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2016 CAPITAL BUDGET BRIEFING NOTE State of Good Repair (SOGR) Backlog

Issue/Background:

This briefing note presents the State of Good Repair (SOGR) Backlog for Tax Supported City Programs and Agencies, and the impact on the backlog as a result of the recommended investment planned for the 2016 - 2025 Preliminary Capital Budget and Plan.

The City owns an inventory of physical assets valued at \$75 billion, as shown in the Table 1.

Description	Estimated Physical Asset Value
Transportation (Roads, Expressways, Bridges, etc.)	\$11 Billion
Water & Wastewater (Treatment facilities,	
distribution and collection pipes, reservoirs,	
pumping stations)	\$28 Billion
Public Transit (Subways, Streetcars, Busses)	\$15 Billion
Community Housing Infrastructure	\$ 9 Billion
Buildings, Facilities and Fleet (Civic Centres,	
Recreation Facilities)	\$ 9 Billion
Parkland & Other Land	\$ 3 Billion
Total	\$75 Billion

Table 1City's Physical Infrastructure

The City's capital program is driven largely by the cost of maintaining these physical assets in a state of good repair. The City has an expansive asset inventory and its infrastructure is aging. Managing the accumulated SOGR backlog is a key capital strategic objective and priority for the City in order to ensure that current City assets are able to support the delivery of City Services and meet service outcomes.

When the capital investment in planned SOGR capital works is less than the annual SOGR need, the unfunded balance is added to the accumulated SOGR backlog. Conversely, should the investment in SOGR exceed the planned SOGR need, the balance is applied to the accumulated SOGR backlog effectively reducing the balance.

The City is currently exploring opportunities to benchmark its backlog with industry standards applicable to our specific portfolio of asset categories. Most other municipal organizations quote a dollar value for their backlog versus a metric making it difficult to measure against and give a perspective on how the City is performing comparatively amongst other municipalities/organizations.

In the absence of comparable benchmarks, the City has established its own state of good repair performance measure; *"backlog as a percentage of total asset value (replacement value)"* that is applied across its portfolio of assets. The benefits of gathering accurate asset data is that it provides a true picture of what the SOGR backlog is, as well as highlighting areas of growing need. This metric provides the City with year over year comparisons and trends that assist City Council in determining how best to apply scarce resources in making strategic investments to reduce the City's SOGR Backlog. By employing this practice, the City can measure its progress in achieving SOGR objectives and conversely, can determine where additional investments are required. Details of the SOGR Backlog trend and percentage of total asset value can be found in the Capital Budget Notes for each Program and Agency.

In addition to the SOGR backlog metric, the City employs the following additional practices such as: the use of decision support tools that rank and prioritize reinvestment needs, debt funding scenario analysis and conducting comprehensive asset condition assessments. These practices are all part of the City's regular capital planning processes. These actions taken together reflect the City's strategic commitment to address the infrastructure deficit in a holistic fashion.

As City Programs and Agencies continue to implement asset management best practices funding pressures on the backlog will rise. Further strategic funding sources will be required to reduce the backlog in future years.

Total City SOGR Backlog

The 2016 to 2025 Capital Budget & Plan allocates \$18.979 billion or 56.7% of funding to capital works that ensures City infrastructure required to deliver services to the citizens of Toronto are maintained in a state of good repair. As a result of this investment, the estimated accumulated SOGR backlog as a percent of asset value is projected to decline from \$3.906 billion or 6.2% at the end of 2015 to \$3.433 billion or 5.2% after 5 years in 2020 and to \$2.845 billion or 4.0% after 10 years in 2025 as shown in Chart 1.



Chart 1 SOGR Backlog (Tax & Rate)

Rate Supported

Currently, Toronto Water is the only Rate Program that has a SOGR backlog. At the end of 2015, the replacement value of Toronto Water's assets was estimated at \$28.363 billion incorporating both linear (watermains, sewers) and facility/plant (water treatment plants, wastewater treatment plants, pumping stations) assets.

Toronto Water projects that the 2015 year-end backlog of state of good repair work for linear and plant infrastructure renewal at \$1.623 billion, representing 5.7% of the asset replacement value.

The 2016-2025 Council Approved Capital Budget and Plan for Toronto Water dedicates \$5.638 billion or \$564 million on average annually, to address state of good repair, which is anticipated to reduce the backlog to \$261.328 million or 0.8% of the total asset value by 2025, virtually eliminating the SOGR Backlog at the end of the 10-year period.

Tax Supported

The 2016 – 2025 Preliminary Tax Supported Capital Budget and Plan includes \$13.187 billion or 63% funding devoted to State of Good Repair projects. This capital investment will stabilize SOGR backlog over the 10-year planning period, from 6.86% as a percentage of total asset value in 2016 to 6.76% of total asset value in 2025. However, the SOGR backlog will increase for certain Programs as greater emphasis is put on completing condition assessments as a part of an effort to improve asset lifecycle management and more accurately identify and represent SOGR needs in the City's portfolio. The results from the condition assessments more precisely identify accumulated SOGR backlog estimates.





The primary programs that have a SOGR backlog are: Transportation Services, Facilities Real Estate, Environmental and Energy (FREEE), Toronto Transit Commission (TTC), Toronto and Region Conservation Authority (TRCA), Toronto Public Library (TPL), and Parks, Forestry & Recreation (PF&R) which make up \$2.009 billion 87.9% of the \$2.283 billion SOGR backlog at the end of 2015. Over the 10 year period, these key Programs with SOGR backlog make up

\$2.401 billion or 92.9% of the \$2.583 billion SOGR backlog by the end of 2025 summarized in Table 2 below.

\$ Million	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Transportation Services	1,011	1,065	1,120	1,174	1,174	1,163	1,147	1,127	1,071	1,128	1,197
Facilities Management, Real Estate & Environment	418	390	370	366	428	425	417	449	447	456	473
Toronto Transit Commission	0	0	0	52	114	167	211	251	282	309	346
Toronto & Region Conservation Authority	231	228	220	211	200	191	180	173	165	152	141
Toronto Public Library	37	44	53	60	64	77	82	88	93	109	123
Parks, Forestry & Recreation	311	442	453	456	414	386	330	280	225	173	121
Other	274	264	249	238	230	219	207	198	192	189	182
Total SOGR Backlog	2,283	2,432	2,466	2,557	2,625	2,628	2,574	2,565	2,474	2,515	2,583
Total Asset Value (end of year)	35,134	35,443	35,683	36,240	36,526	36,822	37,086	37,369	37,650	37,925	38,209
SOGR as % Asset Value	6.50%	6.86%	6.91%	7.06%	7.19%	7.14%	6.94%	6.86%	6.57%	6.63%	6.76%

Table 2SOGR Backlog by Program – Summary

Overall, estimates indicate that the current accumulated Tax Supported SOGR backlog is stabilized with a marginal changes in the backlog for Transportation Service and FREEE, but more significant increases for TTC and Library, offset by a decrease in TRCA, Park, Forestry & Recreation and Other Programs' SOGR Backlogs.

Key Points:

Transportation Services

The increase in SOGR funding of \$1.3 billion in the 2016 – 2025 Capital Budget and Plan is dedicated to the rehabilitation of the F. G. Gardiner Expressway. This funding is in addition to the approximately \$1.3 billion that was added for SOGR projects as part of the 2013, 2014 and 2015 Budget processes. Despite this additional investments, it is anticipated that Transportation Services' SOGR backlog will continue to increase over the 10-year planning period as ongoing field assessments are completed since Toronto's aging infrastructure, especially local road infrastructure is coming to the end of its useful life (constructed between the early 1960s and late 1970s).

While the total SOGR funding is significant, it is necessary to help reduce the rehabilitation backlog and to maintain the aging infrastructure network in a state of good repair.

- SOGR backlog for transportation infrastructure (excluding F.G. Gardiner Expressway) will increase from \$498 million in 2015 to an anticipated \$1.2 billion in 2025.
- Condition assessments of road capital infrastructure and sidewalks resulted in significant increases in funding for Local Road Rehabilitation and Sidewalk projects in 2015.

 Engineering assessments of the condition of bridge structures are currently underway and may result in increased SOGR funding need that will be reported as part of the 2017 Budget process.

In 2017, Transportation Services in consultation with Financial Planning will continue to develop a long term strategy to address Transportation Services' SOGR backlog. As part of this review, Transportation Services will continue to update condition assessments of existing capital infrastructure, incorporating any required updates to current backlog value levels.

Facilities, Real Estate, Environment & Energy (FREEE)

Facilities Management plays a corporate stewardship role, and in collaboration with City divisions, sets standards to ensure all City-owned facilities are maintained in a manner that meet operational needs and improve asset management on behalf of other City Programs.

Facilities, Real Estate, Environment & Energy has placed a greater emphasis on completing building Condition Assessments (BCAs) as part of its effort to improve asset lifecycle management and more accurately identify and represent critical SOGR needs in the portfolio. The accumulated SOGR backlog is determined based on the results of BCAs which entail annual verification and full technical evaluation of each City building and all fixed components on a five-year cycle.

With estimates of SOGR backlog escalating, it is critical to ensure that limited resources are optimally allocated in a manner that maximizes the utility of the City's capital assets. FREEE dedicates the debt funding envelope annually to address critical needs for these aging facilities and scheduled life cycle replacements of major components that are at the end of their service life.

Due to the age of many of the City's buildings, the backlog will increase from \$390.166 million or 10.9% of replacement asset value in 2016 to \$473.087 million or 13.2% of replacement asset value by the end of 2025. Key areas that require funding include capital work on Fire Stations and renovation of assets to ensure compliance with Accessibility for Ontarians with Disabilities Act (AODA).

Toronto Transit Commission (TTC)

The replacement value of TTC's assets is estimated at \$14.6 billion, based on replacement costs, incorporating bridges, tunnels, buildings, yards, roads, and subway and surface track. A large portion of TTC's infrastructure is more than 50 years old.

At the end of 2015, the TTC did not have a backlog of SOGR. The 10-Year Recommended Capital Plan's spending on State of Good Repair is \$5.474 billion. Despite this level of funding, the TTC SOGR backlog is anticipated to increase from 0% as a percentage of asset value in 2015 to 2.4% in 2025, representing an anticipated accumulated SOGR backlog of \$345.9 million.

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For 2016, the TTC has adjusted the reporting of its SOGR backlog. Previously the TTC had included projects with funding constraints related to non-infrastructure projects (Buses, Subway Cars, etc.) within their SOGR backlog. The TTC has now removed these non-infrastructure projects; the net effect is the elimination of SOGR backlog in both years 2016 and 2017.

TTC's backlog of SOGR capital projects was established in the 2014 Budget process. The following was used to establish and steer the decision making for the accumulated backlog of SOGR projects for the TTC:

- TTC's annual capital spend rate is typically around 70%. The City's Financial Planning staff analyzed TTC's capacity to spend by project based on historical spending and identified opportunities to reduce cash flow funding and timing for various SOGR projects based on TTC's spending rate. The cash flow funding being reduced was placed "below the line" to establish an SOGR backlog.
- Most ongoing SOGR programs are being funded in the TTC's 2016-2025 Preliminary Capital Plan. Projects have been reduced on the basis of TTC's capacity to spend. The SOGR backlog is based on TTC's spending rate of its approved cash flow funding each year on certain projects. The backlog represents SOGR funding that may not be spent and therefore may not affect the completion of required SOGR work in any given year.
- The delay of significant investments in infrastructure renewal projects will increase the backlog of SOGR work to \$345.912 million by year 2025, representing 2.4% of the asset replacement value. The SOGR backlog is managed and revisited each year to ensure critical SOGR work is funded.

Toronto and Region Conservation Authority (TRCA)

TRCA's infrastructure consists of land, land improvements, buildings, infrastructure and capital work-in-progress in its overall watershed areas. The asset value for the City of Toronto area only is estimated at \$463.742 million.

TRCA faces many of the same pressures as other City Programs and Agencies in dealing with aging infrastructure. Approximately \$175.529 million or 99.3% of funding included in the 10-Year Capital Plan is allocated to State of Good Repair projects provide funding for the following:

- Major maintenance of existing waterfront erosion control structures,
- Environmental rehabilitation,
- Watershed monitoring and management,
- Facilities retrofit, and
- Damage caused by high intensity and localized storms.

At the end of 2015, TRCA will have a State of Good Repair backlog estimated at \$231.056 million, representing 51.4% of the asset value. The SOGR backlog includes approximately \$98.0 million in the Watershed Assets category for land acquisition for environmental purposes, erosion control, and flood protection that are critical to the watershed.

State of Good Repair funding included in the 10-Year Capital Plan will reduce the SOGR backlog to \$141.105 million or 22.6% of the asset value in 2025.

Toronto Public Library (TPL)

Investment in SOGR is essential for TPL to continue to maintain and upgrade existing branch and technology infrastructure to manage the growing demand for 21st century library services. Additional repair and AODA compliance requirements identified by a new Property Condition Assessment (PCA) in 2014, as well as a facilities infrastructure that is largely 40-50 years old, has increased the SOGR backlog from \$37.449 million at the end of 2015 to \$122.993 million by the end of 2025.

- \$206.484 million or 82% of funding is dedicated to SOGR projects included in the 10-Year Preliminary Capital Plan. Funding has been provided to address capital work to ensure TPL's compliance with AODA legislation.
- Although significant funding for SOGR projects has been provided, an additional \$14.504 million in 2015 from maximizing DC funding and an additional \$5.802 million over the debt target in 2016, the 10-Year Preliminary Capital Plan is inadequate to meet the growing SOGR backlog requirements over the next 10 years.
- Maintaining SOGR at current debt affordability levels does not address TPL's SOGR needs.

Parks, Forestry and Recreation (PF&R)

State of good repair projects account for \$633.879 million or 53.3% of total capital financing for the 2016-2025 planning period. It makes up the largest category of capital project expenditures which include maintenance, repair or replacement of aging infrastructure and facilities. Spending on SOGR projects gradually increases over the 10-Year Capital Plan period to ensure the continued reduction of the Program's SOGR backlog.

Funding is allocated to state of good repair projects focussing on asset rehabilitation through the *Capital Asset Management Plan* (CAMP) program which is driven by repair condition surveys of assets for the following main projects: *Pools, Arenas, Trails & Pathways,* and *Community Centres.*

Parks, Forestry and Recreation's accumulated backlog of \$311.424 million at the end of 2015 is projected to decline to \$120.952 million or 4.8% by the end of 2025. The most significant reductions in SOGR backlog are due to the incremental debt funding of \$165 million approved in 2014 and allocated to the following asset types:

The *Trails & Pathways* backlog will be reduced from \$44.081 million in 2016 to \$0 million by 2025 (100% of the SOGR backlog).

- The *Arena & Outdoor Rinks* backlog will be reduced from \$66.485 million in 2016 to \$0.393 million by 2025 (0.4% of the SOGR backlog).
- The *Community Centre* backlog will be reduced from \$115.140 million in 2016 to \$1.444 million by 2025 (0.1% of the SOGR backlog).

It should be noted that the accumulated backlog may increase once a new audits are completed for each of the asset categories.

Toronto Community Housing Corporation (TCHC)

Capital requirements for TCHC currently valued at \$2.592 billion are not included in the City's total SOGR backlog (\$2.432 billion). The City indirectly funds the TCHC's State of Good Repair Program as TCHC was directed by Council through the report EX35.4, "*A Ten-Year Capital Financing Plan for Toronto Community Housing*" to allocate \$50 million for capital backlog repairs from the subsidy and then adjust this amount by the annual Consumer Price Index (CPI) for each year thereafter.

In the same report Council approved a Ten-Year Capital Financing Plan (2013-2022) in the amount of \$2.592 billion to address these capital repairs in the short-term and provide the funding necessary for TCHC to effectively manage its assets over the long-term.

The Plan assumes a federal/provincial/City partnership, where each government contributes an equal one-third share (\$864 million) of the funding required by TCHC from 2013-2022 and that after 10 years, from 2023 onward, TCHC will be able to address its capital needs from City and TCHC funding sources. The City remains on track to raising its share of funding totaling \$864 million to address TCHC SOGR backlog. To date neither the Province nor Federal governments have committed to their combined share of \$1.728 billion.

Comparison Analysis:

Year over Year Changes in Accumulated SOGR Backlog

The current accumulated SOGR backlog for Tax Supported Programs is \$2.283 billion. As at the end of 2015, the 2016 SOGR needs for Tax Supported Programs total \$1.278 billion of which \$1.236 billion of the SOGR backlog will be addressed. This will result in the 2016 accumulated SOGR backlog to increase by \$41.423 million or 1.8% as summarized in Table 3 below.

Over the 10 year period, the SOGR needs for Tax Supported Programs will total \$13.191 billion. However, the SOGR investment dedicated in the Preliminary 2016 – 2025 Capital Budget and Plan will address \$13.264 billion of SOGR requirements. This will result in the 10 year accumulated SOGR backlog decreasing by \$72.140 million or 3.2% at the end of 2025.

Table 3

Percentage of State of Good Repair Backlog Addressed in the 2016-2025 Preliminary Capital Budget and Plan by Program (\$000s)

				2016			2016 - 2025				
Barra David	2015 Accum.	SOGR Funding	Accum. Backlog Incr./	SOGR Backlog Balance Added/(Reduced)	Accum. Backlog %	2015 Accum.	SOGR	Accum. Backlog Incr./	SOGR Backlog Balance	Accum. Backlog %	
Program Description Citizen Centred Services - A	Backlog	Funding	(Decr.)	Added/(Reduced)	Incr/ (Decr.)	Backlog	Funding	(Decr.)	Added/(Reduced)	Incr/ (Decr.)	
Children's Services	4,765	1.542	563	(979)	11.8%	4,765	13.830	(3,263)	(17.093)	-68.5%	
Economic Development and Culture	37,157	9,625	(1,274)	(10,899)	-3.4%	37,157	96.552	(10,801)	(17,093)	-08.5%	
Long Term Care Homes Services	4,507	9,625 2,790	(1,274)		-3.4%	4,507	48,268	(10,801)	(107,555) (48,268)	-29.1%	
			120 121	(2,790) 73,223	41.8%		48,208 633,879	(190,472)			
Parks, Forestry & Recreation	311,424	56,908	130,131	, .		311,424	,	(, . , ,	(824,351)	-61.2%	
Shelter, Support & Housing Administration	6,107	900	983	83	16.1%	6,107	12,500	1,313	(11,187)	21.5%	
Toronto Paramedic Services	0	1,610	0	(1,610)	25.00/	0	10,810	(202.222)	(10,810)	55 00 /	
Sub-Total Citizen Centred Services - A	363,960	73,375	130,403	57,028	35.8%	363,960	815,839	(203,223)	(1,019,062)	-55.8%	
Citizen Centred Services - B	0	1.650		(1.650)			0.050		(2.052)		
Fire Services	0	1,652	0	(1,652)		0	3,952	0	(3,952)		
Transportation Services	1,010,623	236,790	(53,952)	(290,742)	-5.3%	1,010,623	4,449,251	(186,255)	(4,635,506)	-18.4%	
Sub-Total Citizen Centred Services - B	1,010,623	238,442	(53,952)	(292,394)	-5.3%	1,010,623	4,453,203	(186,255)	(4,639,458)	-18.4%	
Internal Services											
311 Toronto	0	1,507	0	(1,507)		0	18,882	0	(18,882)		
Facilities Management, Real Estate & Environment	418,270	44,809	(28,104)	(72,913)	-6.7%	418,270	524,054	54,817	(469,237)	13.1%	
Financial Services	0	7,297	0	(7,297)		0	43,909	0	(43,909)		
Fleet Services	49,787	29,485	(2,000)	(31,485)	-4.0%	49,787	480,296	(32,213)	(512,509)	-64.7%	
Information & Technology	0	23,251	0	(23,251)		0	315,342	0	(315,342)		
Sub-Total Internal Services	468,057	106,349	(30,104)	(136,453)	-6.4%	468,057	1,382,483	22,604	(1,359,879)	4.8%	
Other City Programs											
City Clerk's Office	800	975	(800)	(1,775)	-100.0%	800	7,535	(800)	(8,335)	-100.0%	
Sub-Total Other City Programs	800	975	(800)	(1,775)	-100.0%	800	7,535	(800)	(8,335)	-100.0%	
Agencies											
Exhibition Place	14,750	2,495	2,650	155	18.0%	14,750	77,345	7,850	(69,495)	53.2%	
Sony Centre (Hummingbird)	33,229	5,986	(5,986)	(11,972)	-18.0%	33,229	11,536	(11,536)	(23,072)	-34.7%	
Toronto & Region Conservation Authority	231,056	13,931	(2,941)	(16,872)	-1.3%	231,056	175,529	(89,951)	(265,480)	-38.9%	
Toronto Police Service	30,850	34,489	200	(34,289)	0.6%	30,850	525,412	(12,644)	(538,056)	-41.0%	
Toronto Public Health	0	0	0	0		0	9,633	0	(9,633)		
Toronto Public Library	37,499	22,176	6,709	(15,467)	17.9%	37,499	206,484	85,494	(120,990)	228.0%	
Toronto Zoo	92,165	6,845	(4,756)	(11,601)	-5.2%	92,165	52,631	(29,591)	(82,222)	-32.1%	
Yonge-Dundas Square	0	0	0	0		0	450	0	(450)		
Sub-Total Agencies	439,549	85,922	(4,124)	(90,046)	-0.9%	439,549	1,059,020	(50,378)	(1,109,398)	-11.5%	
Toronto Transit Commission											
Toronto Transit Commission	0	773,077	0	(773,077)		0	5,473,555	345,912	(5,127,643)		
Sub-Total Toronto Transit Commission	0	773,077	0	(773,077)		0	5,473,555	345,912	(5,127,643)		
Tax Supported Programs	2,282,989	1,278,140	41,423	(1,236,717)	1.8%	2,282,989	13,191,635	(72,140)	(13,263,775)	-3.2%	

*Funding to address the state of good repair backlog for City-owned facilities for Paramedic Services, Toronto Fire and Toronto Public Health is included in FREEE 10-Year Capital Plan as asset management capital funding was transferred to FREEE in 2010.

- The most significant SOGR backlog increase in 2016 is in Park, Forestry & Recreation. The accumulated backlog by the end of 2015 was \$311.424 million. Additional accumulated SOGR Backlog in 2016 is \$130.131 million; however, the 2016 investment in SOGR is \$56.908 million which is less than the additional SOGR requirement. The accumulated SOGR backlog will decrease by the end of 2025 by \$190.472 million or 61.2%.
- TTC is the largest contributor to the 10 year SOGR backlog increase, with an increase of \$345.912 million over the 10 year period.

Conclusion

Maintaining and preserving the City's assets is critical to ensuring they can support the delivery of City services, achieve Council's expected outcome and meet future service need of the public.

Reducing the SOGR Backlog is one of the City's key priorities for capital investment. Targeted investments made in recent years to address the SOGR backlog problem managed to stabilize backlog growth over the next 10-year period. In setting the 2016 – 2025 Preliminary Capital Budget and Plan, the City continues to ensure that available resources are maximized to reduce the State of Good Repair Backlog and minimize risks associated with delayed maintenance of the City's aging infrastructure.

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