



**AMENDED AGENDA
GOVERNANCE & PRIORITIES COMMITTEE
MEETING OF MAY 21, 2015, AT 9:00 A.M.
COUNCIL CHAMBERS
CITY HALL, 1 CENTENNIAL SQUARE**

Page

CALL TO ORDER

APPROVAL OF THE AGENDA

CONSENT AGENDA

ADOPTION OF MINUTES

1. ~~Minutes from the Meeting held May 7, 2015~~ (postponed to June 4)

DELEGATION

2. Victoria Airport Authority 5 - 34
--Eric Donald, City of Victoria Representative
--Geoff Dickson, President & CEO

Late Item: PowerPoint Presentation

A presentation providing information on the activities at Victoria International Airport in 2014, and those in 2015.

[Addenda]

DECISION REQUESTS

3. 2015 First Quarter Budget Status Report 35 - 41
--S. Thompson, Director of Finance

A report outlining the status of the 2015 budget as of March 31, 2015.
4. Action Plan for Housing & Supports for Street Homeless People 43 - 44
--R. Woodland, Director of Legislative & Regulatory Services

A report updating Committee on the status of this report.
5. "Growing in the City" Urban Food Production & Boulevard Gardening in 45 - 79

the City of Victoria

--J. MacDougall, Acting Director of Parks & Recreation

A report seeking Council approval of the proposed project charter to finalize the Boulevard Gardening Guidelines and to review, update and expand City of Victoria policies and guidelines for urban food production.

- | | | |
|----|--|----------|
| 6. | Urban Forest Management Plan Progress Report | 81 - 144 |
| | --J. MacDougall, Acting Director of Parks & Recreation | |

A report providing an update on the implementation of the Urban Forest Master Plan and outlining actions for 2015 / 2016.

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|----|--|-----------|
| 7. | Recreation Fees Bylaw Review | 145 - 159 |
| | --J. MacDougall, Acting Director of Parks & Recreation | |

A report seeking Council consideration of proposed changes to the Recreation Fees Bylaw effective September 1, 2015.

- | | | |
|----|--|-----------|
| 8. | Community Mailboxes | 161 - 172 |
| | --B. Dellebuur, Acting Assistant Director of Transportation & Parking Services | |

A report providing Council with information on the placement of new community mailboxes.

NEW BUSINESS

- | | | |
|-----|--|-----------|
| 9. | Motion - Cycling Network Implementation | 173 - 174 |
| | --Mayor Helps, Councillors Isitt & Loveday | |
| 9A. | <u>Late Item</u> : Motion - Presumptive Clause for First Responders | 175 |
| | --Councillors Loveday, Madoff & Thornton-Joe | |

[Addenda]

MOTION TO CLOSE THE MAY 21, 2015 GOVERNANCE & PRIORITIES COMMITTEE MEETING TO THE PUBLIC

That Governance & Priorities Committee convene a closed meeting that excludes the public under Section 12(6) of the Council Bylaw for the reason that the following agenda items deal with matters specified in Sections 12(3) and/or (4) of the Council Bylaw, namely:

- Section 12 (3) (e) The acquisition, disposition or expropriation of land or improvements, if the Council considers that disclosure might reasonably be expected to harm the interests of the City.
- Section 12 (3) (i) The receipt of advice that is subject to solicitor-client privilege including communications necessary for that purpose.

CLOSED MEETING

CONSENT AGENDA - CLOSED MEETING

ADOPTION OF THE CLOSED MINUTES

10. Minutes from the Closed Meeting held April 2, 2015

DECISION REQUESTS

11. Legal Advice / Fees and Taxes Authority
--*T. Zworski, City Solicitor*
12. Disposition of Land / Fire Hall No. 1
--*S. Thompson, Director of Finance*

CONSIDERATION TO RISE & REPORT

ADJOURNMENT



VICTORIA AIRPORT AUTHORITY



COPY

December 15, 2014

DELIVERED BY COURIER

Mayor Lisa Helps and Council
City of Victoria
1 Centennial Square
Victoria, BC V8W 1P6

Dear Mayor Helps and Council,

Re: Victoria Airport Authority - 2014 Report to Nominators

We are pleased to enclose a copy of the 2014 Report to Nominators detailing the affairs of the Victoria Airport Authority over the past year.

If you have any questions about this Report, or if Council would like a more detailed briefing, please contact our Executive Assistant and the necessary arrangements will be made.

Yours truly,

Lindalee Brougham
Chair
Victoria Airport Authority

LB/mo
Enclosure

c: Mr. Rob Woodland, Director – Legislative Services



VICTORIA AIRPORT AUTHORITY

March 30, 2015

DELIVERED BY COURIER

City of Victoria
1 Centennial Square
Victoria, BC V8W 1P6

Attention: Mayor Lisa Helps and Council

Dear Mayor Helps and Council:

**Re: New City of Victoria Nominee
Victoria Airport Authority Board of Directors**

At the March 30, 2015 Special Meeting of the Victoria Airport Authority Board of Directors, the members approved the appointment of **Eric Donald** as the City of Victoria's Nominee.

Mr. Donald's initial term will be from April 1, 2015 to December 31, 2017, with an option of two additional term renewals for a maximum of eight years. The Board looks forward to the contributions that Mr. Donald will bring to the position.

We thank you for your assistance with this matter.

Yours truly,

Mel Rinald
Chair
Victoria Airport Authority

MR/mo

c: Mr. Eric Donald
Mr. Robert Woodland, Legislative Services



VICTORIA AIRPORT AUTHORITY

VICTORIA AIRPORT AUTHORITY

Report to Nominators

2014



VICTORIA AIRPORT AUTHORITY

Report to Nominators 2014

The Victoria Airport Authority (VAA) Board of Directors is pleased to present the following brief summary Report to Nominators. Financial results are preliminary estimates. The formal Annual Report with audited results will be available in April 2015 prior to the Annual Public General Meeting scheduled for May 7, 2015.

Passenger Traffic

Year-to-date passenger traffic is up 6.3% as of October 31, 2014, compared to the same period last year, with each month representing record traffic levels.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014 Forecast
Domestic	1,171,939	1,239,921	1,280,300	1,297,346	1,268,259	1,234,558	1,217,558	1,236,231	1,277,097	1,335,125
U.S. & International	146,456	150,207	201,306	241,071	264,630	279,762	282,263	269,981	279,863	294,875
Total Passengers	1,318,395	1,390,128	1,481,606	1,538,417	1,532,889	1,514,713	1,499,821	1,506,212	1,556,960	1,630,000

2014 Passenger Volumes (YTD October)



Achievements

2014 was a very successful year for Victoria International Airport, with strong passenger growth, continued cost efficiency, significant infrastructure investment to position the airport for future growth and recognition for environmental excellence.

Highlights

- ♦ Record passenger numbers in each of the first ten months of 2014, with year-end projections expected to be well over 1.6 million passengers.
- ♦ The Air Transport Research Society identified Victoria International Airport as having the lowest cost per enplaned passenger in Canada of twelve major airports studied.
- ♦ The Air Transport Research Society identified Victoria International Airport as having the highest percentage of revenue generated from non-aeronautical revenue of twelve major Canadian airports studied, and in the top 5% of 295 airports studied worldwide.
- ♦ Two critical infrastructure projects were completed to address continued aviation growth:
 - i) A \$7.5 million overlay of the main runway 09-27 to strengthen the runway and ensure its structural integrity for a further twenty years;
 - ii) A \$8.1 million terminal renovation project that involved the expansion of pre-board screening capacity, new concession programs, improved traffic flow through the creation of a centralized circulation core and the expansion of seating capacity in the upper departures area.
- ♦ The NEXUS Preferred Traveller Program for NEXUS members to fast-track through the security screening process was introduced.
- ♦ Peninsula Streams Society named Victoria International Airport winner of the Biodiversity Conservation Award for its work done on Reay Creek.
- ♦ A new five-year Strategic Plan was developed to guide the future direction of the airport to 2020.

Air Services

- ♦ WestJet introduced year-round scheduled service to Las Vegas, which was previously a seasonal winter destination.
- ♦ Pacific Coastal Airlines announced new non-stop service between Victoria and Prince George commencing January 2015 to provide access to BC's growing northern economy.
- ♦ WestJet introduced daily one-stop service to Saskatoon and Winnipeg.
- ♦ An agreement was negotiated through the Western Economic Diversification funding program for air service development with a focus on developing U.S. markets.
- ♦ Several meetings were held throughout 2014 with Senior Management of two potential new low-cost carriers: Canada Jetlines and Jet Naked, to ensure Victoria forms part of their start-up plans.

Ground Transportation

- ♦ Wilson's Transportation Ltd. operated their first full year as the licensed hotel shuttle bus operator. The new service has been branded the 'YYJ Airport Shuttle'. Customer satisfaction as indicated through market research has been very positive.
- ♦ The VAA held discussions with BC Transit to improve access to public transit for both airport passengers and staff. While BC Transit did triple the level of service to the airport in 2011, the airport desires 'same-bus' service in addition to the connections at the McTavish Road interchange.
- ♦ A new five-year car rental concession agreement was negotiated, which resulted in improved financial contribution to the airport.

Community Relations

- ♦ VAA maintains a comprehensive public communications program through its Annual Public General Meeting, Airport Consultative Committee meetings, Environmental Committee meetings and Noise Management Committee meetings.
- ♦ VAA representatives are active members in a number of community organizations including Tourism Victoria, the Greater Victoria Economic Development Agency, the Saanich Peninsula Chamber of Commerce, Greater Victoria Chamber of Commerce and Sidney Community Development Committee.
- ♦ In addition, updates about Victoria International Airport are communicated through its Annual Report, On Approach airport newsletter, website, airmail and social media platforms. YYJ's mobile site was updated with enhanced graphics and content.
- ♦ VAA held open houses and participated in numerous speaking engagements to share information about upcoming projects, initiatives and events.
- ♦ VAA assisted the Department of National Defence with a solemn repatriation ceremony for Leading Seaman Brandon South, who sadly passed away in Tanzania during his deployment with HMCS Regina.
- ♦ In May VAA hosted a community event celebrating the completion of The Flight Path, YYJ's 9.3 km multi-use bike and walking trail that encircles the airport. The event featured a fly-past of vintage and military aircraft and entertainment. A social media contest was held inviting users to share what they most liked about the path, with bicycles awarded as prizes.
- ♦ The Town of Sidney's 'Glow As You Go' safety campaign was extended to The Flight Path to ensure pedestrians remain visible while enjoying the outdoors.
- ♦ VAA facilitated a number of exclusive behind-the-scenes airport tours for military cadets, preschool groups and service organizations.
- ♦ Senior airport executives and the VAA Board of Directors participate in several mentorship initiatives with a number of post-secondary institutions to share knowledge and build relationships with future business leaders.
- ♦ In cooperation with the Community Arts Council of Greater Victoria and the Art Gallery of Greater Victoria, a rotating art collection is featured throughout the airport to promote Victoria as a center of artistic and cultural excellence, to provide professional opportunities to local and regional visual artists, and to enhance public spaces.

Customer Service

- ♦ YYJ's new iconic 'Spinnakers On The Fly' restaurant was officially opened in January.
- ♦ The NEXUS Preferred Traveller program was launched in November. Pre-approved frequent fliers can now be fast-tracked through the security screening process.
- ♦ New countdown clocks were added at the security checkpoint to indicate wait times and to alleviate stress associated with line-ups.
- ♦ The Victoria Airport Authority completed the installation of a number of interpretive signs around its 9.3 kilometre multi-use trail, 'The Flight Path', to enhance this unique recreational facility.
- ♦ As wrapped gifts cannot be taken through security, the Victoria Airport Authority introduced a holiday gift wrapping program for busy travellers while they wait to board their flights.
- ♦ Victoria International Airport ranked in the top 10% of Airports Council International's Airport Service Quality Customer Satisfaction Survey.

Donations and Sponsorships

- ♦ In August, VAA accepted the ALS Ice Bucket Challenge and donated \$1,000 to the cause.
- ♦ In lieu of sending out holiday greeting cards, VAA collected non-perishable food items and cash donations for donation to the Sidney Lions Food Bank, Mustard Seed Food Bank and Victoria Hospice Society.
- ♦ The VAA Board of Directors matched employee contributions to the United Way of Greater Victoria which totalled approximately \$8,500.
- ♦ VAA contributed an additional \$44,950 toward various charitable causes and community events through donations and sponsorships, which are noted on the following page.
- ♦ In summary, VAA forecasts the 2014 charitable contributions to total \$54,450.

2014 Charitable Donations and Sponsorships

Organization	Amount
ALS SOCIETY – ICE BUCKET CHALLENGE	\$ 1,000.00
BC AVIATION COUNCIL	1,250.00
BC AVIATION MUSEUM	650.00
BC CHILDREN'S HOSPITAL FOUNDATION	2,500.00
BLUE BRIDGE REPERTORY THEATRE	1,000.00
BROADMEAD CARE FOUNDATION	400.00
CANADIAN AIRPORTS ELECTRICAL ASSOCIATION CONFERENCE	1,000.00
CANADIAN BREAST CANCER FOUNDATION	250.00
CANADIAN CANCER SOCIETY – COPS FOR CANCER	250.00
COLLIERS CHARITY EVENT	225.00
COMMUNITY ARTS COUNCIL – SIDNEY FINE ARTS SHOW	750.00
CERTIFIED GENERAL ACCOUNTANTS – EDUCATIONAL DONATION	25.00
CITY OF VICTORIA – CANADA DAY CELEBRATIONS	1,000.00
CR FLAIR – SAANICH PENINSULA FLAVOUR TRAIL	250.00
DISTRICT OF NORTH SAANICH – TREE PLANTING EVENT	2,500.00
GENONIMO CANOE CLUB	100.00
GREATER VICTORIA CHAMBER OF COMMERCE (Various Events)	3,500.00
HEART AND STROKE FOUNDATION	200.00
LEADERSHIP VICTORIA	1,500.00
MOUNT FINLAYSON MADNESS	500.00
MULTIPLE SCLEROSIS – VIGSA FUNDRAISER	800.00
PEARSON COLLEGE	1,500.00
PENINSULA CELEBRATIONS SOCIETY	1,000.00
PENINSULA MINOR HOCKEY ASSOCIATION	500.00
PENINSULA STREAMS SOCIETY	2,000.00
POWER TO BE ADVENTURE THERAPY	1,000.00
RUGBY CANADA	500.00
SAANCHA – MARY WINSPEAR CENTRE	500.00
SAANICH PENINSULA CHAMBER OF COMMERCE	500.00
SAANICH PENINSULA HOSPITAL FOUNDATION	2,100.00
SAANICH SPORTS ASSOCIATION – FIRST NATIONS SOCCER SPONSORSHIP	250.00
SEASIDE MAGAZINE – TAKING IT TO THE STREETS EVENT	500.00
SHAW OCEAN DISCOVERY CENTRE	1,000.00
SIDNEY ANGLERS ASSOCIATION	500.00
SIDNEY FIRE 100 YEAR ANNIVERSARY	1,500.00
SIDNEY LIONS FOOD BANK AND TULISTA PARK PLAYGROUND EQUIPMENT	650.00
SIDNEY PIER HOTEL – FOOD BANK FUNDRAISER	200.00
TEAM FOR HOPE – TOUCH A TRUCK FOR NEUROBLASTOMA RESEARCH	600.00
TSEYCU FIRST NATION – ABORIGINAL BASEBALL	1,000.00
TSEYCU FIRST NATION – ELDERS GATHERING	1,000.00
TSEYCU FIRST NATION – SHOREKEEPERS ENVIRONMENTAL PROGRAM	2,500.00
TSEYCU FIRST NATION – WOMEN'S WAR CANOE RACING CLUB	1,000.00
UNITED WAY OF GREATER VICTORIA (Anticipated – includes Board match)	8,500.00
UNIVERSITY OF VICTORIA – AERO TEAM	1,500.00
VICTORIA OPEN GOLF IN SUPPORT OF GREATER VICTORIA HOUSING SOCIETY	5,500.00
VICTORIA RADIO CONTROL MODELERS SOCIETY – CFX SANTAS ANONYMOUS AND SAANICH PENINSULA HOSPITALS FOUNDATION	1,000.00
TOTAL:	\$54,450.00

Events at YYJ

- ♦ In January, Victoria International Airport hosted the annual Santa Shave For Hospice, raising funds and awareness for Victoria Hospice Society.
- ♦ In March, Victoria Airport Fire Services hosted a firehall training day for a young Neuroblastoma patient.
- ♦ National Volunteer Week was celebrated to recognize the invaluable service of YYJ's Red Coats Volunteers.
- ♦ WestJet's Disney Magic aircraft paid several visits to YYJ over the summer months.
- ♦ In June, a restored Second World War-era deHavilland Mosquito made its inaugural test flights at Victoria International Airport.
- ♦ In August, the Victoria Flying club welcomed the 'Maid In The Shade' B-25J bomber offering public tours of the historic aircraft.
- ♦ VAA participated in a ribbon cutting ceremony connecting 'The Flight Path' with the Town of Sidney's 'Heartsmart Walk', creating a 13 kilometre route for the public to enjoy.
- ♦ Between May and November, VAA hosted a replica Viking ship display in the rotunda to promote Royal BC Museum's exhibition 'Vikings – Lives Beyond The Legends'.
- ♦ A 9' x 100' photographic mural of Butchart Gardens' famed dahlia walk was unveiled to provide a greater sense of place on the jetways.
- ♦ Award-winning radio producer and USA Today writer Harriet Baskas visited Victoria International Airport as part of her travel blog which promotes airport services and amenities around the world.

Safety and Security

Safety and security are the highest priorities for the Victoria International Airport.

- ♦ In 2014, a project to expand CCTV camera coverage was completed which introduced state-of-the-art systems and expanded the program to 125 cameras.
- ♦ Victoria International Airport implemented Transport Canada's enhanced Non-Passenger Screening (NPS) program to comply with International Civil Aviation Organization standards.
- ♦ VAA hosted the annual Canadian Airport Operators' Security Conference in February.
- ♦ VAA participated in the Capital Regional District's Goose Management Program with the objective to reduce the threat of aviation-related bird strikes.
- ♦ A number of safety and security initiatives were implemented, including a new system for documentation checks, an enhanced Airside Vehicle Operators Program, an updated Hazard Registry for the Safety Management System and an updated Airport Incidents Reporting System.
- ♦ Human Factors Training was provided to all VAA staff.

Environment

The Victoria International Airport continued to maintain a leadership position with respect to environmental stewardship.

- ♦ In addition to receiving a number of awards in 2013 for its Reay Creek remediation project, the Peninsula Streams Society provided a Biodiversity Conservation award to the VAA in 2014 for the project.
- ♦ A detailed geotechnical review was conducted on TenTen Creek to form the basis for site remediation by Transport Canada.
- ♦ Phase 1 of BC Hydro's Continuous Optimization Program was completed, as the emphasis continued on energy conservation.

- ♦ VAA joined Airports Council International's Carbon Accreditation Program, a voluntary initiative with a focus on managing and reducing CO² emissions in aviation operations.
- ♦ VAA received a clean environmental review from Transport Canada.
- ♦ Noise contours and noise forecasts were updated and posted to the VAA's website.
- ♦ A program with a local company was initiated to test the recycling of glycol (de-icing fluids).

Airport Operations

- ♦ The Operations team is responsible for keeping the runways clear, inspecting and repairing equipment, maintaining the airport grounds and terminal buildings, maintaining VAA's fleet and ensuring compliance with Transport Canada's safety requirements.
- ♦ In 2014, a multi-phase airfield power distribution system was initiated to upgrade the entire airfield and provide an improved.
- ♦ A three-inch overlay of Victoria International Airport's main runway 09-27 was completed. The project was two years in the planning stages in order to pave an active runway over an eight week period and maintain operations.
- ♦ Glycol capacity was doubled to ensure increased operational readiness for worst case snow conditions.
- ♦ A new heavy-duty sweeper truck was acquired to help assure the safe operations of the airport.
- ♦ A mid-life retrofit of all passenger boarding bridges was completed.
- ♦ In July a new Director of Operations joined the VAA from the Charlottetown Airport Authority.

Land Development

- ♦ VAA is contemplating a development on an eight-acre parcel near Beacon Avenue and Highway 17. Public open houses were held in July to solicit feedback. A traffic study will be completed, then VAA will work with the Town of Sidney to change the Official Community Plan and zoning.
- ♦ After three years of ongoing construction, the new 443 Maritime Helicopter Squadron hangar is nearing completion. This \$155 million project includes a hangar that will accommodate up to nine Cyclone helicopters, an aircraft wash and refueling cabinet, exterior aircraft parking for large body aircraft and parking for up to 300 vehicles for military personnel.
- ♦ Once the Department of National Defence vacates their former hangar, VAA will be in a position to market the facility to prospective tenants with a strong focus on the aerospace industry.
- ♦ As part of its commitment to the community, VAA plans to preserve a large quantity of bricks from Administration Building 11 once it is demolished, to be repurposed for a commemorative monument in honour of the men and women who served as members of the Canadian military.

Financial Highlights (Projected 2014 Results)

Attached as Appendix 1 is VAA's unaudited 2014 Forecasted Statement of Operations.

Highlights

- ♦ No increase to the \$10 Airport Improvement Fee which is the lowest for NAS Airports in Canada and has remained unchanged since 2004.
- ♦ The Air Transport Research Society identified Victoria International Airport as having the lowest cost per enplaned passenger of twelve major Canadian Airports studied.
- ♦ Total revenue for 2014 is expected to be 5.6% higher than 2013.
- ♦ Excess revenue over expenses before amortization improved 6.8%.
- ♦ Year-end long-term debt was reduced by \$1.8 million to \$4.05 million.
- ♦ Non-aeronautical revenue was 66% of total operations revenue.

Rent to the Federal Government

- ♦ In 2014, VAA paid approximately \$877,000 to the Federal government.
- ♦ The rent formula is a sliding scale with rate increases similar to income tax.
- ♦ VAA is currently in the 5% marginal rent bracket which applies to annual gross revenue between \$10 million and \$25 million, and expects to be in the 8% rent bracket before year end, which applies for gross revenue over \$25 million.

Capital Program

Over \$124 million has been invested in capital improvements to the facility since the Victoria Airport Authority took over operations of the Victoria International Airport in 1997.

Attached as Appendix 2 are the Capital Program 2014 Forecast and 2015 Capital Program Plan.

Board of Directors

The Board of Directors provides oversight to the Victoria Airport Authority to ensure its purposes and objectives are realized, and that YYJ operates in a safe, efficient and reliable manner.

Attached as Appendix 3 is a summary of the VAA Board of Directors and Committee Participation for year 2014.

Appendix 1

Victoria Airport Authority 2014 Forecasted Statement of Operations

Forecast for the year ended December 31, 2014, with comparative figures for the year ended December 31, 2013 (Unaudited)

	2014 Forecast	2013 Actual	% Change
Revenue			
Landing fees	\$ 3,373	\$ 3,118	8.2%
General terminal charges	2,846	2,616	8.8%
Concessions	8,312	7,786	6.8%
Rentals	3,090	3,033	1.9%
Other	461	479	(3.8%)
	18,081	17,031	6.2%
Airport Improvement Fee	7,980	7,640	4.5%
	26,061	24,671	5.6%
Expenses			
Salaries and employee benefits	4,414	4,224	4.5%
Services, supplies and administration	3,782	3,463	9.2%
Security & terminal services	2,411	2,314	4.2%
Transport Canada rent	928	778	19.3%
Property taxes	865	893	(3.2%)
AIF handling fees	577	550	4.9%
Amortization	5,700	5,065	12.5%
Utilities	711	684	4.0%
Interest	200	276	(27.5%)
	19,587	18,247	7.3%
Excess of Revenue Over Expenses	6,474	6,424	0.8%

Appendix 2

Capital Program

2014 Forecast and 2015 Plan

	2014 FORECAST	2015 PLAN
PROJECTS FUNDED FROM NON-AIF SOURCES		
Minor capital projects (under \$75K, \$350K per annum)	\$ 350.0	\$ 350.0
Non-AIF Tenant Buildings 2015	-	250.0
Seaplane Base Improvements (Phase I)	-	150.0
Rental Car Service Centre Restoration 2014	-	200.0
HBS Recapitalization Project (flow-through funding from CATSA)	-	5,500.0
Municipal Infrastructure 2015	-	650.0
ATB administration area renovation	250.0	
De Havilland Way restoration 2014	115.0	
Beacon Avenue commercial development	108.5	
SUBTOTAL - PROJECTS FUNDED FROM NON-AIF SOURCES	\$ 823.5	\$ 7,100.0

	2014 FORECAST	2015 PLAN
PROJECTS FUNDED FROM AIF SOURCES		
Apron IV Expansion - Phase I		\$ 8,250.0
Minor AIF Capital Projects	\$ 650.0	650.0
Replace ATB Public Address System		425.0
Runway overlay - includes grooving	6,566.3	400.0
Bag Make-up Area sloped Plate Carousels		400.0
High Speed Runway Sweeper 2015		300.0
Airfield Power Distribution Modernization - Phase III		275.0
Apron Safety Doors		200.0
Refurbish ATB HVAC Chillers		160.0
Airfield Power Distribution Modernization Phase II	62.0	130.0
Electric Vehicle Charging Stations for Parking Lots		100.0
Miscellaneous Security-Related Projects		100.0
Tender Ready Design for Expansion to Daily Parking Lot		100.0
Terminal Improvement Project	2,806.3	
Rehabilitate Airside Pavements	610.0	
Airfield Power Distribution Modernization Phase I	508.4	
Replace ATB Boilers	430.0	
Rehabilitate Taxiway E 2014	366.7	
Twin ATB entry doors - bird & climate control	297.0	
Passenger Boarding Bridges Retrofit	235.0	
Willingdon Road West Restoration 2014	120.0	
CCTV Improvements	100.0	
Expand Glycol Storage Facility	97.0	
SUBTOTAL - PROJECTS FUNDED FROM AIF SOURCES	\$ 12,848.7	\$ 11,490.0

TOTAL AIF & NON-AIF PROJECTS (including flow-through funded by CATSA)	\$ 13,672.2	\$ 18,590.0
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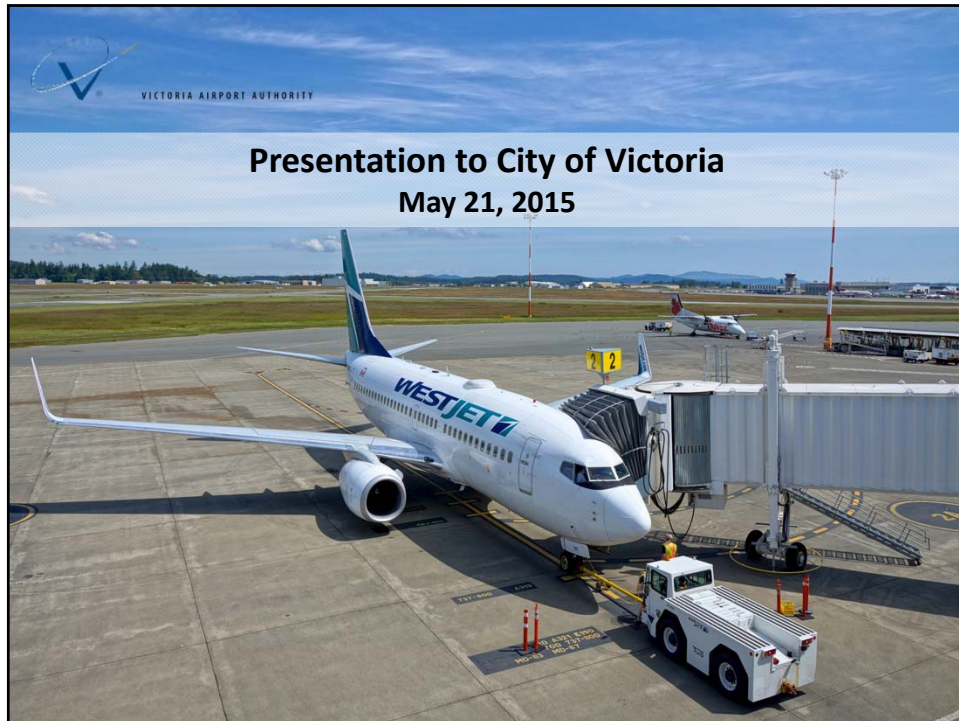
TOTAL AIF & NON-AIF PROJECTS (funded by VAA)	\$ 13,672.2	\$ 13,090.0
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Appendix 3

Victoria Airport Authority

Year 2014 Board of Director and Committee Participation

	Member	Nominating Body	Committees
1.	Lindalee Brougham Board Chair	Greater Victoria Chamber of Commerce	<ul style="list-style-type: none"> ➤ Chair, Steering Committee ➤ Ex Officio, all Committees
2.	Mel Rinald Board Vice-Chair	Town of Sidney	<ul style="list-style-type: none"> ➤ Chair, Airport Consultative Committee ➤ Steering Committee ➤ Governance Committee ➤ Planning and Development Committee
3.	James Crowley Board Secretary	District of North Saanich	<ul style="list-style-type: none"> ➤ Chair, Governance Committee ➤ Steering Committee ➤ Audit and Finance Committee
4.	Glen Crawford	District of Saanich	<ul style="list-style-type: none"> ➤ Chair, Audit and Finance Committee ➤ Steering Committee ➤ Governance Committee
5.	Lynne Henderson	Province of British Columbia	<ul style="list-style-type: none"> ➤ Chair, Planning and Development Committee ➤ Steering Committee ➤ Airport Consultative Committee
6.	Graeme Roberts	District of Central Saanich	<ul style="list-style-type: none"> ➤ Governance Committee ➤ Planning and Development Committee
7.	Colin Smith	Capital Regional District	<ul style="list-style-type: none"> ➤ Audit and Finance Committee ➤ Airport Consultative Committee
8.	Mel Satok	Town of Sidney	<ul style="list-style-type: none"> ➤ Vice-Chair, Planning and Development Committee ➤ Governance Committee
9.	Bob Coulter	Government of Canada	<ul style="list-style-type: none"> ➤ Vice-Chair, Airport Consultative Committee ➤ Planning and Development Committee
10.	Bruce Knott	Government of Canada	<ul style="list-style-type: none"> ➤ Audit and Finance Committee ➤ Airport Consultative Committee
11.	Gordon Safarik	District of North Saanich	<ul style="list-style-type: none"> ➤ Governance Committee ➤ Planning and Development Committee
12.	Suromitra Sanatani	VAA Board of Directors	<ul style="list-style-type: none"> ➤ Governance Committee ➤ Audit and Finance Committee
13.	Replacement In Progress	City of Victoria	



Eric Donald - City of Victoria Nominee

- Audit and Finance Committee
- Planning and Development Committee

Geoff Dickson - President and CEO



VICTORIA INTERNATIONAL AIRPORT

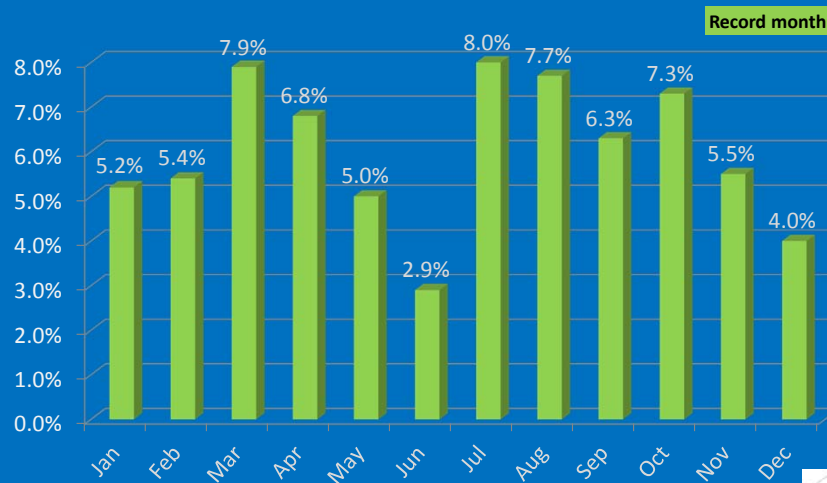
2014 Highlights

- Record passengers: **1,660,904**
- Net Income \$6.7m - \$1.0m or 19% ahead of budget
- \$1.8 million in debt retired - \$4.05m at year end
- Debt to equity ratio year end – 1 : 20
- 2014 Capital Additions - \$13.6 million
- Total Capital Investment = \$124 million since transfer



VICTORIA INTERNATIONAL AIRPORT

Passenger Growth by Month - 2014



VICTORIA INTERNATIONAL AIRPORT

2014 Capital Additions - \$14.0 Million

2014 Projects Included:	2014 (\$ thousands)
Runway Overlay	\$7,176
Circulation, Security and Concessions	\$2,806
Airfield Power	\$508
Boilers	\$430
Loading Bridges	\$223
Flight Path	\$156



VICTORIA INTERNATIONAL AIRPORT

Overlay of Runway 09-27

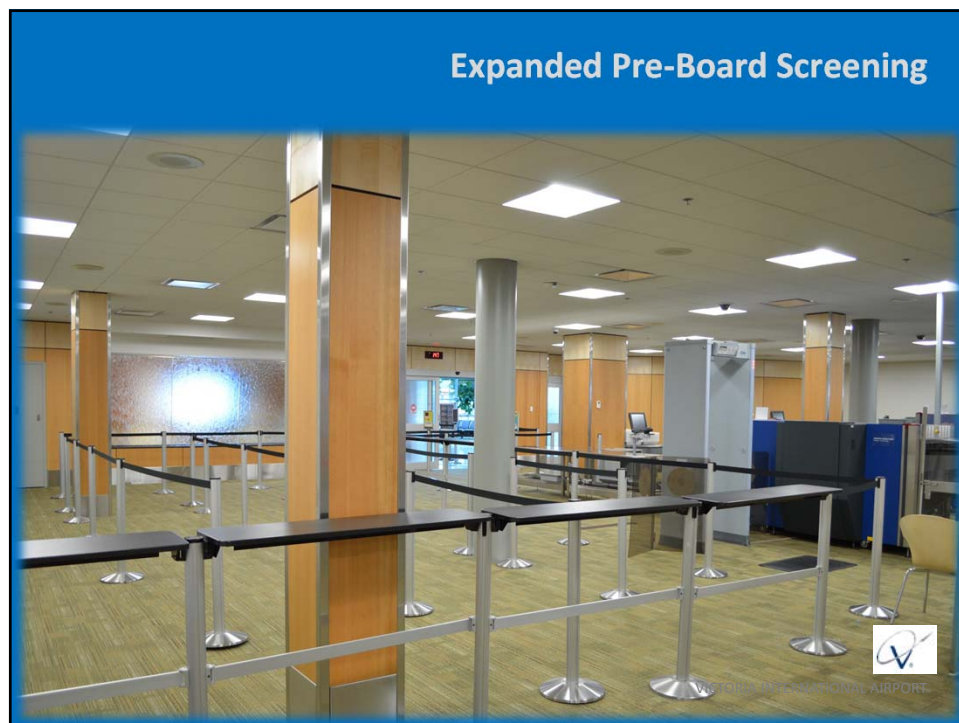
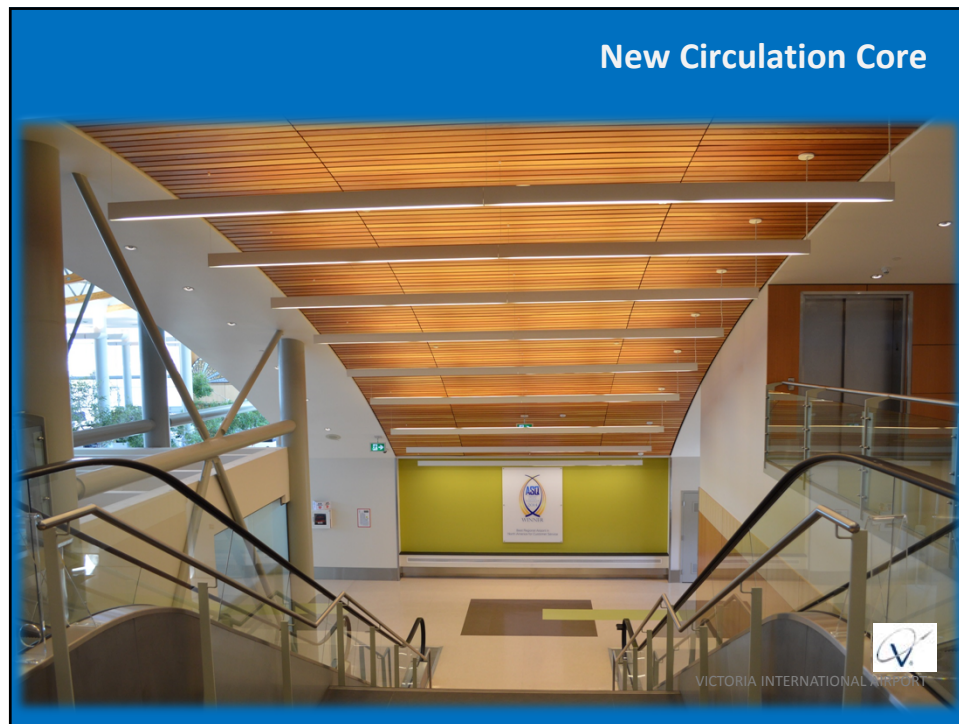


Overlay of Runway 09-27



New Circulation Core







2015 Capital Program - \$13.1 Million

2015 Projects Include:	2015 (\$ thousands)
Apron Expansion	\$8,250.0
Public Address System	\$425.0
Baggage Carousals	\$400.0
Runway Sweeper	\$300.0
Airfield Power Distribution	\$275.0
Refurbish Car Rental Building	\$200.0
Parking Lot Expansion Design	\$100.0

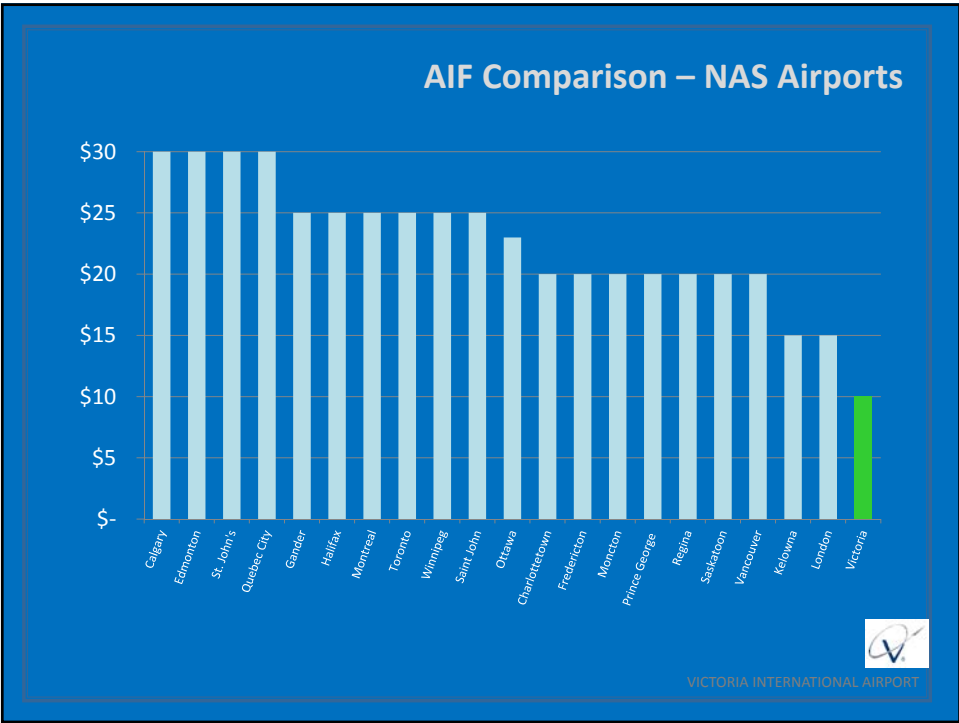
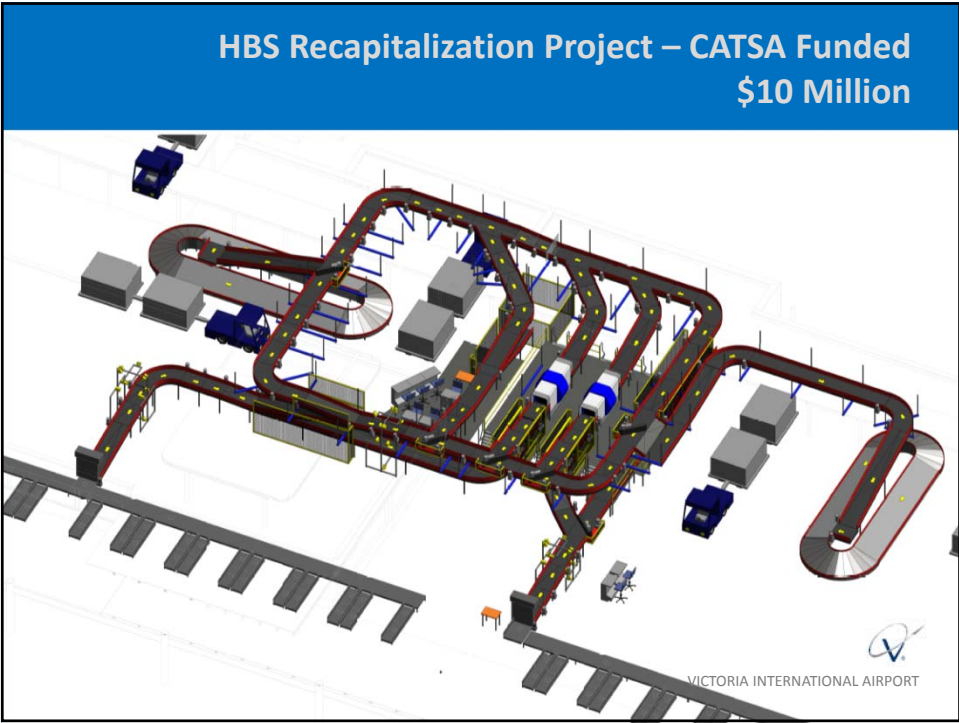


VICTORIA INTERNATIONAL AIRPORT









Moving Forward

- \$5 increase to Airport Improvement Fee effective July 1, 2015
- Airport Improvement Fee has not changed since 2004
- Victoria Airport will continue to provide exceptional airport facilities and customer service at a low cost
- Enable growth for the entire region through prudent and staged airport investments – 2 million passengers by 2020



VICTORIA INTERNATIONAL AIRPORT



THANK YOU FOR MAKING YYJ #1 IN CUSTOMER SERVICE!

Airport Service Quality (ASQ) | Best Airport in North America with <2M Passengers



VICTORIA INTERNATIONAL AIRPORT





Governance and Priorities Committee Report

For the Meeting of May 21, 2015

To: Governance and Priorities Committee
From: Susanne Thompson, Director of Finance
Subject: 2015 First Quarter Budget Status Report

Date: May 8, 2015

Executive Summary

In accordance with the Community Charter, Council approves a five-year financial plan bylaw that authorizes the expenditure of funds and collection of revenues for the City's various programs. If unanticipated events occur during the year that impact the approved five-year financial plan, staff recommend amendments to the financial plan bylaw to authorize the changes.

The financial plan is reviewed regularly during the year and the status is reported quarterly to Council. The purpose of the quarterly financial report is to provide Council, the community and staff with a continual overview of financial information and staffing levels. Each report highlights any actual to budget variances and recommends adjustments, if any, to the five-year financial plan bylaw.

This report outlines the status of the 2015 budget as of March 31, 2015. No significant variances have been identified. Therefore, no amendments to the 2015-2019 Financial Plan Bylaw are recommended.

Recommendation:

That Council receive this report for information.

Respectfully submitted

A handwritten signature in black ink, appearing to read "Jo-Ann O'Connor".

Jo-Ann O'Connor
 Manager, Financial Planning

A handwritten signature in black ink, appearing to read "Susanne Thompson".

Susanne Thompson
 Director of Finance

Report accepted and recommended by the City Manager: _____

Date: _____

 A handwritten signature in blue ink, appearing to be a stylized "M".

May 16, 2015

List of Attachments

- Appendix A – Summary of Operating Budget Revenues and Expenditures
- Appendix B – Summary of Capital Budget Projects
- Appendix C – Summary of Staffing Levels

Purpose

To provide Council with an update on the actual results compared to the budget for operating and capital budgets and staffing levels for the first quarter ending March 31, 2015.

Background

Council approves a five year financial plan bylaw annually in accordance with Section 165 of the Community Charter. The financial plan allocates the financial and human resources required to achieve the objectives of the City's Strategic Plan.

The City performs monthly variance analyses of the revenues and expenditures as they compare to the approved financial plan and reports the progress quarterly to Council. The quarterly report is a comparison of actual revenues and expenditures for city operations and capital projects as well as staffing levels at March 31, 2015 as outlined in the attached summaries.

If unanticipated events occur during the year that impact the approved five-year financial plan, staff recommend amendments to the financial plan bylaw to authorize the changes. All budgetary amendments require Council's approval.

Issues & Analysis

Operating Budget

As of March 31, 2015, the overall operating revenues and expenditures are 7% and 17% respectively, of the annual budgeted amount. This compares to 6% and 17% to the prior fiscal period. A summary of the actual operating revenues and expenditures compared to the budget is attached in Appendix A.

Revenues are expected to be within budget. The overall low percentage of actual to budgeted revenue is directly related to the property tax and payment in lieu of tax payments that are generally collected in the latter half of the year. Investments vary throughout the year with a large amount recorded in the fourth quarter.

Expenditures are expected to be within budget. The percentage spent is slightly higher than 25% in Corporate Miscellaneous and Grants due to insurance costs paid at the beginning of the year and a payment of a grant from the Victoria Housing Reserve.

Seasonal variations in municipal operations and accounting processes that occur outside the quarterly basis affect the proportion of revenues received or expenditures incurred to March 31, 2015. We continue to improve our accounting processes to better align the quarterly actual to budget reporting.

Capital Budget

As of March 31, 2015, the actual capital expenditures are at 20% spent of total budgeted expenditures for the year, compared to 11% in the prior year. This increase is due to the Land Purchase of 812 Wharf Street recognized in the first quarter. A summary of capital programs and projects are illustrated in Appendix B.

At present, the majority of projects are expected to be completed according to schedule. As part of the Financial Planning process, Council approved an additional \$1 million towards the David Foster Harbour Pathway project. A report outlining the revised scope and schedule of this project will be brought to Council in the near future, which may result in shifting of budget to 2016.

Staff are working diligently to complete the capital work plan according to schedule, however unplanned or unforeseen factors could arise and delay the completion date. Requests to move the budget forward into next year can be made as part of the regular year-end budget process.

Staff Levels

The City's full-time equivalent employees to date is 778.48 as outlined in Appendix C.

The Strategic Planning process identified the need for a temporary Interdisciplinary Team for a 3 year term, to be reviewed annually. During the Financial Planning process, Council approved the Interdisciplinary Team request and the Supplementary request for the sidewalk, concrete and brick paver intersection maintenance; increasing the full-time equivalent positions by 4.75.

Recommendations

That Council receive this report for information

Appendix A

City of Victoria - Operating Budget Revenues For the Three Months Ending March 31, 2015

	Q1 2014 Actual	Q1 2015 Actual	2015 Budget	Budget Remaining	% Spent	Comments
Engineering and Public Works						
Engineering and Public Works	154,263	84,220	340,356	256,136	25%	
Third Party Billings	221,678	74,519	528,400	453,881	14%	Offsetting Expenditure Budget
Parking Services	3,840,396	3,688,867	15,677,800	11,988,933	24%	
Solid Waste & Recycling	474,360	519,924	2,896,051	2,376,127	18%	Timing of billings
Sewer Utility	1,157,296	1,132,295	7,870,230	6,737,935	14%	Timing of billings
Water Utility	2,825,163	2,792,873	18,556,750	15,763,877	15%	Timing of billings
Human Resources						
Legal Services						
Legislative and Regulatory Services	329,152	293,227	1,506,192	1,212,965	19%	Timing of Lease Rentals
Parks, Recreation and Culture	478,475	483,621	2,636,123	2,152,502	18%	Timing of Boulevard Tax payments
Sustainable Planning and Community Development	573,136	686,776	2,853,646	2,166,870	24%	
Victoria Conference Centre (VCC)	272,760	330,018	4,339,529	4,009,511	8%	Timing of Internal Transfers
VCC Event Costs Paid by Clients	293,682	649,234	4,100,000	3,450,766	16%	Full recovery & timing of billings
Victoria Fire Department	7,382	13,459	56,000	42,541	24%	
Corporate						
Payment in Lieu of Taxes/Special Assessments	12,814	11,739	7,076,685	7,064,946	0%	Payments received later in the year
Fees and Interest	55,195	70,217	3,090,000	3,019,783	2%	Timing of investments
Business and Other Licences	1,345,083	1,355,644	1,387,500	31,856	98%	Timing of payments - Business License
Overhead Recoveries	497,397	510,815	3,158,259	2,647,444	16%	Timing of 2015 allocation
Miscellaneous	46,757	1,678,007	7,288,710	5,610,703	23%	Gas Tax, Traffic Fine Revenue
Hotel Tax	60,502	85,082	1,800,000	1,714,918	5%	Offsetting Expenditure Budget
Prior Year's Surplus	-	-	2,898,482	2,898,482	0%	Timing of 2015 allocation
Strategic Objectives Fund	-	-	143,532	143,532	0%	Timing of 2015 allocation
Victoria Esquimalt Police Department	1,681,003	1,750,657	7,693,627	5,942,970	23%	
Property Taxes	-	-	121,635,023	121,635,023	0%	Payments received later in the year
Total	14,326,495	16,211,195	217,532,895	201,321,700	7%	

Appendix A

City of Victoria - Operating Budget Expenditures For the Three Months Ending March 31, 2015

	Q1 2014 Actual	Q1 2015 Actual	2015 Budget	Budget Remaining	% Spent	Comments
Council	154,547	143,396	610,372	466,976	23%	
City Manager's Office	135,362	69,233	284,709	215,476	24%	
Citizen Engagement and Strategic Planning	220,766	361,931	1,464,974	1,103,043	25%	
Engineering and Public Works						
Engineering and Public Works	4,486,920	4,729,553	21,827,382	17,097,829	22%	
Third Party Billings	230,059	227,833	428,400	200,567	53%	Offsetting Expenditure Budget
Parking Services	1,480,056	1,190,331	7,497,800	6,307,469	16%	Timing of debt payment & transfer to reserve
Solid Waste & Recycling	604,979	599,511	2,896,051	2,296,540	21%	
Sewer Utility	823,194	803,511	7,870,230	7,066,719	10%	Transfers to capital & reserves
Water Utility	2,269,424	2,072,712	18,556,750	16,484,038	11%	Transfers to capital & reserves
Finance	1,629,968	1,553,684	6,384,700	4,831,016	24%	
Human Resources	384,796	479,500	1,609,246	1,129,746	30%	Recruitment expenses
Legal Services	162,224	138,512	703,241	564,729	20%	
Legislative and Regulatory Services	762,396	807,624	3,981,662	3,174,039	20%	
Parks, Recreation and Culture	2,979,559	3,124,075	14,897,072	11,772,997	21%	
Sustainable Planning and Community Development	953,438	1,008,508	5,004,218	3,995,710	20%	
Victoria Conference Centre (VCC)	822,519	904,866	4,339,529	3,434,663	21%	
VCC Event Costs Paid by Clients	53,424	164,500	4,100,000	3,935,500	4%	Full recovery & timing of billings
Victoria Fire Department	3,047,225	3,771,921	15,078,352	11,306,431	25%	
Victoria Emergency Management Agency	88,763	76,401	445,071	368,670	17%	
Corporate						
Contingencies	-	-	1,200,971	1,200,971	0%	
Strategic Objectives Fund	-	-	1,661,914	1,661,914	0%	
Hotel Tax	60,502	85,082	1,800,000	1,714,918	5%	Offsetting Expenditure Budget
Transfer to VCC	-	-	642,708	642,708	0%	Timing of 2015 allocation
Transfers to Reserve	-	113,078	15,277,891	15,164,813	1%	Timing of 2015 allocation
Vehicle Depreciation Recovery	(250,000)	(250,000)	(1,000,000)	(750,000)	25%	
Miscellaneous	1,068,199	782,511	2,524,350	1,741,839	31%	Insurance paid in Q1
Grants	225,698	783,424	2,775,771	1,992,347	28%	Payment of Housing Reserve Grant
Debt Principal, Interest and Reserve Transfer	1,239,935	1,239,935	7,827,583	6,587,648	16%	
Transfer to Capital Budget:	-	-	13,034,242	13,034,242	0%	Year end transfer
Greater Victoria Public Library	1,034,986	1,070,572	4,562,523	3,491,951	23%	
Victoria Esquimalt Police Department	10,183,157	10,851,167	49,245,183	38,394,016	22%	
Total	34,852,095	36,903,369	217,532,895	180,629,526	17%	

Appendix B

City of Victoria Capital Budget Expenditures For the Three Months Ending March 31, 2015

	Q1 Actual	2015 Budget	Budget Remaining	% Spent
Capital Equipment	426,652	6,525,320	6,098,668	7%
Capital Programs and Projects				
Active Transportation	203,769	5,086,500	4,882,731	4%
Complete Streets	909,586	4,481,200	3,571,614	20%
Downtown Beautification	14,573	303,000	288,427	5%
Parks	22,165	2,720,920	2,698,755	1%
Street Infrastructure	7,889	122,000	114,111	6%
Retaining Walls and Railings	110,993	2,305,555	2,194,562	5%
Bridges	5,117,404	32,059,381	26,941,977	16%
Facilities	238,924	6,135,500	5,896,576	4%
Land Purchase	7,965,997	8,000,000	34,003	100%
Environmental Remediation	215,008	1,942,000	1,726,992	11%
Sanitary Sewers	397,310	3,067,852	2,670,542	13%
Stormwater	373,849	4,183,436	3,809,587	9%
Waterworks	737,456	3,831,218	3,093,762	19%
Police	79,013	1,566,000	1,486,987	5%
Total Capital Expenditures	16,820,587	82,329,882	65,509,295	20%

Appendix C

City of Victoria Budgeted Full-time Equivalent Employees by Department

	FTE Draft Financial Plan 2015	Changes	FTE Adopted Financial Plan 2015	Comments
City Manager's Office	1.00		1.00	
Human Resources	10.00		10.00	
Victoria Conference Centre	15.62		15.62	
Legislative and Regulatory Services	23.28		23.28	
Legal Services	4.00		4.00	
Citizen Engagement and Strategic Planning	15.60		15.60	
Finance	63.21		63.21	
Parks, Recreation and Culture	144.00		144.00	
Victoria Fire Department	120.09		120.09	
Victoria Emergency Management Agency	3.00		3.00	
Engineering & Public Works	331.50	1.75	333.25	Approved supplementary - Sidewalk, concrete and brick paver intersection maintenance
Sustainable Planning and Community Development	42.43		42.43	
Interdisciplinary Team	0.00	3.00	3.00	Identified in the Strategic Plan and approved through the Financial Plan
Total	773.73	4.75	778.48	



Governance and Priorities Committee Report

For the meeting of May 21, 2015

To: Governance and Priorities Committee **Date:** May 14, 2015
From: Robert Woodland, Director of Legislative & Regulatory Services
Subject: Action Plan for Housing, Supports and City Services
 for Homeless People Sheltering in City Parks

Executive Summary

The purpose of this report is to advise the Governance & Priorities Committee of a two-week delay in the presentation of a report on the *Action Plan* noted above.

The lack of adequate housing opportunities for homeless people in Victoria has resulted in many taking shelter in City parks. These sheltering activities are having a number of impacts on City parks and resources, and the community. Council directed staff to develop strategies that would address the housing needs of homeless people as the primary means to reduce the need for and impacts from sheltering activities in City parks. The Council resolution from April 16, 2015 is attached for reference.

A City staff team that includes Victoria Police are drafting a report for Council's consideration recommending a number of initiatives in an *Action Plan*. The report was expected to be completed for the Governance & Priorities Committee meeting on May 21, 2015.

New information about cooperative, low-barrier alternative housing was presented to the City by two groups from Oregon at workshops held May 11th and 12th. These alternative housing models may provide a viable option for a segment of Victoria's homeless population. Staff understand that Council may wish to have a more detailed understanding of how the City might approach this model, including the City's role, the role of partner organizations and potential sites. To enable this more detailed review of this option for the *Action Plan* additional time is needed. Staff will review and report on options in the context of the overall *Action Plan* to the Governance & Priorities Committee meeting on June 4, 2015.

Recommendation

That Council receives this report for information.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'RW', followed by a large, stylized flourish.

Robert Woodland
 Director of Legislative & Regulatory Services

Report accepted and recommended by the City Manager:

Date:

 A handwritten signature in blue ink, appearing to read 'M', followed by a flourish.

May 14, 2015

REPORTS OF THE COMMITTEES

2. Governance and Priorities Committee – April 2, 2015

1. Use of Parks & Green Spaces for Overnight Shelter

It was moved by Councillor Isitt, seconded by Councillor Alto,

1. That Council:

- a. Re-affirm the City's commitment to a Housing First strategy, partnering with the federal and provincial governments and housing providers to increase the supply of new housing with supports to reduce and eliminate homelessness, and;
- b. That the City continues to take on an active advocacy role in pushing the provincial and federal governments to fulfil their duty to adequately fund housing, mental health and addiction services, in the region;

2. Direct staff to report on a priority basis on options for increasing the supply of temporary shelter and housing in the city, including micro-housing options, based on best practices in other communities, to provide alternatives in the near-term to unregulated, overnight shelter, including working with the province to increase the number of shelters beds to 260 year round.

Carried Unanimously



Governance and Priorities Committee Report

For the Meeting of May 21, 2015

To: Governance and Priorities Committee **Date:** May 1, 2015
From: Julie MacDougall, Acting Director, Parks and Recreation
Subject: "Growing in the City" – Urban Food Production and Boulevard Gardening in the City of Victoria

Executive Summary

The purpose of this report is to seek Council approval of the proposed project charter to finalize the Boulevard Gardening Guidelines and to review, update, and expand City of Victoria policies and guidelines for urban food production.

The City of Victoria recognizes urban gardening and food production as a valuable community activity that contributes to placemaking, community wellness, positive social interaction, neighbourhood building, food security, and the creation of healthy and diverse ecosystems.

This project will further advance several key directives in the City's Official Community Plan and Strategic Plan towards the City's goals for a more sustainable local food system. Under the umbrella of "Growing in the City", this project will produce: (1) an inventory of City-owned lands for food production; (2) a review and update of the Community Gardens Policy; (3) voluntary guidelines for food production in multi-unit, mixed-use developments and other types of housing; (4) guidelines for food-bearing trees on City-held lands; and, (5) a review of City regulations and policies to explore the opportunity for, and implications of, supporting expanded small-scale commercial urban agriculture.

This project will also finalize the Boulevard Gardening Guidelines. While not directly related to food systems, the review process for the Boulevard Gardening Guidelines is anticipated to engage similar stakeholders.

The proposed engagement strategy will include targeted stakeholder focus groups, community engagement, targeted meetings with community experts and partners and an education program.

An engagement summary and draft documents will be brought to Council in fall 2015 for review. Final Boulevard Gardening Guidelines will be brought forward early in 2016, such that they are in place for the 2016 growing season. An updated Community Gardens Policy, updated policies and regulations for small-scale commercial urban agriculture, guidelines for food-bearing trees on City-held lands, and voluntary guidelines for food production in new developments will be brought forward in spring 2016.

Recommendation:

That Council approve the 'Growing in the City': Urban Food Production and Boulevard Gardening project charter.

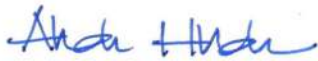
Respectfully submitted



Leigh Sifton
Manager, Parks Planning & Design



Julie MacDougall
Acting Director, Parks & Recreation



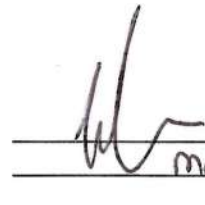
Andrea Hudson
Acting Director, Sustainable Planning &
Community Development



Katie Hamilton
Director, Citizen Engagement & Strategic
Planning

Report accepted and recommended by the City Manager:

Date:


May 13, 2015

Purpose

The purpose of this report is to seek Council endorsement of the proposed project charter to finalize the Boulevard Gardening Guidelines and to review, update, and expand City of Victoria policies and guidelines for urban food production.

Background

The City of Victoria recognizes urban gardening and food production as a valuable community activity that contributes to health and well-being, positive social interaction, connection to nature, environmental education, creating healthy and diverse ecosystems, neighbourhood building, and food security.

The 2015-2018 Strategic Plan seeks to “Enhance and Steward Public Spaces, Green Spaces and Food Systems”. The actions related to food production are:

2015 Actions

- Create a micro-grant for volunteer coordination of commons and community gardens.
- Develop long-term policies for food security and boulevard gardening including an inventory of City-owned land for food production and improved coordination of food systems resources and initiatives in the City.
- Learn from Vancouver’s success in creating a community garden on Davie Street private property and replicate the model on available private properties in Victoria, including downtown.
- Allocate one existing parks employee as the Food Security Coordinator.

2016 Actions

- Introduce new partnerships with citizens and groups to increase food cultivation on public and private land.

The City’s Official Community Plan (OCP) sets out a mandate including two broad goals for food systems in the City:

- A healthy share of food that supplies Victoria’s daily needs is sustainably grown, processed and packaged in the city, in surrounding agricultural areas, and on Vancouver Island.
- Victorians have access to skills, knowledge and resources to produce and process their own food in urban areas.

The OCP directs the City to review and develop policy to increase the number of allotment gardens, commons gardens, edible landscapes, food-bearing trees and other types of food production activities, including the following:

- Identify the land types and potential City-held sites where different food production activities might be supported (17.4.1);
- Identify the roles and responsibilities of participants (17.4.2);
- Identify mechanisms to encourage and support food production sites on City-held lands, other publicly-held lands, and on private lands (17.4.3);
- Identify mechanisms to acquire land for food production purposes, where appropriate (17.4.4); and,
- Work with community groups to develop pilot projects for the planting, maintenance and harvesting of food-bearing trees on suitable City-held lands (17.8).

The OCP also directs the City to support food production on private lands, including:

- Developing voluntary guidelines for food production in multi-unit, mixed-use developments and other types of housing, to support a range of on-site food production activities such as edible landscaping, rooftop gardens and food-bearing trees (17.12); and,
- Exploring expanded small-scale commercial urban agriculture through a review of policy and regulations (17.14).

Two documents currently guide urban gardening and food production by City of Victoria residents:

1. Community Gardens Policy: outlines the process for the creation and retention of community garden sites on City-owned lands. This includes guidelines for site selection, conditions of use, City resources, and use agreements. The guidelines focus primarily on public lands. A small section discusses considerations when developing community gardens on private lands.
2. Interim Boulevard Gardening Guidelines: outlines considerations for gardening on city-owned boulevard lands fronting residential lots, including site selection, plant selection, garden bed design for setbacks, utility and tree access.

The City of Victoria Urban Forest Master Plan supports the planting of fruit and nut trees on appropriate City-owned lands. The Plan directs the City to explore options for supporting and growing fruit and nut trees on City-owned lands, including site selection and structured use agreements.

In 2014 Council passed two motions regarding urban gardening and food production:

1. Community Gardens Policy (August 28, 2014): "That Council direct staff to continue with the expedited review of the Community Gardens Policy including the development of an inventory of lands and incorporating the policy outlined in the Official Community Plan, Section 17.4, specifically the temporary use of vacant private land"; and,
2. Interim Boulevard Gardening Guidelines (July 24, 2014): "That Council adopt the Interim Guidelines with the amendments as described in Attachment 1 of the report dated July 24th, 2014, and direct staff to proceed with the development of a project charter and engagement strategy for final boulevard guidelines, to be in place for the 2016 growing season".

This project will respond to these two directives, as well as further advance several key directives in the City's Official Community Plan (OCP) and Strategic Plan towards the City's goals for a stronger local food system. This includes: an inventory of City-owned land for food production; a review and update of the Community Gardens Policy; developing voluntary guidelines for food production in multi-unit, mixed-use developments and other types of housing; developing guidelines for food-bearing trees on City-held lands; exploring expanded small-scale commercial urban agriculture through a review of existing City policies and regulations; and, a final set of Boulevard Gardening Guidelines.

Issues & Analysis

As described in the attached Project Charter (Appendix A), this project will include a review of application processes, existing City bylaws, and other outstanding issues to simplify and

streamline the process of approving and supporting urban gardening and food production projects. A complete list of issues to be reviewed are described in the project charter. Several key issues that are anticipated to be addressed in the review process include:

- Land availability for urban gardening and food production;
- Mechanisms to encourage food production on vacant private lands;
- Relationship with existing City programs, regulations and bylaws;
- Liability and risk management; and,
- Maintenance, ownership, and turnover.

The proposed engagement strategy, described in detail in the charter, involves public consultation from June 2015 to October 2015 through:

1. Targeted Stakeholder Engagement (June/September 2015): Stakeholder focus groups will be hosted by the City to provide stakeholders who are actively involved in urban gardening and food production the opportunity to share knowledge, discuss changes and improvements, and provide in-depth feedback;
2. Community Engagement (June/September 2015): The community will be invited to share their thoughts and comments on urban food production through in person events and an online survey.
3. Targeted Meetings with Community Experts and Partners (Summer 2015): The City will host meetings with community experts and community partners to discuss potential partnership opportunities, identify existing barriers, and develop mechanisms to support increased food production in the City, including on private lands.
4. Education Program (February 2016 – Spring 2016): Educate and generate awareness on the new policy and guidelines.

Options & Impacts

This project will be completed using staff time. Costs for public engagement including venue rentals, printing, and information distribution is included in the 2015 Parks Design Admin operating budget.

Any long-term budget impacts and options will be identified through the project and brought forward to Council for consideration.

Recommendations

That Council approve the 'Growing in the City': Urban Food Production and Boulevard Gardening project charter.



PROJECT CHARTER

'Growing in the City'

Urban Food Production and Boulevard Gardening in the City of Victoria

May 1, 2015

Prepared by:

Alia Johnson, Senior Parks Planner
Parks and Recreation

Kristina Bouris, Senior Planner
Sustainable Planning and Community Development

Melinda Jolley
Citizen Engagement Coordinator
Citizen Engagement and Strategic Planning

Project Sponsor:

Leigh Sifton, Manager, Parks Planning and Design
Julie MacDougall, Acting Director
Parks and Recreation

1.0 Project Objective

The purpose of this project is to further advance several key directives in the City's Official Community Plan (OCP) and Strategic Plan towards the City's goals for a more sustainable local food system. Under the banner of 'Growing in the City', the project will deliver six related initiatives:

1. An inventory of City-owned land for food production;
2. A review and update of the Community Gardens Policy;
3. Developing voluntary guidelines for food production in multi-unit, mixed use developments and other types of housing;
4. Developing guidelines for food-bearing trees on City-held lands;
5. A review of City regulations and policies to explore the opportunity for, and implications of, supporting expanded small-scale commercial urban agriculture; and,
6. Finalizing the Boulevard Gardening Guidelines. While not exclusively related to food production, the review process for the Boulevard Gardening Guidelines is anticipated to involve similar stakeholders, and therefore has been included in this project.

2.0 Project Rationale

In 2014, Council directed the City to review and update the documents that guide urban gardening and food production, with specific focus to:

- Finalize the Boulevard Gardening Guidelines;
- Complete a land inventory of suitable public lands for community gardening;
- Align the Community Gardens Policy with the policy goals of the OCP, specifically an exploration of the use of vacant, private land for urban gardening and food production.

One of the strategies in the 2015-2018 Strategic Plan is to 'develop long-term policies for food security and boulevard gardening including an inventory of City-owned land for food production'.

Extensive public consultation for the 2012 Official Community Plan confirmed a strong interest in supporting urban food production in Victoria. While many residents with access to yard space grow a portion of their own food, Victoria has many residents who live in rental housing or multi-unit housing where access to land for food production is limited.

Other current challenges related to urban food production include limited land availability, a shortage of community garden plots, lack of resources for garden start-up and on-going maintenance, existing City regulations that limit commercial urban agriculture, and various liability issues. There are also differing public perspectives on whether food production is a suitable activity in parks and other public spaces.

Locally, a growing number of residents and families are food insecure and rely on local charitable food services such as food banks for regular access to food. There is an opportunity to link urban food production with programs that increase access to healthy, affordable food for everyone.

The OCP suggests that a coordinated approach to food issues can help address these challenges. The City must work in partnership across departments and with senior levels of government, the health authority, other agencies, organizations and individuals to develop solutions. This project will engage multiple stakeholders to ensure the City and the public have the correct resources to successfully grow and manage urban food production opportunities.

The review process also presents the opportunity to involve and engage the public in an on-going conversation about food security, food production, and urban gardening.

2.0 Background

The City of Victoria recognizes urban gardening and food production as a valuable community activity that contributes to health and well-being, positive social interaction, connection to nature, environmental education, neighbourhood building, food security, and the creation of healthy and diverse ecosystems.

The City has already undertaken a number of initiatives aimed at strengthening the local food system. These include:

- Providing an annual operating grant to the Compost Education Center to provide workshops, events and information on composting, organic gardening, and urban agriculture;
- Provision of a Special Project Grant to Lifecycles in 2009 to develop an Urban Agriculture Hotline and Workshop Series, aimed at increasing gardening skills and the number of gardens in the City;
- Partnering with the Fernwood Community Center to transform 1,800 square feet of decorative garden beds into edible food gardens;
- Partnering with the Victoria West Community Association and the Fernwood Neighbourhood Resource Group to establish two pilot Community Orchard projects in parks;
- Partnering with the local residents to pilot a boulevard nut tree project on Haultain Street;
- An Animal Control Bylaw that permits an unspecified number of chickens, with few restrictions, making it one of the most permissive in North America;
- Revising the Home Occupation Bylaw to permit urban agriculture as a home occupation for up to two occupants; and,
- Approving Interim Boulevard Gardening Guidelines
- Approving a \$36,000 micro-grant program as part of the 2015-2018 operating budget to support the ongoing maintenance and management of community garden projects.

The City of Victoria partners with local non-profit groups and neighbourhood associations to develop community garden projects. Support offered by the City for community gardens includes the use of public lands where appropriate, a Phase 1 Environmental Analysis as required, community garden contact information provided on the City website, and in-kind support (hookup to municipal water supply and delivery of mulch and compost, when available).

There are currently 11 community garden projects (and one garden under relocation) that fall into three categories:

1. Commons Gardens: This is a garden area, on public or private land, that is maintained by community volunteers and can be harvested by all residents. There are currently four commons gardens operating within City limits:
 - a. Banfield Commons (Banfield Park, Victoria West)
 - b. Fairfield Community Garden (Robert Porter Park, Fairfield)
 - c. Spring Ridge Commons (located on SD 61 lands, Fernwood)
 - d. Wark Street Garden (Wark Street Park, Hillside-Quadra)
2. Allotment Gardens: These consist of individual garden plots, on public or private land, that are maintained and harvested by member gardeners. All allotment gardens currently have a wait list for garden spaces. There are currently five active allotment gardens operating within City limits, and one allotment garden under relocation:
 - a. Burnside Allotment Garden (Cecelia Ravine Park, Burnside-Gorge)
 - b. Earthbound Community Garden (City-owned land, Fernwood)
 - c. Fernwood Allotment Garden (SD 61 lands, Fernwood)
 - d. James Bay Allotment Garden (City-owned land, James Bay)
 - e. Michigan Street Community Garden (*Under relocation*) (James Bay)
 - f. Rayn or Shine Community Garden (Private lands, Victoria West)
3. Community Orchards: This is a grove of fruit or nut trees in a public park where a community group participates in the care, maintenance and harvesting of trees. The food that is produced is then shared with the community. Two community orchard pilot projects were initiated in 2013:
 - a. Banfield Park Orchard (Banfield Park, Victoria West)
 - b. Fernwood Community Orchard (William Stevenson Memorial Park, Fernwood)

2.1 Policy Framework

This project is guided by the following documents and policies:

2015-2018 Strategic Plan

The 2015-2018 Strategic Plan outlines an objective to "Enhance and Steward Public Spaces, Green Spaces and Food Systems". The actions identified related to food production are:

2015 Actions

- Create a micro-grant for volunteer coordination of commons and community gardens.
- Develop long-term policies for food security and boulevard gardening including an inventory of City-owned land for food production and improved coordination of food systems resources and initiatives in the City.
- Learn from Vancouver's success in creating a community garden on Davie Street (interim allotment garden on private vacant land) and replicate the model on available private properties in Victoria, including downtown.

- Allocate existing resources in Parks and other departments to implement food security initiatives.
- Strengthen the relationship between the City of Victoria and School District 61 in order to maximize the benefit of School land and facilities.

2016 Actions

- Introduce new partnerships with citizens and groups to increase food cultivation on public and private land.

Strategic Plan outcomes related to food production are:

- Boulevard gardens exist in all neighbourhoods.
- School lands and facilities are enhanced for benefits such as community wellness and recreation, greenspace, and food systems etc.
- Greenspace, parks and food systems that are enhanced, well-maintained and fully utilized.

Official Community Plan

The City's Official Community Plan (OCP) sets out two broad goals for Victoria's food systems:

- A healthy share of the food that supplies Victoria's daily needs is sustainably grown, processed and packaged in the city, in surrounding agricultural areas, and on Vancouver Island.
- Victorians have access to skills, knowledge and resources to produce and process their own food in urban areas.

The OCP supports food production activities on public and private lands, with the goal of increasing food production opportunities in the City, including community gardens, edible landscapes, and food-bearing trees.

A background discussion paper was prepared in 2009 to inform the creation of the Food Systems chapter in the OCP. This background paper included a review of existing food related initiatives in Victoria, an inventory of food related regulations, policies, programs, services and projects supported by the City and a synthesis of issues related to the local food system, including consultation with City of Victoria staff and community food system practitioners. It also included in depth case studies of food system policies from Seattle, Portland, San Francisco and Vancouver, including consultation with these case study municipalities.

Urban Forest Master Plan

The City of Victoria Urban Forest Master Plan supports the planting of fruit and nut trees on appropriate City-owned lands. The Plan also notes challenges to be overcome, including hazards from fruit drop and harvesting, maintenance resources, and ownership of product. The Plan directs the City to explore options for supporting and growing fruit and nut trees on City-owned lands, including site selection and structured use agreements.

Community Garden Policy

The 'Community Gardens Policy' (September 2005, Revised 2009) guides the development of community gardens in the City of Victoria. The policy defines a "community garden" as: "a plot of land where community volunteers from a non-profit society produce food, flowers, native and ornamental plants, edible berries and food perennials on public or private lands."

The Community Gardens Policy outlines the process for the creation and retention of community garden sites on City-owned lands. This includes guidelines for site selection, conditions of use, City resources, and user agreements. The guidelines focus primarily on public lands. A small section discusses considerations when development community gardens on private lands.

Interim Boulevard Gardening Guidelines

Boulevard gardens have been appearing informally on City boulevards for a number of years. In 2014 a set of Interim Boulevard Gardening Guidelines was prepared to support and guide the creation of garden beds on City-owned boulevard lands fronting residential lots. The Interim Guidelines were a citizen-led initiative and were submitted to Council for consideration. The guidelines were largely adapted from the City of Vancouver Boulevard Gardening Guidelines in consultation with local food-security organizations and other stakeholders.

The creation of Boulevard Gardening Guidelines is not stipulated in the OCP; however the City of Victoria recognizes the benefits of boulevard gardens in community building, traffic calming, and the creation of ecological diversity.

3.0 Project Deliverables

This project will include six deliverables:

1. An inventory of City-owned land for food production;
2. An updated Community Gardens Policy;
3. Guidelines for food-bearing trees on City-owned lands;
4. Voluntary guidelines for food production in multi-unit, mixed use developments and other types of housing;
5. A review of City regulations and policies to explore the opportunity for, and implications of, supporting expanded small-scale commercial urban agriculture; and;
6. A final set of Boulevard Gardening Guidelines.

3.1 Inventory of City-owned land for food production

A land inventory of City-owned land will be completed to determine potential for new community gardens sites and food-bearing trees. The land inventory will assess size of available sites, sun exposure and growing conditions, availability of municipal water hookup, site accessibility, proximity to neighbourhood resource centers (neighbourhood associations or community centers), and proximity to existing community gardens.

3.2 Updated Community Gardens Policy

This project will deliver an updated Policy for Community Gardening. Section 17.4 of the Official Community Plan includes policy goals for Community Gardens, which will guide the review and update of this policy document:

17.4 Review and develop City policy to increase the number of allotment gardens, commons gardens, edible landscapes, food-bearing trees and other types of food production activities that considers other uses and identifies:

17.4.1 The land types and potential City-held sites where different food production activities might be supported;

17.4.2 The roles and responsibilities of participants;

17.4.3 Mechanisms to encourage and support food production sites on City-held land, other publicly held lands, and on private lands; and,

17.4.4 Mechanisms to acquire land for food production purposes, where appropriate

The following issues will be addressed through this policy update:

- Mechanisms to encourage food production on vacant private lands: The role of the City in supporting and encouraging community allotment gardens on vacant private lands will be explored, including the successful model on Davie Street in Vancouver. This will also include a precedent review for tools available to encourage and support gardens on private lands.
- Application process: The application process for new community garden projects will be streamlined and improved.
- Roles and responsibilities of participants: Shared neighbourhood projects require a team of dedicated volunteers, which is often difficult to maintain over long-term land tenures. Length of land tenure agreements, maintenance responsibilities, and volunteer agreements will be reviewed.
- Resourcing: The role of the City in the development of new community garden projects and the proposal process for new projects will be assessed.

3.3 Guidelines for food-bearing trees on City-held lands

New guidelines for food-bearing trees on City-held lands will be developed, to support the objectives of the City of Victoria Urban Forest Management Plan and policy objective 17.8 of the Official Community Plan:

17.8 Work with community groups to develop pilot projects for the planting, maintenance and harvesting of food-bearing trees on suitable City-held lands.

These guidelines will address the following issues:

- **Assessment of pilot projects:** An assessment of the two community orchard pilot projects will be completed to determine the success of the projects to date and identify any recurring issues.
- **Species selection:** A list of appropriate species of food-bearing trees and siting considerations will be developed.
- **Maintenance and harvesting agreements:** Agreements for ongoing pruning, maintenance, harvesting and ownership of product will be developed, as required.
- **Liability:** The Urban Forest Master Plan determines a number of liability issues for food-bearing trees on public lands, especially when located on boulevards. These include slip hazards from falling fruit on sidewalks, private property damage to vehicles from falling fruit or nuts, and safety issues for harvesting on the right-of-way.

3.4 Voluntary guidelines for food production in multi-unit developments

New voluntary guidelines for food production in private development will be created, as outlined in policy objective 17.12 of the Official Community Plan:

17.12 Develop voluntary guidelines for food production in multi-unit, mixed-use developments and other types of housing, to support a range of on-site food production activities such as edible landscaping, rooftop gardens and food-bearing trees

The Voluntary Design Guidelines will provide guidance for the design of food production installations in private multi-family residential development, including considerations for location, access, size, design, support and stewardship.

3.5 Exploring expanded small-scale commercial urban agriculture through a review of City policy and regulations

Some City regulations and policies may present barriers to expanded small-scale commercial urban agriculture. Staff will review these to consider the opportunities for, and implications of, amendments to support small-scale commercial urban agriculture, as directed by Policy 17.14 of the Official Community Plan.

The following areas will be reviewed:

- Enabling infrastructure and human resources needed to support urban agriculture as a home occupation;
- Using accessory buildings for commercial agricultural purposes;
- Suitability of commercial urban agriculture, including greenhouses, in different land use zones;
- Other emerging and innovative forms of commercial urban agriculture and how these might be impacted by City regulations or policies.

3.6 Boulevard Gardening Guidelines

In 2014 Council directed the City to prepare finalized Boulevard Gardening Guidelines, to be in place for the 2016 growing season.

Issues that will be addressed through finalizing the Boulevard Gardening Guidelines include:

- **Bylaw Consistency:** The present interim guidelines are not fully consistent with the Street and Traffic bylaw. Approving an activity that is contrary to existing bylaws can be used to support a claim in negligence against both the City and the person engaged in the activity. The implementation of a permit system or an amendment to the existing bylaw will be required to resolve this inconsistency.
- **Maintenance and ownership:** Concerns regarding ongoing maintenance issues, especially in high-turnover situations (eg. rental apartment buildings) should be addressed in the final guidelines. This should include a process and responsibility for ongoing maintenance and/or replacement of neglected boulevard gardens.
- **Existing Boulevard Gardens:** Many residents have been gardening on the boulevards fronting their property for a number of years. A way of including these existing boulevard gardens under the liability and maintenance directives of the final guidelines should be explored.
- **City Resources:** The implementation of the Boulevard Gardening Guidelines may need additional City resources and staff time. The City of Vancouver has a paid staff position to coordinate the Boulevard Gardening program. This position does not currently exist at the City of Victoria. Permitting, bylaw enforcement and monitoring, responding to complaints, and any required upfront review of resident gardening applications may require additional City resources. The 2015-2018 Strategic Plan sets and objective of allocating resources in Parks and other Departments to implement food security initiatives.
- **Liability:** As the owner of the road right-of-way the City of Victoria would continue to be potentially liable for any unsafe conditions created as a result of boulevard gardening.

4.0 Engagement Strategy

The creation of the Food Systems chapter of the Official Community Plan included extensive engagement with community experts, stakeholders, and residents. Engagement strategies included community forums and surveys, 'Community Circles' on food issues, meetings with food system organizations and other stakeholders, school walking tours, and presentations.

The Engagement Strategy for the 'Growing in the City' project will build on previous engagement efforts, to involve stakeholders, experts and the broader community in the development of revised and expanded policies, guidelines, and regulations for food production in the City.

Engagement Approach

The proposed engagement strategy involves a two phased approach, beginning with targeted stakeholder engagement and moving towards broader consultation.

Engagement Objectives

- Engage the community in a conversation around urban food production including the challenges and opportunities.
- Solicit input from the community to inform new recommendations for urban food production from people already growing food and plants to others who might be interested in doing so in the future.
- Tell the story of urban food production in the City and raise awareness around how to grow plants and food through a variety of communication tools.

Phase 1: Preliminary Engagement**Stakeholder Focus Groups**

This will provide stakeholders who are actively involved in urban gardening and food production the opportunity to share knowledge and provide in-depth feedback. The focus groups will explore what is working and what could be improved. Future engagement and educational approaches will also be shared for feedback.

What will be discussed:

- Community Gardens
- Boulevard Gardening
- Food-bearing trees on City-owned lands
- Exploring barriers and regulations to support to small-scale commercial agriculture

Stakeholders include, but are not limited to:

- Community and Neighbourhood Associations
- Existing community garden volunteer administrators
- Capital Region Food and Agriculture Initiatives Roundtable
- LifeCycles Project Society
- Compost Education Center
- Urban Food Table (citizen-organized group of urban agriculture projects)
- SPIN Farmers
- Urban Farmers Alliance of Victoria
- Slow Food Vancouver Island

Timeline: June / July 2015

Target Reach: 30 participants, with up to four groups

Outcome: Feedback to further refine policies, guidelines and recommendations for urban food production.

Targeted Meetings with Community Experts and Partners

Meetings will be scheduled to discuss potential partnership opportunities, identify existing barriers to small-scale commercial agriculture and food production on private lands, and develop mechanisms to support increased food production in the City.

What will be discussed:

- Mechanisms to support food production on private lands and other public lands not owned by the City
- Voluntary guidelines for food production in multi-unit, mixed use developments and other types of housing
- Barriers and regulations to support small-scale commercial agriculture.

Community Experts and Partners include, but are not limited to:

- Lifecycles
- Compost Education Center
- Local individuals or groups currently involved in small-scale commercial agriculture
- Local development professionals (real estate agencies, developers, consultants)
- School District 61
- Island Health
- Faith-based groups with land holdings

Timeline: June/July 2015

Engagement Tools: Approximately 10 meetings

Outcome: Feedback to develop mechanisms to develop community partnerships and build opportunities for food production on private lands.

In-person Community Consultation

In person engagement in the form of either an open house, workshop or other engagement event that is open to the general community will be held to solicit feedback from the public through interactive discussions on urban food production and boulevard gardening.

What will be discussed:

- Community Gardens
- Food Trees
- Food Production on Private Land Guidelines
- Review of barriers for commercial urban agriculture
- Boulevard Gardening

Stakeholders include, but are not limited to:

- People who live, work or play in Victoria that are interested in urban food production

Timeline: June / July 2015

Target Reach: 100 participants, two to three events

Outcome: Feedback to provide preliminary input in to policies and guidelines

Survey

A survey will be used to gather preliminary input feedback from the broader community on urban food production and boulevard gardening.

What will be discussed:

- Community Gardens
- Food Trees
- Food Production on Private Land Guidelines
- Review of barriers for commercial urban agriculture
- Boulevard Gardening

Stakeholders include, but are not limited to:

- People who live, work or play in Victoria that are interested in urban food production

Timeline: June /July 2015

Target Reach: 500 participants

Outcome: Feedback to refine policies and guidelines and create new recommendations for urban food production.

All of the feedback collected in Phase 1 will be shared with Council and will inform the draft revisions and draft recommendations which will be first shared with Council in the fall.

Phase 2: Community Engagement

In-person Community Consultation

In person engagement in the form of either an open house, workshop or other engagement event that is open to the general community will be held to solicit feedback from the public through interactive discussions on urban food production and boulevard gardening. The inventory of City held land potentially suitable for urban food production, created in Phase 1, will also help inform these discussions.

What will be discussed:

- Community Gardens
- Food Trees
- Food Production on Private Land Guidelines
- Review of barriers for commercial urban agriculture
- Boulevard Gardening

Stakeholders include, but are not limited to:

- People who live, work or play in Victoria that are interested in urban food production
- All stakeholders that have been involved in the earlier process

Timeline: September/October 2015

Target Reach: 100 participants, two to three events

Outcome: Feedback to further guide the process of refining policies and guidelines and creating new recommendations.

Survey

A survey will be used to gather feedback from the broader community on the updated guidelines, policies and recommendations.

What will be discussed:

- Community Gardens
- Food Trees
- Food Production on Private Land Guidelines
- Review of barriers for commercial urban agriculture
- Boulevard Gardening

Stakeholders include, but are not limited to:

- People who live, work or play in Victoria that are interested in urban food production
- All stakeholders that have been involved in earlier process

Timeline: September/October 2015

Target Reach: 500 participants

Outcome: Feedback to further guide the process of refining policies and guidelines and creating new recommendations.

Second Round of Stakeholder Focus Groups

This will close the loop with the original group of stakeholders who are actively involved in urban gardening and food production. An update will be provided as to how their input helped to shape the draft recommendations taken to Council. The focus group will also provide another opportunity to collect feedback from those actively involved in urban gardening and food production.

What will be discussed:

- Community Gardens
- Food Trees
- Food Production on Private Land Guidelines
- Review of barriers for commercial urban agriculture
- Boulevard Gardening

Stakeholders include the list that was involved in the first round of focus groups.

Timeline: September/October 2015

Target Reach: 30 participants, with up to four groups

Outcome: Feedback to further refine policies and guidelines and create new recommendations for urban food production.

A social media strategy will also be created to raise awareness around the opportunity to provide input, share what has already been done in the City and build greater interest around urban food production and boulevard gardens. Content will be used to help better explain urban food production through tips and tricks people can use at home and visual examples of how it is already working in the City.

Phase 3: Education Program

Once approved, the new policy, guidelines and recommendations will be communicated with property owners and residents in Victoria. The earlier engagement phases will help determine the specific educational tools and approaches to be used. The education program for the

Boulevard Gardening Guidelines will begin in early spring 2016, to educate gardeners in time for the 2016 growing season. Other programs will follow.

Timeline: Spring/Summer 2016

Educational tools could include: Educational events and hands on workshops, tours, boulevard garden demonstration projects, City's website, social media, videos, newsletter articles, media releases.

Target Reach: All property owners and residents of Victoria, particularly those interested in growing plants and food.

Outcome: Well informed residents on the topic of urban food production.

4.1 Level of public participation

The City adheres to the International Association of Public Participation's spectrum of public participation which identifies the level of community involvement in decision-making. This process will focus on the Inform, Consult, and Involve levels.

	Inform	Consult	Involve
Public Participation Goal	To provide balanced and objective information in a timely manner.	To obtain feedback on analysis, issues, alternatives and decisions.	To work with the public to make sure that concerns and aspirations are considered and understood.
Promise to the Public	"we will keep you informed"	"We will listen to and acknowledge you concerns"	"We will work with you to ensure your concerns and aspirations are directly reflected in the decisions made"

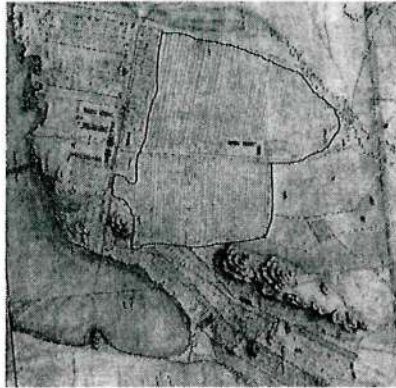
4.2 Key Messages

Growing in the City: A History

Victoria has a long, delicious and nutritious history of growing and harvesting food to sustain its people. The Esquimalt and Songhees First Nations fed their people from the bounty of the sea, the wild berries, wildlife and medicinal plants of the fields and forests and the camas fields that were cultivated and encouraged year after year.



Food production was also a priority for the early settlers to Victoria. This map from 1852 shows Fort Victoria, the collection of red buildings to the north of the Harbour, and the large tract of land used to grow food to feed the city. The earliest form of urban food production.



(Pemberton, 1852, first town plan of Victoria)

As the population increased, people wanted to live close to the heart of the City. This is what Victoria looked like by 1863. Much of the farm land was pushed to the City limits.



Growing in the City: Today

Today in Victoria there is a strong interest in supporting urban food production and in enjoying the results. Many residents that have access to a yard do grow a portion of their food. There is an increasing awareness about the importance of the '100 Mile Diet' and farmers' markets and public markets are making it easier for people in Victoria to enjoy healthy, fresh and nutritious food products that are locally produced.



Growing in the City: The Future

The 'Growing in the City' initiative is all about enhancing our local food systems. It's about finding ways to connect more people with space to grow more food, on public and private land. It's about finding ways to encourage small-scale urban agriculture and to begin thinking differently about how we manage some of our City-owned land, so we can work together to build the skills, knowledge and resources needed to produce more food in our beautiful and already delicious City.



We hope to connect people who are already 'growing in the City' to people who would like to learn how. Through conversation and collaboration we hope to explore what's working and what needs to be done differently to better support urban food production.

Growing the Conversation about 'Growing in the City'

Beginning this summer, conversations, focus groups and a survey will help the City define the ingredients needed to get more people, growing more delicious things in our City. Draft recommendations will be shared with Council and then will be brought to the community for further improvements and feedback in the fall of 2015. A final set of recommendations and an engagement summary will be taken to Council for adoption in the spring of 2016. An education program, informed in part by what was heard during earlier conversations, will begin in the spring and summer of 2016.

The 'Growing in the City' initiative will result in:

- An inventory of City-owned land for food production,
- An updated Community Gardens Policy for public and private land,
- Guidelines for food bearing trees on City-owned lands,
- Voluntary guidelines for food production in multi-unit, mixed use developments and other types of housing,
- Recommendations on how to encourage small scale urban agriculture and
- A final set of Boulevard Gardening Guidelines.

Pull up a chair, gather round the table and let's get talking about 'Growing in the City'.

4.3 Evaluation

- ✓ Impacted stakeholders were invited to participate and were involved in the engagement process.
- ✓ Early stakeholder engagement helped inform the design of later community engagement opportunities.
- ✓ Clear, accessible information was provided to participants, allowing them to participate in a meaningful way.
- ✓ The needs and interests of all participants, including the City of Victoria, were communicated.
- ✓ Feedback collected was considered in the development of the final policy and guidelines and participants understood how their input affected decisions.
- ✓ Engagement participant targets met.
- ✓ Budget not exceeded.

5.0 Project Schedule

An engagement summary, preliminary land inventory, and draft documents will be brought to Council in fall 2015 for review. A review of existing City policies and regulations to support commercial urban agriculture, and associated implications, will also be presented to Council for consideration at this time. Finalized Boulevard Gardening Guidelines will be brought forward early in 2016, such that they are in place for the 2016 growing season. An updated Community Gardens Policy, potential amendments to policies and regulations for small scale commercial urban agriculture and voluntary guidelines for food production in new developments will be brought forward in spring 2016.

6.0 Budget

This project will be completed using existing staff time. A budget of approximately \$10,000 is identified for public engagement (venues, printing, etc.). This amount is included in the 2015 Parks Design Admin operating budget.

6.1 Long Term Budget Impacts

Long-term budget impacts and options will be identified through the project and brought forward to Council for consideration.

7.0 Staff Resources

This project will be led by the Parks and Recreation Division, with the following staff resources:

Project Sponsors – Julie MacDougall, Acting Director, Parks and Recreation, Leigh Sifton, Manager, Parks Planning and Design

An inter-department team approach will be taken and includes:

- Project Manager – Alia Johnson, Senior Parks Planner
- Citizen Engagement – Julie Potter, Manager, Citizen Engagement and Melinda Jolley, Citizen Engagement Coordinator

- Community Planning – Kristina Bouris, Senior Planner

In addition, staff from other departments will be involved to assist with initial input and review of draft documents. Other departments to be involved include:

- Sustainable Planning and Community Development
- Legislative and Regulatory Services
- Engineering and Public Works
- Finance
- Legal Services

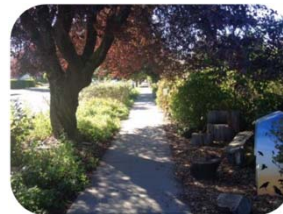
Growing in the City

Urban Food Production and Boulevard Gardening in the City of Victoria



Purpose

The purpose of this report is to seek Council approval of the proposed project charter to finalize the Boulevard Gardening Guidelines and to review, update, and expand City of Victoria policies and guidelines for urban food production.



Building on Past Initiatives

- Providing grants to local non-profit organizations to develop and provide education and skills training around urban food production and processing.
- Partnering to build edible food gardens at the Fernwood Community Center.
- Partnering to pilot two community orchard projects in City parks and one boulevard nut tree project.
- A permissive Animal Control Bylaw that permits an unspecified number of chickens.
- Permitting urban agriculture as a home occupation for up to two occupants.
- Approving the Interim Boulevard Gardening Guidelines.



Addressing Challenges and Creating Opportunities

- Land availability for urban gardening and food production
- Mechanisms to encourage food production on vacant private lands
- Relationship with existing City programs, regulations and bylaws
- Streamlined and simplified applications for new projects
- Expanded opportunities for commercial urban agriculture



Project Deliverables

Under the banner of 'Growing in the City', the project will deliver six related initiatives:

1. An inventory of City-owned land for food production;
2. A review and update of the Community Gardens Policy;
3. Developing voluntary guidelines for food production in multi-unit, mixed use developments and other types of housing;
4. Developing guidelines for food-bearing trees on City-held lands;
5. A review of City regulations and policies to explore the opportunity for, and implications of, supporting expanded small-scale commercial urban agriculture; and,
6. Finalizing the Boulevard Gardening Guidelines.



Project Deliverables



An inventory of City-owned land for food production

A land inventory of City-owned land will be completed to determine potential for new community garden sites and food-bearing trees.



- The land inventory will assess size of available City-owned sites, sun exposure and growing conditions, availability of municipal water hookup, site accessibility, proximity to neighbourhood resource centers, and proximity to existing community gardens.



- Targeted meetings with community partners, including School District 61, Island Health, and Faith-based groups with land holdings, will discuss potential partnership opportunities to expand sites for food production opportunities.



Project Deliverables



A review and update of the Community Gardens Policy

This project will deliver an updated Policy for Community Gardening, as guided by Section 17.4 of the Official Community Plan. Issues to be addressed include:

- Mechanisms to encourage food production on vacant private lands;
- Streamlining and improving the application process for new gardens;
- Roles and responsibilities of participants; and,
- City resourcing.

Completion: Spring 2016



Project Deliverables



Voluntary guidelines for food production in multi-unit developments

New voluntary guidelines for food production in private development will be created, as outlined in policy objective 17.12 of the Official Community Plan.

The Voluntary Design Guidelines will provide guidelines for the design of food production installations in private multi-family residential development, including considerations for access, size, design, support and stewardship.

Completion: Spring 2016



Project Deliverables



Guidelines for food-bearing trees on City-held lands

New guidelines will address the following:

- Assessment of existing pilot projects;
- Appropriate species selection;
- Maintenance and harvesting agreements;
- Various liability issues.

Completion: Spring 2016



Project Deliverables



Exploring expanded small-scale commercial urban agriculture through a review of City policy and regulations

The following areas will be reviewed:

- Enabling infrastructure and human resources needed to support urban agriculture as a home occupation;
- Using accessory buildings for commercial agricultural purposes;
- Suitability of commercial urban agriculture, including greenhouses, in different land use zones;
- Other emerging and innovative forms of commercial urban agriculture and how these might be impacted by City regulations or policies.



Project Deliverables



Boulevard Gardening Guidelines

The following areas will be reviewed to inform the creation of a final set of Boulevard Gardening Guidelines:

- Consistency with Street and Traffic bylaw;
- Maintenance and ownership, including a process and responsibility for ongoing maintenance and/or replacement of neglected boulevard gardens;
- Inclusion of existing boulevard gardens under new liability and maintenance directives;
- Required City resources; and,
- Potential liability for unsafe conditions created as a result of boulevard gardening.

Completion: Winter 2015



Strategic Plan

2015 -2016 Actions:

- Create a micro-grant for volunteer coordination of commons and community gardens.
- Develop long-term policies for food security and boulevard gardening including an inventory of City-owned land for food production and improved coordination of food systems resources and initiatives in the City.
- Learn from Vancouver's success in creating a community garden on David Street private property and replicate the model on available private properties in Victoria, including downtown.
- Allocate existing resources in Parks and other departments to implement food security initiatives.
- Strengthen the relationship between the City of Victoria and School District 61 in order to maximize the benefit of School land and facilities.
- Introduce new partnerships with citizens and groups to increase food cultivation on public and private land.



2014 Council Motions

Community Gardens Policy (August 28, 2014)

- "That Council direct staff to continue with an expedited review of the Community Gardens Policy including the development of an inventory of lands and incorporating policy outlined in the Official Community Plan, Section 17.4, specifically the temporary use of vacant private land."

Interim Boulevard Gardening Guidelines (July 24, 2014)

- "That Council adopt the Interim Guidelines with amendments as described in Attachment 1 of the report dated July 24th, 2014, and direct staff to proceed with the development of a project charter and engagement strategy for final boulevard guidelines, to be in place for the 2016 growing season."



Official Community Plan

Urban Food Production

- 17.4 Review and develop City policy to increase the number of allotment gardens, commons gardens, edible landscapes, food-bearing trees and other types of food production activities that considers other uses and identifies:
- 17.4.1 The land types and potential City-held sites where different food production activities might be supported;
 - 17.4.2 The roles and responsibilities of participants;
 - 17.4.3 Mechanisms to encourage and support food production sites on City-held lands, other publicly-held lands, and on private lands; and,
 - 17.4.4 Mechanisms to acquire land for food production purposes, where appropriate.



Official Community Plan

Food Production on Private Land

- 17.10 Support food production on private land where it is safe, suitable and compatible with the Urban Place Guidelines in this plan.
- 17.11 Encourage the provision of gardens and other food production spaces for the use of residents in new multi-unit housing.
- 17.12 Develop voluntary guidelines for food production in multi-unit, mixed-use developments and other types of housing, to support a range of on-site food production activities such as edible landscaping, rooftop gardens, and food-bearing trees.



Official Community Plan

Food Production on Private Land

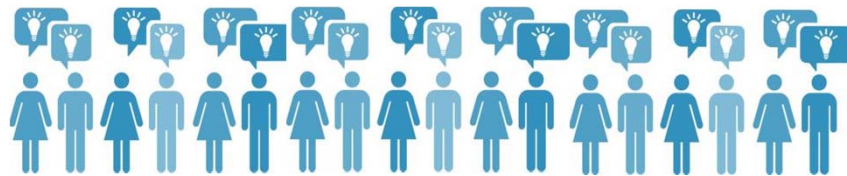
- 17.14 Explore expanded small-scale commercial urban agriculture through a review of policy and regulations to consider the opportunities for, and implications of:
 - 17.14.1 Enabling infrastructure and human resources needed to support small-scale commercial urban agriculture as a home occupation;
 - 17.14.2 Using residential accessory buildings for commercial agricultural purposes; and,
 - 17.14.3 Allowing commercial urban agriculture uses, including greenhouses, in commercial and industrial zones.



Engaging Citizens in Growing Food

Engagement Objectives:

- Engage the community in a conversation around urban food production including the challenges and opportunities.
- Solicit input from the community to inform new recommendations for urban food production from people already growing food and plants to others who might be interested in doing so in the future.
- Tell the story of urban food production in the City and raise awareness around how to grow plants and food through a variety of communication tools.



Engaging Citizens in Growing Food

1.Targeted Stakeholder Engagement (June/Sept 2015): Stakeholder focus groups will be hosted by the City to provide stakeholders who are actively involved in urban gardening and food production the opportunity to share knowledge, discuss changes and improvements, and provide in-depth feedback.

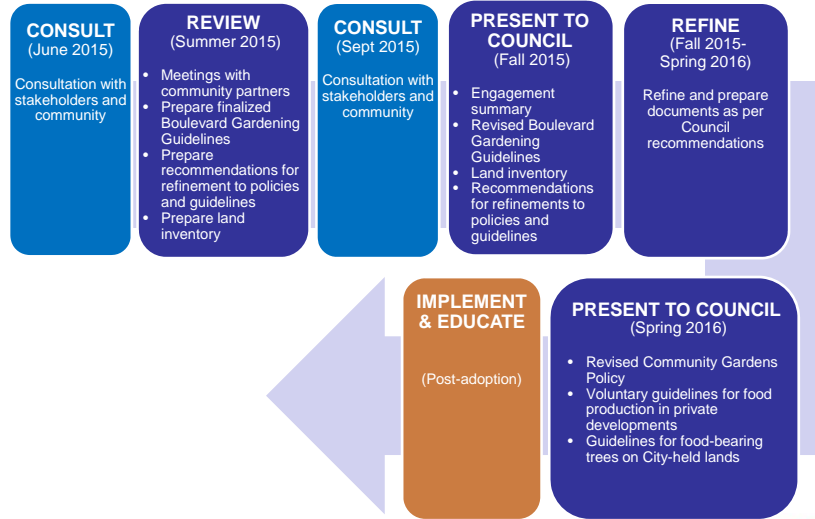
2.Community Engagement (June/Sept 2015): The community will be invited to share their thoughts and comments on urban food production through in person events and an online survey.

3.Targeted Meetings with Community Experts and Partners (Summer 2015): The City will host meetings with community experts and community partners to discuss potential partnership opportunities, identify existing barriers, and develop mechanisms to support increased food production in the City, including on private lands.

4.Education Program (Winter – Spring 2016): Educate and generate awareness on the new policy and guidelines.



Project Schedule



Project Budget

- This project will be completed using existing staff time. A budget of approximately \$10,000 is identified for public engagement. This amount is included in the 2015 Parks Design Admin operating budget.
- Long-term budget impacts and options will be identified through the project and brought forward to Council for consideration.



Recommendation

That Council approve the 'Growing in the City': Urban Food Production and Boulevard Gardening project charter.





Governance and Priorities Committee Report

For the Meeting of May 21, 2015

To: Governance and Priorities Committee **Date:** May 8, 2015
From: Julie MacDougall, Acting Director - Parks
Subject: Urban Forest Master Plan implementation update

Executive Summary

The purpose of this report is to provide an update on the implementation of the Urban Forest Master Plan that was adopted by Council in 2013, and to outline actions for 2015/2016.

The Urban Forest Master Plan guides the management and enhancement of the treed environment throughout the City of Victoria. The plan sets out a vision, goals and strategy for the management of Victoria's urban forest through to 2060. The plan, which was approved by Council in January 2013, contains 26 recommendations for the improved management of trees on public and private lands. The development of the plan included a comprehensive community engagement process.

The Urban Forest Master Plan was approved with the understanding that implementation, over the next 5-10 years, could be accomplished within the existing resources of approximately \$1 million/year. The activities that have been completed to-date and the priorities identified in this report reflect the need to manage the City's risk of tree failures while taking the steps to maximize the benefits of the urban forest in the community through planting and young tree maintenance. If there is a desire to accelerate the implementation of the plan additional resources would be required.

Since the approval of the Urban Forest Master Plan the following actions have been taken:

- An inventory of all the trees on public land has been completed. There are approximately 32,500 trees in Parks and on boulevards as of March 2015. Trees identified as high risk of imminent failure were removed at the time they were discovered.
- A resource analysis has been completed which includes a description of the City-managed urban forest along with the ecological and economic value of the city owned trees.
- Young tree maintenance has continued to be a focus with an average of 250 new or replacement trees planted annually for a total of 1,500 young trees that can be maintained annually with current resources.
- The City of Victoria, Tree Canada and neighbouring municipalities successfully hosted the Canadian Urban Forest Conference in September 2014. This conference welcomed over 250 delegates from across Canada, the US and further abroad. UBC also hosted an alumni event just prior to the conference where staff shared the vision, goals and

recommendations contained in the Urban Forest Master Plan with UBC alumni that live and work in Victoria.

Actions planned in support of the Urban Forest Master Plan for 2015/2016 include:

- Development of a strategy for removing dead, hazardous and diseased trees and a tree planting strategy.
- Tree Assessments on trees identified in the inventory as requiring further assessment to determine risks. This could result in pruning, removal or other hazard-mitigation techniques. The removal notification process in the neighbourhoods is also being improved where removals are required.
- Continued tree planting and young tree maintenance, pruning and removal of trees that are most at risk of failure and engage the community in the development of neighbourhood planting strategies.
- Ongoing update of the tree inventory on public land (20% per year) and subsequent periodic reporting (3-5 years) on the age class, health, and benefits of the urban forest.
- Host an inaugural community workshop to share knowledge and information regarding the importance of the urban forest on public and private land and the immediate priorities for managing Victoria's public trees.

An annual update will be provided to Council that outlines the actions and activities that are completed in support of the Urban Forest Master Plan.

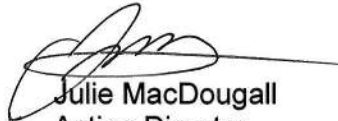
Recommendation:

That Council receives this report for information and directs staff to provide an annual update on the Urban Forest Master Plan implementation.

Respectfully submitted,



Brooke Stark
Manager
Parks Construction, Arboriculture
& Natural Systems



Julie MacDougall
Acting Director
Parks & Recreation



Susanne Thompson
Director, Finance

Report accepted and recommended by the City Manager:

Date:


May 15, 2015

Purpose

This report is to update Council on the status of the implementation of the Urban Forest Master Plan and to outline actions for 2015/2016.

Background

The City's Official Community Plan confirmed the need for an Urban Forest Master Plan and identifies some broad objectives for the plan, including developing mechanisms to increase the urban forest; integrating urban forest management with broader planning and management objectives; and using the urban forest as green infrastructure to enhance ecological services.

In January 2013, the Urban Forest Master Plan was approved by Council. Development of this plan took three years and involved considerable public input, including a community based project committee, open houses, meetings with community associations and involvement of the Urban Development Institute and the development community. The work also involved consultation with City staff as policy, plans and work regarding the urban forest impacts a wide range of municipal service areas including planning and development, engineering, sustainability and parks.

The plan identifies 26 recommendations and strategies to be considered by the City for the period 2013-2060 in the management of the urban forest, including trees on city lands, public open spaces and private lands. As indicated when the Urban Forest Master Plan was approved by Council in 2013, the plan is a high level planning document that looks at the future of the City of Victoria's urban forest through a 50 year vision and the implementation of the plan would be prioritized based on existing funding for the next 5-10 years. The plan recommends the need for additional resources and expansion of the City's current urban forestry program over time.

Appendix 1 outlines the recommendations, progress made to date and proposed activities for 2015/16, reflects what can be achieved with existing resources.

Issues & Analysis

Tree Inventory

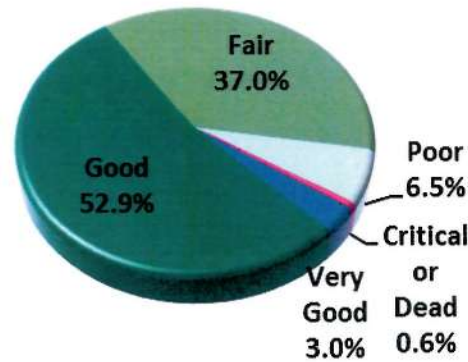
The City of Victoria completed an inventory trees on city property in early 2014. A certified arborist inspected each publicly owned tree and recorded information including species, size, condition, geographic location and current maintenance needs. Trees that were identified through this process to have significant safety hazards or that were at risk of imminent failure were removed immediately.

The inventory is used daily to prioritize and manage work in a way that balances hazard mitigation with operational efficiency. Each tree in the inventory has been assigned a 'work priority' including a description of the work required and the timeframe within which it should be conducted. The inventory database also contains many other tree attributes that will help staff adjust priorities and inform future management goals and objectives. Information about tree age, condition, diseases, defects, nearby utilities, sidewalk heave and location can all be used to optimize tree care operations and improve the health of the urban forest.

Previous reports indicated that there were 40,000 trees on City property however, while we have removed slightly more trees than we have planted, the methodology for this inventory provided a much more accurate number of trees on City land. As of March 31, 2015, the City of Victoria manages 33,576 trees (19,295 on boulevards and streets; 14,281 in parks). There are currently

285 stumps and 548 vacant sites for planting. The inventory also identified approximately 1,750 trees that require further assessment to determine risks, which may result in pruning, removal or other hazard mitigation techniques.

The overall condition of the urban forest is good to fair. The inventory found 56% of Victoria's trees in good or better condition and 37% in fair condition. Over 7% of the population was determined to be in poor, critical or dead condition.



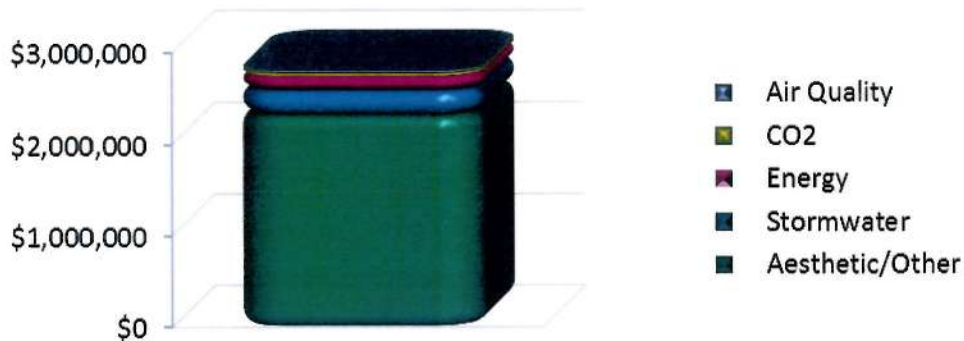
Ongoing updates of the tree inventory on public land will continue to ensure the quality of the database is maintained. Each year, including this year, staff will revisit approximately 20% of the inventory; 15% for routine cycle assessment and 5% for hazard/high risk tree review. This inventory data along with mapping and satellite imagery data will be used to monitor and report on the status of canopy coverage.

Resource Analysis:

An Urban Forest Resource Analysis of Inventoried Street Trees was completed in early 2014. Based on the information gained from the inventory, a detailed and quantified analysis of the current structure, function and value of the urban forest was prepared.

Trees have a value that is not often quantified and yet have environmental, social and economic benefits to the community. Through the resource analysis, the City of Victoria's urban street trees' value has been calculated. This calculation was determined by an analysis tool that was specifically developed to estimate the value of urban street trees, based on inventory information. Based on this analysis, Victoria's inventoried street trees are providing annual benefits of \$2,805,508 (\$35.05 per capita). These benefits include energy savings, air quality improvements, storm water interception, atmospheric CO₂ reduction, and aesthetic contributions to the social and economic health of the community.

For every \$1 invested in the Urban Forest, it is estimated that the City receives \$3.79 in benefits.



Canopy cover is the amount of tree canopy overlying a given area of land and is a common way of beginning to measure and assess the urban forest. The percent of the total area covered provides an indication of the relative abundance or 'density' of tree canopy across the landscape. The canopy from the total urban forest population (public and private trees) covers 343 hectares or roughly 18% of the city area. This level of gross canopy cover has stayed about the same for the past 20 years and plays an important role as mentioned above.

The full report is attached in Appendix 2.

Tree Replacement & Prioritized Young Tree Maintenance:

Young tree planting and maintenance continues to be a priority with an average of 250 new or replacement trees planted each year. Current resources enable staff to support the establishment of up to 1500 new trees through a young tree maintenance program. The program includes watering, fertilising, staking, pruning and mulching young and vulnerable trees to enable their long-term success. Newly planted trees are on establishment program for 5-7 years, depending on species and location. Traditionally, tree species have been selected based on historical planting replacement, aesthetic appeal, botanical interest or other influencing aspects. Through 2015/2016, staff will develop a tree planting strategy that will align with the objectives contained within the Urban Forest Master Plan. Future tree plantings will include community by involving neighbourhood associations to encourage broad public participation.

Community Awareness:

In 2014, the City of Victoria, Tree Canada and neighbouring municipalities successfully hosted the Canadian Urban Forest Conference. This conference welcomed over 250 delegates from across Canada, the USA and further abroad. The University of British Columbia (UBC) also hosted an alumni event just prior to the conference where staff shared the vision, goals and recommendations contained in the Urban Forest Master Plan with UBC alumni that live and work in Victoria.

A focus through 2015/2016 will be to host an inaugural community workshop that will engage the community in tree discussions relating to the urban forest on both private and public land and increase community support for the urban forest. This will be in addition to improving the

notification to the public regarding tree removals and the process that will be developed for engaging the public on neighbourhood planting strategies.

Recommendations

That Council receives this report for information and directs staff to provide an annual update on the Urban Forest Master Plan implementation.

Appendix 1: Urban Forest Master Plan implementation update	
Urban Forest Master Plan Recommended Actions	Short term (1-3 years) activities
Systematically map and measure the Urban Forest on public lands, identifying sites for new planting	<ul style="list-style-type: none"> • Tree inventory completed in 2013 • 20% of inventory assessments reviewed and updated annually • Inventory is maintained as trees have been worked on or planted • Inventory has been used to: <ul style="list-style-type: none"> ○ identify high risk trees along arterial routes ○ identify young tree maintenance watering routes ○ visually record trees/tree damage/root damage ○ set priorities for work planning ○ research species diversity and distribution ○ record and monitor disease or insect pests ○ provide a better customer experience for the public
Measure and report on the scope and value of ecosystem services provided by the urban forest on both public and private lands. Communicate this information as part of a broader effort to engage and educate the community on urban forest values and benefits.	<ul style="list-style-type: none"> • Resource Analysis of street trees completed in 2014. • Complete Resource Analysis for all City of Victoria trees proposed for 2016.
Increase community support for the Urban Forest.	<ul style="list-style-type: none"> • Host an inaugural community workshop to share knowledge and information regarding the importance of the Urban Forest on public and private land (Resource Analysis) and the immediate priorities for managing Victoria's public trees in 2015. • A full Community Engagement Strategy is proposed for 2016.

Develop and implement an Urban Forest Action Plan to operationalize the Urban Forest Master Plan, including measures of success, realistic timelines and the provision of estimates and options to resource the plan.	2015/2016: <ul style="list-style-type: none"> • Removal strategy • Replanting strategy • Community will be engaged with as appropriate
Make young tree care a high priority within the Municipal Forestry Program	up to 1500 trees are maintained annually on a young tree maintenance program
Continue a vigorous street tree replacement program, selection species and locations so as to maximize species and age diversity, be ready for future climates, minimize nuisance and risk, minimize maintenance costs, and maximize green infrastructure and other benefits	up to 250 young trees planted annually
Manage existing mature street trees so as to extend their Safe Useful Life Expectancy (buying time for newer trees to develop and contribute meaningfully to the urban forest canopy).	Approximately 1750 trees have been identified through the inventory that require further assessment to determine risks which may result in pruning, removal or other hazard mitigation techniques.
Urban Forest Master Plan Medium Term (3-10 years) Recommended Actions	
Revise the Tree Protection Bylaw to address the removal of young (non-protected) trees and increase replacement tree ratios and compensation levels.	
Complete and implement the 5-year Municipal Forestry Plan for the Parks Division.	
Encourage connectivity between areas of natural habitat through strategic greenway and neighbourhood urban forest enhancement initiatives.	
Incorporate the goals, policy objectives and strategies of the Urban Forest Master Plan within other relevant City plans, policies, bylaws and development guidelines.	
Ensure that operational resourcing levels keep up with increases in the public urban forest inventory and its associated support services over the entire life cycle of the asset.	
Create a position for an Urban Forest Planner/Coordinator, who is empowered to work with other Departments to achieve the City's Urban Forest goals and to report annually to Council.	
Develop a biodiversity strategy, including measurable objectives for the protection, recovery or enhancement of sensitive ecosystems, species at risk and other important flora and fauna.	
Make use of opportunities to 'piggy-back' multiple functions into public spaces (e.g. transforming greenways into productive ecosystem corridors as well as attractive transportation corridors for pedestrians, cyclists and electric wheelchairs).	
Consider a pilot project to encourage homeowners to 'host' public trees in their front yards, in areas where there is a high level of conflict between street trees and underground services and infrastructure.	
Develop a Tree Risk Management Program for public trees (including a Comprehensive Tree Risk Management Policy and Strategy) in 2017.	
Empower homeowners to make good urban forest decisions on their property.	

Urban Forest Master Plan Long Term (10+ years) Recommended Actions
Increase urban forest cover to more optimal levels in neighbourhoods currently exhibiting low canopy cover.
Conserve or replace sufficient greenspace to sustain the urban forest, with particular attention to the needs of large canopy trees.
Develop a program to identify and conserve heritage and other significant trees and landscapes throughout the city, with particular attention paid to remnant Garry Oak ecosystems.
Work on Local Area Plans should consider the development of guidelines and standards for permeable areas and urban place-based forest design.
Develop urban forest design guidelines for new developments specific to each UPD. Guidelines should address desired functional objectives, landscape attributes, appropriate stocking levels, soil volume, and plant selection considerations as well as growth and densification objectives.
Consider establishing minimum stocking levels for new development to meet UPD-specific urban forest objectives.
Develop landscape design objectives that address urban forest or green infrastructure policy objectives, and include these as conditions to which a building, development or rezoning permit will be subject.
Improve oversight of landscape design, planting and construction on redevelopment sites to ensure that the City's design guidelines are met.

URBAN FOREST RESOURCE ANALYSIS OF INVENTORIED STREET TREES

City of Victoria, British Columbia

September 2014

Appendix 2



City of Victoria, British Columbia
Resource Analysis
Of Inventoried Street trees

September 2014

Prepared for
City of Victoria
1 Centennial Square
Victoria, BC V8W 1P6

Prepared by
Davey Resource Group
A Division of the Davey Tree Expert Company of Canada Ltd.
Local Office
888 Viewfield Road
Victoria, BC V9A 4V1
www.davey.com/drg

Acknowledgements

While the specific reports and recommendations can be attributed to this study, the basis for its structure and written content comes from the entire series of Municipal Forest Resource Analysis reports prepared and published by the USDA Forest Service, Pacific Southwest Research Station, Center for Urban Forest Research, and credit should be given to those authors. The Municipal Forest Resource Analysis Reports are companions to the regional Tree Guides and i-Tree's STRATUM application developed by the USDA Forest Service, Pacific Southwest Research Station, Center for Urban Forest Research.



Table of Contents

Executive Summary	1
Introduction	2
Chapter 1: Urban Forest Resource Summary	4
<i>Summary of Urban Forest Resource Structure</i>	4
<i>Summary of Urban Forest Benefits</i>	4
<i>Urban Forest Resource Management</i>	5
Chapter 2: Victoria's Urban Forest Resource	6
<i>Population Composition</i>	6
<i>Species Richness and Composition</i>	7
<i>Species Importance</i>	10
<i>Canopy Cover</i>	10
<i>Relative Age Distribution</i>	12
<i>Urban Forest Condition</i>	15
<i>Relative Performance</i>	15
<i>Replacement Value</i>	17
Chapter 3: Urban Forest Resource Benefits	19
<i>Energy Savings</i>	19
<i>Electricity and Natural Gas Reduction</i>	20
<i>Atmospheric Carbon Dioxide Reduction</i>	22
Sequestered Carbon Dioxide	23
<i>Air Quality Improvement</i>	26
Deposition, Interception, and Avoided Pollutants	26
BVOC Emissions	26
Net Air Quality Improvement	26
<i>Stormwater Runoff Reductions</i>	30
<i>Aesthetic, Property Value and Socioeconomic Benefits</i>	32
<i>Net Benefits and Benefit-Investment Ratio (BIR)</i>	36
Conclusion	39
Appendix A: Methods and Procedures	41
Appendix B: References	43
Appendix C: Common and Botanical Names	45



Figures

Figure 1. Overall Composition of Victoria's Inventoried Street Tree Population	6
Figure 2. Prevalence of Top 10 Species in Victoria's Inventoried Street Tree Population	7
Figure 3. Overall Relative Age Distribution of Victoria's Tree Inventory	12
Figure 4. Relative Age Distribution of Victoria's Top 10 Inventoried Tree Species	14
Figure 5. Wood Condition of Victoria's Street Trees	15
Figure 6. Annual Electricity and Natural Gas Benefits - Top Five Species	20
Figure 7. Annual Reduction of CO ₂ - Top Five species	23
Figure 8. Annual Improvement to Air Quality - Top Five Species.....	27
Figure 9. Annual Reduction in Stormwater Runoff - Top Five Species.....	30
Figure 10. Annual Increase in Property and Socioeconomic Values - Top Five Species.....	32
Figure 11. Summary of Annual per Tree Benefits	34
Figure 12. Total Annual Benefits from Victoria's Inventoried Trees	37
Figure 13. Total Annual Investment to Maintain Victoria's Inventoried Trees.....	37
Figure 14. Benefit versus Investment Ratio	38

Tables

Table 1. Population Distribution of Victoria's Street Tree Inventory	8
Table 2. Importance Value (IV) of Victoria's Most Abundant Street Tree Species.....	11
Table 3. Relative Performance Index (RPI) for Victoria's Most Common Street Trees	16
Table 4. Tree Species Which May be Underused, Based on RPI	17
Table 5. Replacement Value of Victoria's Street Trees	18
Table 6. Annual Electric and Natural Gas Benefits from Victoria's Street Trees	21
Table 7. Annual CO ₂ Reduction Benefits Provided by Victoria's Inventoried Street Trees.....	24
Table 8. Annual Air Quality Improvements Provided by Victoria's Inventoried Street Trees	28
Table 9. Annual Stormwater Runoff Reduction Benefits Provided by Victoria's Inventoried Street Trees	31
Table 10. Annual Property Value, Aesthetic, and Socioeconomic Benefits Provided by Victoria's Inventoried Tree Resource	33
Table 11. Summary of Current Annual Average per Tree Benefits (\$/Tree/yr.) from Victoria's Inventoried Tree Resource	35
Table 12. Annual Benefit versus Investment Summary for Victoria's Inventoried Tree Resource	38
Table 13. Victoria Benefit Prices Used In This Analysis.....	42



Executive Summary

Trees play a vital role in the community of Victoria, British Columbia. They provide numerous benefits both tangible and intangible, to residents, visitors, and neighboring communities. Dedicated to maintaining 18,869 street trees, Victoria has demonstrated that street trees are a valued community resource, an important component of the urban infrastructure, and a part of the City's identity.

In 2012, Victoria contracted with Davey Resource Group (DRG) to collect an inventory of all public street trees. During the inventory, a certified arborist briefly inspected each tree and recorded information including species, size, condition, geographic location, and current maintenance needs. Upon completion of the inventory, DRG performed a detailed and quantified analysis of the current structure, function, and value of this tree resource using the inventory data in conjunction with i-Tree benefit-cost modeling software.

Victoria's inventoried street trees are providing annual benefits of \$2,805,508 (\$35.05 per capita). These benefits include energy savings, air quality improvements, stormwater interception, atmospheric CO₂ reduction, and aesthetic contributions to the social and economic health of the community.

Victoria's inventoried street tree resource is reducing annual electric energy consumption by 5,430 GJ and annual natural gas consumption by 15,107 GJ, for a combined value of \$153,484 annually. In addition, these trees are removing 7,604 kg of pollutants from the air, including ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and particulates (PM₁₀) for an overall net annual air quality benefit of \$31,914. Canopy from this population covers 127 hectares. This canopy reduces annual stormwater runoff by 93,683 cubic meters, enough to fill more than 37 Olympic swimming pools, protecting local water resources by reducing sediment and pollution loading.

Victoria's tree population is established, and much of the population is providing peak benefits due to the trees' mature size. The species diversity is adequate, but *Prunus* species are overrepresented and underperforming in terms of benefits. With a shift in new planting palettes toward other, underrepresented large to medium stature trees, and adequate maintenance, the benefits of Victoria's urban forest can be expected to increase.

Trees are a part of the community infrastructure. The estimated investment in maintenance for the street trees is \$741,171. For every \$1 invested in this resource, Victoria is receiving \$3.79 in benefits. However, unlike many other public assets, with proper maintenance, trees have the potential to increase in value over time. Victoria's inventoried street tree resource is primarily in excellent, very good, good, and fair condition (93% of trees). With 238 different species, Victoria is well positioned to realize a significant increase in environmental benefits as tree populations continue to mature. An ongoing commitment to maximizing and maintaining the health of the urban forest will ensure that the community continues to be a healthy, safe, and enjoyable place to live.



Introduction

Victoria is located on the southern tip of Vancouver Island on the west coast of British Columbia. With a population of 84,511, it is part of the Greater Victoria metropolitan area. The climate is temperate, and receives an average annual rainfall of 608 mm. With over 2,000 hours of sunshine each year, Victoria is known as BC's garden city. The established urban forest provides structure and form to the city's landscape, giving residents a beautiful place to live.

This analysis takes a closer look at 18,869 inventoried trees, the City's street trees. The inventoried park trees, stumps, vacant sites, and unknown species are not included in the analysis, but stocking levels are calculated to provide a sense of the availability of planting sites. The park trees are excluded because i-Tree Streets is a model based on street trees. Stumps, vacant sites, and unknown species have no calculable benefits



A healthy urban forest plays an important role in the quality of life in Victoria.

Individual trees and a healthy urban forest play important roles in the quality of life and the sustainability of every community. Research demonstrates that healthy urban trees can improve the local environment and diminish the impact resulting from urbanization and industry (Center for Urban Forest Research). Trees improve air quality by manufacturing oxygen and absorbing carbon dioxide (CO₂), as well as filtering and reducing airborne particulate matter such as smoke and dust. Urban trees reduce energy consumption by shading structures from solar energy and reducing the overall rise in temperature created through urban heat island effects (EPA). Trees slow and reduce stormwater runoff, helping to protect critical waterways from excess pollutants and particulates. In addition, urban trees provide critical habitat for wildlife and promote a connection to the natural world for City residents.

In addition to these direct improvements, healthy urban trees increase the overall attractiveness of a community and the value of local real estate by 7% to 10%. Trees promote shopping, retail sales, and tourism (Wolf, 2007). Trees support a more livable community, fostering psychological health and providing residents with a greater sense of place (Ulrich, 1986; Kaplan, 1989). Community trees, both public and private, soften the urban hardscape by providing a green sanctuary. Victoria's urban forest is well established and diverse, reflecting a broad cross section of species that have arrived and thrived in the port city over hundreds of years. Victoria's trees reflect the City's proud history, and bright future. The City's street trees play a prominent role in the overall urban forest benefits afforded to the community. Residents rely on the City of Victoria to protect and maintain this vital resource.

The urban forest is a dynamic resource, constantly changing and growing in response to environment and care. A team of International Society of Arboriculture certified arborists from Davey Resource Group (DRG) mapped the location and collected data for street trees using global positioning system technology. In addition to location, the arborists collected information about the species, size, condition, and current maintenance needs of each tree.

The inventory data was analyzed with i-Tree's *Streets*, a STRATUM Analysis Tool (*Streets* v5.1.2; i-Tree v6.0.0), to develop a resource analysis and report of the current condition of the inventoried urban forest. This report, unique to Victoria, effectively quantifies the value of the community's public trees with regard to actual benefits derived from the tree resource. In addition, the report provides baseline values that can be used to develop and update an urban forest management plan. Management plans help communities determine where to focus available resources and set benchmarks for measuring progress.



This analysis describes the structure, function, and value of Victoria's 18,869 street trees. With this information, managers and citizens can make informed decisions about tree management strategies. This report provides the following information:

- A description of the current structure of Victoria's inventoried tree resource and an established benchmark for future management decisions.
- The economic value of the benefits from the urban forest, illustrating the relevance and relationship of trees to local quality of life issues such as air quality, environmental health, economic development, and psychological health.
- Data that may be used by resource managers in the pursuit of alternative funding sources and collaborative relationships with utility purveyors, non-governmental organizations, air quality districts, federal and state agencies, legislative initiatives, or local assessment fees.
- Benchmark data for developing a long-term urban forest management plan.



Chapter 1: Urban Forest Resource Summary

Summary of Urban Forest Resource Structure

Victoria's urban forest resource analysis considered 18,869 public street trees.

A structural analysis is the first step towards understanding the benefits provided by these trees as well as their management needs. Considering species composition, diversity, age distribution, condition, canopy coverage, and replacement value, DRG determined that the following information characterizes this urban forest resource:

- There were 238 unique tree species identified in the inventory. The predominant tree species are flowering plum (*Prunus cerasifera*, 10.3%), flowering cherry (*Prunus serrulata*, 8.3%), and hawthorn (*Crataegus oxyacantha*, 6.3%)
- The age structure of the inventoried tree population is weighted in established, mature trees, with 66% of trees measuring between 15.2 and 61 cm DBH (diameter at breast height, measured at 1.4 meters above the ground).
- A majority of the inventoried trees (56%) are in good or better condition and 37% are in fair condition.
- To date, the inventoried tree population has sequestered 33 million kg. of carbon (CO₂), valued at approximately \$547,113.
- Replacement of Victoria's 18,869 inventoried trees with trees of similar size, species, and condition would cost over \$84 million.

Replacement of Victoria's 18,869 inventoried trees with trees of similar size, species, and condition would cost over \$84 million.

Summary of Urban Forest Benefits

Annually, Victoria's inventoried street trees provide cumulative benefits to the community at an average value of \$148.68 per tree, for a total gross value of \$2,805,508 per year. These annual benefits include:

- Trees reduce electricity and natural gas use in their neighborhoods through shading and climate effects for an overall benefit of \$153,484, an average of \$8.13 per tree.
- Trees sequester 1.1 million kg. of atmospheric CO₂ per year. An additional 1.5 million kg are avoided¹ by reducing energy generation, resulting in a net value of \$39,493 and an average of \$2.09 per tree.
- Net air quality improvements, including removal and avoidance of pollutants, provided by the city tree population are valued at \$31,914, an average per tree benefit of \$1.69.
- Victoria's inventoried street trees intercept an estimated 93,683 cubic meters of stormwater

For every \$1 invested in public trees, Victoria receives \$3.79 in benefits.

¹ Avoided pollution is a result of reducing energy consumption. The avoided value represents pollution that would have resulted from the generation of additional energy.



annually for a total value of \$267,282, an average of \$14.17 per tree.

- The benefit contributed by Victoria's inventoried street trees to property value increases, aesthetics, and socioeconomics equals \$2.3 million, an average of \$122.60 per tree.
- When the City's annual investment of \$741,171 for maintenance of this resource is considered, the annual net benefit (benefits minus investment) to the City is \$2,064,337, an average of \$109.40 per tree. In other words, for every \$1 invested in street trees, Victoria receives \$3.79 in benefits.

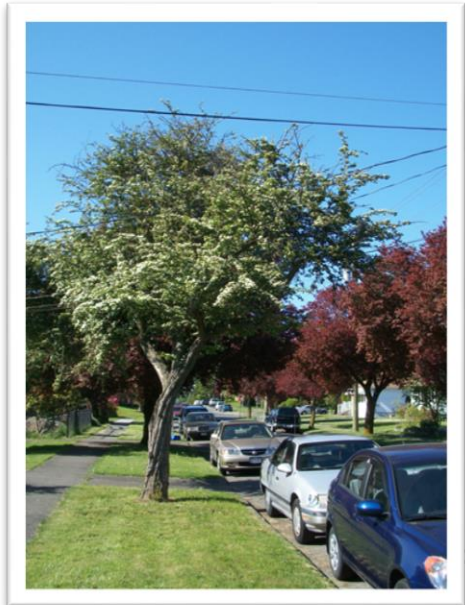
Urban Forest Resource Management

Victoria's street tree population is a dynamic resource that requires continued investment to maintain and realize its full benefit potential. **These community trees are one of the few elements of city infrastructure that have the potential to increase in value with time and proper management.** Appropriate and timely tree care can substantially increase lifespan. When trees live longer, they provide greater benefits. As individual trees continue to mature and aging trees are replaced, the overall value of the community forest and the amount of benefits provided grow as well. This vital, living resource is, however, vulnerable to a host of stressors and requires ecologically sound and sustainable best management practices to ensure a continued flow of benefits for future generations.

Victoria has the benefit of an established tree population in good condition. The City should focus resources on maximizing the flow of benefits from the current tree population and maintaining a forward-thinking approach. Based on the resource analysis, DRG recommends the following:

- Maintain an appropriate age distribution by continuing to plant new trees to improve long-term resource sustainability and greater canopy coverage. To maximize benefits, focus on medium to large-stature trees where planting sites allow.
- Maximize the condition of the existing tree resource through continuing comprehensive tree maintenance and a cyclical pruning schedule.
- Implement a structural pruning program for young and establishing trees to promote healthy structure, extend life expectancy, and reduce future costs and liability.
- Maintain and update the tree inventory database.
- Discontinue or greatly reduce the planting of overrepresented species and genera in favor of less common trees.

The value of Victoria's inventoried tree resource will continue to increase as existing trees mature and new trees are planted. As the resource grows, investment in management is critical to ensuring that residents will continue receiving a high return on the investment in the future. It is not as simple as planting more trees to increase canopy cover and benefits. Planning and funding for tree care and tree management must complement planting efforts in order to ensure the long-term success and health of Victoria's urban forest. Existing mature trees should be evaluated and removed as they reach the end of their useful life. Trees in good condition should be maintained and protected whenever possible since the greatest benefits accrue from the continued growth and longevity of the existing canopy.





Chapter 2: Victoria's Urban Forest Resource

A city's urban forest resource is more thoroughly understood through examination of composition and species richness (diversity). Inferences based on this data can help managers understand the importance of individual tree species to the overall forest as it exists today. Consideration of stocking level (trees per available space), canopy cover, age distribution, condition, and performance helps to project the potential of the forest resource.

Population Composition

Broadleaf deciduous species are the most common among Victoria's inventoried street tree population, comprising 94% of the total inventory. Broadleaf trees typically have larger canopies than conifers with the same size DBH. Since many of the measurable benefits derived from trees are directly related to leaf surface area, broadleaf trees generally provide the highest level of benefits to a community. Larger-statured broadleaf tree species provide greater benefits than smaller-statured trees, independent of DBH. Victoria's deciduous broadleaf tree population includes 21% large-stature, 28% medium-stature, and 45% small-stature trees. Conifers comprise 5% of the population, including 1% large, 3% medium, and 1% small stature trees. Broadleaf Evergreens comprise less than 1% of the population of street trees.

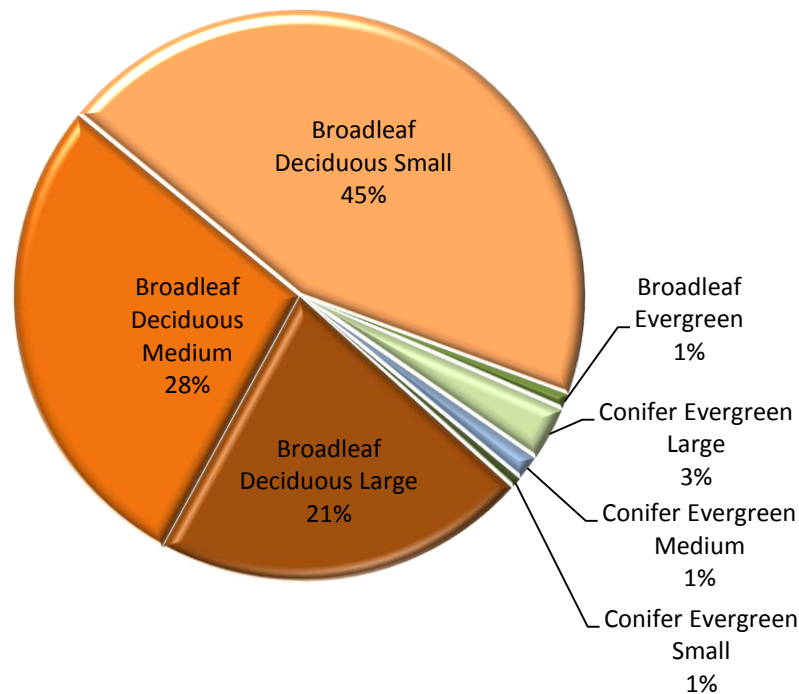


Figure 1. Overall Composition of Victoria's Inventoried Street Tree Population



Species Richness and Composition

Victoria's inventoried street tree population (Table 1) includes a mix of 238 unique species, substantially above the mean of 53 species reported by McPherson and Rowntree (1989) in their nationwide survey of street tree populations in 22 U.S. cities. Victoria's temperate climate allows a wide range of species, earning the nickname "City of Gardens". Despite the large number of species found in the inventory, the top 10 species represent 52% of the total population (Figure 2). The predominant tree species are flowering plum (*Prunus cerasifera*, 10.3%), flowering cherry (*Prunus serrulata*, 8.3%), and hawthorn (*Crataegus oxyacantha*, 6.3%)

There is a widely accepted rule that no single species should represent greater than 10% of the total population, and no single genus more than 20% (Clark Et al, 1997). Purple plum (*Prunus cerasifera*, 10.3%) is slightly overrepresented, while the plum and cherry genus (*Prunus*) is substantially overrepresented, comprising 27% of the population. New plantings in the immediate future should limit these species to reduce overreliance.

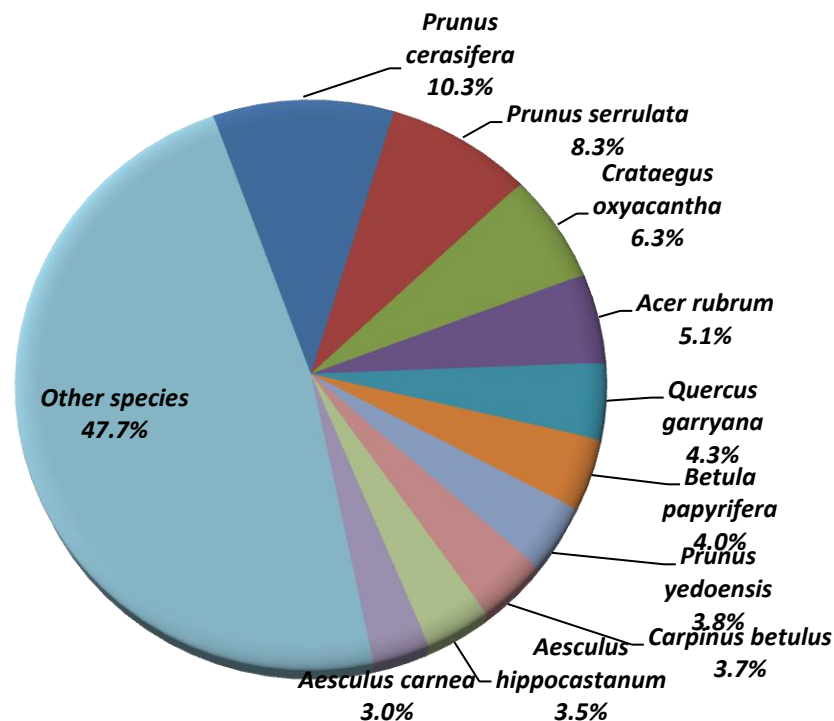


Figure 2. Prevalence of Top 10 Species in Victoria's Inventoried Street Tree Population

It is important to maintain a diverse population within an urban forest. Dominance of any single species or genus can have detrimental consequences in the event of storms, drought, disease, pests, or other stressors that can severely affect an urban forest and the flow of benefits and costs over time. Catastrophic pathogens, such as Dutch Elm Disease (*Ophiostoma ulmi*), Emerald Ash Borer (*Agrilus planipennis*), Asian Longhorned Beetle (*Anoplophora glabripennis*), and Sudden Oak Death (SOD) (*Phytophthora ramorum*) are some examples of unexpected, devastating, and costly pests and pathogens that highlight the importance of diversity and the balanced distribution of species and genera.



Table 1. Population Distribution of Victoria's Most Prevalent Species

Species	DBH Class (cm)									Total	% of Pop.
	0-8	8-15	15-30	30-46	46-61	61-76	76-91	91-107	>107		
Broadleaf Deciduous Large (BDL)											
<i>Acer rubrum</i>	156	141	205	296	122	39	6	0	0	965	5.1
<i>Quercus robur</i>	4	9	79	115	31	15	14	8	9	284	1.5
<i>Fagus sylvatica</i>	21	63	106	31	8	4	3	0	2	238	1.3
<i>Platanus acerifolia</i>	1	4	18	13	34	42	35	34	51	232	1.2
<i>Acer pseudoplatanus</i>	10	4	31	63	60	43	14	2	1	228	1.2
<i>Liquidambar styraciflua</i>	2	23	41	84	58	9	0	0	0	217	1.2
<i>Liriodendron tulipifera</i>	0	12	55	25	35	39	22	10	5	203	1.1
BDL OTHER	168	324	355	226	249	178	82	38	33	1,653	8.8
Total	362	580	890	853	597	369	176	92	101	4,020	21.3

Broadleaf Deciduous Medium (BDM)											
<i>Quercus garryana</i>	98	24	65	135	162	144	80	71	38	817	4.3
<i>Betula papyrifera</i>	29	89	294	232	80	26	8	4	0	762	4.0
<i>Carpinus betulus</i>	23	74	158	331	92	18	0	0	0	696	3.7
<i>Aesculus hippocastanum</i>	9	13	33	105	165	186	96	33	17	657	3.5
<i>Acer campestre</i>	5	15	89	214	193	50	3	0	0	569	3.0
<i>Betula pendula</i>	4	13	208	205	70	7	1	0	0	508	2.7
<i>Ulmus carpinifolia</i>	12	13	28	70	91	119	100	28	16	477	2.5
<i>Magnolia kobus</i>	113	48	6	10	10	7	0	0	0	194	1.0
BDM OTHER	110	144	178	77	60	20	6	2	0	597	3.2
Total	403	433	1,059	1,379	923	577	294	138	71	5,277	28.0

Broadleaf Deciduous Small (BDS)											
<i>Prunus cerasifera</i>	124	203	479	647	390	91	6	0	0	1,940	10.3
<i>Prunus serrulata</i>	111	180	450	435	259	109	11	2	0	1,557	8.3
<i>Crataegus oxyacantha</i>	44	108	535	454	37	5	0	0	0	1,183	6.3
<i>Prunus yedoensis</i>	62	62	152	219	139	67	12	0	1	714	3.8
<i>Aesculus carnea</i>	14	40	73	239	160	30	14	1	0	571	3.0
<i>Fraxinus ornus</i>	23	50	135	85	83	48	7	1	0	432	2.3
<i>Prunus accolade</i>	20	58	169	87	8	1	0	0	0	343	1.8
<i>Crataegus x lavalleyi</i>	56	16	35	74	29	7	0	0	0	217	1.2
BDS OTHER	363	229	378	333	100	51	8	1	0	1,463	7.8
Total	817	946	2,406	2,573	1,205	409	58	5	1	8,420	44.6

Broadleaf Evergreen Medium (BEM)											
BEM OTHER	11	20	38	43	17	4	0	0	0	133	0.7



Species	DBH Class (cm)									Total	% of Pop.
	0-8	8-15	15-30	30-46	46-61	61-76	76-91	91-107	>107		
Broadleaf Evergreen Small (BES)											
BES OTHER	7	11	14	5	4	0	2	0	0	43	0.2
Conifer Evergreen Large (CEL)											
CEL OTHER	83	78	106	106	70	84	20	18	17	582	3.1
Conifer Evergreen Medium (CEM)											
CEM OTHER	7	36	76	57	62	26	2	2	2	270	1.4
Total											
Conifer Evergreen Small (CES)											
CES OTHER	28	40	55	0	1	0	0	0	0	124	0.7
Citywide Total	1,718	2,144	4,644	5,016	2,879	1,469	552	255	192	18,869	100%



Species Importance

To quantify the significance of any one particular species to Victoria's urban forest, an *importance value* (IV) is derived for each of the most common species. Importance values are particularly meaningful to urban forest managers because they indicate a community's reliance on the functional capacity of a particular species. **i-Tree Streets calculates importance value based on the mean of three values: percentage of total population, percentage of total leaf area, and percentage of total canopy cover.** Importance value goes beyond tree numbers alone to suggest reliance on specific species based on the benefits they provide. The importance value can range from zero (which implies no reliance) to 100 (suggesting total reliance).

No single species should dominate the composition in the City's urban forest population. Since importance value goes beyond population numbers alone, it can help managers to better comprehend the resulting loss of benefits from a catastrophic loss of any one species. When importance values are almost equal among the 10 to 15 most abundant species, the risk of major reductions to benefits is significantly reduced. Of course, suitability of the dominant species is another important consideration. Planting short-lived or poorly adapted species can result in shorter lifespans and increased long-term management investments.

The 23 most abundant species each represent greater than 1% of the total population. Together, these 23 species represent 74% of the total population, 77% of the total leaf area, and 79% of the total canopy cover for a combined importance value of 76.7 (Table 2). Of these species, Victoria relies most on Garry oak (*Quercus garryana*, IV=7.6), and horse chestnut (*Aesculus hippocastanum*, IV=6.7)

The low importance value of some species is a function of tree type. Immature and small-stature populations tend to have lower importance values than their percentage in the overall population might suggest. This is due to their relatively small leaf area and canopy coverage. For instance, purple plum (*Prunus cerasifera*) represents 10% of the population but has an IV of just 5.8.

Canopy Cover

The amount and distribution of leaf surface area is the driving force behind the urban forest's ability to produce benefits for the community (Clark, 1997). As canopy cover increases, so do the benefits afforded by leaf area. Overall, the inventoried trees provide 127 hectares of tree canopy cover. The greatest percent of canopy cover is provided by Garry oak (*Quercus garryana*, 8.3%) followed by horse chestnut (*Aesculus hippocastanum*, 7.7%) It is noteworthy that the most common species are not providing the largest amounts of canopy, mostly due to their comparatively small statures at maturity.



The street trees provide 127 hectares of canopy cover.



Table 2. Importance Value (IV) of Victoria's Most Prevalent Species

Species	Number of Trees	% of Pop.	Leaf Area (m ²)	% of Total Leaf Area	Canopy Cover (m ²)	% of Total Canopy Cover	Importance Value
<i>Prunus cerasifera</i>	1,940	10.3	133,926	2.6	56,577	4.5	5.8
<i>Prunus serrulata</i>	1,557	8.3	105,937	2.0	44,799	3.5	4.6
<i>Crataegus oxyacantha</i>	1,183	6.3	157,977	3.0	69,134	5.5	4.9
<i>Acer rubrum</i>	965	5.1	310,090	5.9	68,585	5.4	5.5
<i>Quercus garryana</i>	817	4.3	527,103	10.1	105,653	8.3	7.6
<i>Betula papyrifera</i>	762	4.0	216,967	4.2	52,390	4.1	4.1
<i>Prunus yedoensis</i>	714	3.8	48,595	0.9	20,561	1.6	2.1
<i>Carpinus betulus</i>	696	3.7	208,164	4.0	52,191	4.1	3.9
<i>Aesculus hippocastanum</i>	657	3.5	468,732	9.0	97,444	7.7	6.7
<i>Aesculus carnea</i>	571	3.0	150,269	2.9	49,707	3.9	3.3
<i>Acer campestre</i>	569	3.0	234,143	4.5	57,270	4.5	4.0
<i>Betula pendula</i>	508	2.7	150,782	2.9	37,913	3.0	2.9
<i>Ulmus carpinifolia</i>	477	2.5	358,482	6.9	72,326	5.7	5.0
<i>Fraxinus ornus</i>	432	2.3	93,341	1.8	31,346	2.5	2.2
<i>Prunus accolade</i>	343	1.8	22,918	0.4	9,696	0.8	1.0
<i>Quercus robur</i>	284	1.5	119,474	2.3	25,406	2.0	1.9
<i>Fagus sylvatica</i>	238	1.3	51,893	1.0	12,632	1.0	1.1
<i>Platanus acerifolia</i>	232	1.2	235,729	4.5	43,348	3.4	3.1
<i>Acer pseudoplatanus</i>	228	1.2	144,514	2.8	28,689	2.3	2.1
<i>Liquidambar styraciflua</i>	217	1.2	96,693	1.8	20,799	1.6	1.5
<i>Crataegus x lavalleyi</i>	217	1.2	35,203	0.7	12,664	1.0	0.9
<i>Liriodendron tulipifera</i>	203	1.1	136,367	2.6	26,622	2.1	1.9
<i>Magnolia kobus</i>	194	1.0	19,682	0.4	4,577	0.4	0.6
Other Species	4,865	25.8	1,201,093	23.0	266,282	21.0	23.3
Total	18,869	100%	5,228,074	100%	1,266,610	100%	100



Relative Age Distribution

Age distribution can be approximated by considering the DBH range of the overall population and of individual species. Trees with smaller diameters tend to be younger. It is important to consider that for multi-trunk trees DBH was collected as the diameter of the largest trunk added to half the sum of all other trunks.

The distribution of individual tree ages within a tree population influences present and future costs as well as the flow of benefits. An ideally aged population allows managers to allocate annual maintenance costs uniformly over many years and assures continuity in overall tree canopy coverage and associated benefits. A desirable distribution has a high proportion of young trees to offset establishment and age related mortality as the percentage of older trees declines over time (Richards, 1982/83). This ideal, albeit uneven, distribution suggests a large fraction of trees (~40%) should be young with DBH less than 20 cm, while only 10% should be in the large diameter classes (>61 cm).

Overall, the age distribution of Victoria's urban forest is weighted towards established trees (Figure 3); with 66% of the population consisting of trees with a DBH of 15.2 - 61 cm. Young trees (under 15.2 cm DBH) comprise just 20% of the population. This type of established tree population provides very high benefits on a per-tree basis. It is important for managers to understand that this established population may have higher pruning and removal costs associated with it than a comparable younger urban forest in another city. With a stocking rate of 94%, there are 1,111 planting opportunities in the City. It is recommended those sites be planted in the near future, and that trees are replaced within a year of removal.

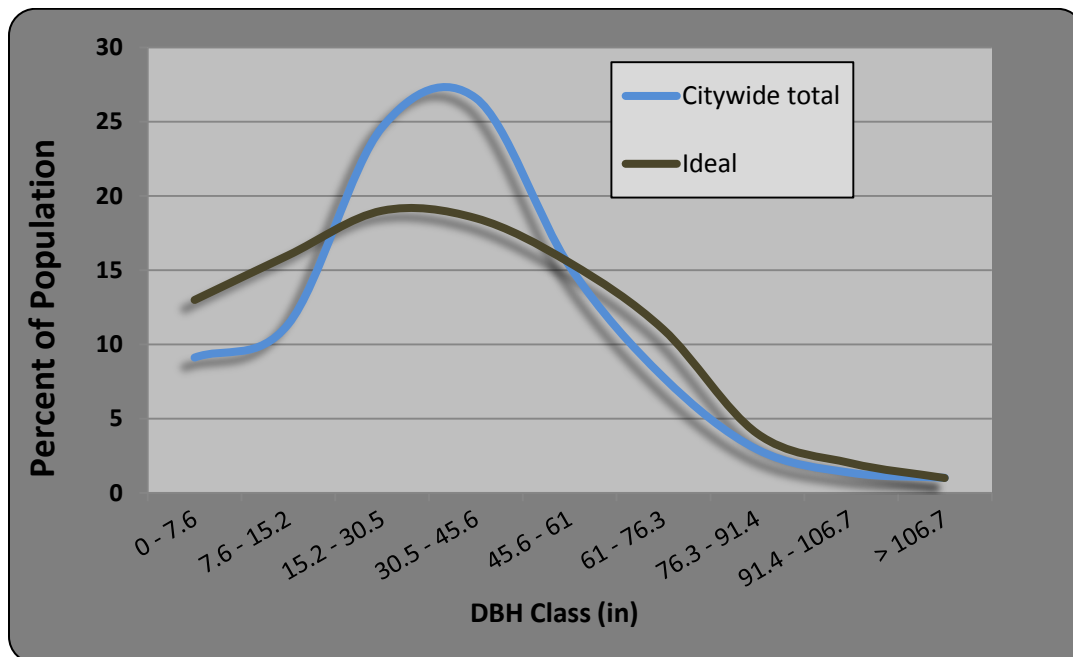


Figure 3. Overall Relative Age Distribution of Victoria's Tree Inventory



Two populations, Garry oak (*Quercus garryana*) and horse chestnut (*Aesculus hippocastanum*) are well represented in the large, mature DBH classes (61 cm and above), however, while there are very few young horse chestnuts (just 3% under 15.2 cm), Garry oak is well represented in the 0-7.6 cm class (12% of the population). This indicates that Garry oak is still in the planting palette, while horse chestnut may have fallen out of favor. If it is desirable to maintain a population of horse chestnut, the species should be reintroduced into the planting palette.

As young populations mature and eventually grow old, their maintenance needs are likely to increase. Future plantings should adequately represent long-standing and high-performing species. Sufficient replacements should be planted to ensure the functional capacity and benefit streams from these populations, even as individuals begin to decline.

New installations should carefully consider species selection, increasing the use of underused and well-performing species, and focusing on medium and large-statured species. In addition to planting, it is critical to dedicate resources to ensuring proper maintenance as trees mature. A long-term, sustainable management plan, including regular inspection and pruning cycles, can ensure Victoria's urban forest remains healthy and well-structured, thereby maximizing environmental services to the community, reducing risk, and promoting a consistent flow of benefits for many generations to come.

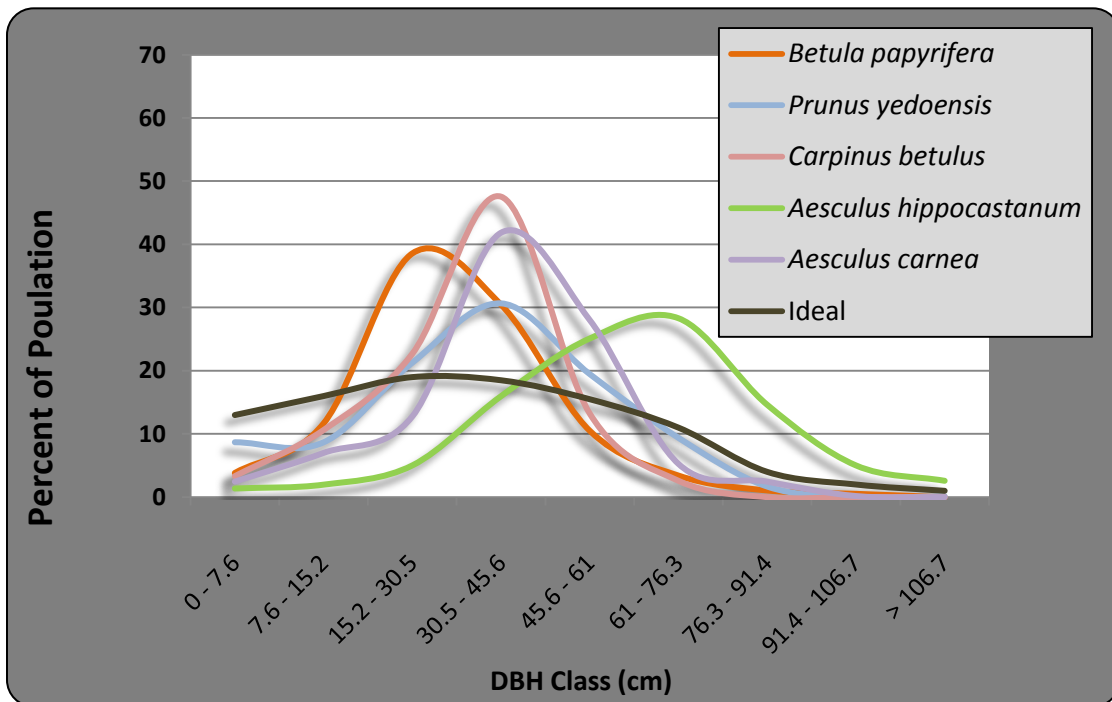
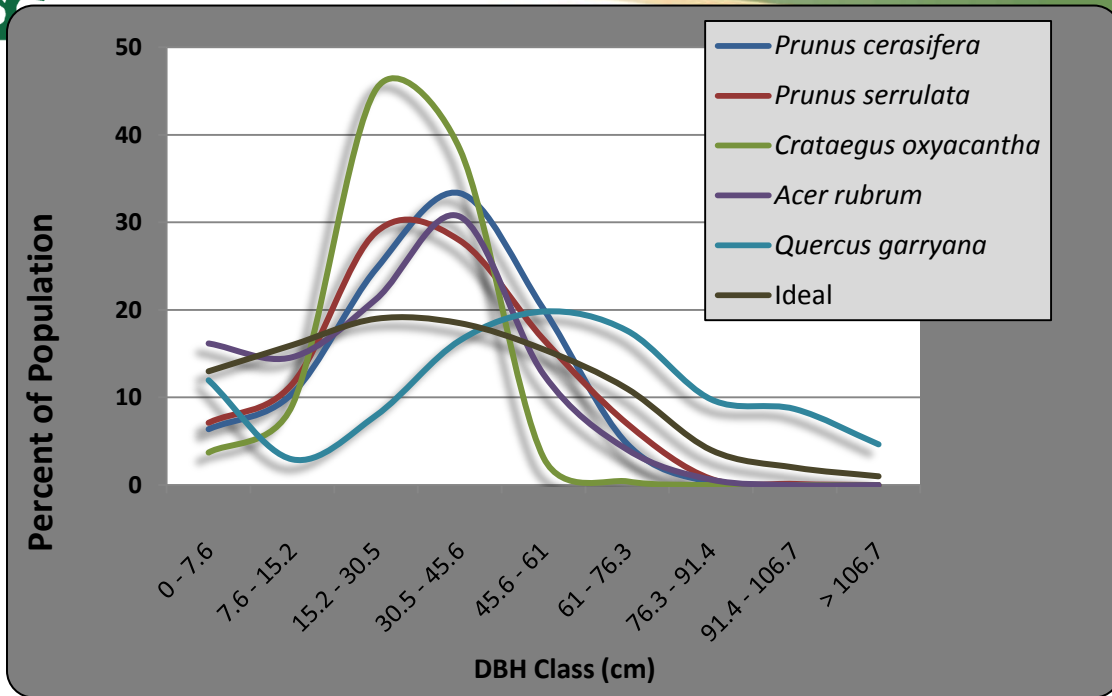


Figure 4. Relative Age Distribution of Victoria's Top 10 Inventoried Tree Species



Urban Forest Condition

Tree condition is an indication of how well trees are managed and how well they are performing. Each inventoried tree was rated for the condition of the wood, and the foliage. Wood condition is considered in Figure 5. When trees are performing at their peak, the benefits they provide are maximized.

The inventory found 56% of Victoria's trees in good or better condition and 37% in fair condition. Over 7% of the population was determined to be in poor, critical or dead condition. Removal or mitigation of failing trees is recommended as soon as possible to reduce liability exposure.

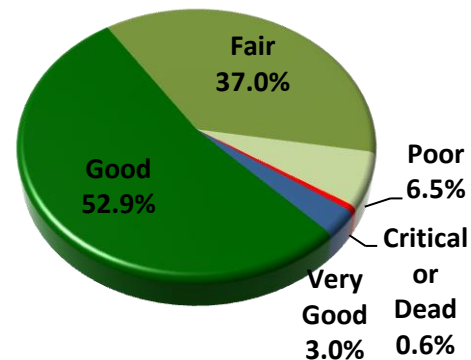


Figure 5. Wood Condition of Victoria's Street Trees

Relative Performance

The *relative performance index* (RPI) is another way to analyze the condition and suitability of specific tree species. The RPI provides an urban forest manager with a detailed perspective on how one species' performance compares to that of another. The index compares the condition ratings of each tree species with the condition ratings of every other tree species within a given urban forest population. An RPI value of 1.0 or better indicates that the species is performing as well or better than average when compared to other species. An RPI value below 1.0 indicates that the species is not performing as well in comparison to the rest of the population.

Among the 23 most common species collected by the inventory, 13 have an RPI of 1.0 or greater (Table 3). Of these, beech (*Fagus sylvatica*, RPI=1.1), Lavalle hawthorn (*Crataegus x lavallei*, RPI=1.07), hornbeam (*Carpinus betulus*, RPI = 1.07), and Kobus magnolia (*Magnolia kobus*, RPI=1.07) have the highest performance ratings.

The RPI can be a useful tool for urban forest managers. For example, if a community has been planting two or more new species, the RPI can be used to compare their relative performance. If the RPI indicates that one is performing relatively poorly, managers may decide to reduce or even stop planting that species and subsequently save money on both planting stock and replacement costs. The RPI enables managers to look at the performance of long-standing species as well. Established species with an RPI of 1.00 or greater have performed well when compared to the population as a whole. These top performers should be retained, and planted, as a healthy proportion of the overall population. It is important to keep in mind that, because RPI is based on condition at the time of the inventory, it may not reflect cosmetic or nuisance issues, especially seasonal issues that are not threatening the health or structure of the trees.

An RPI value less than 1.00 may be indicative of a species that is not well adapted to local conditions. Poorly adapted species are more likely to present increased safety and maintenance issues. Species with an RPI less than 1.00 should receive careful consideration before being selected for future planting choices. Prior to selecting or deselecting trees based on RPI alone, managers are encouraged to take into account the age distribution of the species, among other factors. A species that has a RPI of less than 1.00, but has a significant number of trees in larger DBH classes, may simply be exhibiting signs of population senescence. The individuals of this species may have produced substantial benefits over the years and the species should continue to be considered when making determinations for future planting.



Table 3. Relative Performance Index (RPI) for Victoria's Most Common Street Trees

Species	Excellent	Very Good	Good	Fair	Poor	Critical	Dead or Dying	RPI	# of Trees	% of Pop.
<i>Prunus cerasifera</i>	0.0	1.4	48.8	39.4	10.1	0.2	0.1	0.96	1,940	10.3
<i>Prunus serrulata</i>	0.0	1.2	43.0	48.0	6.6	0.7	0.4	0.95	1,557	8.3
<i>Crataegus oxyacantha</i>	0.0	0.5	34.1	57.4	7.4	0.3	0.3	0.92	1,183	6.3
<i>Acer rubrum</i>	0.1	5.3	59.0	33.6	1.6	0.2	0.4	1.04	965	5.1
<i>Quercus garryana</i>	0.0	1.2	59.2	36.1	2.8	0.1	0.7	1.02	817	4.3
<i>Betula papyrifera</i>	0.0	1.6	57.8	36.2	3.7	0.3	0.3	1.02	762	4.0
<i>Prunus yedoensis</i>	0.0	1.7	39.8	48.8	8.7	0.6	0.4	0.93	714	3.8
<i>Carpinus betulus</i>	0.1	3.1	70.1	24.1	2.2	0.1	0.3	1.07	696	3.7
<i>Aesculus hippocastanum</i>	0.0	0.5	48.1	46.0	5.3	0.1	0.0	0.98	657	3.5
<i>Aesculus carnea</i>	0.0	0.7	51.7	44.7	2.6	0.1	0.2	1.00	571	3.0
<i>Acer campestre</i>	0.0	0.6	64.8	33.7	0.8	0.0	0.1	1.05	569	3.0
<i>Betula pendula</i>	0.0	0.3	49.1	44.7	4.8	0.3	0.8	0.97	508	2.7
<i>Ulmus carpinifolia</i>	0.0	0.0	44.3	53.1	2.5	0.0	0.0	0.97	477	2.5
<i>Fraxinus ornus</i>	0.0	2.7	48.7	43.5	4.6	0.2	0.2	0.99	432	2.3
<i>Prunus accolade</i>	0.0	0.4	39.4	53.2	6.0	1.0	0.0	0.94	343	1.8
<i>Quercus robur</i>	0.0	0.4	68.7	29.6	1.2	0.2	0.0	1.06	284	1.5
<i>Fagus sylvatica</i>	0.0	6.1	74.2	18.3	1.5	0.0	0.0	1.10	238	1.3
<i>Platanus acerifolia</i>	0.0	0.4	55.2	42.2	1.9	0.2	0.0	1.01	232	1.2
<i>Acer pseudoplatanus</i>	0.0	0.4	44.3	45.6	9.6	0.0	0.0	0.95	228	1.2
<i>Liquidambar styraciflua</i>	0.0	1.8	63.6	33.4	0.9	0.2	0.0	1.05	217	1.2
<i>Crataegus x lavalleyi</i>	0.0	3.5	71.0	22.4	3.2	0.0	0.0	1.07	217	1.2
<i>Liriodendron tulipifera</i>	0.0	0.7	58.9	35.5	4.4	0.5	0.0	1.02	203	1.1
<i>Magnolia kobus</i>	0.0	12.4	59.3	25.0	2.8	0.5	0.0	1.07	194	1.0
Other Species	0.0	5.2	58.2	30.9	4.9	0.2	0.4	1.03	4,865	25.8
Citywide	0.0	2.6	53.2	38.6	5.1	0.4	0.3	1.00	18,869	100%

Table 3 shows the percent of each species that is performing in each condition category. These values are based on the average of both the foliar and woody condition ratings.



The RPI value can also help to identify underused species that are demonstrating good performance. Trees with an RPI value greater than 1.00 and an established age distribution may be indicating their suitability in the local environment and should receive consideration for additional planting (Table 4). When considering new species, it helps to base the decision on established populations. The greater number of trees of a particular species, the more relevant the RPI becomes. The following species appear to be performing well and should be considered for future tree plantings.

**Table 4. Tree Species Which May be Underused,
Based on RPI**

Species	RPI	# of Trees	% of Pop.
<i>Fagus sylvatica</i>	1.1	238	1.3
<i>Crataegus x lavalleyi</i>	1.07	217	1.2
<i>Quercus robur</i>	1.06	284	1.5
<i>Liquidambar styraciflua</i>	1.05	217	1.2
<i>Liriodendron tulipifera</i>	1.02	203	1.1
<i>Platanus acerifolia</i>	1.01	232	1.2

Replacement Value

The current value of Victoria's inventoried tree resource is approximately \$84 million. The community forest is a public asset that, when properly cared for, has the potential to appreciate in value as the trees mature over time. Replacement value accounts for the historical investment in trees over their lifetime. Replacement value is also a way of describing the value of a tree population (and/or average value per tree) at a given time. The replacement value reflects current population numbers, stature, placement, and condition. There are several methods available for obtaining a fair and reasonable perception of a tree's value (CTLA, 1992; Watson, 2002). The cost approach, trunk formula method used in this analysis assumes the value of a tree is equal to the cost of replacing the tree in its current state (Cullen, 2002).

To replace Victoria's current inventoried tree population of 18,869 trees with trees of similar size, species, and condition would cost over \$84 million (Table 5). The average replacement value per tree is \$4,465. Among the most common species, Garry oak (*Quercus garryana*) represents the largest percent of the value at \$8,300,052, or 9.9% of the value while comprising just 4.3% of the population. The high value of this species reinforces its importance to the City. Many of the highest valued species are large and medium-stature trees with large canopies and are therefore likely to have high importance values as well.

Victoria's street trees represent a vital component of the City's infrastructure and a public asset valued at approximately \$84 million—an asset that, with proper care and maintenance, will increase in value over time. Distinguishing replacement value from the value of annual benefits produced by Victoria's inventoried street trees is very important. Annual benefits are examined in Chapter 3.



Table 5. Replacement Value of Victoria's Street Trees

Species	DBH Class (cm)									Total	% of Total \$
	0-7.6	7.6-15.2	15.2-30.5	30.5-45.6	45.6-61	61-76.3	76.3-91.4	91.4-106.7	> 106.7		
<i>Quercus garryana</i>	29,559	14,658	104,142	559,318	1,321,967	1,924,252	1,536,831	1,779,203	1,030,121	8,300,052	9.9
<i>Prunus cerasifera</i>	28,838	116,979	791,138	2,557,439	2,703,108	1,004,003	82,320	0	0	7,283,826	8.6
<i>Aesculus hippocastanum</i>	2,668	8,921	60,209	439,158	1,238,253	2,318,844	1,763,959	791,421	374,157	6,997,590	8.3
<i>Prunus serrulata</i>	25,653	101,492	706,064	1,667,122	1,853,067	1,232,352	163,313	35,071	0	5,784,133	6.9
<i>Ulmus carpinifolia</i>	3,654	7,594	46,210	289,672	682,798	1,493,016	1,792,430	718,853	379,869	5,414,096	6.4
<i>Acer campestre</i>	1,421	10,106	158,546	927,238	1,597,922	661,825	49,826	0	0	3,406,883	4.0
<i>Prunus yedoensis</i>	14,151	33,094	228,633	852,576	1,028,895	733,096	184,557	0	23,473	3,098,474	3.7
<i>Aesculus carnea</i>	3,149	23,066	123,145	983,135	1,259,645	388,897	259,540	29,807	0	3,070,384	3.6
<i>Crataegus oxyacantha</i>	9,388	55,328	800,942	1,701,664	247,480	48,040	0	0	0	2,862,842	3.4
<i>Carpinus betulus</i>	7,191	48,507	280,273	1,482,837	747,151	226,567	0	0	0	2,792,526	3.3
<i>Platanus acerifolia</i>	124	1,950	24,528	41,632	187,954	367,727	440,101	569,507	920,387	2,553,911	3.0
<i>Acer rubrum</i>	49,127	80,204	281,244	932,323	726,222	366,138	88,794	0	0	2,524,052	3.0
<i>Betula papyrifera</i>	6,609	44,631	389,212	763,910	482,660	231,420	105,441	74,606	0	2,098,488	2.5
<i>Fraxinus ornus</i>	5,123	28,991	216,674	352,617	617,031	595,698	124,792	25,424	0	1,966,350	2.3
<i>Quercus robur</i>	1,065	5,706	139,455	511,065	266,852	215,907	283,659	221,509	270,590	1,915,807	2.3
<i>Betula pendula</i>	805	5,435	282,411	711,681	427,854	72,601	13,076	0	0	1,513,863	1.8
<i>Liriodendron tulipifera</i>	0	6,738	86,639	100,705	247,799	425,109	308,623	192,392	119,632	1,487,636	1.8
<i>Acer pseudoplatanus</i>	2,539	2,030	37,381	165,050	304,891	359,845	158,086	33,466	15,436	1,078,726	1.3
<i>Sorbus intermedia</i>	4,755	27,357	42,738	144,908	401,662	207,351	53,061	0	0	881,832	1.0
<i>Fagus sylvatica</i>	6,169	48,579	264,078	203,507	93,147	76,684	70,822	0	78,615	841,601	1.0
Other Species	763,779	2,643,497	6,013,090	7,916,986	7,788,444	5,377,265	2,754,907	2,205,994	19,435,776	18,378,020	21.8
Citywide Total	\$436,244	\$1,200,887	\$7,177,637	\$19,286,672	\$20,454,229	\$16,719,945	\$9,085,922	\$5,619,477	\$4,270,058	\$84,251,071	100%



Chapter 3: Urban Forest Resource Benefits

Trees are important to Victoria. Environmentally, they help conserve and reduce energy use, reduce global carbon dioxide (CO₂) levels, improve air quality, and mitigate stormwater runoff. Additionally, trees provide a wealth of well-documented psychological, social, and economic benefits related primarily to their aesthetic effects. Environmentally, trees make good sense, working ceaselessly to provide benefits back to the community. However, the question remains, are the collective benefits worth the cost of management? In other words, are trees a good investment for Victoria? To answer this question, the benefits must be quantified in financial terms.

The i-Tree *Streets* analysis model allows benefits to be quantified based on regional reference cities and local community attributes, such as median home values and local energy prices. This analysis provides a snapshot of the annual benefits (along with the value of those benefits) produced by Victoria's inventoried urban forest. While the annual benefits produced by the urban forest can be substantial, it is important to recognize that the greatest benefits from the urban forest are derived from the benefit stream that results over time, from a mature forest where trees are well managed, healthy, and long-lived.

This analysis used Victoria's current inventory data and i-Tree's *Streets* software to assess and quantify the beneficial functions of this resource and to place a dollar value on the annual environmental benefits these trees provide. The benefits calculated by i-Tree *Streets* are estimations based on the best available and current scientific research with an accepted degree of uncertainty. The data returned from i-Tree *Streets* can provide a platform from which informed management decisions can be made (Maco and McPherson, 2003). A discussion on the methods used to calculate and assign a monetary value to these benefits is included in Appendix A.

Energy Savings

Trees modify climate and conserve energy in three principal ways:

- Shading reduces the amount of radiant energy absorbed and stored by hardscape surfaces, thereby reducing the heat island effect.
- Transpiration converts moisture to water vapor, thereby cooling the air by using solar energy that would otherwise result in heating of the air.
- Reduction of wind speed and the movement of outside air into interior spaces and conductive heat loss where thermal conductivity is relatively high (e.g., glass windows) (Simpson, 1998).

The *heat island effect* describes the increase in urban temperatures in relation to surrounding suburban and rural areas. Heat islands are associated with an increase in hardscape and impervious surfaces. Trees and other vegetation within an urbanized environment help reduce the heat island effect by lowering air temperatures 5°F (3°C) compared with outside the green space (Chandler, 1965). On a larger citywide scale, temperature differences of more than 9°F (5°C) have been observed between city centers without adequate canopy coverage and more vegetated suburban areas (Akbari and others, 1992). The relative importance of these effects depends upon the size and configuration of trees and other landscape elements (McPherson, 1993). Tree spacing, crown spread, and vertical distribution of leaf area each influence the transport of warm air and pollutants along streets and out of urban canyons.

Trees reduce conductive heat loss from buildings by reducing air movement into buildings and against conductive surfaces (e.g., glass, metal siding). Trees can reduce wind speed and the resulting air infiltration by up to 50%, translating into potential annual heating savings of 25% (Heisler, 1986).



Electricity and Natural Gas Reduction

Electricity and natural gas saved annually in Victoria from both the shading and climate effects of trees is equal to 5,430 GJ (valued at \$104,084) from electricity savings and 15,107 GJ (valued at \$49,400) from natural gas savings, for a total retail savings of approximately \$153,484 and an average of \$8.13 per tree (Table 6). On a per-tree basis, London plane (*Platanus acerifolia*) is providing the greatest benefit at \$23.30. The population of Garry oak (*Quercus garryana*) provides 8.5% of the energy savings while representing just 4.3% of the population.

Small stature trees are less able to provide electricity and natural gas reductions. On a per-tree basis, *Prunus* species provide the lowest benefits. Among the 23 most common species, the population of Yoshino cherry (*Prunus yedoensis*) provides the lowest benefits with an average of \$2.39 per tree annually. Purple plum (*Prunus ceracifera*., \$2.46 per tree) and flowering cherry (*Prunus serrulata*, \$2.44 per tree) provide 5.6% of energy benefits while representing 18.5% of the population.

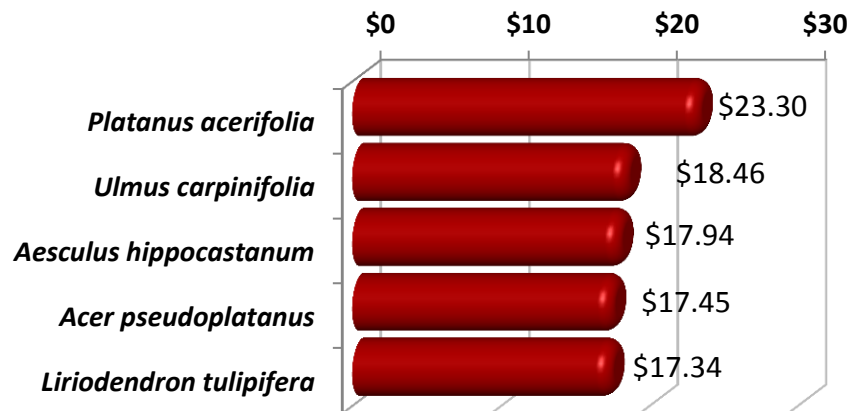


Figure 6. Annual Electricity and Natural Gas Benefits - Top Five Species



Table 6. Annual Electric and Natural Gas Benefits from Victoria's Street Trees

Species	Total Electricity (GJ)	Electricity (\$)	Total Natural Gas (GJ)	Natural Gas (\$)	Total (\$)	% of Pop.	% of Total \$	Avg. \$/tree
<i>Prunus cerasifera</i>	150.2	2,879	578.8	1,893	4,771	10.3	3.1	2.46
<i>Prunus serrulata</i>	119.5	2,290	459.9	1,504	3,794	8.3	2.5	2.44
<i>Crataegus oxyacantha</i>	202.6	3,883	596.9	1,952	5,835	6.3	3.8	4.93
<i>Acer rubrum</i>	350.7	6,722	971.1	3,175	9,897	5.1	6.4	10.26
<i>Quercus garryana</i>	484.4	9,285	1,160.0	3,793	13,079	4.3	8.5	16.01
<i>Betula papyrifera</i>	246.0	4,716	740.6	2,422	7,138	4.0	4.7	9.37
<i>Prunus yedoensis</i>	53.7	1,029	206.3	675	1,704	3.8	1.1	2.39
<i>Carpinus betulus</i>	241.3	4,624	712.0	2,328	6,953	3.7	4.5	9.99
<i>Aesculus hippocastanum</i>	436.0	8,357	1,049.0	3,430	11,787	3.5	7.7	17.94
<i>Aesculus carnea</i>	169.5	3,249	465.8	1,523	4,772	3.0	3.1	8.36
<i>Acer campestre</i>	253.6	4,861	698.4	2,284	7,144	3.0	4.7	12.56
<i>Betula pendula</i>	175.8	3,370	530.5	1,735	5,105	2.7	3.3	10.05
<i>Ulmus carpinifolia</i>	327.2	6,271	775.0	2,534	8,805	2.5	5.7	18.46
<i>Fraxinus ornus</i>	102.1	1,957	290.8	951	2,908	2.3	1.9	6.73
<i>Prunus accolade</i>	27.4	525	106.2	347	873	1.8	0.6	2.54
<i>Quercus robur</i>	128.5	2,463	375.0	1,226	3,690	1.5	2.4	12.99
<i>Fagus sylvatica</i>	60.2	1,153	177.1	579	1,732	1.3	1.1	7.28
<i>Platanus acerifolia</i>	203.8	3,906	458.3	1,499	5,405	1.2	3.5	23.30
<i>Acer pseudoplatanus</i>	144.8	2,775	368.0	1,203	3,978	1.2	2.6	17.45
<i>Liquidambar styraciflua</i>	106.8	2,048	291.8	954	3,002	1.2	2.0	13.83
<i>Crataegus x lavalleyi</i>	42.3	810	118.0	386	1,196	1.2	0.8	5.51
<i>Liriodendron tulipifera</i>	129.3	2,479	318.5	1,042	3,520	1.1	2.3	17.34
<i>Magnolia kobus</i>	22.4	429	67.7	222	651	1.0	0.4	3.36
Other Species	1,252.2	24,002	3,591.5	11,744	35,746	25.8	23.3	7.35
Total	5,430	\$104,084	15,107	\$49,400	\$153,484	100%	100%	\$8.13



Atmospheric Carbon Dioxide Reduction

As environmental awareness continues to increase, governments are paying particular attention to global warming and the effects of greenhouse gas emissions. Two national policy options are currently under debate the establishment of a carbon tax and a greenhouse gas cap-and-trade system, aimed at the reduction of atmospheric carbon dioxide (CO₂) and other greenhouse gases. A carbon tax would place a tax burden on each unit of greenhouse gas emission and would require regulated entities to pay for their level of emissions. Alternatively, in a cap-and-trade system, an upper limit (or cap) is placed on global (federal, regional, or other jurisdiction) levels of greenhouse gas emissions and the regulated entities would be required to either reduce emissions to required limits or purchase emissions allowances in order to meet the cap (Williams, 2007).

The idea that carbon credits are a commodity that can be exchanged for financial gain is based on the growth of emerging carbon markets. The Center for Urban Forest Research recently led the development of Urban Forest Project Reporting Protocol. The protocol, which incorporates methods of the Kyoto Protocol and Voluntary Carbon Standard (VCS), establishes methods for calculating reductions, provides guidance for accounting and reporting, and guides urban forest managers in developing tree planting and stewardship projects that could be registered for greenhouse gas (GHG) reduction credits (offsets). The protocol can be applied to urban tree planting projects within municipalities, campuses, and utility service areas anywhere in the United States.

While Victoria's urban forest resource may or may not qualify for carbon-offset credits or be traded in the open market, the City's inventoried trees are nonetheless providing a significant reduction in atmospheric carbon dioxide (CO₂) for a positive environmental and financial benefit to the community.

Urban trees reduce atmospheric CO₂ in two ways:

- Directly, through growth and the sequestration of CO₂ in wood, foliar biomass, and soil.
- Indirectly, by lowering the demand for heating and air conditioning, thereby reducing the emissions associated with electric power generation and natural gas consumption.

At the same time, vehicles and other combustion engines used to plant and care for trees release CO₂ during operation. Additionally, when a tree dies, most of the CO₂ that accumulated as woody biomass is released back into the atmosphere during decomposition, except in cases where the wood is recycled. Each of these factors must be considered when calculating the net CO₂ benefits of trees.



Sequestered Carbon Dioxide

To date, Victoria's inventoried urban forest has sequestered a total of 33 million kg of carbon dioxide (CO₂), valued at \$547,113². Annually, this tree resource directly sequesters 1.1 million kg of CO₂, valued at \$18,331, into woody and foliar biomass. Accounting for estimated CO₂ emissions from tree decomposition (-158,895 kg), tree-related maintenance activity (-73,181 kg), and avoided CO₂ (1.5 million kg), Victoria's trees provide an annual net reduction in atmospheric CO₂ of 2.4 million kg, valued at \$39,493, with an average of \$2.09 per tree, as shown in Table 7.

London plane (*Platanus acerifolia*, \$5.25) is providing the highest per-tree carbon benefit, while the population of Garry oak (*Quercus garryana*, \$3,076) is providing the largest percent of the benefit, with 7.8% of the carbon benefit, yet representing 4.3% of the population. Small-stature plum and cherry (*Prunus*) species produce the lowest benefits with values of \$0.40 to \$0.53 on average per tree.

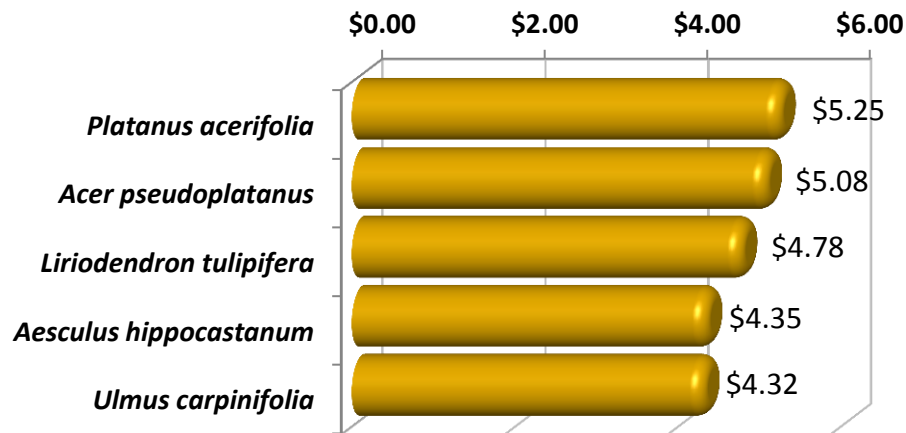


Figure 7. Annual Reduction of CO₂ - Top Five species

² Based on i-Tree Streets default value of \$15 per ton. Market value may vary.



Table 7. Annual CO₂ Reduction Benefits Provided by Victoria's Inventoried Street Trees

Species	Sequestered (kg)	Sequestered (\$)	Decomposition Release(kg)	Maintenance Release (kg)	Total Release (\$)	Avoided (kg)	Avoided (\$)	Net Total (kg)	Total (\$)	% of Pop.	% of Total \$	Avg. \$/tree
<i>Prunus cerasifera</i>	12,610	208.5	-3,843	-1,035	-17.1	41,817	691.4	49,549	819.3	10.3	2.1	0.42
<i>Prunus serrulata</i>	11,622	192.2	-3,024	-830	-13.7	33,272	550.1	41,039	678.6	8.3	1.7	0.44
<i>Crataegus oxyacantha</i>	65,725	1,086.7	-4,713	-4,650	-76.9	56,411	932.7	112,773	1,864.7	6.3	4.7	1.58
<i>Acer rubrum</i>	88,975	1,471.2	-6,815	-3,896	-64.4	97,648	1,614.6	175,911	2,908.6	5.1	7.4	3.01
<i>Quercus garryana</i>	77,839	1,287.0	-20,494	-6,142	-101.6	134,883	2,230.2	186,086	3,076.9	4.3	7.8	3.77
<i>Betula papyrifera</i>	59,506	983.9	-5,459	-3,330	-55.1	68,507	1,132.7	119,223	1,971.3	4.0	5.0	2.59
<i>Prunus yedoensis</i>	4,015	66.4	-1,401	-381	-6.3	14,948	247.2	17,181	284.1	3.8	0.7	0.40
<i>Carpinus betulus</i>	60,276	996.6	-5,172	-3,259	-53.9	67,175	1,110.7	119,021	1,968.0	3.7	5.0	2.83
<i>Aesculus hippocastanum</i>	74,960	1,239.4	-17,998	-5,566	-92.0	121,395	2,007.2	172,790	2,857.0	3.5	7.2	4.35
<i>Aesculus carnea</i>	34,813	575.6	-4,744	-3,204	-53.0	47,189	780.3	74,055	1,224.5	3.0	3.1	2.14
<i>Acer campestre</i>	60,869	1,006.5	-6,947	-3,407	-56.3	70,610	1,167.5	121,125	2,002.8	3.0	5.1	3.52
<i>Betula pendula</i>	44,275	732.1	-3,596	-2,382	-39.4	48,958	809.5	87,256	1,442.7	2.7	3.7	2.84
<i>Ulmus carpinifolia</i>	51,617	853.5	-14,103	-4,131	-68.3	91,098	1,506.3	124,481	2,058.3	2.5	5.2	4.32
<i>Fraxinus ornus</i>	20,262	335.0	-2,887	-2,134	-35.3	28,423	470.0	43,664	722.0	2.3	1.8	1.67
<i>Prunus accolade</i>	4,124	68.2	-641	-183	-3.0	7,630	126.2	10,931	180.7	1.8	0.5	0.53
<i>Quercus robur</i>	21,240	351.2	-2,455	-1,677	-27.7	35,784	591.7	52,892	874.5	1.5	2.2	3.08
<i>Fagus sylvatica</i>	15,335	253.6	-1,080	-781	-12.9	16,751	277.0	30,225	499.8	1.3	1.3	2.10



Species	Sequestered (kg)	Sequestered (\$)	Decomposition Release(kg)	Maintenance Release (kg)	Total Release (\$)	Avoided (kg)	Avoided (\$)	Net Total (kg)	Total (\$)	% of Pop.	% of Total \$	Avg. \$/tree
<i>Platanus acerifolia</i>	28,422	469.9	-8,996	-2,490	-41.2	56,744	938.2	73,681	1,218.3	1.2	3.1	5.25
<i>Acer pseudoplatanus</i>	35,416	585.6	-4,119	-1,516	-25.1	40,309	666.5	70,091	1,158.9	1.2	2.9	5.08
<i>Liquidambar styraciflua</i>	27,014	446.7	-2,148	-1,136	-18.8	29,752	491.9	53,482	884.3	1.2	2.2	4.08
<i>Crataegus x lavalleyi</i>	10,138	167.6	-1,096	-845	-14.0	11,766	194.6	19,964	330.1	1.2	0.8	1.52
<i>Liriodendron tulipifera</i>	28,507	471.4	-4,405	-1,441	-23.8	36,007	595.4	58,668	970.1	1.1	2.5	4.78
<i>Magnolia kobus</i>	5,803	95.9	-518	-351	-5.8	6,237	103.1	11,171	184.7	1.0	0.5	0.95
Other Species	265,266	4,386.1	-32,241	-18,417	-304.5	348,661	5,765.0	563,269	9,313.5	25.8	23.6	1.91
Citywide Total	1,108,629	\$18,331	-158,895	-73,181	-\$1,210	1,511,974	\$25,000	2,388,527	\$39,493	100%	100%	\$2.09



Air Quality Improvement

Urban trees improve air quality in five fundamental ways:

- Absorption of gaseous pollutants such as ozone (O₃), sulfur dioxide (SO₂), and nitrogen dioxide (NO₂) through leaf surfaces
- Interception of particulate matter (PM₁₀), such as dust, ash, dirt, pollen, and smoke
- Reduction of emissions from power generation by reducing energy consumption
- Increase of oxygen levels through photosynthesis
- Transpiration of water and shade provision, resulting in lower local air temperatures, thereby reducing ozone (O₃) levels

In the absence of cooling effects provided by trees, higher temperatures contribute to ozone (O₃) formation. Additionally, short-term increases in ozone concentrations are statistically associated with increased tree mortality for 95 large US cities (Bell and others, 2004).

However, it should be noted that while trees do a great deal to absorb air pollutants (especially ozone and particulate matter); they also negatively contribute to air pollution. Trees emit various biogenic volatile organic compounds (BVOCs), such as isoprene's and monoterpenes, which also contribute to ozone formation. i-Tree *Streets* analysis accounts for these BVOC emissions in the air quality net benefit.

Deposition, Interception, and Avoided Pollutants

Each year, approximately 4,586 kg of nitrogen dioxide (NO₂), sulfur dioxide (SO₂), small particulate matter (PM₁₀), and ozone (O₃) are intercepted or absorbed by the inventoried trees in Victoria, for a value of \$23,010 (Table 8). As a population, Garry oak (*Quercus garryana*) provide the largest proportion of deposition benefits, accounting for 9.2% while representing 4.3% of the population.

The energy savings provided by trees have the additional indirect benefit of reducing air pollutant emissions (NO₂, PM₁₀, SO₂, and VOCs) that result from energy production. Altogether, 4,431 kg of pollutants, valued at \$17,037, are avoided annually through the shading effects of Victoria's inventoried trees.

BVOC Emissions

Biogenic volatile organic compound (BVOC) emissions from trees, which negatively affect air quality, must also be considered. Approximately 3,186 kg of BVOCs are emitted annually from Victoria's inventoried trees, offsetting the total air quality benefit by -\$8,133. Among the most common species, the genus *Quercus* produces the most BVOCs. The population of English oak (*Quercus robur*) produce 207 kg, valued at -\$1,189, and Garry oak (*Quercus garryana*) produces 138 kg, valued at -\$795. The positive air quality impacts of Garry oak outweigh the BVOC release for a net positive impact of \$3.45 per tree while English oak has a net negative air quality impact valued at -\$0.19 annually.

Net Air Quality Improvement

The net value of air pollutants removed, avoided, and released by Victoria's inventoried street tree population is \$31,914 annually. The average net benefit per tree is \$1.69. Trees vary dramatically in their ability to produce air quality benefits. Typically, large-canopied trees with large leaf surface areas that are not high emitters of BVOCs produce the greatest benefits. On a per tree basis, London plane (*Platanus acerifolia*, \$6.89) and tulip tree (*Liriodendron tulipifera*, \$4.47) currently produce the greatest per tree net air quality improvements (Figure 8).

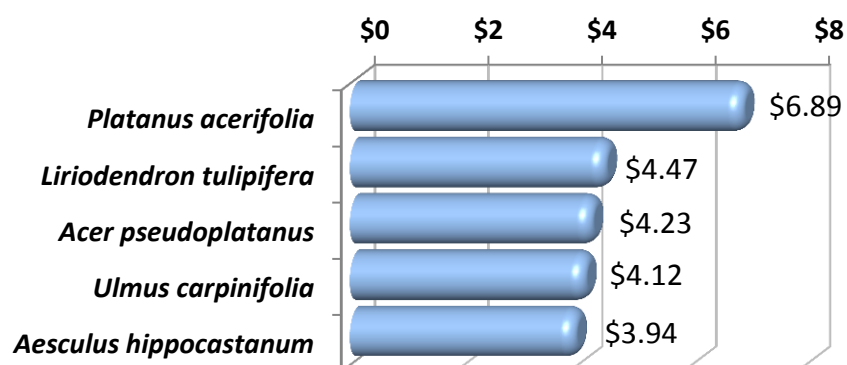


Figure 8. Annual Improvement to Air Quality - Top Five Species



Table 8. Annual Air Quality Improvements Provided by Victoria's Inventoried Street Trees

Species	Deposition					Avoided					Emissions			Total (\$)	% of Pop.	Avg. \$/tree
	O3 (kg)	NO2 (kg)	PM10 (kg)	SO2 (kg)	Total (\$)	NO2 (kg)	PM10 (kg)	VOC (kg)	SO2 (kg)	Total (\$)	BVOC (kg)	BVOC (\$)	Total (kg)			
<i>Prunus cerasifera</i>	168.2	41.6	41.8	19.6	1,368.41	49.4	9.8	9.1	55.3	484.13	-1.3	-7.42	393.5	1,845.12	10.3	0.95
<i>Prunus serrulata</i>	132.6	32.8	33.0	15.5	1,079.22	39.3	7.8	7.3	44.0	385.28	-1.0	-5.88	311.3	1,458.63	8.3	0.94
<i>Crataegus oxyacantha</i>	139.7	34.9	37.7	17.5	1,144.29	64.3	13.4	12.6	77.8	647.85	-1.2	-6.86	396.6	1,785.29	6.3	1.51
<i>Acer rubrum</i>	110.1	27.2	28.7	11.8	895.23	108.8	22.9	21.5	133.0	1,100.01	0.0	0.00	464.0	1,995.24	5.1	2.07
<i>Quercus garryana</i>	261.4	63.7	66.7	29.4	2,121.22	146.1	31.4	29.4	183.9	1,493.03	-138.1	-794.91	674.0	2,819.34	4.3	3.45
<i>Betula papyrifera</i>	68.0	16.6	18.8	7.6	553.55	78.0	16.2	15.2	93.6	783.35	-56.8	-326.76	257.3	1,010.14	4.0	1.33
<i>Prunus yedoensis</i>	61.1	15.1	15.2	7.1	497.58	17.6	3.5	3.3	19.8	172.81	-0.5	-2.70	142.3	667.68	3.8	0.94
<i>Carpinus betulus</i>	67.0	16.3	18.9	7.5	545.70	76.2	15.9	14.9	92.0	766.80	-54.4	-313.30	254.2	999.20	3.7	1.44
<i>Aesculus hippocastanum</i>	239.9	58.5	61.5	27.0	1,946.81	131.8	28.3	26.6	165.9	1,346.62	-122.3	-703.72	617.0	2,589.71	3.5	3.94
<i>Aesculus carnea</i>	134.1	33.5	34.7	16.8	1,096.77	52.9	11.2	10.4	64.8	535.04	-1.1	-6.52	357.2	1,625.29	3.0	2.85
<i>Acer campestre</i>	97.8	23.8	26.5	11.0	795.07	78.9	16.6	15.6	96.8	798.82	-61.1	-351.55	305.9	1,242.34	3.0	2.18
<i>Betula pendula</i>	45.3	11.0	12.8	5.1	368.70	55.8	11.6	10.9	67.0	560.18	-39.3	-226.42	180.0	702.46	2.7	1.38
<i>Ulmus carpinifolia</i>	184.1	44.9	46.9	20.7	1,493.52	98.5	21.2	19.9	124.3	1,007.80	-93.6	-538.41	466.9	1,962.92	2.5	4.12
<i>Fraxinus ornus</i>	78.8	19.7	20.5	9.9	644.53	32.0	6.7	6.3	38.9	323.24	-0.7	-4.05	212.1	963.71	2.3	2.23
<i>Prunus accolade</i>	28.4	7.0	7.1	3.3	230.92	9.0	1.8	1.7	10.1	88.65	-0.2	-1.27	68.2	318.30	1.8	0.93
<i>Quercus robur</i>	85.7	24.7	27.7	11.2	728.65	40.3	8.4	7.8	48.4	404.97	-206.6	-1,188.88	47.7	-55.25	1.5	-0.19

City of Victoria, British Columbia Resource Analysis

September 2014



Species	Deposition					Avoided					Emissions			Total (\$)	% of Pop.	Avg. \$/tree
	O3 (kg)	NO2 (kg)	PM10 (kg)	SO2 (kg)	Total (\$)	NO2 (kg)	PM10 (kg)	VOC (kg)	SO2 (kg)	Total (\$)	BVOC (kg)	BVOC (\$)	Total (kg)			
<i>Fagus sylvatica</i>	14.8	3.7	3.9	1.6	120.52	19.0	4.0	3.7	23.0	191.08	0.0	0.00	73.6	311.60	1.3	1.31
<i>Platanus acerifolia</i>	120.1	29.7	29.0	13.0	974.13	60.8	13.1	12.3	77.3	623.37	0.0	0.00	355.4	1,597.50	1.2	6.89
<i>Acer pseudoplatanus</i>	63.6	15.7	15.9	6.9	516.38	44.1	9.4	8.8	54.9	448.96	0.0	0.00	219.3	965.34	1.2	4.23
<i>Liquidambar styraciflua</i>	36.5	9.0	9.4	3.9	296.30	33.1	7.0	6.5	40.6	335.26	0.0	0.00	146.1	631.56	1.2	2.91
<i>Crataegus x lavalleyi</i>	31.5	7.9	8.2	3.9	257.55	13.2	2.8	2.6	16.1	132.95	-0.3	-1.54	85.8	388.96	1.2	1.79
<i>Liriodendron tulipifera</i>	62.6	15.5	15.4	6.8	508.27	39.2	8.4	7.9	49.1	399.80	0.0	0.00	204.8	908.07	1.1	4.47
<i>Magnolia kobus</i>	6.8	1.7	1.8	0.8	55.59	7.1	1.5	1.4	8.4	70.85	-5.9	-34.12	23.5	92.32	1.0	0.48
Other Species	581.5	148.0	156.0	68.2	4,770.98	390.4	81.8	76.6	473.6	3,936.16	-628.9	-3,618.49	1,347.2	5,088.65	25.8	1.05
Citywide Total	2,820	702	738	326	\$23,010	1,686	355	332	2,059	\$17,037	-1,413	-\$8,133	7,604	\$31,914	100 %	\$1.69



Stormwater Runoff Reductions

Rainfall interception by trees reduces the amount of stormwater that enters collection and treatment facilities during large storm events. Trees intercept rainfall in their canopy, acting as mini-reservoirs, controlling runoff at the source. Healthy urban trees reduce the amount of runoff and pollutant loading in receiving waters in three primary ways:

- Leaves and branch surfaces intercept and store rainfall, thereby reducing runoff volumes and delaying the onset of peak flows.
- Root growth and decomposition increase the capacity and rate of soil infiltration by rainfall and reduce overland flow.
- Tree canopies reduce soil erosion and surface flows by diminishing the impact of raindrops on bare soil.

Victoria's inventoried trees intercept 93,683 cubic meters of stormwater annually for an average of 4.96 cubic meters per tree (Table 9). That total amount of stormwater would fill more than 37 Olympic-sized swimming pools. The total value of this benefit to the City is \$267,282, an average of \$14.17 per tree. London plane (*Platanus acerifolia*) are currently providing the highest per tree benefit, valued at \$42.26. The population of Garry oak (*Quercus garryana*) are providing the greatest proportion of the stormwater benefit, at 8.3% of the benefit, while representing 4.3% of the population.

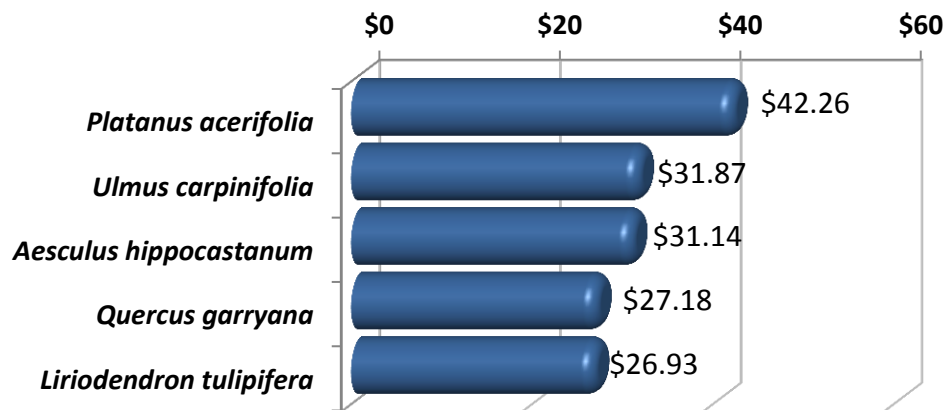


Figure 9. Annual Reduction in Stormwater Runoff - Top Five Species



**Table 9. Annual Stormwater Runoff Reduction Benefits
Provided by Victoria's Inventoried Street Trees**

Species	Total Rainfall Interception (m ³)	Total (\$)	% of Pop.	% of Total \$	Avg. \$/tree
<i>Prunus cerasifera</i>	5,591	15,951	10.3	5.97	8.22
<i>Prunus serrulata</i>	4,305	12,283	8.3	4.60	7.89
<i>Crataegus oxyacantha</i>	1,577	4,500	6.3	1.68	3.80
<i>Acer rubrum</i>	4,729	13,491	5.1	5.05	13.98
<i>Quercus garryana</i>	7,785	22,210	4.3	8.31	27.18
<i>Betula papyrifera</i>	3,837	10,947	4.0	4.10	14.37
<i>Prunus yedoensis</i>	2,071	5,909	3.8	2.21	8.28
<i>Carpinus betulus</i>	3,819	10,896	3.7	4.08	15.66
<i>Aesculus hippocastanum</i>	7,171	20,461	3.5	7.66	31.14
<i>Aesculus carnea</i>	1,243	3,547	3.0	1.33	6.21
<i>Acer campestre</i>	4,193	11,962	3.0	4.48	21.02
<i>Betula pendula</i>	2,773	7,912	2.7	2.96	15.58
<i>Ulmus carpinifolia</i>	5,329	15,203	2.5	5.69	31.87
<i>Fraxinus ornus</i>	813	2,320	2.3	0.87	5.37
<i>Prunus accolade</i>	811	2,314	1.8	0.87	6.75
<i>Quercus robur</i>	2,076	5,924	1.5	2.22	20.86
<i>Fagus sylvatica</i>	868	2,477	1.3	0.93	10.41
<i>Platanus acerifolia</i>	3,436	9,804	1.2	3.67	42.26
<i>Acer pseudoplatanus</i>	2,014	5,747	1.2	2.15	25.21
<i>Liquidambar styraciflua</i>	1,440	4,109	1.2	1.54	18.94
<i>Crataegus x lavalleyi</i>	307	875	1.2	0.33	4.03
<i>Liriodendron tulipifera</i>	1,916	5,467	1.1	2.05	26.93
<i>Magnolia kobus</i>	338	963	1.0	0.36	4.96
Other Species	25,239	72,009	25.8	26.94	14.80
Citywide total	93,683	\$267,282	100%	100%	\$14.17



Aesthetic, Property Value and Socioeconomic Benefits

Trees provide beauty in the urban landscape, privacy to homeowners, improved human health, a sense of comfort and place, and habitat for urban wildlife. Research shows that trees promote better business by stimulating more frequent and extended shopping and a willingness to pay more for goods and parking (Wolf, 1999). Some of these benefits are captured as a percentage of the value of the property on which a tree stands. To determine the value of these less tangible benefits, i-Tree *Streets* uses research that compares differences in sales prices of homes to estimate the contribution associated with trees. Differences in housing prices in relation to the presence (or lack) of a street tree help define the aesthetic value of street trees in the urban environment.

The calculation of annual aesthetic and other benefits corresponds with a tree's annual increase in leaf area. When a tree is actively growing, leaf area may increase dramatically. Once a tree is mature, there may be little or no net increase in leaf area from one year to the next; thus, there is little or no incremental annual aesthetic benefit for that year, although the cumulative benefit over the course of the entire life of the tree may be large. Since this report represents a one-year sample snapshot of the inventoried tree population, **aesthetic benefits reflect the increase in leaf area for each species population over the course of a single year.**

The total annual benefit associated with property value increases and other less tangible benefits is \$2,313,335, an average of \$122.60 per tree (Table 10). Tree species that produce the highest average per tree aesthetic benefits are sweetgum (*Liquidambar styraciflua*, \$287.28), and sycamore maple (*Acer pseudoplatanus*, \$273.26). The population of red maple (*Acer rubrum*) provides the largest proportion of the benefit, at 9.1% while representing just 5.1% of the population.

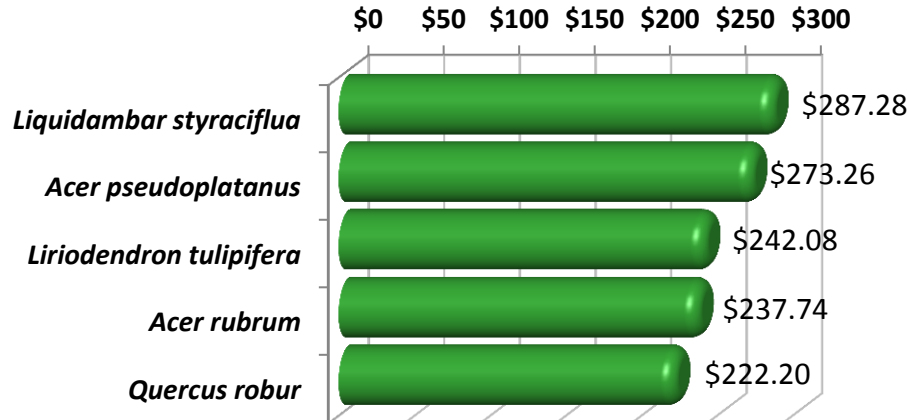


Figure 10. Annual Increase in Property and Socioeconomic Values - Top Five Species



Table 10. Annual Property Value, Aesthetic, and Socioeconomic Benefits Provided by Victoria's Inventoried Tree Resource

Species	Total (\$)	% of Pop.	% of Total \$	Avg. \$/tree
<i>Prunus cerasifera</i>	33,078	10.3	1.4	17.05
<i>Prunus serrulata</i>	29,867	8.3	1.3	19.18
<i>Crataegus oxyacantha</i>	132,627	6.3	5.7	112.11
<i>Acer rubrum</i>	229,417	5.1	9.9	237.74
<i>Quercus garryana</i>	128,373	4.3	5.5	157.13
<i>Betula papyrifera</i>	120,741	4.0	5.2	158.45
<i>Prunus yedoensis</i>	12,842	3.8	0.6	17.99
<i>Carpinus betulus</i>	112,745	3.7	4.9	161.99
<i>Aesculus hippocastanum</i>	107,624	3.5	4.7	163.81
<i>Aesculus carnea</i>	73,334	3.0	3.2	128.43
<i>Acer campestre</i>	96,497	3.0	4.2	169.59
<i>Betula pendula</i>	81,806	2.7	3.5	161.03
<i>Ulmus carpinifolia</i>	75,551	2.5	3.3	158.39
<i>Fraxinus ornus</i>	43,201	2.3	1.9	100.00
<i>Prunus accolade</i>	8,305	1.8	0.4	24.21
<i>Quercus robur</i>	63,103	1.5	2.7	222.20
<i>Fagus sylvatica</i>	52,359	1.3	2.3	220.00
<i>Platanus acerifolia</i>	37,056	1.2	1.6	159.72
<i>Acer pseudoplatanus</i>	62,303	1.2	2.7	273.26
<i>Liquidambar styraciflua</i>	62,340	1.2	2.7	287.28
<i>Crataegus x lavalleyi</i>	23,141	1.2	1.0	106.64
<i>Liriodendron tulipifera</i>	49,143	1.1	2.1	242.08
<i>Magnolia kobus</i>	29,335	1.0	1.3	151.21
Other Species	648,547	25.8	28.0	133.31
Citywide Total	\$2,313,335	100%	100%	\$122.60



Figure 11. Summary of Annual per Tree Benefits

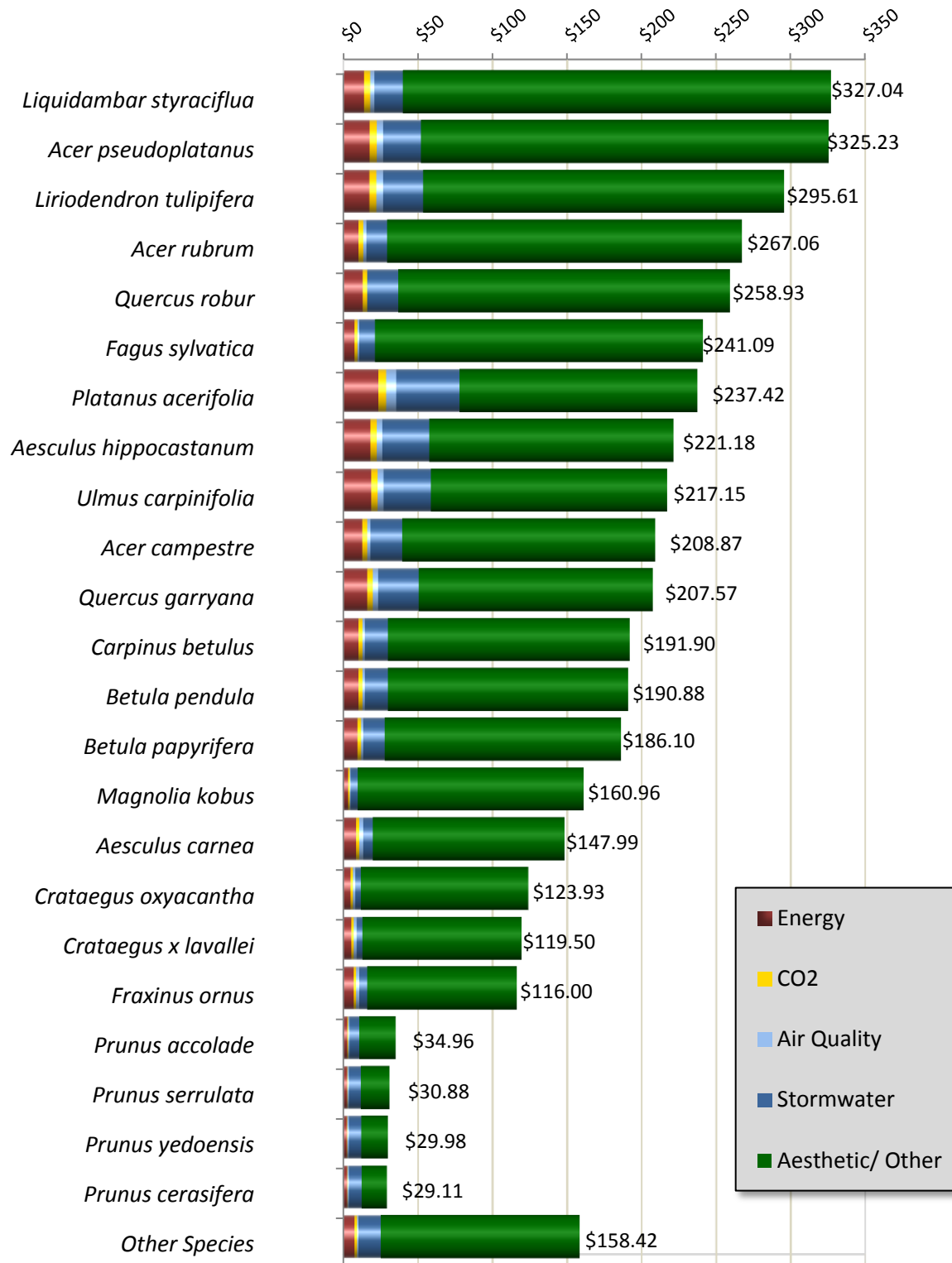




Table 11. Summary of Current Annual Average per Tree Benefits (\$/Tree/yr.) from

Species	Energy	CO2	Air Quality	Stormwater	Aesthetic/ Other	Total
<i>Prunus cerasifera</i>	2.46	0.42	0.95	8.22	17.05	29.11
<i>Prunus serrulata</i>	2.44	0.44	0.94	7.89	19.18	30.88
<i>Crataegus oxyacantha</i>	4.93	1.58	1.51	3.80	112.11	123.93
<i>Acer rubrum</i>	10.26	3.01	2.07	13.98	237.74	267.06
<i>Quercus garryana</i>	16.01	3.77	3.45	27.18	157.13	207.54
<i>Betula papyrifera</i>	9.37	2.59	1.33	14.37	158.45	186.10
<i>Prunus yedoensis</i>	2.39	0.40	0.94	8.28	17.99	29.98
<i>Carpinus betulus</i>	9.99	2.83	1.44	15.66	161.99	191.90
<i>Aesculus hippocastanum</i>	17.94	4.35	3.94	31.14	163.81	221.18
<i>Aesculus carnea</i>	8.36	2.14	2.85	6.21	128.43	147.99
<i>Acer campestre</i>	12.56	3.52	2.18	21.02	169.59	208.87
<i>Betula pendula</i>	10.05	2.84	1.38	15.58	161.03	190.88
<i>Ulmus carpinifolia</i>	18.46	4.32	4.12	31.87	158.39	217.15
<i>Fraxinus ornus</i>	6.73	1.67	2.23	5.37	100.00	116.00
<i>Prunus accolade</i>	2.54	0.53	0.93	6.75	24.21	34.96
<i>Quercus robur</i>	12.99	3.08	-0.19	20.86	222.20	258.93
<i>Fagus sylvatica</i>	7.28	2.10	1.31	10.41	220.00	241.09
<i>Platanus acerifolia</i>	23.30	5.25	6.89	42.26	159.72	237.42
<i>Acer pseudoplatanus</i>	17.45	5.08	4.23	25.21	273.26	325.23
<i>Liquidambar styraciflua</i>	13.83	4.08	2.91	18.94	287.28	327.04
<i>Crataegus x lavalleyi</i>	5.51	1.52	1.79	4.03	106.64	119.50
<i>Liriodendron tulipifera</i>	17.34	4.78	4.47	26.93	242.08	295.61
<i>Magnolia kobus</i>	3.36	0.95	0.48	4.96	151.21	160.96
Other Species	7.35	1.91	1.05	14.80	133.31	158.42
Citywide Average	\$8.13	\$2.09	\$1.69	\$14.17	\$122.60	\$148.68

The property value benefit of Victoria's trees is relatively high, accounting for 82.5% of the benefits. Stormwater benefits comprise 9.5% of the benefit while energy savings account for 5.5%. The air quality and carbon dioxide benefits are valued substantially lower, accounting for 1.1% and 1.4% of the benefits respectively. (Table 11)



Net Benefits and Benefit-Investment Ratio (BIR)

Victoria receives substantial benefits from their street trees; however, the City must also consider their investments in maintaining this resource. Applying a *benefit-investment ratio* (BIR) is a useful way to evaluate the public investment in the community tree population. A BIR is an indicator used to summarize the overall value compared to the investments of a given resource. Specifically, in this analysis, BIR is the ratio of the total value of benefits provided by the City's inventoried trees compared to the cost (investment) associated with their management.

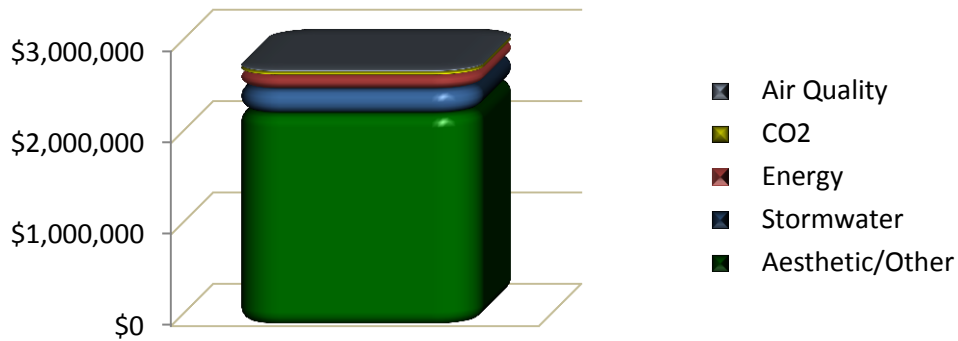
The total estimated benefits provided by Victoria's inventoried tree resource is \$2,805,508, a value of \$148.68 per tree and \$35.05 per capita. These benefits are realized on an annual basis. It is important to acknowledge that this is not a full accounting of the benefits provided by this resource, as some benefits are intangible and/or difficult to quantify, such as impacts on psychological health, crime, and violence. Empirical evidence of these benefits does exist (Wolf, 2007; Kaplan, 1989; Ulrich, 1986), but there is limited knowledge about the physical processes at work and the complex nature of interactions make quantification imprecise. Tree growth and mortality rates are highly variable. A true and full accounting of benefits and investments must consider variability among sites (e.g., tree species, growing conditions, maintenance practices) throughout the City, as well as variability in tree growth.

When the City's annual tree related expenditure (or investment) of \$741,171 in this resource is considered, the net annual benefit (benefits minus investment) to the City is \$2,064,337. The average net value for an individual street tree in Victoria is \$109.40 and the per capita net value is \$25.79. Based on the inventory of 18,869 street trees, **Victoria is currently receiving \$3.79 in benefits for every \$1 invested in its urban forest resource** (Table 12).

As existing trees mature and vacant planting sites are filled, the benefits from this resource will increase. Over time, with proactive and timely management, Victoria's urban forest is likely to continue to provide positive net benefits to the community. Furthermore, considering the vital importance of trees to the quality of life in Victoria, the true value of the urban forest is incalculable.



Figure 12. Total Annual Benefits from Victoria's Inventoried Trees



Total Annual Benefit: \$2,805,508

Average Annual per Tree Benefit: \$148.68

Annual Value of Benefits per Capita: \$35.05

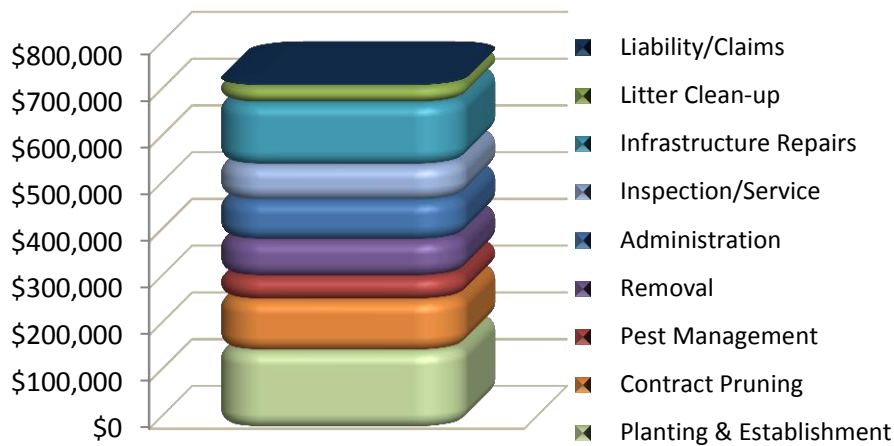


Figure 13. Total Annual Investment to Maintain Victoria's Inventoried Trees

Total Annual Investment: \$741,171

Average Annual per Tree Investment: \$39.28

Annual Investment per Capita: \$9.26

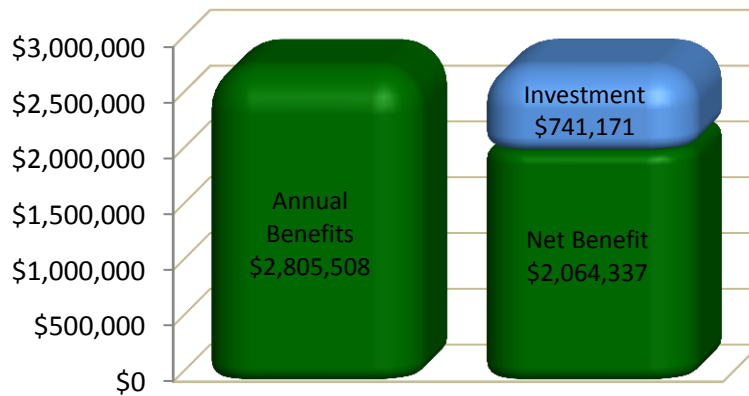


Figure 14. Benefit versus Investment Ratio

Annual Net Benefit from Victoria's Inventoried Tree Resource: \$2,064,337

For EVERY \$1 invested in trees, Victoria receives \$3.79 in benefits.

Table 12. Annual Benefit versus Investment Summary for Victoria's Inventoried Tree Resource

Benefits	Total (\$)	\$/tree	\$/capita
Energy	153,484	8.13	1.92
CO2	39,493	2.09	0.49
Air Quality	31,914	1.69	0.40
Stormwater	267,282	14.17	3.34
Aesthetic/Other	2,313,335	122.60	28.91
Total Benefits	\$2,805,508	\$148.68	\$35.05
Investment			
Planting & Establishment	164,698	8.73	2.06
Contract Pruning	109,170	5.79	1.36
Pest Management	49,833	2.64	0.62
Removal	78,080	4.14	0.98
Administration	85,069	4.51	1.06
Inspection/Service	75,405	4.00	0.94
Infrastructure Repairs	133,000	7.05	1.66
Litter Clean-up	37,376	1.98	0.47
Liability/Claims	8,540	0.45	0.11
Total Investment	\$741,171	\$39.28	\$9.26
Net Benefit	\$2,064,337	\$109.40	\$25.79
Benefit-Investment Ratio	\$3.79		



Conclusion

This analysis describes the current structural characteristics of Victoria's inventoried street tree resource using established tree sampling, numerical modeling, and statistical methods to provide a general accounting of the benefits. The analysis provides a "snapshot" of this resource at its current population, structure, and condition. Rather than examining each individual tree, as an inventory does, the resource analysis examines trends and performance measures over the entire urban forest and each of the major species populations within. Victoria's inventoried trees are providing quantifiable benefits including energy savings, stormwater runoff reduction, reduction in atmospheric CO₂, and aesthetic benefits. The City's 18,869 inventoried trees are providing \$2,805,508 in annual gross benefits. That is an average of \$146.68 per tree and \$35.05 per capita.

The trees inventoried in this project are primarily mature, established trees with high diversity of 238 different species. Although it is critical to maintain an adequate level of resources to protect and nurture this resource, Victoria's street trees can be expected to provide even greater benefits in the future and for many generations to come. The City can focus resources on maximizing the flow of benefits from the current tree population and maintaining a forward-thinking approach. Based on the resource analysis, Davey Resource Group recommends the following:

Victoria's trees are providing an average benefit of \$35.05 per capita.

- Maintain an appropriate age distribution by continuing to plant new trees to improve long-term resource sustainability and greater canopy coverage. To maximize benefits, focus on medium to large-stature trees where conditions are sustainable.
- Maximize the condition of the existing tree resource through comprehensive tree maintenance and a cyclical pruning schedule.
- Continue annual tree planting efforts with the goal of achieving a 100% stocking rate, utilizing available planting sites identified by the inventory. Exclude or greatly reduce planting the three overrepresented species in new planting areas.
- Formalize a structural pruning program for young and establishing trees to promote healthy structure, extend life expectancy, and reduce future costs and liability.
- Maintain and update the inventory database.

Urban forest managers can better anticipate future trends with an understanding of the current status of the City's tree population. Managers can also anticipate challenges and devise plans to increase the current level of benefits. Performance data from the analysis can be used to make determinations regarding species selection, distribution, and maintenance policies. Documenting current structure is necessary for establishing goals and performance objectives and can serve as a benchmark for measuring future success. Information from the urban forest resource analysis can be referenced in development of an urban forest management or master plan. An urban forest master plan is a critical tool for successful urban forest management, inspiring commitment and providing vision for communication with key decision-makers both inside and outside the organization.



Victoria's trees are of vital importance to the environmental, social, and economic well-being of the community. Victoria has demonstrated that street trees are a valued community resource, a vital component of the urban infrastructure, and an important part of the City's history and identity. The City may use this inventory to take a proactive and forward-looking approach to caring for the community's trees in the future. Updates should be incorporated into the inventory as work is performed. Current and complete inventory data will help staff to more efficiently track maintenance activities and tree health and will provide a strong basis for making informed management decisions. With additional tree planting and proactive management, Victoria's urban forest can be expected to produce an even greater flow of benefits as this resource continues to mature. By maintaining a commitment to planting, maintaining, and preserving these trees, the community will continue to be a healthy, safe, and enjoyable place to live.



Victoria's trees are of vital importance to the environmental, social, and economic well-being of the community.



Appendix A: Methods and Procedures

Certified Arborists collected Victoria's tree inventory using ArcPad software to assist the inventory arborist in locating the sample plots on the ground and inputting tree attributes (details about each tree's species, size, and condition). The data was formatted for use in i-Tree's tree population assessment tool, i-Tree *Streets*, a STRATUM Analysis Tool (Streets v 5.1.2; i-Tree v 6.0.0). i-Tree *Streets* assesses tree population structure and the function of those trees, such as their role in building energy use, air pollution removal, stormwater interception, carbon dioxide removal, and property value increases. In order to analyze the economic benefits of Victoria's trees, i-Tree *Streets* calculates the dollar value of annual resource functionality. This analysis combines the results of the City's tree inventory with benefit modeling data to produce information regarding resource structure, function, and value for use in determining management recommendations. i-Tree *Streets* regionalizes the calculations of its output by incorporating detailed reference City project information for 17 climate zones across the United States (Victoria is located in the Pacific Northwest Climate Zone).

An annual resource unit was determined on a per tree basis for each of the modeled benefits. Resource units are measured as gigajoules of electricity saved per tree; gigajoules of natural gas conserved per tree; kilograms of atmospheric CO₂ reduced per tree; kilograms of NO₂, SO₂, O₃, PM₁₀, and VOCs reduced per tree; cubic meters of stormwater runoff reduced per tree; and cubic meters of leaf area added per tree to increase benefit values.

Price values assigned to each resource unit (tree) were generated based on economic indicators of society's willingness to pay for the environmental benefits trees provide. The City provided the investment of planting, pruning, irrigation, removal, and other investments. These investments were adjusted to reflect the fact that the inventoried trees comprise just 70% of the estimated citywide inventory. For the purpose of this analysis, the investments were reduced to 70% of the total investments provided. During the course of the inventory, the US – Canada exchange rate varied, but remained close to equal. For the purpose of this model, the exchange rate was assumed to be at parity and the reported monetary values were expressed in Canadian currency.

Estimates of benefits are initial approximations as some benefits are difficult to quantify (e.g., impacts on psychological health, crime, and violence). In addition, limited knowledge about the physical processes at work and their interactions makes estimates imprecise (e.g., fate of air pollutants trapped by trees and then washed to the ground by rainfall). Therefore, this method of quantification provides first-order approximations based on current research. It is intended to be a general accounting of the benefits produced by urban trees.



Table 13. Victoria Benefit Prices Used In This Analysis

Benefits	Price	Unit*	Source
Electricity	\$0.069	\$/Kwh	Residential rates from BC Hydro
Natural Gas	\$0.345	\$/therm	Residential rates from Fortis BC
CO ₂	\$0.0075	\$/lb	<i>Streets</i> default – Pacific Northwest
PM ₁₀	\$0.49	\$/lb	<i>Streets</i> default – Pacific Northwest
NO ₂	\$2.77	\$/lb	<i>Streets</i> default – Pacific Northwest
SO ₂	\$0.98	\$/lb	<i>Streets</i> default – Pacific Northwest
VOC	\$2.61	\$/lb	<i>Streets</i> default – Pacific Northwest
Stormwater Interception	\$0.0108	\$/gallon	<i>Streets</i> default – Pacific Northwest
Median Home Value	\$526,000	\$	Times Colonist

*i-Tree default values are entered in standard units and converted by the model to metric units for data export.

i-Tree *Streets* default values (Table 13) from the Pacific Northwest Climate Zone were used for all benefit prices except for median home values and electric and natural gas rates. Electric rates and natural gas rates are residential rates from BC Hydro and Fortis BC. Median home value for Victoria was estimated to be \$526,000 by the City of Victoria based on information from the Times Colonist. Using these rates, the magnitude of the benefits provided by the inventoried tree resource was calculated using i-Tree *Streets*. Program budget values used in benefit versus investment ratio calculations were supplied by the City of Victoria, and reduced to 70% because only that portion of city trees were estimated to be included in the inventory.



Appendix B: References

Akbari, H., D. Kurn, et al. 1997. Peak power and cooling energy savings of shade trees. *Energy and Buildings*. Vol 25:139–148.

Bell ML, McDermott A, Zeger SL, Samet JM, Dominici F. 2004. Ozone and short-term mortality in 95 US urban communities, 1987-2000. *J Amer Med Assoc* 292:2372-2378.

Chandler T.J. 1965. *The Climate of London*. London:Hutchinson.

Clark, J.R., Matheny NP, Cross G, Wake V. 1997. A model of urban forest sustainability. *J Arbor* 23(1):17-30.

CTLA. 1992. *Guide for Plant Appraisal*. 8th ed. Savoy, IL: ISA. 103 p.

CUFR. Center For Urban Forest Research Pacific Southwest Research Station.
<http://www.fs.fed.us/psw/programs/cufr/>

Cullen, S. 2002. Tree appraisal: can depreciation factors be rated greater than 100%? *J Arbor* 28(3):153-158.

EPA, US Environmental Protection Agency. Heat Island Effect. www.epa.gov/heatisland/about/index.htm

Huang, J., H. Akbari, and H. Taha. 1990. The Wind-Shielding and Shading Effects of Trees on Residential Heating and Cooling Requirements. ASHRAE Winter Meeting, American Society of Heating, Refrigerating and Air-Conditioning Engineers. Atlanta, Georgia.

Heisler, GM. 1986. Energy savings with trees. *J Arbor* 12(5):113–125.

i-Tree, STRATUM, <http://www.itreetools.org/>

Kaplan, Rachel and Stephen. 1989. *The Experience of Nature: A Psychological Perspective*. Cambridge: Cambridge University Press.

Kurn, D., S. Bretz, B. Huang, and H. Akbari. 1994. The Potential for Reducing Urban Air Temperatures and Energy Consumption through Vegetative Cooling (PDF) (31 pp, 1.76MB). ACEEE Summer Study on Energy Efficiency in Buildings, American Council for an Energy Efficient Economy. Pacific Grove, California.

Maco SE, McPherson EG. 2002. Assessing canopy cover over streets and sidewalks in street tree populations. *J Arbor* 28(6):270-276.

Maco SE, McPherson EG. 2003. A practical approach to assessing structure, function, and value of street tree populations in small communities. *J Arbor* 29(2):84-97.

McPherson EG, Rowntree RA. 1989. Using structural measures to compare twenty two US street tree populations. *Land J* 8:13-23.

McPherson EG. 1993. Evaluating the cost-effectiveness of shade trees for demand-side management. *Elec J* 6(9):57-65.

McPherson, E.G., J. R. Simpson, P. J. Peper, S. E. Maco, and Q. Xiao. 2005. Municipal forest benefits and costs in five US cities (PDF) (6 pp, 267K). *Journal of Forestry* 103(8):411–416.



- McPherson et al. 2008. Urban Forest Greenhouse Gas Reporting Protocol
- Miller RW. 1997. Urban Forestry: Planning and Managing Urban Greenspaces. 2nd ed.
- Moll G, Kollin C. 1993. A new way to see our city forests. *American Forests* 99(9-10): 29-31.
- National Arbor Day Foundation. Tree City USA Awards. Web 01/2013
< <http://www.arborday.org/programs/treeCityUSA/map.cfm>>
- Richards NA. 1982/83. Diversity and stability in a street tree population. *Urban Ecology*. 7:159–171.
- Simpson JR. 1998. Urban forest impacts on regional space conditioning energy use: Sacramento County case study. *J Arbor* 24(4): 201–214.
- Ulrich, Roger S. 1986. Human Responses to Vegetation and Landscapes. *Landscape and Urban Planning*, 13, 29-44.
- Watson G. 2002. Comparing formula methods of tree appraisal. *J Arbor* 28(1): 11-18.
- Williams E, Lotstein R, Galik C, Knuffman H. 2007. A Convenient Guide to Climate Change Policy and Technology. Vol2: 134 p
- Wolf, K.L. 2007. The Environmental Psychology of Trees. *International Council of Shopping Centers Research Review*. 14, 3:39-43.



Appendix C: Common and Botanical Names

Common and Botanical Names for Victoria's Most Common Street Tree Species

Common Name	Species
purple plum	<i>Prunus cerasifera</i>
flowering cherry	<i>Prunus serrulata</i>
hawthorn	<i>Crataegus oxyacantha</i>
maple, red	<i>Acer rubrum</i>
Garry oak	<i>Quercus garryana</i>
birch, paper	<i>Betula papyrifera</i>
Yoshino cherry	<i>Prunus yedoensis</i>
hornbeam	<i>Carpinus betulus</i>
horse chestnut	<i>Aesculus hippocastanum</i>
horse chestnut, red	<i>Aesculus carnea</i>
maple, hedge	<i>Acer campestre</i>
birch, European white	<i>Betula pendula</i>
Elm, field	<i>Ulmus carpinifolia</i>
flowering ash	<i>Fraxinus ornus</i>
Accolade cherry	<i>Prunus accolade</i>
oak, English	<i>Quercus robur</i>
beech	<i>Fagus sylvatica</i>
London plane	<i>Platanus acerifolia</i>
maple, sycamore	<i>Acer pseudoplatanus</i>
sweetgum	<i>Liquidambar styraciflua</i>
Lavalle hawthorn	<i>Crataegus x lavalleyi</i>
tulip tree	<i>Liriodendron tulipifera</i>
Kobus magnolia	<i>Magnolia kobus</i>

Urban Forest Master Plan

Implementation Update – May 21, 2015



Purpose

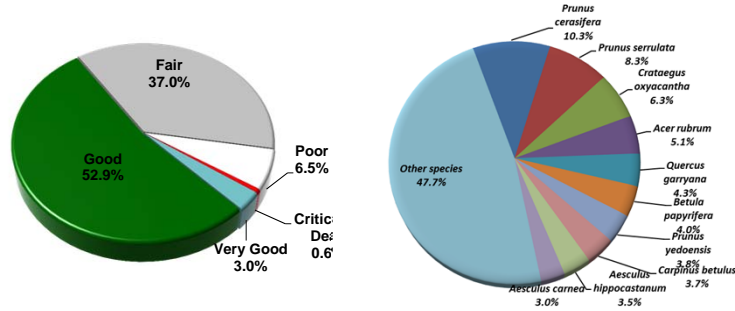
The purpose the report is to provide an update on the implementation of the Urban Forest Master Plan that was adopted by Council in 2013 and to outline the actions for 2015/2016.



What we have accomplished

1. Completed a comprehensive tree inventory of publicly owned trees

- Over 33,000 trees on City Property
- Baseline information that is used daily in decision making and planning of activities
- Tree condition and species composition of street trees



What we have accomplished

2. Resource analysis of inventoried street trees

- Quantifies the value and benefits of street trees in the City
- Replacement value is estimated at \$84 million dollars
- Annual benefits provided are estimated to be approximately \$2.8 million as a result of energy savings, air quality improvements, CO2 reduction and aesthetic contributions
- For every \$1 invested by the City it is estimated that the citizens receive \$3.79 in benefits

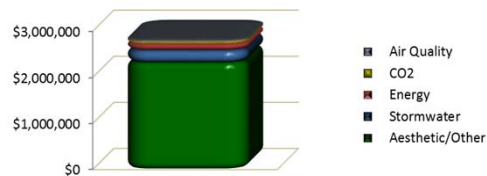


Figure 1. Total Annual Benefits from Victoria's Inventoried Trees

Total Annual Benefit: \$2,805,508
Average Annual per Tree Benefit: \$148.68
Annual Value of Benefits per Capita: \$35.05



What we have accomplished

3. Young tree maintenance and planting
 - Approximately 250 trees are planted annually
 - Up to 1500 trees are on the young tree maintenance program
4. Hosted the Canadian Urban Forest Conference
 - 250 delegates, Canada, US and abroad
 - UBC alumni event



Focus for 2015 and 2016

1. Development of a strategy for removing/pruning diseased and hazardous trees



Focus for 2015 and 2016

2. Development of a tree planting strategy with neighbourhood involvement



3. Continuation of a young tree maintenance program
4. Increase community awareness and participation
 - Community Forum
 - Planting strategies
 - Improved communication tools for removals



Recommendation

That Council receives this report and direct staff to provide an annually update on the Urban Forest Master Plan implementation.

Questions ?





Governance and Priorities Committee Report

For the Meeting of May 21, 2015

To: Governance and Priorities Committee **Date:** May 21, 2015
From: Julie MacDougall, Acting Director, Parks and Recreation
Subject: Recreation Fees Bylaw Annual Review

Executive Summary

The purpose of this report is to seek Council consideration of proposed changes to the Recreation Fee Bylaw effective September 1, 2015.

Recreation fees are reviewed on an annual basis as directed by the City of Victoria Financial Sustainability Policy. Primary considerations are to support the City's Strategic Plan Objectives and Official Community Plan through balancing access to affordable recreation and culture services with fiscal responsibility.

A 1.5% increase on fees covered by the bylaw is proposed based on a combination of the inflation rate, energy cost and consumption fluctuations, staff wage increases during the period, and the fee position within the regional municipal recreation providers. The following exceptions are proposed:

- It is recommended that child admission rate be held at \$2.79 for Crystal Pool and Fitness Centre and Save-On-Foods Memorial Centre.
- It is recommended that youth admission rate be held at \$3.25 for Crystal Pool and Fitness Centre and Save-On-Foods Memorial Centre.
- It is recommended that definitions of Festival Equipment Fees be adjusted to more accurately describe which fees are charged.
- It is recommended that Festival Equipment Fees for equipment used in publicly accessible events outside of the City of Victoria and/or by commercial groups be adjusted to align with the private sector.

Recommendation

That Council direct staff to amend the Recreation Fees Bylaw No. 10-036 effective September 1, 2015 as outlined in Appendix I of this report.

Respectfully submitted



Terri Askham
Manager
Recreation Programs & Facilities



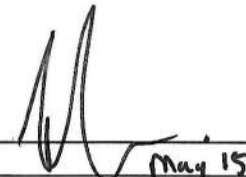
Julie MacDougall
Acting Director
Parks & Recreation



Susanne Thompson
Director
Finance

Report accepted and recommended by the City Manager:

Date:


May 15, 2015

List of Attachments:

Appendix I - 2015 Recreation Fees Schedule

Appendix II - 2014 Regional Recreation Comparison Drop-In Rates

Purpose

The purpose of this report is to seek Council consideration of proposed changes to the Recreation Fee Bylaw effective September 1, 2015.

Background

The Recreation Fees Bylaw is reviewed on an annual basis in accordance with the City of Victoria Financial Sustainability Policy (2011). The policy states:

"Fees and charges will be reviewed annually and adjusted where appropriate. Departments should consider a minimum increase equal to inflation (CPI). The users will be provided with no less than two months' notice of those changes."

The annual review of recreation fees take into consideration advancing the City's Strategic Plan Objectives and Official Community Plan through balancing access to affordable recreation and culture services with fiscal responsibility. The fees set out in the bylaw apply to a portion of the revenues generated in parks, recreation and culture for the use of public lands, facilities and amenities. Additional revenues, not covered by the bylaw are realized through partnerships, license agreements, the sale of food & beverages, program fees, grants and sponsorships.

While facility capacity has been a challenge at Crystal Pool & Fitness Centre and some sports fields for some time, continuous improvement is sought in both program and service quality, and revenue development. Staff regularly monitor trends and community requests, explore additional suitable facilities, and seek out partners for viable revenue-generating opportunities.

The annual process for reviewing recreation rates and fees includes review of:

- Rates of other municipal recreation services in the region
- Rate increases in previous years
- Economic climate
- Offering diverse and financially accessible services
- Attendance trends and targets

In municipal recreation across the region, it is common practice to use the following guidelines when determining fee structures:

- Fees for youth and children are typically lower than those for adult and seniors.
- Fees for commercial users are typically more than for adult users.
- Traditionally in Aquatics, fees for group or club use are typically discounted to encourage high volume and/or non-peak hour use.

Issues & Analysis

The Consumer Price Index for Victoria has increased by 1% between March 2014 and March 2015.

Energy costs and consumption impact the cost of operating recreation facilities. While Hydro rates rose 6% effective April 1, 2015, other fuels saw rate fluctuations in the past year, including some decreases. The City continues to maintain and improve energy systems in facilities to reduce energy consumption and decrease Greenhouse Gas emissions whenever possible.

Staff costs are a primary expense in delivering recreation and culture services. Staff wage rates increased by 1% January 1, 2015, and will increase by 1% effective July 2015, and 2% effective January 2016.

Although inflation was 1%, the increase for some of the costs to provide services was higher, therefore an increase of 1.5% is proposed on all recreation fees with some exceptions. Based on 2014 actual revenues realized from the bylaw fees, the proposed increase would result in an additional \$16,700.

1. Child Admission Rates

In order to continue to promote child and family participation in recreation, it is recommended that the Child drop in fee for Crystal Pool & Fitness Centre and Save-on-Foods Memorial Centre be held at \$2.79.

2. Youth Admission Rates

In order to maintain youth rates within the regional average and continue to promote youth participation in recreation, it is recommended that the Youth drop in fee for Crystal Pool & Fitness Centre and Save-on-Foods Memorial Centre be held at \$3.25.

According to Statistics Canada, participation in Physical Activity by youth aged 12-19 has decreased every year from 2009 to 2013. This contrasts with all older age groups that show an increase in Physical Activity over the same time period.

Youth admission rates were realigned in 2014 in order to bring the City of Victoria within the regional average and increase youth participation in recreation. The result was a modest increase in the number of annual passes sold to youth following the rate decrease. To further encourage regular physical activity the three month and one year passes for youth passes include a free weight room orientation.

3. Festival Equipment Definitions

In order to more accurately describe event fee categories, it is recommended that the definition of a "Community Use Event" be amended and that "Rental" be renamed as "Commercial/Other"

Current Definitions:

A "Community Use Event" is a publicly accessible activity (festival, celebration, or special event) that is not longer than seven consecutive days where equipment is used in the City of Victoria.

A "Rental" is a publicly accessible event (festival, celebration, or special event) that is not longer than four consecutive days where equipment is used outside of the City of Victoria.

Proposed Definitions:

A "Community Use Event" is a publicly accessible activity (festival, celebration, or special event) that is not longer than seven consecutive days where equipment is used in the City of Victoria by a not for profit organization.

"Commercial/Other" is a publicly accessible event (festival, celebration, or special event) that is not longer than four consecutive days where equipment is used outside of the City of Victoria and/or by a commercial group.

This change is to provide clarification of the related fee and how it is utilized in practice.

4. Festival Equipment Fees

To bring fees in line with local market standards it is recommended that the redefined "Commercial/Other" Fees be realigned as described in Schedule D.

The Festival Equipment program is designed to support not for profit festivals and events occurring in the community. The fees and charges for the program are proposed to be realigned with industry rates for "commercial/other" to ensure it is not competing with local businesses.

Options and Impacts:

1. That Council direct staff to amend the Recreation Fees Bylaw No. 10-036 effective September 1, 2015 as outlined in Appendix I of this report.

This will result in an increase to revenues of approximately \$16,700 during the period September 1, 2015 through August 31, 2016.

2. That Council direct staff to amend the Recreation Fees Bylaw No. 10-036 to reflect a 1% overall increase with exceptions as listed in the report, effective September 1, 2015.

This will result in an increase to revenues of approximately \$11,100 during the period September 1, 2015 through August 31, 2016.

3. That the Recreation Fees Bylaw No. 10-036 remain unchanged for one year, with exceptions numbered three and four in the report, effective from September 1, 2015.

This may result in a need to implement a higher percentage increase in future years to accommodate cumulative cost increases.

Recommendation

That Council direct staff to amend the Recreation Fees Bylaw No. 10-036 effective September 1, 2015 as outlined in Appendix I of this report.

Schedule A
Save-on-Foods Memorial Centre Community Use Rental and Admission Fees

(Subject to Applicable Taxes)

The fees in this schedule apply to use of the Save-on-Foods Memorial Centre, including during community use time. All rental fees are hourly rates unless otherwise indicated. Equipment rental fees are based on usage of equipment during the designated public session when the equipment is available for use.

	2014	2014	2015	2015
<u>Ice Rentals – Community Use Time</u>	Prime Time	Non-Prime Time	Prime Time	Non-Prime Time
Minor Organization	\$121.29	\$90.95	\$123.11	\$92.31
Adult Organization	\$211.22	\$158.43	\$214.39	\$160.81

	2014	2015
<u>Meeting Room Rental</u>		
Minor or Adult Organizations	\$25.28	\$25.66
4 hours or more per day	\$101.06	\$102.58
<u>Dry Floor Rentals</u>		
Minor Organizations	\$43.46	\$44.11
Adult Organizations	\$67.72	\$68.74
<u>Equipment Rental</u>		
Skate Rental	\$3.49	\$3.54
Helmet Rental	\$1.15	\$1.17
<u>Public Skating</u>		
Child	\$2.79	\$2.83
10 Ticket Admission	25.11	\$25.49
Youth	3.25*	\$3.30
10 Ticket Admission	\$29.25	\$29.69
Senior	\$4.18	\$4.24
10 Ticket Admission	\$37.62	\$38.18
Adult	\$5.34	\$5.42
10 Ticket Admission	\$48.06	\$48.78
<u>School District/Group Admission to Public Skating (25 or more participants)</u>		
Adult	\$4.18	\$4.24
Senior	\$3.24	\$3.29
Youth	\$3.02	\$3.07
Child	\$2.08	\$2.11
Skate Rental	\$1.40	\$1.42
Helmet Rental	\$1.16	\$1.18

Schedule B
Crystal Pool and Fitness Centre Admission Fees
 (Subject to Applicable Taxes)

		2014	2015
<u>Preschool</u>		No charge	No charge
<u>Child</u>	Single Admission	\$2.79	\$2.79
	10 Ticket Admission	\$25.11	\$25.11
	One Month Pass	\$27.90	\$27.90
	Three Month Pass	\$62.78	\$62.78
	Annual Pass	\$179.15	\$179.15
<u>Youth</u>	Single Admission	\$3.25	\$3.25
	10 Ticket Admission	\$29.25	\$29.25
	One Month Pass	\$32.50	\$32.50
	Three Month Pass	\$73.13	\$73.13
	Annual Pass	\$211.25	\$211.25
<u>Senior</u>	Single Admission	\$4.18	\$4.24
	10 Ticket Admission	\$37.62	\$38.18
	One Month Pass	\$41.80	\$42.43
	Three Month Pass	\$94.05	\$95.46
	Annual Pass – Gold	\$270.61	\$274.67
	Annual Pass – Silver	\$248.42	\$252.15
<u>Adult</u>	Single Admission	\$5.34	\$5.42
	10 Ticket Admission	\$48.06	\$48.78
	One Month Pass	\$53.40	\$54.20
	Three Month Pass	\$120.15	\$121.95
	Annual Pass – Gold	\$350.57	\$355.83
	Annual Pass – Silver	\$321.83	\$326.66
Corporate Wellness Pass	Annual Pass	\$262.93	\$266.87
<u>Family</u>	Single Admission	\$10.69	\$10.85
	10 Ticket Admission	\$96.21	\$97.65
Locker Usage 1 visit	Small	\$0.24	\$0.24
	Large	\$0.48	\$0.48
Locker Rental (6 months)	Small	\$45.08	\$45.76
	Large	\$66.89	\$67.89

Schedule B (Continued)**Crystal Pool and Fitness Centre Rental Fees**

(Subject to Applicable Taxes)

"After Hours" means any time when the swimming pool is not open to the general public. "High Volume" means a minimum of 200 long course (50m pool) or 400 short course (25m pool) hours, or an equivalent combination of long course and short course hours, per calendar year.

Rates are hourly rates unless otherwise indicated

	2014	2015
<u>25 Meter Pool (per Lane)</u>		
Minor Organizations	\$11.39	\$11.56
Minor Organizations High Volume/After Hours	\$8.54	\$8.67
Adult Organizations	\$14.24	\$14.45
Adult Organizations High Volume/After Hours	\$10.68	\$10.84
Commercial	\$17.80	\$18.07
Commercial High Volume/After Hours	\$13.35	\$13.55
<u>50 Meter Pool (per Lane)</u>		
Minor Organizations	\$17.10	\$17.36
Minor Organizations High Volume/After Hours	\$12.82	\$13.02
Adult Organizations	\$21.37	\$21.69
Adult Organizations High Volume/After Hours	\$16.03	\$16.27
Commercial	\$26.71	\$27.11
Commercial High Volume/After Hours	\$20.03	\$20.33
<u>Meeting Room</u>		
Minor and Adult Organizations	\$25.28	\$25.66
4 hours or more per day	\$101.06	\$102.58
Birthday Party Package (2 hour room rental plus swimming for 10 children)	\$50.15	\$50.90

Schedule C

Royal Athletic Park Rental Fees

(Subject to Applicable Taxes)

Rates are hourly rates unless otherwise indicated.

			2014	2014	2015	2015
			Minor	Adult	Minor	Adult
<u>Field</u>	Spectator (Minimum four consecutive hours rental)	Prime Time	\$58.36	\$65.19	\$59.24	\$66.17
		Non-Prime Time	\$52.57	\$57.82	\$53.36	\$58.69
	Non-Spectator (Minimum two consecutive hour rental)	Prime Time	\$48.66	\$53.64	\$49.39	\$54.44
		Non-Prime Time	\$43.12	\$47.31	\$43.77	\$48.02
<u>Diamond/ Football</u>	Spectator (Minimum four consecutive hours rental)	Prime Time	\$65.71	\$72.54	\$66.70	\$73.63
		Non-Prime Time	\$59.94	\$65.19	\$60.84	\$66.17
	Non-Spectator (Minimum two consecutive hour rental)	Prime Time	\$55.82	\$61.55	\$56.66	\$62.47
		Non-Prime Time	\$49.99	\$54.67	\$50.74	\$55.49

<u>Meeting Room</u>	2014	2015
Minor and Adult Organizations	\$25.28	\$25.66
4 or more hours per day	\$101.06	\$102.58
<u>Field Lighting</u>		
One Field	\$51.51	\$52.28
Two Fields (all lights)	\$61.50	\$62.42

Schedule D

Festival Equipment Fees

(Subject to Applicable Taxes Except Where Otherwise Stated)

A "Community Use Event" is a publicly accessible activity (festival, celebration, or special event) that is not longer than 7 consecutive days where equipment is used in the City of Victoria by a not for profit organization. "Commercial/Other" is a publicly accessible event (festival, celebration, or special event) that is not longer than 4 consecutive days where equipment is used outside of the City of Victoria and/or by a commercial group.

	2014	2014	2014	2015	2015
<u>Minor Equipment</u>	Damage Deposit (Taxes Included)	Community Use Event (per Event)	Other (per rental)	Community Use Event (per event)	Commercial/ Other (per event)
Cable Covers	\$150.00	\$5.41	\$16.24	\$5.49	\$16.48
Chairs	\$150.00	\$0.75	\$2.31	\$0.76	\$2.34
Crowd Barriers	\$150.00	\$6.70	\$19.59	\$6.80	\$19.88
Tables	\$150.00	\$3.61	\$10.06	\$3.66	\$10.21
Tent (10' x 10')	\$150.00	\$13.39	\$39.17	\$13.59	\$39.76
<u>Major Equipment</u>					
Bleachers – Quick Lock	\$500.00	\$1.03/seat	\$2.58/seat	\$1.05/seat	\$2.62/seat
Bleachers – Trailer	\$500.00	\$628.84	\$850.48	\$638.27	\$863.24
Staging – Outdoor	\$500.00	\$5.42	\$16.24	\$5.50	\$16.48
Staging – Indoor	\$500.00	\$5.42	\$16.24	\$5.50	\$16.48
Staging – Trailer	\$500.00	\$268.06	\$438.35	\$272.08	\$444.93
Tent – 10' x 10' Marquee	\$250.00	\$52.57	\$159.78	\$53.36	\$162.18
Tent – 20' x 20' Marquee	\$500.00	\$58.77	\$175.25	\$59.65	\$177.88
Tent – 15' x 20' Marquee	\$500.00	\$58.77	\$175.25	\$59.65	\$177.88
Tent – 30' x 30' Marquee	\$500.00	\$67.00	195.87	\$68.01	\$198.81

Schedule E**Hard Court Surface Rental Fees**

(Subject to Applicable Taxes)

"Hard Court Surfaces" means tennis courts and lacrosse boxes.

	2014	2015
<u>Hard Court Surfaces</u>		
Minor Organization (per court/hour)	\$2.42	\$2.46
Adult/Senior Organization (per court/hour)	\$4.82	\$4.89
Commercial Rate (per court/hour)	\$7.25	\$7.36
Clubs (per court/hour)	\$2.42	\$2.46
Minor Tournament (per court/day)	\$24.16	\$24.52
Club Tournament (per court/day)	\$24.16	\$24.52
Adult Tournament (per court/day)	\$48.32	\$49.04

Schedule F

Park and Green Space Rental Fees

(Subject to Applicable Taxes)

	2014	2015
<u>Special Events</u>		
Gated Event/per day	\$103.08	\$104.63
<u>Private Use</u>		
Annual Sport and Hobby Use (per year)	\$123.72	\$125.58
Weddings under 4 hours	\$123.72	\$125.58
<u>Commercial/Corporate Use</u>		
Per event (under 4 hours)	\$161.84	\$164.27
Per event (4 hours or more)	\$239.17	\$242.76
<u>Cameron Bandshell</u>		
Non-profit Concert or Series Event Not Co-Sponsored by the City		
Per event (under 4 hours)	\$105.14	\$106.72
Per event (4 hours or more)	\$156.69	\$159.04
Concert or Private Non-Profit Events Including Weddings		
Per event (under 4 hours)	\$161.84	\$164.27
Per event (4 hours or more)	\$239.17	\$242.76
<u>Beer Garden</u>		
Service Charge for Park cleanup (refunded if cleanup is unnecessary)	\$103.08	\$104.63
<u>Permit Fees:</u>		
Public Event for One Day	\$128.87	\$130.80
Public Event for each Additional Day after First Day	\$61.85	\$62.78
Private Event for Each Day	\$154.63	\$156.95
<u>Picnics and Gatherings</u>		
Reserved Area for Picnic or Family Type Gathering (refunded if cleanup is unnecessary)	\$97.96	\$99.43
<u>Centennial Square</u>		
Commercial/Corporate Use (per day)	\$483.23	\$490.48
Non-Profit Ticketed Event (per day)	\$241.60	\$245.22

Schedule G
Sport Field Rental Fees

(Subject to Applicable Taxes)

Rates are hourly rates unless otherwise indicated.

	2014	2015
<u>Finlayson Artificial Turf Field</u>		
Minor Organization per hour	\$34.11	\$34.62
Adult/Senior Organization per hour	\$51.18	\$51.95
<u>Sports Field Lighting</u>		
Beacon Hill Park –Douglas Street Field per hour	\$15.77	\$16.01
All Other Fields (excluding RAP per hour)	\$21.03	\$21.35
<u>Parks Sports Change Room Fee (per booking, except tournaments)</u>	\$15.77	\$16.01
<u>Tournaments/Community Events</u>		
Deposit Package (garbage & cleanup) (refunded if cleanup is unnecessary).	\$300.00	\$304.50
Adult/Senior (per day)	\$105.14	\$106.72
Minor Organization (per day)	\$52.57	\$53.36
Change Rooms (per day)	\$26.30	\$26.69
<u>Miscellaneous Fees</u>		
<u>Park Bleachers</u>		
Rental for One Section of 25 – 50 seats for One Event	\$48.96	\$49.69
Delivery and Removal of Bleachers within City Boundaries	\$108.24	\$109.86
Barrier Fence Rental (per 50 foot roll)	\$10.82	\$10.98
<u>Garbage Disposal Fee per load</u>	\$97.94	\$99.41
<u>Sound Monitoring</u>	\$25.79	\$26.18
<u>Sports Fields</u>		
Commercial Rate	\$19.71	\$20.01
<u>Class A Sports Field:</u>		
Adult/Senior Organizations	\$12.63	\$12.82
Minor Organizations	\$6.31	\$6.40
<u>Class B Sports Field:</u>		
Adult/Senior Organizations	\$8.74	\$8.87
Minor Organizations	\$4.37	\$4.44

Schedule H
Filming Fees

(Subject to Applicable Taxes)

Rates are hourly rates unless otherwise indicated.

	2014	2014	2015	2015
<u>Filming</u>	<u>Crew Size</u> Under 10	<u>Crew Size</u> 10 or more	<u>Crew Size</u> Under 10	<u>Crew Size</u> 10 or more
Commercial - Movie, TV, Tour Photography, Photography	\$61.85	\$123.72	\$62.78	\$125.58
Application Changes/Rescheduling (per change)	\$41.24	\$41.24	\$41.86	\$41.86

APPENDIX II

2014 Regional Comparison Recreation Drop-In Rates

	Adult Drop in	Senior Drop in	Student Drop In	Youth Drop In	Child Drop In	Family Drop In
Esquimalt	\$5.75	\$4.25	\$4.25	\$3.00	\$2.75	\$11.50
Oak Bay	\$6.75	\$5.25	\$5.25	\$5.25	\$3.40	\$13.50
Panorama	\$6.75	\$5.50	\$5.00	\$5.00	\$3.50	\$13.50
Saanich	\$6.25	\$5.25	\$5.25	\$5.25	\$3.25	\$12.50
SEAPARC	\$5.75	\$4.35	\$4.35	\$4.35	\$2.90	\$11.50
Westshore	\$6.25	\$4.50	\$4.50	\$4.50	\$3.15	\$13.00
Victoria 2014	\$5.60	\$4.40	\$4.40	\$3.40	\$2.95	\$11.20
Victoria 2015 Proposed	\$5.70	\$4.45	\$4.45	\$3.40	\$2.95	\$11.40
*Fees shown are inclusive of tax.						



Governance and Priorities Committee Report

For the Meeting of May 21, 2015

To: Governance and Priorities Committee **Date:** May 15, 2015
From: Brad Dellebuur, Acting Assistant Director, Transportation and Parking Services
Subject: Community Mailboxes

Executive Summary

The purpose of this report is to provide Council with information on best practices in implementing, managing and minimizing costs and the placement of units arising from the new Canada Post community mailbox program, and to provide advice on methods to minimize start-up and continuing costs to the City in relation to the urban community mailbox delivery system.

The community mailboxes present challenges when it comes to costs to the City, including impacts to public space, garbage and recycling, vandalism and theft, maintenance, accessibility, and location selection. While the City has been asked to comment on proposed locations, there is no legal authority for the City to refuse the change in service, or to refuse or authorize community mailbox locations. Many municipalities across Canada are currently undergoing similar processes to the City, reviewing locations, attempting to assess the impact to residents and the ability of the municipality to be involved in the process. As most jurisdictions are dealing with this issue simultaneously, the establishment of best practices is still in development.

The response of most municipalities in the region has been to post information of the proposal on their website, and direct residents to contact Canada Post directly. The City could ask for additional details on the proposed consultation by Canada Post, and include similar information for residents.


Recommendations

That Council:

- a) Request that staff ask representatives from Canada Post to make a presentation to Council on the community mailbox transition.
- b) Request more information from Canada Post regarding plans for community consultation on proposed locations, and post that information on the City's website, to inform residents.

Respectfully submitted,


 Emilie Gorman
 Policy Analyst
 Legislative and Regulatory Services


 Brad Dellebuur, A/Assistant Director
 Transportation and Parking Services
 Engineering and Public Works

Report accepted and recommended by the City Manager: 

Date: May 15, 2015

Purpose

The purpose of this report is to provide Council with information on methods and best practices to minimize impacts regarding the placement of community mailboxes.

Background

In December 2013, Canada Post (CP) announced plans to address financial sustainability and the changing postal needs of Canadians by converting one-third of Canadian household mail delivery to community mailbox delivery, over a five year period. Other household delivery is already conducted through similar centralized mailbox services. Commercial delivery would remain as-is.

Community mailboxes have individually locked mail compartments for individual households, a larger locked compartment for securely receiving parcels, and a mail drop for outgoing mail. They are to be centrally located, to serve a small residential area. The proposed mailboxes are pictured in Appendix C.

CP operates postal services in Canada under the jurisdiction of the Federal Government and the *Canada Post Corporation Act*, which gives CP the authority to install devices in any public places for the delivery of mail. The City does not have jurisdiction to refuse or authorize locations or the change in service, however CP has asked the City to provide input on the proposed locations, in terms of influence to city land and infrastructure.

Many other local governments have already begun the transition from door-to-door service to community mailboxes. The first round of community mailbox conversions in the Capital Regional District will affect approximately 18,000 homes. The entire conversion by CP is expected to take five years, but it is not known at this point when each region of the City will be converted to the mailboxes.

In January 2015, CP contacted the City with 31 proposed community mailboxes in the Victoria West neighbourhood and asked the City for preliminary approval, before going out to the community for resident feedback. On January 29, 2015, Council passed a motion asking staff for information on the impact of placing community mailboxes, the experience of other jurisdictions, and methods to minimize start-up and continuing costs to the City associated with the mailboxes. Staff advised CP they would postpone responding on the specific locations until Council received this information from staff.

Issues & Analysis

The installation of community mailboxes in municipalities raises many issues, including:

Cost	CP will be responsible for the cost and installation of community mailboxes. Staff resources will be required to review the locations and provide comment, a process already conducted for other public services and not requiring additional staff.
Impacts to Public Space	The City has a set of Guiding Principles on the Use of Public Space (Appendix D). Proposed locations for community mailboxes would ideally consider those principles. Public space impacts related to the mailboxes include traffic congestion, parking, sight line and visibility impacts, safety concerns, removal of green space from public use, and potential garbage accumulation.
Garbage and Recycling	CP does not provide garbage or recycling bins, recommending people take their mail home to sort. The installation of these bins near community mailboxes may be required. The City would be responsible for capital costs and any additional collections required.
Theft	While door-to-door mailboxes are typically unsecured, reports of theft from community mailboxes are reported frequently in the media and are a concern for those who receive their mail this way. Mail theft is concerning as it can include significant amounts of personal information.

Vandalism	Vandalism and graffiti of the mailboxes may be a concern and can be managed through agreements. Area street lighting may assist in reducing safety concerns; CP have informed staff the existing presence of street lighting is one criteria used for identifying proposed locations.
Maintenance	The responsibility for snow clearance at community mailboxes falls to CP. Responsibility for general maintenance, including replacement of the box and installation site for wear and tear, must be established. If it falls to CP to repair, acceptable timelines for response should be clarified.
Accessibility	For seniors or other residents with mobility and accessibility issues, the placement of mailboxes is of particular concern. CP states that they are working on developing alternative solutions for these groups.
Locations	Current City process is to circulate proposed sites to the appropriate staff groups, similar to what is done for infrastructure proposed by a third party. As new developments are built, the installation of mailboxes will be considered during planning and construction. Community mailboxes would not be permitted inside parks; however, locations on the perimeter or frontage of parks may be ideal for resident convenience and accessibility.

Experience of Other Jurisdictions

Many municipalities across Canada are currently undergoing similar processes to the City, reviewing locations, attempting to assess the impact to residents, and the ability of the municipality to be involved in the process. As most jurisdictions are dealing with this issue simultaneously, the establishment of best practices is still in development. The following approach and work is underway in other municipalities in Canada:

- Edmonton – Council expressed concern over the conversion; their response was to establish placement guidelines.
- Hamilton – The City has passed a bylaw banning the mailboxes and CP has started court action to challenge the validity of that bylaw.
- Burnaby – The City of Burnaby's concerns were related to the issue of community impacts of the service transition, a lack of consultation with the public and key stakeholders, mail security, accessibility, provincial statutory public notification procedures, and mailbox locations. The City wrote to the Federal government, with the motion subsequently echoed by other local governments. No actions related to agreements or moving towards installation were discussed.
- Capital Regional District:
 - Saanich – Has a "super mailbox" location policy that they want CP to adhere to, and they have expressed concern over some elements of the transition, including mobility, maintenance, litter, security of contents, crime prevention through environmental design, and safety.
 - Esquimalt – Council raised concerns with litter resulting from the mailboxes, and asked staff to contact CP to ensure there are recycling bins next to mailboxes.
 - Sidney, Langford, View Royal, Colwood – General information about the conversion is posted on their websites and in communication materials, with residents directed to CP for more information. Colwood staff have also asked CP to make a presentation to Council about proposed mailbox locations.

Agreement Models

When external organizations wish to use public space the City often enters into agreements. The agreements detail the rights and responsibilities of each party, including maintenance, costs, emergency contacts, and design guidelines.

The Federation of Canadian Municipalities (FCM) prepared a sample agreement for municipalities to consider regarding community mailboxes (see Appendix A). Should Council decide to enter into an agreement with CP, staff suggest the agreement be customized to incorporate additional City requirements (set out in Appendix B).

The FCM model agreement approach could be considered a best practice at this time, and was created in response to concerns expressed to FCM by member municipalities.

Consultation

The details of the consultation that CP plans to undergo in affected areas is unclear. While the City does have the ability to review and comment on the proposed locations, CP can choose to accept or not accept the City's comments.

Consultation with residents on the individual locations for community mailboxes is the responsibility of CP. The City should not conduct parallel or competing consultation, as there is no ability to control the community mailboxes, and consulting on the conversion or placement may give an incorrect impression to the public. However, the City may wish to ask for more consultation details and communicate those details to the public. Some municipalities have invited CP to meetings where Council and/or the public can voice their concerns and ask questions; it is unknown if CP would accept that type of invitation.

Options & Impacts

1. The City requests that Canada Post make a presentation to Council (Recommended)

Some municipalities are inviting CP to a community meeting where Council and/or the community can voice their opinions and ask questions. It is not clear if CP would accept such an invitation, which may require staff resources to plan, promote and execute. CP has stated they will consult individual households on possible locations; hosting a meeting may put the City in the role of mediator between residents and CP.

2. The City requests information on the planned community consultation (Recommended)

The City may request the details of CP's plans to consult with residents on specific proposed locations, and share that information with residents on the City website. While concerns and comments would be solicited by and directed to CP, the City could be proactive in communicating with residents, and provide an additional location for information on the conversion in the City of Victoria. This would require minimal staff resources, provided that CP is able to share further details on their plans for consultation.

3. The City and Canada Post enter into an agreement

An agreement or contract with CP, similar to ones currently in place with third party users of public space and following the sample provided by FCM, could be considered. An agreement would set out responsibility and facilitate the installation of the mailboxes, while reducing the cost to the City and impacts to City infrastructure. This type of agreement is also in keeping with City relationships with similar organizations.

4. The City conducts citizen engagement on the proposed conversion to community mailboxes

Consultation could be conducted with the city as a whole, or by neighbourhood, as they are identified for conversion. The consultation could focus broadly on items for CP to consider when choosing locations, or be more focused on issues and concerns, in particular locations where community mailboxes are proposed. This would potentially be a duplicate process to the one CP already intends to conduct, and the City would likely hear that residents do not support the conversion to community mailboxes, although there is no authority for the City to refuse the change in service.

Recommendations

That Council:

- a) Request that staff ask representatives from Canada Post to make a presentation to Council on the community mailbox transition.
- b) Request more information from Canada Post regarding plans for community consultation on proposed locations, and post that information on the City's website, to inform residents.

List of Attachments:

Appendix A: Standard FCM Agreement Items for Canada Post Community Mailboxes

Appendix B: Additional Items for FCM Agreement for Canada Post Community Mailboxes

Appendix C: Proposed Community Mailboxes

Appendix D: Guiding Principles for the Use of Public Space

Appendix A: Standard FCM Agreement Items for Canada Post Community Mailboxes

The draft agreement provided by the FCM includes the following terms:

- Recitals acknowledging the following:
 - The *Mail Receptacles Regulations* authorizes Canada Post to install mailboxes in public roadways
 - Canada Post would like to install community mailboxes at convenient locations within the City
 - That the roadways are vested in the City of Victoria
- Canada Post will:
 - Use Canada Post's location criteria to identify suggested locations for community mailboxes
 - Advise the City of its suggested locations for mailboxes ("Suggested Sites")
 - Install mailboxes only at Suggested Sites approved by the City
 - Upon receiving any notice from the City that a Suggested Site is not appropriate or no longer appropriate, work with the City in good faith to expeditiously resolve the City's concerns and objectives
 - Maintain mailboxes at its expense
 - Provide snow clearing of the areas adjacent to the mailboxes at its expense
 - Indemnify and save harmless the City from all claims for injury or damage, except those arising out of City negligence
 - Assume all loss, injury or damage and risk of loss, injury or damage caused to municipally or public utility works in, on and under roadways, resulting from mailbox construction, maintenance or repair, except those arising out of City or public utility negligence
 - Give notice of its intention to remove mailboxes from roadways
 - If removing mailboxes, restore the roadway to a satisfactory condition
 - Compensate the City for roadway repair if Canada Post fails to restore affected property after removing mailboxes
 - If there is an emergency which required Canada Post to work at a mailbox site without consultation with the City:
 - Notify the City of the details as soon as reasonably possible
 - Expeditiously restore the roadway
 - Upon failure of restoring the roadway, compensate the City for expenses it incurs to restore the roadway
 - Address liens on City property due to labour, services and materials relating to Canada Post
- The City will:
 - Have designated staff who will expeditiously review the suggested mailbox sites provided by Canada Post
 - Not unreasonably withhold its consent to Canada Post's Suggested Sites
 - Immediately provide Canada Post of its reasons if the City does not approve the suitability of a Suggested Site, or would like them relocated in the future
 - Work with Canada Post in good faith to expeditiously resolve any Suggested Site concerns or desire to relocate mailboxes
 - If there is an emergency which requires the City to work at a mailbox site without permission with the Canada Post:
 - Notify Canada Post of the details
 - Temporarily relocate the mailbox in close proximity to its original site
 - Expeditiously restore the mailbox condition
- Canada Post acknowledges:
 - The City reserves its rights of the roadway for servers, water mains, electric light, power conduits, cables, telephone conduits, gas lines and other services

Appendix B: Additional Items for FCM Agreement on Canada Post Community Mailboxes

The City would like to include the following additional details to any contract between itself and Canada Post.

- Canada Post will:
 - Ensure box locations will
 - not project into traffic
 - not interfere or impeded pedestrian or vehicular traffic
 - allow a minimum of 1.5 meters of unobstructed sidewalk in light pedestrian areas
 - allow a minimum of 2.5 meters, and 3 meters where possible, of unobstructed sidewalk in heavy pedestrian areas
 - be located on a boulevard instead of a sidewalk, when both are present
 - be a minimum of 0.6 meters from curb
 - not be within a crosswalk area, loading zone or taxi zone
 - not block building signage
 - be a minimum 2 meters from a fire hydrant
 - not block access to a building fire connection
 - be a minimum of 1.2 meters of any ramp, driveway, sidewalk or service grate
 - be a minimum of 30 meters on the nearside of a crosswalk
 - be a minimum of 15 meters on the far side of any crosswalk
 - not block a crosswalk sightline
 - not be located on a tree grate
 - if located in a park, be close to parking and away from playground equipment, tables, benches and other structures
 - Prior to providing the City with Suggested Sites, provide the City with confirmation that:
 - Third party utilities have been consulted
 - Third party utility operations have been considered
 - Upon receiving notice from the City that City work or improvements are planned in the area, will, within 14 days, make temporary arrangements for mailbox relocation, at the expense of Canada Post.
- The Suggested Sites must:
 - take into account the impact to vehicle traffic
 - demonstrate steps taken to minimize the impacts to neighbouring residents

Appendix C: Proposed Community Mailboxes

Community Mailbox Backgrounder



The new, improved community mailboxes that will be ready for use in the fall of 2014 have been designed for the changing needs of Canadians. Here are some key features:

Larger individual compartments

The locked compartments dedicated to each address are larger. They're big enough to accept more than 50 per cent of the parcels and packets mailed in Canada. A magazine can lie flat.

Larger parcel compartments

Each unit has two parcel compartments. They're big enough to accept more than 80 per cent of the parcels and packets mailed in Canada. Customers who have an item in one of these compartments will find a key in their individual compartment.

Design and construction

The unit is built with high-grade aluminum for durability and reliable performance.



Angled top

The top profile of the community mailbox allows rain and snow to drain away from the compartment doors.

Outgoing mail slot

Customers can deposit outgoing mail in this slot, which can accommodate mail twice as wide as the former unit could. It is also where they can return the parcel compartment key.

Security

Each compartment has a new kind of secure lock, reflecting Canada Post's continuing investments in the security of the mail.

Sturdy base

The unit is securely attached to a concrete foundation.

Dimensions

The unit is 164 cm tall. Canada Post can allocate individual compartments at an appropriate height to better meet the needs of customers with a disability. It is also exploring alternative approaches to meet the needs of Canadians with significant mobility challenges.

We are also developing alternative designs for use in the dense urban cores of larger cities.

Appendix D: Guiding Principles for the Use of Public Space

On October 20, 2011, Council adopted the Guiding Principles for the Use of Public Space to give a consistent approach to how public space is managed by the City. The use of public space by Canada Post for community mailboxes would be considered a “non-commercial use” under the principles.

Guiding Principle	Commercial uses	Non-commercial uses
Pursuing Operational Excellence		
1. Use of public space must be consistent with all applicable legislation, bylaws, plans and agreements	✓	✓
2. The City pursues opportunities to raise revenue through the use of public space	✓	✓
3. The City charges fair market value and full cost recovery for the commercial use of public space	✓	
4. The City determines charges for non-commercial use of public space based upon the purpose of the use and the nature of any community benefits		✓
Building A Strong Community		
5. Use of public space must not unduly impact public access, safety or mobility	✓	✓
6. Use of public space must be compatible with the purpose of the space	✓	✓
7. Use of public space must be compatible with neighbouring residential or commercial uses	✓	✓
8. Use of public space must be consistent with the aesthetics and character of the space and any applicable design guidelines	✓	✓
Growing Our Economy		
9. The City supports use of public space that increases the vibrancy of neighbourhoods	✓	✓
10. The City welcomes commercial uses of public space that provide opportunities for economic growth	✓	
11. The City provides equal opportunities to commercial users who wish to access public space	✓	
Respecting Our Environment		
12. Use of public space must not damage public property or the environment	✓	✓

Community Mailboxes

Governance and Priorities Committee
May 21, 2015



Purpose

Direction from January 29, 2015 GPC Meeting:

- Provide advice to Council on methods to minimize impacts regarding the placement of community mailboxes
 - Best practices from other municipalities for implementing, managing and minimizing costs
 - How to minimize start-up and continuing costs



Map of conversions to community mailboxes

● 2014 conversions
● 2015 conversions



Background

- Canada Post (CP) announces changes to mail delivery service (December 2013)
 - Over 5 million households converted to community mailboxes over the next 5 years
- Canada Post operates under the *Canada Post Corporation Act* which gives it authority to install mail delivery devices in any public places
- Conversion has started in the Capital region
- City contacted in early 2015 with 31 proposed locations in Victoria West, for comment by staff - Other COV locations to follow – timing unknown



Issues

- Cost
 - Installation costs the responsibility of CP
- Impacts to Public Space
 - Council's Guiding Principles on the Use of Public Space
- Garbage and Recycling
 - Not provided by CP, may be required (at the cost of the City)
- Theft
- Vandalism & Maintenance
- Accessibility
 - CP still working out alternative solutions for those with mobility and accessibility issues
- Locations
 - Standards similar to those for other infrastructure by a third-party



Issues

Other Jurisdictions

- Hamilton, Ontario
- Similar concerns expressed by many (e.g. theft, cost, accessibility, garbage, consultation)
- Typical reaction in capital region: Provide information to residents on municipal website
- Most municipalities currently undergoing process simultaneous to City

Agreement Models

- Federation of Canadian Municipalities agreement in partnership with CP
 - Template provided by CP upon initial review request
- Similar to how City addresses other third-party partnerships on public property

Consultation

- To be conducted by CP with residents, details unclear



Recommendation

- The City requests that Canada Post makes a presentation to Council
 - Similar to requests other municipalities have made
 - Canada Post may or may not accept
- The City requests information on the planned community consultation
 - In order to share the information with residents on the City's website
 - Direct comments directly back to Canada Post



QUESTIONS?





Council Member Motion
For the Governance and Priorities Committee Meeting of May 21, 2015

To: Council

Date: May 15, 2015

From: Mayor Lisa Helps, Councillor Ben Isitt and Councillor Jeremy Loveday

Subject: Cycling Network Implementation

Executive Summary:

On April 16 Council adopted a strategic plan that included Objective #9 Complete a Multi-Modal and Active Transportation Network. One key 2018 Outcome that will help achieve this objective is: Victoria is a national leader for cycling infrastructure and complete streets planning, with completed all-ages and abilities cycling network connecting all neighbourhoods and village centres.

In order to achieve this outcome, the plan outlines actions to be taken in 2015 including:

- Collaborative design and completion of network of 4-8 high quality cycling corridors by 2016.
- Build protected cycling facilities, more bike parking, and start an Active Transportation Advisory Committee. Begin to see all planning and engineering through multi-modal lens.
- Designate money in 2015, 2016, 2017 and build it (cycling network).

Council has allocated a budget of up to \$500,000 in 2015 to complete these actions, though we feel that this amount is in excess of what will be required to undertake the process as outlined in the recommendation.

In order to get these actions underway we recommend that Council adopt the following recommendation.

Recommendation:

That Council direct staff to:

- (1) Issue an RFP for consulting services to review and enhance the cycling network, beginning with further analysis of public input received during the 2014 Cycling Master Plan update, and including identification of corridors and design of facilities on each corridor, with a view toward an interim report to Council on the proposed enhanced network and conceptual designs for each corridor in September 2015 and a final report to Council with recommended detailed designs for on-road facilities by December 2015;
- (2) Re-activate a Technical Committee consisting of staff and members of the public to support this process of reviewing the network and recommending on-road facilities;
- (3) Work with partner organizations, including the Greater Victoria Cycling Coalition, Bike Victoria, Women's Everyday Bicycling (WeBike) Association and the Greater Victoria Placemaking Network, to host a public information series in September 2015 on cycling

facilities, active transportation and placemaking in the City of Victoria.

Respectfully submitted,



Mayor Lisa Helps



Councillor Ben Isitt



Councillor Jeremy Loveday



Council Member Motion

for the Governance and Priorities Committee meeting of Thursday, May 21st, 2015

Date: May 21st, 2015 **From:** Councillors Loveday, Madoff & Thornton-Joe
Subject: Presumptive Clause for First Responders

WHEREAS many First Responders have been affected by a Mental Health Injury "PTSD" Post Traumatic Stress Disorder;

AND WHEREAS there is a need to change the WorkSafe BC language to include a presumptive clause, as it is possible that within a first responder's duties they will encounter horrific acts, and develop a mental health injury;

AND WHEREAS it is imperative that a two month WorkSafe BC deadline be implemented to make a decision regarding a Mental Health Injury Claim based on one psychologist and/or psychiatrist report and immediate benefits;

AND WHEREAS it is paramount that The Presumptive Clause and changes be added to the Workers Compensation Act;

THEREFORE BE IT RESOLVED that Victoria City Council affirms its support for the proposed Presumptive Clause and changes to the Workers Compensation Act that will allow for First Responders to receive the support and treatment that they need for Mental Health Injuries sustained on the job.

BE IT FURTHER RESOLVED that the City of Victoria send a letter to Premier Christy Clark stating support for the proposed Presumptive Clause and changes to the Worker's Compensation Act and asking the Provincial Government to take action to make these changes.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Loveday".

Councillor Loveday

A handwritten signature in black ink, appearing to read "Amela Madoff".

Councillor Madoff

A handwritten signature in black ink, appearing to read "Charlayne Thornton-Joe".

Councillor Thornton-Joe