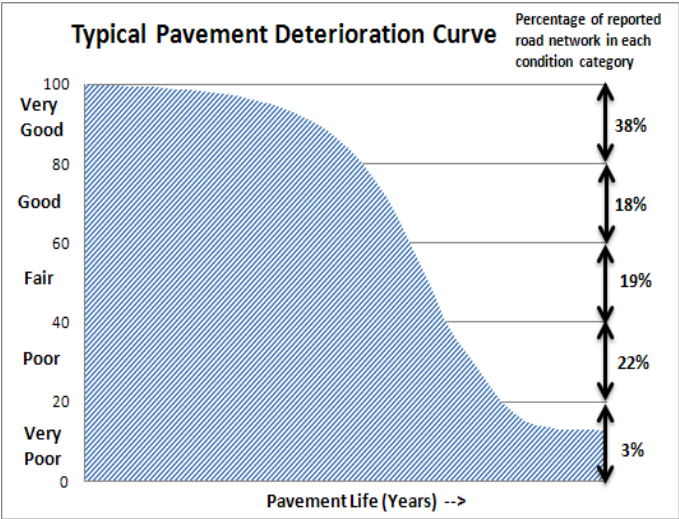
Very good (38 %) - Sound modern structure, operable and well maintained; includes new or like-new assets

Good (18 %) - Sound modern structure, operable and well-maintained, with minor signs of deterioration; routine refurbishment and maintenance required

Fair (19 %) - Functionally sound; appearance significantly affected by deterioration

Poor (22 %) - Deterioration has significant effect on performance of assets; requires significant maintenance to remain operational

Very poor (3%) - Serious problems having a detrimental effect on asset performance; will require major overhaul/replacement in the short term.



As seen in the above pavement deterioration plot, as roadways age, their condition deteriorates at a faster rate and the operating costs associated with maintaining them increases significantly in order to meet minimum maintenance standards. The right treatment at the right time can save money over the life-cycle of an asset.

Approximately 56% of the overall road system is rated good to very good. Roadways rated fair are on the rapid deterioration part of the curve. Poor to very poor roads exhibit significant deficiencies and will require near-term rehabilitation or reconstruction.

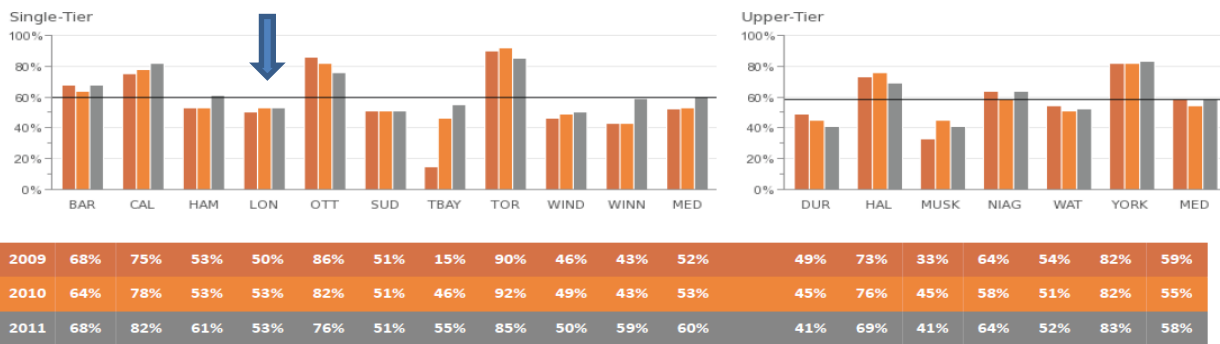
Roadways & Sidewalk							
Rating	Local Roads	Secondary Collectors	Primary Collectors	Arterial Roads	Freeways	Expressway	Sidewalks
Very Good	34%	41%	47%	39%	83%	60%	11%
Good	18%	17%	17%	18%	17%	40%	83%
Fair	22%	18%	20%	17%	--	--	2%
Poor	22%	19%	16%	24%	--	--	--
Very Poor	4%	5%	0.2%	2%	--	--	--

Overall, about 25% of Local, Secondary and Arterial roads are in **Very Poor** or **Poor Condition**. Based on the current funding levels, the timeline for a Local road replacement is 67.1 years, well beyond 30 to 40 year life span of the roadway. New subdivision roads built today would not be replaced until 2080.

Utilizing the most recent Ontario Municipal Benchmarking Initiative (OMBI) data (2011), London’s paved road condition is below average, although it should be noted that the 2012 “good to very good” percentage did increase from 53 to 56%, primarily as a result of the stimulus funding that was received in recent years.

What percent of paved roads are rated good to very good?

Fig 15.2 Percent of Paved Lane Km where the Condition is Rated as Good to Very Good



Source: ROAD405M (Customer Service)

Annually, pothole and maintenance complaints number between 1000 and 2500 and the City has received close to 1000 claims since 2008. The Canadian Automobile Association “Worst Roads” has identified London roads twice in recent years.

The condition of the City sidewalks are primarily in **Good** condition (83%) indicating that they are free of trip hazards and major damage. This rating is expected to drop as the repair backlog increases. A separate report on the Sidewalk Maintenance Program has been developed which outlines in more detail the challenges of maintaining the sidewalks and the required operating funds to meet community expectations.

Structures

The majority of structures are in **Fair** condition, indicating that most current structures are operational and free of urgent deficiency and requiring rehabilitation in the medium term. Assets in Poor condition are in need of some type of attention over the short to mid-term.

Structures						
Rating	Bridges	Major Culverts (> 3m ID)	Footbridges	Pedestrian Tunnels	Noise Walls	Major Retaining Walls
Very Good	--	--	--	--	43%	--
Good	11%	9%	25%	14%	61%	31%
Fair	73%	73%	50%	86%	2%	69%
Poor	16%	18%	25%	--	--	--
Very Poor	--	--	--	--	--	--

Signals and Lighting

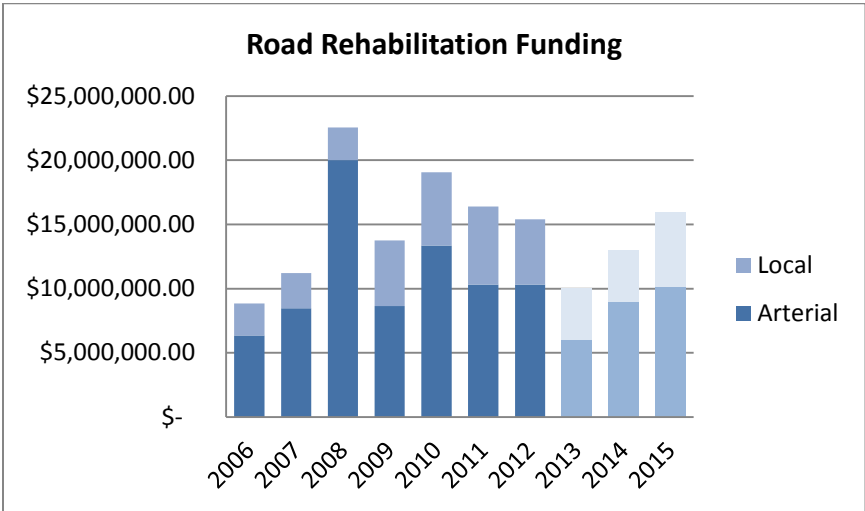
The majority of traffic signals and street lights are in **Fair** to **Very Poor** condition based on age and expected useful life. 47% of Lighting and 49% of Signals were rated to be in Poor or Very Poor condition, indicating a significant backlog of work to be accomplished and a high potential for failures of electrical components.

Signals & Lighting			
Rating	Signals	Lighting	Signage
Very Good	16%	2%	32%
Good	12%	24%	32%
Fair	23%	26%	32%
Poor	8%	31%	--
Very Poor	41%	16%	4%

Existing Infrastructure – Lifecycle Funding Gap

The funding of transportation infrastructure from a lifecycle perspective has varied over the last decade. Increases to the base transportation funding envelope have primarily been provided through external government grants and stimulus programs.

The challenges of securing the appropriate level of tax funding and the “one time” nature of government grants are both significant concerns as neither can be considered as truly reliable sources of sustainable funding for the road network and traffic systems. Funding for the road rehabilitation program (Arterial and Local roads) has varied considerably over the last number of years.



The lifecycle funding gap is defined as the cumulative difference between the existing proposed funding levels and that required to maintain the assets at current desired levels of service. The desired levels of service are defined based on safety, efficiency, public expectations and cost-effective asset management.

Based on the condition assessments of the various existing transportation assets, the infrastructure forecast for **Roads** and **Sidewalks** shows that, given current investment levels, the infrastructure gap would grow to over **\$200 million** over the next decade. These base needs represent the costs to renew and maintain the serviceability of existing infrastructure, and do not account for growth or improvements. Trends presented are primarily driven by the “Main Roads” renewal (Freeways, Expressways, Arterials and Primary Collectors), which accounts for roughly 70% of this deficit. Local roads, while still under funded make up approximately 25% of the projected gap. Sidewalks make up 5% of the projected funding gap noting that sidewalk investment is not generally broken out within the City’s capital budget.

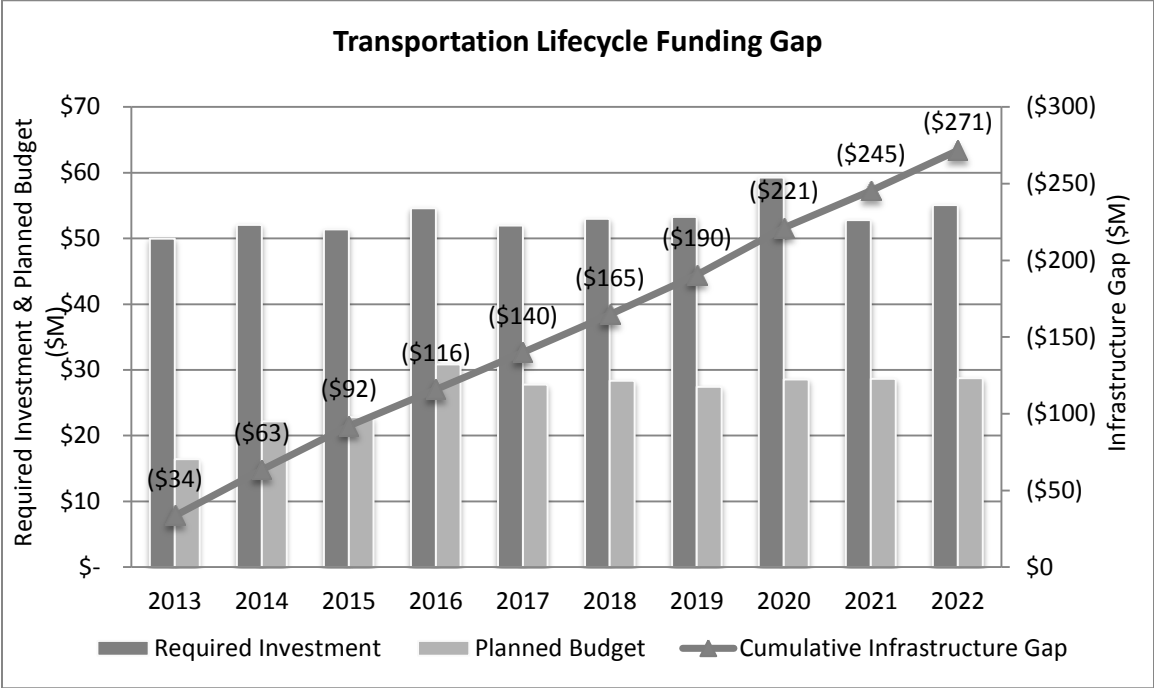
Overall, the gap continues to increase projecting a general decline in the condition of roads in the City of London. This gap will become visible to Londoners through rough roads, potholes, increased vehicle damage claims, reduced road safety, poor pedestrian facilities and increased operating costs.

The base needs forecast for **Bridges** and **Structures** shows that given current investment, the infrastructure gap would grow to over **\$30 million** over the next decade. The gap will manifest itself with bridge load restrictions, potential closures and reduced safety. This annual gap has been addressed in recent years with the introduction of new standalone unfunded bridge replacement projects as needs have arisen.

The base needs forecast for **Lighting** and **Signals** shows that given current investment, the infrastructure gap could grow in excess of **\$30 million** over the next decade. Base needs represent the costs to renew and maintain existing infrastructure, and do not account for growth or the expansion of service to include new service or incorporate new technology. Streetlight outages, electrical failures, increased liability, reduced network signal coordination and reduced safety will be some of the outcomes of this gap.

The total Lifecycle Funding Gap for Roadways, Sidewalks, Bridges, Signals and Lighting, based on existing investment levels, would grow to over **\$270 million** over the next decade.

Existing Transportation Infrastructure – Lifecycle Funding Gap			
Replacement Value	Current Funding	Existing Infrastructure Gap	Infrastructure Gap In 10 Years
\$2,047,053	\$ 16,400,000	\$ 34,000,000	\$ 271,000,000



The average annual lifecycle capital renewal investment required to sustain the City’s road network and traffic systems is **\$53 million**. This does not include annual investments in new assets to address growth and the additional O&M for these new assets.

The majority of the funding is required for the roadway and bridges renewal in order to maintain the assets to acceptable conditions. Without these investments, the overall operating budget related to operations and maintenance will continue to increase as the assets deteriorate. Conversely, improved lifecycle maintenance of existing assets will improve overall asset condition and thereby reduce operation and maintenance costs. However, increased capital funding to ideal levels would incur a corresponding increase in program delivery operating in the range of \$1 million per year.

Future Transportation Infrastructure Requirements

London has adopted a Strategic Plan that strives for a stronger economy, a green and growing city, and sustainable infrastructure. The existing transportation system faces a number of issues/challenges including:

- rising road congestion levels;
- reduced public satisfaction about all modes of transportation;
- existing transit service is over capacity and cannot meet future demands, nor allow for growth in mode share.



Consistent with Council’s Strategic Plan, a series of directions, supporting resolution of the identified issues have been approved through a new Transportation Master Plan in 2013.

The TMP is based on expanding options for London commuters through enhanced active transportation and public transit service improvements providing a better balance between all modes of transportation and supporting the cost effectiveness of transportation infrastructure. The plan makes strong connections to sustainable land use and smart growth strategies, including a higher (40%) growth intensification target, promotes an improved urban environment (supporting better public health) and improved economy (i.e. reduced congestion impacting travel time, trade and the delivery of goods and services).

Currently, 17% of arterial roads in the Urban Growth Area are over capacity in rush hour. This value would grow to 47% by 2030 unless a Transportation Growth program is implemented. The end result of the lack of capacity would be increased commute times.

The TMP programs include projects such as the Hyde Park Road widening, Wonderland Road Interchange with Highway 401, VMP extension, road-rail grade separations, road improvements around Industrial Parks, new bicycle lanes and expanded pedestrian connections in growth areas.

To meet the objectives in the Strategic Plan and the TMP in a manner that provides transportation mobility choices while ensuring that roads and bridges remain safe and in good repair, an investment of **\$930 M** in transportation and **\$378 M** in the BRT system have been identified over a 20 year time horizon.

Transportation Growth Capital Cost

It is anticipated that the new Transportation Master Plan projects and costs will be integrated into the budget forecast in 2015, subject to the Council approval of the 2014 Development Charges Bylaw.

The process to determine the nature and timing of the required funding is underway through the Development Charges Background Study. The TMP and BRT project implementation schedule that was developed for the Development Charges Background Study was utilized as a basis for the 10 year forecast for the Growth Component of the Transportation Infrastructure Gap analysis.

The analysis assumed existing development charge rational and funding contributions which are subject to input from the Development Charge Stakeholder Committee and approval through the Development Charge process.

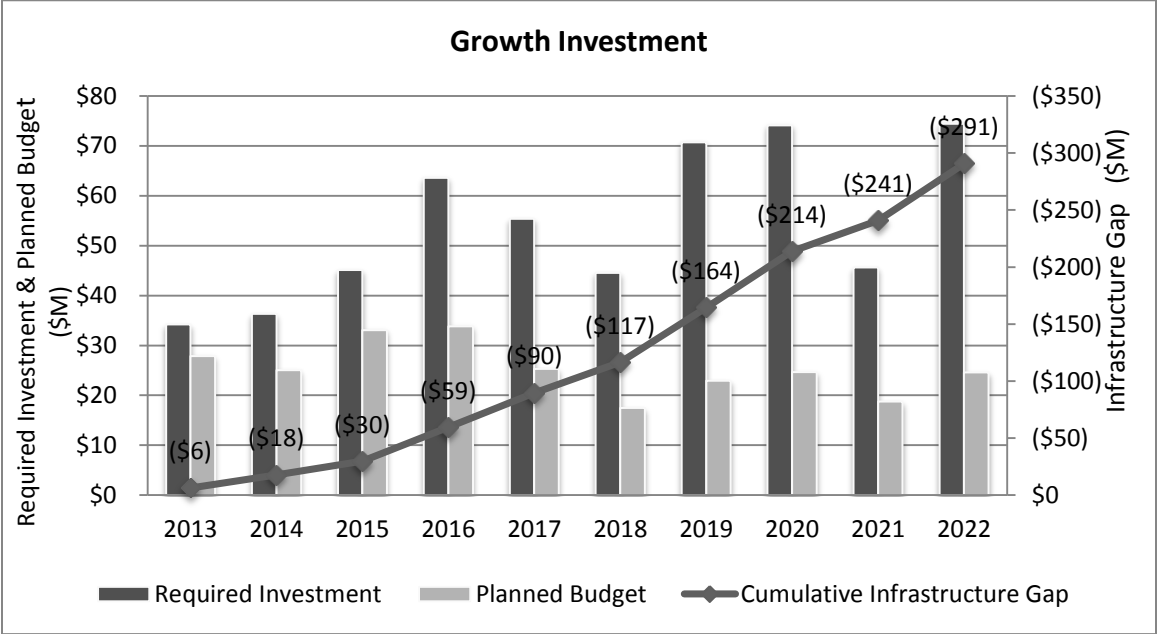
TMP Transportation Capital Cost	20 Year	10 Year
Municipal Road Widening & New Links.....	\$827 M	\$499 M
Intersections and other Minor Improvements	\$60 M	\$26 M
Active Transportation	\$20 M	\$16 M
Parking	\$24 M	\$3 M
Total Transportation Capital (2012\$)	\$931 M	\$544 M

Prior to 2009, the Transportation Growth Program was limited. The program was expanded during the last Development Charges process in 2009. However, to offset the redirection of DC revenues to the Urban Works Reserve Fund, \$90 M of near-term projects in the City’s Transportation Growth Program was subsequently deferred in October 2010. This has resulted in a backlog of projects that need to be accommodated in the current DC. The deferral and historical underfunding has resulted in a detrimental impact on the City’s ability to provide required roadway capacity improvements in a coordinated manner with development growth and has contributed to the overall transportation infrastructure funding gap.

This gap is indirectly visible via increased commute times and road congestion, increased vehicle emissions, delayed employment land transportation improvements, active transportation facilities inadequate to promote healthy choices (eg. bike lanes and sidewalks), decreased safety and increased road user complaints.

Future Transportation Infrastructure – Growth Related Funding Gap			
Existing 10 Year Budget	TMP 10 Year Budget	Infrastructure Gap In 10 Years	Tax Supported 10 Year Gap *
\$253,000,000	\$ 544,000,000	\$ 291,000,000	\$ 53,800,000

**Subject to 2014 Development Charges analysis and approval.*



Operation and maintenance costs for roadways are generally dependent upon maintenance quality standards, age, annual average daily traffic, and localized construction quality issues or material issues. The TMP provided estimates in the order of magnitude of expected operation and maintenance costs, considering general direction as to procedures and activities that may be reviewed later. As additional infrastructure is created by the proposed TMP Growth program, additional operation and maintenance costs are expected to grow by an average of \$126,000 annually and would be addressed with assessment growth. Additional project delivery costs (staffing) associated with the larger capital program are estimated at \$700,000 annually.

Bus Rapid Transit Strategy Capital Cost

The BRT Higher Order Transit Strategy was developed as an integral part of the London 2030 Transportation Master Plan (TMP) entitled “Smart Moves” and approved by City Council in June 2012. Conceived as an integrated growth management and transportation planning program, the TMP is a transportation strategy that not only accommodates population and economic growth in London over the next 20 years, but also attempts to shape that growth through the spatial distribution of economic and other activities and through sustainable transportation outcomes.

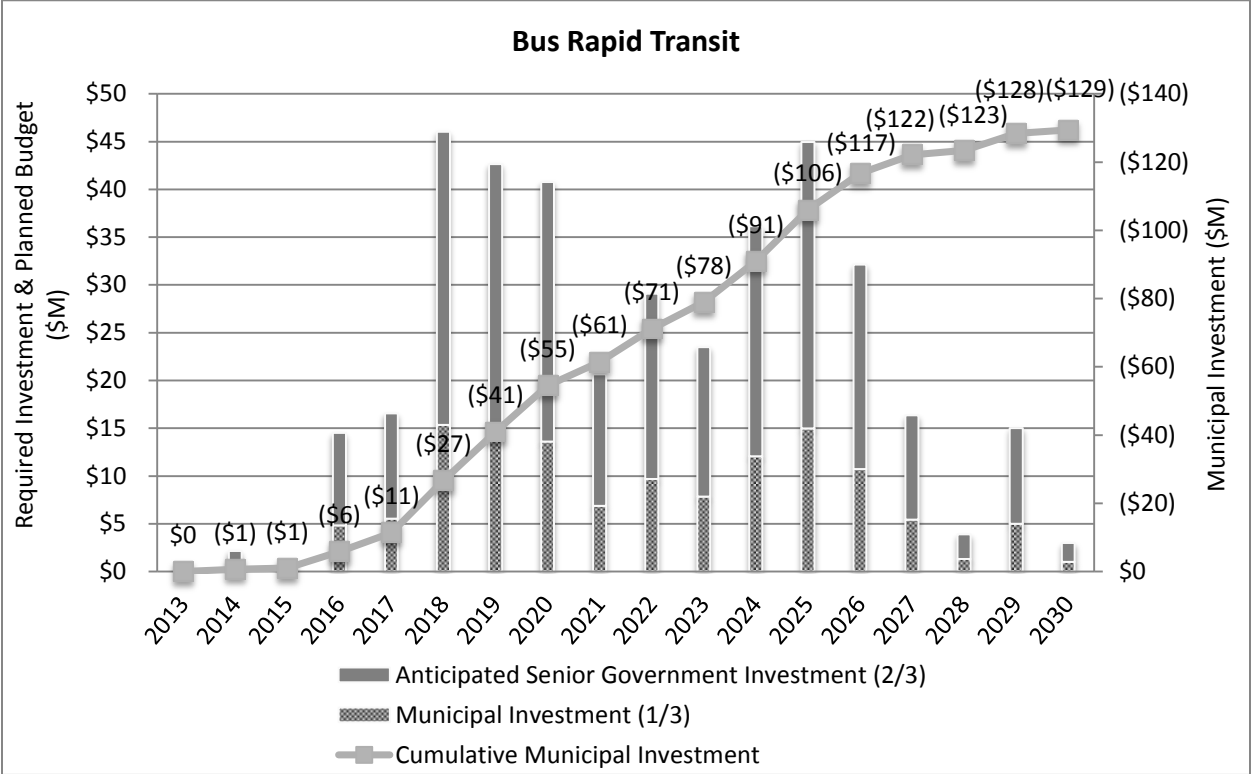
There is significant municipal cost associated with a fully implemented BRT. The implementation of the BRT is only possible if senior levels of government match funding that have been extended to other municipalities. BRT can provide access to senior government funding for transportation network capacity increases by creating it in an environmentally responsible manner.

A separate report has been prepared to present the Business Case and a Financial Plan for the BRT Strategy. A Financial Plan for the BRT was developed based on a Constrained Implementation Plan model which took in account constructability, congestion management and financing constraints.

Based on experience in other Ontario municipalities with advanced transportation system plans such as BRT or light rail transit (LRT), one third share could be allocated to the province, the federal government, and the municipality.

BRT Strategy – Funding Gap		
BRT Implementation Cost	Municipal Portion of Funding Gap - 10 Years	Tax Supported - 10 Year Gap *
\$ 378,000,000	\$ 77,713,000	\$ 17,915,000

**Subject to 2014 Development Charges analysis and approval.*



The new HOV lanes that the BRT would operate in would increase City operation and maintenance costs. Once completed, operation and maintenance cost of the BRT complete network is estimated at \$150,000 annually. LTC annual operating costs are estimated to grow to \$10.7 M upon full implementation, net of fare box revenues. Given the nature of the BRT project, the defined-term project delivery costs would be outsourced and capitalized as much as possible. Internal project delivery costs are estimated at an average \$450,000 per year for the duration of the capital construction phase.

FINANCIAL IMPACT

The discussion above has focused on three distinct components of the transportation infrastructure gaps:

- Existing Infrastructure – Lifecycle Funding Gap (“life cycle gap”)
- Future Transportation (Growth) Infrastructure Requirements (“growth gap”)
- BRT Strategy gap

The total funding required to address these gaps is significant. This funding cannot be supported through debt within the current debt cap limits under the corporate financial strategy. These gaps will have to be supported through tax supported funding.

Life Cycle Gap

The current capital budget for transportation life cycle renewal ranges from \$16 million to \$31 million per year from 2013 to 2022, depending on the planned projects (see **Appendix A**). The total required capital budget to address life cycle deficiencies during this period is \$50 to \$60 million per year. If this gap is not addressed, the capital funding required to address the life cycle gap will accumulate to approximately \$272 million by 2022. On top of this, operating funding of \$1.0 million per year would be required to deliver these life cycle improvements.

This gap also does not take into account the implications of the \$3.6 M reduction in capital that was approved as part of the 2013 Budget. The proportion of the reduction that has been proposed to be accommodated within the Transportation Budget is \$1.7 M, which translates into a \$17 M gap over ten years. This reduction would increase the life cycle gap to \$289 M and will result in a significant delay in the resurfacing of a number of major arterials as the budget for that line item would be reduced by 15%.

The life cycle gap can be eliminated by 2022 with a tax levy increase of 1.5% for six consecutive years starting in 2014. This tax rate increase for transportation issues alone is very unlikely to be politically acceptable. Lower tax rate increases would reduce the gap.

Tax Rate Increase for 9 Consecutive Years	Life Cycle Gap after 9 Years
1.0%	\$67 million
0.5%	\$188 million
0.25%	\$249 million

Growth Gap

The current capital budget for transportation growth ranges from \$19 million to \$34 million per year from 2013 to 2022, depending on the planned projects (see **Appendix A**). The total required capital budget to address growth deficiencies during this period is \$34 to \$75 million per year. If this gap is not addressed, the capital funding required to address the life cycle gap will accumulate to approximately \$291 million by 2022. Being growth projects, development charges would apply. At the assumed development charges rate of 81.5% growth, the tax supported deficiency ranges from \$1 to \$9 million per year, accumulating to \$54 million by 2022. Operating funding to deliver these growth projects would be \$700,000 per year but the cost to operate and maintain these growth items will accumulate to approximately \$1.3 million per year by 2022.

The growth gap can be eliminated by 2022 with a tax levy increase of 0.25% for three consecutive years starting in 2014, followed by three years of a 0.50% increase. This tax rate increase for would be more politically acceptable than that required to close the infrastructure gap. A lower tax rate increase of 0.25% per year for nine years would reduce the gap to \$12 million. The growing operating costs slow the closing of the growth gap.

It must be noted that the development charges assumptions, in terms of the scope, growth splits and magnitude of the transportation development charge, are subject to the Development Charges process.

Bus Rapid Transit Strategy Gap

The BRT Strategy financial impact examines that gap that exists to implement the plan presented by the London Transit Commission. It does not examine nor portray the existing transit related gap in funding for the London Transit Commission.

The BRT Strategy is contingent on senior levels of government support. With two-thirds senior government support for BRT and based on existing development charge assumptions, the tax supported funding gap for 10 years is approximately \$18 million. At this level, the BRT capital funding can be supported by debt financing within the City’s current debt cap. Operating costs to support this new infrastructure increase to \$5.6 million annually in ten years. The operating costs grow to \$10.7 million annually by the time the system is fully implemented. The capital and operating program can be supported with a **0.25%** tax levy increase for eight years starting in 2015. A more detailed report and financial analysis is provided in the Bus Rapid Transit Strategy report that is presented at the October 7, 2013 CWC meeting.

It must be noted that the development charges assumptions, in terms of the applicability and growth splits for the BRT Strategy, are subject to the Development Charges process. Revised assumptions on the level of support from development charges would significantly increase the tax supported capital funding required. At this level, BRT capital funding could not be supported by debt financing and the program would require a tax levy of as much as **0.75%** for four years.

The funding of the BRT Strategy implementation must take into account the overall funding needs of the transportation system as it is only one component of the Transportation Master Plan. The funding gap must be analyzed holistically, not in segments, as the overall transportation network requires that all three components (lifecycle, growth, BRT) be funded in a sustainable manner.

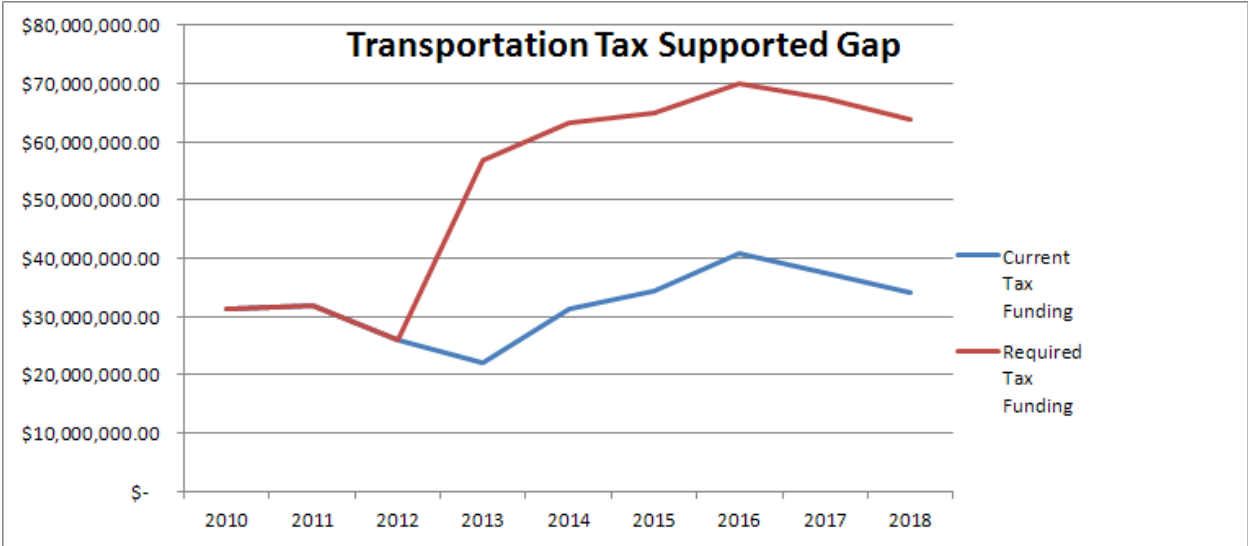
SUMMARY

The purpose of this report was to provide an overview of the state of the transportation infrastructure within the City of London and to identify the existing and projected funding gaps. The table below summaries the overall Transportation Infrastructure Gap over the next 10 years. A Lifecycle gap of \$271 M, a Growth Related gap of \$291 M and a BRT gap of \$78 M cumulates to an overall gap of **\$640 M**.

		Transportation Infrastructure Gap (2013-2022)		
		Existing Funding (\$M)	Required Funding (\$M)	Infrastructure Gap (\$M)
Lifecycle Asset	Roadways	\$186	\$392	\$206
	Structures	\$26	\$56	\$30
	Signals & Streetlight	\$49	\$85	\$35
				\$271 *
Growth Related		\$253	\$544	\$291 **
Bus Rapid Transit		\$0	\$78	\$78 **
Totals		\$515	\$1,155	\$640

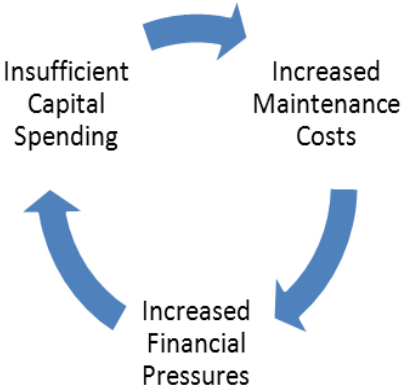
* Tax levy
** Tax levy and anticipated DC contribution.

The historical underfunding of transportation infrastructure has led to an overall decline of infrastructure and an accumulation of a significant backlog of required works. While recent investments through external funding sources have provided some relief, the magnitude of the transportation funding gap is growing.



Historical cuts to capital spending were viewed as a means of limiting taxation increases. At the same time, increased costs of construction have eroded the overall benefit achieved with the existing funding envelopes. The growing transportation gap will continue to put pressure on the operating and maintenance costs which will lead to increased financial pressures.

A new approach in the funding of transportation infrastructure is required given the importance of the transportation system to our quality of life and economy in London. The key recommendation of this report is the need to develop a comprehensive **Financial Implementation Strategy** to fix and maintain London’s \$2.1 billion of transportation

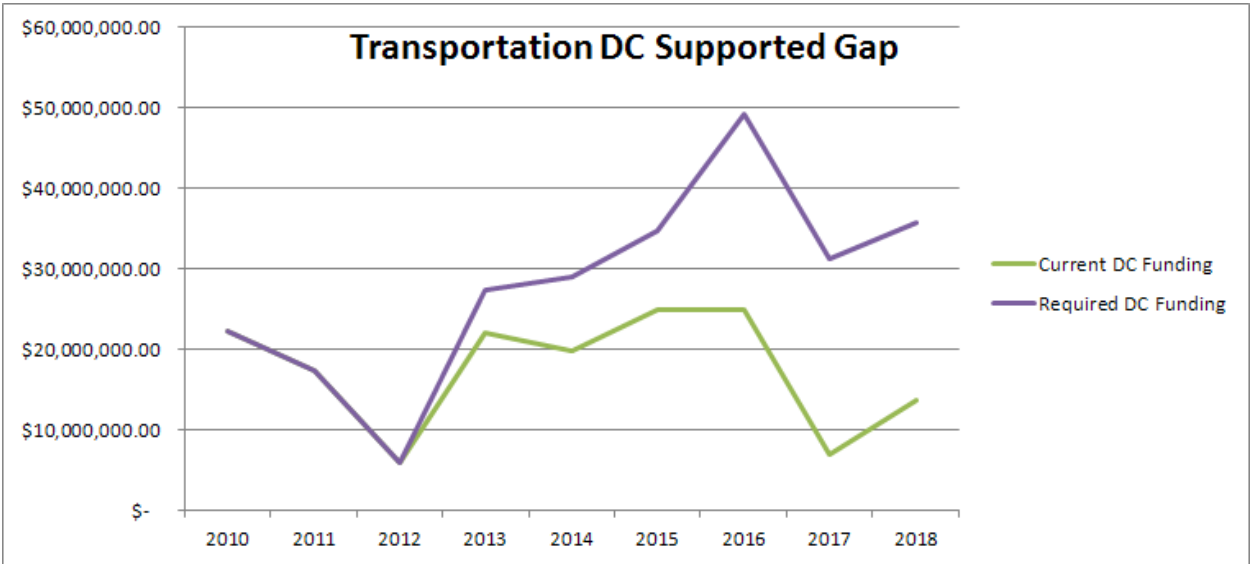


infrastructure.

The financial analysis (Appendix A) has shown that significant resources are required to address the transportation infrastructure gap. The lifecycle asset gap has the greatest impact on the overall tax rate given its magnitude and reliance on the tax base as a funding source. Tax-levy increase scenarios required to fund the Lifecycle, Growth and BRT (capital and operating) budget deficiencies are as follows:

Component	Capital Tax Levy Implications (%)								
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Lifecycle	1.50	1.50	1.50	1.50	1.50	1.50			
Growth	0.25	0.25	0.25	0.50	0.50	0.50			
BRT		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Total	1.75	2.0	2.0	2.25	2.25	2.25	0.2	0.25	0.25

This analysis is based on development charges assumptions, in terms of the applicability and growth splits, that are subject to the Development Charges process. In order to provide Council with an order of magnitude related to the transportation development charge, the current Roads DC for a single family home is \$9,651. Preliminary estimates based on the work completed to date as part of the Development Charge Update indicates that the Roads DC would have to increase approximately 50% to accommodate the assumptions included as part of the overall transportation system analysis. The BRT accounts for one quarter of that increase.



The funding of the transportation gap must be analyzed holistically, not in segments, as the overall transportation network requires the all three components (lifecycle, growth, BRT) to be funded in a sustainable manner.

The strategy is critical to repairing our aging existing transportation infrastructure while allowing for the expansion of the system to accommodate future growth needs. The implementation of the TMP through the Financial Implementation Strategy will provide residents with transportation mobility options, promote transit use, reduce commute times and greenhouse gas emissions and allow our community to prosper by providing new opportunities for economic growth.

Alternative Funding Sources

The Province of Ontario, through Metrolinx, has been reviewing alternative funding sources for transportation and transit infrastructure. Metrolinx released an Investment Strategy that proposed 24 recommendations as part of a four-part plan to integrate transportation, growth and land use planning in the GTHA, maximize the value of public infrastructure investment, optimize system and network efficiencies, and dedicate new revenue sources for transit and transportation.

Funds generated from the Investment Strategy are intended to cover the full costs of implementing The Big Move’s Next Wave of projects, a \$34-billion slate of projects and programs that will continue Metrolinx’s transformation of the GTHA’s transportation system by expanding the regional transit network and providing resources for local transit, roads, walking and cycling, and more.

The Ontario Minister of Transportation and Minister of Infrastructure, Glen Murray, has accepted the guiding principles of the Metrolinx funding strategy. The Ministry of Transportation will evaluate the proposed revenue tools by conducting a detailed analysis and study additional funding options for transit expansion.

Premier Wynne announced the formation of a Transit Investment Strategy Advisory Panel on September 18. The Panel’s mandate is to consult with stakeholders on Metrolinx’s recommendations and suggest which options the government should pursue to pay for transit in the GTHA.

The potential application of revenue tools to municipalities outside the GTHA has been included in discussions between the Minister of Transportation and Infrastructure and the transit industry (represented by the Ontario Public Transit Association and the Ontario Committee of the Canadian Urban Transit Association).

The availability of such revenue tools would provide the City of London with additional options for consideration in order to address the Transportation Infrastructure Gap.

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Agenda Item #	Page #

Appendix “A”

Financial Analysis

BRT FINANCIAL MODEL - CONSTRAINED

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