

April 11, 2017

2016 CAPITAL BUDGET - YEAR END REVIEW

EXECUTIVE SUMMARY

2016 CAPITAL BUDGET

Service Category	2016 Annual Capital Expenditure Budget (\$ millions)			Variance	
	Budget	Total Actuals		\$	%
HOUSING	\$69.7	\$48.3		\$21.4	30.8%
CHILDCARE	3.3	1.7		1.5	47.4%
PARKS, OPEN SPACES AND RECREATION	38.5	34.4		4.1	10.5%
COMMUNITY FACILITIES	23.8	16.6		7.3	30.5%
CIVIC FACILITIES	17.7	13.3		4.3	24.4%
TRANSPORTATION	120.0	113.9		6.2	5.1%
UTILITIES AND PUBLIC WORKS	90.6	83.8		6.8	7.6%
EQUIPMENT AND TECHNOLOGY	69.4	62.5		6.9	9.9%
CITY-WIDE	6.4	6.1		0.2	3.3%
TOTAL	\$439.4	\$380.7		\$58.7	13.4%

NOTE: Totals may not add due to rounding.

Capital expenditures for 2016 were \$380.7 million, the largest annual capital expenditure by the City since the years leading to the Vancouver 2010 Winter Olympic Games, representing progress made on major capital projects such as fire truck replacement and Burrard Bridge upgrades. 2016 Capital expenditure of \$380.7 million represents 87% of the total 2016 Annual Capital Expenditure Budget of \$439.4 million. Some projects were delayed due to unfavourable weather conditions in late 2016 and changes in deliverables timing driven by external factors such as land purchase opportunities and contractor delays, as well as unexpected complexities in the nature of some of the capital work undertaken. Of the top ten projects in the 2016 Expenditure Budget, three were less than the original estimated outcomes for the year. Outcomes for the sewer separation program were less than originally planned reflecting a change in the complexity of some major sewer trunk replacements in the year; the nə̄ca?mat ct Strathcona Branch Library project experienced unforeseen construction delays; and planned land acquisitions in 2016 for non-market housing were delayed.

CAPITAL BUDGET

This year-end review does not include 2016 Operating Budget results as these are reported in the City's 2016 Annual Financial Report, scheduled to be presented to Council April 12, 2017.

While the Operating Budget reflects operating costs for one year only, the annual Capital Expenditure Budget reflects one year of what can be multi-year capital projects. Therefore, capital projects are viewed on both an annual budget basis (annual expenditure vs. annual budget), and a total project basis (multi-year project expenditures vs. total multi-year project budget).

On December 17, 2015, Council approved a 2016 Annual Capital Expenditure Budget of \$325.2 million. Council subsequently approved net adjustments to the budget totaling \$114.2 million for a revised 2016 Annual Capital Expenditure Budget of \$439.4 million. This report reflects performance against this revised 2016 Annual Capital Expenditure Budget.

In 2016, Capital Budget expenditures were \$380.7 million, representing 87% of the total 2015 Annual Capital Expenditure Budget (2015: \$242.1 million, 78%). This actual expenditure reflects a continuing focus on aligning our budget with our capacity to spend, providing regular quarterly reports on spending and forecast expenditures, and appropriately scheduling projects.

Staff closely manage the capital spend on a quarterly basis to ensure optimal delivery of projects within the annual expenditure budget. Strategic review of progress on projects is conducted on a regular basis, and where the timing of projects is advanced or delayed, adjustments to the corresponding expenditure budgets are recommended. Expenditure budget adjustments are generally managed within the department overall Capital Expenditure Budget or, if necessary, within the total Citywide overall Capital Expenditure Budget, whereby additions to the budget are offset by corresponding reductions in budgets elsewhere in the overall Capital Expenditure Budget.

As capital projects progress through planning and design and final costing, the nature and final scope of work becomes more refined and in some cases requires an update to the originally planned funding sources. The required updates to funding sources are brought to Council for review and approval as part of the quarterly Capital Budget adjustments process.

A separate report to Council for 2016 fourth quarter capital project closeouts and adjustments to the 2017 Capital Budget was presented to, and approved by, Council on February 21, 2017 (RTS 11837).

A. 2016 CAPITAL EXPENDITURES vs. 2016 CAPITAL BUDGET by Service Category

Capital expenditures for 2016 were \$380.7 million, representing 87% of the total 2016 Annual Capital Expenditure Budget of \$439.4 million.

Table 1 summarizes variances by service category between the 2016 Capital Expenditure Budget and actual 2016 expenditures.

Table 1 - 2016 Annual Capital Budget Results By Service Category (\$000's)

Service Category 1	Service Category 2	2016 Expenditure Budget	2016 Actual Expenditures	Variance
01. Housing	A. Non-Market Rental Housing	69,713	48,273	21,440
01. Housing Total		69,713	48,273	21,440
02. Childcare	A. Daycare & Preschool (0-4 Yrs)	2,626	1,344	1,282
	B. Before & After School Care (5-12 Yrs)	625	365	260
02. Childcare Total		3,251	1,710	1,542
03. Parks, Open Spaces and Recreation	A. Urban Forest and Natural Features	2,832	2,168	663
	B. Activity Features	13,973	8,351	5,623
	C. New Parks and Renewals	8,789	12,354	(3,564)
	D. Seawall and Waterfront	1,465	1,221	245
	E. Park Infrastructure	1,433	1,007	426
	F. Park Buildings	1,000	913	87
	G. Public Art	1,348	455	893
	H. Recreation Facilities	6,692	7,221	(529)
	I. Entertainment and Exhibition	977	760	217
03. Parks, Open Spaces and Recreation Total		38,509	34,450	4,060
04. Community Facilities	A. Libraries and Archives	13,041	6,508	6,534
	B. Social Facilities	5,202	3,098	2,104
	C. Cultural Facilities	5,596	6,965	(1,369)
04. Community Facilities Total		23,839	16,570	7,269
05. Civic Facilities	A. Police	1,938	1,737	201
	B. Fire	6,562	3,537	3,025
	C. Animal Control	210	124	86
	D. Administrative Facilities	7,448	6,862	586
	E. Service Yards	1,500	1,086	415
05. Civic Facilities Total		17,658	13,345	4,313
06. Transportation	A. Walking and Cycling	91,271	87,696	3,575
	B. Transit	2,010	983	1,027
	C. Major Roads	20,555	20,012	543
	D. Local Roads	5,185	5,129	56
	E. Parking	1,018	63	955
06. Transportation Total		120,039	113,882	6,157
07. Utilities	A. Waterworks	11,586	10,941	645
	B. Sewers	40,326	39,604	722
	C. Solid Waste	10,129	8,178	1,950
	D. Neighbourhood Energy	1,757	1,551	206
	E. Water and Sewer Connections	26,826	23,506	3,321
07. Utilities Total		90,623	83,780	6,844
08. Equipment and Technology	A. Vehicles and Equipment	43,373	45,243	(1,870)
	B. Information Technology	26,008	17,273	8,735
08. Equipment and Technology Total		69,381	62,516	6,864
09. City-Wide	C. City-Wide Overhead	6,352	6,144	208
09. City-Wide Total		6,352	6,144	208
Grand Total		439,366	380,670	58,696

Explanations for variances between total 2016 expenditures and the 2016 Annual Capital Expenditure Budget by service category:

01. Housing	\$21.4 million positive variance
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Housing projects are managed by Real Estate & Facilities Management and Housing Policy & Projects.

Capital expenditures for Housing projects in 2016 were \$21.4 million below budget, primarily due to underspend of development soft costs, a longer than anticipated timeline required for several major VAHA projects currently underway, as well as the timing of several land acquisitions that were expected for 2016 but are now expected to close in 2017.

02. Child Care	\$1.5 million positive variance
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Child Care projects are managed by Community Services and Real Estate & Facilities Management.

Capital expenditures for Child Care projects in 2016 were \$1.5 million below budget, primarily due to a delay in schematic design consulting for childcare spaces planned for the rooftop level of the EasyPark Water Street parkade and a later than planned start of construction for two Vancouver School Board led partnership projects which will provide childcare spaces for children ages 0 to 4 at the Lord Nelson Elementary School and Sir Sandford Fleming Elementary School sites. These two projects are to be delivered by the Vancouver School Board with the City providing project oversight.

03. Parks, Open Spaces and Recreation	\$4.1 million positive variance
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Parks, Open Spaces and Recreation projects are managed by Parks and Recreation, Real Estate & Facilities Management, Community Services, and Engineering Services.

Capital expenditures for overall Parks, Open Spaces and Recreation projects in 2016 were \$4.1 million below budget, primarily reflecting delays in some construction work for the Vancouver Art Gallery north plaza to accommodate special events occurring at the site in the third quarter, as well as delays in planned construction at the waterfront Creekside Park playground due to unfavourable weather in late 2016. Partially offsetting these lower 2016 expenditures is higher than planned expenditures in the year for park development land acquisitions that had not been included in the 2016 expenditure budget due to the opportunistic nature of land purchases and the inherent challenges with predicting the timing and final cost of such purchases.

04. Community Facilities	\$7.3 million positive variance
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Community Facilities projects are managed by various departments within the City including Real Estate & Facilities Management; Community Services; Planning, Urban Design and Sustainability; Development Services, Buildings, and Licensing; and Vancouver Public Library.

Capital expenditures for Community Facility projects in 2016 were below budget by \$7.3 million primarily due to delays encountered in the final construction phases for the new nēča?mat ct Strathcona Branch Library. Expenditures in 2016 for capital repairs to the Marpole Place building were also less than originally planned as the project scope review (including seismic assessment and energy efficiency requirements) required more time than had been anticipated in the budget. Partially offsetting these lower 2016 expenditures for Community Facilities was a higher than budget expenditure for the disbursement of a large cultural grant related to Mount Pleasant artist production spaces that was expected for 2015 but was delayed to 2016 to allow the grant recipient additional time to satisfy grant conditions.

05. Civic Facilities	\$4.3 million positive variance
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Civic Facilities projects are managed by Real Estate & Facilities Management, Vancouver Fire and Rescue Services, Police Services, Parks and Recreation, and Engineering Services.

Capital expenditures in 2016 for Civic Facilities projects were \$4.3 million less than budget, reflecting a delay in scheduled construction for the Fire Hall No. 5 replacement as a result of unfavourable weather conditions in Q4, rescheduling of the construction of a permanent shelter at Fire Hall No. 1 for fire heavy apparatus in order to coordinate with planning underway for the removal of the Georgia Dunsmuir viaducts in the same area, a delay in the issue of a construction tender for fire hall bay separation arising from a change in project scope to address operational needs at the site, as well as a delay in the replacement of fuel tanks at Manitoba Yard reflecting an extended timeline required for needs analysis, scope review and site consulting.

06. Transportation	\$6.2 million positive variance
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Transportation projects are managed by Engineering Services.

Capital expenditures in 2016 for Transportation projects were \$6.2 million below budget, primarily due to a weather-related delay in street paving that had been planned for Q4 for the Arbutus Corridor interim construction project but now planned for 2017, a delay in planned expenditures in 2016 for the Seaside Greenway project arising from an extended timeline required for detailed design and coordination with utility planning in the area, and delay in Downtown Trolley Wire Expansion due to later than expected completion of trolley pole replacement by Coast Mountain Bus Company.

07. Utilities	\$6.8 million positive variance
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Utilities projects are managed by Engineering Services.

Capital expenditures in 2016 for Utilities projects were \$6.8 million less than budget, primarily due to a reduction in water and sewer connections work that had been planned for 2016 but delayed in order to deploy crews to more critical mainline sewer replacement work

and to clear 2014 and 2015 backlogged water and sewer connections requests, a delay in construction that had been planned for 2016 for the Landfill Entrance reconstruction project but on hold pending a decision from Corporation of Delta Council on relaxation of a Delta noise control bylaw (subsequently approved in January 2017), as well as delays in the Landfill Phase 3 Northeast Pre-Closure Gas Works project due to adverse weather conditions in late 2016.

08. Equipment and Technology	\$6.9 million positive variance
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Equipment and Technology projects are managed by Engineering Services and Technology Services departments.

Capital expenditures in 2016 for Equipment and Technology projects were less than budget by \$6.9 million, primarily due to lower than planned expenditures for several Technology Services projects arising from project scheduling adjustments, offset by a higher than budget expenditure for fire truck replacements received in 2016, reflecting the foreign exchange impact of the delivered cost of the US sourced apparatus. (The foreign exchange impact is neutral at a Citywide level as the foreign exchange risk has been managed within the overall City operating budget.)

- Some implementation expenditures originally anticipated for 2016 for a software solution for Fleet Services were deferred to Q2 2017 to accommodate anticipated additional time required for scoping and contract negotiations related to software procurement.
- Planned expenditures for 2016 for the Contract Lifecycle Management project were delayed due to limited availability of staff earlier in the year and additional process analysis and planning being performed, delaying the software purchase and implementation phases of the project.
- Planned expenditures for 2016 for the Parking Enforcement Ticket Manager Platform project were delayed due to limited availability of staff earlier in the year, delaying process analysis and scope planning, and consequently delaying the contract procurement phase of the project.
- Expenditures planned for 2016 for the Emergency Management Information System project have been delayed due to an extended timeline required for defining and finalizing the project scope, consequently delaying the contract procurement phase of the project.

09. City-Wide	\$0.2 million positive variance
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This service category represents City-wide overhead costs relating to support of the City's capital program and funding for emerging priority capital projects. Capital expenditures in 2016 were less than budget by \$0.2 million, reflecting the deferral to 2017 of a Citywide review of the City's Development Cost Levy (DCL) process.

B. TOP 10 CAPITAL PROGRAMS/PROJECTS: 2016 Anticipated vs. Actual Outcomes
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Table 2 on the next page comments on 2016 outcomes related to the top 10 projects by 2016 Annual Capital Expenditure Budget (eleven projects are included in this list as two projects had identical expenditure budgets). As noted in the table, outcomes for three of these projects were less than the original estimated outcomes for the year, primarily reflecting changes in deliverables timing driven by external factors such as land purchase opportunities and contractor delays, as well as unexpected complexities in the nature of some of the capital work undertaken.

Outcomes in 2016 for three projects are less than originally anticipated for the year:

- Sewer Separation program (some priority projects for 2016 involved large-diameter trunk separations which require more expense and labour per kilometre than the more typical shallower and smaller diameter sewer separations)
- nēcā?mat ct Strathcona Branch Library (construction delays have been encountered in the late stages of the completion phase, pushing the branch opening to April 2017)
- Land Acquisition in East Fraser Lands for non-market housing (delay in timing of planned land acquisitions)

Table 2 - Outcomes for Top 10 Projects and Programs in 2016 (\$ millions)

Program/Project	2016 Annual Expenditure Budget (REVISED)	2016 Total Expenditures	Variance	Anticipated Outcomes for 2016 (based on original 2016 Expenditure Budget)	Actual Outcomes for 2016
Sewer separation (Annual program) (<i>Original 2016 budget \$30.0M</i>)	\$37.0	\$37.9	-\$0.9	10 km of combined (stormwater and sanitary) sewer mains separated (1.1%)	2016 planned outcome not achieved: Final outcome was 7.5 km of sewer mains separated. Trunk size, arterial street and coordinated projects with higher unit rates resulted in higher expenditures per kilometre.
2014 Fire Truck Replacement (<i>Original 2016 budget \$27.8M</i>)	31.7	32.6	-0.9	17 apparatus and 6 life support units replaced	2016 planned outcome substantially achieved: 25 fire apparatus was received, with the 6 life support units delaying to 2017. Project overspend reflects the effect of foreign exchange on US sourced fire apparatus chassis.
2015-17 Burrard Bridge Upgrades (<i>Original 2016 budget \$16.0M</i>)	14.9	15.4	-0.5	<ul style="list-style-type: none"> • 0.34 km of new AAA bike lane added • 0.75 km of new means prevention fence on the Burrard Bridge added • 0.75 km of electrical, street lighting and sidewalk rehabilitated • 0.34 km of partial road and sidewalk rehabilitated 	2016 planned outcome achieved: <ul style="list-style-type: none"> • 0.34 km new AAA Bike Lane and 0.34 km partial road and sidewalk rehab; completed Pacific Street between Thurlow and Burrard • 0.75 km new means prevention & 0.75 km of electrical, street lighting and sidewalk rehab; bridge contractor is completed on the west side of the bridge. Project overspend for 2016 reflects completion of more work than anticipated; overall project expected to complete on budget and on schedule in 2017.
Vehicles and equipment replacement (Annual program) (<i>Original 2016 budget \$12.0M</i>)	11.7	12.4	-0.7	120 - 160 vehicles and equipment replaced	2016 planned outcome achieved: 125 vehicles and equipment were replaced.
Social Housing - SEFC Area 3B	12.0	14.4	-2.4	Working drawings to be completed, excavation of the site, start construction of the building.	2016 planned outcome achieved: Excavation and foundation completed. Construction approximately 35%-40% complete to end of 2016. Developer anticipates entire project to be complete by March 2018. Overspend in 2016 reflects faster than anticipated progress on the project; overall project expected to be completed on budget.
náča?mat ct Strathcona Branch Library (<i>Total project budget \$18.4M</i>)	11.0	4.7	6.2	Construction 100% complete	2016 planned outcome not achieved: Construction has been further delayed (delays relating to elevator installation, electrical system). Occupancy is now scheduled for mid March 2017, with the branch opening in April.

(continued on next page)

Program/Project	2016 Annual Expenditure Budget (REVISED)	2016 Total Expenditures	Variance	Anticipated Outcomes for 2016 (based on original 2016 Expenditure Budget)	Actual Outcomes for 2016
Water/sewer connections replacement (Annual program) <i>(Original 2016 budget \$11.0M)</i>	16.2	12.3	3.8	1,200 residential water and sewer connections replaced.	<p><i>2016 planned outcome achieved overall:</i></p> <ul style="list-style-type: none"> • 2016 Program: 846 projects established • 2016 Program: 837 connections installed; approximately 263 paid for. <p><i>Underspend in 2016 reflects a reallocation of resources to other critical mainline sewer replacement work in the year, but program remains on track for the overall current capital plan.</i></p>
Water pipe replacement (Annual program)	10.0	9.8	0.2	<ul style="list-style-type: none"> • 6.0 km of distribution water and sewer connections replaced (water distribution to homes, businesses, and industry) • 0.85 km of transmission water pipe replaced (transmission of bulk quantities of water throughout the City) 	<p><i>2016 planned outcome substantially achieved:</i></p> <ul style="list-style-type: none"> • 5.3 km distribution mains replaced • 0.86 km transmission mains replaced <p><i>Underspend in 2016 reflects a reallocation of resources to other critical major arterials, but program remains on track for the overall current capital plan.</i></p>
Rehabilitation of major City roads (Annual program)	8.2	8.0	0.2	<ul style="list-style-type: none"> • 5.0 km of arterial MRN pavements rehabilitated • 3.0 km of arterial City pavements rehabilitated 	<p><i>2016 planned outcome substantially achieved:</i></p> <ul style="list-style-type: none"> • 4.65 km of MRN pavements rehabilitated (SW Marine Drive, Broadway) • 2.75 km of City arterial pavements rehabilitated (Burrard from 1st to 16th, Beatty from Nelson to Pender, W 33rd Avenue from Cartier to Marguerite) • an additional 0.75 km of MRN pavements planned for 2016 were unable to be paved due to inclement weather in late 2016 (Broadway from Renfrew to Rupert)
Georgia Dunsmuir Viaduct Removal Phase I <i>(Original 2016 budget \$8.1M)</i>	3.7	3.8	-0.1	Year one of a two-year planning and consultation process to complete detailed planning, design, and the necessary agreements to advance removal of the viaducts and development of the remaining NEFC lands including areas 6C, 10C, and the future parks and open spaces.	<p><i>2016 planned outcome achieved:</i></p> <ul style="list-style-type: none"> • Retained staff and procured consulting services. • Completed preliminary environmental investigations on City land. • Progressed terms of reference and agreements with key partners (e.g., landowners and third party utility providers)
Land acquisition in East Fraser Lands for non-market housing <i>(Original 2016 budget \$8.1M)</i>	0.9	0.0	0.9	Purchase of land to enable strategic partners (e.g., senior government, non-profit agencies) to deliver 300 units of affordable housing on City-owned land over the next three years.	<p><i>2016 planned outcome not achieved:</i></p> <p><i>Discussions around EFL land acquisition option payments remain ongoing.</i></p>
Total	\$157.1	\$151.3	\$5.8		

C. MULTI-YEAR CAPITAL PROJECT EXPENDITURES vs. BUDGET

As of December 31, 2016, the active Multi-Year Capital Project Budgets for current open capital programs/projects totaled \$1.140 billion (not including new multi-year capital projects in the 2017 Capital Budget approved by Council on December 13, 2016).

D. 2015-2018 CAPITAL PLAN

The 2015-2018 Capital Plan was approved in October 2014 at \$1.085 billion (RTS 10507), and as of December 31, 2016 with subsequent Council approved changes had a current total of \$1.325 billion covering projects across all City departments and agencies (not including changes to the capital plan approved by Council on December 13, 2016 as part of the 2017 Capital Budget).

E. RISKS AND OPPORTUNITIES

Given the longer-term timeframe for capital projects, forecast capital expenditures are subject to change as a result of City capital priorities shifting during the year or due to factors beyond the City's control, including for example:

- delays or acceleration in third-party contracted construction progress,
- unforeseen site conditions encountered in construction projects,
- resolution of factors external to the City, such as partnership funding commitments.

Opportunities to initiate or accelerate the timing of capital investment in the City's capital infrastructure may also arise as the City actively pursues funding contributions/participation from senior levels of government (e.g., Build Canada Fund, Community Works Fund) and private and community partnerships (e.g., BC Housing, developers).

CONCLUSION

The City incurred \$380.7 million in capital expenditures in 2016 and was the largest annual capital expenditure by the City since the years leading up to the Vancouver 2010 Winter Olympic Games, representing 87% of the total 2016 Annual Capital Expenditure Budget of \$439.4 million. Some projects were delayed due to unfavourable weather conditions in late 2016 and changes in deliverables timing driven by external factors such as land purchase opportunities and contractor delays, as well as unexpected complexities in the nature of some of the capital work undertaken. Outcomes for the Top Ten projects based on 2016 annual Capital Expenditure budget (eleven projects included, as two projects had identical expenditure budgets) were achieved for eight projects and less than planned for three projects as a result of changes in deliverables timing driven by external factors such as land purchase opportunities and contractor delays, as well as unexpected complexities in the nature of some of the capital work undertaken.
