METRO VANCOUVER REGIONAL DISTRICT (MVRD)
BOARD OF DIRECTORS

BOARD MEETING
Friday, June 2, 2023
9:00 am
28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia
Webstream available at http://www.metrovancouver.org

Membership and Votes

REVISED AGENDA[1]

A. ADOPTION OF THE AGENDA

1. June 2, 2023 Meeting Agenda
That the MVRD Board adopt the agenda for its meeting scheduled for June 2, 2023 as circulated.

B. ADOPTION OF THE MINUTES

1. April 21, 2023 Special Meeting Minutes *pg. 6*
That the MVRD Board adopt the minutes for its special meeting held April 21, 2023 as circulated.

2. April 28, 2023 Meeting Minutes *pg. 8*
That the MVRD Board adopt the minutes for its meeting held April 28, 2023 as circulated.

C. DELEGATIONS

D. INVITED PRESENTATIONS

E. CONSENT AGENDA
Note: Directors may adopt in one motion all recommendations appearing on the Consent Agenda or, prior to the vote, request an item be removed from the Consent Agenda for debate or discussion, voting in opposition to a recommendation, or declaring a conflict of interest with an item.

[1] *Note: Recommendation is shown under each item, where applicable. All Directors vote unless otherwise noted.*

1. REGIONAL PARKS COMMITTEE REPORTS

1.1 Regional Parks Sustainable Transportation Market Research Report Summary *pg. 19*

That the MVRD Board receive for information the report dated April 17, 2023, titled "Regional Parks Sustainable Transportation Market Research Report Summary".

1.2 Manager's Report – Regional Parks *pg. 67*

That the MVRD Board receive for information the report dated May 3, 2023 titled "Manager's Report – Regional Parks".

2. ELECTORAL AREA COMMITTEE REPORTS

2.1 Barnston Island Dike Improvements – Provincial Grant *pg. 75*

That the MVRD Board endorse the use of the $5.25 million-dollar provincial grant to make improvements to the Barnston Island dike, and affirm that the acceptance of the grant does not change the status of the dike's jurisdiction, as outlined in the report dated May 2, 2023, titled "Barnston Island Dike Improvements – Provincial Grant".

2.2 University Endowment Lands Governance Study – Final Report *pg. 82*

That the MVRD Board write a letter to the Minister of Municipal Affairs advising that it concurs with the report dated April 21, 2023, titled "University Endowment Lands Governance Study – Final Report" that the provincial and regional district scenarios are not the best-fit, long-term sustainable governance models for the future of the University Endowment Lands.

3. CLIMATE ACTION COMMITTEE REPORTS

3.1 Metro Vancouver's Climate 2050 Industry and Business Roadmap *pg. 89*

That the MVRD Board:

a) endorse the Climate 2050 Industry and Business Roadmap as attached to the report dated April 19, 2023, titled "Metro Vancouver's Climate 2050 Industry and Business Roadmap" as part of a series of Roadmaps towards achievement of the Climate 2050 vision, goals, and targets for greenhouse gas reduction and resilience in the industry and business sector;

b) direct staff to continue working with member jurisdictions and other partners to implement the actions in the Climate 2050 Industry and Business Roadmap; and

c) direct staff to update the Roadmap, as needed, in response to changes in science, technology and policy.

4. REGIONAL PLANNING COMMITTEE REPORTS

4.1 Office Development in Metro Vancouver – 2022 Inventory and Report *pg. 163*

That the MVRD Board receive for information the report dated April 6, 2023, titled "Office Development in Metro Vancouver - 2022 Inventory and Report".

4.2 Agricultural Ecosystem Services in Metro Vancouver *pg. 290*

That the MVRD Board direct staff to prepare a white paper considering the feasibility of the recommendations contained in the Scoping Ecosystem Services on Agricultural Land within Metro Vancouver study, as presented in the report dated April 19, 2023, titled "Agricultural Ecosystem Services in Metro Vancouver".

4.3 2023 Agriculture Awareness Grant Recommendations *pg. 374*

That the MVRD Board award the annual Agriculture Awareness Grants, as presented in the report dated April 20, 2023, titled "2023 Agriculture Awareness Grant Recommendations", to the following 14 non-profit organizations:

a) BC Agriculture in the Classroom, for "Take a Bite of BC" in the amount of $5,000;
b) BC Chicken Grower's Association, for "Poultry in Motion Educational Mini Barn Program" in the amount of $4,000;
c) CEED Centre Society, for "CEED Centre Farm Market + Urban Ag Educational Series" in the amount of $2,000;
d) Delta Farmland and Wildlife Trust, for "Day at the Farm" in the amount of $1,750;
e) Earthwise Society, for "Tomato Festival" in the amount of $2,000;
f) Environmental Youth Alliance, for "Plant Gifts for Community Projects" in the amount of $5,000;
g) Farm Folk/City Folk, for "Sustainable Bites: Growing Agricultural Awareness" in the amount of $5,000;
h) BC Association of Farmer's Markets, for "In the Raw: BC Farm and Food Champions" in the amount of $4,000;
i) Growing Chef's Society, for "Classroom Gardening & Cooking Program" in the amount of $3,000;
j) Langley Environmental Partners Society, for "Langley Eats Local" in the amount of $3,000;
k) The Sharing Farm, for "Garlic Festival" in the amount of $2,250;
l) Lower Mainland Sheep Producers Association, for "Wool n' Ewe A'Fair" in the amount of $4,500;
m) Society Promoting Environmental Awareness (SPEC), for "Growing Food Literacy and Food System Engagement Campaign" in the amount of $4,750; and
n) Village Vancouver Transition Society, for "Permaculture Corridor Expansion" in the amount of $3,750.

5. FINANCE COMMITTEE REPORTS

5.1 2023 Budget Reserve Application – Regional Culture *pg. 380*

That the MVRD Board approve an additional $150,000 reserve application from the Grants Reserve Fund to fund eligible regional arts and culture projects as part of Metro Vancouver's regional cultural project grants program as presented in the report titled "2023 Budget Reserve Application – Regional Culture" dated May 9, 2023.

6. CHIEF ADMINISTRATIVE OFFICER REPORTS

6.1 Metro Vancouver External Agency Activities Status Report – May 2023 *pg. 382*

That the MVRD Board receive for information the following submissions from Metro Vancouver representatives to external organizations:

a) Agricultural Advisory Committee;
b) Delta Heritage Airpark Management Committee;
c) Fraser Basin Council Lower Mainland Flood Management Strategy Leadership Committee;
d) Fraser Valley Regional Library Board;
e) Katzie Treaty Negotiations Table;
f) Lower Mainland Local Government Association;
g) Metro Vancouver Regional Parks Foundation;
h) Municipal Finance Authority of BC;
i) National Zero Waste Council;
j) Sasamat Volunteer Fire Department Board of Trustees;
k) Union of British Columbia Municipalities Executive; and
l) Zero Emission Innovation Centre Board of Directors;

as provided in the report dated May 24, 2023, titled "Metro Vancouver External Agency Activities Status Report – May 2023".

F. ITEMS REMOVED FROM THE CONSENT AGENDA

G. REPORTS NOT INCLUDED IN CONSENT AGENDA

1. CLIMATE ACTION COMMITTEE REPORTS

1.1 MVRD Agricultural Boilers Emission Regulation Amendment Bylaw No. 1350, 2022 *pg. 421*

That the MVRD Board:

a) give first, second, and third reading to *Metro Vancouver Regional District Agricultural Boilers Emission Regulation Amendment Bylaw No. 1350, 2022*; and
b) pass and finally adopt *Metro Vancouver Regional District Agricultural Boilers Emission Regulation Amendment Bylaw No. 1350, 2022.*

2. REGIONAL PLANNING COMMITTEE REPORTS

2.1 Metro 2050 Amendment Request – Township of Langley (23699 and 23737 Fraser Highway) *pg. 426*

That the MVRD Board:

a) initiate the regional growth strategy amendment process for the Township of Langley's requested regional land use designation amendment from Rural to Industrial for the lands located at 23699 and 23737 Fraser Highway;
b) give first, second, and third readings to "Metro Vancouver Regional District Regional Growth Strategy Amendment Bylaw No. 1365, 2023"; and
c) direct staff to notify affected local governments as per section 6.4.2 of *Metro 2050*.

3. FINANCE COMMITTEE REPORTS

3.1 Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023
That the MVRD Board: *pg. 475*

a) give first, second and third reading to the *Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023*; and,

b) pass, and finally adopt the *Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023.*

H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN

I. OTHER BUSINESS

1. MVRD Board Committee Information Items and Delegation Summaries *pg. 482*

J. BUSINESS ARISING FROM DELEGATIONS

Revised **K. RESOLUTION TO CLOSE MEETING**

Note: The Board must state by resolution the basis under section 90 of the Community Charter on which the meeting is being closed. If a member wishes to add an item, the basis must be included below.

That the MVRD Board close its meeting scheduled for June 2, 2023 pursuant to section 226 (1) (a) of the *Local Government Act* and the *Community Charter* provisions as follows:

90 (1) A part of a council meeting may be closed to the public if the subject matter being considered relates to or is one or more of the following:

(a) personal information about an identifiable individual who holds or is being considered for a position as an officer, employee or agent of the municipality or another position appointed by the municipality;

(c) labour relations or other employee relations; and

(d) the security of the property of the municipality.

L. RISE AND REPORT (Items Released from Closed Meeting)

M. ADJOURNMENT/CONCLUSION

That the MVRD Board adjourn/conclude its meeting of June 2, 2023.

METRO VANCOUVER REGIONAL DISTRICT
BOARD OF DIRECTORS

Minutes of the Special Meeting of the Metro Vancouver Regional District (MVRD) Board of Directors held at 8:06 am on Friday, April 21, 2023, in the 28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia.

MEMBERS PRESENT:

Delta, Chair, Director George V. Harvie
Anmore, Vice Chair, Director John McEwen
Belcarra, Director Jamie Ross
Bowen Island, Director Andrew Leonard
Burnaby, Director Pietro Calendino
Burnaby, Director Sav Dhaliwal
Burnaby, Director Mike Hurley
Coquitlam, Director Craig Hodge*
Coquitlam, Director Teri Towner
Delta, Director Dylan Kruger
Electoral Area A, Director Jen McCutcheon
Langley City, Director Paul Albrecht
Langley Township, Director Eric Woodward
Langley Township, Director Steve Ferguson*
Lions Bay, Director Ken Berry
Maple Ridge, Director Dan Ruimy
New Westminster, Director Patrick Johnstone
North Vancouver City, Director Linda Buchanan
North Vancouver District, Director Lisa Muri
Pitt Meadows, Director Nicole MacDonald*
Port Moody, Director Meghan Lahti*
Richmond, Director Malcolm Brodie*
Richmond, Director Bill McNulty
Richmond, Director Chak Au
Surrey, Director Linda Annis*
Surrey, Director Harry Bains
Surrey, Mike Bose for Director Gordon Hepner
Surrey, Doug Elford for Director Brenda Locke
Surrey, Director Pardeep Kooner
Surrey, Director Rob Stutt
Vancouver, Director Rebecca Bligh
Vancouver, Director Adriane Carr
Vancouver, Director Lisa Dominato
Vancouver, Director Mike Klassen
Vancouver, Peter Meiszner for Director Ken Sim
Vancouver, Director Lenny Zhou
White Rock, Director Megan Knight

MEMBERS ABSENT:

Port Coquitlam, Director Brad West
Tsawwassen, Director Laura Cassidy
Vancouver, Director Sarah Kirby-Yung
West Vancouver, Director Mark Sager

STAFF PRESENT:

Jerry W. Dobrovolny, Chief Administrative Officer
Dorothy Shermer, Corporate Officer
Janis Knaupp, Program Manager, Legislative Services, Board and Information Services

* denotes electronic meeting participation as authorized by Section 3.6.2 of the *Procedure Bylaw*

A. ADOPTION OF THE AGENDA

1. April 21, 2023 Special Meeting Agenda

It was MOVED and SECONDED
That the MVRD Board adopt the revised agenda for its special meeting scheduled for April 21, 2023 as circulated.

CARRIED

B. REPORTS FROM COMMITTEE OR CHIEF ADMINISTRATIVE OFFICER

No items presented.

C. RESOLUTION TO CLOSE MEETING

It was MOVED and SECONDED
That the MVRD Board close its special meeting scheduled for April 21, 2023 pursuant to section 226 (1) (a) of the *Local Government Act* and the *Community Charter* provisions as follows:

"90 (1) A part of a board meeting may be closed to the public if the subject matter being considered relates to or is one or more of the following:

(e) the acquisition, disposition or expropriation of land or improvements, if the board or committee considers that disclosure could reasonably be expected to harm the interests of the regional district;

(g) litigation or potential litigation affecting the regional district; and

(i) the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose."

CARRIED

D. RISE AND REPORT (Items Released from Closed Meeting)

No items presented.

E. ADJOURNMENT OR CONCLUSION

It was MOVED and SECONDED
That the MVRD Board adjourn its special meeting of April 21, 2023.

CARRIED
(Time: 8:06 am)

CERTIFIED CORRECT

Dorothy Shermer, Corporate Officer

George V. Harvie, Chair

59424068 FINAL

METRO VANCOUVER REGIONAL DISTRICT
BOARD OF DIRECTORS

Minutes of the Regular Meeting of the Metro Vancouver Regional District (MVRD) Board of Directors held at 9:02 am on Friday, April 28, 2023, in the 28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia.

MEMBERS PRESENT:

Anmore, Vice Chair, Director John McEwen
Belcarra, Director Jamie Ross
Bowen Island, Director Andrew Leonard
Burnaby, Director Pietro Calendino
Burnaby, Director Sav Dhaliwal
Burnaby, Director Mike Hurley* (arrived at 9:04 am)
Coquitlam, Director Craig Hodge
Coquitlam, Director Teri Towner
Delta, Director Dylan Kruger
Delta, Alternate Director Rod Binder for Chair George V. Harvie
Electoral Area A, Director Jen McCutcheon
Langley City, Director Paul Albrecht*
Langley Township, Director Eric Woodward
Langley Township, Director Steve Ferguson
Lions Bay, Director Ken Berry
Maple Ridge, Director Dan Ruimy
New Westminster, Alternate Director Nadine Nakagawa for Patrick Johnstone
North Vancouver City, Director Linda Buchanan*
North Vancouver District, Director Lisa Muri
Pitt Meadows, Director Nicole MacDonald
Port Coquitlam, Director Brad West* (departed 9:24 am)
Port Moody, Director Meghan Lahti*
Richmond, Director Malcolm Brodie
Richmond, Director Bill McNulty
Richmond, Director Chak Au
Surrey, Director Linda Annis*
Surrey, Director Harry Bains
Surrey, Director Gordon Hepner
Surrey, Director Pardeep Kooner
Surrey, Alternate Director Mike Bose* for Brenda Locke
Surrey, Director Rob Stutt
Vancouver, Director Rebecca Bligh
Vancouver, Director Adriane Carr
Vancouver, Director Lisa Dominato
Vancouver, Director Sarah Kirby-Yung (arrived at 9:22 am)
Vancouver, Director Mike Klassen
Vancouver, Director Ken Sim
Vancouver, Director Lenny Zhou
West Vancouver, Director Mark Sager
White Rock, Director Megan Knight

MEMBERS ABSENT:

Tsawwassen, Director Laura Cassidy

STAFF PRESENT:

Jerry W. Dobrovolny, Chief Administrative Officer
Dorothy Shermer, Corporate Officer
Rapinder Khaira, Legislative Services Coordinator, Board and Information Services

* denotes electronic meeting participation as authorized by Section 3.6.2 of the *Procedure Bylaw*

A. ADOPTION OF THE AGENDA

1. April 28, 2023 Meeting Agenda

It was MOVED and SECONDED
That the MVRD Board:

a) amend the revised agenda for its meeting scheduled for April 28, 2023 by adding the following delegations:
   - C.1 Nathan Davidowicz
   - C.2 Roderick Louis; and

b) adopt the revised agenda for its meeting scheduled for April 28, 2023, as amended.

CARRIED

B. ADOPTION OF THE MINUTES

1. March 31, 2023 Meeting Minutes

9:04 am Director Hurley arrived at the meeting.

It was MOVED and SECONDED
That the MVRD Board adopt the minutes for its meeting held March 31, 2023 as circulated.

CARRIED

2. April 19, 2023 Special Joint Meeting Minutes

It was MOVED and SECONDED
That the MVRD Board adopt the minutes for its special joint meeting held April 19, 2023 as circulated.

CARRIED

C. DELEGATIONS

1. Nathan Davidowicz

Nathan Davidowicz spoke to members regarding item E1.1, *Board Procedure Bylaw Review Findings*, expressing concerns on amendments to the *Procedure Bylaw* that would limit the number of times a delegation can appear.

2. Roderick Louis

Roderick Louis spoke to members regarding item E1.2 *UBCM 2023 Community Excellence Awards Nominations,* expressing concerns about submitting *Metro 2050* to the UBCM Community Excellence Awards.

Presentation material submitted by the delegation is retained with the April 28, 2023 MVRD Board agenda.

D. INVITED PRESENTATIONS

No items presented.

E. CONSENT AGENDA

At the request of the Directors, the following item was removed from the Consent Agenda, for consideration under Section F. Items Removed from the Consent Agenda:

1.1 Board Procedure Bylaw Review Findings
1.3 Letter of Support for the City of Surrey regarding Policing Services
3.1 Audited 2022 Financial Statements and Annual Financial Results

It was MOVED and SECONDED

That the MVRD Board adopt the recommendations presented in the following items as presented in the April 28, 2023 MVRD Board Consent Agenda:

1.2 UBCM 2023 Community Excellence Awards Nominations
1.4 Harris Road Underpass Funding
2.1 Metro Vancouver's Climate 2050 Energy Roadmap
2.2 Metro Vancouver's Climate 2050 Nature and Ecosystems Roadmap
3.2 Award of Contract Resulting from Request for Proposal No. 22-177: Group Benefits Insurance for Metro Vancouver Regional District
3.3 Rescinding of Temporary Policy - COVID-19 Vacation Carry-Over Policy for Exempt Employees
4.1 Zero Waste Conference: 2022 Update and 2023 Plans
5.1 Costs of Providing Infrastructure and Services to Different Forms and Densities of Housing – Scope of Work
6.1 Contribution and Collaboration Agreement – Metro Vancouver Regional Parks Foundation
6.2 Status of Regional Parks Capital Expenditures to December 31, 2022
7.1 Proclamation of Clean Transportation Month
7.2 Strategic Industries Analytics Project Update
7.3 Investment Attraction Update – First Quarter 2023

CARRIED

The items and recommendations referred to above are as follows:

1.2 UBCM 2023 Community Excellence Awards Nominations

Report dated March 28, 2023, from Sandra Jansen, General Manager, External Relations and Jean Lawson, Program Manager, Intergovernmental Relations, seeking MVRD support for four Metro Vancouver projects to be considered for the Union of BC Municipalities 2023 Community Excellence Awards.

Recommendation:

That the MVRD Board support Metro Vancouver's entries for the Union of BC Municipalities (UBCM) 2023 Community Excellence Award. The nominations include:

a) Excellence in Governance: Metro 2050, Update to the Regional Growth Strategy;

b) Excellence in Service Delivery: Rice Lake Dams Maintenance Program Communications & Engagement;
c) Excellence in Asset Management: Deep Sea Diver Supported Sewer Inspection and Repair; and
d) Excellence in Sustainability: Lulu Island Wastewater Treatment Plant Renewable Natural Gas Facility.

Adopted on Consent

1.4 Harris Road Underpass Funding

Report dated April 11, 2023, from the Mayors Committee, seeking MVRD Board endorsement for the letter of support for additional federal funding for the Harris Road Underpass Project in the City of Pitt Meadows.

Recommendation:
That the MVRD Board provide the City of Pitt Meadows with a letter of support regarding additional federal funding for the Harris Road Underpass project and that the project proceed forthwith, noting:

a) the estimated cost of the Harris Road underpass in Pitt Meadows has more than tripled since 2018,
b) the federal government has requested that the City of Pitt Meadows commit to being a funding partner and provide 25% of project costs up to $49.6 million, and
c) a funding request of this magnitude is simply not viable for a small municipality and sets a precedent for the federal government to rely on and expect municipalities to fund large scale infrastructure projects that fall within federal jurisdiction.

Adopted on Consent

2.1 Metro Vancouver's Climate 2050 Energy Roadmap

Report dated March 10, 2023, from Nicole Chan, Project Engineer, Parks and Environment, seeking MVRD Board endorsement of the *Climate 2050 Energy Roadmap.*

Recommendation:
That the MVRD Board:

a) endorse the *Climate 2050 Energy Roadmap* as attached to the report dated March 10, 2023, titled "Metro Vancouver's Climate 2050 Energy Roadmap" as part of a series of Roadmaps towards achievement of the *Climate 2050* vision, goals, and targets for greenhouse gas reduction and resilience in the energy sector;
b) direct staff to continue working with member jurisdictions and other partners to implement the actions in the *Climate 2050 Energy Roadmap*; and
c) direct staff to update the Roadmap, as needed, in response to changes in science, technology, and policy.

Adopted on Consent

2.2 Metro Vancouver's Climate 2050 Nature and Ecosystems Roadmap

Report dated February 15, 2023, from Edward Nichol, Regional Planner, Regional Planning and Housing Services, Josephine Clark, Natural Resource Management Planner, and Jason Emmert, Program Manager, Climate Policy, Parks and Environment, seeking MVRD Board endorsement of the *Climate 2050 Nature and Ecosystems Roadmap.*

Recommendation:

That the MVRD Board:

a) endorse the *Climate 2050 Nature and Ecosystems Roadmap* as attached to the report dated February 15, 2023, titled "Metro Vancouver's Climate 2050 Nature and Ecosystems Roadmap" as the initial Roadmap to achieve the *Climate 2050* vision, goals, and targets for a carbon neutral and resilient region supported by healthy and biodiverse ecosystems;

b) direct staff to continue working with member jurisdictions and other partners to implement the actions in the *Climate 2050 Nature and Ecosystems Roadmap*; and

c) direct staff to update the Roadmap, as needed, in response to new information.

Adopted on Consent

3.2 Award of Contract Resulting from Request for Proposal No. 22-177: Group Benefits Insurance for Metro Vancouver Regional District

Report dated March 3, 2023, from Tarynne Summers, Deputy General Manager, Human Resources Services, seeking MVRD Board approval of the award of contract of the unit rate contract for Life, AD&D and LTD insurance benefits to Desjardins Financial Security Life Assurance Company.

Recommendation:

That the MVRD Board:

a) approve the award of a unit rate contract to Desjardins Financial Security Life Assurance of Company ("Desjardins), for the supply of Life, Accidental Death and Dismemberment (AD&D) and Long Term Disability (LTD) group benefits insurance services to Metro Vancouver, with an estimated 5-year value in the amount of $13.287 million (exclusive of taxes); and

b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

Adopted on Consent

3.3 Rescinding of Temporary Policy- COVID-19 Vacation Carry-Over Policy for Exempt Employees

Report dated April 13, 2023, from the Finance Committee, and report dated March 2022, from Tarynne Summers, Deputy General Manager, Human Resources Services, seeking MVRD Board approval for the rescinding of the *Temporary Policy.*

Recommendation:
That the MVRD Board:

a) approve the rescinding of the COVID-19 Vacation Carry-Over for Exempt Employees Temporary Policy ("Temporary Policy") as presented in the report dated March 22, 2023, titled "Rescinding of Temporary Policy - COVID-19 Vacation Carry-Over for Exempt Employees".
b) authorize the Corporate Officer to rescind the Temporary Policy and revert to the regular Policy as presented in the report dated March 22, 2023, titled "Rescinding of Temporary Policy - COVID-19 Vacation Carry-Over for Exempt Employees".

Adopted on Consent

4.1 Zero Waste Conference: 2022 Update and 2023 Plans

Report dated April 4, 2023, from Ann Rowan, Division Manager, Collaboration and Engagement, providing the MVRD Board with an update on the 2022 Zero Waste Conference and preliminary information on the 2023 conference.

Recommendation:
That the MVRD Board receive for information the report dated April 4, 2023, titled "Zero Waste Conference: 2022 Update and 2023 Plans."

Adopted on Consent

5.1 Costs of Providing Infrastructure and Services to Different Forms and Densities of Housing – Scope of Work

Report dated March 15, 2023, from Eric Aderneck, Senior Planner, Regional Planning and Housing Services, providing the MVRD Board with the scope of work for the Costs of Providing Infrastructure and Services to Different Forms and Densities of Housing study.

Recommendation:
That the MVRD Board receive for information the report dated March 15, 2023, titled "Costs of Providing Infrastructure and Services to Different Forms and Densities of Housing – Scope of Work".

Adopted on Consent

6.1 Contribution and Collaboration Agreement – Metro Vancouver Regional Parks Foundation

Report dated April 3, 2023, from Mike Redpath, Director, Regional Parks, Parks and Environment, seeking MVRD Board approval to enter into a four-year Contribution and Collaboration Agreement with the Metro Vancouver Regional Parks Foundation.

Recommendation:
That the MVRD Board approve the Contribution and Collaboration Agreement between the Metro Vancouver Regional District and the Metro Vancouver Regional Parks Foundation for a four-year term commencing April 30, 2023 and ending March 31, 2027 with annual contributions of $189,000 (2023), $194,500 (2024), 200,000 (2025) and $205,500 (2026).

Adopted on Consent

6.2 Status of Regional Parks Capital Expenditures to December 31, 2022

Report dated March 27, 2023, from Mike Redpath, Director and Jeffrey Fitzpatrick, Division Manager, Design and Development, Regional Parks, Parks and Environment, providing the MVRD Board with information on the financial performance of the Regional Parks capital program for the year ending December 31, 2022.

Recommendation:
That the MVRD Board receive for information the report dated March 27, 2023 titled "Status of Regional Parks Capital Expenditures to December 31, 2022".

Adopted on Consent

7.1 Proclamation of Clean Transportation Month

Report dated March 20, 2023, from Katie Fitzmaurice, Vice President, Collaboration, Invest Vancouver, seeking MVRD Board approval to proclaim June, 2023 to be "Clean Transportation Month".

Recommendation:
That the MVRD Board proclaim June, 2023 to be "Clean Transportation Month".

Adopted on Consent

7.2 Strategic Industries Analytics Project Update

Report dated March 30, 2023, from Lejla Uzicanin, Vice President and Gregory Freeman, Senior Economist Data, Research and Policy, Invest Vancouver, providing the MVRD Board with an update on the *Strategic Industries Analytics Projects* and key findings to date.

Recommendation:
That the MVRD Board receive for information the report dated March 30, 2023 titled "Strategic Industries Analytics Project Update".

Adopted on Consent

7.3 Investment Attraction Update – First Quarter 2023

Report dated March 31, 2023, from Bryan Buggey, Executive Vice President, Invest Vancouver, providing the MVRD Board with an update on Invest Vancouver's 2023 Annual Plan activities relating to the first priority for the first quarter of 2023.

Recommendation:
That the MVRD Board receive for information the report dated March 31, 2023 titled "Investment Attraction Update – First Quarter 2023".

Adopted on Consent

F. ITEMS REMOVED FROM THE CONSENT AGENDA

Items removed from the Consent Agenda for consideration under Section F. were considered in numerical order.

1.1 Board Procedure Bylaw Review Findings

Report dated March 17, 2023, from Dorothy Shermer, Corporate Officer, seeking MVRD Board direction to update its *Procedure Bylaw* and recommend the establishment of a code of conduct.

It was MOVED and SECONDED
That the MVRD board:

a) direct staff to bring forward a new Metro Vancouver Regional District Board Procedure Bylaw to replace *Metro Vancouver Regional District Procedure Bylaw Number 1205, 2014* that incorporates the recommended changes as presented in the report dated March 17, 2023, titled "Board Procedure Bylaw Review Findings"; and
b) direct staff to bring forward a code of conduct based on the Model Code of Conduct produced by the *Working Group on Responsible Conduct*, as outlined in the report dated March 17, 2023, titled "Board Procedure Bylaw Review Findings".

CARRIED

1.3 Letter of Support for the City of Surrey regarding Policing Services

Report dated April 11, 2023, from the Mayors Committee, seeking MVRD Board endorsement for the letter of support to the province regarding policing services in the City of Surrey.

9:22 am Director Kirby-Yung arrived at the meeting.
9:24 am Director West departed the meeting.

Discussion ensued regarding the timing and relevancy of submitting the letter of support after the Province's final decision announcement on the matter.

Referral Motion

It was MOVED and SECONDED
That the MVRD Board refer item E1.3 – Letter of Support for the City of Surrey regarding Policing Services to staff.

CARRIED

3.1 Audited 2022 Financial Statements and Annual Financial Results
Report dated April 13, 2023, from the Finance Committee, and report dated April 5, 2023 from Linda Sabatini, Director, Financial Operations, Financial Services, seeking MVRD Board approval for the Audited 2022 Financial Statements for the Metro Vancouver Districts and the Metro Vancouver Housing Corporation and providing information on the 2022 financial results and surplus to budget.

It was MOVED and SECONDED
That the MVRD Board approve the Audited 2022 Consolidated Financial Statements for the Metro Vancouver Regional District.

CARRIED

G. REPORTS NOT INCLUDED IN CONSENT AGENDA

1.1 MVRD Notice of Bylaw Violation Enforcement and Dispute Adjudication Amendment Bylaw No. 1362, 2023
Report dated March 10, 2023, from Marina Richter, Senior Policy Analyst and Cindy Onyejekwe, Senior Policy Analyst, Parks and Environment, seeking MVRD Board adoption of the *Metro Vancouver Regional District Notice of Bylaw Violation Enforcement and Dispute Adjudication Amendment Bylaw No. 1362, 2023*.

It was MOVED and SECONDED
That the MVRD Board give first, second, and third reading to *Metro Vancouver Regional District Notice of Bylaw Violation Enforcement and Dispute Adjudication Amendment Bylaw No. 1362, 2023*.

CARRIED

It was MOVED and SECONDED
That the MVRD Board pass and finally adopt *Metro Vancouver Regional District Notice of Bylaw Violation Enforcement and Dispute Adjudication Amendment Bylaw No. 1362, 2023*.

CARRIED

1.2 MVRD Ticket Information Utilization Amendment Bylaw No. 1363, 2023

Report dated March 10, 2023, from Marina Richter, Senior Policy Analyst and Cindy Onyejekwe, Senior Policy Analyst, Parks and Environment, seeking MVRD Board adoption of the *Metro Vancouver Regional District Ticket Information Utilization Amendment Bylaw No. 1363, 2023*.

It was MOVED and SECONDED

That the MVRD Board give first, second, and third reading to *Metro Vancouver Regional District Ticket Information Utilization Amendment Bylaw No. 1363, 2023*.

CARRIED

It was MOVED and SECONDED

That the MVRD Board pass and finally adopt *Metro Vancouver Regional District Ticket Information Utilization Amendment Bylaw No. 1363, 2023*.

CARRIED

2.1 Land Use Designation Amendment to Metro 2050 Township of Langley – Gloucester Industrial Park

Report dated March 31, 2023, from Victor Cheung, Senior Policy and Planning Analyst, Regional Planning and Housing Services, seeking MVRD Board initiation and first through third reading of the Township of Langley's request to amend *Metro 2050.*

It was MOVED and SECONDED

That the MVRD Board:

a) initiate the regional growth strategy amendment process for the Township of Langley's requested regional land use designation amendment from Agricultural to Industrial for the lands located at 26477, 26695, 26601, 26575, 26713 – 56 Avenue; 26500 Block of 56 Avenue; 5670 – 264 Street; and 5625 – 268 Street;
b) give first, second, and third readings to *Metro Vancouver Regional District Regional Growth Strategy Amendment Bylaw No. 1364, 2023*; and
c) direct staff to notify affected local governments as per section 6.4.2 of *Metro 2050*.

CARRIED

H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN

No items presented.

I. OTHER BUSINESS

1. MVRD Board Committee Information Items and Delegation Summaries

J. BUSINESS ARISING FROM DELEGATIONS

No items presented.

K. RESOLUTION TO CLOSE MEETING

It was MOVED and SECONDED

That the MVRD Board close its meeting scheduled for April 28, 2023 pursuant to section 226 (1) (a) of the *Local Government Act* and the *Community Charter* provisions as follows:

"90 (1) A part of a council meeting may be closed to the public if the subject matter being considered relates to or is one or more of the following:

- (a) personal information about an identifiable individual who holds or is being considered for a position as an officer, employee or agent of the municipality or another position appointed by the municipality;
- (c) labour relations or other employee relations;
- (g) litigation or potential litigation affecting the municipality;
- (h) an administrative tribunal hearing or potential administrative tribunal hearing affecting the municipality, other than a hearing to be conducted by the council or a delegate of council;
- (i) the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose;
- (k) negotiations and related discussions respecting the proposed provision of a municipal service that are at their preliminary stages and that, in the view of the council, could reasonably be expected to harm the interests of the municipality if they were held in public; and

(2) A part of a council meeting must be closed to the public if the subject matter being considered relates to one or more of the following:

- (b) the consideration of information received and held in confidence relating to negotiations between the municipality and a provincial government or the federal government or both, or between a provincial government or the federal government or both and a third party."

CARRIED

L. RISE AND REPORT (Items Released from Closed Meeting)

No items presented.

M. ADJOURNMENT/CONCLUSION

It was MOVED and SECONDED

That the MVRD Board adjourn its meeting of April 28, 2023.

CARRIED

(Time: 9:30 am)

CERTIFIED CORRECT

Dorothy Shermer, Corporate Officer

John McEwen, Vice Chair

59559065 FINAL

To: Regional Parks Committee

From: Jamie Vala, Division Manager, Planning and Resource Management, Regional Parks

Date: April 17, 2023 Meeting Date: May 10, 2023

Subject: **Regional Parks Sustainable Transportation Market Research Report Summary**

RECOMMENDATION

That the MVRD Board receive for information the report dated April 17, 2023, titled "Regional Parks Sustainable Transportation Market Research Report Summary".

EXECUTIVE SUMMARY

This report conveys the results of research that was undertaken to support more sustainable travel to regional parks. The results are based on a survey of 653 Metro Vancouver residents who visited a regional or other large natural park in the region during the last 12 months.

The "Metro Vancouver Sustainable Transportation Research" report (Attachment) found that while the majority of respondents used private vehicles to travel to regional or large natural parks, the results indicate that actions that improve convenience, efficiency and safety of transit or cycling infrastructure will encourage more people to access these parks by sustainable modes of transportation. Metro Vancouver will use this information to develop strategies to reduce these barriers in collaboration with other jurisdictions.

PURPOSE

The purpose of this report is to provide the "Metro Vancouver Sustainable Transportation Research" report to the Regional Parks Committee for information.

BACKGROUND

This research was acquired to support Metro Vancouver's efforts to promote the use of sustainable transportation methods, such as public transit and bicycling, for travel to regional parks.
Prior work on this topic includes Regional Parks Alternative Transportation Study - Part 1: Access Inventory (2020) (Reference 1); Regional Parks Alternative Transportation Study - Part 2: Access to Regional Parks (2022) (Reference 2) and the Regional Parks Awareness and Use Survey (2020) (Reference 3).

This work supports the Regional Parks Plan (2022):

- Action 11.1 Build and upgrade the Metro Vancouver Regional Parks' segment of the Regional Greenways Network
- Action 11.2 Develop and implement new approaches to encourage sustainable transportation options to regional parks

MARKET RESEARCH RESULTS

Research Objective

In December of 2022, The Sentis Group surveyed 653 Metro Vancouver adult residents who visited a regional or other large natural park in Metro Vancouver within the past 12 months. This market research tried to identify the factors that will encourage residents to choose sustainable modes of transportation when visiting Metro Vancouver regional and other large natural parks.

Survey objectives include:

- Estimate Metro Vancouver resident transportation mode when visiting regional and other large parks;
- Understand why residents use their current transportation mode;
- Measure the likelihood that residents will consider using sustainable modes of transportation when visiting Metro Vancouver regional and other large parks;
- Identify which regional and other large parks residents would consider visiting using sustainable transportation.

Results Highlights

The following section summarizes the top findings of this research. Overall park visitor travel mode to regional / other large natural parks is as follows.

- 90% of park visitors used a private vehicle at least some of the time with 82% using it as their main travel mode.
- 22% of park visitors used public transit at least some of the time with 9% using it as their main travel mode.
- 22% of park visitors used walking at least some of the time with 6% using it as their main travel mode.
- 14% of park visitors used bicycling/micromobility devices at least some of the time with 3% using it as their main travel mode.

When asked which regional / other large natural parks they would use sustainable modes of transportation to visit, participants indicated that they are most likely to:

- take transit to/from Stanley Park (29%), Capilano River Regional Park (23%) and Pacific Spirit Regional Park (22%).
- bicycle to Lower Seymour Conservation Reserve (19%)
- walk to/from include Green Timbers Urban Forest Park (30%) and Stanley Park (22%)

The following table provides a broader illustration of the most/least popular parks for sustainable transportation use. Metro Vancouver parks are found at near equal numbers in each group.

Parks with the Most and Least Sustainable Transportation Use	
Highest Sustainable Transportation Use	**Lowest Sustainable Transportation Use**
Stanley Park	Golden Ears Provincial Park
Pacific Spirit Regional Park	Cypress Bowl Provincial Park
Burnaby Lake Regional Park	Belcarra Regional Park
Capilano River Regional Park	Buntzen Lake Recreation Area
Lynn Headwaters Regional Park	Tynehead Regional Park
Burnaby Mountain Conservation Area	Boundary Bay Regional Park
Lower Seymour Conservation Reserve	Derby Reach Regional Park
Green Timbers Urban Forest Park	Mount Seymour Provincial Park
Colony Farm Regional Park	Aldergrove Regional Park

Public Transit Travel to Parks

The survey found that among participants who use public transit as their main mode of transportation only 36% of use it as their primary way to get to/from parks. Half (50%) use a private vehicle instead. Only 32% of participants surveyed said that they wouldn't consider taking public transit to any park.

The main reason participants chose a private vehicle for travel to parks is convenience and efficiency. Participants cited that transit takes too long, service is infrequent or there are too many transfers required. Secondary reasons to pick a private vehicle over transit include needing to bring gear, equipment or pets.

The factors that participants indicate will most encourage them to choose public transit to visit parks are ones that would decrease the amount of time that it takes to get to/from the park including:

- stops/stations close to the park entrance
- more frequent service to/from the park
- stops/stations close to home
- a dedicated shuttle bus to/from the park

Bicycling/Micromobility Travel to Parks

The survey found that 14% of participants use a bicycle/micromobility device to travel to parks. Respondents identified two main barriers to increasing the use of cycling/micromobility devices to get to/from parks. They are:

- Only 48% of park visitors have regular access to a bicycle or micromobility device.
- Concerns about safely getting to/from parks given the current bicycle infrastructure around Metro Vancouver.

The two factors identified that would most encourage participants to cycle to/from the park are:

- having cycling routes that are away from traffic, and
- having cycling paths that are physically separated from traffic.

Next Steps
This report will be used by staff to help prioritize and advance work on Metro Vancouver's sustainable transportation initiatives. It will also be published on the Metro Vancouver webpage and shared with the Regional Parks Advisory Committee, other jurisdictions, agencies and community groups who can use the information to support their efforts to promote sustainable transportation in the region.

ALTERNATIVES
This report is presented for information. No alternatives are presented.

FINANCIAL IMPLICATIONS
This is an information report. There are no financial implications associated with this report. The production of this study was undertaken with staff and financial resources included in the MVRD Board approved 2022 Regional Parks budget.

CONCLUSION
This report conveys the "Metro Vancouver Sustainable Transportation Research" report to the Regional Parks Committee for information. This research provides new information about the travel preferences of visitors to regional and other large natural parks within the region. The results indicate that actions that improve convenience, efficiency and safety will encourage more people to access regional parks and other natural areas by sustainable modes of transportation.

Attachment
"Metro Vancouver Sustainable Transportation Research", dated March 17, 2023

References
1. *Regional Parks Alternative Transportation Study - Part 1: Access Inventory (2020)*
2. *Regional Parks Alternative Transportation Study - Part 2: Access to Regional Parks (2022)*
3. *Regional Parks Awareness and Use Survey (2020)*

58574261

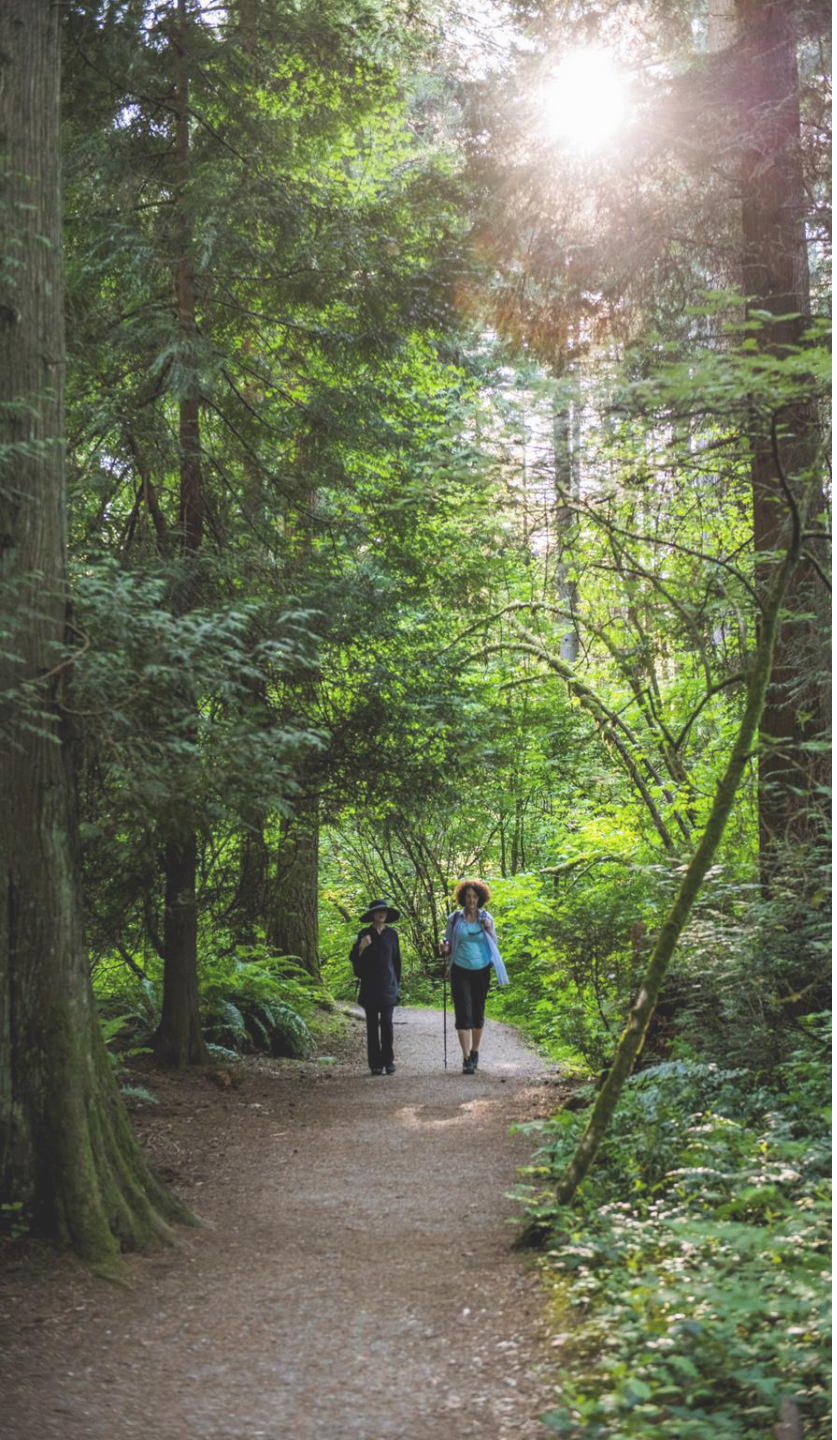


Metro Vancouver Sustainable Transportation Research

Revised: March 17, 2023

Adam DiPaula | adipaula@sentisresearch.com
Yoki Li | yli@sentisresearch.com
Amanda Ho | aho@sentisresearch.com
thesentisgroup.com

sentis®



CONTENTS

03 Background & Approach

06 Highlights

11 Summary of Findings

- 11 Visitation & Modes of Transportation to Regional and Other Large Parks
- 24 Likelihood of Using Sustainable Transportation to Visit Regional and Other Large Parks
- 29 Considerations of Using Sustainable Transportation

33 Appendix

- 33 Profile of Participants
- 37 Additional Findings



Background & Approach

BACKGROUND & OBJECTIVES

Metro Vancouver would like to increase the use of sustainable modes of transportation to regional and other large parks in Metro Vancouver. Sustainable modes of transportation include walking, taking public transit, cycling or using micromobility devices. The purpose of this research is to identify factors that will encourage residents to choose sustainable modes of transportation when visiting Metro Vancouver regional and other large parks.

Sentis was enlisted to conduct a survey among Metro Vancouver residents who have visited a regional or other large park in Metro Vancouver within the past 12 months. The survey addresses the following objectives.

- Capture the current mode of transportation that residents used to visit Metro Vancouver regional and other large parks;
- Gather and understand the reasons why residents use their current mode of transportation;
- Measure the likelihood that residents will consider using sustainable modes of transportation when visiting Metro Vancouver regional and other large parks;
- Identify which regional and other large parks residents would consider visiting using sustainable transportation.



BACKGROUND & APPROACH

In total, 653 surveys were conducted among Metro Vancouver residents aged 19 and older who have visited a Metro Vancouver regional and other large park in the past 12 months. The incidence of this target population is 68%.

A general consumer panel was used as the sample source for the survey.

The online survey was administered from December 13 to 21, 2022.

The final dataset is weighted to accurately reflect the total population in BC with respect to age, gender and region.

For a random survey of a similar sample size, total results would be accurate to ±4.1%
(19 times out of 20)

Regional Park Area	# of Surveys
Central *(Electoral Area A (not UBC), Burnaby, New Westminster, University Endowment Lands (UBC), Vancouver)*	271
North West *(Bowen Island, Lions Bay, North Vancouver, North Vancouver (District), West Vancouver)*	49
North East *(Anmore, Belcarra, Coquitlam, Maple Ridge, Pitt Meadows, Port Coquitlam, Port Moody)*	83
South West *(Delta, Richmond, Tsawwassen)*	81
South East *(Langley, Langley (Township), Surrey, White Rock)*	169
Total	**653**



Report Highlights



REPORT HIGHLIGHTS

Current Use of Sustainable Transportation to Travel to/from Regional and Other Large Parks

In the past 12 months…

90% of park visitors used a **private vehicle** at least some of the time to get to/from regional and other large parks – it was the main mode for 82% of park visitors.

22% of park visitors used **public transit** at least some of the time to get to/from regional and other large parks – it was the main mode for 9% of park visitors.

22% of park visitors **walked** to/from a regional and other large park at least some of the time – it was the main mode for 6% of park visitors.

14% of park visitors used a **bicycle/micromobility device** at least some of the time to get to/from regional and other large parks – it was the main mode for 3% of park visitors.



REPORT HIGHLIGHTS

The Current State of Using Sustainable Transportation to get to/from Regional and Other Large Parks

- Stanley Park, Capilano River Regional Park, and Pacific Spirit Regional Park have the **highest percentage of transit users** (29%, 23%, 22%)
- Lower Seymour Conservation Reserve has the **highest percentage of cyclists** (19%)
- Green Timbers Urban Forest Park and Stanley Park have the **highest percentage of visitors who walk** to/from the park (30%, 22%)

Highest Percentage of Sustainable Transport Users	Lowest Percentage of Sustainable Transport Users
Stanley Park	Golden Ears Provincial Park
Pacific Spirit Regional Park	Cypress Bowl Provincial Park
Burnaby Lake Regional Park	Belcarra Regional Park
Capilano River Regional Park	Buntzen Lake Recreation Area
Lynn Headwaters Regional Park	Tynehead Regional Park
Burnaby Mountain Conservation Area	Boundary Bay Regional Park
Lower Seymour Conservation Reserve	Derby Reach Regional Park
Green Timbers Urban Forest Park	Mount Seymour Provincial Park
Colony Farm Regional Park	Aldergrove Regional Park

**Table ranked ordered by total number of visitors*



REPORT HIGHLIGHTS

Recommendations to Increase the Use of Public Transit to get to/from Regional and Other Large Parks

- **The main reason park visitors choose a private vehicle to get to/from regional and other large parks, is that it is the most convenient and efficient mode of travel** – and significantly more efficient than public transit. Without being prompted, two-in-ten park visitors who use a private vehicle as their main mode of to get to/from regional and other large parks specifically mentioned limitations of public transit as the main reason they use a private vehicle.

- **Further, when presented with a list of possible reasons for choosing a private vehicle over public transit, the most common reason (selected by 75% of these park visitors) was that 'transit takes too long'.** Other common reasons all contribute to transit trip length – i.e., infrequent service, stop/stations not close by, and too many transfers.

- **Needing to bring gear, equipment or pets** are all secondary reasons for choosing a private vehicle over transit.

- Among those who use public transit as their main mode of transportation in general, **only 36% use public transit as their main mode to get to/from regional and other large parks – half (50%) use a private vehicle**.

- It follows that the factors that will most encourage park visitors to choose public transit to visit regional and other large parks are the factors that would **decrease the amount of time that it takes** to get to/from the park:
    - stops/stations close to the park entrance;
    - more frequent service to/from the park;
    - stops/stations close to home;
    - a dedicated shuttle bus to/from the park.

- Only 32% of park visitors say that they wouldn't consider taking public transit to any regional and other large parks.



REPORT HIGHLIGHTS

Recommendations to Increase the Use of Cycling/Micromobility to get to/from Regional and Other Large Parks

- While park visitors are less likely to consider using a bicycle/micromobility device to get to/from regional and other large parks than public transit, it is clear that a subgroup of park visitors are open to cycling/using micromobility devices. For example, **just under one-third of regional and other large park visitors indicate that they are a lot more likely to consider using a bicycle/micromobility device** to get to/from regional and other large parks if certain conditions are met.
- However, there are currently **two main barriers** that make it difficult to increase the use of cycling/micromobility devices to get to/from regional and other large parks.
    - The first is that **only 48% of park visitors have regular access to a bicycle or micromobility device**.
    - The second is a **concern about safely** getting to/from the park given the current bicycle infrastructure around Metro Vancouver.
- The two factors that would most encourage park visitors to cycle to/from the park are: **having cycling routes that are away from traffic, and having cycling paths that are physically separated from traffic.**

Summary of Findings

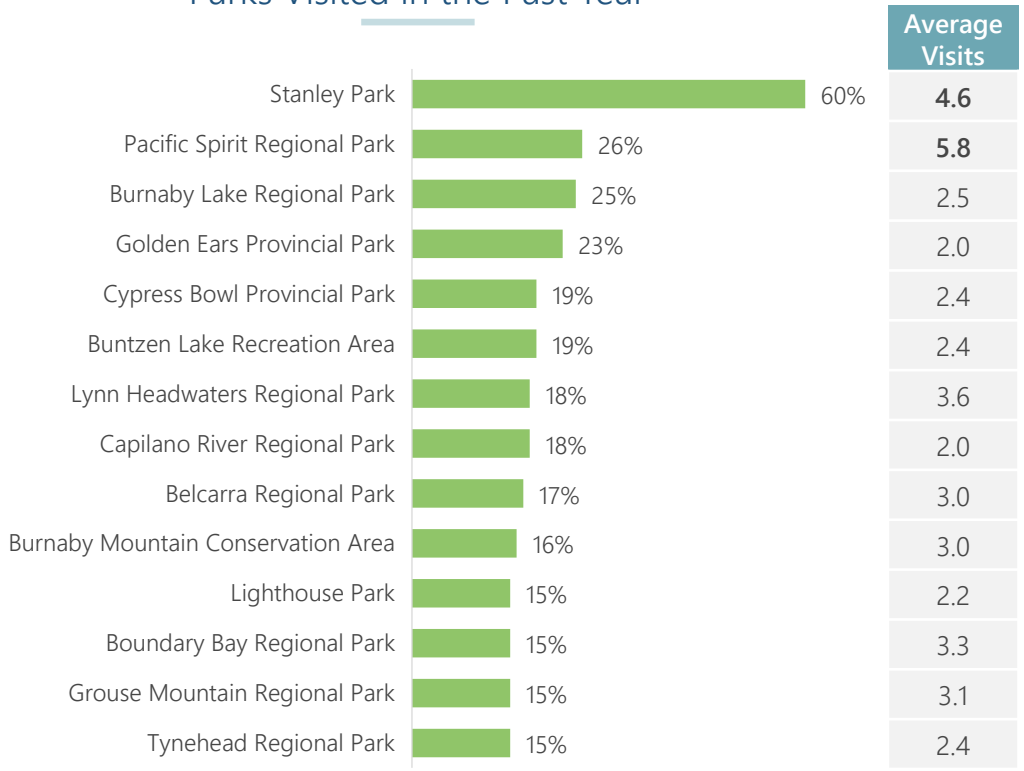
Visitation & Modes of Transportation to Regional and Other Large Parks

Note: For each chart or table we include a Base size. This refers to the number of participants who answered a survey question. Given that not all questions were asked to all participants the Base size may vary from question to question.

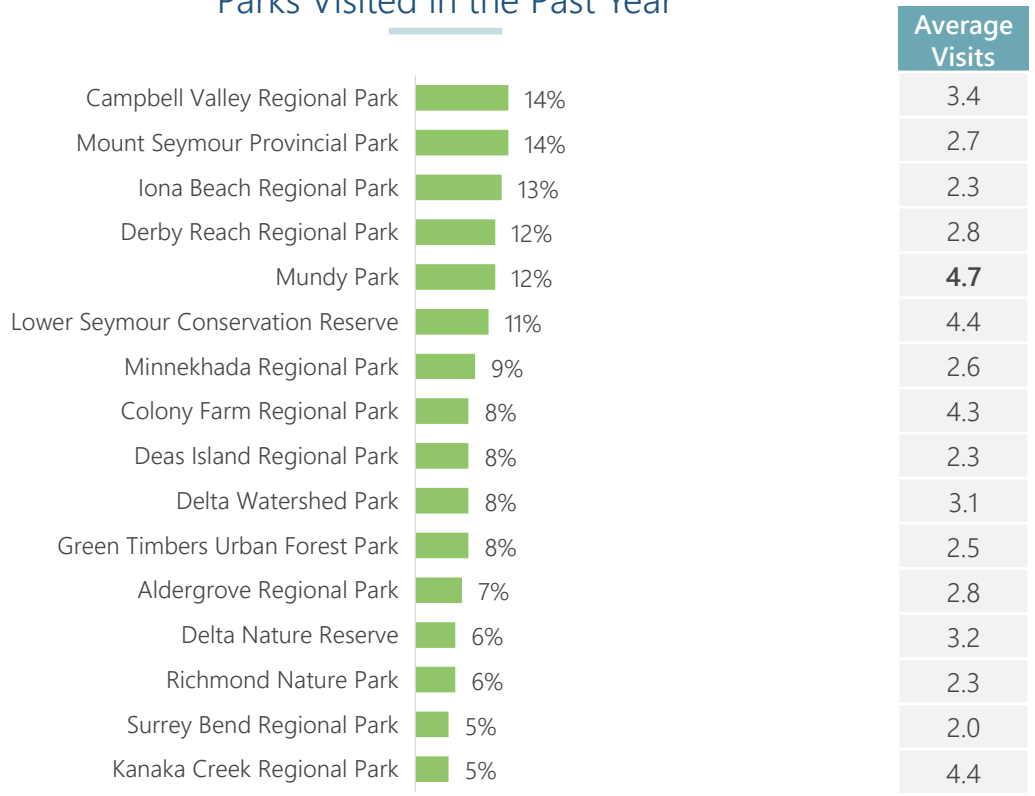
PAST YEAR VISITATION OF METRO VANCOUVER REGIONAL AND OTHER LARGE PARKS

Stanley Park is, by far, the park that residents are most likely to visit. Six-in-ten park visitors went to Stanley Park at least once in the past 12 months. This was followed by Pacific Spirit Regional Park, Burnaby Lake Regional Park, and Golden Ears Provincial Park. Another way to look at park visitation is how frequently those who visit each park go there. Those who visit Pacific Spirit Regional Park do so relatively frequently, as do those who visit Mundy Park and Stanley Park. These are among the parks that have the most visitors who choose to walk to/from the park (see next slide).

Parks Visited in the Past Year



Parks Visited in the Past Year



*Showing parks with at least 5% visiting in the past year
Base: Total Metro Vancouver (653)

S7. Which of the following regional park / large natural area in Metro Vancouver have you visited in the past 12 months? Select all that apply.
Q1. How many times did you visit each of these regional and other large parks / large natural areas in the past 12 months? If you can't recall an exact number, an estimate is fine.

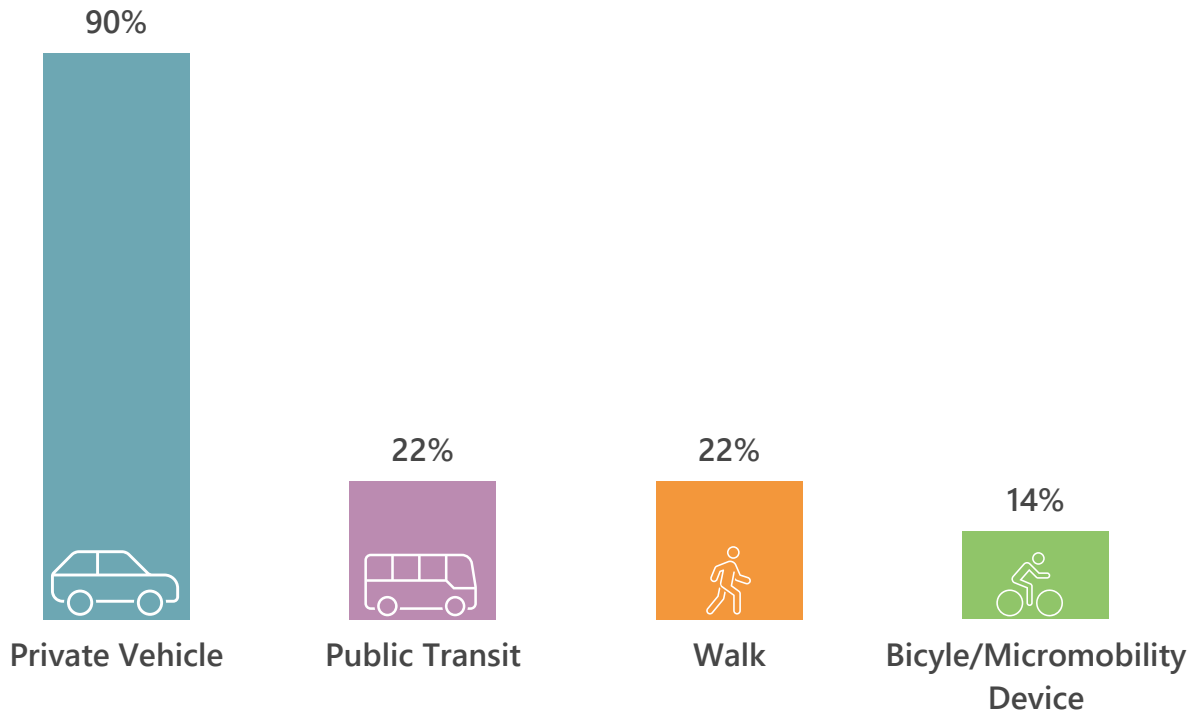
MODE OF TRANSPORTATION TO REGIONAL AND OTHER LARGE PARKS

Nine-in-ten park visitors used a private vehicle for at least some of their trips to regional and other large parks in the past 12 months.

Park visitors were equally like to use public transit or to walk for at least some of their trips.

Only 14% of park visitors used a bicycle/micromobility device for at least some of their trips.

Mode of Transportation to Regional and Other Large Parks



Base: Total Metro Vancouver (653)
Q4. For each of these regional and other large parks / large natural areas that you've visited in the past 12 months, what modes of transportation did you use to get to/from them? Select all that apply.

TOP PARKS BY MODE OF TRANSPORTATION USED IN THE PAST YEAR

This table shows the parks that have the highest percentage of visitors who use sustainable transportation to get to/from the park.*

Stanley Park, Capilano River Regional Park, and Pacific Spirit Regional Park have the highest percentage of transit users.

Lower Seymour Conservation Reserve has the highest percentage of cyclists.

Green Timbers Urban Forest Park and Stanley Park have the highest percentage of visitors who walk to/from the park.

**Please see the Appendix for the parks with the fewest visitors who use sustainable transportation.

Public Transit		Bicycle / micromobility device		Walking	
Base: 31-314		Base: 31-314		Base: 31-314	
Stanley Park	29%	Lower Seymour Conservation Reserve	19%	Green Timbers Urban Forest Park	30%
Capilano River Regional Park	23%	Stanley Park	14%	Stanley Park	22%
Pacific Spirit Regional Park	22%	Delta Watershed Park	13%	Pacific Spirit Regional Park	15%
Lynn Headwaters Regional Park	18%	Iona Beach Regional Park	13%	Mundy Park	13%
Burnaby Mountain Conservation Area	17%	Colony Farm Regional Park	13%	Burnaby Lake Regional Park	12%
Grouse Mountain Regional Park	16%	Minnekhada Regional Park	11%	Lynn Headwaters Regional Park	12%
Burnaby Lake Regional Park	16%	Pacific Spirit Regional Park	10%	Delta Watershed Park	11%
Richmond Nature Park	14%			Burnaby Mountain Conservation Area	10%
Lighthouse Park	11%			Capilano River Regional Park	10%

*Note: Only showing parks where at least 30 park visitors and at least 10% visited via public transit, bicycle/micromobility device, or walking.
Q4. For each of these regional and other large parks / large natural areas that you've visited in the past 12 months, what modes of transportation did you use to get to/from them? Select all that apply.

MODES USED FOR PARKS THAT RESIDENTS ARE MOST LIKELY TO VISIT

This table shows the modes that park visitors use to get to/from the parks with the highest percentage of visitors.

While a private vehicle is the mode that's used most commonly to get to/from all of these parks, Stanley Park, Pacific Spirit Park and Burnaby Lake Regional Park have an appreciable percentage of visitors who use public transit and walking to get there at least some of the time.

	Top Parks				
	Stanley Park	Pacific Spirit Regional Park	Burnaby Lake Regional Park	Golden Ears Provincial Park	Cypress Bowl Provincial Park
Base	314	138	121	115	94
% Visited Park in the Past Year	*60%*	*26%*	*25%*	*23%*	*19%*
Private Vehicle	66%	73%	80%	98%	96%
Public Transit	29%	22%	16%	3%	2%
Bicycle / micromobility device	14%	10%	6%	2%	5%
Walking	22%	15%	12%	1%	1%

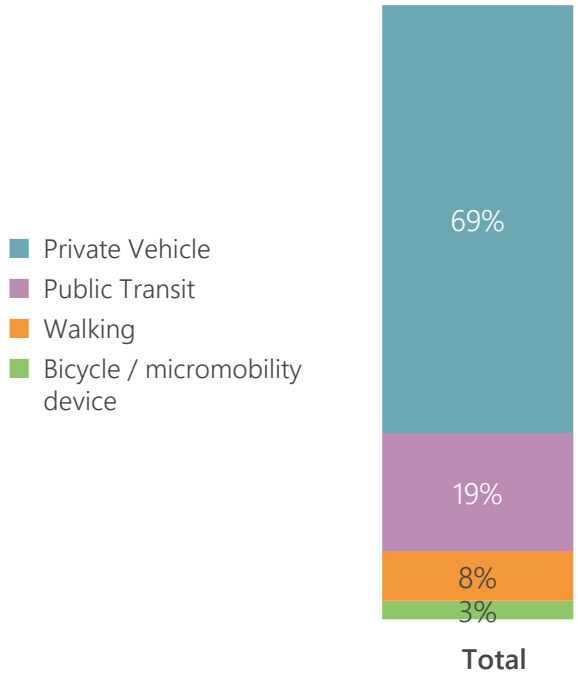
Note: modes used for other parks are available in the data tables provided.
S7. Which of the following regional park / large natural area in Metro Vancouver have you visited in the past 12 months?
Q4. For each of these regional and other large parks / large natural areas that you've visited in the past 12 months, what modes of transportation did you use to get to/from them? Select all that apply.

MAIN MODE OF TRANSPORTATION

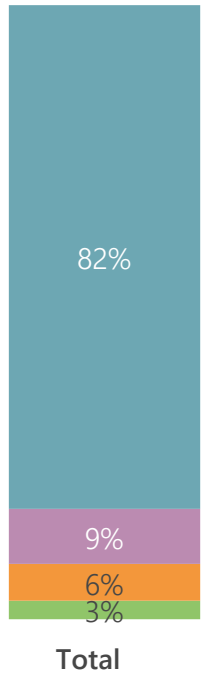
When it comes to their main mode of transportation in general, seven-in-ten of park visitors (69%) use a private vehicle – two-in-ten (19%) use public transit, with the balance either walking or cycling.

When it comes to their main mode of transportation to get to/from regional and other large parks, eight-in-ten (82%) use a private vehicle. Among the 18% who use sustainable transportation as their main mode to get to/from regional and other large parks, half use public transit.

Main Mode of Transportation in Metro Vancouver



Main Mode of Transportation to Parks



Main Mode of Transportation in Metro Vancouver

84% of households with children under 18 use a private vehicle as their main mode of transportation.

Central region residents and those ages 19 to 34 are most likely to use public transit as their main mode of transportation (26% and 38% respectively).

In the past year, only **14% of North West, North East and South East residents** have taken public transit.

Main Mode of Transportation to Regional and Other Large Parks

Residents ages 19-34 and those living in the Central region account for 29% of those using sustainable transportation to visit regional and other large parks.

Households with children under 18 are most likely to use a private vehicle when visiting regional or other large parks (94%).

Base: Total Metro Vancouver (653)

S5A. In the past 12 months what was the main mode of transportation you used to get to/from destinations in Metro Vancouver?
Q5. What was the main mode of transportation you used to get to/from regional and other large parks / large natural areas?

MAIN MODE OF TRANSPORTATION

This table shows the relationship between park visitors' main mode of transportation in general and their main mode to get to/from regional and other large parks. Specifically, it shows that among those who use a particular mode as their main mode in general, the percentage who use that mode (or other modes) as their main mode to get to/from regional and other large parks.

Among those who use a private vehicle as their main mode in general, virtually all (95%) also use a private vehicle as their main mode to get to/from regional and other large parks.

A private vehicle is also the most common mode to get to/from regional and other large parks among those who use sustainable modes of transportation as their main mode in general.

For example, among those who use public transit as their main mode in general, 50% use a private vehicle as their main mode to get to/from regional and other large parks, while only 36% use public transit.

Main Mode of Transportation in Metro Vancouver in General

Main Mode of Transportation to Get to/from Regional and Other Large Parks	Private vehicle	Public transit	Bicycle / micromobility device	Walking
Base	461	117	20	55
Private vehicle (either as a driver or passenger)	95%	50%	51%	55%
Public transit	1%	36%	0%	15%
Walking	2%	10%	6%	21%
Bicycle / micromobility device	1%	3%	43%	9%

S5A. In the past 12 months what was the main mode of transportation you used to get to/from destinations in Metro Vancouver?
Q5. What was the main mode of transportation you used to get to/from regional and other large parks / large natural areas?

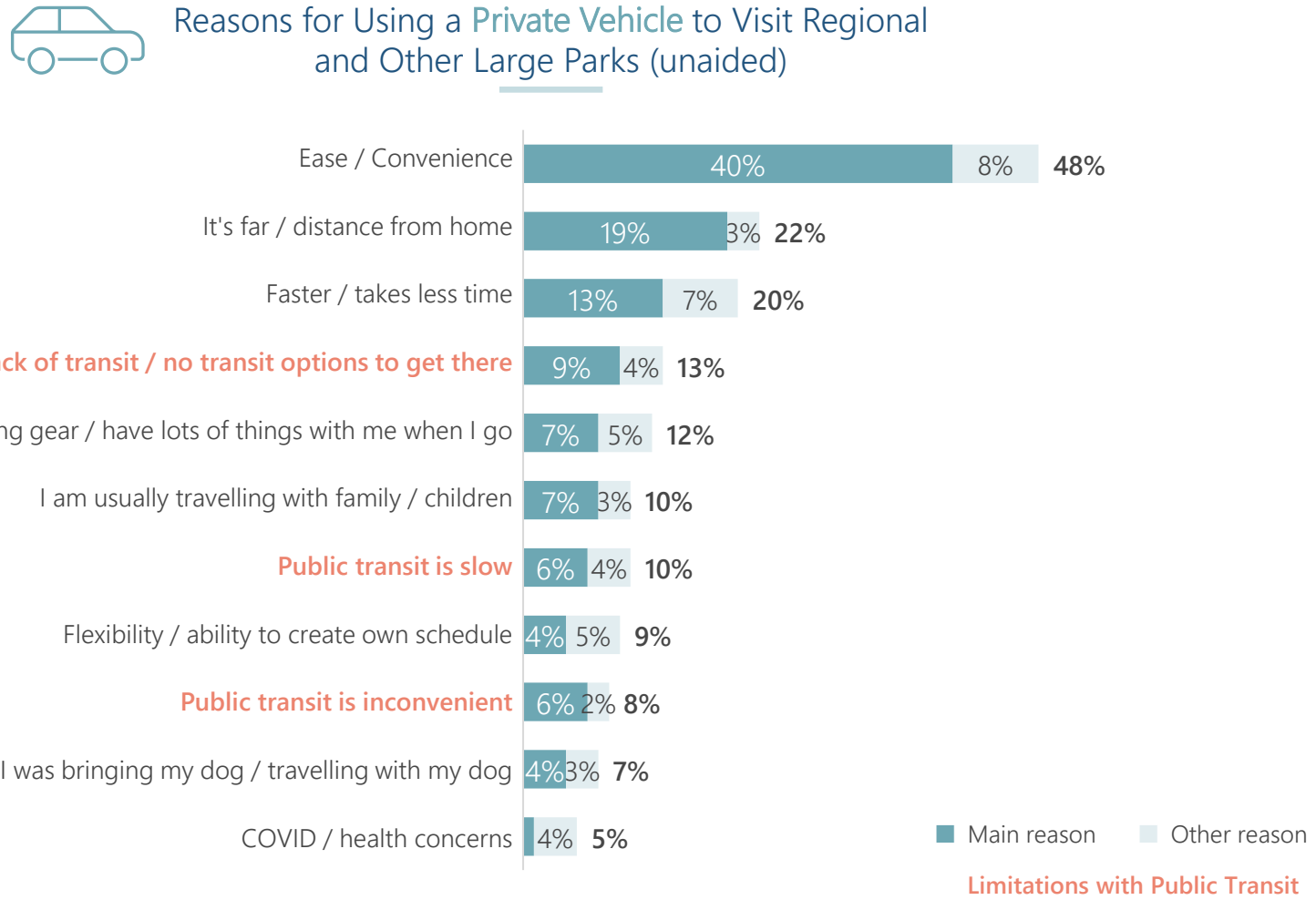
REASONS FOR USING PRIVATE VEHICLES (unaided)

Park visitors gave their main reason and secondary reasons for using their main mode to visit regional and other large parks. Their reasons were then content-coded.

By far, the main reason that park visitors give for using a private vehicle as their main mode to get to/from regional and other large parks is for its ease and convenience. This is followed by the distance being too far to use other modes, and that using a private vehicle is faster than other modes.

Note that 19% mentioned a limitation of public transit (not available, slow, inconvenient) as the main reason that they use a private vehicle.

Reasons for Using a Private Vehicle to Visit Regional and Other Large Parks (unaided)



Base: Those who use a private vehicle as a main mode of transportation to parks (539)
Note: only showing major mentions 5% or higher
Q6a. What is the main reason you used [MODE] as your main mode of transportation to get to/from regional and other large parks / large natural areas?
Q6b. Are there any other reasons you used [MODE] as your main mode of transportation?

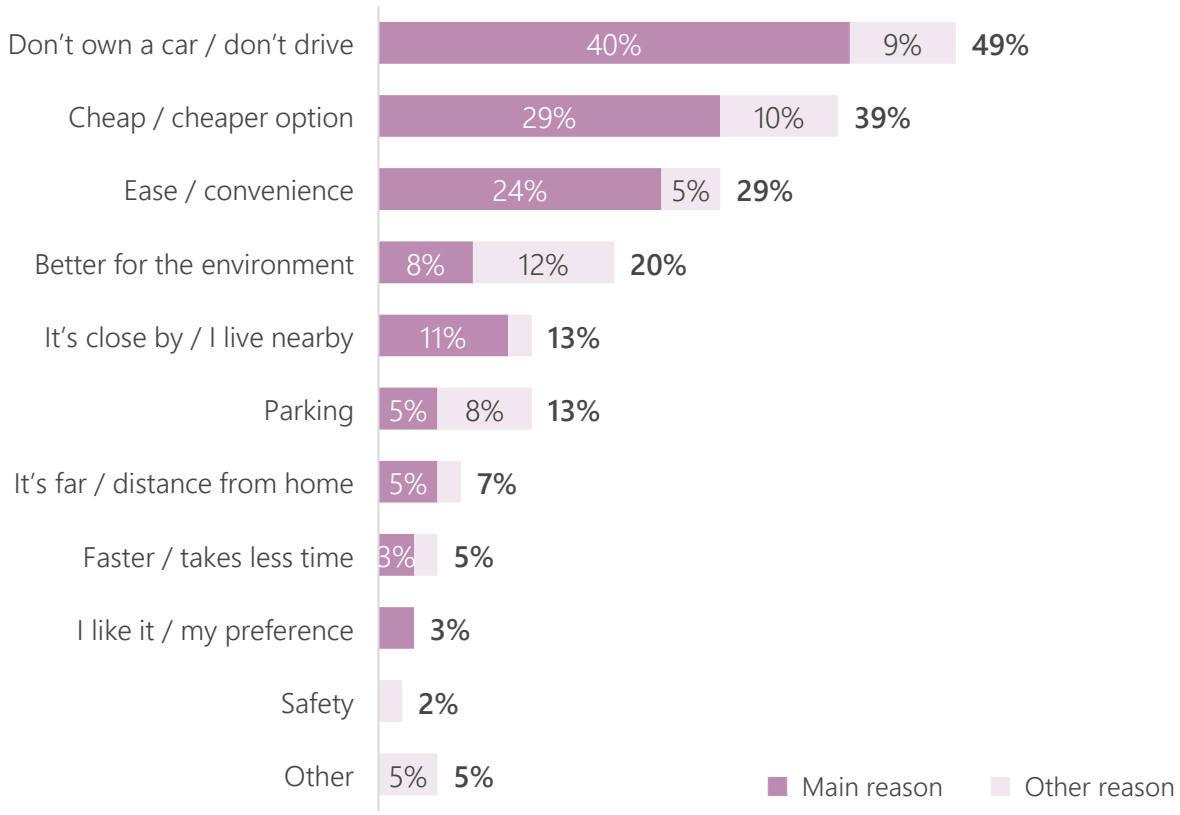
REASONS FOR USING PUBLIC TRANSIT (unaided)

The main reason that park visitors give for using public transit as their main mode to get to/from regional and other large parks is that they don't have access to a private vehicle.

However, public transit clearly works well for a subset of park visitors. Two relatively common reasons that park visitors give for choosing transit is that it's a cheap option and it's convenient.

Wanting to do something positive for the environment was the fourth most common reason that park visitors give for using public transit.

Reasons for Using Public Transit to Visit Regional and Other Large Parks (unaided)



Base: Those who use public transit as a main mode of transportation to parks (55)

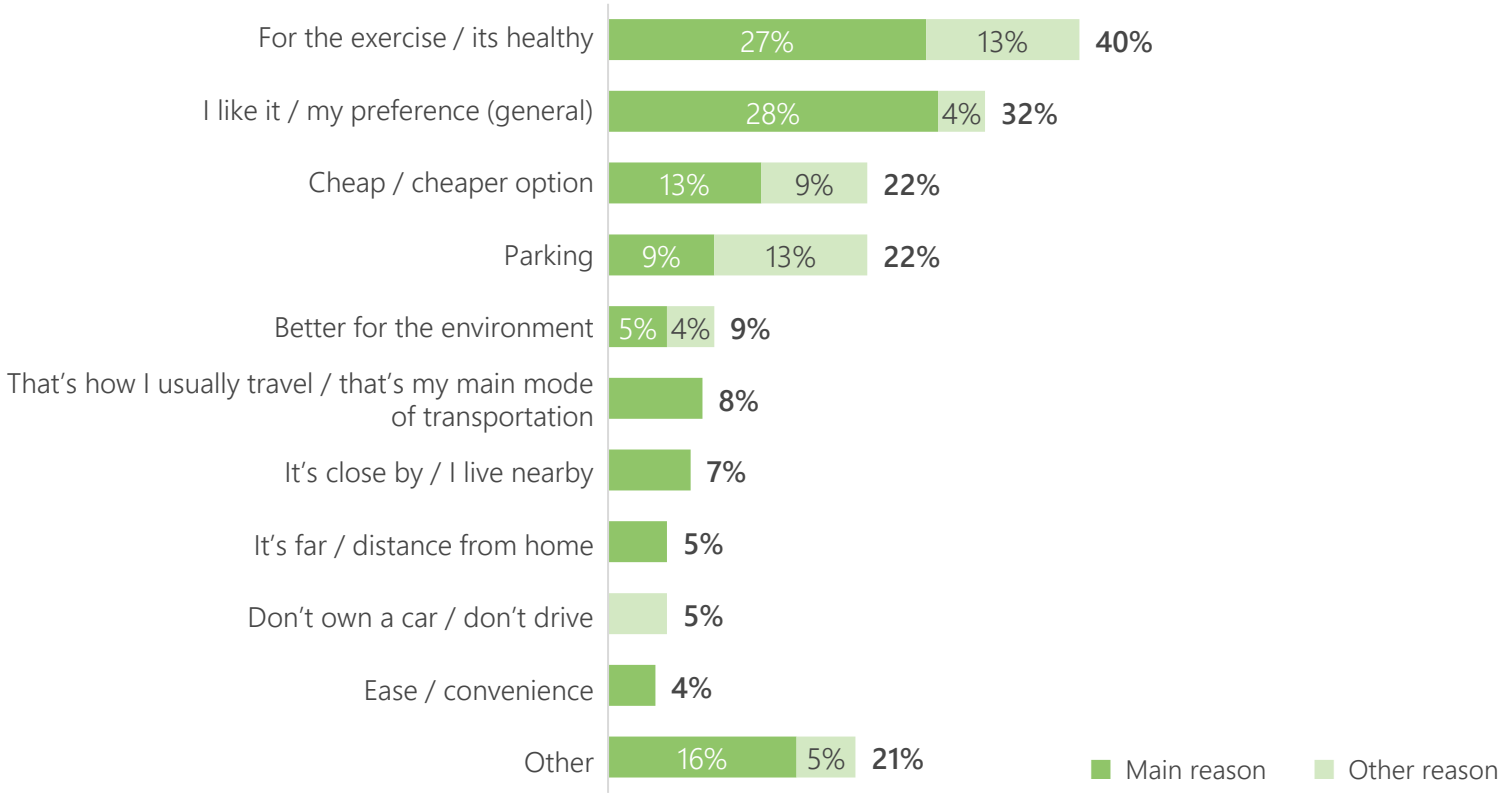
Q6a. What is the main reason you used [MODE] as your main mode of transportation to get to/from regional and other large parks / large natural areas?
Q6b. Are there any other reasons you used [MODE] as your main mode of transportation?

REASONS FOR USING A BICYCLE / MICROMOBILITY DEVICE (unaided)

The main reason that park visitors give for using a bicycle/micromobility device as their main mode to get to/from regional and other large parks is for exercise and health benefits.

Two other relatively common reasons that park visitors give for using a bicycle/micromobility device is that it's an affordable option and they don't have to worry about finding a parking spot for a vehicle.

Reasons for Using A Bicycle or Micromobility Devices to Visit Regional and Other Large Parks (unaided)

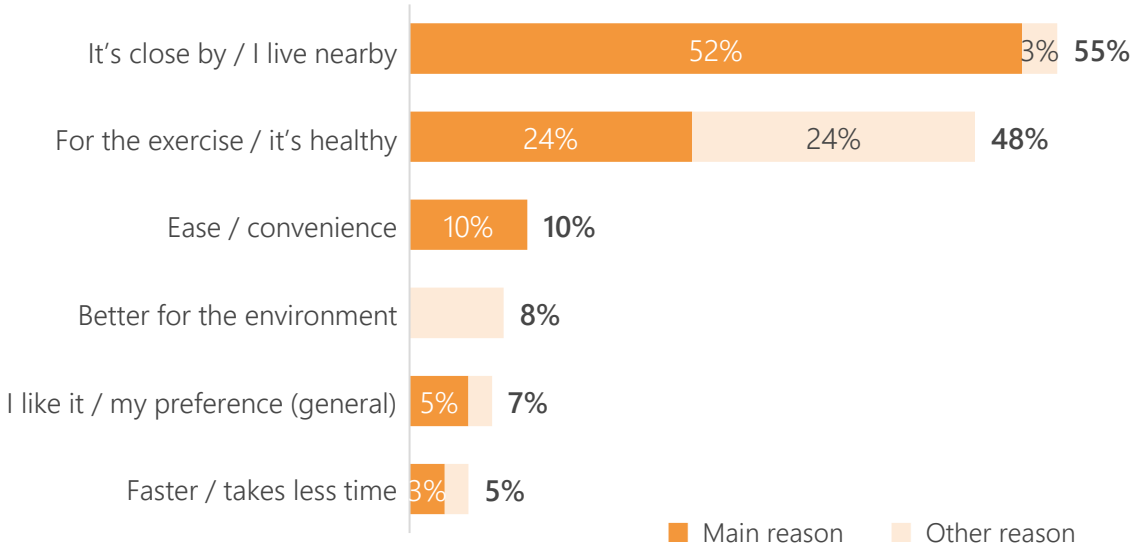


Base: Those who use a bicycle / micromobility device as a main mode of transportation to parks (23*)
*Caution: small base size <30
Q6a. What is the main reason you used [MODE] as your main mode of transportation to get to/from regional and other large parks / large natural areas?
Q6b. Are there any other reasons you used [MODE] as your main mode of transportation?

REASONS FOR WALKING (unaided)

The main reason that park visitors give for choosing to walk to the park is that it's close by. This is followed by the health benefits that walking yields.

Reasons for Walking to Visit Regional and Other Large Parks (unaided)



Base: Those who walk as a main mode of transportation to parks (36)
Note: only showing major mentions 5% or higher
Q6a. What is the main reason you used [MODE] as your main mode of transportation to get to/from regional and other large parks / large natural areas?
Q6b. Are there any other reasons you used [MODE] as your main mode of transportation?

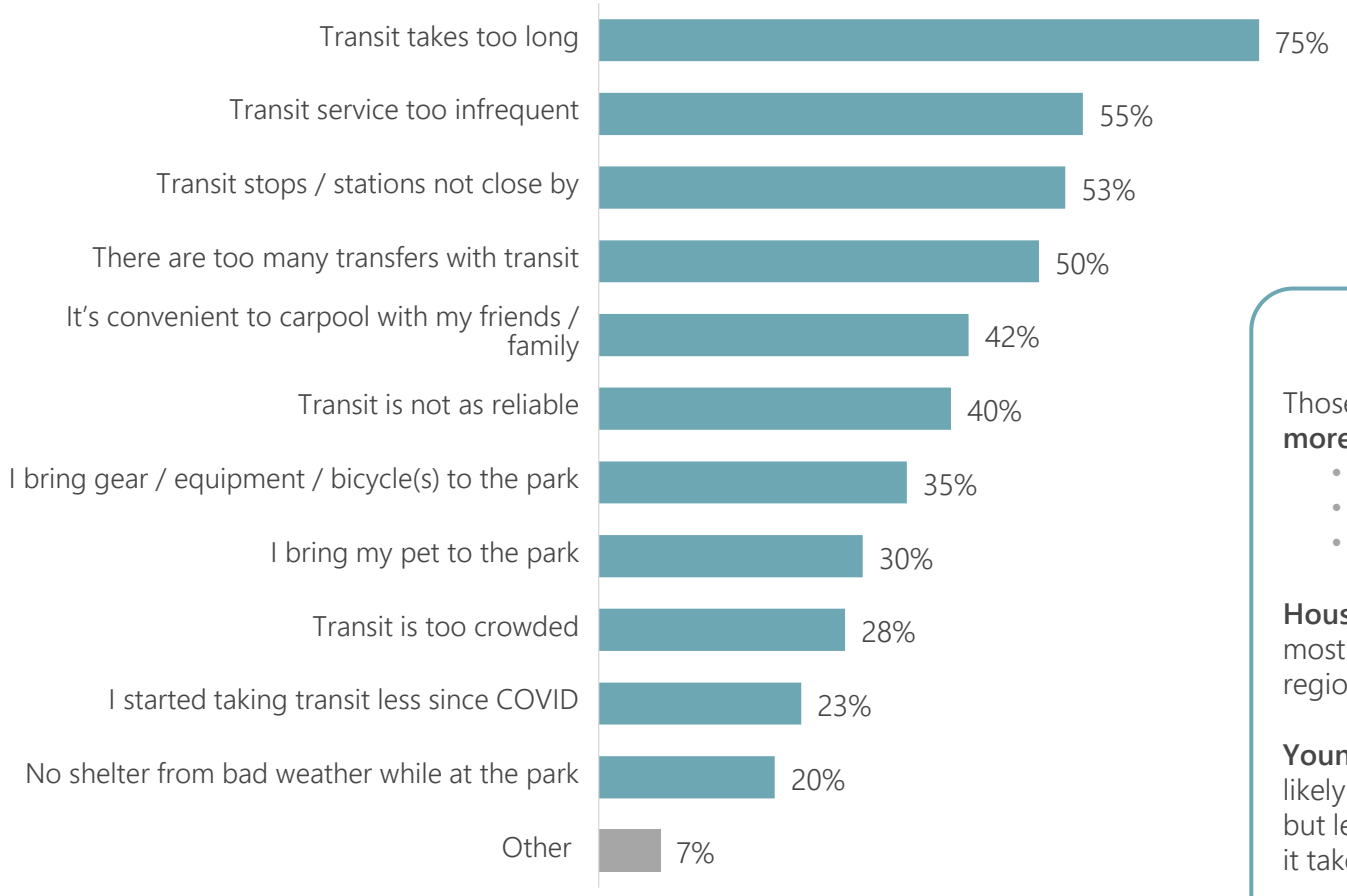
REASONS FOR TAKING PRIVATE VEHICLE INSTEAD OF PUBLIC TRANSIT

Park visitors were presented with a list of possible reasons for choosing to use a private vehicle instead of public transit to get to/from regional and other large parks and asked to select the ones that apply in their case.

The most common reason park visitors choose a private vehicle over transit is that transit takes too long. This is followed by reasons that contribute to transit trip length – infrequent service, stops/stations not being close by, and too many transfers.

Needing to bring gear, equipment, and pets are secondary reasons for not using public transit to get to/from regional and other large parks.

Reasons for Taking a Private Vehicle Instead of Public Transit



Demographic Differences

Those residing in the **South West are more likely to think:**

- Transit takes too long (87%)
- Service is infrequent (74%)
- There are too many transfers (61%)

Households with children under 18 are most likely to bring gear/equipment to regional and other parks (45%).

Young residents ages 19-34, are more likely to take public transit in general (38%), but less likely when visiting parks because it takes longer than a private vehicle (84%).

Base: Those who chose private vehicle as their main mode of transportation (533)

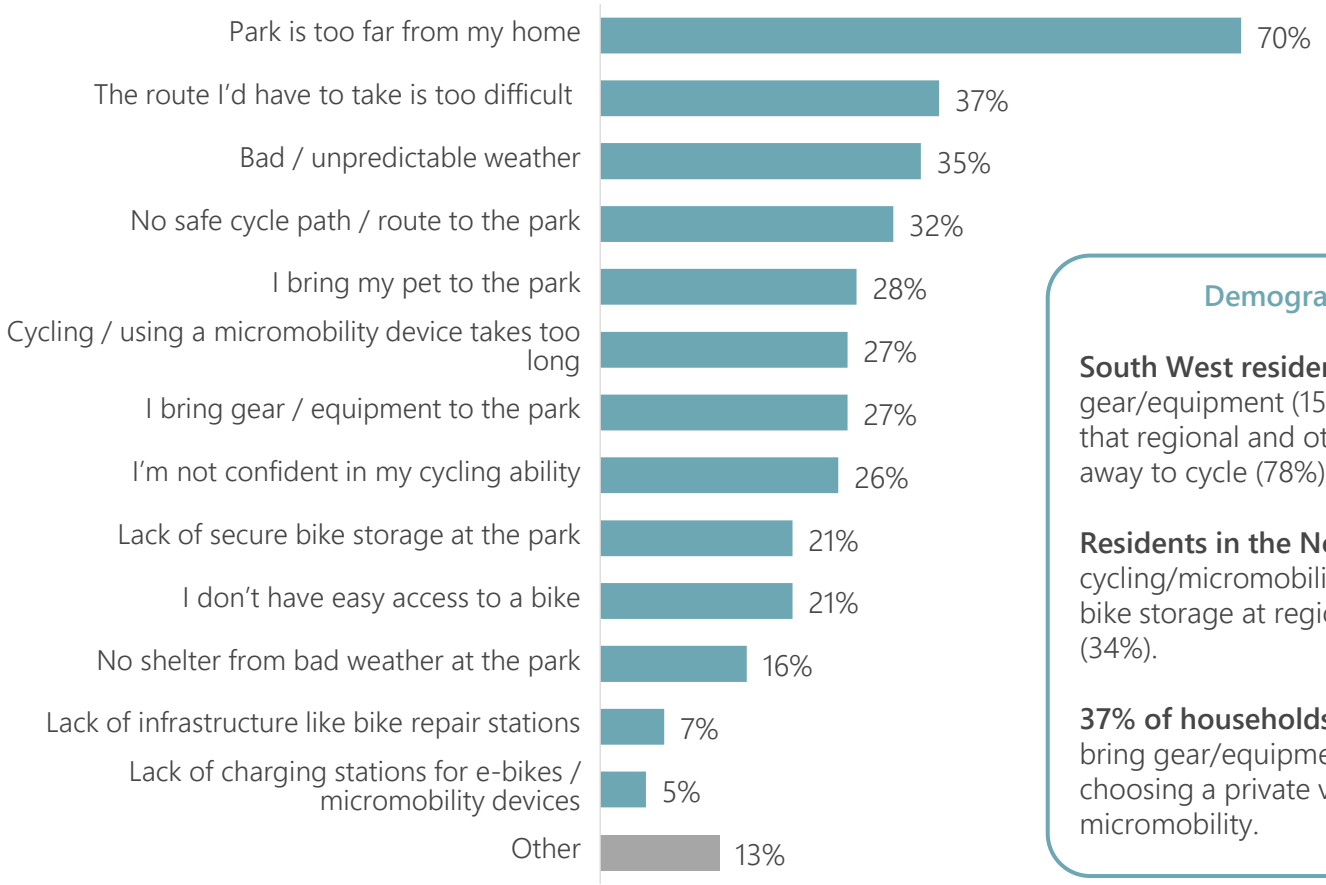
Q8. The following are some reasons that people may choose to use a private vehicle instead of public transit to get to/from regional and other large parks / large natural areas. Please select all the reasons that apply in your case.

MOTIVATIONS FOR TAKING A PRIVATE VEHICLE INSTEAD OF CYCLING

The most common reason why park visitors choose a private vehicle over cycling/micromobility is that the park is too far from their home.

Other relatively common reasons include not having access to easy, straightforward routes, and concerns over safety (bad/unpredictable weather, a lack of safe cycling paths).

Reasons for Taking a Private Vehicle Instead of Cycling or Micromobility Devices



Demographic Differences

South West residents are less likely to bring gear/equipment (15%) but are most likely cite that regional and other large parks are too far away to cycle (78%).

Residents in the North West overlook cycling/micromobility due to a lack of secure bike storage at regional or other large parks (34%).

37% of households with children under 18 bring gear/equipment to the park, thus choosing a private vehicle over cycling or micromobility.

Base: Those who chose private vehicle as their main mode of transportation (533)

Q9. The following are some reasons that people may choose to use a private vehicle instead of cycling / using a micromobility device to get to/from regional and other large parks / large natural areas. Please select all the reasons that apply in your case.

Summary of Findings

Likelihood of Using Sustainable Transportation to Visit Regional and Other Large Parks

LIKELYHOOD OF TAKING TRANSIT TO REGIONAL AND OTHER LARGE PARKS

Park visitors were presented with a list of factors that might encourage them to use public transit to get to/from regional and other large parks and asked if each would make them a lot more likely to choose public transit, somewhat more likely, or if it wouldn't impact their choice.

The factors that would most encourage park visitors to use transit are factors that would decrease the time it takes to get to/from the park. These include:

- Stops/stations close to the park entrance
- More frequent service to/from the park
- Stops/stations close to home
- A dedicated shuttle bus to/from the park

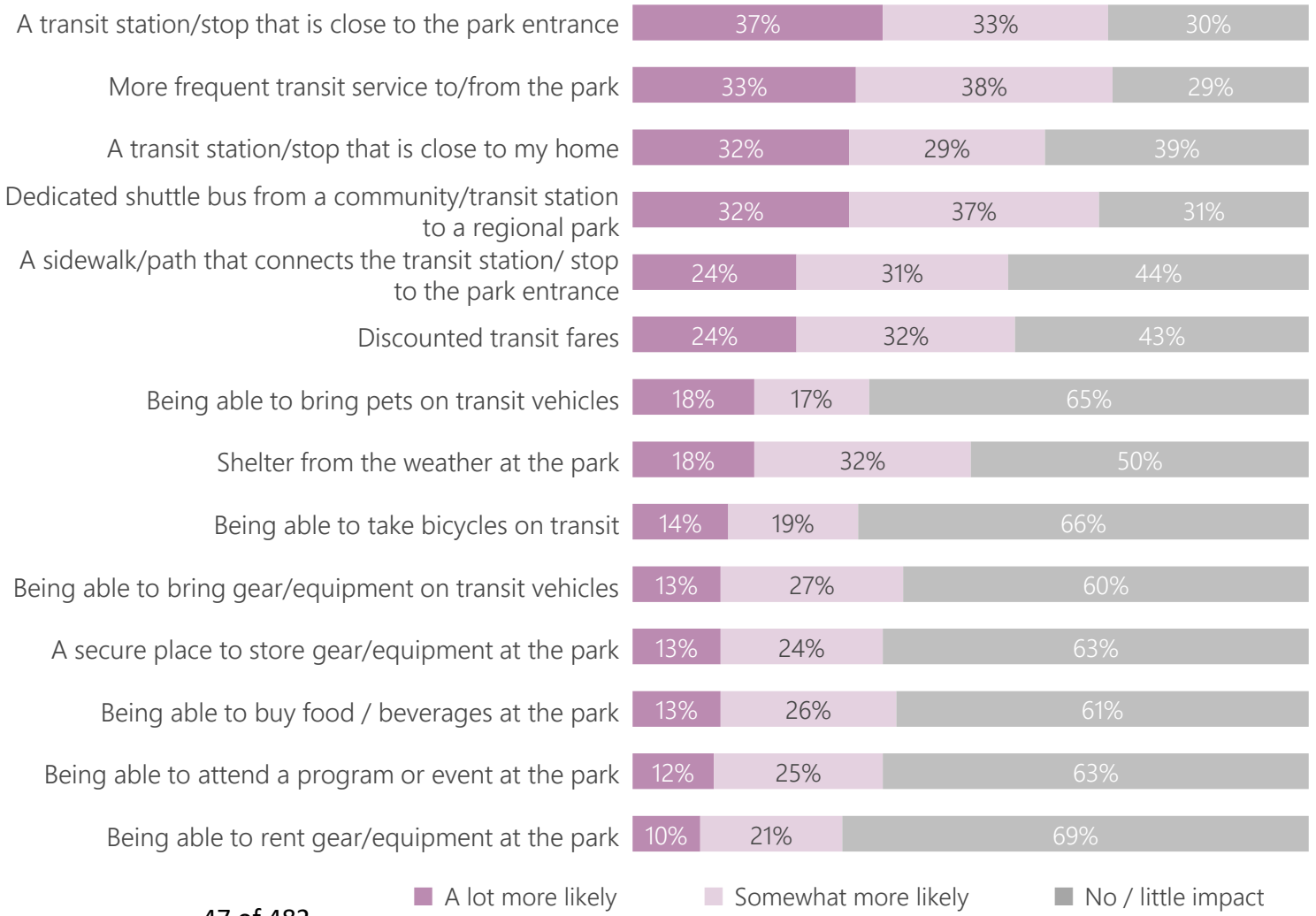
Being able to take things on transit (including pets, bikes, and gear), secure equipment storage at the park, being able to buy food and attend programs or events at the park, and being able to rent gear/equipment at the park are all less important factors.

By demographics, younger residents (19-34), South Asians and households with no children are more likely to indicate that enhancing public transit infrastructure and service would make them consider taking public transit to and from regional and other large parks.

Meanwhile, those who reside in the North West region and those with the highest household incomes ($100K+) are less likely to be encouraged by the various factors listed.

Retirees are also less likely to indicate that enhancing public transit infrastructure and service will make them more likely to take public transit to regional and other large parks; they are also less likely to consider taking public transit to parks generally.

Factors that Encourage Taking Public Transit to Regional and Other Large Parks



Base: Total Metro Vancouver (653)

Q10. One of these modes is public transit. For each of the following factors, please tell us if it would make you more likely to take public transit to get to/from regional and other large parks, or if it wouldn't.

OTHER UNAIDED FACTORS THAT ENCOURAGE PUBLIC TRANSIT

Park visitors were asked if there are any other factors that would make them more likely to use public transit to get to/from regional and other large parks.

Consistent with the top-rated factors, the most mentioned factors reflect the desire for shorter trips – i.e., more direct routes to the park, faster service.

Other Factors Influencing Taking Public Transit to Parks (unaided)	
Base	92
More direct routes to the park / less transfers	23%
Quicker / faster service	13%
Mask mandates / forcing passengers to wear masks	12%
Cheap / free transit	11%
I will continue to drive / I dislike transit	9%
Being able to take my pet on transit	6%
All of the above / previously mentioned measures	5%
Greater safety measures while on transit	4%
More transit within Stanley Park	3%
I have limited mobility / transit not always an option	3%
Banning vehicles / not having a car	2%
Other	7%

"Transit is inconvenient from where I live. Too many transfers to get anywhere. The shuttle is a good idea... but then, it also implies lots of people, which is less appealing."

"Transit is too inconvenient; schedules are unpredictable, and it takes too long."

"It's cheaper for us to carpool with 3-4 people and pay for parking than it is for all of us to pay for transit."

Q10b. Is there another factor not listed above that would make you more likely to use public transit to get to/from regional and other large parks?

LIKELYHOOD OF CYCLING TO PARKS

The factors that would encourage park visitors to use cycling/micromobility are factors that reduce the risk of injury while travelling to/from the park:

- Cycling routes that are away from traffic
- Cycling paths that are physically separated from traffic

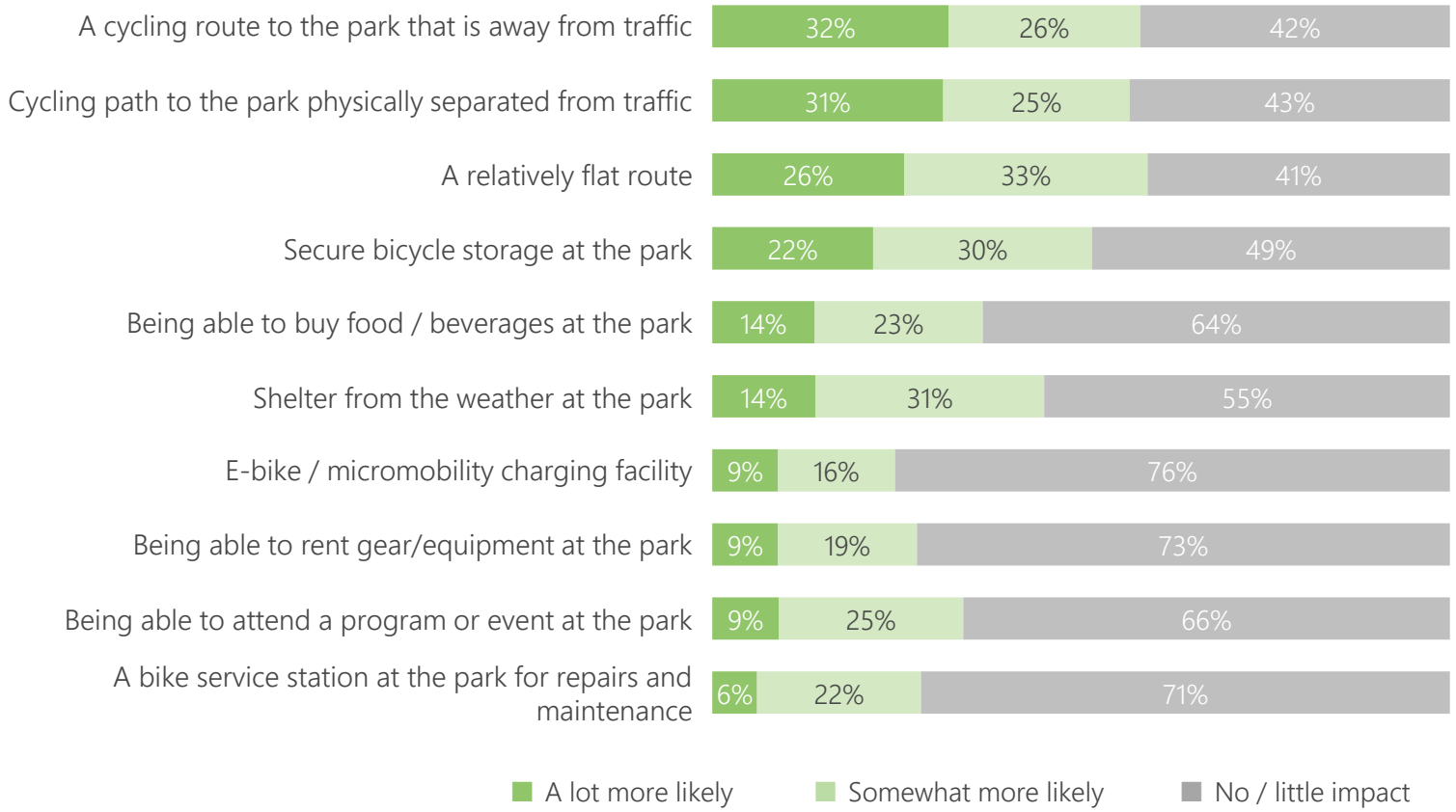
Having a relatively flat route to travel and secure bicycle storage at the park are also relatively important factors.
Being able to buy food at the park, shelter from the weather while at the park, charging facilities, being able to rent gear/equipment at the park, being able to attend park programs and events, and a bicycle service station are all less important factors.

By age, younger residents (19-34) are most likely to indicate that enhancing cycling infrastructure and adding park amenities would make them more likely to consider cycling/micromobility to get to and from regional and other large parks.

Meanwhile, those living in the South East region are less likely to indicate that enhancing cycling infrastructure and adding park amenities would make them more likely to consider cycling or using micromobility to get to or from parks. They are also the regional group that is less likely to consider cycling/micromobility (or walking) to get to and from any regional and other large parks.

Retirees are generally less likely to consider cycling/using micromobilty devices when going to regional and other large parks, and less likely to indicate they will be encouraged by the various factors to cycle or use micromobility more.

Factors that Encourage Cycling to Regional and Other Large Parks



Base: Total Metro Vancouver (653)
Q11. Another one of these modes is using a bicycle (or micromobility device). For each of the following factors, please tell us if it would make you more likely to consider using a bicycle/micromobility device to get to/from regional and other large parks, or if it wouldn't.

OTHER UNAIDED FACTORS THAT ENCOURAGE CYCLING/MICROMOBILITY DEVICES

When asked if there were other factors that would make them more likely to use a bicycle/micromobility device to get to/from regional and other large parks, the most common response was that the parks are simply too far away to make cycling/micromobility a realistic option.

Outside of this, safety factors were mentioned most often – i.e., dedicated routes, enhancing cycling safety generally.

Other Factors Influencing Cycling/Micromobility Devices to Parks (unaided)	
Base	96
I live too far away / parks are too far for this option	22%
I don't ride a bicycle / don't want to ride one	13%
Dedicated / better routes and paths	11%
Better safety (general)	10%
Difficult for older residents / those with mobility issues	8%
If I had a bicycle / micromobility device	6%
If I had the ability to bring my children	5%
I'm unable to take my pet when using a bicycle / micromobility device	5%
I'm afraid of having my bike stolen / better bicycle storage options	5%
More access to affordable bike rentals / bicycle sharing programs	4%
Transit stops along the route	3%
Other	7%

"I don't live close to a large natural area/regional park so the distance to cycle to one would be a factor."

"Combination of transit and cycle route, especially for parks that are much further away and involve major roads/bridges/tunnels."

"Some parks are a long way from my home. I don't like biking, and if it's raining, I would like to get to park quickly and enjoy the walk in nature, rather than use all my energy getting there and back."

"I have been stranded at a park on the North Shore after someone stole my bike. It took me over an hour in the rain to walk somewhere where a taxi agreed to pick me up. The taxi was $60 to my place and took over an hour. Nothing will get me to do that again."

Q11b. Is there another factor not listed here that would make you more likely to cycle/ use a micromobility device to get to/from regional and other large parks / large natural areas?



Summary of Findings

Considerations of Using Sustainable Transportation

REGIONAL AND OTHER LARGE PARKS THAT VISITORS WOULD CONSIDER TAKING TRANSIT TO

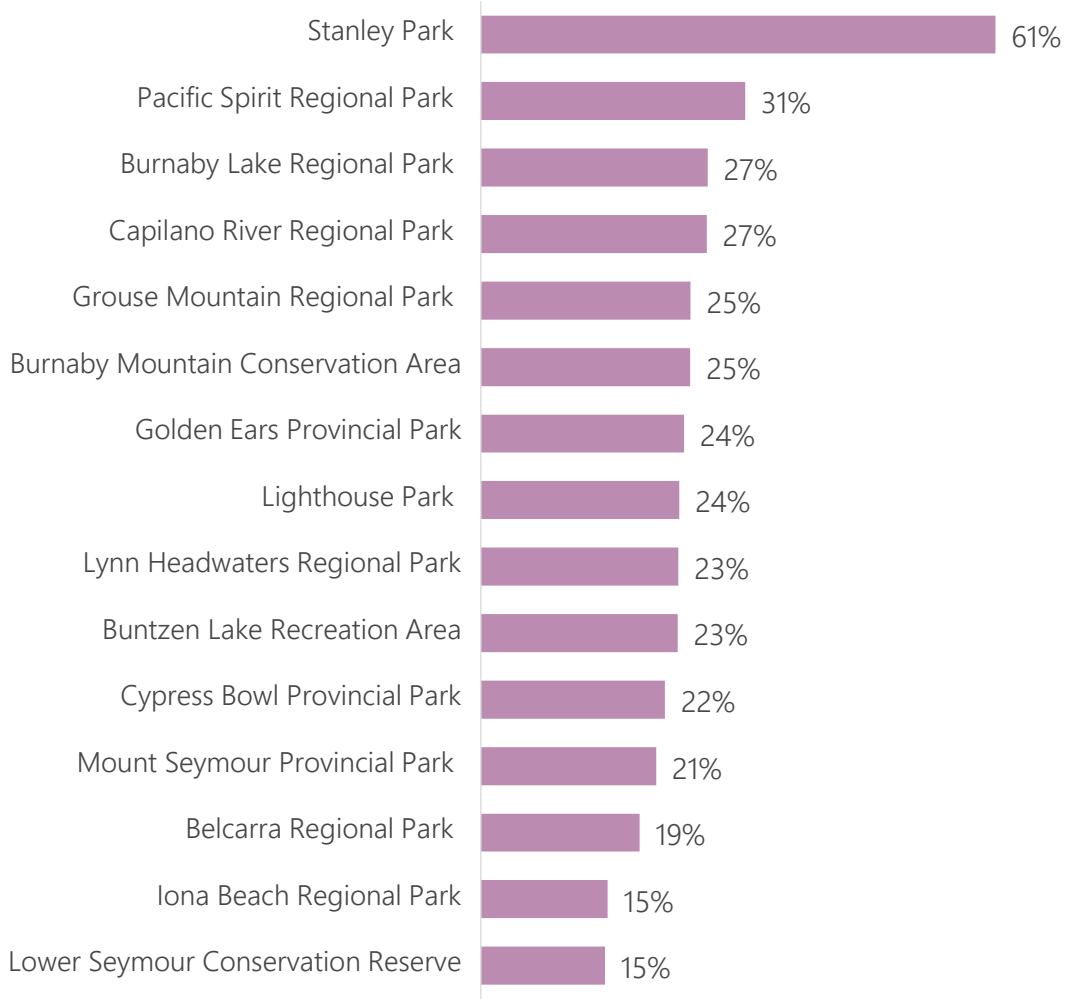
Park visitors were given access to a map of the parks and asked if they would consider taking public transit to any of them.

Just under one-third (32%) of said that they wouldn't consider taking public transit to any regional and other large park.

Among those who would consider taking public transit, six-in-ten (61%) would consider taking public transit to Stanley Park.

There are a number of regional and other large parks for which between 20% and 30% of park visitors would consider taking public transit to.

Top Regional and Other Large Parks Visitors Would Consider Taking Public Transit To



Base: Those who would consider taking public transit to a regional park (430)
Note: only mentions of 15% or more are shown
Q12. Below is a map of the regional and other large parks / large natural areas in Metro Vancouver. In the future, which regional park / large natural area, if any, would you consider: Taking public transit to?

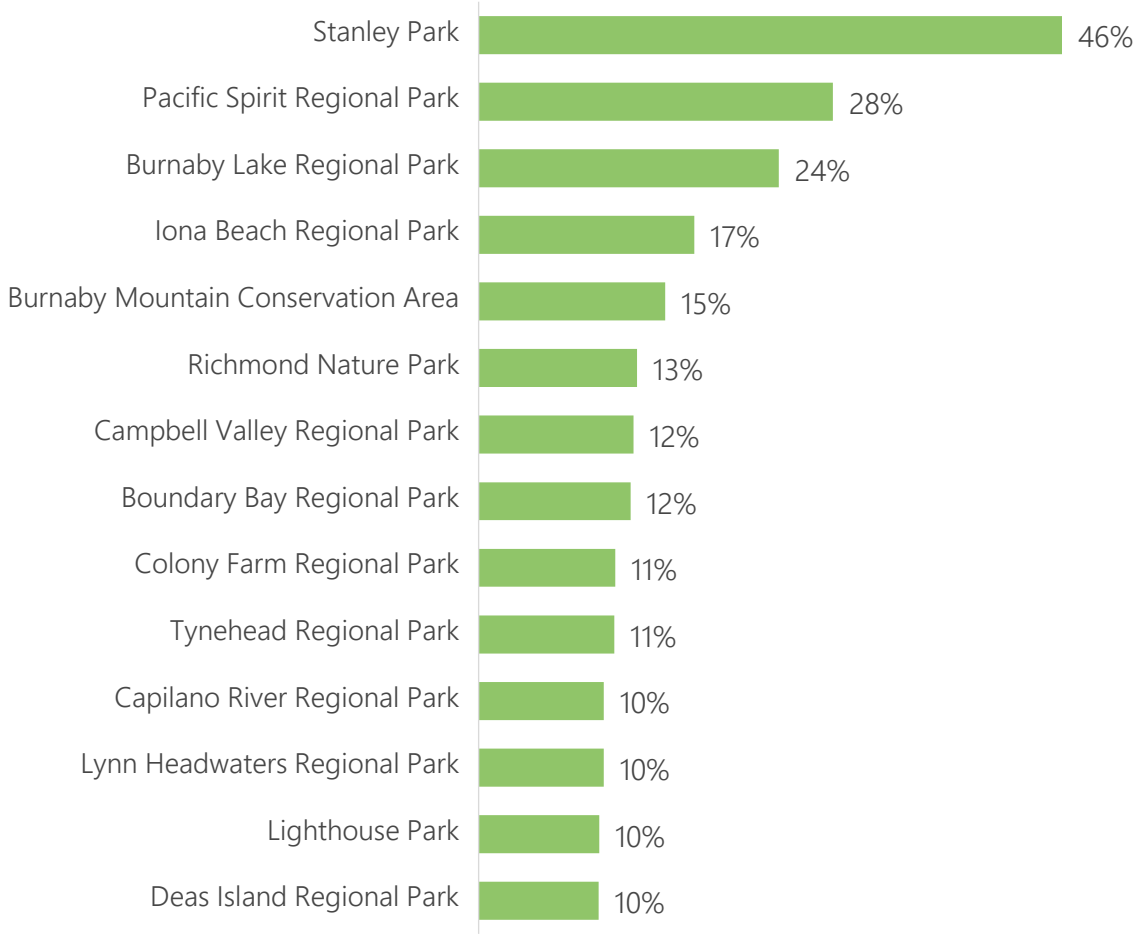
REGIONAL AND OTHER LARGE PARKS THAT VISITORS WOULD CONSIDER CYCLING TO

Just over half (52%) of park visitors said that they wouldn't consider cycling to get to any regional and other large park.

Among those who would consider cycling, just under half (46%) would consider cycling to Stanley Park.

This is followed by Pacific Spirit Regional Park and Burnaby Lake Regional Park.

Top Regional and Other Large Parks that Visitors Would Consider Cycling To



53 of 482

Base: Those who would consider cycling to a regional park (308)
Note: only mentions of 10% or more are shown
Q12. Below is a map of the regional and other large parks / large natural areas in Metro Vancouver. In the future, which regional park / large natural area, if any, would you consider: Cycling to?

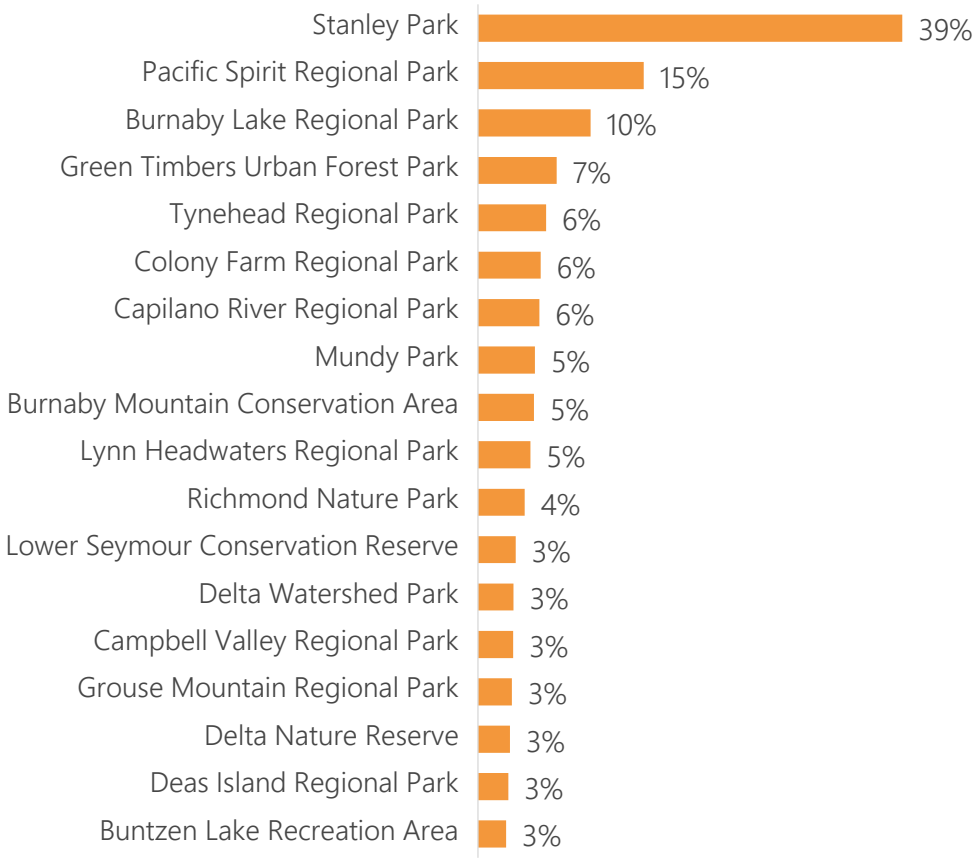
REGIONAL AND OTHER LARGE PARKS THAT VISITORS WOULD CONSIDER WALKING TO

Six-in-ten park visitors (61%) said that they wouldn't consider walking to get to any regional and other large park.

Among those who would consider walking, four-in-ten (39%) would consider walking to Stanley Park.

This is followed by Pacific Spirit Regional Park and Burnaby Lake Regional Park.

Top Regional and Other Large Parks Visitors Would Consider Walking to



Base: Those who would consider walking to a regional park (255)
Note: only mentions of 3% or more are shown
Q12. Below is a map of the regional and other large parks / large natural areas in Metro Vancouver. In the future, which regional park / large natural area, if any, would you consider: Walking to?

Appendix

Profile of Participants

PARTICIPANT PROFILE | GENDER, AGE, ACCESSIBILITY

	Total	Central	North West	North East	South West	South East
Base	653	271	49	83	81	169
Gender						
Male	**45%**	45%	38%	44%	46%	48%
Female	**50%**	48%	60%	53%	51%	49%
Non-binary or gender fluid	**3%**	6%	0%	0%	3%	1%
Prefer not to say	**2%**	2%	2%	2%	0%	2%
Age						
19-34	**32%**	35%	23%	22%	31%	34%
35-44	**20%**	22%	21%	20%	14%	21%
45-54	**15%**	13%	12%	22%	16%	15%
55-64	**15%**	14%	11%	18%	18%	15%
65+	**18%**	16%	33%	18%	21%	15%

	Total	Central	North West	North East	South West	South East
Base	653	271	49	83	81	169
Regular Access to						
A private vehicle	**85%**	76%	94%	93%	95%	88%
A bicycle / micromobility device	**48%**	50%	47%	52%	56%	40%
A transit pass / compass card	**68%**	82%	71%	62%	66%	53%
Physical Disability						
Yes	**11%**	10%	15%	11%	15%	10%
No	**85%**	86%	85%	86%	79%	85%
Prefer not to answer	**4%**	4%	0%	2%	6%	5%

PARTICIPANT PROFILE | HOUSEHOLD

	Total	Central	North West	North East	South West	South East
Base	653	271	49	83	81	169
Number of People in Household						
1	**20%**	27%	16%	10%	14%	17%
2	**39%**	41%	37%	37%	34%	39%
3 – 4	**33%**	26%	36%	46%	45%	31%
5 +	**8%**	5%	10%	7%	6%	13%
Household Composition						
Single with no children at home (including living with roommates)	**29%**	37%	22%	18%	34%	24%
Couple with no children at home	**39%**	38%	42%	47%	27%	41%
Family with children living at home (including single-parent HHs)	**32%**	25%	37%	35%	39%	35%
Children under 6	*11%*	*3%*	*1%*	*2%*	*1%*	*4%*
Children aged 6 to 13	*8%*	*3%*	*1%*	*1%*	*1%*	*2%*
Children aged 13 to 18	*10%*	*3%*	*1%*	*1%*	*1%*	*4%*
Young adults over 18	*7%*	*2%*	*1%*	*1%*	*2%*	*2%*

	Total	Central	North West	North East	South West	South East
Base	653	271	49	83	81	169
Household Income						
Up to $25,000	**2%**	4%	0%	1%	2%	0%
$25,000 to <$50,000	**12%**	11%	6%	8%	11%	17%
$50,000 to <$80,000	**16%**	19%	19%	9%	13%	16%
$80,000 to <$100,000	**13%**	11%	12%	12%	19%	13%
$100,000 to <$125,000	**14%**	13%	15%	17%	9%	17%
$125,000 or more	**26%**	26%	33%	34%	27%	21%
Prefer not to answer	**16%**	16%	15%	18%	19%	14%
Employment Status						
Working full-time	**60%**	62%	43%	61%	55%	63%
Working part-time	**11%**	10%	11%	11%	12%	11%
Not working for wages	**6%**	7%	10%	7%	6%	4%
Student	**3%**	5%	4%	4%	2%	1%
Retired	**19%**	17%	29%	19%	24%	17%
Prefer not to answer	**2%**	1%	4%	3%	2%	2%

PARTICIPANT PROFILE | CULTURAL BACKGROUND

	Total	Central	North West	North East	South West	South East
Base	653	271	49	83	81	169
Ethnicity						
White / Caucasian	**71%**	73%	81%	75%	60%	67%
Chinese	**13%**	16%	2%	9%	28%	7%
South Asian / Indian / Pakistani	**5%**	3%	4%	3%	4%	11%
Indigenous	**3%**	4%	2%	5%	0%	3%
Others	**10%**	7%	8%	5%	14%	14%
Prefer not to say	**4%**	4%	4%	10%	2%	3%
Location Born						
In Canada	**73%**	73%	76%	78%	71%	71%
Outside of Canada	**25%**	26%	22%	21%	27%	27%
Prefer not to answer	**2%**	2%	2%	1%	1%	2%
Time Living in Canada						
Less than 5 years	**3%**	4%	0%	1%	2%	4%
5 years to <10 years	**3%**	4%	2%	1%	0%	3%
10 years to <15 years	**3%**	3%	0%	0%	1%	5%
15 years to <20 years	**3%**	4%	0%	3%	2%	1%
More than 20 years	**14%**	11%	20%	15%	22%	14%
Born in Canada	**73%**	73%	76%	78%	71%	71%

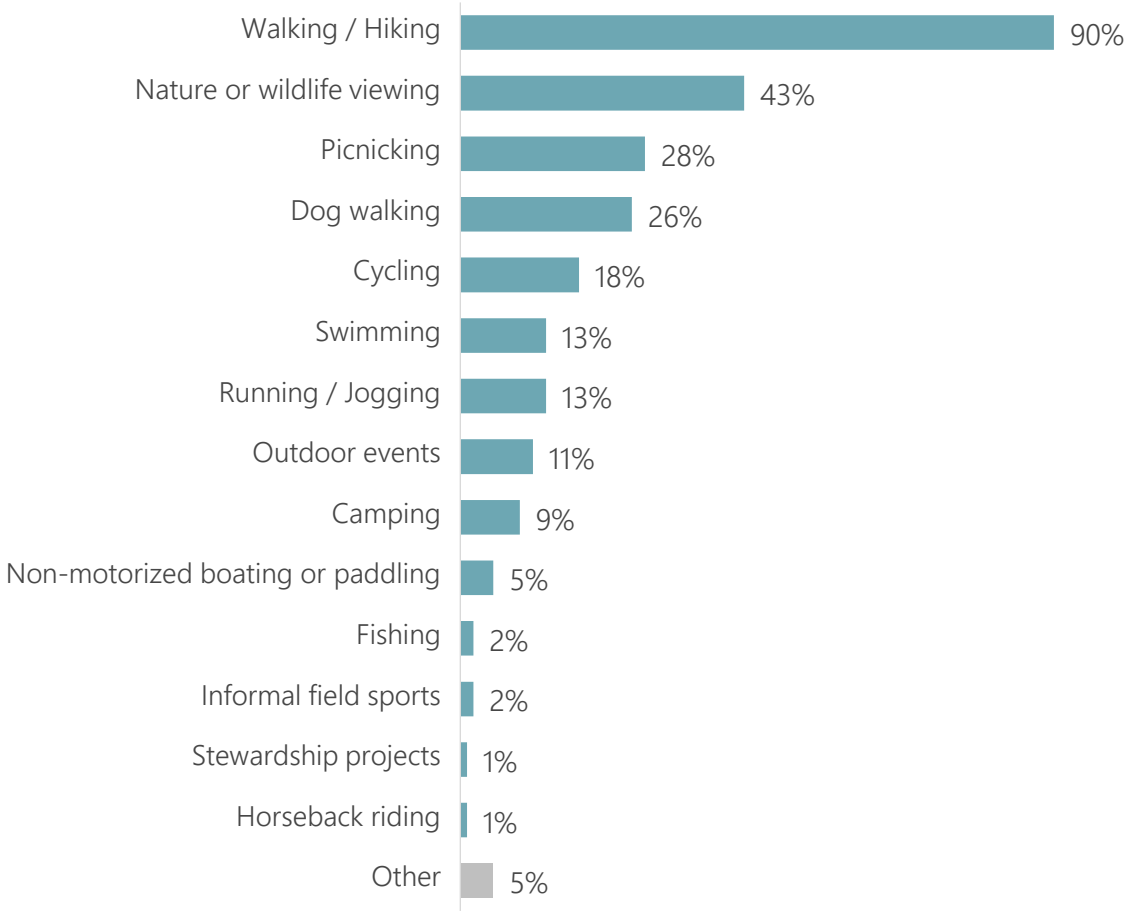
	Total	Central	North West	North East	South West	South East
Base	653	271	49	83	81	169
English as a First Language						
Yes	**86%**	87%	96%	89%	86%	81%
No	**12%**	11%	4%	10%	12%	18%
Prefer not to answer	**2%**	2%	0%	1%	3%	1%
Languages Regularly Spoken in Household						
English	**91%**	94%	94%	90%	87%	90%
Chinese (NET)	**10%**	11%	2%	9%	23%	6%
Cantonese	*7%*	*8%*	*0%*	*7%*	*14%*	*4%*
Mandarin	*4%*	*3%*	*2%*	*4%*	*10%*	*4%*
Other Chinese	*1%*	*<1%*	*0%*	*0%*	*3%*	*1%*
French	**5%**	3%	11%	6%	4%	4%
Hindi	**2%**	2%	0%	0%	2%	5%
Spanish	**2%**	2%	2%	1%	3%	2%
Tagalog	**1%**	0%	0%	0%	2%	1%
Punjabi	**1%**	0%	2%	0%	2%	2%
German	**1%**	2%	2%	0%	1%	0%
Korean	**1%**	0%	0%	1%	0%	2%
Other	**8%**	10%	2%	5%	3%	10%
Prefer not to say	**2%**	2%	2%	2%	1%	2%



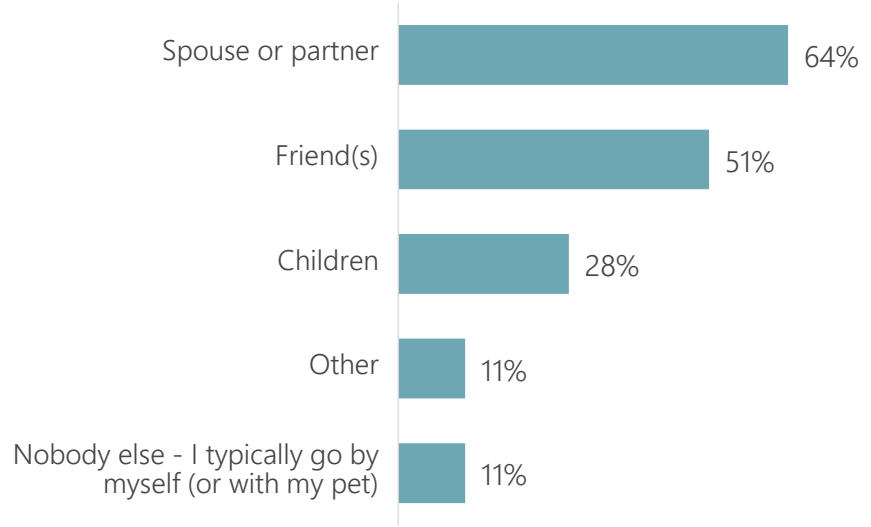
Appendix
Additional Findings

PAST YEAR PARK VISITORS' COMMON ACTIVITIES & GROUP COMPOSITION

Participated in These Activities at Regional and Other Large Parks



Participants Typically Visit Regional and Other Large Parks With



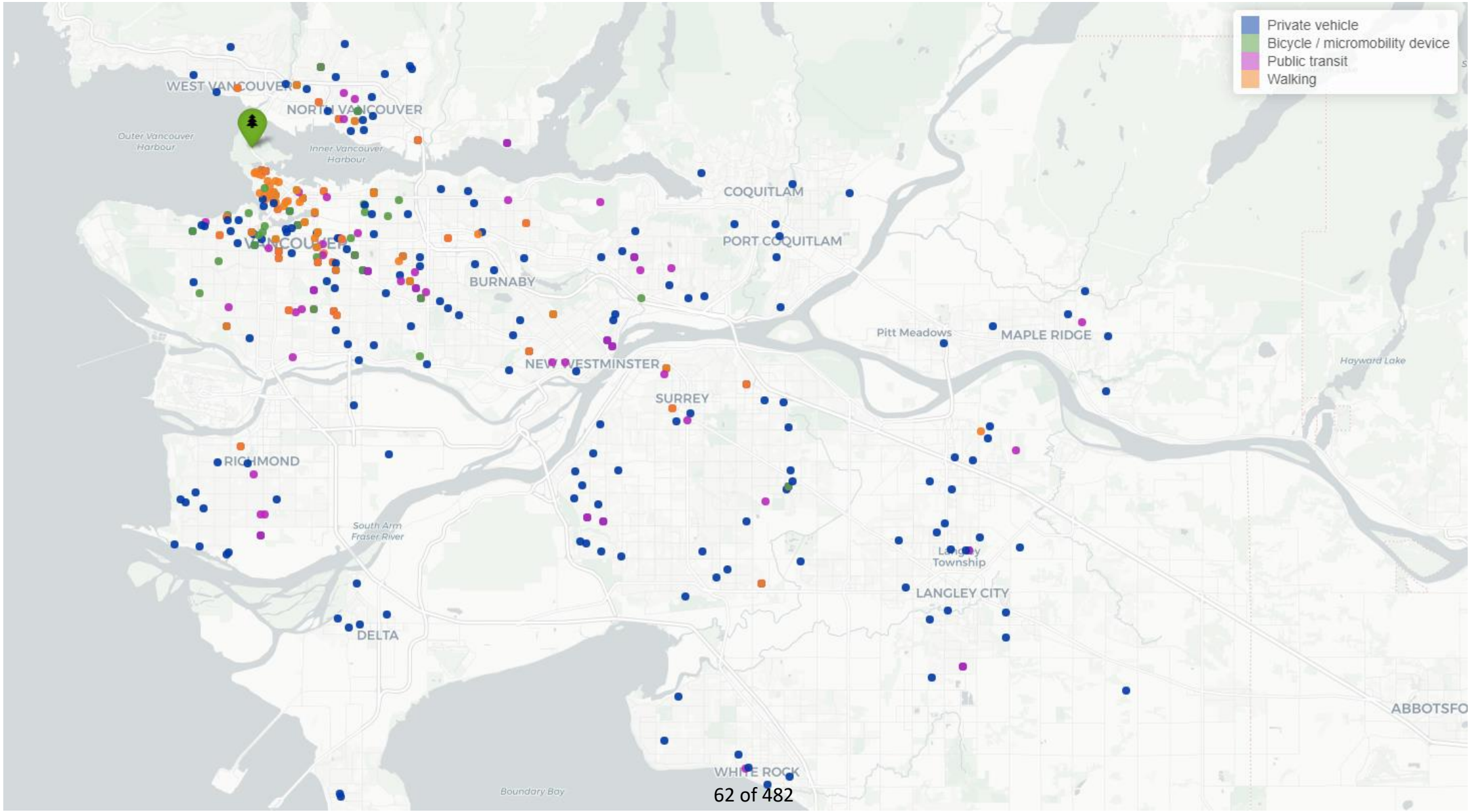
Base: Total Metro Vancouver (653)
Q2. When you visited these regional and other large parks / large natural areas, what kinds of activities did you participate in? Select all that apply.
Q3. With whom do you typically visit regional and other large parks / large natural areas? Select all that apply.

REGIONAL AND OTHER LARGE PARKS WITH LOWEST LEVEL OF SUSTAINABLE TRANSPORTATION

Lowest Level of Sustainable Transportation
Base: 36-115
Golden Ears Provincial Park
Buntzen Lake Recreation Area
Cypress Bowl Provincial Park
Belcarra Regional Park
Boundary Bay Regional Park
Tynehead Regional Park
Mount Seymour Provincial Park
Derby Reach Regional Park
Aldergrove Regional Park

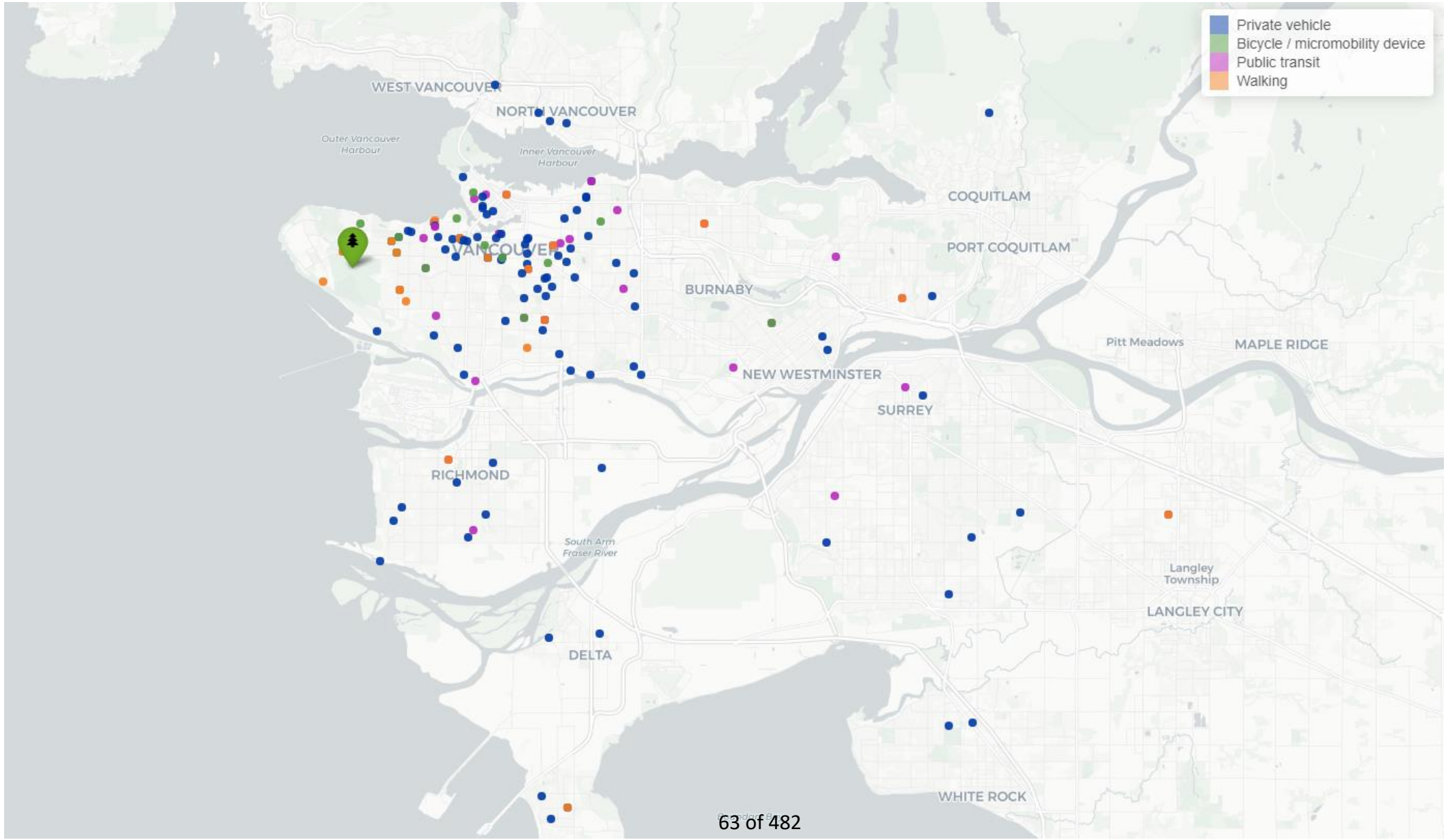
**Note: Only showing parks with at least 30 park visitors, at least 90% of visitors to these parks use a private vehicle and less than 10% use any form of sustainable transportation*

Main Mode of Transportation Used By Stanley Park Visitors in the Past Year



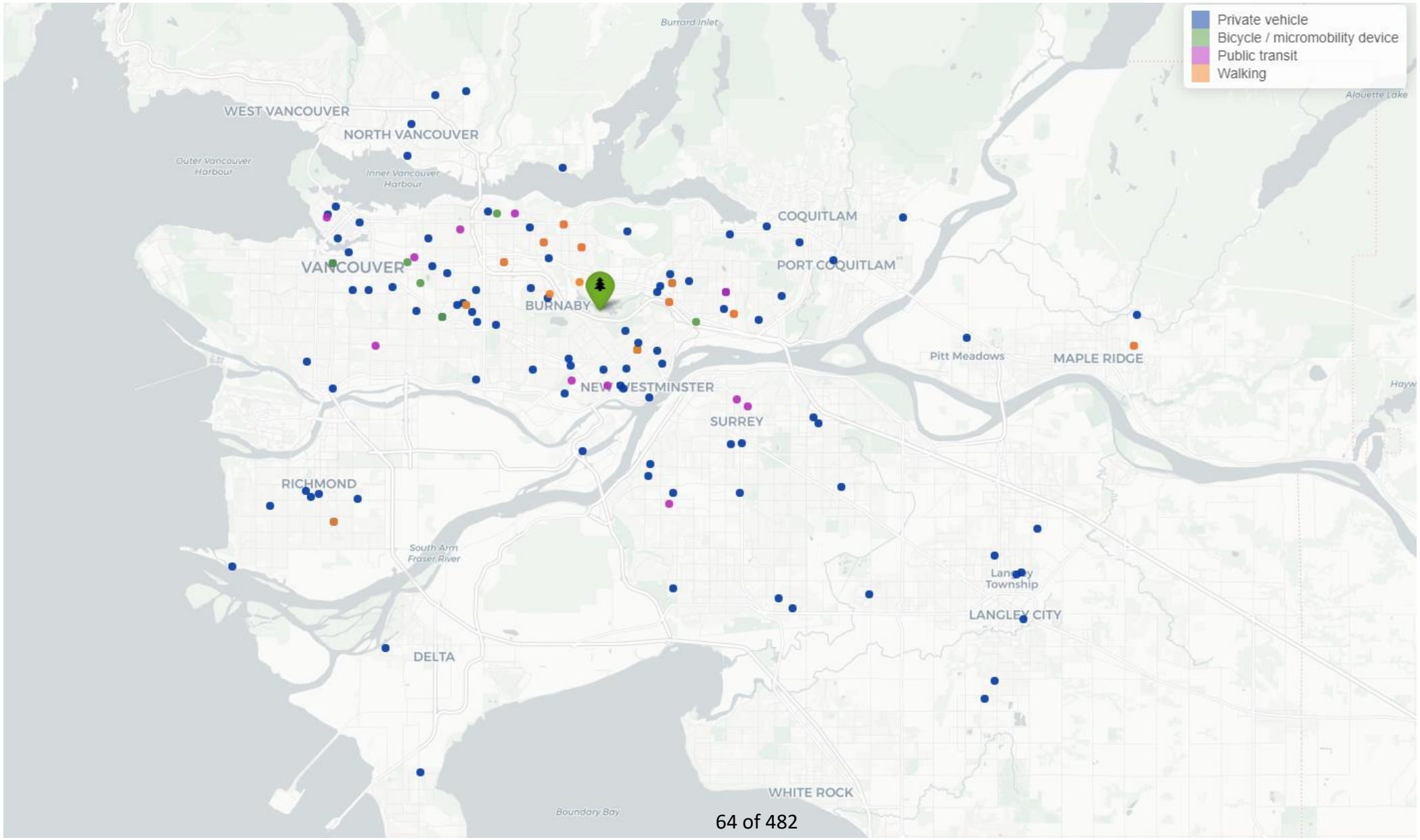
Q4. For each of these regional and other large parks / large natural areas that you've visited in the past 12 months, what modes of transportation did you use to get to/from them? Select all that apply.

Main Mode of Transportation Used By Pacific Spirit Regional Park Visitors in the Past Year



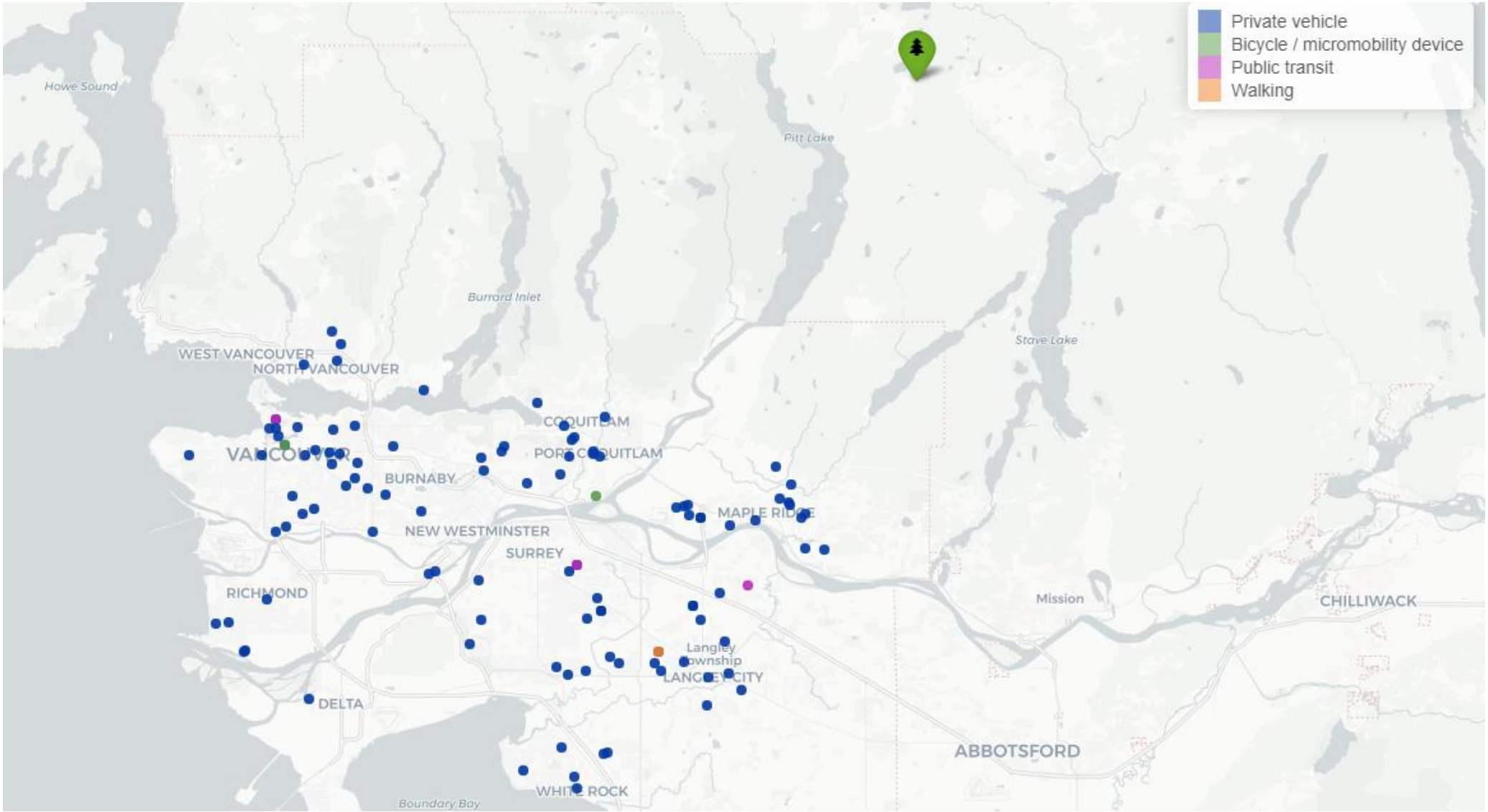
Q4. For each of these regional and other large parks / large natural areas that you've visited in the past 12 months, what modes of transportation did you use to get to/from them? Select all that apply.

Main Mode of Transportation Used By Burnaby Lake Regional Park Visitors in the Past Year



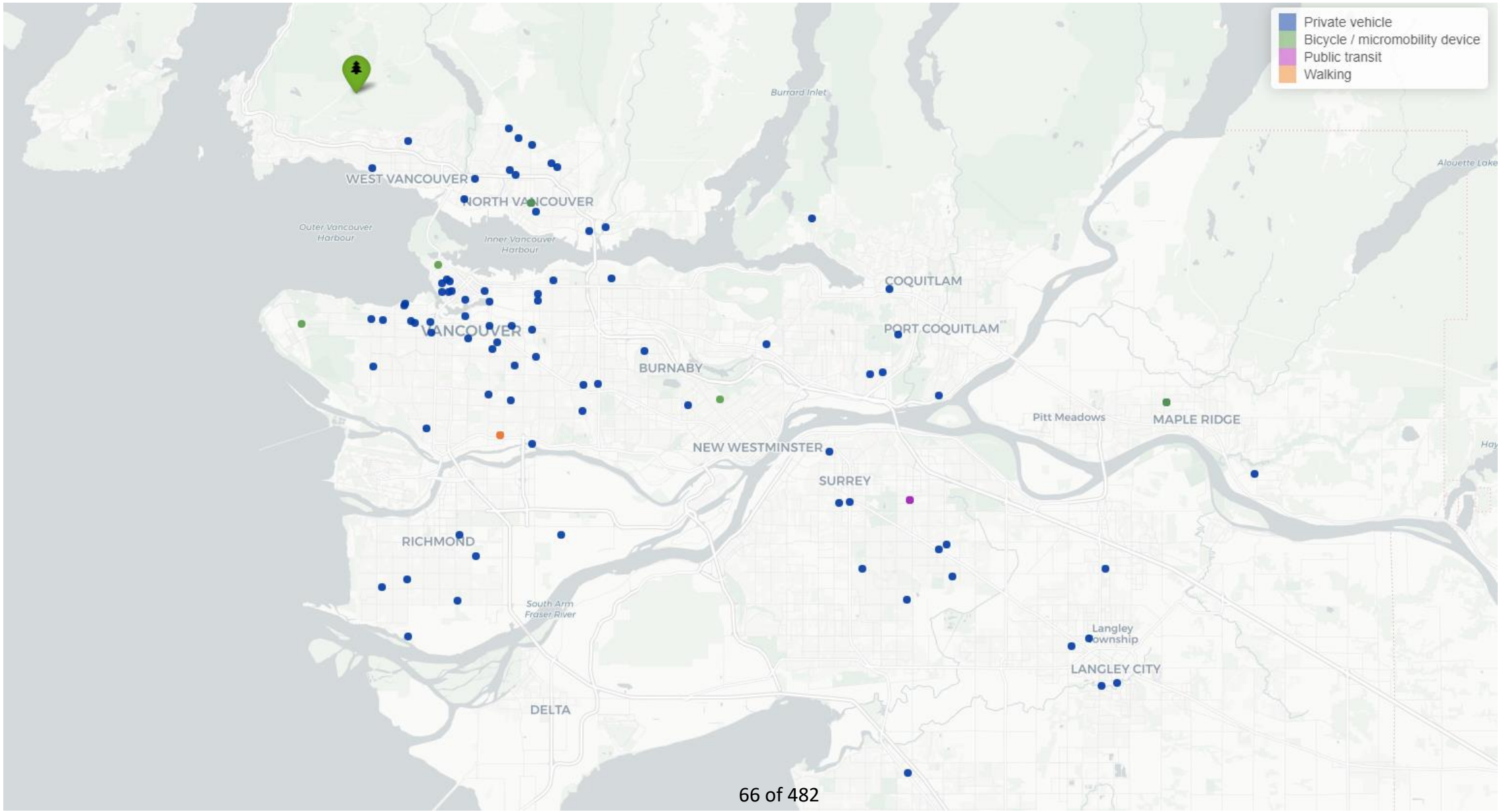
Q4. For each of these regional and other large parks / large natural areas that you've visited in the past 12 months, what modes of transportation did you use to get to/from them? Select all that apply.

Main Mode of Transportation Used By Golden Ears Provincial Park Visitors in the Past Year



Q4. For each of these regional and other large parks / large natural areas that you've visited in the past 12 months, what modes of transportation did you use to get to/from them? Select all that apply.

Main Mode of Transportation Used By Cypress Bowl Provincial Park Visitors in the Past Year



Q4. For each of these regional and other large parks / large natural areas that you've visited in the past 12 months, what modes of transportation did you use to get to/from them? Select all that apply.

To: MVRD Board of Directors

From: Regional Parks Committee

Date: May 3, 2023 Meeting Date: June 2, 2023

Subject: **Manager's Report – Regional Parks**

REGIONAL PARKS COMMITTEE RECOMMENDATION
That the MVRD Board receive for information the report dated May 3, 2023 titled "Manager's Report – Regional Parks".

At its May 10, 2023, meeting, the Regional Parks Committee considered the attached report titled "Manager's Report – Regional Parks", dated May 3, 2023. The Committee directed staff to forward the report to the MVRD Board for information as presented above in underline style, to receive an update regarding park planning, municipal rezoning and Official Community Plan (OCP) amendment for the property at Cape Roger Curtis.

This matter is now before the Board for its consideration.

Attachment
"Manager's Report – Regional Parks", dated May 3, 2023.

59981453

To: Regional Parks Committee

From: Mike Redpath, Director, Regional Parks

Date: May 3, 2023 Meeting Date: May 10, 2023

Subject: **Manager's Report – Regional Parks**

RECOMMENDATION

That the Regional Parks Committee receive for information the report dated May 3, 2023 titled "Manager's Report – Regional Parks".

EXECUTIVE SUMMARY

The attachment to this report sets out the Regional Parks Committee Work Plan for 2023. The status of work program elements is indicated as pending, in progress, or complete. The listing is updated as needed to include new issues that arise, items requested by the Committee and changes in the schedule.

REGIONAL PARKS UPDATES

Kanaka Creek Regional Park – Kanaka Creek Interpretive Art Mural event

A community event is planned for late spring to celebrate the completion of the Kanaka Creek Interpretive Art Mural at the Fish Fence (Reference). Project partners like the City of Maple Ridge, Kwantlen First Nations, Kanaka Education & Environmental Partnership Society, Metro Vancouver Regional Parks Foundation and donors, students, teachers and artists will gather to view the finished art and celebrate the community that brought it together.



Kanaka Creek Regional Park

This mural project was holistic in offering art workshops, in-class art lessons and nature walks to local schools and artists about Kanaka Creek's salmon rainforest. Burgeoning new artists expressed appreciation for the new knowledge and connections they gained to the local artist community.

While the nature walks inspired students to create images for the mural, the art classes and mural painting showcased inspirational moments of them learning how to illustrate and paint the salmon rainforest from an animal's point of view and our human connections to salmon from past to present.



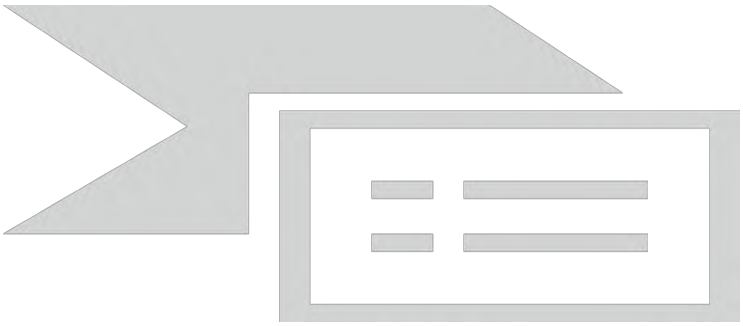


Kanaka Creek Regional Park

Burnaby Lake Regional Park - Forest Fairy Gathering

Burnaby Lake Regional Park will be the setting of this year's annual Forest Fairy Gathering – a magical celebration of nature in spring. Families are invited to gather around the mushroom circle to enjoy music and listen to stories. Children can search for pollinators in the butterfly garden, and build a fairy home in the forest.

The event will be held on Saturday, May 20, 2023 from 11:00 am to 3:00 pm, at Burnaby Lake Regional Park. It is open to all ages and free. Participants can drop by anytime; meeting place at Burnaby Lake Nature House, 4519 Piper Avenue, Burnaby.



Burnaby Lake Regional Park

Go Electric Parks!

In 2022, Regional Parks secured a Sustainability Innovation Fund (SIF) grant to plan and facilitate a series of events that showcase electric equipment technologies in municipal and regional park operations, while supporting directives set out in Metro Vancouver's *Climate 2050* strategy. The purpose of this initiative is to support the integration and uptake of zero emission vehicles and equipment in park operations throughout the region. The first event was an educational seminar, titled "*Innovation in Electric Parks Operation and Maintenance Equipment*" that was held on October 25, 2022.

To compliment this seminar, Metro Vancouver will be hosting an in-person trade show style event on Wednesday, May 31, 2023 called "*Go Electric Parks*!" at Surrey City Hall and Plaza. This event will provide an opportunity for commercial vehicle and equipment manufacturers, suppliers and vendors to showcase innovation in electric products. The event will be attended by staff from regional and municipal parks operations, fleet and equipment services and procurement, by invitation.

Go Electric Parks! will feature:

- Vehicle and equipment displays set up on the outdoor plaza
- Indoor displays set up in the City Hall atrium
- Presentations and panel discussions

It is hoped that by bringing stakeholders together from our member jurisdictions and commercial / business sectors, that regional and municipal staff responsible for the purchase, operation and maintenance of fleet and equipment can learn about innovations that are here, or coming, to support the successful transition from gasoline or diesel powered vehicles and equipment to electric alternatives.

Regional Parks Concession Operations

Regional Parks, through its contracted service provider, provides concession services at three busy sites at Boundary Bay Regional Park (Centennial Beach) and təmtəmíxʷtən/Belcarra Regional Park (Picnic Area and White Pine Beach). Seasonal operation has commenced and the three concessions will remain open until Thanksgiving weekend. Concessions provide a food and beverage service at these two regional parks during months of highest visitation. Each operates out of a Metro Vancouver owned facility, designed and equipped to provide for food and beverage service. Concession operations generate approximately $40,000 in revenue annually to offset park operation costs at these two regional parks.



Boundary Bay Regional Park

Staff are reviewing the business model for concession operations and are considering the expansion of food and beverage service provision to other park locations as well. This could include agreements with other contractors, including mobile food vendors / food trucks.

REGIONAL PARK AT CAPE ROGER CURTIS – PARK PLANNING, MUNICIPAL REZONING AND OCP AMENDMENT UPDATE

In July 2022, the Metro Vancouver Board approved the purchase of 24 parcels of land, totaling 97-hectares for the purpose of establishing a new regional park at Cape Roger Curtis, on Bowen Island.

In January 2023, Metro Vancouver submitted a rezoning and Official Community Plan (OCP) amendment application to Bowen Island Municipality (BIM) proposing a passive park designation, with a variance to allow for supervised overnight tent camping of up to 100 sites. The land is currently zoned as rural residential (RR1).

On Feb 27, 2023 staff attended a BIM committee of the whole meeting to initiate the rezoning and OCP amendment process. BIM Council received the application and referred it to municipal advisory committees and external agencies. Phase 1 public engagement extended from February 10 to March 20, 2023. First Nation engagement is ongoing.

At the April 24, 2023 regular council meeting, BIM Council approved first reading of the rezoning and OCP amendment bylaws and directed staff to work with Metro Vancouver on a section 219 covenant to confirm phasing requirements. BIM staff recommended that Metro Vancouver provide a transportation demand management plan, traffic impact assessment and visitor management plan in advance of second reading. These studies are all currently underway.

Through May and June 2023, Staff will continue to advance the park planning and public engagement process, complete the transportation and visitor management studies, work with BIM staff on the proposed Section 219 Covenant and continue to engage First Nations. It is anticipated that upon receipt of the requested additional studies, BIM Council will refer the rezoning and OCP amendment application to advisory committees and public engagement before consideration of second reading.

Staff will continue to provide regular updates as the project moves forward.

DAM SAFETY AWARENESS CAMPAIGN

On May 1, 2023, in tandem with National Summer Safety Week, Metro Vancouver launched its Dam Safety Education Program aimed at educating Capilano River users on the unpredictable nature of the river and how to stay safe. This program is a continuation of Metro Vancouver's commitment to enhancing its dam safety systems, particularly for the Cleveland Dam.

The Capilano River is unique in that water levels can change due to the position of the dam's spillway gate and, more commonly, weather. To illustrate the power of the river, the creative showcases three metaphors to help the audience understand how dramatically it can change. Ultimately the audience is asked to “be aware when you're there". To help demonstrate the importance and validity of this message, Metro Vancouver filmed first-hand rescue stories from both North Shore Rescue and the District of North Vancouver Fire and Rescue Services.

Promotions are primarily focused to show on the North Shore, and include digital tactics (banner ads, streaming video), social media (Facebook, Instagram, YouTube), and transit shelter ads positioned in the neighbourhoods closest in proximity to the river. Elementary and secondary schools surrounding the Capilano River will also receive tailored messaging to help inform students of the dangers of the river and how to stay safe.

This will be further promoted through Metro Vancouver's social media channels, website, and support from member jurisdictions. The message was further amplified with a media release that simultaneously announced switching to Alertable, a widely used public notification system, to advise subscribed users in case of an emergency related to the dam.

Attachment
Regional Parks Committee 2023 Work Plan

Reference
Kanaka Creek Interpretive Art Mural - Metro Vancouver Regional Parks Foundation

59399292

Regional Parks Committee 2023 Work Plan

Report Date: May 3, 2023

Priorities

1st Quarter	**Status**
Regional Parks Committee Priorities and 2023 Work Plan	Complete
Pacific Spirit/Wreck Beach Update	Complete
Cape Roger Curtis Engagement Process and Rezoning – Update	Complete
Regional Parks Plan Implementation Update	Complete
Land Dedication Bylaw Update	Complete
Cultural Planning and Cooperation Agreement- Tsleil-Waututh Nation Update	Complete
Regional Parks Real-time Parking Availability Pilot Initiative	Complete
Regional Greenways Plan Implementation Updates	Complete
CTS Youth Society Agreement	Complete
Lynn Headwaters Regional Park – Improving Forest Health Update	Complete
2nd Quarter	
Status of Regional Parks Capital Expenditures to December 31, 2022	Complete
Metro Vancouver Regional Parks Foundation (MVRPF) Agreement	Complete
Cape Roger Curtis Engagement Summary	Complete
Metro Vancouver Regional District Filming Update	Complete
Widgeon Marsh Regional Park Development Update	Complete
Regional Park Sustainable Transportation Market Research Report Summary	Pending
Nature and Ecosystems Road Map (Climate 2050)	Pending
Regional Parks Annual Report 2022	Pending
Burnaby Lake Greenway Phase 2 Update	Pending
3rd Quarter	
Regional Parks Building Strategy	Pending
Review/Renew Park Association Contribution Agreements	Pending
Metro Vancouver Regional Parks Foundation Update	Pending
Widgeon Marsh Regional Park Development Update	Pending
Regional Parks Committee Tour of Regional Parks	Pending
Regional Parks Asset Management Plan	Pending
Capital Projects Update	Pending
Iona Beach Regional Park Design Process Update	Pending
Crippen Regional Park - Dorman Point Opening	Pending
Electric Operations and Maintenance Equipment Update	Pending
Kanaka Education and Environmental Partnership Society Agreement	Pending
Land Dedication Bylaw Update	Pending

4th Quarter	
Tree Management on Metro Vancouver Lands	Pending
Regional Parks Capital Development Update	Pending
2024-2028 Budget and Financial Plan – Regional Parks	Pending
Regional Parks Regulation Amending Bylaw	Pending
MVRD Notice of Bylaw Violation Enforcement and Dispute Adjudication Amending Bylaw	Pending
Regional Parks Community Relationships Strategy	Pending
MVRD Ticket Information Utilization Amending Bylaw	Pending
Regional Parks Development Cost Charge Program	Pending
Regional Parks Natural Assets – Update	Pending
Capital Projects Update	Pending
Regional Parks Public Program Strategy Update	Pending
Regional Parks Fees and Charges Bylaw (New)	Pending
Regional Parks Regulation and Compliance Program Review Update	Pending
Minnekhada Regional Park Wildlife and Fire Restoration Update	Pending
Electric Mobility – Scooters/Bikes in Parks Update	Pending

Status = Pending, In Progress or Completed

To: MVRD Board of Directors

From: Electoral Area Committee

Date: May 10, 2023 Meeting Date: June 2, 2023

Subject: **Barnston Island Dike Improvements – Provincial Grant**

ELECTORAL AREA COMMITTEE RECOMMENDATION

That the MVRD Board endorse the use of the $5.25 million-dollar provincial grant to make improvements to the Barnston Island dike, and affirm that the acceptance of the grant does not change the status of the dike's jurisdiction, as outlined in the report dated May 2, 2023, titled "Barnston Island Dike Improvements – Provincial Grant".

At its May 10, 2023 meeting, the Electoral Area Committee considered the attached report titled "Barnston Island Dike Improvements – Provincial", dated May 2, 2023. The Committee added to the recommendation a line to clarify that the grant does not change the status of the dike's jurisdiction.

The Committee subsequently amended the recommendation as presented above in underline style.

This matter is now before the Board for its consideration.

Attachment

"Barnston Island Dike Improvements – Provincial", dated May 2, 2023

59928037

To: Electoral Area Committee

From: Marcin Pachcinski, Division Manager, Electoral Area and Implementation Services
Regional Planning and Housing Services

Date: May 2, 2023 Meeting Date: May 10, 2023

Subject: **Barnston Island Dike Improvements – Provincial Grant**

RECOMMENDATION

That the MVRD Board endorse the use of the $5.25 million-dollar provincial grant to make improvements to the Barnston Island dike, as outlined in the report dated May 2, 2023, titled "Barnston Island Dike Improvements – Provincial Grant".

EXECUTIVE SUMMARY

The Province recently provided Metro Vancouver with a grant of $5.25 million for dike improvements on Barnston Island. The grant is not sufficient to bring the entire dike up to current standards, but will enable the improvement of some of the dike components, thereby increasing the overall flood protection capability of the dike.

Metro Vancouver is the local government for Barnston Island, but it is not responsible for the dike itself, which falls to the resident-volunteer Barnston Island Diking District, which is overseen directly by the Province. Metro Vancouver will manage the consultation and procurement process for this grant project, but is not taking on additional responsibilities for the dike or its future maintenance. The project will be completed by March 2026.

PURPOSE

This report provides the Electoral Area Committee and MVRD with information related to recent funding the Province has provided to Metro Vancouver to improve the Barnston Island dike and seeks direction to use the funds.

BACKGROUND

At its October 28, 2022 meeting, the MVRD Board passed the following resolution:

> *"That the MVRD Board direct staff to follow-up on the current status of the UBCM resolution and previous correspondence on the B.C. Provincial Government's role in planning and funding flood management infrastructure on Barnston Island."*

This report includes a link to the Province's February 2023 response to UBCM *Resolution SR3: Provincial Responsibility for Flood Protection* (References 1 and 2) and provides information related to recent funding the Province has given to Metro Vancouver to improve the Barnston Island dike.

BARNSTON ISLAND DIKE

Barnston Island is part of Metro Vancouver's Electoral Area A and is protected by a 10-km ring dike, on top of which there is a Ministry of Transportation and Infrastructure-maintained road. A portion of the dike and road run across Katzie First Nation IR#3. The dike does not meet current Dike Design & Construction Guidelines set by the Province (see Reference 3). Metro Vancouver is the local government for Barnston Island, but is not responsible for the dike and has expressed concerns regarding the proposed transfer of diking district responsibilities to local governments, in this case, Metro Vancouver (see below). Oversight of the dike and the Barnston Island Diking District remains with the Province.

The *Drainage, Ditch and Dike Act*, enacted in 1907, enabled five autonomous diking districts, including the Barnston Island Diking District, to collect taxes to construct and maintain works for diking and drainage. The Barnston Island Diking District is comprised of a few local resident volunteers, who collect approximately $15,000 annually from Barnston Island property owners. The annual amount typically covers basic maintenance, such as mowing and drainage channel clearing. While the local resident volunteers are committed to doing what they can to maintain the dike, the very limited tax base of Barnston Island coupled with the scale and complexity of the upgrades identified in the Barnston Island Dike Assessment (2013) mean the upgrades cannot be properly assessed (e.g. engineering studies), funded and coordinated by relying on the Barnston Island Drainage District.

PROVINCIAL GRANT FUNDING FOR DIKE IMPROVEMENTS

In recognition of the challenges described above, the Province recently provided Metro Vancouver with a grant of $5.25 million under the *Emergency Program Act*. The funds are to be used for dike improvements to advance flood protection and help ensure Barnston Island remains a viable place for living and farming.

The grant conditions include submission of:

- a work plan for the Province's review by July 1, 2024;
- quarterly reports that include project progress and a summary of expenditures;
- a final report to the Province by March 22, 2026, including a summary of the project and outcomes achieved; and
- responses to reasonable ad-hoc reporting requests for information from the Province.

The funds are not sufficient to bring the entire dike up to current standards, but they are expected to enable the improvement of specific dike-components, thereby increasing the overall flood protection capability of the dike. The Barnston Island Dike Assessment (2013) provides a basis for identifying priority improvements, which will be done in consultation with professional engineers and key stakeholders.

Importantly, Metro Vancouver's acceptance of the grant does not change the status of the dike's jurisdiction. Metro Vancouver is not taking on additional responsibilities for the dike or its maintenance. Metro Vancouver, in its capacity as the local government, will manage the consultation and procurement process for this grant project.

NEXT STEPS

To implement the grant and complete the project by March 22, 2026, staff propose the high-level action timeline below. The specific actions and timeline may be revised as discussions progress with the Province, engineering consultants, and key stakeholders.

mid/late 2023	*Engage an engineering consultant and consult with the Barnston Island Diking District, Katzie First Nation, government partners, and others to confirm the priority improvements that will be made with the grant funds.*
early/mid 2024	*Prepare the bid(s), choose the successful bidder, and sign contract(s). In addition to external engineering support, the project team will rely on the advice and expertise of relevant Metro Vancouver departments, as appropriate (e.g. Project Delivery, Real Estate and Procurement, etc.).*
mid/late 2024	*Design and early works*
2025	*Construction*
early 2026	*Post-construction activities (e.g. as-built drawings, final report)*

Staff will provide updates to the Province, Barnston Island residents, the Electoral Area Committee, and the MVRD Board at key milestones in the process.

ALTERNATIVES

1. That the MVRD Board endorse the use of the $5.25 million-dollar provincial grant to make improvements to the Barnston Island dike, as outlined in the report dated May 2, 2023, titled "Barnston Island Dike Improvements – Provincial Grant".
2. That the Electoral Area Committee receive for information the report dated May 2, 2023, titled "Barnston Island Dike Improvements – Provincial Grant" and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

The Province has provided Metro Vancouver with a $5.25 million-dollar grant for this project. These funds will be used for all dike improvement works, including design and construction. No additional funds (e.g. tax revenues) are anticipated to be used to fund the dike improvement works. The grant amount will be reflected in the Electoral Area Financial Plan that is presented to the Electoral Area Committee and MVRD Board annually.

CONCLUSION

As the local government responsible for emergency management on Barnston Island, Metro Vancouver has an interest in strengthening the integrity of the Barnston Island dike. The Province has provided a grant of $5.25 million towards improving the Barnston Island dike. If the Board chooses Alternative 1, staff will work with engineering consultants and key stakeholders to confirm which previously-identified deficiencies will be improved and will report back at key milestones. Staff recommend Alternative 1.

Attachment
Excerpt from the Barnston Island Dike Assessment (2013)

References
1. UBCM Resolution SR3: Provincial Responsibility for Flood Protection
2. Provincial Response to UBCM Resolution SR3
3. Dike Design and Construction Guidelines Best Management Practices

59059950

The favored options from the CBA also have the least environmental and social impacts and are preferred from these perspectives as well.

Table 6. Environmental and Social Impact Rating

Option	Environmental Impact	Negative Social Impact
0	Low – no riprap added.	Low – safety of pump station improved.
1	Low – riprap (or other protection) added where there partly already is rock.	Low – Some dike fill may encroach on land at toe of dike.
2a	High – extensive riparian damage from added riprap. Encroachment on existing vegetation from dike widening.	High – encroachment on development next to dike. Loss of views in some areas.
2b	Medium – some riprap added along Parsons Channel but dike set back on north shore of island.	High – land use change and relocation of housing.
3a	High – extensive riparian damage from added riprap. Encroachment on existing vegetation from dike widening.	High – encroachment on development next to dike. Loss of views in some areas.
3b	Medium – some riprap added along Parsons Channel but dike set back on north shore of island.	High – land use change and relocation of housing.
4a	Low – riprap (or other protection) added where there partly already is rock.	Low – some inconvenience when temporary protection in place. One-way traffic only.
4b	Low – local floodproofing only.	Medium – inconvenience from raising structures etc.

6.6 Component Costs

Since Options 0, 1, 4a and 4b have similar cost-benefit ratios, and all are less than one, the costs of all the upgrades identified as important are provided in Table 7 below. Each component is given a priority rating (Very High, High, Medium, Optional, As-needed) to assist with selecting recommended improvements requiring immediate funding.

Table 7. Costs and Priority Rating of Individual Improvements

Improvement	Priority	Cost ($)	Immediate Funding
Safety upgrades to pump station. These need to be implemented immediately unless the pump station is replaced in the short term.	Very High	$23,000	
Install and support water level monitoring equipment	Very High	$3,000	x
Pump station replacement	High	$500,000	x
Floodbox replacement	High	$300,000	x
Drainage ditch upgrade & 3 new culverts	High	$100,000	x
Drainage ditch network for Katzie FN (Design & Installation). Assumed funding from AANDC.	High	$75,000	

Improve livestock evacuation procedures	High	Nominal	
Develop and install erosion monitoring network	High	$3,000	x
Introduce/ enforce boat traffic speed limit (discuss with Port Authority, improve signage, enforce)	High	Nominal	
Prepare Operation and Maintenance Manual (FLNRO format)	High	$30,000	x
Install permanent floating logs in specific areas (raw timber cost about $50/m^3) / Encourage log-boom tie-up	High	$40,000	x
Assess seepage during high freshet and prepare detailed seepage barrier designs.	High	$15,000	x
Trap and relocate beavers (Long term benefits to be determined prior to relocation program)	Medium	$2,000	
Stockpile riprap for emergency bank protection (suggested volume of 1,000 m^3).	Medium	$75,000	x
Establish bank protection contingency fund (apply following careful monitoring at critical sites)	Medium	$1,000,000	x
Establish seepage prevention fund (apply following geotechnical assessment during high freshet). Install seepage barriers at Stations 6+200 to 6+600 and other areas as required.	Medium	$500,000	x
Raise dike to 50-yr flood level, widen and repave road locally. (Pavement to be funded by MOTI).	Medium	$1,500,000	x
Prepare for emergency flood protection (resulting in one-way traffic only). Note that seepage issues are to be addressed first.	Optional	$1,500,000	
Provide livestock safe areas	Optional	$300,000	
Flood-proof or raise buildings	Optional	$2,500,000	
Repair and repave road (MOTI)	Optional	$3,000,000	
Relocate/raise housing presently outside dike.	Optional	$1,200,000	
Repair dike following breach/overtopping	As needed	$300,000	

The total cost of 'very high', 'high' and 'medium' priority items indicated as requiring immediate funding is estimated to be $4.1 M ($4,066,000) and would raise the dike to agricultural standards able to withstand the 50-year flood. (Estimated costs are approximate). Considering the island is within the agricultural land reserve, improving the flood protection to agricultural standards is strongly recommended.

To: Electoral Area Committee

From: Marcin Pachcinski, Division Manager, Electoral Area and Implementation Services
Regional Planning and Housing Services

Date: April 21, 2023 Meeting Date: May 10, 2023

Subject: **University Endowment Lands Governance Study – Final Report**

RECOMMENDATION

That the MVRD Board write a letter to the Minister of Municipal Affairs advising that it concurs with the report dated April 21, 2023, titled "University Endowment Lands Governance Study – Final Report" that the provincial and regional district scenarios are not the best-fit, long-term sustainable governance models for the future of the University Endowment Lands.

EXECUTIVE SUMMARY

In March 2023, the Province released the final report on the University Endowment Lands Services, Structure and Governance Study. The Study was initiated in 2020 in response to growing interest to determine the best way of governing the University Endowment Lands in the face of growing pressures such as future development, changing demographics, growing infrastructure and local service needs, bylaw enforcement, and local political representation.

The Study presents a high-level review of four governance scenarios:

1. Provincial scenario (status quo)
2. Regional district scenario (local services provided by Metro Vancouver)
3. Inclusion scenario (amalgamation with the City of Vancouver)
4. Incorporation scenario (become a new municipality)

While the Study does not provide recommendations on which governance structure should be pursued, the Study does state that neither the provincial scenario nor the regional district scenario is a best-fit and long-term sustainable governance model for the future of the University Endowment Lands. Metro Vancouver staff agree.

The existing provincial scenario has several recognized challenges, including a lack of meaningful local elected representation. For Metro Vancouver, the regional district scenario would not be the best long-term governance solution, as it would require Metro Vancouver's Electoral Area Service, which currently provides a few basic services to the rural and remote parts of the region, to take on the direct provision of municipal-level services to an urban community that is expected to grow to over 7,000 people. City services are not best delivered by a regional district, and the regional district scenario would not resolve the issue of greater local representation.

PURPOSE

This report provides the Electoral Area Committee and MVRD Board with an overview of the recently completed University Endowment Lands Services, Structure and Governance Study and

recommends that the Board write a letter to the minister responsible for the University Endowment Lands conveying its concurrence that the provincial and regional district scenarios are not the best-fit, long-term sustainable governance models.

BACKGROUND

In March 2023, the Province released the final report on the University Endowment Lands Services, Structure and Governance Study. This report provides an overview of the Study and seeks direction to communicate the Board's position on the outcomes to the Province.

UNIVERSITY ENDOWMENT LANDS

The University Endowment Lands (UEL) is a growing community of approximately 3,200 residents situated on 1,200 hectares on the Point Grey peninsula between the City of Vancouver and the University of British Columbia. It is the only urban area in BC that is directly administered by the Province.

The UEL is part of Metro Vancouver's Electoral Area A, and UEL residents are represented on Metro Vancouver's Boards by the locally-elected Electoral Area A Director. Metro Vancouver does not provide local services to the UEL, but does have local government responsibilities related to emergency management and liquor and retail cannabis applications. The majority of Pacific Spirit Regional Park is located within the UEL's boundaries.

GOVERNANCE SCENARIOS AND IMPLICATIONS FOR METRO VANCOUVER

Below are brief descriptions of the four governance scenarios from the University Endowment Lands Services, Structure and Governance Study, along with comments on expected implications for Metro Vancouver focused primarily on Electoral Area A.

1. **Provincial Scenario (status quo)**
   This scenario would maintain the primary delivery of local government services under the current structure of UEL Administration (*see page 36 of Reference 1 for detailed information)*.

   Opportunities
   - Additional assessment and taxation base due to future UEL growth and development
   - Renew existing services contracts that are working well (e.g. fire protection, library, solid waste)
   - Some service costs would remain relatively low (e.g. roads, policing)
   - Relatively low administrative costs compared to other governance scenarios.

   Challenges
   - More staff needed to deal with anticipated rise in development applications
   - Lack of legislative development financing tools (e.g. DCCs, CACs)
   - No capital reserve account
   - Continued Inter-jurisdictional coordination challenges (e.g. parking regulations on MoTI roads)

- Continued lack of meaningful local elected representation (i.e. the elected Electoral Area Director would continue to have no jurisdictional authority over land use decisions and most local services).

Implications for Metro Vancouver
This scenario would see Metro Vancouver continue to have local government responsibilities related to emergency management and liquor and retail cannabis applications, but not provide local services such as processing development applications. The challenge noted above regarding meaningful local elected representation would remain the same.

2. Regional District Scenario (local services provided by Metro Vancouver)
This scenario would see the vast majority of local services provided directly by Metro Vancouver (*see page 38 of Reference 1 for detailed information)*.

Opportunities

- Additional assessment and taxation base due to future UEL growth and development
- Establish and fund only those local services that are given participating area approval
- Ability to create reserve funds for asset management, as well as utilize other development financing tools (e.g. DCCs, CACs)
- Financial responsibility for roads and policing would remain a provincial function
- Local decision making (on service delivery and land use approval) would rest with the Electoral Area Director, who is directly elected by UEL residents
- Ability to apply for senior government grants and access MFA capital financing
- Metro Vancouver has many of the local government systems and departmental functions in place to take over local service delivery at UEL

Challenges

- Need to hire additional staff and possibly create new departments to provide the specific local service functions currently managed by UEL Administration
- Regional Districts are generally not structured to provide urban levels of service
- There is only one elected official (EA A Director) who would now represent UEL residents on all land use and local service matters, as well as continue to represent UBC and the remainder of the electoral area. Under this scenario, local planning and development matters in the UEL as part of Electoral Area A may go through the Electoral Area Committee, which includes the EA A Director plus Directors from 9 municipalities. UEL residents may wish to weigh in on whether the structure of the Electoral Area Committee aligns with their governance philosophy
- Depending on the nature of the workload and services to UEL under this model, this model may lead to the need to consider a separate EA director just for UEL, to represent the projected 7,200 residents. This challenge was expressed by the current EA A Director and Metro Vancouver staff. Furthermore, this scenario may be seen a “stepping stone”

towards becoming a municipality (inclusion or incorporation), as described in the next two sections.

Implications for Metro Vancouver
As noted above, this scenario would see Metro Vancouver become the primary and direct local service provider to the UEL. While feasible, regional districts are generally not appropriate for the purpose of directly delivering municipal services to a growing urban community. With a 2021 census population of approximately 3,200, the UEL is already larger than Villages of Anmore (2,356), Belcarra (687), and Lions Bay (1,390). Its projected growth to 7,200 will only increase the strain of trying to provide direct local services to an urban area using a regional district model, versus the more appropriate municipal model.

Likewise, the UEL's increasing population would focus attention on the discrepancy between municipalities, where locally elected mayors and councils make decisions for their residents, versus the regional district model, where elected representatives from across the region make local (UEL) decisions, with one (or potentially two) directly elected Electoral Area Directors representing UEL residents on a regional board.

Given the substantial administrative, financial, and time resources that would have to be devoted to introduce any new governance model for the UEL, it would be better to allocate those resources to the best long-term solution rather than a stepping-stone regional district scenario.

3. Inclusion Scenario (amalgamation with the City of Vancouver)
This scenario would involve the extension of the municipal boundaries of the City of Vancouver to include UEL (*see page 41 of Reference 1 for detailed information)*.

Opportunities

- Much larger tax base as a part of the City of Vancouver
- Economies of scale to potentially absorb new costs (e.g. infrastructure renewal)
- Ability to create capital reserve funds and other development financing tools
- Some existing services to UEL are already provided by the City (e.g. fire protection)
- Administrative systems and experienced staff already in place
- Ability to apply for senior government grants
- Greater local elected representation over current situation – 1 Mayor and 10 Councillors

Challenges

- Immediate increased costs for certain services (e.g. roads and policing); may be offset by larger tax base and economies of scale.
- Loss of UEL assessment base in Electoral Area A may impact funding and potential service delivery in the remainder of Electoral Area A for those shared local services that UEL currently contributes towards (e.g. Emergency Planning).

- Maintaining UEL's community identity and voice as a smaller neighbourhood within a larger municipality.

Implications for Metro Vancouver
The loss of UEL's tax base would be a direct impact on Electoral Area A's financial plan. UEL represents approximately 17% of Electoral Area A's population and in 2022 accounted for 41% of Electoral Area A's tax base. Anticipating this potential loss, at the beginning of the UEL governance Study in 2020, staff presented a report to the Electoral Area Committee and MVRD Board recommending maintaining sufficient reserves to offset this potential loss for a number of years (3 years) to allow time to transition the Electoral Area Services function to a smaller tax base if necessary (see Reference 2). In July 2020, the MVRD Board passed a resolution in support of this recommendation:

> *"direct staff to consider maintaining sufficient Electoral Area A Discretionary Reserves to fund the Electoral Area Services function for a minimum of three years as part of the preparation of the Electoral Area Services five-year financial plan."*

The Electoral Area Five-Year Financial Plan, which includes reserves, is presented to the Electoral Area Committee and MVRD Board as part of the annual budget process. Staff will continue to monitor the reserves and the UEL governance process and bring any new information to the Committee and Board for their consideration.

4. Incorporation Scenario (become a new municipality)
This scenario would see the UEL incorporate as a separate, new municipality (*see page 42 of Reference 1 for detailed information)*.

Opportunities
- Additional assessment and taxation base due to future UEL growth and development
- Compact land base with relatively high assessment for the delivery of services and infrastructure management
- Ability to create capital reserve funds and other development financing tools
- Ability to apply for senior government grants and access MFA capital financing
- Greater local representation with an elected Mayor and Councillors

Challenges
- Increased costs associated with incorporation
- Relatively small taxable land base
- Having a recognized voice within the region, as the 22nd municipality on the Metro Vancouver Board (in contrast to being part of the City of Vancouver, the largest municipality within Metro)
- Loss of assessment base in Electoral Area A may impact funding and potential service delivery in the remainder of Electoral Area A for those shared local services that UEL currently contributes towards (e.g. Emergency Planning). This is more of a transitional

impact to Metro Vancouver rather a specific impact to the newly incorporated municipality.

Implications for Metro Vancouver
In addition to the loss of UEL's tax base for Electoral Area A (described in scenario 3), this scenario would also result in a new municipal member of Metro Vancouver's Board(s). This would have implications for regional decision making, including decisions related to Electoral Area A.

Pacific Spirit Regional Park
The Study includes the following recommendation in its Transition Considerations section regarding Metro Vancouver's Pacific Spirit Regional Park, which is primarily located within UEL's boundaries: "conduct research into the long-term tenure of Pacific Spirit Park in the context of Indigenous rights and title, as part of the reconciliation and/or treaty process." Regional Parks staff are aware of this recommendation and will be considering any implications for Metro Vancouver through the Regional Parks Committee and MVRD Board.

NEXT STEPS
The Study notes that the Provincial approach to local government restructuring is to proceed through a structured process that generally follows six steps:

1. Preliminary exploration
2. Process design
3. Process Initiation
4. Community Engagement
5. Decision and Implementation
6. Transition and Adaptation

The Study has completed the preliminary exploration phase, as well as portions of process design, process initiation, and community engagement, and recommends the establishment of a governance review and approval process to support understanding of timing and sequence.

The Province has not indicated any timelines or specific next steps in relation to the Study. Metro Vancouver staff will continue to engage in the Province's governance review of the UEL, including reporting back to the Committee and Board on any discussions that occur regarding potential amalgamation with the City of Vancouver or incorporation as a new municipality.

ALTERNATIVES
1. That the MVRD Board write a letter to the Minister of Municipal Affairs advising that it concurs with the report dated April 21, 2023, titled "University Endowment Lands Governance Study – Final Report" that the provincial and regional district scenarios are not the best-fit, long-term sustainable governance models for the future of the University Endowment Lands.
2. That the Electoral Area Committee receive for information the report dated April 21, 2023, titled "University Endowment Lands Governance Study", and provide alternate direction to staff.

CONCLUSION

The recently completed University Endowment Lands Governance Study Final Report examines four potential governance scenarios for the UEL. The Study finds that neither the regional district scenario nor the provincial status quo is seen as the best long-term governance solution for the UEL. Staff agree and therefore recommend Alternative 1.

References

1. University Endowment Lands Services, Structure and Governance Study – Final Report (December 2022)
2. "Electoral Area A Reserve Funds – Use of Discretionary Reserves", staff report dated May 22, 2020

59059049

To: Climate Action Committee

From: Sheryl Cumming, Senior Project Engineer, Parks and Environment Department

Date: April 19, 2023 Meeting Date: May 11, 2023

Subject: **Metro Vancouver's Climate 2050 Industry and Business Roadmap**

RECOMMENDATION

That the MVRD Board:

a) endorse the *Climate 2050 Industry and Business Roadmap* as attached to the report dated April 19, 2023, titled "Metro Vancouver's *Climate 2050 Industry and Business Roadmap*" as part of a series of Roadmaps towards achievement of the *Climate 2050* vision, goals, and targets for greenhouse gas reduction and resilience in the industry and business sector;
b) direct staff to continue working with member jurisdictions and other partners to implement the actions in the *Climate 2050 Industry and Business Roadmap*; and
c) direct staff to update the Roadmap, as needed, in response to changes in science, technology and policy.

EXECUTIVE SUMMARY

The *Climate 2050 Industry and Business Roadmap* is one in a series of ten *Climate 2050* Roadmaps. It presents a robust pathway for industries and businesses in this region to contribute to a carbon neutral and climate resilient region by 2050. Industrial facilities contribute approximately 17% of the 15 million tonnes of greenhouse gas emissions in the Metro Vancouver region, and when all industrial and business-related activities are considered (including non-road equipment, commercial buildings and transportation), this proportion rises to roughly half of all emissions. The *Industry and Business Roadmap* includes eight strategies and 28 actions, of which six are identified as Big Moves, to reduce emissions and to strengthen climate resilience. A draft of the *Industry and Business Roadmap* was presented to the Climate Action Committee and Board in March 2022. Staff have since completed engagement and considered and incorporated feedback in finalizing this *Roadmap*. As the actions move to implementation, Metro Vancouver will continue to engage with relevant industry and business stakeholders. This report seeks endorsement of the *Climate 2050 Industry and Business Roadmap* by the MVRD Board.

PURPOSE

This report presents the *Climate 2050 Industry and Business Roadmap*, seeking endorsement by the MVRD Board.

BACKGROUND

Following the MVRD Board adoption of the *Climate 2050 Strategic Framework* in September 2018, staff were authorized in October 2019 to begin an integrated engagement process for *Climate 2050*, using a series of issue area discussion papers related to the Roadmaps. A discussion paper on the *Climate 2050 Industry and Business Roadmap* was received by the Climate Action Committee at its October 2019 meeting, followed by a draft *Industry and Business Roadmap* at the March 2022

meeting. With engagement complete, staff have now finalized the *Climate 2050 Industry and Business Roadmap*, and are seeking endorsement by the Board.

CLIMATE 2050 STRATEGIC FRAMEWORK

Climate 2050 will guide our region's policies and collective actions to transition to a carbon neutral and resilient region over the next 30 years. Metro Vancouver is implementing *Climate 2050* through ten issue area Roadmaps, which describe long-term goals, targets, strategies and actions to reduce regional greenhouse gases (GHGs) and ensure that this region is resilient to climate change impacts.

Implementation is also driven by Metro Vancouver's management plans, including the *Clean Air Plan*, as well as those for liquid waste, solid waste, drinking water and regional parks, and the regional growth strategy. For actions within the jurisdiction or responsibility of others, Metro Vancouver can play a supporting and convening role, working closely with businesses and industries, other orders of government, First Nations, and member jurisdictions, along with other key stakeholders, to advance implementation.

METRO VANCOUVER'S CLIMATE 2050 INDUSTRY AND BUSINESS ROADMAP

The *Climate 2050 Industry and Business Roadmap* (Attachment 1) outlines a pathway to ambitious and necessary change for industries and businesses in the region to reduce greenhouse gas emissions and build climate resilience. Consistent with the Board-approved *Clean Air Plan*, the Roadmap sets the greenhouse gas reduction goals that "all industrial facilities are carbon neutral by 2050" and that "all non-road equipment operating within the region use zero emission technologies powered by clean, renewable energy." The Roadmap also sets climate resilience goals that "the region's industries and businesses are resilient to the current and future impacts of climate change by 2050."

Potential Greenhouse Gas Reductions

The *Climate 2050 Industry and Business Roadmap* establishes targets for:

- 35% reduction in GHG emissions from industrial facilities and non-road equipment by 2030.
- By 2050, all industrial facilities are carbon neutral and there are zero GHG emissions (a 100% reduction) from non-road equipment used in the region, respectively.

As shown in Figure 1 below, modelling indicates that actions in this and other Roadmaps could achieve some reduction in GHG emissions from sources linked to industrial facilities and activities by 2030, and significant reduction by 2050 (compared to a 2010 baseline). This represents a significant reduction but still falls short of the 2030 and 2050 sector targets in this Roadmap, which reflect the reductions needed to limit global warming to 1.5 degrees Celsius. Further development of policies and innovative climate solutions will be needed to close the gap.

Achieving these science-based targets presents a significant challenge as well as an opportunity for the region's industries and businesses. Metro Vancouver and its partners will continue to explore opportunities to further accelerate emission reductions during the implementation of the actions in the *Industry and Business Roadmap* and will do similar for other *Climate 2050* strategies addressing emissions from industrial sources and activities. It is expected that actions in the *Industry and*

Business Roadmap and other Roadmaps will be revised in response to major changes in science, technology, policy and as progress towards the targets is monitored.

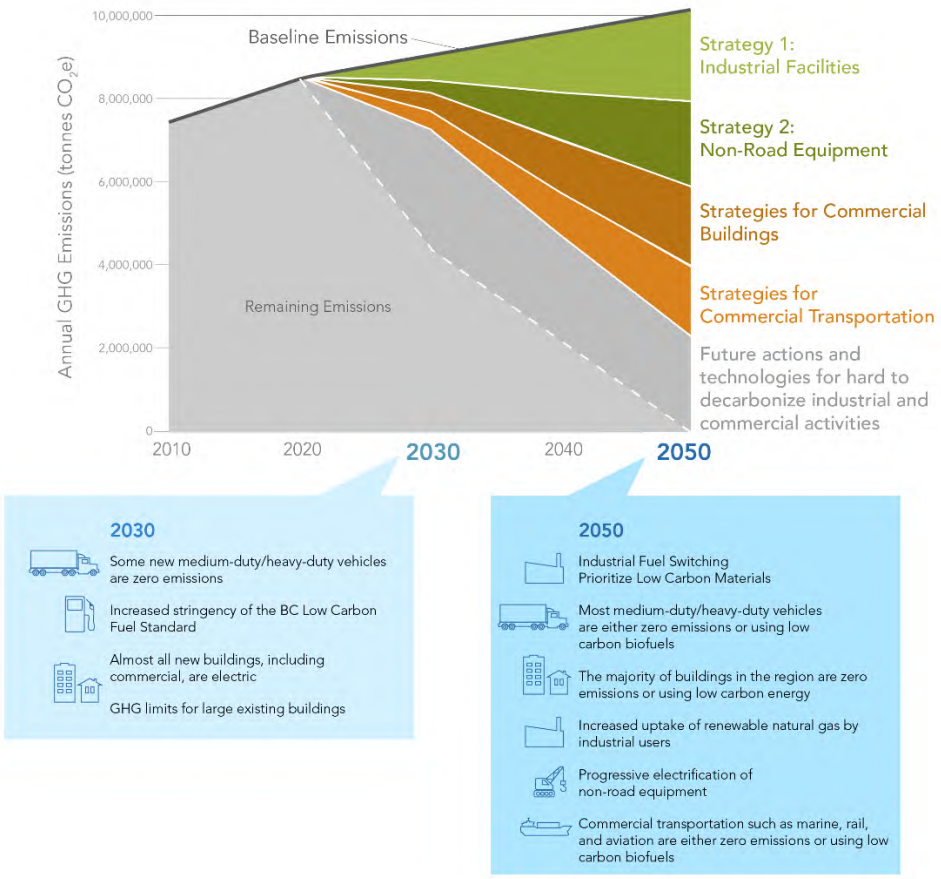


Figure 1. Potential impacts of strategies for industry and business

Big Moves in the Industry and Business Roadmap

The *Climate 2050 Industry and Business Roadmap* identifies the following six Big Moves, which are foundational actions needed to achieve the goals and targets of the *Climate 2050 Industry and Business Roadmap*:

1. More stringent greenhouse gas requirements for large industrial emitters
2. Integrate greenhouse gases into emission regulations and permits
3. Implement renewable gas content requirements
4. Tighten emissions regulation for non-road diesel engines
5. Regional low carbon procurement
6. Assess regional climate risks and vulnerability to support business decision-making

Relationship between the Industry and Business Roadmap and Clean Air Plan

The *Clean Air Plan*, approved by the MVRD Board on September 24, 2021, supports *Climate 2050*'s vision of a carbon neutral region by identifying the initial actions needed to meet the region's 2030

greenhouse gas target – a 45% reduction in region-wide GHG emissions from 2010 levels by 2030. All GHG reduction actions in this *Roadmap* reflect actions that were approved in the *Clean Air Plan*. The Roadmap includes additional actions for climate resilience that are not found in the *Clean Air Plan*.

CONSULTATION AND ENGAGEMENT PROCESS

In 2020-2022, staff conducted public webinars and stakeholder workshops for the *Clean Air Plan*. This included engagement on emission reduction actions for industrial facilities, non-road equipment, commercial buildings, and commercial transportation, and the feedback received was also incorporated into the GHG reduction actions in the *Industry and Business Roadmap*. Staff subsequently hosted additional engagement to focus on climate resilience content in the Roadmap. The draft Roadmap was available for public comment in 2022, and promoted on the Metro Vancouver website and social media platforms, and shared directly to the Climate 2050 mailing list and relevant stakeholders. As individual actions in the Roadmap move to implementation, Metro Vancouver will further engage with those likely to be impacted or to have a role in implementation. In addition, the Roadmap identifies the need to establish a Regional Industrial Emissions Working Group to support implementation.

Based on feedback, key revisions to the draft *Industry and Business Roadmap* include:

- Identification of additional partners for implementation (e.g., labour unions, worker safety authority).
- Additional context on the role of the *Clean Air Plan* and its relationship to the *Industry and Business Roadmap*.
- Additional context on the links between the *Industry and Business Roadmap* and the *Nature and Ecosystems Roadmap*, including nature-based solutions and green infrastructure.
- Additional context related to supporting workforce transition towards a decarbonized future.
- Additional context on Invest Vancouver's links to the region's industry and business, such as clean technology, renewable energy and clean transportation.

First Nations Engagement

In 2022, staff sent an engagement letter to the ten in-region First Nations inviting feedback on the draft Roadmap. Feedback received included suggestions for increased collaboration between First Nations and Metro Vancouver on key actions, and to prioritize natural climate solutions. In response, staff added content to strengthen collaboration with First Nations and to highlight relevant links across the Roadmaps to nature-based solutions.

ALTERNATIVES

1. That the MVRD Board:
   a) endorse the *Climate 2050 Industry and Business Roadmap* as attached to the report dated April 19, 2023, titled "Metro Vancouver's *Climate 2050 Industry and Business Roadmap*" as part of a series of Roadmaps towards achievement of the *Climate 2050* vision, goals, and targets for greenhouse gas reduction and resilience in the industry and business sector;
   b) direct staff to continue working with member jurisdictions and other partners to implement the actions in the *Climate 2050 Industry and Business Roadmap*; and

c) direct staff to update the Roadmap, as needed, in response to changes in science, technology and policy.

2. That the MVRD Board receive for information the report dated April 19, 2023, titled "Metro Vancouver's *Climate 2050 Industry and Business Roadmap*" and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

The resources required to develop and engage on the *Climate 2050 Industry and Business Roadmap* were approved under the 2023 budget. The 2024 and subsequent annual budgets and five-year financial plans will reflect the resource needs to implement actions in the *Climate 2050 Industry and Business* Roadmap.

CONCLUSION

The *Climate 2050 Industry and Business Roadmap* outlines a pathway to ambitious and necessary change for industries and businesses in the region to reduce greenhouse gas emissions and build climate resilience by 2050. The Roadmap reflects feedback received through the engagement process. To achieve the 2030 and 2050 targets, Metro Vancouver and its partners need to implement actions in the *Industry and Business Roadmap* as soon as possible, using the full extent of each agency's authority, and continue to explore opportunities to further accelerate emission reductions and improve the climate resilience in industry and business. Staff recommend Alternative 1, to endorse the *Climate 2050 Industry and Business Roadmap*.

Attachments

1. *Climate 2050 Roadmap: Industry and Business,* dated April 2023.
2. "Metro Vancouver's *Climate 2050 Industry and Business Roadmap*" presentation by Sheryl Cumming, dated April 19, 2023



CLIMATE **2050 Roadmap**

Industry & Business

Accelerating the transition to carbon neutrality and climate resilience

April 2023

Metrotower III, 4515 Central Boulevard,
Burnaby, BC, V5H 0C6
www.metrovancouver.org

April 2023

Metro Vancouver acknowledges that the region's residents live, work, and learn on the shared territories of many Indigenous peoples, including 10 local First Nations: q́ićəy̓ (Katzie), q́ʷɑ:ńƛəń (Kwantlen), kʷikʷəƛəm (Kwikwetlem), máthxwi (Matsqui), xʷməθkʷəýəm (Musqueam), qiqéyt (Qayqayt), se'mya'me (Semiahmoo), Sḵwx̱wú7mesh Úxwumixw (Squamish), scəẃaθən məsteyəxʷ (Tsawwassen), and sə́lílwətaʔɬ (Tsleil-Waututh).

Metro Vancouver respects the diverse and distinct histories, languages, and cultures of First Nations, Métis, and Inuit, which collectively enrich our lives and the region.

The goals and targets at the heart of Metro Vancouver's climate-related plans are based on the best available information. Reaching them is a top priority for the organization and the region. We must take bold action now to become a carbon neutral region by 2050, while recognizing that changes to our climate are already occurring, and that climate resilience must be a central consideration for the development of the region. The *Climate 2050 Industry and Business Roadmap* was developed in alignment with the *Clean Air Plan* and introduced for stakeholder comment before the COVID-19 pandemic. Across the globe, the pandemic response has provided a glimpse of what is possible and what we can achieve with coordinated efforts and common goals in a time of crisis.

The actions in this Roadmap reflect both current policies and new directions that reflect the best ideas, approaches, and available technologies. As with all good planning, this Roadmap must be viewed as an iterative, dynamic path forward. The goals will remain clear but the Roadmap will be updated as new policies, ideas, approaches, and technologies emerge.

Metro Vancouver

Metro Vancouver is a federation of 21 municipalities, one electoral area, and one treaty First Nation that collaboratively plans for and delivers regional-scale services. Metro Vancouver's core utility services include drinking water, sewage treatment, and solid waste management, along with regional services like regional parks, affordable housing, regional land use planning, and air quality and climate action that help keep the region one of the most livable in the world.

Mission

Metro Vancouver's mission is framed around three broad roles:

1. **Serve as a Regional Federation**

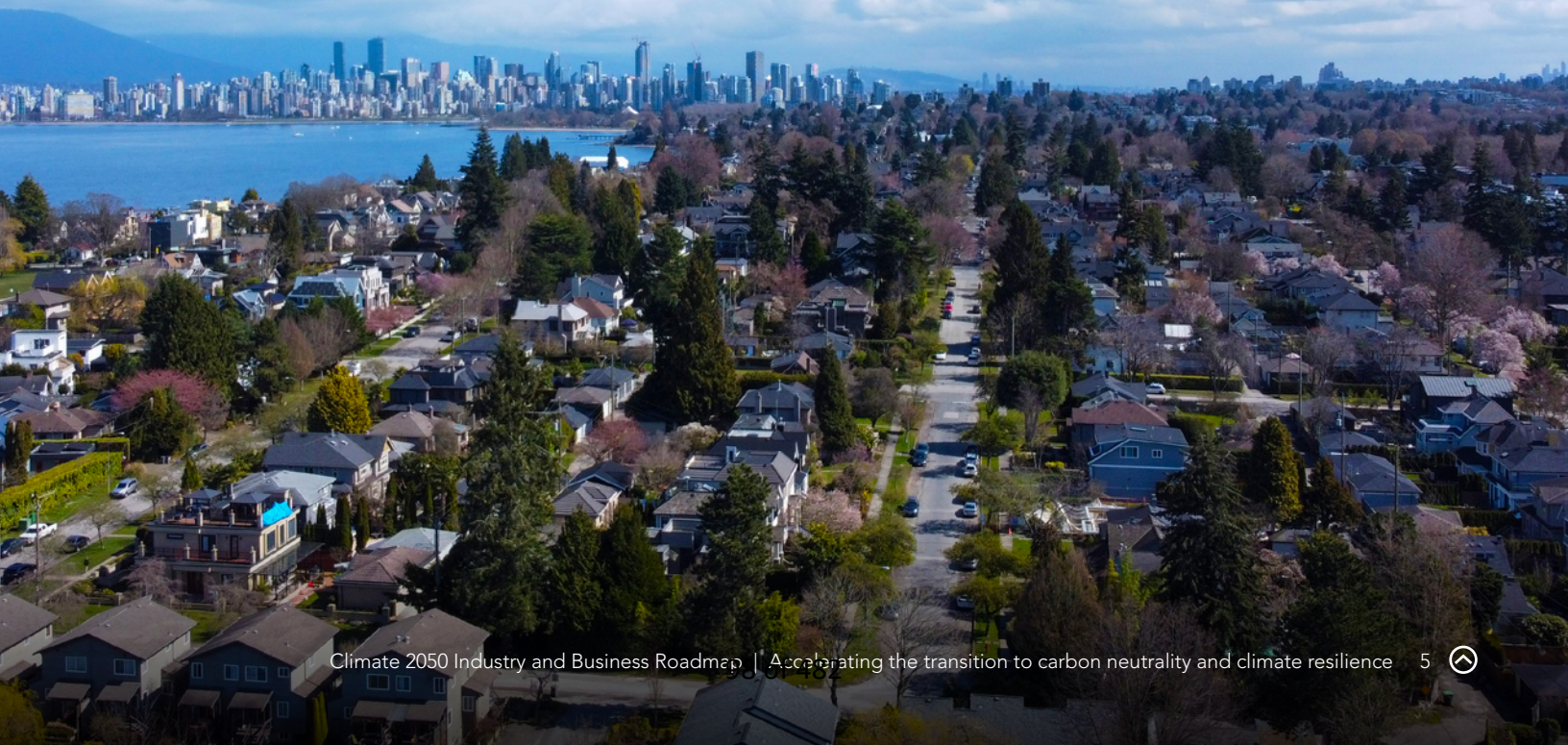
Serve as the main political forum for discussion of significant community issues at the regional level, and facilitate the collaboration of members in delivering the services best provided at the regional level.

2. **Deliver Core Services**

Provide regional utility services related to drinking water, liquid waste and solid waste to members. Provide regional services, including parks and affordable housing, directly to residents and act as the local government for Electoral Area A.

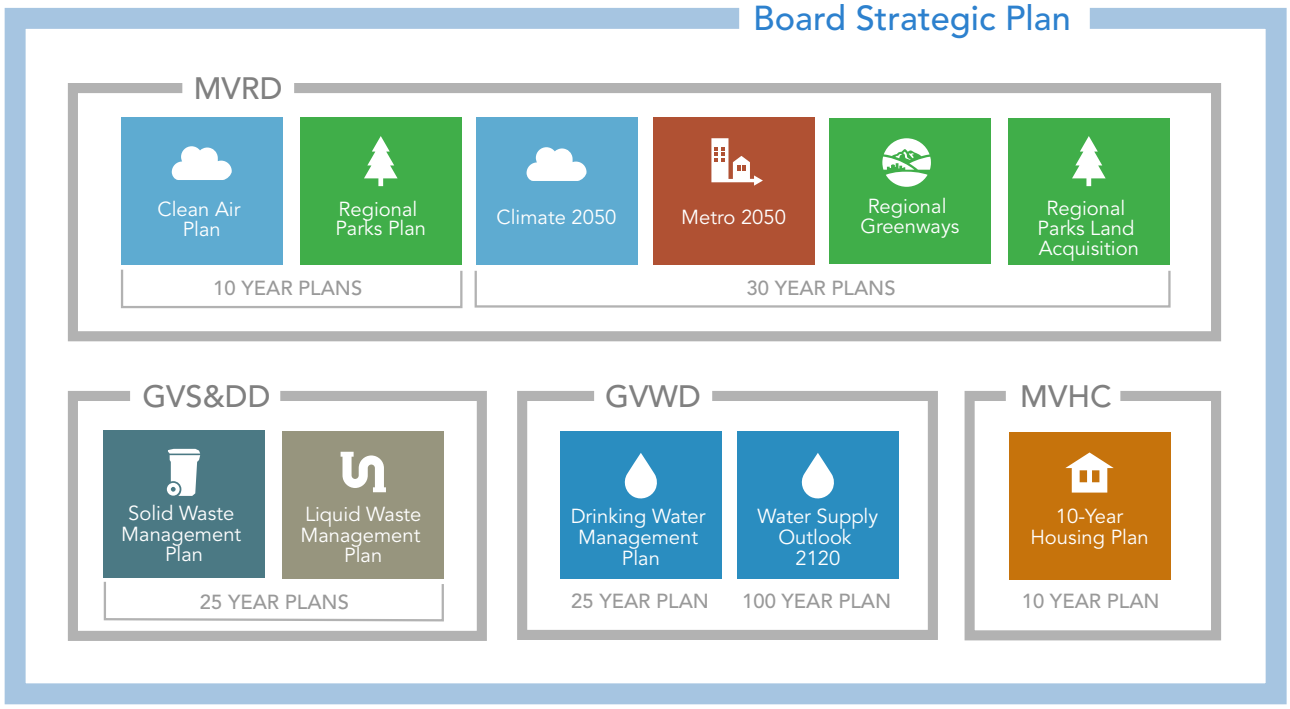
3. **Plan for the Region**

Carry out planning and regulatory responsibilities related to the three utility services as well as air quality, regional planning, regional parks, Electoral Area A, affordable housing, labour relations, regional economic prosperity, and regional emergency management.



Building a Resilient Region

Building the resilience of the region is at the heart of Metro Vancouver's work. Each of Metro Vancouver's regional plans and strategies adopts a vision, guiding principles, goals, strategies, actions and key performance measures that will support a more resilient, low carbon and equitable future. Metro Vancouver's interconnected plans and strategies are guided by the Board Strategic Plan, which provides strategic direction for each of Metro Vancouver's legislated areas of responsibility and the Long-Term Financial Plan which projects total expenditures for capital projects and operations that sustain important regional services and infrastructure. Together these documents outline Metro Vancouver's policy commitments and specific contributions to achieving a resilient region.



REGIONAL MANAGEMENT PLANS/STRATEGIES

Metro Vancouver's Roles and Responsibilities for Climate Action

The actions to achieve carbon neutrality and building a more resilient region will depend on the collaborative efforts of many players in the region as well as the federal and provincial government. However, Metro Vancouver has some unique and important roles and responsibilities for advancing climate action.

- Under the *Environmental Management Act*, Metro Vancouver has the delegated authority to provide the service of air pollution control and air quality management and, by bylaw, may prohibit, regulate and otherwise control and prevent the discharge of air contaminants, including greenhouse gases.
- Through the regional growth strategy *Metro 2050*, Metro Vancouver, with its members, plans for compact, complete communities that are foundational to enabling a carbon neutral, resilient region.
- As part of delivering its core services, Metro Vancouver also generates and uses clean, renewable energy from its facilities and is working to ensure core regional services and infrastructure are prepared for and resilient to climate change.
- Invest Vancouver is Metro Vancouver's economic development leadership service with the vision of a dynamic and resilient regional economy that delivers prosperity for all. It aims to foster greater regional collaboration on economic development issues, to advise leaders on sound economic policy and strategy, and to brand the region and its key industries to a global audience with the intention of attracting strategic investment. Invest Vancouver focuses on key export oriented industries in which the region has a productive advantage. This includes many aspects of the green economy, including clean technology, renewable energy and clean transportation.
- In its role as a regional forum, Metro Vancouver builds and facilitates collaborative processes which engage the public and build partnerships to address significant regional issues like climate change. As part of this role, Metro Vancouver coordinates with and advocates on behalf of its member jurisdictions to other governments and partners on greenhouse gas management and climate change adaptation initiatives.

These roles are necessary but not sufficient to achieve our goals of a climate neutral, resilient region. Metro Vancouver will be looking to member jurisdictions, other orders of government, First Nations and other regional partners to lead and collaborate in the implementation of a number of key actions in the *Climate 2050 Roadmaps*.



The Roadmap at a Glance

Climate action to reduce greenhouse gas emissions from industries and business in the region and to build their resilience to the impacts of climate change is at the core of the *Climate 2050 Industry and Business Roadmap*. Commercial activity in the region generates roughly half of the region's total greenhouse gas emissions. As industries and businesses develop and establish their own climate plans, many are already experiencing impacts and disruptions to their operations and supply chains due to climate change.

The *Climate 2050 Industry and Business Roadmap* identifies goals, strategies, and actions for Metro Vancouver and its partners, including businesses, that will contribute towards a carbon neutral and a climate resilient region by 2050. This *Roadmap* focuses on strategies and actions that will reduce emissions from heavy and light industrial facilities and commercial sectors as well as non-road equipment, (e.g., manufacturing, construction, port and trade activities, food processing). In addition, strategies and actions are included for intensifying low carbon procurement by the public sector, and expanding opportunities for carbon capture, utilization, and storage technologies. These strategies and actions are consistent with those adopted as part of the *Clean Air Plan* in 2021. The Roadmap also includes strategies and actions to better understand the region's vulnerability to climate change and enhance the process to increase industries and businesses' resilience to climate hazards.

As part of the transformational change needed in the region, this *Roadmap* aims to provide guidance in to overcome barriers, address challenges and explore new opportunities (see box below) in industries and businesses. Emissions reduction and climate resilience actions for commercial activities related to buildings, transportation, energy, and agriculture are covered in other *Climate 2050 Roadmaps* (references to these other *Roadmaps* can be found throughout the document).



Metro Vancouver, together with its member jurisdictions, has been taking action on climate change for decades. But it has not been enough to achieve the deep reductions in greenhouse gas emissions required and we need to do more to prepare for the impacts climate change is already having on the region. Coordination and collaboration with other orders of government, First Nations, business and industry, and other regional partners will be essential to achieving a carbon neutral and resilient region.

The *Industry and Business Roadmap* lays out actions for reducing emissions and increasing climate resilience, organized under the following strategies:

Strategies for Achieving Carbon Neutrality in Industry and Business:

1. Accelerate Emissions Reduction from Industrial Facilities
2. Reduce Non-Road Emissions and Support Early Adoption of Zero Emission Non-Road Equipment
3. Explore Opportunities for Technological Carbon Capture
4. Reduce Greenhouse Gas Emissions through Procurement and other Business Practices

Strategies for Climate Resilient Industry and Business

5. Assess Climate Vulnerabilities for Businesses in the Region
6. Support Industry and Business Resilience to Flooding through Better Planning and Information
7. Improve Business Resilience to Extreme Heat and Air Quality Events
8. Support Industrial Water Conservation to Increase Resilience to Shifting Precipitation Patterns





Contents

A Vision for Carbon Neutral and Climate Resilient Industry and Business 13

The Challenge 14

- Industry and Business in the Metro Vancouver Region 15
- Climate Change Impacts on Industry and Business..... 16
- Regional Emissions from Industry and Business 18

Achieving Deep Emissions Reduction in Industry and Business 22

- Clean, Renewable Sources of Energy 22
- Zero Emission Non-Road Engines and Equipment 23
- Prioritization of Low Carbon Products and Services 24
- Advancement in Carbon Capture, Utilization, and Storage Technologies 25

Building Climate Resilience in Industry and Business 26

- Awareness of Climate Risks and Vulnerabilities to Business 27
- Preparation for Climate Impacts Projected for the Region 28

Barriers and Opportunities..... 29

The Journey to Carbon Neutrality and Resilience 33

- Climate Goals and Targets for Industry and Business 34
- Strategies for Achieving Deep Emission Reductions in Industry and Business 39
- Strategies for Climate Resilient Industry and Business 47

Setting the Path Ahead..... 53

- Measuring Progress 55

Glossary..... 57

Navigate back to the Table of Contents by clicking this button.



CAPTION



A Vision for Carbon Neutral and Climate Resilient Industry and Business

In 2050, our thriving, diverse regional economy is carbon neutral and resilient to climate impacts. Innovation, creativity, diversity, and carbon neutrality are the characteristics of the Metro Vancouver economy. Businesses operate in zero emissions buildings while people and goods move via zero emissions vehicles and active transportation. Industrial activities have greatly improved energy and material efficiency, shifted to using clean, renewable energy and zero emissions equipment. Through innovation, the region is recognized for advancing innovation in carbon capture, utilization, and storage approaches. Local businesses design and deliver goods and services that are consistent with circular economy principles that generate less waste and minimize emissions of greenhouse gases.

Businesses in the Metro Vancouver region are prepared for and resilient to the impacts of climate change. This is the outcome of a collaborative process to identify climate risks and vulnerabilities to the regional economy and then to develop and implement plans and actions to mitigate the threats from climate change.

The drive to a carbon neutral and resilient region has created the stimulus to make businesses in Metro Vancouver global leaders in the research, development and commercialization of climate solutions. Our low carbon products and expertise in renewable energy, clean transportation, and carbon capture technologies are exported and transferred around the world.

Climate 2050 Industry & Business

Accelerating the transition to carbon neutrality and climate resilience.

The Challenge

While transitioning to a carbon neutral, climate resilient region by 2050 presents opportunities and benefits for business in the region, there are also challenges. Decarbonization across the Metro Vancouver region will require nearly all commercial, institutional, and industrial activity to be powered by clean, renewable energy. This will require rapidly expanding the use of clean renewable energy such as electricity and renewable gas, replacement of thousands of vehicles and pieces of equipment across the region, and investing in new technologies to capture the carbon dioxide that is emitted from chemical processes and any remaining fossil fuel use.

Businesses and governments will also need to plan for and make investments to protect the businesses, residents, and workers within our communities from more frequent flooding, extreme heat events, and other climate impacts that are already locked in and unavoidable given past levels of greenhouse gas emissions. The need to simultaneously reduce emissions while taking action to prevent climate impacts will be a stress on businesses.

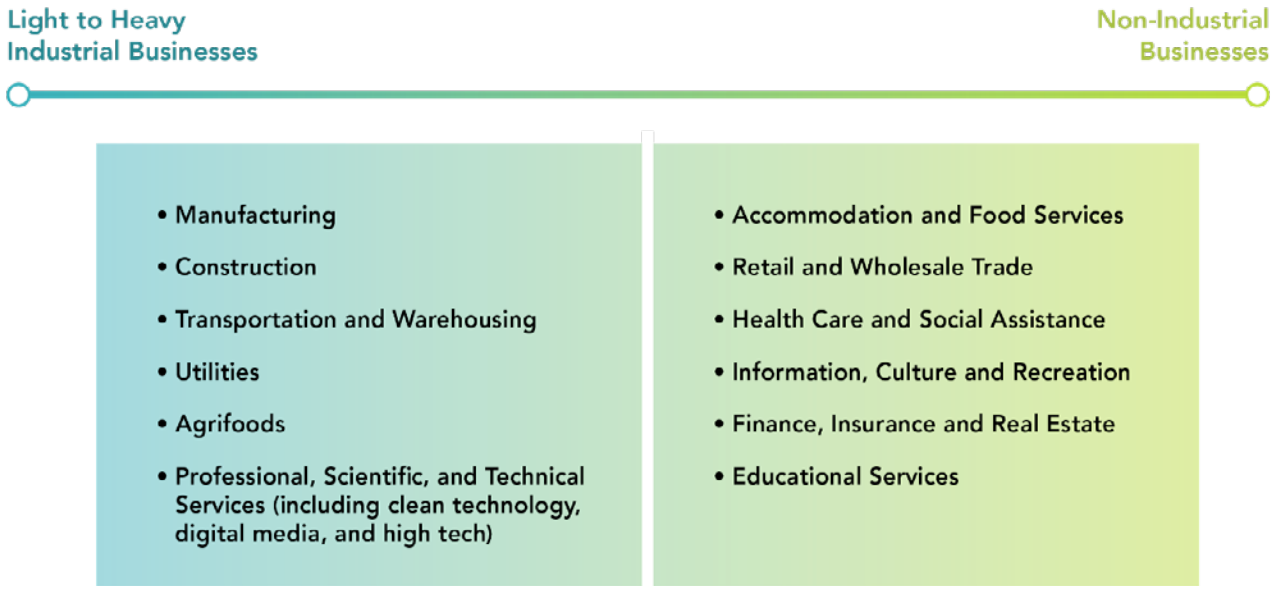
Through our engagement with industry and business, we have heard concerns about the actual availability of the technologies and products, the cost of transition, and regulatory certainty. Although many options for clean technologies and clean, renewable energy are already available in the market, it is critical to their widespread adoption that they are competitively priced and more widely available. In the case of specialized applications, some leaps in technical innovation are still needed. New technologies and approaches may cost more for businesses, institutions, governments, and residents. How these costs will be shared across society depends, in part, on government regulations.

The "Barriers and Opportunities" section of this Roadmap explores the unique circumstances of businesses in moving towards carbon neutrality and climate resilience.

Industry and Business in the Metro Vancouver Region

There are more than 100,000 businesses in the Metro Vancouver region, with 1.5 million workers generating GDP in 2019 of $149 billion. These businesses and their workers account for over half of total employment in British Columbia. The businesses comprise a diverse mix of sectors from manufacturing to educational services that have different greenhouse gas emissions profiles and risks associated with climate change.

The regional economy is changing, reflecting the dynamics of a growing metropolitan region that is Canada's Pacific gateway. The strategies and actions in this *Industry and Business Roadmap*, as well as the commercial transportation, commercial buildings, and energy related actions referenced from the other *Climate 2050 Roadmaps* will reduce emissions from a spectrum of businesses, from light and heavy industrial to non-industrial businesses. A number of actions are focused on emissions from industrial businesses (e.g. industrial facilities, non-road equipment) while others are focused on emissions typical of non-industrial businesses (e.g. buildings, vehicle fleet). Climate resilience actions will apply to the spectrum of businesses in Metro Vancouver.



Invest Vancouver

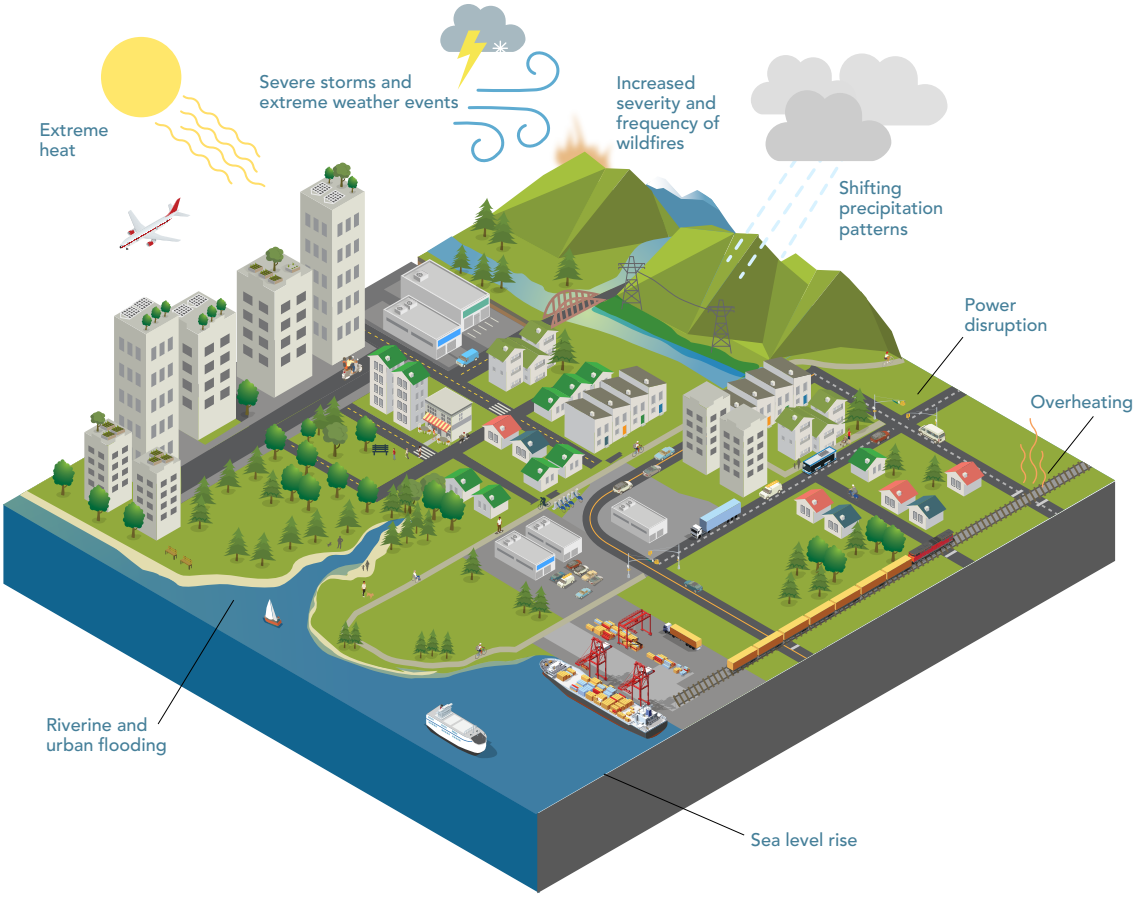
Invest Vancouver is Metro Vancouver's recently launched economic development service with the vision of a dynamic and resilient regional economy that delivers prosperity for all. Invest Vancouver is a collaboration of leaders from a cross section of the region, including: industry and business associations, community and labour organizations, port authorities, Boards of Trade and Chambers of Commerce, academic institutions, agriculture, First Nations, and Metro Vancouver Directors.

With a mission to position our region for success in a rapidly evolving global economy, Invest Vancouver exists to foster greater regional collaboration on economic development issues, to advise leaders on sound economic policy and strategy, and to brand the region and its key industries to a global audience with the intention of attracting strategic investment.

Climate Change Impacts on Industry and Business

Our region's network of communities, businesses, workers and customers are already being impacted by the climate changes that are locked in due to historic emissions, and these impacts are projected to accelerate despite the significant reductions in greenhouse gas emissions that we aim to achieve in the coming years and decades. The uncertainty created by a shifting climate and the need for resilience means governments and businesses need to think differently about infrastructure and planning.

EXPECTED CLIMATE CHANGE IMPACTS



Recent climate-influenced events, including heat waves, forest fires, and extensive flooding, exposed how susceptible infrastructure and commercial activities are to the impacts of a changing climate. Businesses that were directly impacted by floods or fires experienced loss or damage to their assets, and their workers may have seen impacts on their health and safety. In addition, many businesses suffered from disruptions in their supply chains due to failures in the transportation systems.

Across the region, many businesses and industrial land use are in areas that are more vulnerable to flooding and sea level rise. Metro Vancouver has a role to work with governments and other regional partners in planning for and strengthening resilience of industrial land to these climate impacts.

The scientific projections of climate change and their impacts indicate that we can expect the following changes and impacts in Metro Vancouver into 2050:

Climate Changes



Warmer temperatures: with increasing daytime and nighttime temperatures, there will be more hot summer days and fewer winter days with frost or ice.



Longer summer dry spells: summer rainfall will decline by nearly 20%, with increased likelihood of extended drought periods.



Wetter fall and winters: although on average the total annual rainfall is expected to increase by just 5%, there will be a large increase in rainfall during fall and winter.



More extreme precipitation events: more rain will fall during the wettest days of the year and the frequency of extreme rainfall events will increase.



Decreased snowpack: the deep spring snowpack in the mountainous watersheds is expected to decrease by over 50% compared to present day.



Sea level rise: in addition to these weather-related changes predicted in our region, warming global temperature is projected to bring at least 1 meter of sea level rise by 2100, which will impact coastal areas in the region.

Impacts Felt



Heatwaves can impact the safety and comfort of workers due to increased indoor temperatures in commercial buildings and outdoor work environments, where cooling may be inadequate. Heatwaves can also change the operational needs of certain businesses (e.g., refrigerated warehousing and transportation, agriculture.)



Poor air quality from wildfire smoke events, which can compound impacts with existing sources of air contaminants (e.g., ground-level ozone, pollution from traffic and industry). Disruptions to business operations can occur when workers' health and safety is compromised due to poor air quality.



Power disruption due to overloaded grids from increased demand from cooling systems, and from shock events including flooding and storms.



Riverine, coastal and urban flooding caused by periods of heavy rainfall during extreme weather events (e.g., storms), rapid snowmelt, or a combination of both. This can lead to localized flooding in industrial sites and commercial spaces, and disruptions to the commercial transportation system, including truck routes and rail lines which could have cascading effects for supply chains.



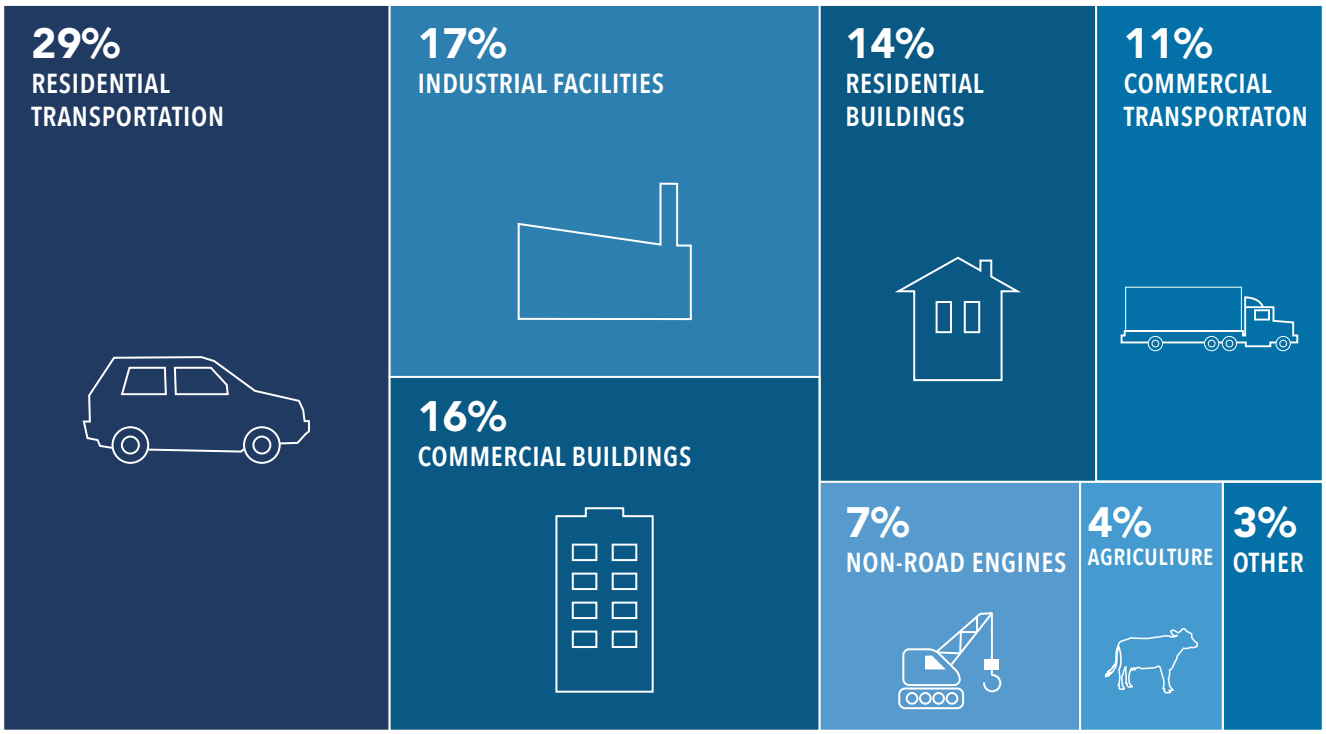
Reduced water supply as a result of reduced snowpack and hotter, drier summers that can strain drinking water supplies during times of the year when demand is the greatest.



Sea level rise in coastal areas of our region will increase flood risk for industrial facilities and commercial activities located in low elevation areas, including the ports. Sea level rise can also magnify the impact posed by other hazardous conditions in coastal areas such as subsidence (land sinking), king tides and storm surges, and heavy winds and precipitation caused by storms.

Regional Emissions from Industry and Business

Industrial facilities contribute approximately 17% of the of the 15 million tonnes of greenhouse gas emissions in the Metro Vancouver region, and when all industrial and business-related activities are considered (including non-road equipment, commercial buildings and transportation), this proportion rises to roughly half of all emissions. The graph below captures the range of activities that generate the region's total greenhouse emissions in Metro Vancouver. Industrial facilities accounted for 2.5 million tonnes (17%) and non-road equipment, 1 million tonnes greenhouse gas emissions (7%), respectively.



In addition, commercial transportation associated with goods movement (e.g., heavy duty truck, rail, marine and air) and commercial buildings account for about 11% and 16% of regional greenhouse gas emissions, respectively. (Note a small portion of light duty vehicle emissions are also associated with commercial transportation, such as taxis and couriers.) Agricultural activities account for 4% of regional emissions. More information about these emission sources are provided in the *Climate 2050 Roadmaps* for *Transportation, Buildings, and Agriculture*.

The Connection between Climate Change and Air Quality

The *Clean Air Plan* s Metro Vancouver's air quality and greenhouse gas management plan. Actions in the Plan will reduce air contaminant emissions and impacts, including greenhouse gases, in our region over the next 10 years, and in doing so support the interim target of a 45% reduction in greenhouse gas emissions by 2030, and establish the foundation for the 30-year goal of a carbon neutral region by 2050. This management plan also addresses air quality targets for the region.

Residents in the region generally experience good air quality. However, health researchers have demonstrated that there are no known safe levels for some air contaminants that are harmful to human health. In the Metro Vancouver region, commercial activities are a significant source of regional greenhouse gas emissions, as well as emissions of health-harming air contaminantsthat impact regional air quality. Industrial facilities and non-road equipmentgenerate over 25% of nitrogen oxides, over 40% of particulate matter, and over 50% of sulphur oxides produced in the region. Commercial transportation, commercial buildings and agriculture also generate health harming air contaminants.

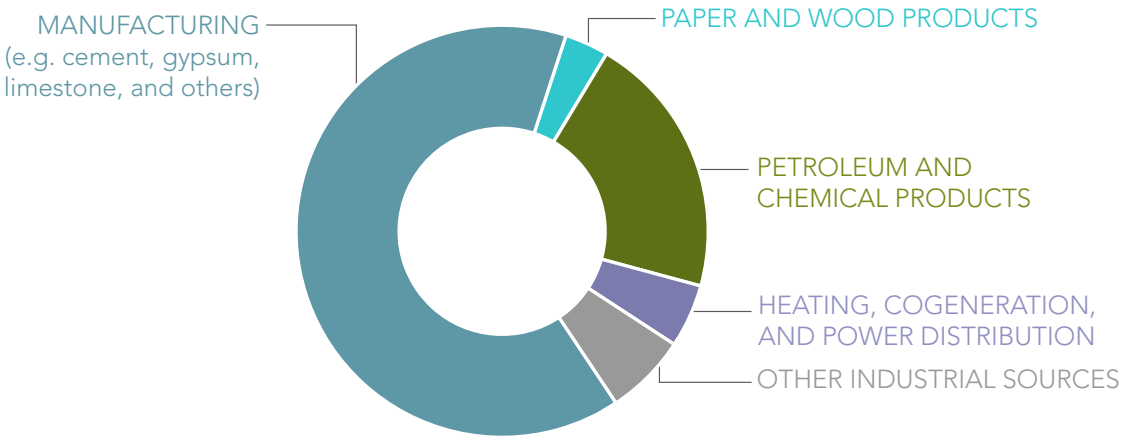
Metro Vancouver is responsible for managing and regulating air contaminants in the region, including greenhouse gases, under its authority delegated by the BC Government in the *Environmental Management Act*. Metro Vancouver uses this authority to establish emission requirements for industrial facilities and non-road equipment (and other sources) through regulations and permits. The *Clean Air Plan*, Metro Vancouver's air quality and greenhouse gas management plan, will reduce health-harming air contaminant emissions and impacts in the region through to 2030. Many actions that reduce health-harming air contaminants will also reduce greenhouse gas emissions thereby supporting the goal of becoming a carbon neutral region by 2050.



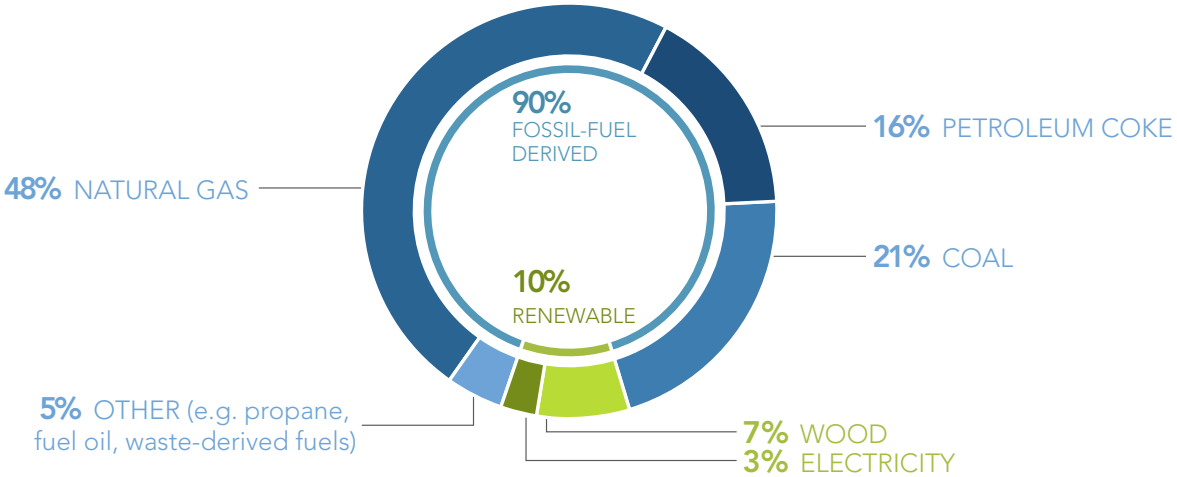
Emissions from Light and Heavy Industrial Facilities

Industrial facilities in the Metro Vancouver region manufacture and process products such as cement, petroleum, gypsum, limestone, paints and chemicals, wood and paper, metal, and food. The greenhouse gas emissions from these industrial facilities are primarily generated from burning fuel during the manufacturing process. More than 75% of the energy used to operate industrial facilities are fossil fuels such as natural gas, coal and coke (see Figure 1). In some cases, the manufacturing process for a product or good (e.g., cement, limestone) includes chemical reactions that release significant quantities of greenhouse gases such as carbon dioxide.

FIGURE 1:
BREAKDOWN OF INDUSTRIAL FACILITY GREENHOUSE GAS EMISSIONS[1]



by Industry Sector



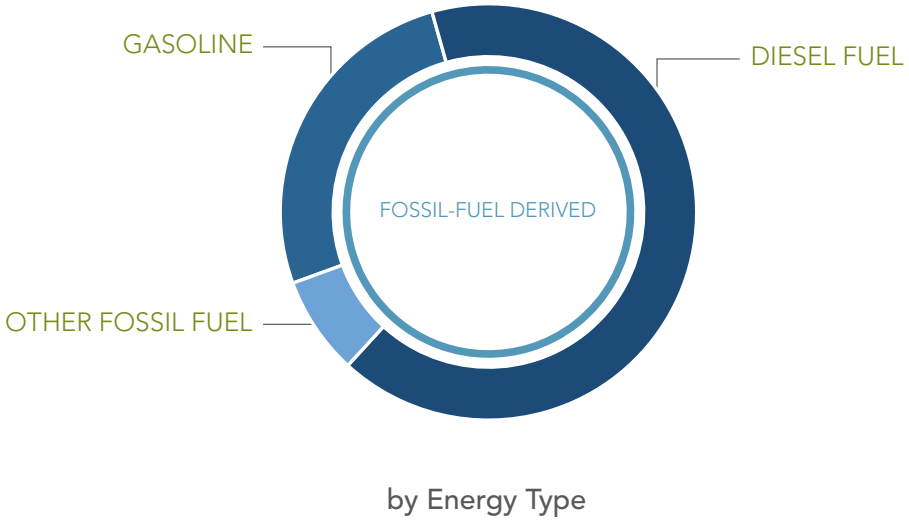
by Energy Type

1 Based on 2015 Metro Vancouver Regional Emissions Inventory

Emissions from Non-Road Engines

Non-road equipment is used in many industries and businesses in the region and generates greenhouse gas emissions from the use of diesel or gasoline. Non-road equipment includes cranes, loaders, forklifts, generators, lawnmowers, and other mobile equipment not used for transportation. Industries with the two largest sources of greenhouse gas emissions from non-road equipment are construction and cargo-handling. The use of non-road equipment contributes about 7% of the region's total greenhouse gas emissions.

FIGURE 2:
BREAKDOWN OF NON-ROAD EQUIPMENT GREENHOUSE GAS EMISSIONS BY ENERGY TYPE[2]



2 Based on 2015 Metro Vancouver Regional Emissions Inventory

Achieving Deep Emissions Reduction in Industry and Business

Nearly all businesses in the region, from small to large, generate greenhouse gas emissions from the use of fossil fuels. Some manufacturing activities also generate emissions from chemical processes. The main technological options for significant emission reductions include: a shift to clean, renewable sources of energy; scaling up adoption of low to zero emission vehicles, engines and equipment; prioritizing use of low carbon materials; and advancing and adopting carbon capture, utilization, and storage technologies. To achieve the deep emissions required to achieve carbon neutrality, adoption of this suite of decarbonization approaches will need to begin now.

Clean, Renewable Sources of Energy

Switching to clean, renewable energy is a central strategy for reducing greenhouse gas emissions across the region. The use of high efficiency electric heat pumps is an effective way of achieving deep emissions reductions wherever lower temperature heat is required, including for space and water heating within industrial and commercial facilities. Higher temperature thermal processes (e.g., in cement production) may require combustion of low carbon biofuels (e.g., renewable gas) or hydrogen instead of fossil fuels.

Hydrogen is expensive to produce and technologically challenging to distribute, store, and use, but it is a promising energy carrier that could be used to decarbonize some hard-to-electrify activities, such as in heavy-duty transportation and industrial applications. The BC Government has developed the *BC Hydrogen Strategy* to guide the transition to hydrogen as a low carbon energy source. The Government of Canada has also developed the *Hydrogen Strategy for Canada* as a framework to position Canada as a world-leading producer, user and exporter of clean hydrogen, and associated technologies.

It is important to recognize that use of low carbon biofuel or hydrogen, while reducing greenhouse gas emissions, may result in emissions of health-harming air contaminants. In addition, an increased demand for the organic feedstock (such as agricultural products or residues, wood waste, or fats from rendering) that are used to generate renewable energy could also have impacts on our agricultural systems, forests, and other ecosystems. An assessment of lifecycle greenhouse gas emissions from renewable energy sources can quantify the environmental impacts associated with all the stages of production and use and can guide decision making on the selection of an energy source.

Powering vehicles and buildings by clean electricity will also be an important strategy for reducing greenhouse gas emissions from commercial and business activities. (see the *Climate 2050 Transportation, Buildings, and Energy Roadmaps* for more detail).

Switching to clean, renewable energy sources will require capital investment, and its use may cost more on per unit basis than fossil fuel energy. These additional costs will need to be offset by energy efficiency improvements and transition support from utilities and governments. To learn more about clean, renewable energy supply, see the *Climate 2050 Energy Roadmap* for more detail.

Zero Emission Non-Road Engines and Equipment

Electrification of non-road equipment is evolving and low-emission technologies have significantly advanced in recent years. Policy actions such as the requirements for cleaner engine standards can accelerate the transition towards low or zero emission equipment, as well as those that accelerate uptake of currently available options. Switching to zero emission non-road equipment not only leads to reductions in greenhouse gas emissions but may also result in improved air quality where that equipment is used, which can benefit worker health.

Electric non-road equipment is becoming increasingly available for various applications, including construction and demolition, commercial and warehousing operations, cargo-handling, and lawn and garden maintenance. Governments can support the uptake of electric equipment through supportive incentives, regulations, and the provision of appropriately located charging infrastructure.

Low carbon biofuels can also play a role in reducing emissions from non-road equipment. Engines that currently use liquid fossil fuels can be readily switched to using biofuels such as ethanol and renewable diesel. While the use of some types of biofuels may require engine modifications, others, such as renewable diesel, can be used directly in conventional engines see the *Climate 2050 Energy Roadmap* for more detail on clean, renewable energy.



Photo credit from Volvo CE develops full power of electric ecosystem with E Worksite

Getting Down to Business
Zero Emission Construction Sites

Cities across the globe are leading the charge to reduce emissions from their non-road equipment fleets. In Oslo, Norway, a pilot program using electric non-road equipment for municipal construction and maintenance projects. This pilot is part of its commitment to achieve zero emissions for all municipal construction sites by 2025 and for all construction sites (public and private) to be zero emissions by 2030. A similar program in Gothenburg, Sweden called "Electric Worksite" involves partnering with manufacturers to test the requirements of zero emission electric construction and maintenance equipment, with the objective to encourage wider adoption. Within North America, California's small off-road engine regulation requires small non-road engines, such as maintenance equipment and portable generators, to be low- to zero emission beginning in 2024.

Prioritization of Low Carbon Products and Services

Most activities involved in providing goods and services (such as design, logistics, manufacturing, transportation, and waste management) are linked to greenhouse gas emissions. The embodied emissions of a good or service is a way of quantifying the emissions associated with its production, transportation, use and disposal. Compared to direct greenhouse gas emissions associated with fossil fuel use and industrial operations, embodied emissions are more complex to estimate, and are not yet widely tracked or reported.

Better understanding of embodied emissions could inform public and corporate procurement policies and programs to advance the use of low carbon products and services, and could reduce greenhouse gas emissions both within and outside our region. Production and procurement of low carbon products should be prioritized to help generate and support jobs in a decarbonized climate-ready future.

Getting Down to Business
Low Carbon Procurement Policies

Governments are implementing measures to support low carbon products in their public procurement processes. The Buy Clean California Act (established in 2017) aimed to limit and reduce embodied (supply chain) emissions in public infrastructure projects. In 2020, Marin County in California set limits for greenhouse gas emissions from concrete products. Similarly, the Bay Area Low Carbon Concrete Code requires all projects using concrete to meet strict emissions intensity standards. Within Canada, the City of Langford within the Capital Regional District may be the first local government to adopt a low-carbon concrete policy. The policy will take effect in mid-2022, and requires municipal projects to submit a third-party verified Environmental Product Declaration (EPD) to track the environmental impacts of purchased concrete materials and demonstrate lower GHG intensity than category benchmarks.

Circular Economy's Role in the Transition to Carbon Neutrality

Globally, there is a need to change the way materials, products, and food are made, to reduce input resources and minimize waste. A circular economy approach can both decrease embodied emissions and create new economic opportunities for businesses. The approach focuses on closing material and energy loops so the economy does more with less. The circular economy is based on three principles: eliminate waste and pollution; circulate products and materials (at their highest value); and regenerate nature. This represents an alternative to the conventional, linear model of "take-make-dispose".

BC Materials is a construction company that operates within Europe and transforms excavated soil from construction sites into other construction materials (e.g., compressed earth blocks, clay plaster), and sells it directly to new developers. This circular approach reduces embodied carbon as well as direct emissions in the buildings using these construction materials. The emissions associated with transporting materials to new sites and landfills are reduced; the owners benefit from alternative carbon neutral solutions; and the building occupants enjoy better thermal insulation.

The National Zero Waste Council, an initiative of Metro Vancouver, takes part in leading Canada's transition to a circular economy by bringing together governments, businesses and NGOs to advance a waste prevention agenda that maximizes economic opportunities for the benefit of all Canadians. Further exploration of circular economy and its role in supporting decarbonization will be considered in Metro Vancouver's *Climate 2050 Waste Roadmap* and *Land Use and Urban Form Roadmap*.

SOURCES: POLICY OPTIONS; ELLEN MACARTHUR FOUNDATION

Advancement in Carbon Capture, Utilization, and Storage Technologies

Carbon capture, utilization, and storage refers to technologies that capture carbon dioxide from high-emitting applications, (e.g., cement manufacturing) as well as technologies that remove carbon directly from the atmosphere, and then safely and permanently store the captured gas. These technologies will be required in a relatively small number of industrial and commercial activities that still generate large amounts of greenhouse gases after more conventional efforts to reduce emissions have been adopted. Specific carbon capture, utilization, and storage technologies are advancing at different rates, and some are poised to be used in commercial and industrial applications already. Additional innovation and investment in these technologies and the infrastructure to support them will be necessary for large-scale carbon capture projects, and to find effective, safe and permanent storage solutions. Enabling policies and financial mechanisms (e.g., increasing the price of carbon emissions), are likely to be needed to support the expanded use of carbon capture, utilization, and storage technologies.



VIEW OF THE URBAN FOREST

Building Climate Resilience in Industry and Business

Building climate resilience for industry and business means addressing the range of climate-influenced hazards that can impact individual businesses and whole business sectors. Examples include: more frequent flooding and landslides due to extreme precipitation; extreme heat; and wildfire smoke.

As Canada's gateway to the Pacific, Federal, Provincial and local governments will need to plan to adapt the region's transportation infrastructure (road, marine, rail, and air) to be resilient to the threats posed by a changing climate. A resilient regional transportation system will be critical for businesses to maintain reliable connections to local or international supply chains. Likewise, businesses will need to ensure that buildings and facilities in which they operate have sufficient cooling and enhanced air filtration to protect workers during more frequent extreme heat and air quality events. Strengthening industry and business resilience to these and other climate impacts will require a shift in planning and investment by both governments and the private sector, informed by up to date climate information.

Awareness of Climate Risks and Vulnerabilities to Business

Connecting businesses to available and appropriate climate data and potential climate impacts can increase understanding of climate risks and the basis for evaluating risk response options. Some jurisdictions have used a "cluster" approach (based on similar climate risks and supply chains) to help tailor climate data, climate resilience tools and guidance for the region's industries and businesses (see example in call-out box).

Getting Down to Business
Italy's Industrial Cluster Approach to Climate Resilience

Industries in Italy have developed a cluster approach to building resilience to the impacts of climate change. The Improve Resilience of Industry Sector (IRIS) program aims to support businesses, especially small and medium sized ones, in becoming more climate resilient through identification of specific adaptation measures. Businesses belonging to the same production area or belonging to the same production chain are grouped in "industry clusters" to assess the associated climate risks and to develop a cluster specific climate adaptation plan.

The program includes operational solutions that are analyzed and proposed to businesses whose production, facilities, or infrastructure may be increasingly at risk for disruptions due to climate influenced events. IRIS actions include: carrying out climate risk assessment in pilot clusters; developing climate adaptation plans in pilot clusters; analyzing opportunities related to financial and insurance tools for business resilience; and developing a web portal for a climate risk self-assessment.

IRIS is the first project in Europe focused on climate change effects in the industrial sector and suggests the cluster approach to increase business resilience. This approach is particularly interesting for small and medium enterprises because it fosters sharing of resources and skills.

SOURCES: IMPROVE RESILIENCE OF INDUSTRY SECTOR (IRIS)

Preparation for Climate Impacts Projected for the Region

Climate change projections are anticipated to impact communities and businesses in the region as was witnessed during the climate-driven extreme weather events in 2021. Businesses can take action now to better manage exposure to risk and minimize damages to their assets. Examples of future-proofing business operations and processes include:

- add space cooling in buildings to prepare for hotter summers,
- improve air filtration in buildings to manage wildfire smoke events,
- prepare heat response plans to protect workers and operations, and
- ensure buildings and other assets in flood prone areas can withstand flood events.

While businesses must manage their own assets and business operations, governments and utilities will need to ensure that the infrastructure that businesses and residents depend on is resilient to extreme events and other climate impacts, including:

- plan for flood protection during severe storms,
- provide reliable access to utilities (e.g., power, water, sewer, fiber optic), and
- ensure a reliable transportation network for the supply chain.

Metro Vancouver's regional growth strategy, *Metro 2050* and *Climate 2050's Land Use and Urban Form Roadmap*, currently in development, will include new policies to strengthen climate resilience action. Metro Vancouver's Regional Industrial Lands Strategy (RILS) establishes a vision on the future of industrial lands in the region, recognizing the role of industrial lands to promote prosperity and sustainability and to provide space for industrial services needed in our growing region. The RILS recognizes the climate risks such as flooding that may impact some industrial land and activities.

Getting Down to Business
Resilient Industry Initiatives

The City of New York developed a resilient industry toolkit that was designed to support industrial businesses located within NYC's floodplain to cost-effectively adapt to climate change. The toolkit includes an overview of flooding vulnerability in industrial areas and identifies relevant flood resilience practices that can be implemented by businesses. Other elements of the toolkit include illustrations and cost estimates for adaptation actions for prototypical waterfront sites (e.g., film studio, warehouse, brewery). The overall program is an example of a public-sector approach to building resilience in specific industrial sectors.

Lower Mainland Flood Management Strategy

The Fraser Basin Council has been leading a multi-year project to develop the Lower Mainland Flood Management Strategy (LMFMS) aimed at reducing flood risk and improving the flood resilience of communities along BC's lower Fraser River and south coast. The LMFMS brings together decision-makers including the Government of Canada, the Province of British Columbia, Lower Mainland local governments, First Nations and non-governmental and private sector entities in the region to work collaboratively on flood management.

Barriers and Opportunities

Alignment in Climate Policies

Policy and regulatory certainty is important for businesses to make long-term capital investments and changes to their practices and procedures consistent with reducing greenhouse gas emissions and increasing their resilience. Businesses are faced with a complex regulatory environment designed to advance climate, social and environmental objectives so the objectives and targets must be clear. In addition, the climate policies and regulations of all levels of governments must be aligned in order to ensure that they are not in conflict, as well as creating a level playing field to ensure that competing businesses are required to meet the same standards and assume similar costs. Alignment of policies across jurisdictions is essential to prevent carbon leakage (see box).

Metro Vancouver recognizes its responsibility to analyze the impact of federal and provincial climate policies, including carbon pricing and border carbon adjustment policies, on regional businesses before developing policies and regulations to reduce greenhouse gas emissions while minimizing the impact on the regional economy.

Carbon Leakage in Industry and Business

Carbon leakage refers to an economic scenario when stringent climate regulations in one jurisdiction push businesses or commercial activities to move to a jurisdiction with weaker climate regulations. In this situation, global greenhouse gas emissions are not reduced. Instead the activity creating emissions just moves elsewhere and may lead to an overall increase in emissions depending on the energy source in the new location and longer shipping distances. Businesses moving out of the region to avoid more stringent emission regulations will likely result in negative economic impacts including job loss and reduced tax revenues.

The "energy-intensive, trade-exposed" industries that operate within the Metro Vancouver region may be at a higher risk for carbon leakage. Energy-intensive, trade-exposed industries are generally capital intensive, require large amounts of energy to operate, generate emissions inherent in the chemical processes, and compete internationally for markets at home and abroad. These industries include cement, lime and gypsum, and chemicals. The capital intensive nature of these businesses means that planning for the replacement and retrofitting of equipment typically occurs over longer time frames.

Market Availability and Cost of Zero Emission Technology

Although many of the technologies and products necessary to rapidly reduce greenhouse gases are already available in the market (e.g., electric passenger vehicles, heat pumps for space heating), in other cases, equipment for specialized applications (e.g., industrial heat pumps, medium/heavy-duty electric vehicles) are not widely available or cost significantly more than their conventional, higher emission counterparts.

The availability of zero emission non-road equipment is a good example. Electric options are available for certain applications (e.g., forklifts), while other technologies (e.g., construction equipment) are not yet widely available in the region, though they are becoming available in other markets. Some types of non-road equipment that already have electric options available (e.g., generators), can still be prohibitively expensive for many industrial and commercial applications compared to their fossil fuel counterparts. Government incentives and other financial support can help offset the cost of adopting zero emission technologies.

Innovation and Technological Development

Certain economic sectors will require significant innovation and technological development to achieve cost effective deep emission reductions and reach carbon neutrality. Carbon capture, utilization, and storage is an example of technology that requires further development to bring down its cost and make it feasible for different sector applications. Other technological areas that require investment in research and development, pilot testing, and finally broad commercialization include new building components and energy storage. The drive to innovate emissions reduction and resilience solutions creates opportunities for job and business growth.

Workforce Transition and Equity in a Low Carbon, Climate Resilient Economy

The impacts of climate change and the shift towards a carbon neutral and climate resilient region are affecting workers, businesses, and communities in different ways. Supportive measures such as training, re-skilling and education incentives, public and private investment stimuli, and other initiatives will be needed to support this transition. The *Climate 2050 Buildings Roadmap* includes actions to support workers transition as the market demand for zero emissions and resilient building design, technology, installation and operation grows. Workers in other sectors (e.g. transportation, manufacturing) will also need targeted support. Managing this transition will require strong commitments from and collaboration with all orders of government, First Nations, and other regional partners to build capacity and knowledge, and increase investments and support for workers.

The transition to a low carbon and resilient economy should also advance the equitable distribution of benefits and avoid an inequitable distribution of costs. Metro Vancouver will work with partners to incorporate the voices and needs of a full range of communities in the implementation of this Roadmap to ensure that fairness and equity are a high priority.

Infrastructure Investment to Support Greenhouse Gas Reductions and Climate Resilience

Investment in public and private infrastructure consistent with deep emissions reduction and strengthening climate resilience is essential moving forward. Significant investments in the electrical grid (e.g., distribution lines, transformers) will be required to support charging for electric vehicles and non-road engines and electrification of buildings and industry. Similarly, changes to the natural gas distribution system may be required to allow hydrogen to be distributed within the system. Enabling carbon capture at a large scale will likely require repurposing some of the region's pipeline infrastructure to transport captured greenhouse gases to storage areas outside the region.

Investments in public infrastructure also underpin industry and business climate resilience. As one example, diking infrastructure is key to protecting industrial and agricultural land that is often located in low lying areas near the region's rivers and coastline. In 2012, the BC Government estimated that the dikes in the Lower Mainland required $9.5 billion in upgrades to address climate and seismic risks. Much of the land protected by these dikes is used for commercial purposes.

Integrating Climate Considerations in Normal Business Practice

As described above, climate change is already impacting industry and business and the transition to a carbon neutral, resilient future will touch on the operations of many businesses. To manage this transition and to be better able to respond to the uncertainty caused by climate change, businesses need to incorporate climate considerations into normal business practice. This may involve accounting for climate risk as part of the existing risk assessment of a business (see box on Managing Climate Risk). Businesses can also incorporate the tracking of greenhouse gas emissions as part of financial reporting to better integrate financial decisions with emissions reduction.

Consumers can be active in driving the demand for low carbon products. This can be supplemented by procurement policies of business, governments and institutions that support the growth of businesses supplying low carbon products to the market.

Managing Physical and Transition Risks of Climate Change

Climate-related risks are often classified into two broad categories: physical and transition risks. Physical risks arise from the changes in weather and climate that impact businesses, supply chains, and the availability of labour, as described above. A changing climate and the transition to a low carbon economy also creates transition risks for businesses, affecting their profitability and competitiveness. Transition risks can be subdivided into several types:

- **Policy and Legal Risks –** the potential for financial impact due to policy changes such as carbon pricing, regulation, regulations around land-use, or legal risk as a result of litigation for failure to mitigate impacts to climate change or enact sufficient adaptation measures.
- **Technology Risk –** technological changes that support the transition to a low carbon economy, including renewable energy technology, could affect the competitiveness of certain industries.
- **Market Risk –** Shifts in supply and demand for products and services create a wide range of risks to businesses.
- **Reputational Risk –** consumer and community perceptions of different industries and businesses may change as a result of an organizations perceived contribution to, or detraction from the transition to a low carbon economy.

Disclosure of Climate-Related Risks

In response to investors, governments and other stakeholders seeking to better understand how businesses manage risks. The Task Force on Climate-related Financial Disclosures (TCFD) has emerged as a globally-accepted framework that provides guidance and best practices for businesses to report on climate-related risks. Financial regulators in several jurisdictions, including in Canada, are moving towards requiring publicly-traded companies to disclose climate-related risks. In addition, local governments are considering the value of implementing TCFD.

TCFD or similar frameworks can help identify and quantify climate-related risks to key decision makers within an organization and to external parties. It allows climate risk to be assessed in line with other risks and provides a means to incorporate climate risks, and opportunities, into organizational budgeting and capital planning activities while pushing companies to formalize their climate strategy, metrics and targets to better assess and manage their climate risk.

The Journey to Carbon Neutrality and Resilience

Linkages to other *Climate 2050 Roadmaps*

There are linkages to the industry and business sector in the other *Climate 2050* roadmaps. You can find additional information on these topics in the following:

- **Buildings Roadmap –** actions to reduce emissions from space and water heating in commercial buildings and adapt commercial buildings to climate impacts.
- **Transportation Roadmap –** actions to reduce emissions from the vehicles and other modes of transportation used for the movement of goods (e.g. freight movement, urban deliveries), raw materials, products between industries and consumers, as well as for connecting people from their homes and communities to their places of work.
- **Agriculture Roadmap –** actions to reduce emissions from agricultural activities, operations, and agricultural equipment.
- **Waste Roadmap –** additional consideration of embodied emissions in goods and materials and as part of the circular economy, and final disposal of materials.
- **Land-use and Growth Management Roadmap –** strategies and actions will inform industrial and commercial land planning in response to climate change. It is strongly linked to the regional growth strategy, which sets land use and transportation policies for the region.
- **Energy Roadmap –** actions to increase the use of clean, renewable energy by industry and businesses.
- **Nature and Ecosystems Roadmap –** actions and ideas that protect, connect, and integrate natural, enhanced and engineered systems to store carbon, help communities and businesses adapt to climate change.

CONNECTING THE *CLIMATE 2050 INDUSTRY AND BUSINESS ROADMAP* AND THE *CLEAN AIR PLAN*

Clean Air Plan	*Industry and Business Roadmap*
• Greenhouse gas reduction goals, strategies and actions. • Air quality goals, strategies and actions. • Goals, strategies and actions for other sectors such as buildings and transportation.	• Greenhouse gas reduction goals, strategies and actions. • Resilience strategies for industry and business • Challenges, opportunities and benefits of transitioning industry and business towards a decarbonized future.



Climate Goals and Targets for Industry and Business

Metro Vancouver's *Climate 2050 Strategic Framework* has set the following regional vision to guide the region's response to climate change:

- Metro Vancouver is a carbon neutral region by 2050
- Infrastructure, ecosystems, and communities are resilient to the impacts of climate change

Metro Vancouver has also set a regional target of 45% reduction in greenhouse gas emissions from 2010 levels, by 2030.

Achieving this vision means setting goals in each of the *Climate 2050 Roadmaps*, organized by sectors in the region, and contributing towards getting to a carbon neutral, resilient region.

Metro Vancouver has set the following climate goals for industrial and non-industrial businesses in the region to help visualize the region we will live in, and to track progress out to 2030 and 2050. The table below includes goals and targets for industrial facilities and non-road equipment (pages 30-31).

The goals and targets for commercial buildings, commercial transportation and agriculture are also listed (pages 31-33). Refer to the *Climate 2050 Roadmaps* for Buildings, Transportation, and Agriculture for more information on the strategies and actions associated with these goals.

What is a Carbon Neutral Region?

A carbon neutral region means that we have achieved the deepest greenhouse gas emissions reductions possible across all economic sectors, and any emissions left are balanced out by the carbon dioxide removed from the atmosphere by the plants, trees, and soil in the region, as well as by potential carbon capture technologies that are under development.

Greenhouse Gas Emission Reductions

The long-term goal is that Industry and Business is carbon neutral by 2050.

Goals	Targets
All industrial facilities are carbon neutral	**By 2030:** • A 35% reduction in greenhouse gas emissions from industrial facilities from 2010 levels. **By 2050:** • All industrial facilities are carbon neutral.
All non-road equipment operating within the region use zero emission technologies powered by clean, renewable energy.	**By 2030:** • 35% reduction in greenhouse gas emissions, from 2010 levels. **By 2050:** • 100% reduction in greenhouse gas emissions.
Commercial Transportation	
All medium and heavy duty trucks and rail locomotives operating within the region use zero emission technologies powered by clean, renewable energy.	**By 2030:** • 35% reduction in greenhouse gas emissions, from 2010 levels. **By 2050:** • 100% reduction in greenhouse gas emissions. • All medium duty trucks are zero emission, powered by clean, renewable electricity or hydrogen. • All heavy duty trucks and rail locomotives use either zero emission technologies or biofuels.
All aircraft and marine vessels operating within the region use low emission and zero carbon technologies powered by clean, renewable energy.	**By 2030:** • 35% reduction in greenhouse gas emissions, from 2010 levels. **By 2050:** • 75% reduction in greenhouse gas emissions, from 2010 levels.

Goals	Targets
Commercial Buildings	
All buildings are zero emissions from heating and cooling by 2050.	**By 2030:** • 35% reduction in greenhouse gas emissions from buildings, relative to 2010 levels. • All new buildings are zero emissions in their operations. • All new buildings produce 40% less embodied emissions from construction. **By 2050:** • All buildings are zero emissions in their operation, deriving all energy needs from 100% clean and renewable sources. • All new buildings are carbon neutral in their embodied emissions from construction.
Energy	
All of the energy used in Metro Vancouver is derived from clean, renewable sources	**By 2030:** • 60% of the energy used in the region is derived from clean, renewable sources **By 2050:** • All buildings are zero emissions in their operation, deriving all energy needs from 100% clean and renewable sources. • All new buildings are carbon neutral in their embodied emissions from construction.

Climate Adaptation

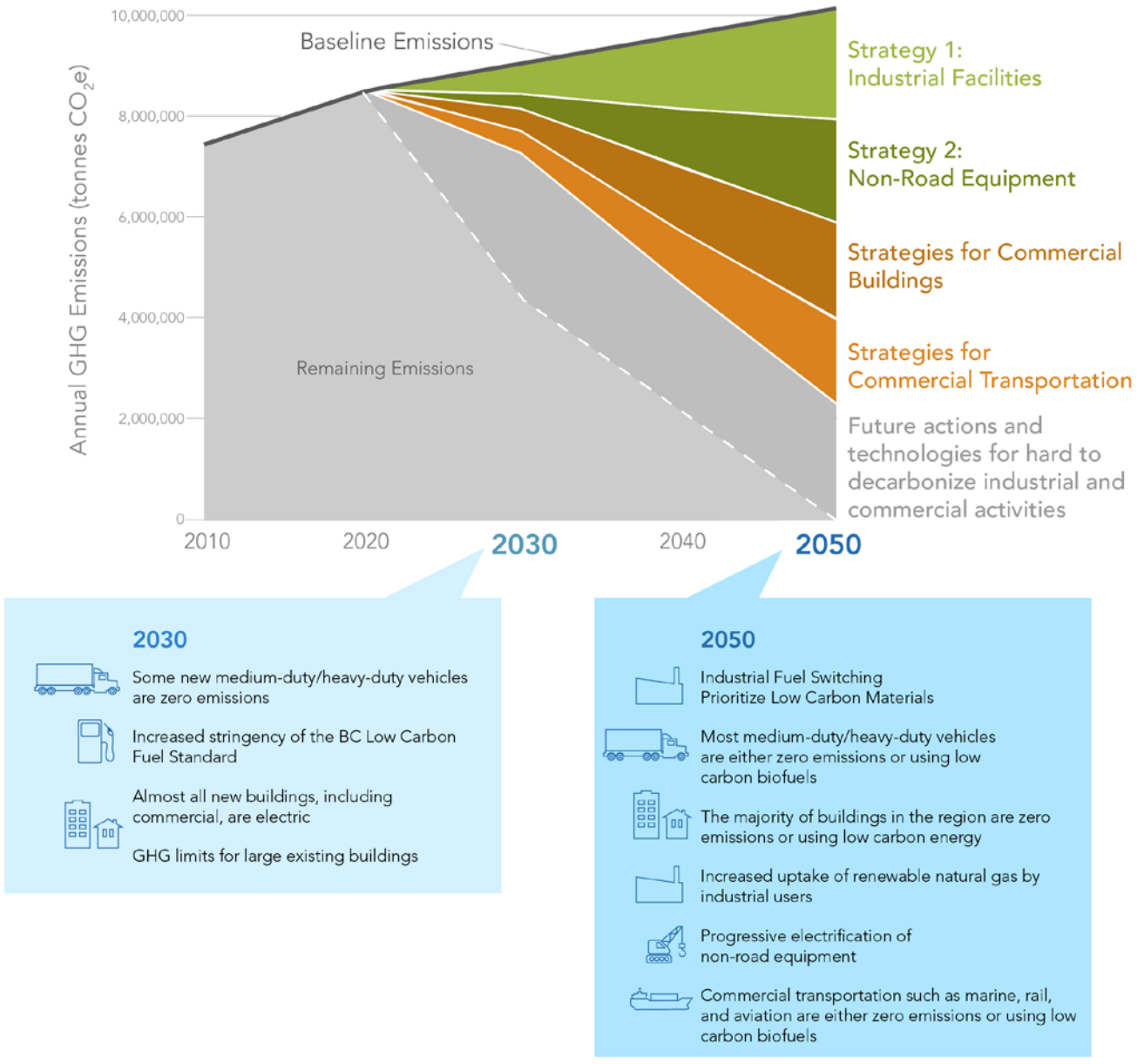
Goals	Targets
The region's industries and businesses are resilient to the current and future impacts of climate change.	**By 2030:** • All industrial facilities have identified existing, unmitigated climate hazards that could impact their operations and supply chains. **By 2050:** • 100% of the energy used in the region is derived from clean, renewable sources.
Commercial Transportation	
The regional transportation system is safe, reliable, and resilient to the current and future impacts of climate change.	**By 2030:** • All major transportation infrastructure projects are located outside of areas with known, unmitigated climate hazards. **By 2050:** • All transportation networks and infrastructure are protected from current and future impacts of climate hazard.
Commercial Buildings	
Residents and workers are protected by buildings that are resilient to high temperatures, harmful air quality, severe storms and flooding by 2050.	**By 2030:** • All new buildings utilize world-leading water conservation methods. • Metro Vancouver's most vulnerable residents and workers in the region have access to buildings with cooling and clean air during extreme heat and wildfire events. • All new buildings include cooling and air filtration adequate to protect against extreme heat and harmful outdoor air quality events. • All new buildings are constructed to be resilient to riverine, coastal and urban flooding, and extreme storms. **By 2050:** All Metro Vancouver's residents and workers have access to buildings that: • protect against extreme heat and harmful outdoor air quality events, • are resilient to riverine, coastal and urban flooding, and extreme storms, and • utilize world-leading water conservation methods.

Goals	Targets
Energy	
All regional energy infrastructure is reliable and resilient to the current and future impacts of climate change.	**By 2030:** • All energy providers have identified known, unmitigated climate hazards that could impact energy infrastructure. • All new energy infrastructure is protected from known, unmitigated climate hazards. **By 2050:** • The energy system is protected from the current and future impacts of climate change.

Strategies for Achieving Deep Emission Reductions in Industry and Business

Figure 3 shows the estimated greenhouse gas emission reductions from some of *Climate 2050* strategies addressing greenhouse gas emissions from Industry and Business. It illustrates the potential emission reduction impacts of Strategy 1 for industrial facilities and Strategy 2 for non-road equipment, as well as potential impacts of emissions reduction strategies in commercial buildings and transportation. Further work is required to estimate the impacts of the other strategies in this *Industry* and *Business Roadmap*.

FIGURE 3: POTENTIAL IMPACTS OF STRATEGIES FOR INDUSTRY AND BUSINESS [3, 4]



3 Remaining emissions include those captured by other strategies or those identified as gaps

4 Based on Metro Vancouver's *Modelling a Carbon Neutral Region* Project. Strategies in commercial buildings and commercial transportation are further discussed in the *Climate 2050 Buildings and Transportation Roadmaps*, respectively.

BIG Move **Big Moves** are foundational to achieving the 2030 and 2050 targets, and should lead to the most significant greenhouse gas reductions and/or climate resilience.

Corporate LEADERSHIP **Corporate Leadership** actions are ones Metro Vancouver will implement in its corporate operations to demonstrate leadership and support regional actions.

CAP **Clean Air Plan** actions are ones adopted within Metro Vancouver's Clean Air Plan.

POTENTIAL IMPACTS OF STRATEGIES The highest potential emission reductions due to all actions in the strategy, relative to the expected baseline emissions in 2030 and in 2050. Greenhouse gas estimates include carbon dioxide, methane and nitrous oxide.

Emission Reduction Actions for Industry and Business in other *Climate 2050 Roadmaps*

Other *Climate 2050* Roadmaps contain strategies and actions to reduce greenhouse gas emissions from Industry and Business. Below are a few examples of key actions relevant for Industry and Business from the *Climate 2050 Buildings* and *Transportation Roadmaps*, and the draft *Agriculture Roadmap* (for more information on these strategies and actions including the estimated greenhouse gas reductions, see the *Climate 2050* website.)

Climate 2050 Buildings Roadmap

- Greenhouse Gas Performance Requirements for Existing Large Buildings
- New Buildings are Highly Efficient and Electric
- New Financing Tools for Low Carbon Upgrades
- Training and Education in Zero Emissions and Resilient Buildings
- Emissions Requirements for District Energy Systems
- Incorporate Embodied Emissions into the BC Building Code
- Use Building Materials with Low Embodied Emissions.

Climate 2050 Transportation Roadmap

- Require Zero Emission Sales Targets for New Medium and Heavy Trucks
- More Stringent Low Carbon Fuel Standards
- Make Low and Zero Emission Medium and Heavy Trucks More Affordable
- Large Fleets to Adopt "ZEV-First" Procurement
- Reduce Delivery Emissions
- Support Innovation in Zero Emission Technology for Medium and Heavy Trucks
- Use Business Licenses to Support Emission Reductions
- Support Innovation in Low and Zero Emission Marine and Rail Technologies

Climate 2050 Energy Roadmap

- More Stringent Low Carbon Fuel Standards
- Implement Renewable Gas Content Requirements
- Regional Hydrogen Hub
- Phase Down Use of Thermal Coal and Petroleum Coke



Strategy 1: Accelerate emission reductions from industrial facilities

Over 1,000 industrial facilities and related commercial operations operate under Metro Vancouver permits and regulations, which have historically focused on emissions of health-harming air contaminants. These operations make cement, concrete, and forest products, refine petroleum, distribute gasoline, paint vehicles and more. There are technical and cost challenges to decarbonizing some large industrial facilities, particularly the high heat requirements needed for some manufacturing processes. Integrating greenhouse gas requirements into Metro Vancouver's permits and regulations, along with cleaner fuels and more stringent emission requirements, will help achieve the 2030 emission targets for industrial facilities.

STRATEGY 1	Potential Impacts of Strategy	Key Partners
	• Reduce annual greenhouse gases by up to 520,000 tonnes in 2030 • Reduce annual greenhouse gases by up to 2,000,000 tonnes in 2050	• Government of British Columbia • Government of Canada • Industrial facilities

1.1 More Stringent Greenhouse Gas Requirements for Large Industrial Emitters.

CAP BIG Move

Advocate to the Government of BC to implement more stringent requirements for BC-based industrial facilities with significant greenhouse gas emissions. This could include increases to or expansion of the carbon tax, as well as mandatory carbon offsets. Requirements would be supported by incentives under Action 1.3 below.

1.2 Integrate Greenhouse Gases into Emission Regulations and Permits.

CAP BIG Move

Develop and implement processes to integrate greenhouse gas reduction requirements into new emission regulations, amendments of existing emission regulations, new permits, and permit amendments. Integration would consider greenhouse gas regulations implemented by the Government of BC, as well as the benefits and tradeoffs of reducing greenhouse gases versus improving regional air quality. Integration could

include greenhouse gas emission limits and fees, and could require permitted industrial facilities to evaluate opportunities to transition to clean, renewable energy, better utilize waste heat, or to phase out the use of some fossil fuels.

1.3 Implement Renewable Gas Content Requirements.

CAP BIG Move

Advocate to the Government of BC to establish content requirements for renewable gas, in line with targets in the provincial *CleanBC* plan. Renewable gas includes renewable natural gas, which has a lower carbon intensity than natural gas from fossil fuels.

1.4 Industrial Emission Reduction Incentives.

CAP

Advocate to the Governments of Canada and BC to enhance or develop incentives for industrial facilities to reduce emissions of greenhouse gases and other air contaminants. Incentives could include rebates on carbon tax or energy efficiency upgrades, tax credits, and innovative financing mechanisms. Incentives should be based on emission reductions that meet or exceed relevant industrial emission benchmarks.

1.5 Develop Sector-Specific Regulations.

CAP

Develop and update sector-specific regulations to accelerate emission reductions from specific industrial, commercial, or business sectors that operate industrial facilities. Sectors targeted would be based on air quality and climate change impacts, emission reduction potential, emerging issues and other factors related to industrial facilities.

1.6 Provincial and Federal Industrial Emission Standards.

CAP

Advocate to the Governments of Canada and BC to continue developing stringent emission standards for industrial facilities to help improve air quality. Industrial sectors could include chemicals, petroleum refining, pipelines, shipping of bulk goods, and wood products.

1.7 Carbon Tariffs.

CAP

Advocate to the Governments of Canada and BC to establish carbon tariffs or carbon border tax adjustments for imported industrial, manufactured and agricultural goods. This will help industrial facilities and businesses in the region to compete fairly against imported goods with higher carbon content.

1.8 Regional Industrial Facilities Emissions Working Group.

CAP

Work with the Government of BC, local First Nations, regional industry, business associations, academic institutions, port terminals and other partners to explore the opportunities for establishing a regional industrial facilities emissions working group. If established, the working group would collectively identify the best opportunities to both minimize air quality impacts from industrial facilities and reduce greenhouse gas emissions from industrial facilities. The working group could help accelerate emission control innovation at industrial facilities, including supporting pilot projects.

1.9 Phase out High Global Warming Refrigerants.

CAP

Advocate to the Government of Canada to accelerate the phase out of halocarbons that have a high global warming potential, including refrigerants and blowing agents. The accelerated phase out should include coordination with technical and industry associations on certification and solutions for businesses.



ALDERGROVE

Strategy 2: Reduce non-road emissions and support early adoption of zero emission non-road equipment.

Almost 850,000 non-road equipment units are used in the region, primarily for construction and commercial operations, cargo-handling, and lawn and garden maintenance. They are a source of harmful diesel particulate matter, nitrogen oxides, and greenhouse gases. Metro Vancouver's *Non-Road Diesel Engine Emission Regulation* (and the Vancouver Fraser Port Authority's related program) are helping to manage emissions from older, higher-emitting non-road diesel engines. More stringent emission requirements for new and existing non-road engines will help achieve the 2030 non-road targets for greenhouse gases and diesel particulate matter. The Governments of Canada and BC should support development and commercialization of zero emission non-road engines, which would reduce air contaminant emissions over the long term.

STRATEGY 2	Potential Impacts of Strategy	Key Partners
	• Reduce annual greenhouse gases by up to 220,000 tonnes in 2030 • Reduce annual greenhouse gases by up to 1,800,000 tonnes in 2050	• Government of BC • Government of Canada • Vancouver Fraser Port Authority

2.1 Tighten Emissions Regulation for Non-Road Diesel Engines.

CAP BIG Move

Update Metro Vancouver's emission regulation for non-road diesel engines with more stringent requirements that could cover additional air contaminants, equipment types, fuels and engine sizes. These updates should incentivize the early adoption of zero emission non-road equipment. Any updates should be coordinated with Vancouver Fraser Port Authority to align requirements as much as possible.

2.2 Emission Standards for New Non-Road Equipment.

CAP

Advocate to the Government of Canada to establish more stringent fuel economy and emission standards for new non-road equipment. Cleaner non-road equipment standards will improve regional and local air quality and increase the availability of low and zero emission non-road equipment.

2.3 IFunding for Cleaner Non-Road Equipment.

CAP

Advocate to the Governments of Canada and BC to enhance funding (e.g., incentives, loans, tax credits) to replace or retrofit existing non-road equipment to reduce emissions, including greenhouse gases. Higher incentives should be available for zero emission equipment and if old equipment is scrapped.

2.4 Identify Infrastructure Needs for Zero Emission Non-Road Equipment.

CAP

Work with energy utilities, member jurisdictions, First Nations, the Vancouver Fraser Port Authority, industry and other regional partners to identify the regional infrastructure needs to support a long-term transition to zero emission non-road equipment. This would consider the refueling and charging needs for different types of non-road equipment, funding requirements, potential pilot projects, and should align with similar actions for passenger vehicles and medium and heavy duty trucks in the *Climate 2050 Transportation Roadmap*.

2.5 Encourage Cleaner Non-Road Equipment through Municipal Approvals.

CAP

Advocate to member jurisdictions and First Nations to implement incentives to encourage the use of low or zero emission non-road equipment for construction, film, and other industrial sectors. For example, builders and developers using cleaner non-road equipment could receive development benefits such as lower building permit fees.

2.6 Awareness Program on Zero Emission Non-Road Equipment.

CAP

Develop and implement an awareness and outreach program for residents and businesses about the benefits of zero emission non-road equipment, working with member jurisdictions, First Nations and other regional partners. The program would include regularly updated information on the availability of zero emission equipment, and guidance on "right-sizing" non-road fleets, as well as supporting regional coordination of purchases (i.e., bulk buy) to help reduce costs.

2.7 Transition Metro Vancouver's Corporate Non-Road Fleet to Zero Emissions.

Corporate LEADERSHIP

CAP

Transition Metro Vancouver's non-road fleet to zero carbon emissions by 2040, and zero emissions by 2050.



Strategy 3: Explore opportunities for technological carbon capture

Long term modelling of regional greenhouse gas emissions indicates that climate actions focusing only on reducing emissions are likely insufficient for the Metro Vancouver region to reach carbon neutrality by 2050. Additional removal of carbon dioxide from the atmosphere is expected to be necessary, to avoid the worst impacts of climate change. While natural carbon sequestration can be increased in the region, any increase is expected to have limited impact on regional greenhouse gas levels, compared to the regional greenhouse gas targets. (This is described in more detail in the *Climate 2050 Nature & Ecosystems Roadmap*.) As such, technological carbon capture will be needed. Initial research on the opportunities for these technologies in the region will support the 2030 greenhouse gas target for industrial facilities.

STRATEGY 3	Potential Impacts of Strategy	Key Partners
	• To be updated as Strategy is implemented.	• Government of BC • Businesses that operate industrial facilities • Associations representing businesses with industrial facilities • Academic Institutions

3.1 Carbon Capture in Metro Vancouver Region.

CAP

Work with industry, academia and other regional partners to explore the potential opportunities for carbon capture technologies in the region, including pilot projects and uses of captured carbon dioxide.

3.2 Develop Carbon Capture Standards.

CAP

Advocate to the Government of BC to develop technical standards for carbon capture technologies.

Strategy 4: Reduce greenhouse gas emissions through procurement and other business practices

Businesses in the region are already helping reduce greenhouse gas emissions through climate action initiatives. Additional technical support and guidance will help businesses adopt cleaner operating practices and further reduce their greenhouse gas emissions. Developing regional guidance on buying low carbon products will help reduce the embodied greenhouse gas emissions of goods and services. These steps will help achieve the 2030 regional targets to reduce greenhouse gas emissions. Key partners for this strategy include member jurisdictions, First Nations, business associations, local businesses, and the Governments of Canada and BC.

STRATEGY 4	Potential Impacts of Strategy	Key Partners
	• To be developed as Strategy is implemented.	• Member jurisdictions • First Nations • Government of BC • Industries and businesses

4.1 Regional Low Carbon Procurement.

Work with member jurisdictions, First Nations, industry and business groups, and other regional partners to develop and implement regional guidance on procurement to prioritize low carbon products, equipment and services for construction and other projects. The guidance could outline best practices, available certifications, methods for lifecycle greenhouse gas emissions calculation, circular economy considerations (e.g. disposal), greenhouse gas targets and emission disclosure requirements. Products covered by the guidance could include, for example, low carbon cement and concrete products. The guidance should align with Metro Vancouver's *Climate 2050 Buildings Roadmap* on reducing embodied emissions in buildings.

4.2 Integrate Climate Considerations into Standard Business Practices.

Advocate to the Governments of Canada and BC to integrate climate considerations into financial reporting and other standard business practices. Integration could include public disclosure of business carbon footprints and climate-related risks, as well as changes to legislation or accounting standards. These practices would push businesses and industrial facilities to prioritize management of climate risks in operations and practices.

4.3 Low Carbon Metro Vancouver Corporate Procurement.

Establish low carbon procurement guidance as a Metro Vancouver corporate standard. Products covered by the guidance could include, for example, low carbon cement and concrete products. This could demonstrate how procurement can support low carbon (and resilient) buildings, infrastructure and services. Metro Vancouver will explore opportunities to collaborate with its suppliers on low-carbon innovation and measures to help prioritize low carbon products.

Strategies for Climate Resilient Industry and Business

Climate Resilience Actions for Industry and Business in other *Climate 2050 Roadmaps*

Below are examples of key climate resilience actions relevant for Industry and Business from the *Climate 2050 Buildings, Transportation* and *Energy Roadmaps* (for more information on the strategies and actions in these roadmaps including the estimated greenhouse gas reductions, see the *Climate 2050* website)

Climate 2050 Buildings Roadmap

- Require Cooling Measures in New Buildings and Major Retrofits
- Apply Leading Standards for Ventilation and Filtration in New Buildings

Climate 2050 Transportation Roadmap

- Protect Key Transportation Hubs
- Minimize Risk Exposure for New Transportation Infrastructure
- Build Climate Resilient Transportation Infrastructure

Climate 2050 Energy Roadmap

- Comprehensive Climate Risk and Vulnerability Assessment
- Pilot Innovative Renewable Energy + Storage Systems to Improve Resiliency



PORT OF VANCOUVER

Strategy 5: Assess climate vulnerabilities for businesses in the region

To increase regional climate resilience, we need a deeper understanding of the projected climate impacts that the region will experience, and an understanding of how different types of businesses could be affected. Metro Vancouver can work with partners to conduct an assessment of the climate change risks and vulnerabilities to the region including risks to specific industry and business sectors, and communicate those risks to support resilience planning.

5.1 Assess Regional Climate Risks and Vulnerability to Support Business Decision-making.

BIG Move

Work with the Province of BC, industry and business, and other relevant stakeholders to conduct a regional vulnerability assessment to identify climate-related hazards and risks faced by industries and businesses in the region.

5.2 Identify Climate Vulnerability by Clusters with Industry and Business Sectors.

Work with industry associations and other regional partners to identify "industry clusters" with similar and linked climate vulnerabilities and impacts, including vulnerabilities that can affect the industry's value chain (both upstream and downstream of the sector). Metro Vancouver will explore opportunities to build and support climate resilience specific to key industry clusters in the region, for example through sharing of information on projected climate impacts.

Strategy 6: Support industry and business resilience to flooding through better information and planning

The Metro Vancouver region is expected to experience increased flooding due to climate change, and industrial and commercial land can be particularly vulnerable to large flood events. Businesses may also be susceptible to urban flooding caused by extreme precipitation events that overwhelm drainage systems. Addressing the increased risk of flooding to industry and business will require better information on expected changes in precipitation and the annual freshet, as well as other climatic changes. Businesses and governments can use this information to locate businesses in less vulnerable areas, implement flood protection measures, like diking and building design, and prepare response plans for flood events. Reducing the flood risk to individual and groups of businesses will reduce the overall risk that flooding poses to the region.

6.1 Support Knowledge-Sharing to Increase Resilience to Severe Storms and Flooding.

Work with regional partners (e.g. Fraser Basin Council, member jurisdictions, First Nations, and others) to increase industry and business awareness of flood risk and vulnerabilities due to climate change, and to work with industrial and commercial businesses to develop strategies and policy solutions that can increase industry and business climate resilience.

Getting Down to Business
Flood Risk Management at the Port of Vancouver: A Collaborative Effort

The Vancouver Fraser Port Authority, which oversees the lands and waters that make up Canada's largest port, the Port of Vancouver, has collaborated with local municipalities (the City of North Vancouver, Districts of North and West Vancouver) and the Squamish First Nation to conduct a coordinated sea level rise risk study for the Burrard Inlet's north shore, and is also a participant in a regional flood management strategy. The Port Authority also engages tenants (e.g., shipping industry), government and supply chain partners to improve understanding of climate risk and coordination of adaptation planning.

6.2 Coordinate Flood Protection and Flood Risk Management for Industrial Lands.

Work with regional partners (e.g., the Fraser Basin Council, member jurisdictions, First Nations, and others) to coordinate flood protection and flood risk management activities for industrial lands in the region, informed by the results of a regional climate vulnerability assessment and to consider the development and implementation of green infrastructure solutions that can minimize site-level flooding risks to industrial and commercial lands.



Flood Risk to Industrial Lands

Industrial land is critical to the regional, provincial, and national economies, and some of these lands are also vulnerable to flooding risks. Industrial lands accommodate many sectors such as manufacturing, transportation, warehousing, and wholesale that serve the region's needs, as well as goods transportation associated with port and rail facilities located along waterways.

Metro Vancouver's Regional Industrial Lands Strategy (RILS) was developed through a collaborative process to establish a vision and identify priority actions for the future of industrial lands in the region. The recommended actions of RILS recognize that industrial lands are crucial to supporting a prosperous, sustainable regional economy, and to providing space to accommodate the industrial services and jobs needed in our growing region. It identifies several challenges facing Metro Vancouver's industrial lands, including the limited industrial land supply, some of which is being lost through conversion to residential and commercial land-uses.

Another challenge is that some industrial lands are exposed to the impacts of climate change, such as from flooding. In addition to the ongoing implementation of the recommended actions of RILS, Metro 2050, Metro Vancouver's regional growth strategy includes policies to protect and intensify industrial lands, as well as the *Climate 2050 Land Use and Urban Form Roadmap*, identify key land use planning considerations from a climate mitigation and adaptation perspective. As the region's industrial lands are redeveloped, they can be densified and intensified to more efficiently use the limited lands available, with the consideration of resilience. Additionally, directing commercial activities and jobs to denser Urban Centres better supports transit-oriented development and helps protect industrial lands.



DROUGHT CONDITIONS WITH WILDFIRE SMOKE, LIONS GATE BRIDGE

Strategy 7: Improve business resilience to extreme heat and air quality events

The increased frequency and severity of extreme heat in recent years has directly and indirectly impacted business operations and supply chains in the region. High levels of ground level ozone and particulate matter from heat and wildfires have made working outside harmful to the health of workers or caused disruptions to the movement of goods. Preparing for extreme heat and air quality events will be important for businesses to protect worker health and well-being, as well as ensuring the continuity of business operations.

7.1 Support Employers in Developing Response Plans for Extreme Heat and Air Quality Events.

Work with the Province of BC, health authorities, workers safety authority, businesses, labour unions and other partners to ensure employers and workers have relevant information to prepare response plans for extreme heat and air quality events aimed at protecting the health and well-being of workers, ensuring continuity of business operations, and increasing resilience of supply chains.



KING TIDES, WEST VANCOUVER

Strategy 8: Support industrial water conservation to increase resilience to shifting precipitation patterns

Climate projections in our region have identified an increase in extreme weather events like heatwaves and droughts, which will impact the region's ability to supply high-quality water to industries and businesses. Water is a resource that businesses rely on for their operations. With an increase in pressure on resources, industries and businesses will need to identify opportunities for resource efficiency and to reduce demand on supply.

A One Water Approach is where water and wastewater utilities shift away from the traditionally separated silos of drinking water, wastewater, and stormwater, towards an integrated systems approach. This is based on the fundamental concept that all water systems are interconnected and opportunities exist to leverage the interconnections of our water resources.

8.1 Apply Leading Water Efficiency Standards to Industry.

Advocate for highest water efficiency in standards for potable water use for industrial and commercial applications. Ongoing updates to strengthen standards for water efficiency in buildings should reflect the continuous improvement in technologies and practices for construction and plumbing.

8.2 Promote Water Efficiency Retrofit Incentives and Rebates for Industries and Businesses.

Advocate to municipalities and the BC government for water efficiency retrofit incentives and rebates for industries and businesses to facilitate the uptake of water efficient practice. The upfront cost is a barrier for implementation for new systems such as the removal of once through cooling, as well as process improvements like increasing the efficiency of cooling towers. Incentives can increase the feasibility of these and other changes.

Setting the Path Ahead

The "Setting the Path Ahead" section will eventually be found on Metro Vancouver's *Climate 2050* webpages under "Industry and Business", and will serve as a companion to the Industry and Business Roadmap. This will allow Metro Vancouver to track progress towards targets, and add and adjust strategies and actions in response to performance measurement.

The path towards a carbon neutral, resilient region provides an opportunity for a prosperous and sustainable region. There is strong potential and a critical need to achieve significant greenhouse gas emissions reductions among industry and business activities in the region over the next three decades. Reaching success in this will require careful coordination and alignment in climate policies between governments, as well as widespread adoption of zero emission equipment. Increased support for industries and businesses will be needed to advance carbon capture, utilization, and storage technologies – helping these technologies to evolve from research and development to broad commercialization. Increased awareness about the opportunities and benefits of a low carbon economy, powered by clean, renewable energy will help transition towards deep greenhouse gas reduction.

Investments in private and public infrastructure also underpin industry and business climate resilience. Identifying climate risks and vulnerabilities for businesses will better inform business decision-making. Knowledge sharing and better planning will make it easier for businesses in region to respond to the impacts of climate change and make the shift towards a decarbonized future.

The timeline below includes all of the actions included in this Roadmap. Although there is much work to be done, there are a few critical actions that, if started over the next few years, will make a major difference to accelerating the region's drive to a carbon neutral and resilient industry.

CLIMATE 2050 INDUSTRY AND BUSINESS ACTION TIMELINE

STRATEGY	2021-2023	2024-2029	2030-BEYOND
STRATEGY 1 Accelerate Emissions Reductions from Industrial Facilities	1.1 BIG MOVE: More Stringent Greenhouse Gas Requirements for Large Industrial Emitters		
	1.2 BIG MOVE: Integrate Greenhouse Gases into Emission Regulations and Permits		
	1.3 BIG MOVE: Implement Renewable Gas Content Requirements		
	1.4 Industrial Emission Reduction Incentives		
	1.5 Develop Sector-Specific Regulations		
		1.6 Provincial and Federal Industrial Emission Standards	
	1.7 Carbon Tariffs or Carbon Border Tax Adjustments		
	1.8 Regional Industrial Emissions Working Group		
		1.9 Phase out High Global Warming Refrigerants	
STRATEGY 2 Reduce Non-Road Emissions and Support Early Adoption of Zero Emission Non-Road Equipment.	2.1 BIG MOVE: Tighten Emissions Regulation for Non-Road Diesel Engines		
	2.2 Emission Standards for New Non-Road Equipment		
	2.3 Funding for Cleaner Non-Road Equipment		
		2.4 Identify Infrastructure Needs for Zero Emission Non-Road Equipment	
		2.5 Encourage Cleaner Non-Road Equipment through Municipal Approvals	
		2.6 Awareness Program on Zero Emission Non-Road Equipment	
	2.7 Transition Corporate Non-Road Fleet to Zero Emissions		
STRATEGY 3 Explore Opportunities for Technological Carbon Capture	3.1 Carbon Capture in Metro Vancouver Region		
		3.2 Develop Carbon Capture Standards	
STRATEGY 4 Reduce Emissions through Procurement and other Business Practices		4.1 BIG MOVE: Regional Low Carbon Procurement	
		4.2 Integrate Climate Considerations into Standard Business Practices	
	4.3 Corporate Low Carbon Procurement		
STRATEGY 5 Assess Climate Vulnerabilities for Businesses in the Region	5.1 BIG MOVE: Assess Regional Climate Risks and Vulnerability to Support Business Decision-making		
	5.2 Identify Climate Vulnerability by Clusters with Industry and Business Sectors		
STRATEGY 6 Support the Resilience of Industrial Lands through Better Planning		6.1 Support Knowledge-Sharing to Increase Resilience to Severe Storms and Flooding	
		6.2 Coordinate Flood Protection and Flood Risk Management for Industrial Lands.	
STRATEGY 7 Improve Business Resilience to Extreme Heat and Air Quality Events		7.1 Support Employers in Developing Response Plans for Extreme Heat and Air Quality Events.	
STRATEGY 8 Support Industrial Water Conservation to Increase Resilience to Shifting Precipitation Patterns		8.1 Apply Leading Water Efficiency Standards to Industry	
		8.2 Promote Water Efficiency Retrofit Incentives and Rebates for Industries and Businesses.	

Measuring Progress

The table below lists examples of some of the performance indicators that could be used to help Metro Vancouver measure regional progress towards meeting the targets set out for this purpose. The performance indicators used will depend on the availability of this information from other organizations. Because the Industry and Business Roadmap is calling for actions from many different partners and stakeholders, data sharing will be foundational to understanding the pace of progress towards our common goals, and will help governments to continue to shape equitable and cost-effective pathways to a carbon neutral and resilient future.

ROADMAP ELEMENT	KEY PERFORMANCE INDICATOR	DATA SOURCE	DATA IS CURRENTLY COLLECTED
Accelerate Emission Reductions from Industrial Facilities	tCO_2e attributed to the industrial sector	Regional GHG inventory Province	Yes
	Energy source breakdown for industrial facilities (GJ)	Permits, BC Hydro, Fortis BC	Partial
	tCO2e from energy use at industrial facilities	Permits, BC Hydro, Fortis BC	Partial
	Number of industrial facilities with a demand-side management plan or environmental management system	TBD	TBD
	GHG intensity for industrial facilities	TBD	TBD
Reduce Non-Road Emissions and Support Early Adoption of Zero Emission Non-Road Equipment.	Sale of low- and zero emission non-road equipment including electric, hybrid, hydrogen (number of new equipment sales, % of total sales)	Federal Province Market research firms	Partial
	Regional equipment registration by model year, engine tier and fuel type [fossil diesel, fossil gas, biofuels, electricity, hydrogen (Gigajoules, GJ)]	Metro Vancouver – Non Road Diesel Engine Emission Regulation Port of Vancouver	Partial
	Operational hours by equipment model year, size, engine type (hours)	Metro Vancouver- Non Road Diesel Engine Emission Regulation Port of Vancouver	Partial

ROADMAP ELEMENT	KEY PERFORMANCE INDICATOR	DATA SOURCE	DATA IS CURRENTLY COLLECTED
Reduce Non-Road Emissions and Support Early Adoption of Zero Emission Non-Road Equipment.	Percentage breakdown of registered fleet compared to estimated total regional fleet.	ICBC Metro Vancouver – NRDEE Metro Vancouver BC Hydro Province	Partial
	Regional equipment mix by engine type	ICBC Metro Vancouver – NRDEE	No
Explore Opportunities for Technological Carbon Capture	TBD	TBD	TBD
Reduce Emissions through Procurement and other Business Practices	Number of Metro Vancouver member jurisdiction and First Nations that require product information (e.g., Environmental Product Declarations) in their procurement	TBD	TBD
	Number of companies certified as B corporation in the Metro Vancouver region	TBD	TBD
Assess climate vulnerabilities for businesses in the region	Number of Metro Vancouver member jurisdictions and First Nations that have completed a vulnerability assessment	TBD	TBD
Support the resilience of industrial lands through better planning	TBD	TBD	TBD
Improve Business Resilience to Extreme Heat and Air Quality Events	TBD	TBD	TBD
Support industrial water conservation to increase resilience to shifting precipitation patterns	TBD	TBD	TBD

Glossary

Biofuels are produced using organic matter derived from biomass such as plants. Biofuels can be gaseous, liquid, or solid. Common biofuels include biodiesel, renewable diesel, ethanol, renewable natural gas, firewood, and wood pellets.

Carbon leakage refers to the situation that may occur if, for reasons of cost related to climate policies that aim to reduce emissions within a region, facilities or businesses transfer production to and increase emissions in other jurisdictions where carbon policy is either less ambitious or does not exist. This can lead to a net increase in global emissions.

Carbon neutral region means that the region generates no net greenhouse gas emissions. This is achieved through the deepest greenhouse gas emissions reductions possible across all economic sectors, and any remaining emissions are balanced out by the carbon dioxide that the plants, trees, and soil of the region remove from the atmosphere, or potentially through technological means.

Carbon capture, utilization, and storage (also CCUS) refer to different technological process that involves capturing carbon dioxide emissions from industrial facilities, or directly from the atmosphere. Captured carbon dioxide is then compressed and transported, to be utilized or to be safely and permanently stored.

Carbon sequestration is the removal of carbon dioxide from the air and the long-term storage of carbon to mitigate climate change.

Circular economy is an economy where the value of products is retained after their initial use through reuse, repair and remanufacturing. Keeping products functioning at their highest potential reduces embodied emissions and reduces emissions associated with waste management. Transitioning to a circular economy will gradually decouple economic activity from the consumption of finite resources by designing waste out of the system and helping to regenerate natural systems.

Clean, renewable energy is derived from sources with low or zero emissions or from sources that can be replenished over days or years.

Climate change adaptation means anticipating, planning for and responding to the adverse effects of climate change and taking appropriate action to prevent or minimize the damage it can cause, or taking advantage of opportunities that may arise. It has been shown that well-planned, early adaptation action saves money and lives later.

Climate resilience describes the capacity of ecosystems, infrastructure, economies, and communities to absorb the impacts of climate change while maintaining essential services and functions needed to support health and well-being. In some cases, climate resilience involves changing services and functions so they are more sustainable.

Decarbonization (Decarbonize) refers to the removal of carbon dioxide or greenhouse gases from a system or process.

Diesel particulate matter (DPM) is a form of fine particulate matter from diesel engines that is classified as carcinogenic.

Economy is the system of a country or region, typically involving the production and consumption of goods and services.

Embodied emissions are greenhouse gas emissions associated with the manufacture of goods and products, including the raw materials and the transport of the good or product to where it is sold.

Fine particulate matter ($PM_{2.5}$) is made up of tiny solid or liquid particles that float in the air and can penetrate deep into the lungs and even into the bloodstream. Fine particulate matter can damage people's health by aggravating existing lung and heart diseases, increasing the risk of cancer and reducing life expectancy.

Global Warming Potential refers to the ability of a greenhouse gas to trap heat into the atmosphere over a specific period of time (usually 100 years). In other words, how many kilograms of carbon dioxide released into the atmosphere would it take to equal a single kilogram of the refrigerant gas, if released. Some of the most common refrigerants used in heat pumps today can have GWPs that exceed 750 (e.g., R410a, R407c and R134a).

Greenhouse gases are air contaminants that trap heat and are the cause of climate change. Greenhouse gases include carbon dioxide (CO2) and nitrous oxide (N2O) as well as short-lived climate forcers such as methane (CH4), halocarbons, black carbon and ozone. Limiting or preventing greenhouse gas emissions and removing these gases from the atmosphere is critical to avoiding catastrophic climate change (sometimes referred to as "climate change mitigation").

Ground-level ozone (O_3) can have harmful impacts on everyone, especially children, the elderly, and people with lung and heart conditions. It is primarily formed when nitrogen oxides and volatile organic compounds react in the air on hot and sunny days.

Hazard refers to a dangerous phenomenon, substance, human activity, or condition. In this context, hazards are caused or made worse by climate change. Examples include rainstorms, extreme weather, wildfires, storm surges, landslides and floods.

Health-harming air contaminants are air contaminants that can harm public health and reduce residents' quality of life and life expectancy by causing heart and lung diseases, cancer, asthma, and other impacts. Health-harming air contaminants include fine and coarse particulate matter, diesel particulate matter, ground-level ozone, nitrogen dioxide, sulphur dioxide, volatile organic compounds and ammonia.

Industry refers to any group of businesses that produces or distributes a common set of goods or services. For example, the Construction industry includes businesses involved in constructing, renovating and repairing structures, and those working on engineering and infrastructure projects. Other examples include Trade, Transportation and Warehousing, which are associated with distribution and logistics functions, and Manufacturing where businesses transform materials or substances into products.

Impacts refers to the consequences of realized risks on ecosystems, economies, infrastructure and communities. Impacts may be referred to as consequences or outcomes, and can be adverse or beneficial.

Lifecycle greenhouse gas emissions refers to greenhouse gases associated with the production and use of a material or energy source, from feedstock extraction, raw materials processing, transportation to end-use. For example, lifecycle emissions of gasoline would span all emissions associated from extraction of oil from the ground till combustion in a vehicle.

Nitrogen oxides (NO_x) are a group of gases, which includes nitrogen dioxide, that are produced during high-temperature fuel combustion, and can contribute to the formation of ground-level ozone and fine particulate matter.

Non-road equipment is any machine with an internal combustion engine that is not used or intended for transportation on public roads. Examples include stationary or mobile equipment such as loaders, cranes, generators, tractors, and lawn mowers.

Renewable diesel is also made from vegetable oils and animal fats, but using a different process that makes the end fuel nearly identical to regular diesel. It can be used directly in conventional diesel engines without requiring engine modifications.

Renewable gas is gas produced from renewable resources. This primarily includes green hydrogen, waste hydrogen, and renewable natural gas.

Renewable natural gas is a gaseous biofuel that is mostly composed of methane; it is produced primarily from anaerobic digestion of organic feedstock (such as food, agricultural, and forestry waste).

Sector is a group of industries that produces related goods or provides services.

Supply chain refers to the relationship between a company and its suppliers, including the steps taken from raw materials to getting the product or service to the customer, all aimed for overall customer satisfaction. Supply chains focus primarily on reducing costs and attaining operational excellence.

Value chain refers to a process in which a company adds value to its raw materials to produce products eventually sold to consumers. The value chain gives companies the ability to create value exceeding the cost of providing its good or service to customers – a competitive advantage in the industry, which requires alignment between what the customer wants, i.e., the demand chain, and what is produced via the supply chain.

Vulnerability is the degree to which ecosystems, economies, infrastructure and communities are susceptible to, or unable to cope with, the adverse effects of climate change. Vulnerability varies based on exposure, sensitivity and adaptive capacity. Geographic location, socio-economic conditions, and other factors can impact susceptibility to harm and adaptive capacity.

Vulnerability assessments identify areas or populations most likely to be impacted by projected changes in climate and build an understanding of why these areas are vulnerable, including the interaction between climate change, non-climatic stressors and cumulative impacts. Assessments evaluate the effectiveness of previous coping strategies and target potential adaptation measures.

Zero carbon or **zero carbon** emissions are emissions that generate no net greenhouse gas emissions at the point of use. A zero carbon fuel source either produces no greenhouse gas emissions or any greenhouse gas emissions produced are offset by renewable energy (either generated on-site or purchased).

Zero emission means no greenhouse gas or other air contaminants are generated at the point of use. Zero emission includes zero carbon (see above), and also eliminates emissions of health-harming air contaminants (e.g., fine particulate matter and nitrogen oxides).


metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION



Climate 2050 Industry and Business Roadmap

ACCELERATING THE TRANSITION TO CARBON NEUTRALITY AND CLIMATE RESILIENCE

Sheryl Cumming

Senior Project Engineer, Air Quality and Climate Change

Climate Action Committee | May 11th, 2023

metrovancouver

VISION

Our vision is for a thriving, diverse region with carbon neutral and climate resilient Industry and Business



GOALS AND TARGETS

Emissions Reduction

CAP

Industry and Business is carbon neutral by 2050

- By 2030: 35% reduction in greenhouse gases from industrial facilities
- By 2050: All industrial facilities are carbon neutral

CAP

All non-road equipment operating within the region use zero emission technologies powered by clean, renewable energy.

- By 2030: 35% reduction in greenhouse gases from non-road equipment
- By 2050: 100% reduction in greenhouse gas emissions

Climate Resilience

The region's industries and businesses are resilient to the current and future impacts of climate change.

- By 2030: All industrial facilities have identified existing, unmitigated climate hazards that could impact their operations and supply chains.
- By 2050: All industries and businesses are resilient to current and future impacts of climate hazards

STRATEGIES

Emissions Reduction

CAP BIG Move 1) Accelerate Emissions Reduction from Industrial Facilities

CAP BIG Move 2) Reduce non-road emissions and support early adoption of zero emission non-road equipment

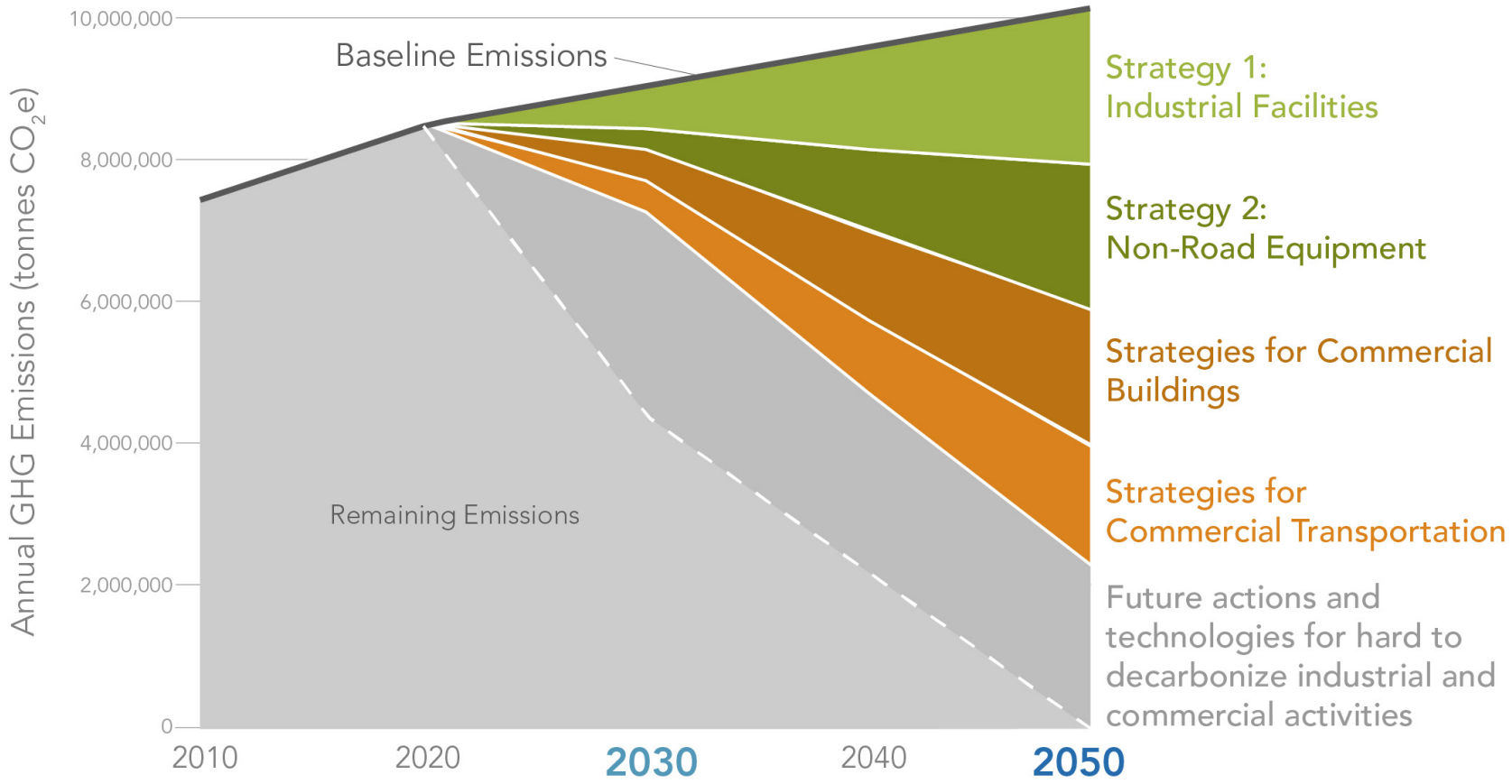
CAP 3) Explore opportunities for technological carbon capture

CAP 4) Reduce greenhouse gas emissions through procurement and other business practices



POTENTIAL IMPACTS OF STRATEGIES

Industry and Business Activities





STRATEGIES

Climate Resilience

BIG Move

5) Assess climate vulnerabilities for businesses in the region

6) Support industry and business resilience to flooding through better information and planning

7) Improve business resilience to extreme heat and air quality events

8) Support industrial water conservation to increase resilience to shifting precipitation patterns

2022 ENGAGEMENT FEEDBACK

- Key partners for implementation
  (e.g. labour unions, worker safety authority)
- Links to nature-based solutions and green infrastructure
- Invest Vancouver's links to the region's industry and business (e.g. clean tech, renewable energy, and clean transportation)
- Support workforce transition



ROADMAP IMPLEMENTATION

- Accelerate action on Big Moves
- Consider costs and equity during implementation
- Report on annual progress
- Respond to significant policy, technology, and social shifts
- Advance partnerships to move all actions forward



Feedback and Questions

metrovancouver
Together we make our region strong

To: Regional Planning Committee

From: Eric Aderneck, Senior Planner, Regional Planning and Housing Services

Date: April 6, 2023 Meeting Date: May 12, 2023

Subject: **Office Development in Metro Vancouver - 2022 Inventory and Report**

RECOMMENDATION

That the MVRD Board receive for information the report dated April 6, 2023, titled "Office Development in Metro Vancouver - 2022 Inventory and Report".

EXECUTIVE SUMMARY

Actions to encourage office development in the region's Urban Centres and areas well-served by transit is a key element of *Metro 2050*, the Regional Growth Strategy. In support of the growth management program, Regional Planning has prepared the Office Development in Metro Vancouver - 2022 Inventory and Report.

The report includes an analysis of the office building inventory at the end of 2022, results from a review of relevant publications and in-depth interviews with key industry participants, a profile of factors that influence office development and occupancy decisions, along with actions for Metro Vancouver, member jurisdictions, developers, and other organizations that would encourage office development in Urban Centres. Priority actions include: streamlining the development process; encourage, but do not mandate, office components; allow general rather than overly specific office use types; simplify the permitting process for interior renovations; explore municipal incentives and reduce barriers for office development; and further research.

PURPOSE

To provide the Regional Planning Committee and the MVRD Board with the Office Development in Metro Vancouver - 2022 Inventory and Report for information.

BACKGROUND

The Office Development in Metro Vancouver – 2022 Inventory and Report (Attachment 1: Executive Summary, and Attachment 2: Report) is an update to the previous report completed in 2018 (Reference 1). It documents and analyzes the amount of office space in the region, explores the factors that influence office development and occupancy decisions, identifies key issues and trends affecting office space in general, and identifies challenges and opportunities for office potential in the region's Urban Centres.

METRO VANCOUVER CONTEXT AND URBAN CENTRE POLICY

The Metro Vancouver region is forecasted to grow by approximately one million people and close to five hundred thousand jobs by the year 2050. To protect the region's ability to attract investment and jobs, *Metro 2050* establishes regional land use designations and overlays. Office and

commercial uses are encouraged to locate in Urban Centres and Frequent Transit Development Areas (Reference 2), generally located on lands with a "General Urban" regional land use designation.

The 26 Urban Centres in *Metro 2050* are intended as priority locations for transit-oriented employment and services, higher density forms of housing, commercial, cultural, entertainment, institutional, and mixed-uses. Urban Centres emphasize place-making with an enriched public realm where transit, cycling, and walking are the preferred modes of transportation. The regional policy direction also supports this objective by discouraging office development outside of Urban Centre locations, such as in suburban office parks, which can have negative impacts on land use and transportation patterns for the region and encourage urban sprawl.

Focusing office development in Urban Centres benefits the regional transportation system and livability in a number of ways: by supporting the development of complete, mixed-use, and walkable communities, reducing vehicle commutes and employee transportation costs, protecting lands for other uses, complementing commercial and residential land uses, and increasing the vibrancy and success of the region's Urban Centres.

OFFICE REPORT CONTENT

The 2022 Report documents and analyzes the amount of office space in the region, along with factors, trends, challenges, and opportunities for office potential in Metro Vancouver's Urban Centres, to better inform government plans and policies with respect to office development.

Although the COVID-19 pandemic has had a significant impact and disruption on office occupancy and the office market (Reference 3), the 2022 Report looks beyond the pandemic to longer term implications and considerations.

Methodology and Key Questions

Metro Vancouver first compiled an office building inventory for the region in 2012, and it was subsequently updated in 2015, 2018, and most recently in 2022[1]. The inventory[2] database used in the report is a compilation of a regional office building inventory from multiple sources, including BC Assessment Authority records, municipal records, and commercial brokerage firms.

The report was also informed by a review of relevant publications and 24 in-depth interviews with key industry participants, including investors, developers, brokers, and municipal planning and economic staff. The key research questions explored in the report are:

- What are the regional directions and trends for office development location?
- What are the benefits of locating office space within Urban Centres?
- What are the problems with locating office space outside of Urban Centres?
- How are office market trends evolving?
- What tools do governments have to support office development in Urban Centres?

[1] Note that this report and associated inventory statistics should replace previous reports, as the inventory has been refined with every subsequent edition.

[2] Office Building Inventory includes all buildings in the region with a minimum 10,000 sq ft of office space.

Office Inventory Results and Summary of Key Findings

Based on the comprehensive inventory, at the end of 2022 there was approximately 78 million sq ft of office space in the region located within 1,338 buildings. In summary:

- Approximately half (47% of buildings and 55% of floor space) of the office inventory was located in Vancouver / UBC, with other notable sub-regions being Burnaby / New Westminster (at 16% and 17% respectively), Surrey / White Rock (14% and 12%), and Richmond (7% and 6%).
- Over three-quarters (77%) of the office inventory was located on lands regionally designated "General Urban", which is intended to accommodate a wide variety of land uses. Of the balance, 20% was located on "Employment" lands which can accommodate various commercial uses, and 3% on "Industrial" lands.
- Of the office inventory in Urban Centres, 69% was located in the Metro Core (downtown Vancouver and the Broadway Corridor), 16% in Regional City Centres, 9% in Municipal Town Centres, and 6% in the Surrey Metro Centre. The balance, 22.6 million sq ft, was not located in Urban Centres.
- Relative to the Frequent Transit Network (FTN), 51 million sq ft (65%) of office space was located within 800 metres (10-minute walk) of a rapid transit station, and 18.8 million sq ft (24%) was located within 400 metres (5-minute walk) of FTN bus only. The balance, 8.4 million sq ft (11%) of office space, was located beyond the FTN service area.
- Of the inventory not within Urban Centres (22.6 million sq ft), 21% was within 800 metres of rapid transit service and 46% was within 400 metres of FTN bus only.
- Of the total inventory, 7.6 million sq ft (10%) was neither in an Urban Centre nor near FTN transit (either bus or SkyTrain).

Market Conditions and Developments

- Prior to the COVID-19 pandemic starting in early 2020, the region's office market was very strong with low vacancy rates and increasing lease rates, spurring considerable new major office developments, especially in downtown Vancouver.
- There was significant growth in the tech sector, with large companies occupying large blocks of office space and seeking premium accommodations and amenities found in the Metro Core.
- Although there are a number of large high-profile office projects coming to market, there are also many smaller or mid-sized office buildings. These buildings serve local areas and may be located throughout the region, and not necessarily in Urban Centres or near transit. Demand is limited in smaller Urban Centres with less accessibility and lower levels of transit service.
- More recently, due to the COVID-19 pandemic and associated rapid growth in remote working, the amount of office space needed, its utilization, and design have been greatly impacted. The long-term implications of this on office space demand are not yet known.
- Some market observers expect that with reduced office-type employment activity occurring at the office, the need for additional office space will be reduced. In terms of supply, real estate development has a long lead time, thereby making it difficult for developers to immediately respond to market signals. In terms of demand, the size of the labour force and the proportion that work at the office may change depending on the economy and unemployment rates.

Tenant Preferences

- Office tenants increasingly prioritize accessibility to rapid transit service and urban amenities, and developers are responding accordingly, which is a change from the more suburban development patterns of earlier decades.
- Not all tenants wish to locate in Urban Centres, as some businesses prioritize highway access or other features, including lower costs.
- Some tenants may prefer an architecturally unique and high-profile building; however, these buildings can be less efficient and cost more. Some businesses seek a high prestige central business district office location (i.e. downtown Vancouver) and are able and willing to pay the premium. Proximity to urban amenities is strongly desired by tech tenants.

Trends

- There was significant growth in co-working facilities prior to the pandemic, namely WeWork and Regus / Spaces, that provide spaces and services to a range of tenant types, responding to the increased desire for flexibility by business occupants.
- There has been an apparent increase of strata development projects, rather than conventional lease rental tenure. From a development perspective, strata values can drive up residual land prices to the point where non-strata / lease development is no longer financially viable. That noted, the extent of strata development is limited, and some of that space is ultimately leased.
- There was a trend towards open concept office design to encourage collaboration and achieve space efficiencies. Due to the COVID-19 pandemic being a communicable disease and the increase in remote working and online meetings, desired office space designs are changing.

Office Tenant and Developer Considerations

Office tenants are not all the same and variation is observed in business types, accommodation needs, and local characteristics. Some tenants require locations in downtown Vancouver, some serve their local community, and others prefer a business park environment. Some accommodation criteria include: business objectives, space design, amenities, financial, and access.

There are many factors that can impact the development viability of sites and the potential for an office component, including: rent rates, site availability, land costs, construction costs, municipal approvals, and application process costs. The market is the main driver for office building viability. If demand is weak, there will be limited new office space developed.

Office development and associated investment decisions are complex, capital intensive, and high risk and include consideration of costs, revenues, and municipal approvals. Government policies and economic development initiatives can influence office development decisions, but the participation by all stakeholders is required to achieve success.

Office Development from a Municipal Perspective

Office development provides space for businesses, which helps to advance municipal objectives such as growing the economy and employment, reducing commuting distances, creating complete communities, and complementing local amenities. Municipal governments, through economic

development and planning efforts, can encourage and regulate development in their communities, including directing office development to Urban Centre locations.

Government policies, such as fiscal tools and density bonusing, may have an impact, although minor, on influencing office development decisions in the face of market demand. The regional office market grows incrementally. Downtown Vancouver is a unique sub-market which has seen some notable new projects, while there has also been some new office development in other Urban Centres throughout the region.

ACTIONS TO SUPPORT OFFICE IN URBAN CENTRES

The report identifies a range of considerations for Metro Vancouver, member jurisdictions and the development community to support office development in Urban Centres. The issues most consistently expressed by interviewees and supported by research are set out below.

Actions for Member Jurisdictions

Of the identified actions in the report that guide ongoing efforts that encourage office development in Urban Centres, the following relate to member jurisdictions:

- *Development Approval Process* - Streamline the development review / approval process, reduce the uncertainties and risks, and manage municipal charges / fees.
- *Land Use Planning* - Encourage, but do not mandate, mixed-use projects with office components; rather, allow market demand to inform the supply of office development in specific locations.
- *Zoning Definition* - Allow general office uses, rather than overly specific / limiting types of office business uses. This would improve tenanting flexibility and decrease landlord risk.
- *Tenant Permits* - Shorten and simplify the permitting process for basic interior improvements / renovations needed when new office tenants occupy a premise and operate a business.
- *Municipal Incentives* - Explore financial or regulatory incentives to encourage office development, and reduce policy and regulatory barriers.
- *Research* - Undertake further relevant research and case studies / best practices / innovation profiles into topics such as integrating office space into mixed-use or multi-use projects, and also identify where office components may or may not be warranted.

Actions for Metro Vancouver

Of the identified actions in the report, the ones pertaining specifically to Metro Vancouver include:

- Advance and implement *Metro 2050* and Regional Context Statements with supportive municipal plans and policies that direct investment, jobs, and development to Urban Centres and secondarily to FTDAs.
- Restrict significant office development in out-of-centre locations.
- Work with municipalities, other agencies, and the development community to consider possible refinements to regional policies to best support the goal of attracting and retaining office development in Urban Centres.

- Promote the importance of business and office space in the region as part of a healthy economy supporting prosperity in the form of investment, employment, and taxation.
- Document and share regional economic issues and explore advancing initiatives that support economic and employment growth, including office-based businesses, and promote the region as a destination for investment. This can include encouraging efforts by municipalities and the province to attract and retain businesses to the region and office space to Urban Centres through an environment that is conducive to business investment and growth.
- Collect and promote case studies and best practices about ways municipalities and developers can encourage and support office growth in Urban Centres.
- Work with Invest Vancouver, and stakeholders to explore preparing a regional economic strategy and advancing initiatives that support economic and employment growth in the region, including efforts to retain large businesses and grow smaller businesses, and promote the region as a destination for investment.

Next Steps
This report was presented to the Regional Planning Advisory Committee at its meeting on April 6, 2023. Committee members were very interested in the report content and findings, and requested the office building inventory data be made available to inform their local planning efforts. Once the report is advanced to the MVRD Board, it will be posted on the Metro Vancouver website, shared with interested parties, and the data posted on the Metro Vancouver open data portal.

ALTERNATIVES
This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS
There are no financial implications associated with this report. Completion of the Office Development in Metro Vancouver – 2022 Inventory and Report was undertaken in-house by staff and within the Board approved 2022-2023 Regional Planning Budget.

CONCLUSION
The Office Development in Metro Vancouver - 2022 Inventory and Report is an update to the previous report completed in 2018. In support of the growth management program, it documents and analyzes the amount of office space in the region, along with factors, trends, challenges, and opportunities for office potential in the region's Urban Centres, as a means to better inform government plans, policies, and decision making with respect to office development.

Attachments
1. Office Development in Metro Vancouver - 2022 Inventory and Report Executive Summary
2. Office Development in Metro Vancouver - 2022 Inventory and Report, March 2023

References
1. Office Development in Metro Vancouver's Urban Centres (Revised), January 2019
2. Metro Vancouver Urban Centres Webpage
3. Colliers Vancouver Office Market Report Q1 2023



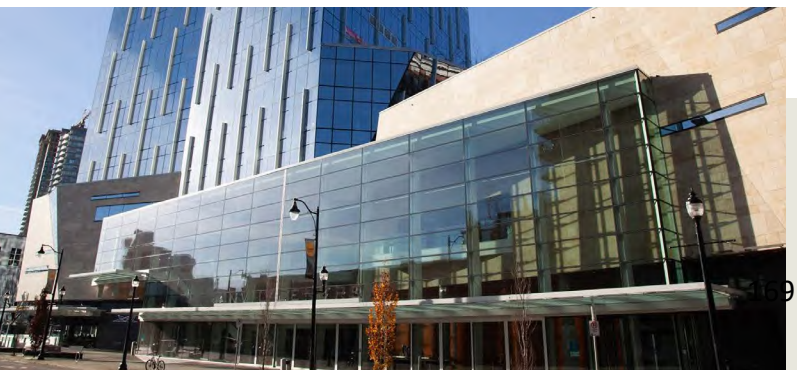
EXECUTIVE SUMMARY

Metro Vancouver 2022 Regional Office Building Inventory

Office Space in Urban Centres

Actions that encourage office development in Urban Centres and areas close to frequent transit are key elements of *Metro 2050*, the Regional Growth Strategy. Well-located office development accommodates growth of businesses and jobs, benefits the regional transportation system, and advances livability in a number of ways, including: supporting complete and walkable communities; reducing vehicle commutes and employee transportation costs; protecting lands for other uses; complementing commercial and residential land uses; and increasing the vibrancy and success of the region's Urban Centres.

COVID-19 significantly impacted the office market and business accommodation decisions, with many employees working from home rather than at the office. The long-term impacts of the pandemic on the demand for office space is yet unknown.



Inventory Scope and Development

The *Office Development in Metro Vancouver 2022 Inventory* explores regional-scale office development and occupancy patterns and decisions, and identifies challenges and opportunities for office growth in Metro Vancouver's Urban Centres.

The Inventory was informed by investigating market and planning factors that influence the location, type, and amount of office space in Metro Vancouver. Information was gathered through an office building inventory, publication review, and in-depth interviews with industry participants, including major office developers, commercial brokers, and municipal planning and economic development staff.

The Inventory includes an analysis of the region's office building stock, key issues relating to office development, and recommendations for Metro Vancouver, member municipalities, developers, and other organizations to encourage office development in Urban Centres.



Regional Office Overview

The office market in Metro Vancouver is diverse, accommodating different tenant types throughout the region: the Vancouver Metro Core, Regional City Centres, Municipal Town Centres, rapid transit stations, and elsewhere.

Compared to other large North American markets, Metro Vancouver has fewer headquarter companies and more smaller-sized office tenants. The large tech tenants that entered the market in the past few years represent a significant shift in Vancouver Metro Core office market dynamics.

Office tenants and employees increasingly prefer transit-accessible locations, particularly rail rapid transit stations. Overall, a greater proportion of new office developments are locating near the region's Frequent Transit Network.

Key Findings from Interviews

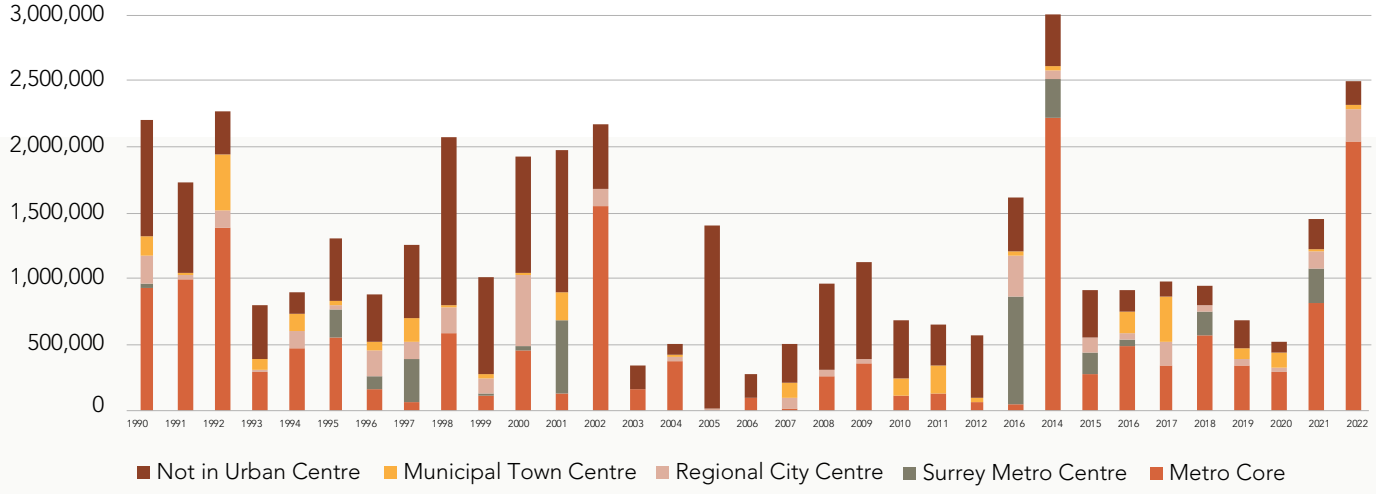
Many office tenants desire locations that are well-served by rapid transit and urban amenities, though some tenants require highway access, in the form of suburban auto-oriented office parks.

There are significant new office development projects in the Vancouver Metro Core. This responds to tenant demand, especially in the tech sector, for urban locations and amenities to attract workers. Office growth in other Urban Centres has been limited.

Smaller Urban Centres continue to see less demand for office space, and less growth. This may change as populations grow and there is increased need for local-serving office space.

The geographic distribution of new office development by location has varied over the past decades. More recently, the ratio of office space in the region's Urban Centres and particularly the Vancouver Metro Core has increased.

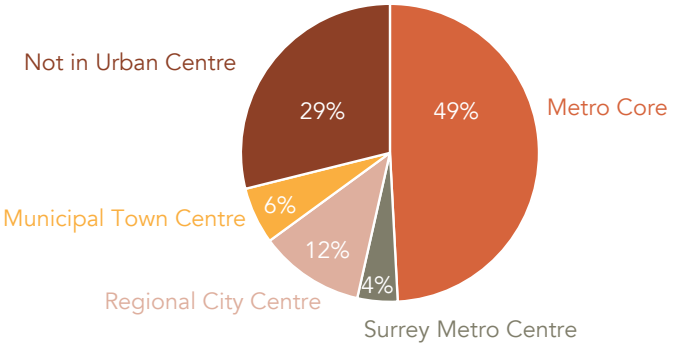
Inventory by Year Built and Urban Centre Type (1990-2022)



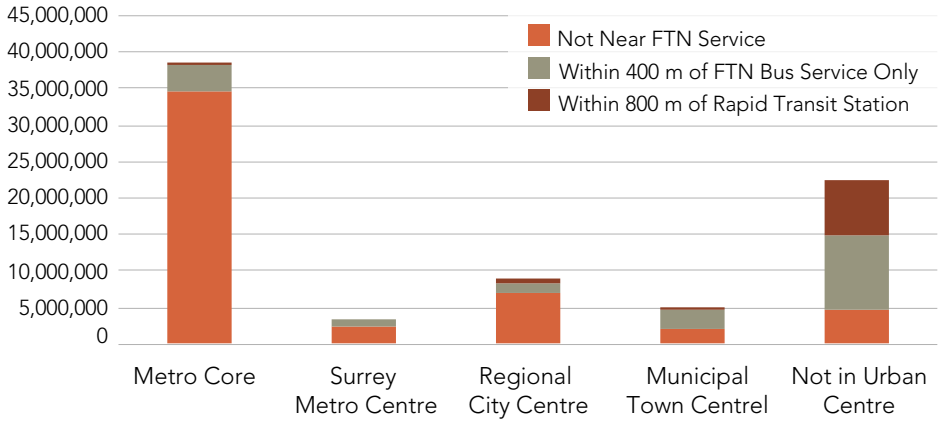
Key Findings from the 2022 Office Building Inventory

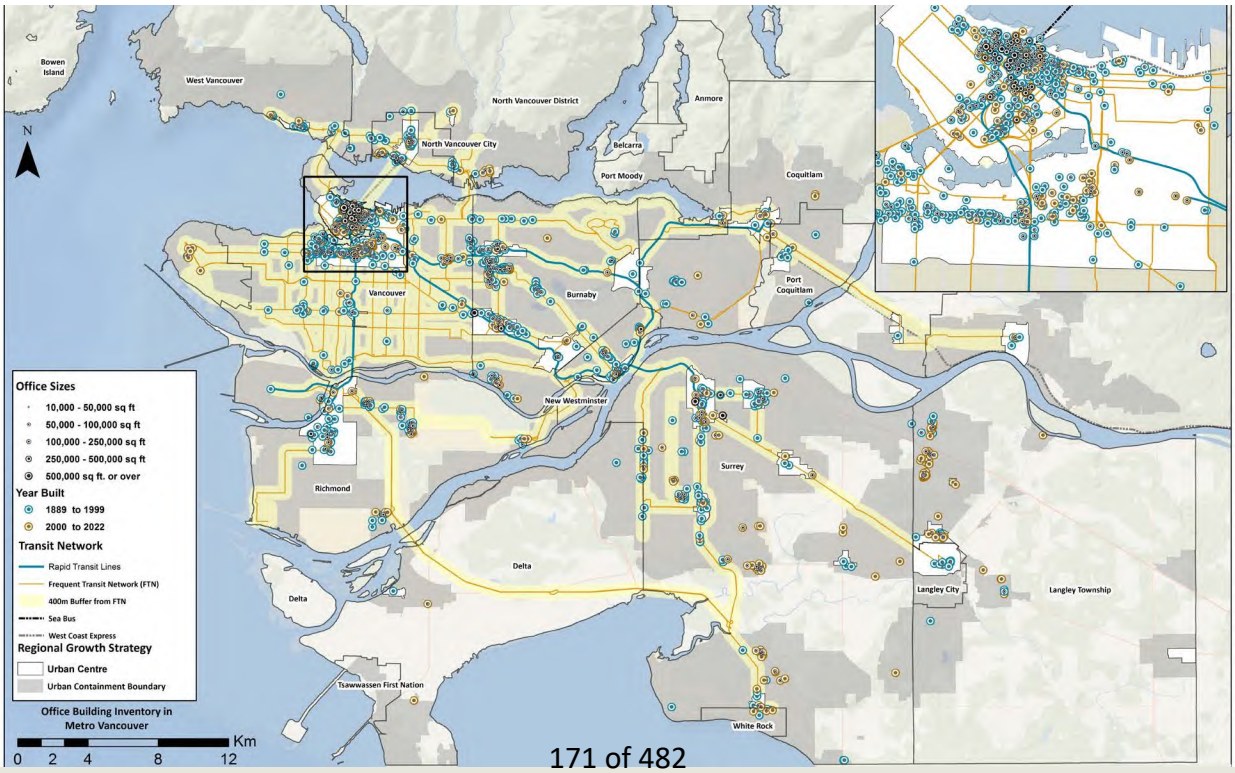
- There was a total of 78 million sq ft of office space; 1,338 buildings include 10,000 sq ft or more of office space.
- The average office building size was 58,000 sq ft, and the median size was 31,000 sq ft.
- Approximately half of the inventory (47% of buildings and 55% of floor space) was located in Vancouver, with most of that in the Metro Core area (downtown and the Broadway Corridor). The other significant sub-markets, such as Burnaby / New Westminster, Surrey, and Richmond, are much smaller
- Of the region's total inventory, 71% or 55 million sq ft was located within Urban Centres.
- For office space within Urban Centres, 69% was located in the Metro Core, 16% in Regional City Centres, 9% in Municipal Town Centres, and 6% in the Surrey Metro Centre.
- Relative to the Frequent Transit Network (FTN), 65% or 51 million sq ft of office space was located within a 10-minute walk (800 m) of a rapid transit station, and 24% or 19 million sq ft was located within a 5-minute walk (400 m) of FTN bus only.
- 90% of the region's office space is located within either an Urban Centre, within 400 m of the FTN bus service, or within 800 m of rail rapid transit stations.

Inventory by Urban Centre Type



Inventory by Urban Centres and Transit Service



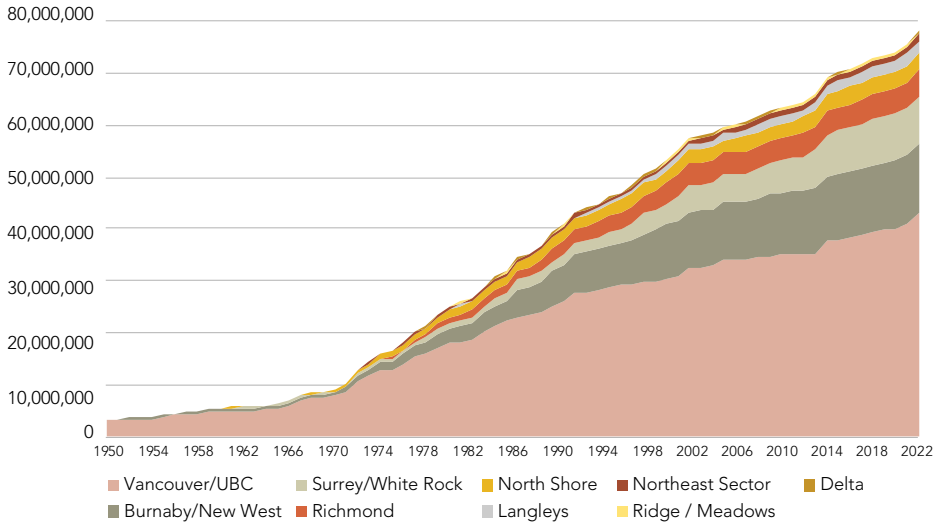


Change Over Time

Historically, office inventory and growth was primarily within the Vancouver Metro Core. More recently, the proportional amount of office space in Vancouver is declining over time, with new growth in other areas such as Burnaby / New Westminster, Surrey, and Richmond.

Developers and tenants want to work with municipalities to build and occupy new projects. Generally, the private sector desires flexibility to build the type of office space that is in demand and to allow for increased development densities to take advantage of 'strong' locations, while avoiding planning policies that require office development in locations with limited demand. In turn, municipalities want new office projects to support local economic goals and the private sector to help create spaces for jobs that advance complete community objectives, while also ensuring that development makes efficient use of infrastructure and amenity investments.

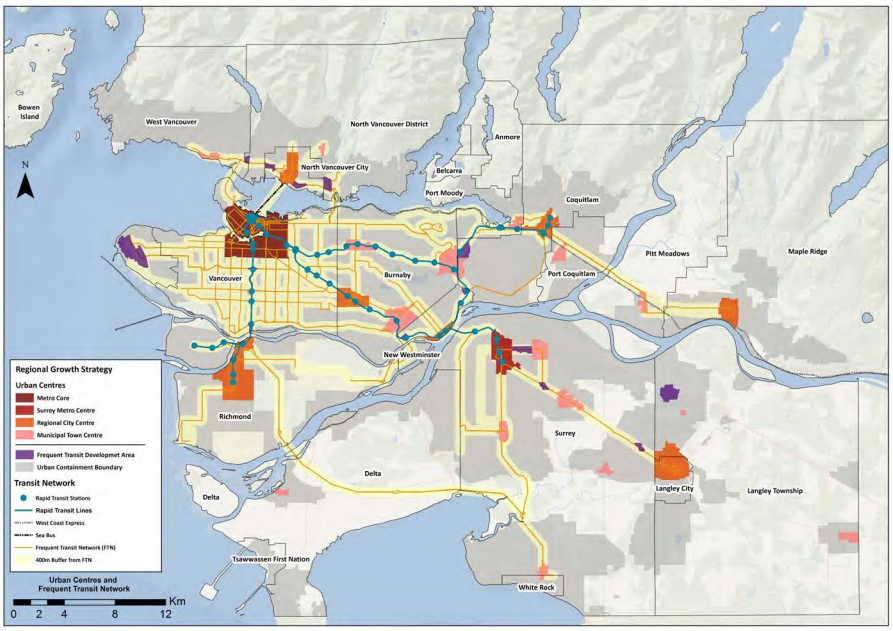
Cumulative Inventory Growth by Sub-Region (1950-2022)



Key Findings and Actions

Responses from interviewees and results from research support continuing to focus office development in the region's Urban Centres. Actions include:

- Development Approval Process - Streamline the development review process, reduce uncertainties and risks, and manage municipal charges / fees.
- Land Use Planning - Encourage, but do not mandate, mixed-use projects with office components in specific locations.
- Zoning Definition - Allow general office uses, rather than overly specific / limiting types of office business uses. This would improve tenanting flexibility and decrease landlord risk.
- Tenant Permits - Shorten and simplify the permitting process for basic interior improvements.
- Municipal Incentives - Explore financial or regulatory incentives to encourage office development, and reduce policy and regulatory barriers.
- Research - Explore case studies / best practices / innovation profiles into topics such as integrating office space into mixed-use or multi-use projects.



FIND OUT MORE

Learn more about *Metro 2050*: **metrovancouver.org/metro2050**

Email us: **regionalplanning@metrovancouver.org**

metrovancouver
Together we make our region strong



Office Development in Metro Vancouver:

2022 Inventory and Technical Report

March 2023

Executive Summary

Metro Vancouver's Office Development Inventory and Technical Report was prepared in late 2022 and early 2023, and is an update of the 2018 edition. The report explores the factors that influence regional-scale office development and occupancy decisions, and identifies challenges and opportunities for office growth in Metro Vancouver's Urban Centres. It identifies key issues and trends affecting office space to better inform government policies. Although the COVID-19 pandemic has had a significant impact and disruption on office occupancy matters, this report looks beyond the pandemic to longer term implications and considerations.

Advancing Regional Planning Goals

Actions to encourage office development in Urban Centres and areas well served by transit are key elements of the Metro Vancouver regional growth strategy. Regional policy directs office development and associated activities to Urban Centres, as promoting significant new office development outside of Urban Centre locations such as in suburban office parks can have negative impacts on land use and transportation patterns for the region.

Office space accommodates growth of businesses and employment within the local community and larger region. These accommodations, in the form of office buildings, are built by developers who respond to market signals such as demand and supply.

Focusing office development in Urban Centres benefits the regional transportation system and livability in a number of ways: by supporting the development of complete and walkable communities, reducing vehicle commutes and employee transportation costs, protecting lands for other uses, complementing commercial and residential land uses, and increasing the vibrancy and success of the region's Urban Centres.

Planning policy and market forces are partially aligned. Office tenants increasingly desire locations that are well-served by rapid transit and urban amenities, while still in some cases highway access and suburban sites are also needed by other tenant types. There have been significant new office development projects in downtown Vancouver, responding to the strong tenant demand, especially by the growing number of tech companies that need to be by urban amenities to attract and retain talented workers. However, office growth in many other Urban Centres has been limited.

The report was informed through an investigation of the market and planning factors that influence the location, type, and amount of office development and occupancy in Metro Vancouver. Information about the office market and office development was gathered through a review of relevant publications, compilation of a comprehensive inventory database of office buildings[1], and in-depth interviews with experienced industry participants[2], including major office developers, and brokers, and municipal planning and economic development staff.

[1] Note that this report and associated inventory statistics should replace previous reports, as the inventory has been further refined with every subsequent edition.

[2] The preparation of the earlier edition of this report was informed by other interviews at that time, including with office tenants. Comments that are still relevant are retained in the updated edition of this report.

Office Inventory Summary

Based on the comprehensive inventory prepared by Metro Vancouver, at the end of 2022, there were 78 million sq ft of office space in the region located within 1,338 buildings with 10,000 sq ft or more of office space. Individual buildings with less than 10,000 sq ft of have been excluded from the inventory, as they are challenging to measure and likely comprise only a small component of the total inventory. Summary findings from the analysis of the office building inventory data:

- Approximately half (47% of buildings and 55% of floor space) of the office inventory was located in Vancouver/UBC, with other notable sub-regions being Burnaby/New Westminster (at 16% and 17% respectively), Surrey/White Rock (14% and 12%), and Richmond (7% and 6%).
- Slightly over three-quarters (77%) of the office inventory was located on lands regionally designated 'General Urban', which are intended to accommodate a wide variety of land uses. Of the balance, 20% was located on 'Mixed Employment' lands which can accommodate various commercial uses, and 3% on 'Industrial' lands.
- Of just the office inventory in Urban Centres, 69% was located in the Metro Core (downtown Vancouver and the Broadway Corridor), 16% in Regional City Centres, 9% in Municipal Town Centres, and 6% in the Surrey Metro Centre. The balance, 22.6 million sq ft, was not located in Urban Centres.
- Most of the office inventory in the Metro Core and the Regional City Centres (90% and 79%, respectively) was within 800 metres of rapid transit stations, whereas 46% of the office space in Municipal Town Centres was near rapid transit.
- Relative to the Frequent Transit Network (FTN), 51 million sq ft (65%) of office space was located within 800 metres (10-minute walk) of a rapid transit station, and 18.8 million sq ft (24%) was located within 400 metres (5-minute walk) of FTN bus only. The balance, 8.4 million sq ft (11%) of office space, was located beyond the FTN service area.
- Of the inventory not within Urban Centres (22.6 million sq ft), 21% was within 800 metres of rapid transit service and 46% was within 400 metres of FTN bus only.
- Of the total inventory, 7.6 million sq ft (10%) was neither in an Urban Centre nor near FTN transit (either bus or SkyTrain).
- The 55 million sq ft of office space located in the 26 Urban Centres was distributed predominately in the Metro Core with a total of 38 million sq ft or 69% of the total office space in Urban Centres in the region. The next largest Urban Centres (at less than one-tenth the size) are Metrotown City Centre and Surrey City Centre at approximately 3 million sq ft each, and Richmond City Centre at 2 million sq ft.
- The average amount of office space in the seven Regional City Centres was 1.3 million sq ft each, while the seventeen Municipal Town Centres contain relatively limited amounts of office space (6% of the region's total), with an average of 280,000 sq ft of office space.
- Most office buildings (86%) are under 100,000 sq ft in size, and 11% in the 100,000 to 250,000 sq ft range. There are very few buildings (43 of 1,338) over 250,000 sq ft; 3% of buildings, representing 21% of the total floor space.

- Of the entire inventory, the average size is 58,000 sq ft and the median size is 31,000 sq ft.
- There is a gradual upward trend in the size of office buildings over recent decades, with some years being skewed by a few very large building completions.

Recent Office Development Growth

Office development is impacted primarily by market demand. The office development process (approvals, design, financing, marketing, permitting, construction, and occupancy) is often complex and lengthy, and cannot always be fully completed within a single economic / market cycle. Analysis of the newer building stock completed between 1990 and 2022, which totalled 41 million sq ft, is summarized as follows:

- Office building completion rates and distribution patterns vary considerably from year-to-year.
- A large proportion of existing and newer office space is located in the Metro Core, centred in downtown Vancouver, and at other locations with rapid transit service. Smaller Urban Centres are generally attracting only limited office development activity.
- There was significant office development between 1990 and 2002. For the 2004-2012 period, development was considerably lower (except for 2009), with another cycle peaking in 2015.
- During the 2003-2012 period, the completion of new office projects was considerably lower. In years with higher levels of completion, a large proportion of that occurred in the City of Vancouver, mostly in the form of large new buildings in the downtown core.
- Non-Urban Centre development peaked in the 1990-2009 period, while from 2014 to 2022 the proportion of office space development in Urban Centres and particularly Metro Core increased.
- 63% of the newer office stock was built within Urban Centres (compared to 71% for the entire stock). The balance of office development was located outside of Urban Centres.
- 60% of the newer stock was located within 800 metres of rapid transit stations, with 41% located within the Metro Core (all with access to FTN transit). Of the newer inventory, 15.3 million sq ft or 37% was located outside of Urban Centres.
- 60% of newer office development was located within 800 metres of rapid transit, and 23% within 400 metres of FTN bus only. The balance, 17%, was located in areas not accessible to the FTN.

Market Trends

A variety of types of office buildings in diverse locations are required for different types of office tenants. The region has relatively few large office tenants (e.g. corporate headquarters) and many smaller ones, which challenges the development of new large-scale office buildings. Although in the last few years there has been significant growth of tech sector tenants. Ultimately, businesses make individual decisions and consider the trade-offs regarding accommodation costs and features.

Market Conditions and Developments

- Prior to the COVID-19 pandemic starting in early 2020, the region's office market was very strong with low vacancy rates and increasing lease rates, spurring considerable new major office developments, especially in downtown Vancouver.
- There was significant growth in the tech sector, with large companies occupying large blocks of office space and seeking premium accommodations and amenities found in the Metro Core.
- Although there are a number of large high-profile office projects coming to market, there are also many smaller or mid-sized office buildings. These buildings serve local areas and may be located throughout the region, and not necessarily in Urban Centres or near transit. Demand is limited in smaller Urban Centres with less accessibility and lower levels of transit service.
- More recently, due to the COVID-19 pandemic and associated rapid growth in remote working, the amount of office space needed, its utilization, and design have been greatly impacted. The long-term implications of this on office space demand are not yet known.

Tenant Preferences

- Office tenants increasingly prioritize accessibility to rapid transit service and urban amenities, and developers are responding accordingly, which is a change from the more suburban development patterns of earlier decades.
- Not all tenants wish to locate in Urban Centres, as some businesses prioritize highway access or other features, including lower costs.
- Some tenants may prefer an architecturally unique and high-profile building; however, these buildings can be less efficient and cost more. Some businesses seek a high prestige central business district office location (i.e. downtown Vancouver) and are able and willing to pay a premium. Proximity to urban amenities is strongly desired by tech tenants, such as Mt. Pleasant in Vancouver.

Trends

- There was significant growth in co-working facilities prior to the pandemic, namely WeWork and Regus / Spaces, that provide spaces and services to a range of tenant types, responding to the desire for flexibility by business occupants.
- There has been an apparent increase of strata development projects, rather than conventional lease rental tenure. From a development perspective, strata values can drive up residual land prices to the point where non-strata / lease development is no longer financially viable. That noted, the extent of strata development is limited, and some of that space is ultimately leased.
- There was a trend towards open concept office design to encourage collaboration and achieve space efficiencies. Due to the COVID-19 pandemic being a communicable disease and the increase in remote working and online meetings, desired office space designs are changing.

Key Considerations for Office Development

Office market characteristics such as demand, rental rates, preferences, scale, design, and development potential vary greatly by sub-market. The strengths of the Metro Vancouver regional economy, particularly relating to the office market, include: a 'Vancouver' brand that is internationally recognized, a boom in the tech sector with large American companies that are locating operations in Vancouver to access an international and educated workforce subject to Canada's immigration policies, the region being a livable and desirable place with many amenities, and a strong education system that fosters talent. Challenges or weaknesses include the high cost of housing and living, as well as high land and construction costs for development, and long and uncertain development approval processes that increase risk for projects.

The main office market of the region, the Metro Core, experienced strong office demand, leading to increasing lease rates and spurring development of additional office space supply in the years leading up to the pandemic. This growth was largely driving by demand from expanding tech companies, such as software and animation, that desired locations in the Metro Core to attract and retain talented employees. With the completion of some buildings that started before COVID-19 and the pandemic's continued influence on the office market, the number of new office development projects in the immediate future is expected to be limited.

As the population, economic activity, and workforce grows in the outer parts of the region it is expected that the demand for office space in those areas will also grow. However, this may take a long time, as small communities still have limited scale in terms of population and economic throughput and thus limited office demand. Building new office space in a sub-market without adequate demand may simply steal or re-locate tenants from one part of that sub-market to another, not actually attracting new tenants (i.e. zero-sum).

The best effort to attract tenants to outer Urban Centres may be as a value proposition (e.g. lower rents, and offering some urban features / amenities, at a location that is closer to a segment of the workforce). However, from a development perspective, construction costs are high in all locations. As such, it is difficult to make projects financially viable in outer Urban Centres that experience low office rents. Consequently, developers are concerned about being 'forced' rather than 'encouraged' by municipalities to build office space in locations with weak demand, which may lead to long-term vacancies.

Future Considerations for Office in Urban Centres

Based on the research and interviewees, the report outlines various actions for consideration by different parties to support office space in Urban Centres. These are organized into two parts in the final section of the report: priority actions that can be acted on immediately, and a list for further exploration.

The issues of concern most consistently expressed by interviewees and supported by research, and which can be undertaken in the shorter term with relatively high potential of effectiveness are:

- **Development Approval Process** - Streamline the development review / approval process, reduce the uncertainties and risks, and manage municipal charges / fees.
- **Land Use Planning** - Encourage, but do not mandate, mixed-use projects with office components; rather, allow market demand to inform the supply of office development in specific locations.
- **Zoning Definition** - Allow general office uses, rather than overly specific / limiting types of office business uses. This would improve tenanting flexibility and decrease landlord risk.
- **Tenant Permits** - Shorten and simplify the permitting process for basic interior improvements / renovations needed when new office tenants occupy a premise and operate a business.
- **Municipal Incentives** - Explore financial or regulatory incentives to encourage office development, and reduce policy and regulatory barriers.
- **Research** - Undertake further relevant research and case studies / best practices / innovation profiles into topics such as integrating office space into mixed-use or multi-use projects, and also identify where office components may or may not be warranted.

Developers and tenants want to work with municipalities to build and occupy new projects. Generally, the private sector desires the flexibly to build the type of office space that is in demand, where warranted, and to allow for increased development densities to take advantage of 'strong' locations. In turn, municipalities want new projects to advance economic goals and the private sector to help create spaces for jobs that advance complete community objectives, while also ensuring that development matches infrastructure and amenity investments.

Municipalities in the region continue to make various efforts to attract office development to their communities. In some cases, these efforts match market forces, such as in the Metro Core and surrounding areas where there is consistent and strong demand, especially for tech tenants that seek to locate in areas rich with rapid transit and urban amenities. In other places, market demand is spurring office development at SkyTrain station locations that are not necessarily in Urban Centres. In some locations, however, municipalities are encouraging mixed-use development with office space components where developers state that there is limited office market demand. Where this occurs, some developers feel that this approach introduces office supply in the hopes of generating demand that may not materialize and the space remains vacant.

Nevertheless, as local populations and associated workforces grow, and smaller-scale Urban Centres develop capacity and scale over time, the opportunity for providing population-serving office space will increase in these locations. Substantially, it is market forces rather than government policies that produce office development; prioritizing growth to target areas requires both market demand and public sector investment.

Ultimately, office development is a large investment decision, with the main factors being land values, construction costs, and lease rates. There is little that local governments can do to significantly impact those factors; other items that municipalities may have influence over tend to be less impactful.

Table of Contents

Executive Summary ii

1.0 Introduction 1
Report Purpose 1
Research Questions 1
Regional Growth Strategy Context 5
Stakeholder Perspectives 6
Interview Participants 7

2.0 Metro Vancouver Office Characteristics 9
COVID-19 Impacts and Return to Office 9
Space Utilization 11
Regional Office Market Statistics 13

3.0 Sub-Regional Profiles 18
Locational Distribution 18
Profile of Specific Sub-Regions / Urban Centres 19
Additional Considerations 22

4.0 Office Tenant Types 24
Tenant Profile 24
Co-Working Space 27
Strata Office Tenure 27

5.0 Office Building Inventory 29
Background on the 2022 Office Inventory 29
Office Inventory by Sub-Region and Regional Land Use Designation 33
Office Building Size 33
Office Building Inventory Year Built 35
Office Building Inventory Year Built by Location 38
Office Inventory Relative to Urban Centres and Transit Service 39
Office Inventory Relative to Urban Centres 40
Office Inventory Relative to Transit Service 43
Newer Office Inventory Relative to Urban Centres and Transit Service 46

6.0 Office Tenant Considerations 50
Overview of Tenant Considerations 51
Office Amenities 54
Building Features 55
Value of Locating in Urban Centres and Near Rapid Transit 56
Extent of Tenant Movement Between Geographic Areas 57

7.0 Office Developer Considerations 60
Overview of Considerations 60
Municipal Approvals and Costs 62
Mixed-Use, Multi-Use, Stand-Alone Projects 64
Development Risks 65
Landlord Tenanting Decisions 66

8.0 Office Development from the Municipal Perspective 67
Long Range Municipal Plans 68
Metro Vancouver Regional Government Role 69

9.0 Future Considerations for Office in Urban Centres 70
Priority Actions 70
Other Areas for Exploration 72

Appendix A: List of Interviewees 77

Appendix B: Interview Discussion Questions 79

Appendix C: Corporate Headquarters and Major Office Employers 81
The Importance of Head Offices 81
Metro Vancouver Headquarter Attributes 83
Corporate Headquarters and Employment 85
Office Employment Growth 88

Appendix D: The Evolution of Employment 90
Attracting Employees - The 'War for Talent' 90
Flexibility - From 'Workplaces' to 'Places to Work' 91
Real Estate as a Service - Rise of Co-working Operators 92

Appendix E: Office Space Design 96
Space Design Trends 96
Office Space per Employee 100

Appendix F: Supplemental Office Inventory Data Tables 103

1.0 INTRODUCTION

1.1. Report Purpose

The purpose of this report[3] is to explore the factors and trends that influence office development and occupancy decisions in the Metro Vancouver region, and identify challenges and opportunities for office potential in Urban Centres. The report is informed through an investigation of the market and policy factors, as well as ongoing trends, which influence the location, type, and amount of office development and occupancy in Metro Vancouver. This research includes detailed analysis of office building development patterns in the region over the past century, and particularly the last few decades, supplemented with key informant interviews and literature review.

The report was prepared in late 2022 and early 2023. Although the COVID-19 pandemic has had a significant impact of office occupancy matters, this report looks beyond the pandemic to longer term implications and outcomes.

Actions that encourage office development in Urban Centres and areas well-served by transit are key elements of the regional growth strategy. While residential development in Urban Centres has been robust in recent years, office development has been limited primarily to certain locations. This report identifies areas for further exploration and opportunities for Metro Vancouver, member municipalities, developers, and other organizations to work together to advance office development in Urban Centres.

1.2. Research Questions

Three main methods were used in preparing this report: 1) information about the office market and the office development process was gathered through a review of relevant publications; 2) compilation of a comprehensive inventory database of office buildings in the region; and 3) in-depth interviews with key industry participants, including major office investors, developers, brokers, and municipal staff.

The following section addresses the state of the office market in Metro Vancouver, policy considerations, office development and tenancy issues and trends, as well as possible actions by the public and private sectors. These research questions are explored and answered in the balance of the report.

1.2.1. What are the regional directions and trends for office development location?

Metro 2040, the regional growth strategy, adopted in 2011 (and updated as *Metro 2050*), directs office development to Urban Centres, continuing the direction established in past

[3] This report is an update of the earlier edition completed in 2018.

regional plans. Focusing office development in the region's Urban Centres benefits the regional transportation system and livability in a number of ways, by: encouraging transit usage and reducing vehicle commutes, employee transportation, costs and associated greenhouse gas emissions; complementing commercial and residential land uses; increasing the vibrancy, livability, and success of Urban Centres; and protecting lands for other uses such as industrial. Some population-based, local serving office tenants located outside of Urban Centres are also considered appropriate to serve the needs of area residents.

Planning policy and market forces are partially and increasingly aligned. The market tends to respond to locations that are well served by rapid transit and urban amenities, while still some tenants need highway access with ample vehicle parking. In the past, access to highways was a priority for many office tenants, and office developers built accordingly. However, increasingly office tenants recognize the benefits to their businesses and employees of being located near transit (particularly rapid transit stations) and amenities in the region's Urban Centres. Specifically, ongoing market trends include:

- The Metro Core (downtown Vancouver and Broadway Corridor) experienced significant growth in new supply of large office buildings, with strong demand especially from tech sector tenants;
- In other Urban Centres, the supply of new office space is limited or varies;
- Some rapid transit station locations outside of Urban Centres are attracting office development and tenants, as they can offer the transit accessibility of an Urban Centre, but at lower costs;
- Reflecting market demand, there are few new office parks in the region outside of Urban Centres in locations that have poor transit service and limited amenities; and
- Evolving growth of new forms of office tenure, specifically strata and co-working.

While rapid transit station accessibility is increasingly desirable, the value of transit is not universal. Adjacency to a rapid transit station (i.e. SkyTrain) is beneficial, but those rapid transit station locations alone do not always provide a mix of supporting land uses and the presence of urban amenities. Furthermore, the connectivity of transportation systems is better within a network, than at the ends or edges of the network. Urban Centres can offer the full range of functions and amenities that stand-alone transit station locations may not provide.

1.2.2. What are the benefits of locating office space within Urban Centres?

As stated in the regional growth strategy, Urban Centres are intended to be the region's focal points for concentrated growth and transit service, and priority locations for employment, higher density housing, commercial, cultural, entertainment, institutional, and mixed-uses. The regional growth strategy identifies 26 Urban Centres of varying scale, distributed throughout the region.

By locating office space and associated employment in Urban Centres, a number of benefits can be achieved, including:

- Improve access and use of public transit;

- Reduce reliance of vehicle use for commuting and thus less congestion and greenhouse gas emissions;
- Reduce transportation costs for workers;
- Complement surrounding retail, residential, and institutional uses;
- Improve access to various amenities for office workers, such as area shops and services;
- Support workforce attraction and retention;
- Contribute to surrounding businesses by locating additional employees in the immediate area;
- Contribute to the general vibrancy, livability, and success of Urban Centres; and
- Support the development of complete communities.

1.2.3. What are the problems with locating office space outside of Urban Centres?

Despite longstanding regional policy to direct office growth to Urban Centres, the market pattern during the 1990s was defined by significant new office development in suburban office parks outside of Urban Centres. Although that trend has since changed, that pattern and those older buildings remain.

Typically, these office parks are located in areas far from transit services, and have a much higher proportion of employees who drive to work. This dispersed pattern is challenging from a regional perspective for several reasons, particularly to provide an efficient transportation system. Secondly, more driving means more traffic congestion and makes it difficult to meet the region's climate actions and greenhouse gas emission reduction targets. Thirdly, the creation of office parks came at the expense of the region's limited land supply, often built on land that was once used or designated for industrial purposes. Finally, locating jobs and activities in office parks can hamper the growth of the region's Urban Centres. Urban Centres need all types of activities to thrive, with employment contributing to their vibrancy and success. For employees, being in an Urban Centre is also preferable to working in an office park, in terms of both the amenities and transportation options. Office tenants are increasingly selecting desirable urban locations in order to attract and retain a talented workforce, especially notable for the tech sector.

How are office market trends evolving?

The Metro Vancouver office market is diverse, segmented and represents a variety of regional locations and different tenant needs. Office development occurs at different types of locations, ranging from the Metro Core to other Regional City Centres, Municipal Town Centres, rapid transit stations, and elsewhere.

Office tenants and employees increasingly prefer transit-accessible locations, namely rapid transit stations (i.e. SkyTrain); that demand is demonstrated through consistently lower vacancies and higher rents at those locations. Responding to the strong office demand before the COVID-19 pandemic, a number of major office developments were recently completed and are underway in downtown Vancouver, and in some other growing centres.

Downtown Vancouver, other Urban Centres, SkyTrain stations, and auto-oriented office parks, all continue to serve different types of business needs and office markets. However, there is an overall and growing trend towards new developments locating near the region's SkyTrain stations, which fills an important need in the office market.

Despite development activity indicating that transit-accessible locations are increasingly in demand, there exists office parks outside of Urban Centres that are poorly connected to the transit system. Although there has been limited office park development in the past decade, these locations can offer larger sites, which allow for low rise buildings with larger floorplates, better access to the highway network with ample parking, and other features desired by certain types of tenants.

Past office designs striving for increased efficiencies in terms of reduced space per worker and shared work spaces are being reconsidered due to infection spreading concerns associated with the pandemic. These changes in utilization rates will have transportation impacts in terms of the amount of required parking, transit demand, and building design, as well as on the amount and type of onsite amenities.

1.2.4. What tools do governments have to support office development in Urban Centres?

The regional growth strategy requires municipalities to prepare Regional Context Statements identifying how local plans will direct office development to Urban Centres and support the regional employment targets. Through Official Community Plans (or equivalents), local area plans, zoning bylaws and other policies, and as the local approving authority, municipalities can advance and support this important objective. Supplementing market trends, municipal policies can encourage office development proposals within and discourage projects in locations outside of Urban Centres. Additionally, to support office development in desired locations, municipalities can explore reducing barriers and incent investment through tools such as: pre-zoning land for office use and density; expediting the development application and permitting process; introducing regulatory and financial incentives; and other possible means, financial and otherwise, appropriate for local circumstances.

Beyond land use plans and tools, governments at all levels can provide signals to the market about appropriate locations for office investment. Providing transportation and other infrastructure at the right locations to support Urban Centre development is important to the health and vibrancy of the regional economy and communities. Businesses want accommodations that best meet their needs in terms of location, accessibility, facilities, design, amenities, costs, and other features. By improving the transit service, urban amenities, and infrastructure offerings in Urban Centres, these locations can become more attractive to office developers and office tenants as locations for investment. Yet those lands can also be very expensive, which is a major aspect of project viability. Decisions by public agencies, including the location of educational, medical institutions, and other government office facilities in Urban Centres can also spur further market and development interest.

1.3. Regional Growth Strategy Context

The Metro Vancouver region is forecast to grow by approximately one million residents and 500,000 jobs between 2021 and 2051. To protect the region's ability to attract investment and jobs, the regional growth strategy establishes regional land use designations and overlays that the member municipalities must consider and advance through local planning. The Urban Containment Boundary limits encroachment into lands regionally designated as 'Agricultural', 'Rural', and 'Conservation & Recreation'. The 'Industrial' and 'Employment' designations protect lands for industrial and employment uses. Office and commercial uses are encouraged to locate in Urban Centres and Frequent Transit Development Areas (FTDA), generally located on lands regionally designated 'General Urban', which allows for a variety of uses.

Reflecting continuing population, employment, and economic growth on Metro Vancouver's limited land base, focusing and densifying development in Urban Centres is an important element of the regional growth strategy. To build vibrant and livable communities, the regional growth strategy's Strategy 1.2 includes specific policies about office space, including guidelines for the land use and transportation characteristics of Urban Centres and FTDAs. There are identified three different types of Urban Centres: Metro Core, Regional City Centres, and Municipal Town Centres.

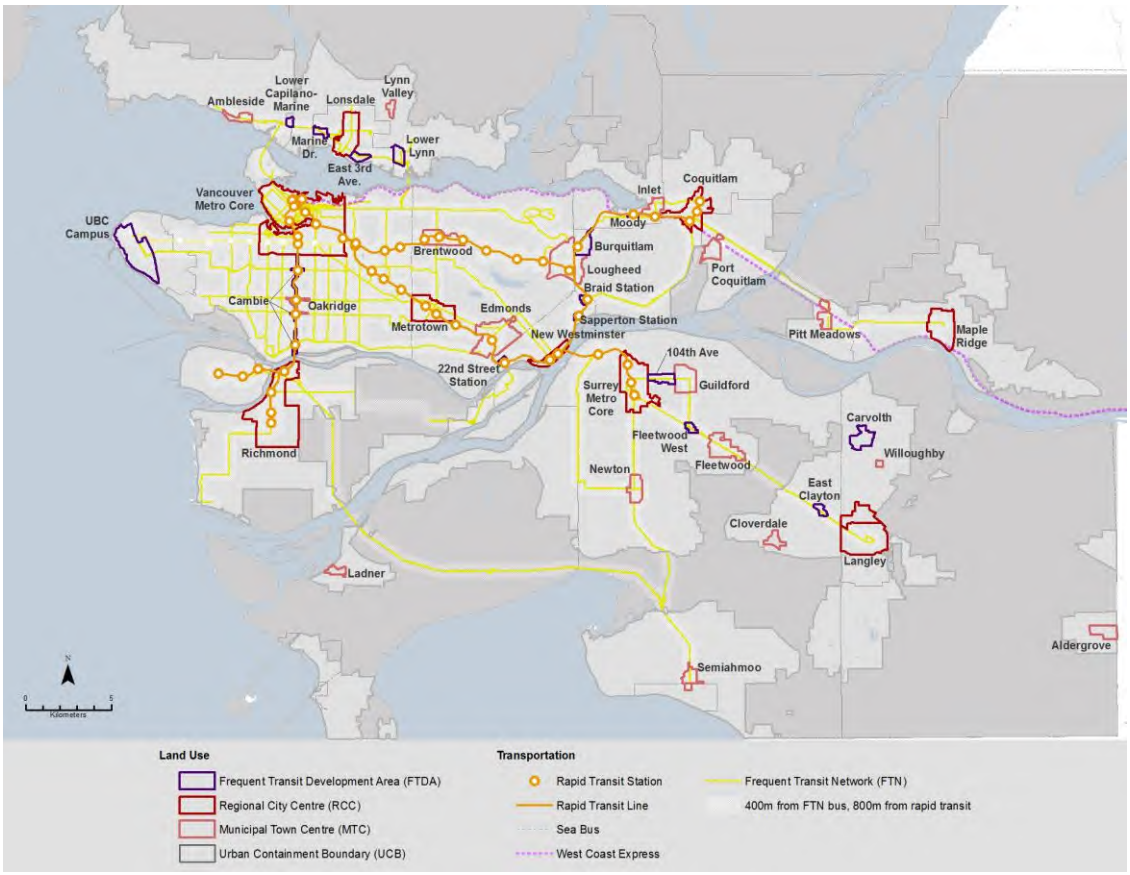
The 26 Urban Centres identified in the regional growth strategy are intended as priority locations for transit-oriented employment and services, higher density housing, commercial, cultural, entertainment, institutional, and mixed-uses. Urban Centres are intended to emphasize place-making, with enriched public realm, where transit, cycling, and walking are the preferred modes of transportation. Orienting growth and development in this way helps to:

- Support an efficient land use pattern and transportation network;
- Protect natural areas, agricultural and industrial lands by focusing growth in urban areas;
- Provide jobs closer to where people live;
- Create complete communities that are accessible, promote transit, walking and cycling, provide access to a range of housing options, employment, social and cultural opportunities, parks, greenways and recreational opportunities, and promote healthy living; and
- Expand the opportunities for transit, multiple-occupancy vehicles, cycling and walking, reduce expenditure on transportation, energy use, and greenhouse gas emissions, and improve air quality.

For reference, Map 1.1 shows the locations of Urban Centres as well as the Frequent Transit Network (rail and bus) (FTN) in the region.

As an important part of the regional growth strategy, 50% of all employment growth (forecasted to be 500,000 jobs between 2021 and 2051) is to be directed to Urban Centres, with different Urban Centres anticipated to grow at different rates, plus 27% of growth located in FTDAs.

Map 1.1: Regional Growth Strategy Urban Centres and Frequent Transit Network



1.4. Stakeholder Perspectives

There are a number of different public and private sector stakeholders that influence office development patterns in the region. These groups have different interests and priorities. Government agencies and municipal plans can guide the market and reinforce the benefits of locating office development and employment in Urban Centres, with policies reinforcing positive market trends.

Metro Vancouver, as the regional government, implements the regional growth strategy so that the long-term projected growth is managed, lands are used efficiently, and employment opportunities are distributed appropriately throughout the region, reflecting investments in transportation networks, infrastructure, and key centres. This goal also means encouraging office development in locations that support transit usage, coordinating with other agencies and initiatives, with complementary land uses, amenities and facilities, where infrastructure can best support high job density. This development pattern also helps support a prosperous and growing economy with office-based employment as an integral part of the functioning of the larger overall economy. Metro Vancouver has other complementary strategies, such as protecting and intensifying industrial lands, increasing affordable housing, supporting sustainable transportation choices, and attracting and growing economic and employment activity.

TransLink provides regional transportation services, including transit service, bike lanes and pedestrian facilities, and in conjunction with municipalities is responsible for the Major Road Network. Transit service supports commuting workers, while the Major Road Network is needed for regional people and goods movement. TransLink's investment and regional transportation strategies also support office development in Urban Centres because these areas provide higher concentrations of riders and can be more effectively served by transit and more readily accessed by walking and cycling, as compared to other locations.

Municipalities wish to attract high-quality development to their communities and are the approving authority for office development projects. From a municipal perspective, office development offers employment opportunities for the resident workforce and property taxation revenues, and supports the community's commercial vibrancy, especially in Urban Centres.

Provincial and Federal Governments advance gateway objectives through the region's transportation system supporting provincial and national economic and trade interests, and invest in major infrastructure, including rapid transit lines. These senior levels of government also encourage and benefit from economic growth through tax revenue and employment levels. Additionally, government departments and agencies are major employers and tenants.

Office tenants need space that is functional and affordable, in terms of size and shape, location, access, and other attributes. Office tenants balance their location preferences and building needs, along with workforce retention and recruitment issues, operational needs, and financial considerations.

Office developers want to build projects that are successful, profitable, have manageable risks, are desirable by office tenants, and readily absorbed by the market. Viable investments necessitate balancing the development costs and revenues of the project, including land and construction costs, with land uses, building designs, market demand, and rent levels. Developers want to optimize the potential of a site, such as leasable space, while achieving a reasonable project schedule, approval requirements, and expectations of office tenants.

1.5. Interview Participants

Major office developers, commercial brokers, and municipal planning and economic development staff were interviewed to learn about Metro Vancouver's office market (see Appendix A for a list of interviewees). The objective was to gain insights about the changing nature of the Metro Vancouver office market and sub-markets, location preferences, and the criteria and decision-making process for selecting office locations and developing office space. 24 interviews, involving 48 interviewees, were conducted between mid-September and mid November 2022[4]. Discussion questions were sent to the interviewees in advance of the meetings (see Appendix B for a list of the questions).

[4] Note: The preparation of the earlier edition of this report was informed by other interviews at that time, including with office tenants. Comments that are still relevant are retained in the updated edition of this report.

The developers and brokers interviewed had significant experience building or leasing large-scale office projects in the region, while municipal staff provided additional perspectives. There were three different groups of interviewees:

- **Office developers / landlords** - experience both in downtown Vancouver and markets in other parts of Metro Vancouver, as well as in other North American cities.
- **Office brokers** - extensive knowledge of the office market with specialized knowledge of Metro Vancouver's multiple sub-markets. The brokers provided a unique perspective, being knowledgeable about the needs of both the developer and tenant, as well as changes over time.
- **Municipal staff** - provided the local government perspective (both planning and economic), outlining their role in the process of attracting investment and development to their communities and the trends being seen from local businesses and developers. They also provided insight on the experience of policies and tools to encourage and retain office tenancy, and the development approvals process.

2.0 METRO VANCOUVER OFFICE CHARACTERISTICS

Compared to other large North American markets, Metro Vancouver has fewer headquarter companies and has many smaller-sized office tenants. The Metro Vancouver market has a range of different business sectors, which is healthy and beneficial should one sector experience a decline. In the past, the resource sector (e.g. forestry, mining, energy) drove much of the office growth in the Vancouver office market and supporting services such as accounting, finance, and legal firms. More recently, there has been significant growth in the tech sector as a major office tenant type. However, trends seen in the office market, labour force, and general economy have been significantly disrupted by the COVID-19 pandemic.

2.1. COVID-19 Impacts and Return to Office

The COVID-19 pandemic upended the office market and business accommodation decisions. Starting in early 2020 and lasting for a varied period, many office-based employees were working from home rather than at the office. While some stakeholders and employers never believed 'the office is dead' headlines when the pandemic started, many employees continue to want flexibility and the ability to work at home, at least part time.

The opinions and facts about the impacts and implications, depth and durability, of the pandemic experience range widely, from those who believe work can be effectively completed remotely, saving employees a daily commute and reducing greenhouse gas emissions, to others who believe it has reconfirmed the need for in-person interactions and team collaboration at the office. Some recognize the nuance of the matter, noting that different types of employees have different roles and complete different tasks, thus the optimum work space design and location should vary by function. There is widespread agreement that some level of increased flexibility with working at home and at the office will be a long-term result from the pandemic's forced and sudden experiment of remote working.

COVID-19 accelerated many pre-existing trends such as use of remote technology and flexible working arrangement, some of which have long been discussed but not materialized, like tele-working and paperless offices. With the proper technology and high speed internet, remote work can be easily accommodated. As the impacts of the pandemic carry on, the full-scale return to the office has been much delayed.

To attract employees back to the office, many employers commenced with gentle encouragements before applying firmer requirements for in-person work. Such incentives are described as a way to 'earn the commute' of employees – i.e. the office work space and associated building amenities and locational attributes must be adequately desirable and appealing to induce employees from their home to the office. The belief is that employees will increasingly want to come to the office when they feel it is needed and valued.

This has spurred many landlords to upgrade on-site amenities of existing buildings, and incorporate such design features and amenities such as rooftop patios, bike parking and end of trip facilities, dog 'barking lots' for employees with pets, and programing special events into new buildings. This has resulted in redesigns of some office spaces, varying by situation,

including adapting open space layouts to provide more collaboration areas, and converting some workstations to enclosed offices. Additionally, more common areas and meeting rooms are being provided, including lounges and lunch rooms. Reflecting the need for small in-person meetings and larger on-line conference-type meetings, this can entail replacing large boardrooms with smaller team meeting rooms, along with 'quiet' rooms for individuals to take calls.

As one interviewee noted, it has taken two to three years to adjust and react to the COVID-19 pandemic, and it may take just as long to 'unwind', thus it may yet be many years to fully understand and appreciate the long-term implications and responses. This is in part because real estate and accommodation investments take a long time to decide and implement. How much office space per worker will ultimately be needed is the outstanding question. It will take time to discern these impacts on businesses accommodations and office development.

While some employees believe they could work from anywhere thanks to online technology, some employers note that such remote flexibility could allow them to hire anyone, including workers in lower wage jurisdictions in other parts of the world. Such pressures and tensions for employers wanting employees back at the office versus employees wanting continued flexibility, may adjust depending on the economic and labour market conditions, as well as the needs of the employer, role of the employee, push for accountability, cost management, home office working arrangements, and employee commute times, which may all impact the propensity to return to the office.

With employees continuing to be part time at the office, the question arises of how efficient office space could be. Truly optimized space allocation would entail employees having unassigned workstations, and only using shared desks / offices when they are in the office (i.e. 'hoteling', or 'hot desking'). If a significant percentage of employees are not at the office on any given day, then the number of workstations and amount of office space required could be significantly reduced. However, that would require desk sharing (or hot-desking or hoteling). In some cases, to meet a balance of incentives and space allocation, employees are provided dedicated workstations desks if they are in the office at least a certain number of days per week (often three), while employees who do not come in as frequently are only provided with shared hot-desks as needed (with an office locker to store for their belongings).

It should also be recognized that not everyone may have at home a suitable office arrangement or setup for professional meetings. Some businesses believe in-person work is best for collaborative and creative activities, along with mentoring, training, and leadership experiences and corporate culture, while other businesses recognize that for some standard, routine tasks working at home may be just as effective and reduce corporate accommodation costs. The solution varies by sector, business, and worker.

Although there are different work tasks and different ways to define and measure productivity (especially creativity), the benefits of physical proximity for businesses and employees to creativity and collaboration, through urban economies and agglomeration, have been in place many years, have grown over time, and are not expected to disappear.

Professional services and tech sectors were amongst the strongest employment sectors during COVID-19, and given the availability of home and portable (laptop) computers, high speed internet, and online meeting technology, is also driving the trend to remote work.

2.2. Space Utilization

It is recognized that during and since the beginning of the COVID-19 pandemic office space has been typically significantly underutilized. Although the vacancy rates indicate how much space is leased, the measures of occupancy or utilization are limited or vary. Simple observations and the volume of space on the sub-lease market indicate that the amount of underutilized or unused office space is considerable.

There are some ways to measure actual utilization levels. For example, landlords may have various building measures, from parking stalls, evaluator lifts, door openings, security passes, etc. In many cases those monitors / sensors were added during the pandemic, thus the baseline data needed to compare current utilization rates with pre-COVID-19 rates does not exist.

During the initial, turbulent period of the pandemic, many business tenants deferred accommodation decisions. Many later discovered that by delaying decisions, the easiest option was to renew existing leases, rather than trying to relocate or downsize with limited time available. In existing buildings, most leases continued to be renewed even if the space is underutilized, although tenants are tending to take more time to review and consider space needs, rather than automatically renewing. Tenants during such times of uncertainty generally seek flexibility and space that does not require onerous lease commitments.

However, as the impacts of the pandemic continue, and the ability for some staff to work remotely increases, some businesses may be looking more closely at their office space needs and accommodation costs. Yet even if working from home is an option, a hybrid work arrangement and a business workforce requires some office space for in-person activities.

Market Trends

Prior to the COVID-19 pandemic, the Metro Vancouver office market was strong, with very low vacancy rates in the order of 2%. This included both the Vancouver Central Business District (CBD) and surrounding areas, as well as the suburban markets that experienced considerable declines in vacancy rates over the preceding years. For the City of Vancouver market, the vacancy rate stayed low despite significant new office supply added. With the impacts of COVID-19 starting in early 2020, along with new office buildings coming to market, the vacancy rate increased to about 6-7% by the end of 2022 (although notably the vacancy rate was higher in the Vancouver core and lower in the suburban markets).

Most market participants view a vacancy rate in the order of 8% as being balanced and healthy, providing reasonable options and flexibility for both landlords and tenants. Furthermore, much of the new office space being built is already leased, through agreements that were arranged pre-pandemic, although not all necessarily occupied.

While all parties are aware of the divergent trends, such as greater working from home yet also increased space per person at the office, and the different sectors facing different issues and trends, the views about actual office utilization rates (as opposed to lease rates) are less bound by data. Rather, utilization rates are estimated based on observations or limited available data measures, and the future rates are a combination of best guesses and estimates.

For the most part, it appears that major tenants continue to lease their space, often bound by long-term lease agreements, but are increasingly exploring sub-lease options to vacate unused space. This includes some brand-new office buildings, with space that has never been occupied. In other sectors, businesses maintain their space with the expectation that it will be needed in the medium-term future as more employees return to the office and their workforce grows.

While current market changes may mean some reductions in office space needs, there are optimistic expectations that with an eventual return to a version of pre-pandemic conditions and long-term growth in the workforce, including the recognized need to collaborate in-person, the outlook for office space demand is still positive.

Overall, as one participant said, “there’s no sea change”, as the fundamentals are still substantially the same. No companies appear to be headed to zero office presence, as they still need space to operate. Many are simply continuing what they’ve long done, as they try to minimize the impacts of disruptions on their operations. Rather, COVID-19 may only effect decisions at the margin. As always: “Landlords and tenants need to work together to make buildings and spaces work, especially in a changing market”.

Rents and Sub-Leases

It is expected by some interviewees that the evident tech market slowdown in late 2022 will result in a (at least a slight) downward pressure on office market rents. Noting that the face rent rates may still be about the same, but larger inducements and better terms for tenants reduce actual / effective rents. There has also been general inflation over the past few years, yet rents are relatively flat, thus the real cost has declined. Aside from base rent, operating costs comprising building maintenance and property taxes are rising, paid by the tenant. (Interestingly, the covenants by tenants and landlords vary and are changing – now in some cases the tenants are stronger businesses than the landlords).

In terms of sub-leasing of space, the process is unique, building specific and not straightforward. Often, if the remaining lease duration is less than two years, the head tenant will not bother with a sub-lease process. Or the tenant may negotiate an early termination with the landlord, with a penalty paid. Often, for space that is sub-leased for a short duration there is also an agreement with the landlord for the new tenant to remain in place when the initial head-lease expires; defaulting on lease payments is very rare. The types of tenants that take short-term sub-lease space are those that are more flexible or seeking a lower cost option, such as start-up companies, and tenants needing swing / temporary space.

Also an important consideration and limitation is that it is difficult to fully optimize space, because of considerations like floorplates, access, common areas, layouts, etc., which impede

the efficient demising of areas. This is proportionally more of a challenge for smaller spaces than larger ones.

Office Supply

Many new office buildings and much office space is coming to market, although most (estimated by some interviewees at 80%) is pre-leased or pre-sold before construction completion. This new supply is associated with the tail-end of the current building cycle. However, in some cases, these new tenants are attempting to sub-lease their space even before it is occupied. This includes some big tech firms, which are giving back space and putting pause on new space. Also, much 'grey space' exists; space that is unused and available, but not actively marketed, which is hard to quantify.

For businesses that are occupying underutilized space, they may eventually give some back over the next few years, as their leases expire. This will lead to an increase in supply, requiring a longer period for the space to be (re)absorbed by the market. The result is that new buildings may take longer to be fully occupied and utilized, as compared to typical markets and building completions.

Furthermore, developers that are contemplating new office buildings will likely push back construction schedules by a few years to better align with forecasted future market conditions. The question this raises is, if in the coming years (i.e. 2025 / 2026), there will be a shortage of space if most development projects are put on hold now. Based on reported vacancy rates, according to some optimistic participants (more so brokers than developers), market fundamentals warrant more supply, however that does not consider utilization rates or other risks. In downtown Vancouver, for example, the projects already underway are proceeding; developers are not stopping, although maybe slowing on future ones.

Office Demand

Good office space is still in demand, in modern buildings, with nice amenities, functional units, attractive designs, and at central locations. For hybrid work arrangements, employers need to offer a good or great location and space to attract employees to commute to work, and often combine it with other activities on the same day (e.g. lunch out, shopping, dinner, events, a concert, or sports game).

Most leaders want their staff back in the office, but not all of their employees want to return. As has been said: 'Great companies use great space to attract great employees'. Thus, leading companies are providing employees incentives and inducements to come back to the office, including attractive working spaces.

2.3. Regional Office Market Statistics

According to Colliers market reports as of the end of 2022, the total inventory of market office space in the Metro Vancouver region was 76 million sq ft.[5] Note that the market inventory as tracked by brokerage firms excludes some smaller buildings and non-market buildings such as

[5] Colliers, Vancouver Office Market Report, 2022 Q4.

government / institutional offices, which were included in the Metro Vancouver inventory, as explained in subsequent sections.

As of late 2022, Vancouver was still experiencing an office construction boom, having completed 1.4 million sq ft of new space in 2022, with further 6.1 million sq ft actively under construction across the region.[6] Note that much of this construction activity commenced before the pandemic. Meanwhile, the tech sector which had driven demand for large blocks of office space in and around downtown Vancouver slowed in terms of employment levels and leasing activity.

Table 2.1 shows the number of office buildings and amount of office floor space tracked by Colliers for the Metro Vancouver region as of the end of 2022.[7] This data shows that the Vancouver downtown (including Gastown, Railtown, and Yaletown) is the dominant office centre of the region, with about 31% to the total number of office buildings and 44% of total amount of office space. These numbers reflect the fact that office buildings in the central business district (CBD) are notably larger than in other parts of the region. Adding the other Vancouver sub-areas (Broadway Corridor, Periphery), the City of Vancouver in total has 46 million sq ft of market office space, or about 60% of the regional total.[8]

The next largest market is Burnaby, with approximately 11.4 million sq ft or 15% of the regional total, followed by Surrey at 6.5 million sq ft (9%), and Richmond at 4.3 million sq ft (6%). The other sub-markets in the region are relatively small. Over time this may change, reflecting evolving development and employment patterns in the region.

Table 2.1: Metro Vancouver Office Market Inventory by Sub-Region (2022 Q4)

Geography	# of Buildings	Office Space Sq Ft	Buildings - % of Regional Total	Sq Ft - % of Regional Total	Avg Building Size Sq Ft
Vancouver Downtown Core	194	28,956,943	21.5%	37.9%	149,263
Vancouver Gastown / Railtown	50	2,723,951	5.5%	3.6%	54,479
Vancouver Yaletown	36	1,739,320	4.0%	2.3%	48,314
Vancouver Broadway Corridor	128	8,520,305	14.2%	11.2%	66,565
Vancouver Periphery	60	4,301,301	6.6%	5.6%	71,688
Vancouver Sub-Total	***468***	***46,241,820***	***51.8%***	***60.6%***	***98,807***
Burnaby	124	11,453,012	13.7%	15.0%	92,363
Surrey	99	6,543,345	11.0%	8.6%	66,094
Richmond	65	4,321,278	7.2%	5.7%	66,481
North Van	60	2,769,556	6.6%	3.6%	46,159
New West	34	2,227,165	3.8%	2.9%	65,505
Langley	40	2,098,385	4.4%	2.7%	52,460
Tri-Cities	13	680,069	1.4%	0.9%	52,313
Other Areas Sub-Total	***435***	***30,092,810***	***48.2%***	***39.4%***	***69,179***
Regional Total	**903**	**76,334,630**	**100.0%**	**100.0%**	**84,534**

Source: Colliers, Market Report Metro Vancouver, 2022 Q4.

[6] Colliers, Vancouver Office Market Report, 2022 Q4.
[7] Colliers, Vancouver Office Market Report, 2022 Q4.
[8] Colliers, Vancouver Office Market Report, 2022 Q4.

According to Colliers, the overall average vacancy rate for the region at the end of Q4 2022 was 5.9%. Downtown Vancouver had a higher vacancy rate (8.4%), while other parts of the region had lower vacancy rates (average 4.3%), reflecting some declines in office demand by the tech sector in Vancouver and growth in demand by other sectors in the suburban markets. The building vacancy rate as well as space utilization rates have been greatly impacted by the pandemic, work-from-home trends, and tech employment levels.

Office rental rates are highest in downtown Vancouver, with an average asking rent rate of about $40 per sq ft, and over $50 for Class AAA space. Rent rates in other markets are considerably lower, in the range of $20-30 per sq ft. Typically, building operations, maintenance, and property taxes represent an extra 50-60% of accommodation costs for tenants in addition to net rents.

As for the class of office buildings (a function of the quality and location of the accommodations) in the region, approximately 78% are Class A and B (average quality). Only 8% of buildings are Class AAA (top quality), 15 of 22 of which are located in downtown Vancouver.[9] Rents for different classes and locations of office space vary accordingly. See Table 2.2 for a summary of the region's office inventory by building class.

[9] Colliers, Vancouver Office Market Report, 2022 Q4.

Table 2.2: Metro Vancouver Office Market Inventory by Building Class (2022 Q4)

Geography	Class	# of Buildings	Space Sq Ft	Avg Building Size	Total # Building / Sq Ft
Vancouver	AAA	15	4,609,156	307,277	
	A	118	16,811,728	142,472	
	B	188	17,600,027	93,617	**468**
	C	147	7,220,909	49,122	**46,241,820**
Burnaby	AAA	0			
	A	57	7,385,118	129,563	
	B	53	3,524,313	66,496	**124**
	C	14	543,581	38,827	**11,453,012**
Tri-Cities	AAA	0			
	A	6	362,184	60,364	
	B	3	121,024	40,341	**13**
	C	4	196,861	49,215	**680,069**
Langley	AAA	-			
	A	19	1,204,632	63,402	
	B	16	712,565	44,535	**40**
	C	5	181,188	36,238	**2,098,385**
New West	AAA	0			
	A	9	954,408	106,045	
	B	13	795,659	61,205	**34**
	C	12	477,098	39,758	**2,227,165**
North Van	AAA	0			
	A	27	1,304,636	48,320	
	B	25	1,252,063	50,083	**60**
	C	8	212,857	26,607	**2,769,556**
Richmond	AAA	0			
	A	28	2,312,327	82,583	
	B	28	1,564,500	55,875	**65**
	C	9	444,451	49,383	**4,321,278**
Surrey	AAA	7	1,698,980	242,711	
	A	32	2,072,913	64,779	
	B	38	1,713,903	45,103	**99**
	C	22	1,057,549	48,070	**6,543,345**
Regional Total	**AAA**	**22**	**6,308,136**	**286,733**	**8.3%**
	A	**296**	**32,407,946**	**109,486**	**42.5%**
	B	**364**	**27,284,054**	**74,956**	**35.7%**
	C	**221**	**10,334,494**	**46,762**	**13.5%**
	Total	**903**	**76,334,630**	**84,534**	**100.0%**

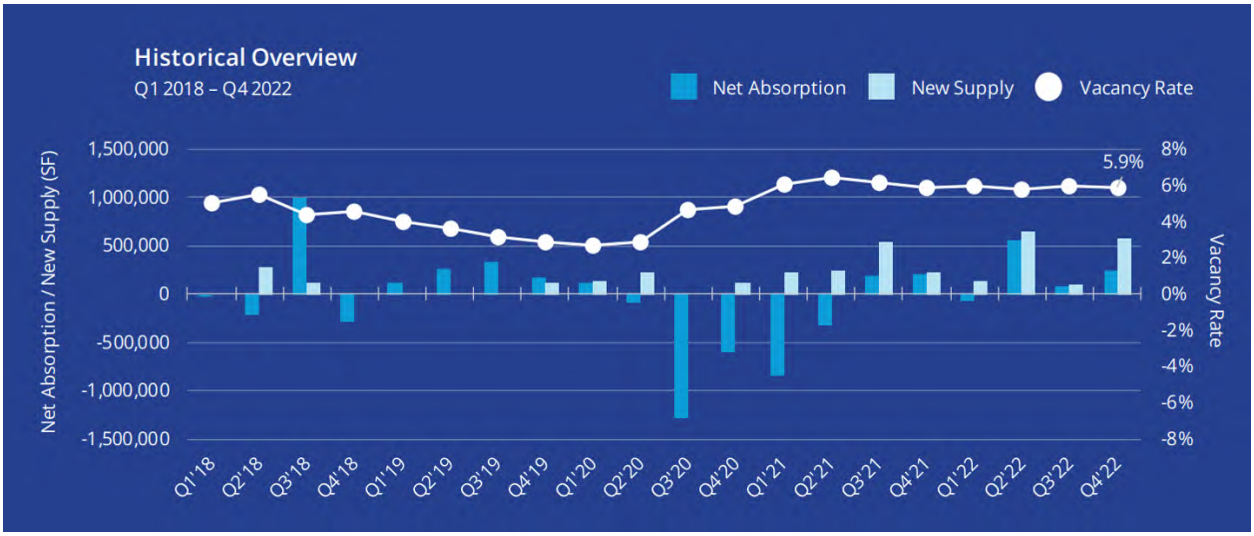
Source: Colliers, Market Report Metro Vancouver, 2022 Q4.

Office vacancy rates in Metro Vancouver declined over the 2015 to 2019 period due to market demand growth and spurred new building supply, however vacancy rates increased starting in 2020 due in part to the pandemic, as seen in Chart 2.1. In 2020 and 2021 there was significant negative absorption levels.

As the downtown market vacancy rate continues to increase and more sub-lease space comes to market, rents are not expected to rise, and this provides additional choices for tenants who may want to move or expand in the downtown Vancouver core. Meanwhile, the vacancy rates

in other sub-markets, which are much smaller, are declining, providing relatively few options for tenants seeking space in those locations.

Chart 2.1: Metro Vancouver Office Market Absorption and Vacancy Rates (2018 - 2022)



Source: Colliers, Market Report Metro Vancouver, 2022 Q4.

Prior to the COVID-19 pandemic, the healthy demand for office space throughout Metro Vancouver has highlighted shortfalls of new supply in multiple markets.[10] While the development pipeline in Metro Vancouver had typically maintained steady new supply, a gap in product delivery and availability formed in key markets such as downtown Vancouver, Burnaby, Richmond and, to a lesser extent, Surrey and Vancouver-Broadway.[11]

However, with the impacts of COVID-19, conditions have changed. More recently[12]:

> *"… the office sector in Metro Vancouver is facing significant headwinds due to a combination of pandemic-related remote work trends, coupled with deteriorating equity markets and expectations of an impending recession. Rising occupancy rates in office buildings, along with an increase in sublease space on the market, have created conditions not seen in many years."*

Despite the attention surrounding the tech sector, which has had a major influence on demand levels and vacancy rate, it is expected that the overall evolution of the Metro Vancouver market will continue to grow at a steady pace, although there are unknowns associated with the extent of remote work levels into the future.

[10] Avison Young, Metro Vancouver Office Market Report, Mid-Year 2018.
[11] NAIOP Vancouver, Office Cost of Business Survey, 2018.
[12] NAIOP Vancouver, Office Cost of Business Survey, 2022.

3.0 SUB-REGIONAL PROFILES

Within the Metro Vancouver region, each of the office sub-markets have different characteristics.

3.1. Locational Distribution

Relatively few office tenants move between geographic markets or asset classes. Those that want to be in downtown Vancouver are already there and not likely to move, for example.

Most employee-focused businesses want to offer their workforce an office with good accessibility, close to amenities, and at a central location. Along with amenities on-site or in the immediate area, successful office nodes need to have good transit service, in the form of a SkyTrain according to most interviewees – ideally within the regional transit network, and not 'at the end of a line'. In terms of geographic location, that usually means downtown Vancouver, and also parts of Burnaby and Surrey City Centre.

For sub-markets, such as Coquitlam and Surrey, over time as the population and economy of these areas grow, local office businesses will also grow. This includes both local population-serving businesses (such as medical / dental offices), as well as some new branch offices.

Even pre-pandemic there were some trends towards sub-regional branch offices for firms like banking and financial services, namely to Surrey and Langley, serving those areas. Those tenants are tracking the business opportunities in those markets associated with a growing economy and workforce.

Although much discussed, many interviewees do not expect significant growth in the form of major sub-regional or distributed corporate offices. The view is that if people can effectively work from home, why go to a local office to work there, with extra rent costs, that executives / leadership are not likely to often visit. The supposed hub-and-spoke or satellite model may not be widespread. According to some observers, rather than sub-regional corporate offices, they are seeing ones expanding into regions outside of Metro Vancouver, like Kelowna, Nanaimo, and Victoria, where employees have moved to during the pandemic.

As the office inventory increases in an area / sub-region and the market is proven, market participants and municipal staff believe that developers will become more confident to build additional office space in these locations. As a start, mixed-use buildings allow for some office as well as retail and residential – the residential part makes the office part financially viable. This office space serves the local population in the form of small to medium size business tenants. Over time, development may shift from mixed-use buildings to standalone office buildings. Success may require a minimum amount of office space in order to eventually create a critical mass for a commercial centre. An adequately sized ecosystem of economic activity is important to business and talent attraction.

Some businesses may realize that not only is their workforce now 'elsewhere', but their customers are also no longer primarily in downtown. In those unique cases, to be closer to

employees and clients, and to reduce rent costs, they may come to prefer a regionally accessible location like Burnaby. In other unique cases, some local businesses grow and stay within their original community, close to features such as major destinations (YVR airport), natural features (Arcteryx active lifestyle clothing), or cultural like Richmond.

In terms of business headquarters, of the relatively few major headquarters in the region, most are in downtown Vancouver. Virtually all tech companies are in the Vancouver core (including Mt. Pleasant), in order to attract and retain talented employees. As of late 2022, the downtown Vancouver market was experiencing a rising vacancy rate, up significantly from extreme lows immediately before the pandemic. This increase in vacancy rate reflects both new office building supply and some curtailing of demand by some sectors. The new supply and associated tenant moves may lead to greater vacancies in some older buildings.

Existing suburban business parks in some cases are doing relatively well during the pandemic. Some of these business tenants desire suburban office space, as it is convenient by car, especially while there were concerns about physical distancing and contracting COVID-19 on public transit. Suburban buildings can include office space with quasi-industrial attributes, needed by some operators. Notably, the tenant profile of the suburbs is different than the urban core.

3.2. Profile of Specific Sub-Regions / Urban Centres

This section provides commentary on the sub-markets and urban centres in the region.

Vancouver

- Vancouver has long been the region's major historic business hub. Vancouver, and specifically the Central Business District in downtown and the surrounding 'core' (including the CBD, Yaletown, Gastown, Mt. Pleasant, and the Broadway Corridor), is the business centre for the region and the province, with over half of the region's office inventory. The Metro Core has a much higher percentage of jobs in professional and commercial services, in comparison to the rest of the region. This distribution illustrates how very different the Metro Core is from the other sub-markets in the region.
- Most people generally want to be where the action is, which usually means 'downtown'. Particularly, the tech sector needs ready access to talent, most of whom work or want to work in or around downtown Vancouver. Thus, the bulk of new office space is being built in this part of the region.
- The Broadway corridor will also grow the area's office market, as a location where many businesses are or want to be, and close to workforce as well as amenities. The Vancouver Broadway Plan will have a significant amount of office space and employment associated with the extension of the SkyTrain line. Broadway ('Mid Town') is central and a major office draw, second only to Vancouver downtown / CBD. Some interviewees see Broadway as an alternative to downtown corporate towers, yet also different than Mt. Pleasant's light industrial character.

- In Mt. Pleasant some businesses want to expand in place but cannot find space in the area – instead, they open a second (possibly more of an industrial type function) facility in another location, and maintain a front facing space in Mt. Pleasant.
- Outside of downtown but still within the City of Vancouver, there is Broadway Tech to the east. The campus meets the needs of tenants that want to be accessible to downtown Vancouver and the region; it has both good rapid transit service and is accessible to Highway 1. Broadway Tech is also attractive to tenants that need larger floorplates.

Burnaby

- Burnaby is the next largest office market in the region, with a considerable amount of office space located in the Metrotown area, which includes a cluster of office towers around the Metrotown shopping centre. Metrotown is viewed as a good office location due to its centrality in the region and its high level of transit service.
- Brentwood is seen as a desirable area due to its good transit and road access, with many major developments, both residential and commercial.
- Burnaby also includes a significant amount of office park development located in various parts of the city outside of Burnaby's four Urban Centres (i.e. Metrotown, Brentwood, Lougheed, and Edmonds), such as Canada Way and Willingdon Avenue.
- More office park development located far from SkyTrain stations is not predicted in Burnaby, because office tenants want the amenities and transit service found in Urban Centre and at SkyTrain locations.
- Most demand is from existing expanding businesses. Metrotown and Brentwood are seen as being the major office nodes for Burnaby. More office is coming along in phased projects by SkyTrain stations (both mixed-use and multi-use buildings).
- Yet some interviewees believe that Burnaby does not have the mass or draw of Vancouver's CBD.

New Westminster

- New Westminster has a concentration of office space at the Sapperton SkyTrain station ('The Brewery District') and in the downtown (including the Anvil Centre Office Tower). Although New Westminster's downtown has historically been a centre for office uses, there is also a supply of office space in the 'Uptown' neighbourhood, which offers space for both local and some regional serving tenants.
- Generally, downtown New Westminster offers different types of office development potential (or upgrade of historic buildings) compared to other locations (i.e. Braid, Sapperton) which can offer large sites that can accommodate comprehensive development plans.

Surrey

- Surrey has a variety of office building types distributed throughout the city. The Surrey City Centre area contains an increasing number of modern office buildings, with the relocation of the City Hall and establishment of the Simon Fraser University Surrey Campus to this area spurring additional development interest. Surrey Centre is expected to strengthen as a good

location for office in the future, however, it will take some time to fully develop and mature.

- Developers and brokers felt that the Surrey City Centre office market will grow over time. The City of Surrey has long-term strategies for the area to build it out over the coming decades, and sees Surrey City Centre is a step above other city centres in the region, such as Coquitlam, Metrotown, and Richmond, and is a 'game changer' in terms of long-term growth potential.
- The extension of SkyTrain from Surrey east to Langley improves the relative location of the Surrey City Centre, putting it closer to the centre rather than the end of the SkyTrain network.
- The current supply of available office space in the city is small, providing limited immediate options to interested tenants. Growth is expected to come from engineering, law, and accounting firms, and perhaps some government agencies. A positive feature for this market is that the City of Surrey is perceived as being proactive and supportive of the Surrey City Centre, with a lot of land available for development.
- There are expanding businesses in Surrey looking for office space, increasingly in the Surrey City Centre. The decline in office vacancy rates in Surrey over the past years reflects the business activity going there.
- 'If you built it they will come', has been true so far for much of the office space built in Surrey. The question is if it will be true for more and larger office buildings. There are some concerns that if too many new office buildings come to market at once, it could create more supply than can be readily absorbed.

Richmond

- Richmond has a large proportion of its office stock located outside of its downtown centre running along No 3 Road. This suburban office stock includes Crestwood office park and other areas to the east of the Richmond Centre. Many of these office parks were built in the 1990s, and in the past decade experienced high vacancy rates because of difficulties in attracting office tenants to areas with few amenities and limited transit.
- Richmond is considered a 'gateway to the region' by some participants, given its proximity to the YVR airport, and has some good tenants located in its office parks. However, for employees who live in the eastern parts of the region such as Coquitlam, Surrey and Langley, Richmond is difficult to conveniently access by both car and transit.
- Noted considerations to locating in downtown Richmond (namely the No 3 Road corridor) include few accommodation options for office tenants, although that will increase, and some office space coming in mixed-use projects, although some as strata tenure.
- There has not been much new office development for many years in Richmond. The past high vacancy was naturally absorbed leading up to the pandemic. Suburban complexes like Crestwood and Airport Executive Park now have much lower vacancy rates than in the past. Along No 3 Road in the City Centre, there is increased interest in office development.

North Shore

- The North Shore is a very small office market, with a fragmented supply located in many different buildings, some of which are smaller and older. It has few major office tenants other than some government agencies (such as ICBC, which has announced it is planning to relocate).
- There is limited demand for office space in the North Shore, as major office businesses tend to locate in other cities that are more accessible to the regional workforce. Highway traffic congestion to / from the North Shore from the rest of the region is a notable constraint to attracting employees to this sub-region.
- The City of North Vancouver, and especially Lonsdale Regional City Centre with its enhanced urban amenities, is located very close to Vancouver's CBD via the SeaBus, which improves its accessibility.

Coquitlam

- Even with the completion of the Evergreen Rapid Transit Line in 2016, some market participants view Coquitlam as being located on the edge of the region. It is expected that it will take time before significant standalone office developments occur, which will be supported by the ongoing growth in population and employment in the area.
- Coquitlam is a relatively young city centre, only 30-40 years old. It was originally built as a shopping mall, and then added apartment residential. The limited office that exists is predominantly local serving. As the community grows and matures, the city hopes to attract more business activities and office tenants.
- The Coquitlam Centre has strong transportation / transit combination – SkyTrain, bus exchange, West Coast Express, along with micro mobility and park amenities.
- As the population of the sub-region increases, business and employment space opportunities will also increase. The City has policies requiring office component on some of the city centre lands, but no policies preventing strata office tenure.

Rest of the Region

- Other areas, such as Port Moody, Langley, Delta, Maple Ridge, and Pitt Meadows, have very small office markets with few major office buildings.
- The Langley market, while still small, is experiencing strong demand. Businesses there looking for space have very few options. Supply may increase over time, particularly for Langley with the extension of the SkyTrain line to be completed by 2028.
- Most of the office tenants serve the local population, which will grow as the area population and economy grows. Other opportunities may entail attracting some government and institutional offices.

3.3. Additional Considerations

In the secondary markets, the possibility to attract a government agency as a major new tenant with many employees is seen as a possible catalyst for greater activity. Institutional / public sector tenants, like hospitals and universities, are major drivers for associated private sector office demand and investment. The directing of these types of investments to Urban Centres is supportive of policies in the regional growth strategy.

Pre-leasing is difficult in suburban markets. Prospective tenants want to see the building completed (or at least construction started) before making a lease commitment decision. Yet many of these suburban locations have very limited office supply. Demand is now spurring some development. But the 'chicken and egg' conundrum has been often noted, of there not being adequate (proven) demand to build new space, yet not enough new space to satisfy (current) demand.

Some cities require developers to build office space within a mixed-use complex, even if the office market demand is not yet there. If this is a small amounts of office, it can be reasonably absorbed by the local market; but larger blocks of space are much more difficult, and represent an increased development risk. Furthermore, excessive new office space may saturate a small market, depressing rental prices, making it difficult for other market office space to compete.

For some projects, the office space in mixed-use buildings can be poorly designed, with too many columns, inefficient floorplans, awkward access, etc., which does not allow for functional design including open areas and collaboration space.

Shuttle bus service is a benefit for existing suburban business parks that are beyond walking distance from a SkyTrain station. However, it was noted that with more flexibility for working times, it also means people coming into the office at different hours, which may favour car instead of transit commute and thus needed parking.

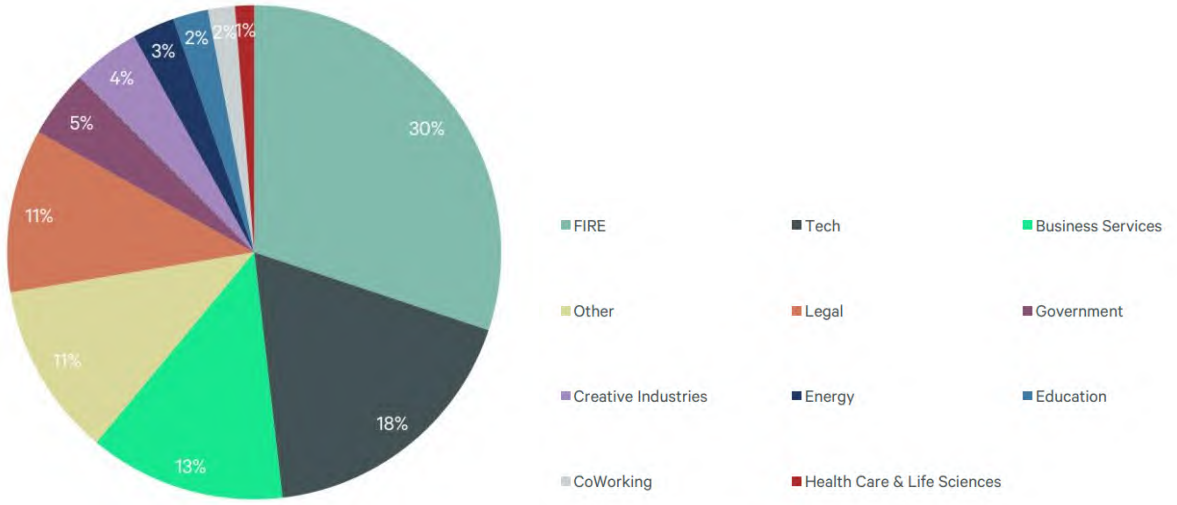
4.0 OFFICE TENANT TYPES

The type of tenants requiring accommodations influences the demand for office space.

4.1. Tenant Profile

Chart 4.1 illustrates the distribution of office tenant composition in downtown Vancouver as of late 2022. This shows that 30% was FIRE (Finance, Insurance, Real Estate) sector, 18% Tech, and 13% Business Services, followed by other smaller groups.[13] This changes over time and would be different in other sub-areas given the varied economic profiles of different parts of the region.

Chart 4.1: Vancouver Downtown Tenant Make Up



Source: CBRE Research, 2022.

This ratio of tenant types is notably different than it was four years prior. In Q2 2018, technology tenants accounted for 33.5% of office space demand, followed by Education at 12.7%, and Professional Services at 8.9%.[14]

Tech Business Sectors

In the past, building landlords often did not prefer tech tenants, as they were prone to quickly grow or fail, either way likely vacating the space – not ideal stable, long-term occupants. Now, many tech tenants are large, growing, and mature, and thus attractive for landlords.

The 'tech centre' of Vancouver has shifted from Yaletown to Gastown to Mt. Pleasant, and now the Broadway Corridor with the extension of SkyTrain rapid transit line. Notably, the boundaries of 'downtown Vancouver' have expanded from the historic core (CBD), to include these areas and the POST complex on the eastern edge of the core. Additionally, growth of bio-tech / life sciences / medical facilities close to the new St Paul Hospital campus and Great Northern Way will include significant new office / lab space and education facilities. The Mt.

[13] CBRE Office Market Overview extraction Oct 2022 for Metro Vancouver.
[14] Colliers, Metro Vancouver Office Market Report, Q2 2018.

Pleasant area is very popular with notable newer buildings containing light industrial, technology, labs, and innovative spaces.

Tech tenants often pay a premium for prime office space, which is a key component to attracting workers, and noting that office accommodations are a relatively small percentage of total business costs.

The tech sector slowed in 2022, led by stock market declines, with a lag to business operations thereafter, causing more caution and defense about business and employment decisions. Some tech businesses are now looking at employee layoffs and space savings efforts to reduce costs. This may mean putting office space on the sub-lease market and consolidating operations for efficiencies. In cases of office moves, even if the rent per sq ft is higher in the new space, less space may be required as it can be used more efficiently, thus the total accommodation costs may be lower.

The longer-term outlook for tech sector businesses and tenants is seen as positive, despite cyclical dips in hiring. Amazon and Microsoft are very large corporations and with major operations in Vancouver. They provide stability to the city and regional economy, whereas some smaller start-up businesses that are dependent on venture capital funding may be less stable or durable.

These tenant trends are reiterated through the results of the interviews:

- The large tech tenants that have entered the market in the past few years represent a significant shift in the dynamics of the downtown Vancouver office market. While Vancouver has relatively few major corporate headquarters, these new tech companies have been taking up large blocks of space, often preferring large floorplates for efficiencies and a new building for modern features, and need a central Vancouver location to attract and retain young urban talent.
- Large corporate and global professional services firms often want to be located in trophy buildings, however this is less a factor for tech tenants, who may prefer the feel of Mt. Pleasant.
- At the same time, but not receiving the same amount of profile, are the many small office tenants in the market, taking up 3,000-8,000 sq ft of space each.
- Large tech companies are increasingly comfortable with locating in Vancouver, given that it is a known location, an international city, west coast time zone, has many amenities, and access to an international workforce. The presence of large tech companies (such as Amazon) are attracting more tech companies, both big and small. Talented workforce wants to live in the region, and although housing prices are high, some workers are satisfied with renting as they may not have expectations about home ownership or intent to live in the region permanently.

Average Office Tenant Size

Compared to other major North American markets, Metro Vancouver has relatively few large corporate head offices and is composed of many small and mid-size tenants. Specifically, for

downtown Vancouver, which contains much of the office businesses in the region (although the mix is different from the rest of the region), the average office tenant size was 7,750 sq ft in 2022, based on tenancy occupancies of approximately 21.3 million sq ft and 2,750 units.[15] This is up slightly from past years recorded as 7,200 sq ft in 2014 and 7,400 sq ft in 2012.

Of this inventory in late 2022, 59% of the office space was occupied by tenants under 20,000 sq ft in size (2,582 units), comprising 94% of all units. At the other end of the spectrum, tenants over 75,000 sq ft in size comprise only 1% of all units (25 units), yet represent 15% of the total office space. This documents the wide range of unit / tenant sizes, with a significant cluster of them being smaller, and a limited number of much larger outliners. This distribution is shown in Table 4.1.

Table 4.1: Distribution of Office Tenant Sizes in Downtown Vancouver (2022)

Unit Size Range	Total Sq Ft	# of Units	Avg Unit Size	% of Total Sq Ft	% of Total Units
0 - 1,999	956,799	719	1,331	4.5%	26.1%
2,000 - 4,999	3,249,963	1,011	3,215	15.2%	36.8%
5,000 - 9,999	3,298,151	477	6,914	15.5%	17.3%
10,000 - 19,999	5,070,538	375	13,521	23.8%	13.6%
20,000 - 29,999	1,408,617	59	23,875	6.6%	2.1%
30,000 - 49,999	1,872,274	50	37,445	8.8%	1.8%
50,000 - 74,999	2,208,677	35	63,105	10.4%	1.3%
75,000 - 99,999	580,072	7	82,867	2.7%	0.3%
100,000 - 199,999	1,924,210	15	128,281	9.0%	0.5%
200,000 +	743,125	3	247,708	3.5%	0.1%
Total	**21,312,426**	**2,751**	**7,747**	**100%**	**100%**

Source: CBRE Research, 2022.

Other Tenant Sectors

Although the tech sector may be slowing, other sectors such as professional services are still growing. During the pandemic, some businesses grew and increased their workforce while others have stayed constant and retracted, thus space needs vary for those reasons as well.

In some of those sectors, companies are leasing more space, especially the larger, confident, well-financed ones. By sector, lawyers and bankers have higher rates of return to office occupancy as compared to tech companies. For such sectors, despite or because of COVID-19, business is still good, and accommodation decisions are not driven by cost constraints.

With a possible slowdown in the economy and an increase in unemployment rates, more employees may want to work at the office to maintain and advance their careers. As noted by some employers, the past war for talent where employers had to offer many benefits to attract employees is now over. For some businesses, this may be associated with a corporate 'culture reset', where the new policy may spur some employees to leave, and the ones that remain will be supportive of increasing in-office requirements.

[15] Source: CBRE Research, 2022. Note that some businesses may occupy multiple office spaces in multiple buildings; for this analysis each space / unit is treated separately. Furthermore, this analysis does not include vacant space.)

4.2. Co-Working Space

The growth of co-working office space in the Metro Vancouver market was significant prior to the COVID-19 pandemic. This was particularly reflected in the rapid rise of WeWork, and the more established Regus with its multiple brands including 'Spaces'. Co-working firms rapidly become some of the largest tenant types in the Vancouver core. These companies were responsible for an inordinate amount of leasing activity between 2017 and 2019 and in part accelerated the demand for additional office development.[16]

Co-working is accommodating the evolving nature of work, and makes a very illiquid asset (real estate) liquid and flexible. Co-working operators offer a flexible space and service to a range of tenant types, including: i) small businesses that want a professional location and services and socialization offered in a workplace environment, and ii) much larger businesses that take up multiple floors at a time and may require the space for short-term needs, such as a swing site or a specific project.

Co-working offers tenants, or 'members', ready-to-go full-service office accommodations, taking care of all details such as furniture, wi-fi, space planning, support services, reception, etc., that would otherwise have to be organized and managed by the business. The co-working space eliminates the need for companies to invest in real estate, as professional space providers are quicker and nimbler than businesses that are not real estate experts. The tenant pays a premium for these services but with no required long-term commitment, the tenant also has the flexibility to grow, contract, or move as their business evolves.

4.3. Strata Office Tenure

In 2017 and 2018 there were a number of notable strata office projects, partly in response to the low vacancy and strong demand, as well as low interest rates. Purchasing office space can be an investment opportunity for owner-occupiers who are struggling to find and control space in a tight leasing market. The option to own rather than rent is particularly attractive for companies whose space requirements will remain stable for the foreseeable future.[17]

In terms of pricing and demand, one broker states that developers of future downtown Vancouver office strata buildings should not expect to capture the same prices as the high-profile Bosa Waterfront Centre project did in 2017; the unique project achieved high prices because everything lined up, in terms of the site, the project, and the demand.[18]

There are differing views about the implication and extent of strata office:

- Strata office space has not yet had a significant impact on the downtown Vancouver office market as almost all new construction continuing to target lease tenants, despite the early successes of the Bosa Waterfront Centre and Burrard Place.[19]

[16] Avison Young, Metro Vancouver Office Market Report, Mid-Year 2018.
[17] Colliers, Metro Vancouver Office Market Report, Q3 2018.
[18] Vancouver Sun - Evan Duggan, Waterfront Centre's strata units represent price pinnacle: analysts, December 12 2018.
[19] Avison Young, Metro Vancouver Office Market Report, Mid-Year 2018.

- This is a clear sign that the definition of an office investor in Metro Vancouver has shifted.[20]
- Most of the strata office that is being built and sold downtown would likely end up on the leasing market anyway.[21]

Most office space in the region continues to be lease tenure. For development projects, if no rezoning is required as part of the approvals, the city has no interest in the tenure of the space. However, in the case of the City of Vancouver if the project involves a rezoning, the Community Amenity Contribution may be higher if it is strata rather than lease tenure. This reflects the fact that strata values can be higher per sq ft than rental.

In the City of Richmond, there are concerns about strata tenure units built for investors rather than occupants, being underutilized or poorly managed. Furthermore, subdivision of space into small units makes it very difficult for a large tenant to ever occupy it. Richmond has a policy that strata units cannot be smaller than a building floor plate.

In terms of market forces, strata tenure may work in some limited places or in small markets where investors are active, or businesses want to own their accommodations. In some suburban markets (often as part of mixed-use buildings) there may be proportionally more strata office sales than the Vancouver core.

The stratification of commercial space, including office, retail, and industrial, is a relatively new phenomenon in the Metro Vancouver market. Some of the drivers for this trend include a desire for users to be able to own and control their space, which is also an interest of investors. However, there was a question by some interviewees about the depth of demand for this market. With the increase in interest and mortgage rates, it is expected that strata development and sales will diminish.

From a development perspective, high strata values can drive up residual land values to the point where non-strata (lease) development is no longer financially viable. Some critics note that the flexibility to change unit sizes as businesses expand and contract is greatly diminished by stratification as compared to lease tenure of the premise. Strata projects can be dominated by investors who may be less concerned about the management of the property. Furthermore, many businesses do not want to own their space due to the long-term commitment of capital, liability, building maintenance, and other issues.

[20] BOMA BC Leasing Guide: Commercial Real Estate Office Space - Frank O'Brien, Shape-Shifting Office Sector Defines Intelligent Design, 2018.
[21] Vancouver Sun - Evan Duggan, Waterfront Centre's strata units represent price pinnacle: analysts, December 12 2018.

5.0 OFFICE BUILDING INVENTORY

Metro Vancouver first compiled an office building inventory database for the region in 2012, which has been updated in 2015, 2018, and 2022, based on multiple sources, including proprietary databases from brokerage firms, BC Assessment Authority, and member municipalities. Records were consolidated as best as possible given the multiple data sources to provide a comprehensive inventory of the office buildings, although some data gaps, inconsistencies, and limitations may exist. In late 2022, the database was further updated and enhanced[22]. Note that this report and associated inventory statistics should replace previous reports, as the inventory has been further refined with every subsequent edition.

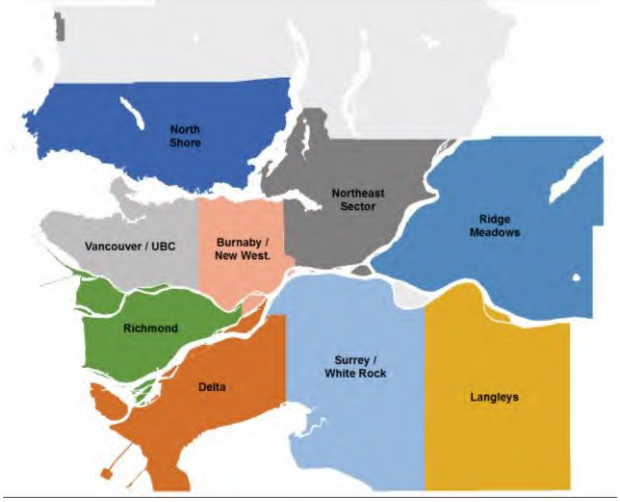
5.1. Background on the 2022 Office Inventory

The database includes all buildings in the Metro Vancouver region with at least 10,000 sq ft of office space. This includes some mixed-use buildings with office components over this size threshold. In total, the inventory is larger than the published brokerage firm reports because it includes some smaller buildings that are not included in market summaries, and also buildings from other sources that are not typically considered 'market' office (such as owner-occupied, government, and institutional buildings).

For analysis purposes, Urban Centre locations are those identified in the regional growth strategy; their boundaries are defined by the respective member municipalities. To provide for consistency, all numbers in this report have been generated using the most recent Urban Centre boundaries.

The Frequent Transit Network (FTN), maintained by TransLink, was used for establishing transit service levels as of late 2022. The FTN comprises bus and rapid transit corridors that provide reliable service at least every 15 minutes throughout the day and over the entire week. The FTN provides a network of transit routes around which municipalities can focus population and job growth. Transit service can be in the form of FTN bus or rapid transit stations (SkyTrain). The defined distance (straight line) for access to FTN is 800 metres (a 10-minute walk) for rapid transit and 400 metres (a 5-minute walk) for bus, which are considered acceptable walking distances / times to access these forms of transit.

Map 5.1: Inventory by Sub-Region



The FTN service changes over time; the earlier office building inventories analyzed transit service based on previous versions of the FTN. Thus, in some cases the changes in tabulated office space that is near FTN bus service may be

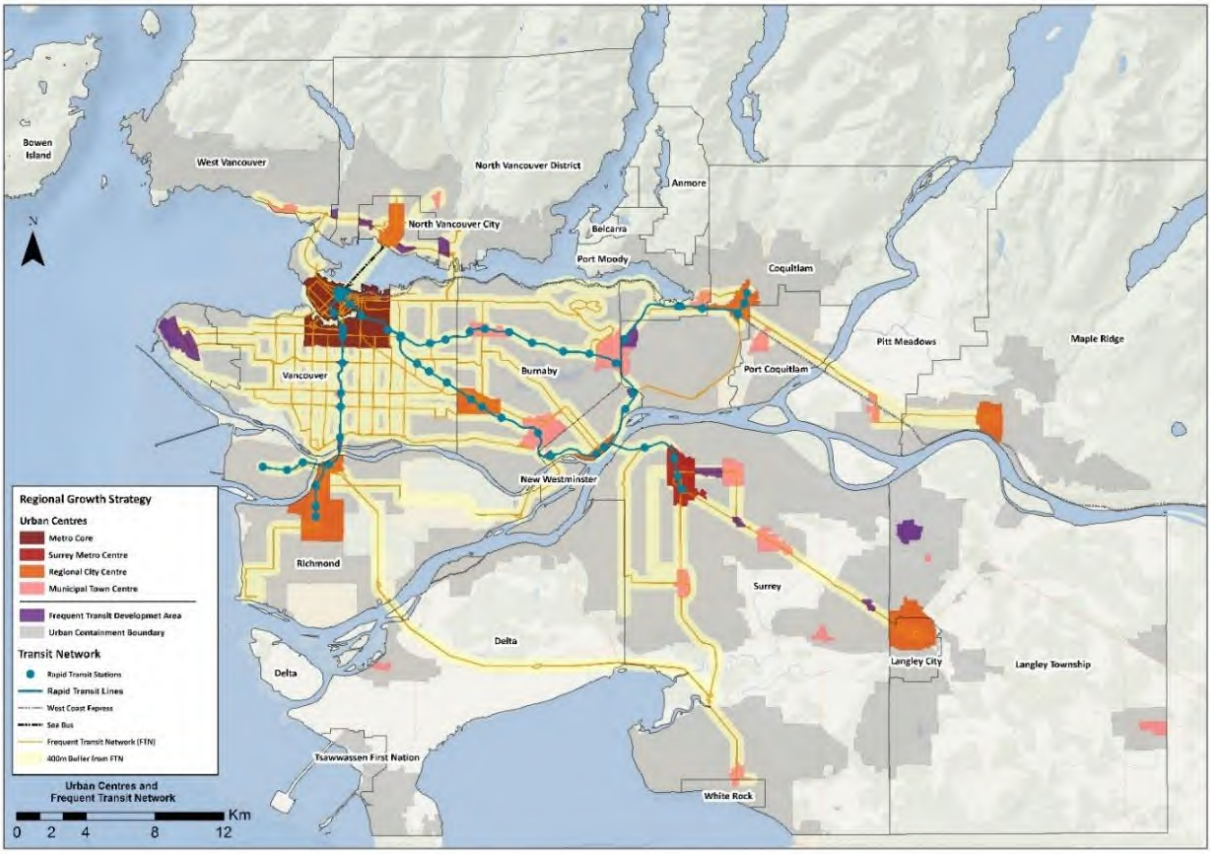
[22] Metro Vancouver would like to thank the following brokerage firms which contributed to the office building inventory update: Colliers International, CBRE, Cushman & Wakefield.

due to changes in transit service after the buildings were constructed. The amount of office space located near West Coast Express Stations, but not by rapid transit stations or within Urban Centres, was negligible and not analyzed for this report.

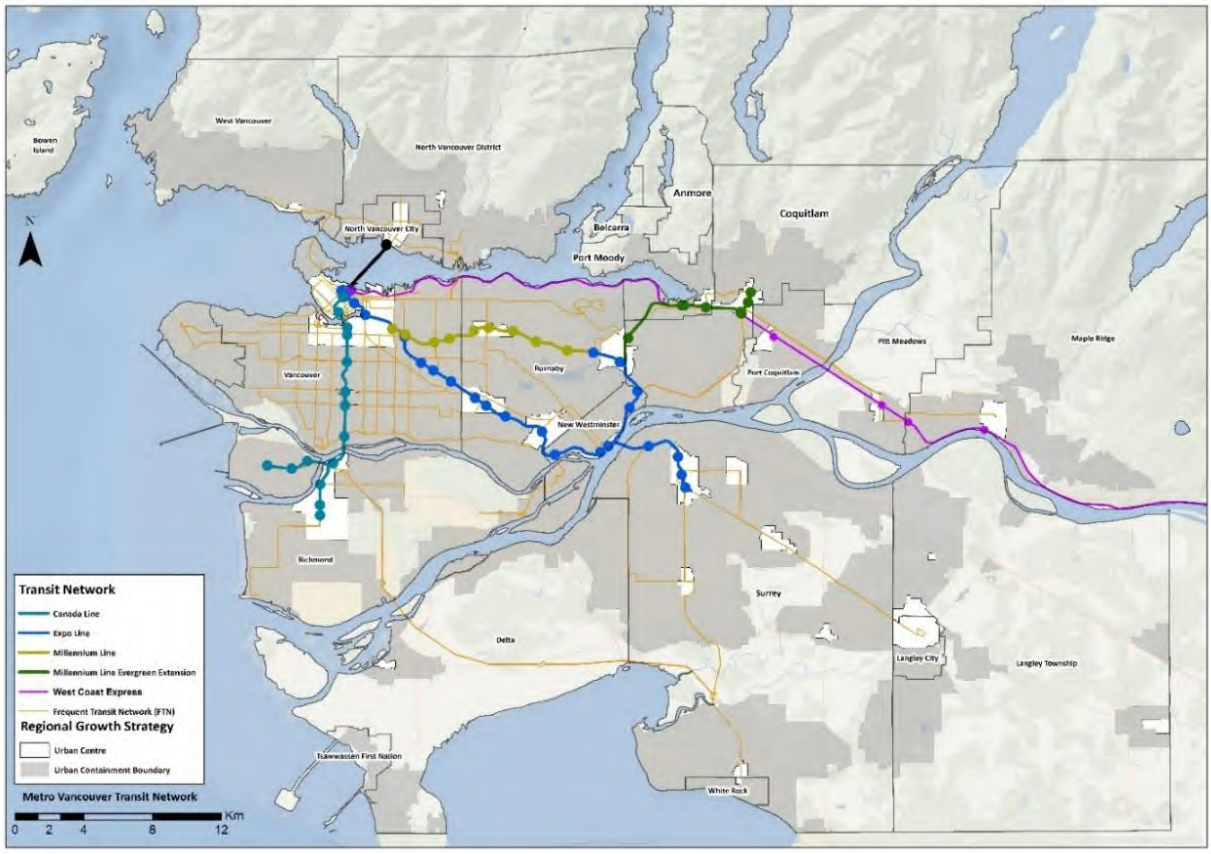
Based on the comprehensive inventory prepared by Metro Vancouver, at the end of 2022 there was approximately 78 million sq ft of office space in the region located within 1,338 buildings. The numbers in the report have been rounded for reporting purposes. (See Appendix F for supplemental tables.)

Map 5.1 shows the sub-regions, Map 5.2 shows the Urban Centres in the Metro Vancouver by type, and Map 5.3 shows the rapid transit (SkyTrain) network.

Map 5.2: Metro Vancouver Urban Centres and Frequent Transit Network

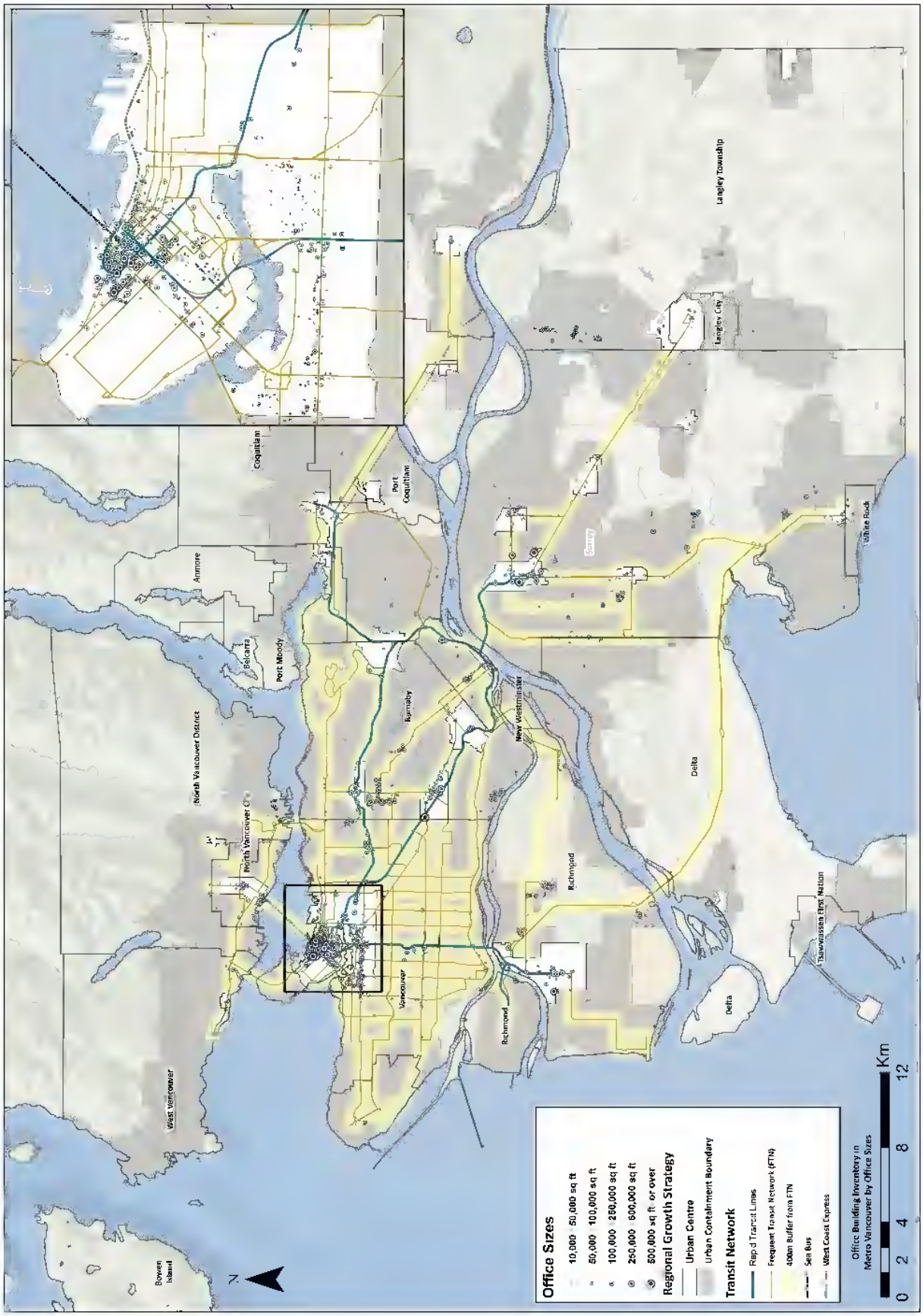


Map 5.3: Metro Vancouver Rapid Transit Network



Map 5.4 shows the distribution of office buildings throughout the Metro Vancouver region. The larger the symbol and the greater the number of symbols indicate large office building clusters. Larger buildings are concentrated in downtown Vancouver.

Map 5.4: Office Building Inventory in Metro Vancouver



5.2. Office Inventory by Sub-Region and Regional Land Use Designation

Table 5.1 shows the number of buildings and amount of office space within each sub-region, as well as the distribution within the region as of the end of 2022. Approximately half (47% of buildings and 55% of floor space) of the office inventory was located in Vancouver/UBC, with other notable sub-regions being Burnaby/New Westminster (at 16% and 17% respectively), Surrey/White Rock (14% and 12%), and Richmond (7% and 6%).

Table 5.1: Office Distribution by Sub-Region

Geography	Number of Buildings	*Distribution*	Floor Space Sq Ft	*Distribution*	Avg Building Size Sq Ft
Vancouver/UBC	624	*47%*	43,000,000	*55%*	68,900
Burnaby/New West	214	*16%*	13,500,000	*17%*	63,100
Surrey/White Rock	183	*14%*	9,200,000	*12%*	50,300
Richmond	96	*7%*	4,800,000	*6%*	50,000
North Shore	96	*7%*	3,300,000	*4%*	34,400
Langleys	66	*5%*	2,400,000	*3%*	36,400
Northeast Sector	42	*3%*	1,300,000	*2%*	31,000
Ridge/Meadows	7	*1%*	300,000	*0%*	42,900
Delta	10	*1%*	200,000	*0%*	20,000
Total	**1338**	***100%***	**78,000,000**	***100%***	**58,300**

The regional growth strategy establishes regional land use designations, including 'General Urban', 'Mixed Employment', and 'Industrial'. As shown in Table 5.2, slightly over three-quarters (77%) of the office space inventory was located on lands regionally designated 'General Urban', which are intended to accommodate a wide variety of land uses. Of the balance, 20% was located on 'Mixed Employment' lands which can accommodate various commercial uses. A relatively small amount (3%) of the office inventory was located on 'Industrial' lands, which are intended primarily for industrial related activities.

Table 5.2: Office Distribution by Regional Land Use Designation

Designation	Office Sq Ft	# Buildings
General Urban	59,830,000	994
Mixed Employment	15,500,000	252
Industrial	2,690,000	92
Total	**78,020,000**	**1,338**

5.3. Office Building Size

Table 5.3 show the distribution of buildings by office size. As can be seen, most office buildings (86%) are under 100,000 sq ft in size, and 11% in the 100,000 to 250,000 sq ft range. There are very few buildings (43 of 1,338) over 250,000 sq ft; 3% of buildings, representing 21% of the total floor space. Of the entire inventory, the average size is 58,000 sq ft and the median size is 31,000 sq ft.

Table 5.3: Distribution of Office Buildings by Size - Entire Inventory

Building Size	Count	%		Sq Ft	%	Avg Size
500,000+	7	1%		4,300,000	6%	615,000
250,000-499,999	36	3%		12,100,000	15%	337,000
100,000-249,999	146	11%		22,300,000	29%	152,000
50,000-99,999	258	19%		18,000,000	23%	70,000
10,000-49,999	891	67%		21,400,000	27%	24,000
Total	**1338**	**100%**		**78,100,000**	**100%**	**58,000**

Specifically over the more recent period of 2000-2022, 364 office buildings were completed with 26.5 million sq ft of office floor space as shown in Table 5.4. Approximately half (54%) of these buildings were under 50,000 sq ft, and another quarter (27%) were between 50,000 sq ft and 100,000 sq ft. However, smaller buildings under 50,000 sq ft represented only 20% of the total new office space. The 18 buildings over 250,000 sq ft are fewer (5% of the total) but are much larger, and thus comprise 26% of the total new office space for the 2000-2022 period. Of this inventory, the average size is 73,000 sq ft and the median size is 45,000 sq ft, both of which are higher than the older stock.

Table 5.4: Distribution of Office Buildings by Size - Built 2000-2022

Building Size	Count	%		Sq Ft	%	Avg Size
500,000+	4	1%		2,500,000	9%	624,000
250,000-499,999	14	4%		4,400,000	17%	315,000
100,000-249,999	54	15%		7,900,000	30%	147,000
50,000-99,999	97	27%		6,500,000	25%	67,000
10,000-49,999	195	54%		5,200,000	20%	27,000
Total	**364**	**100%**		**26,500,000**	**100%**	**73,000**

As can be seen in Chart 5.1, in terms of distribution since 1950, there was a pattern of larger buildings (over 250,000 sq ft) completed during the 1970s and 1980s, and then resuming again after 2010.

Chart 5.1: Building Year Built by Office Size (1950-2022)

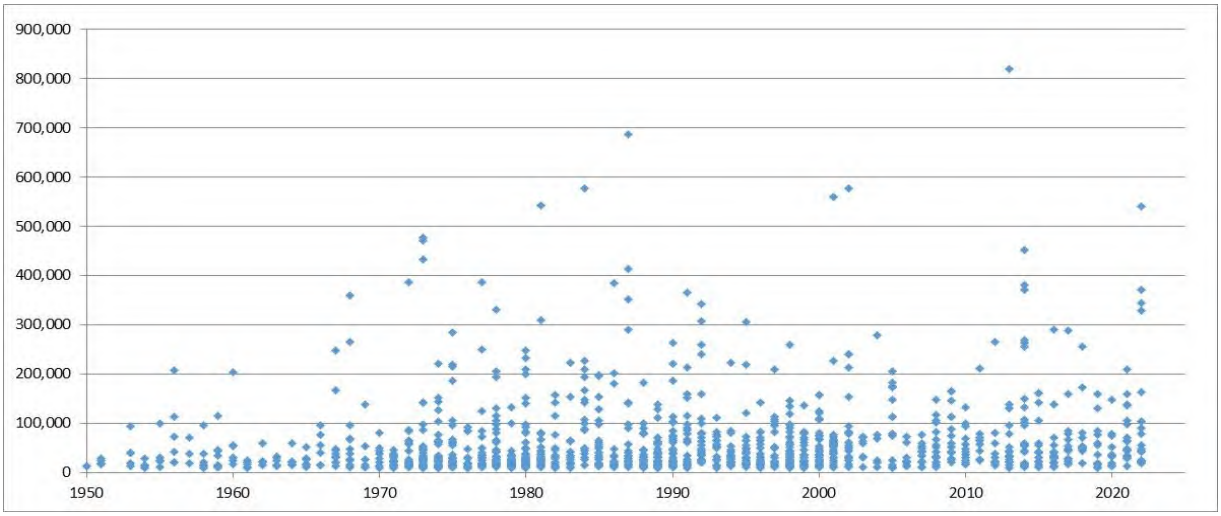
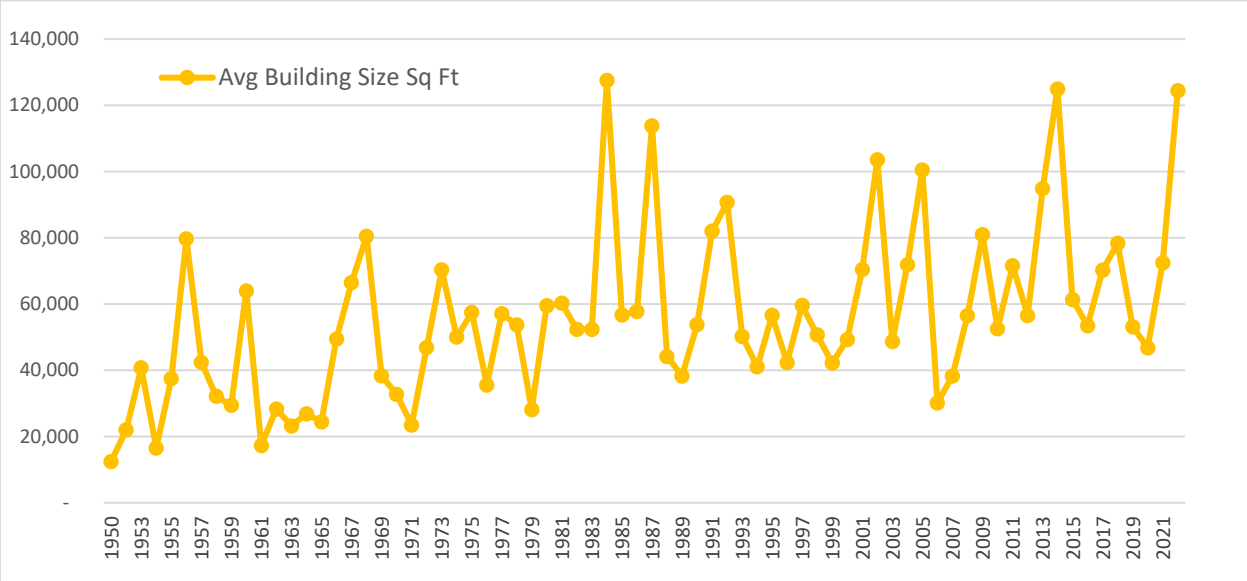


Chart 5.2 shows the average size of office buildings completed between 1950 and 2022. As can be seen, there is a gradual upward trend in the size of office buildings over recent decades, with some years being skewed by a few very large building completions.

Chart 5.2: Average Size of Office Building by Year Completed (1950-2022)



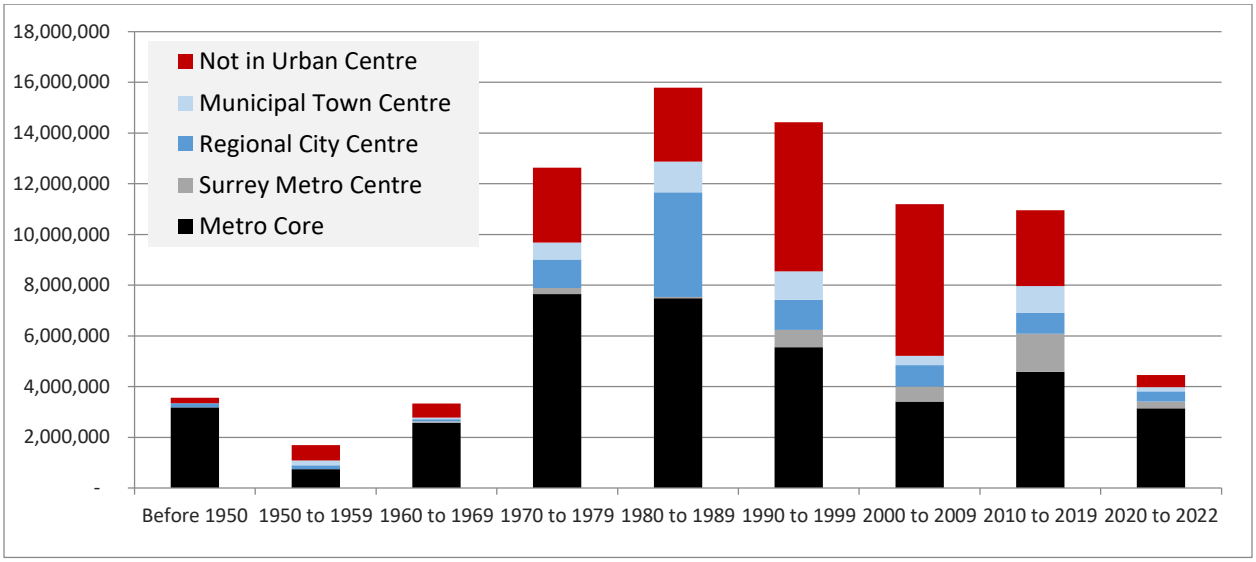
Generally, newer office buildings are becoming larger. Based on the entire inventory, for the buildings over 500,000 sq ft the average completion year was 1998, while for buildings under 50,000 sq ft the average completion year was 1981.

5.4. Office Building Inventory Year Built

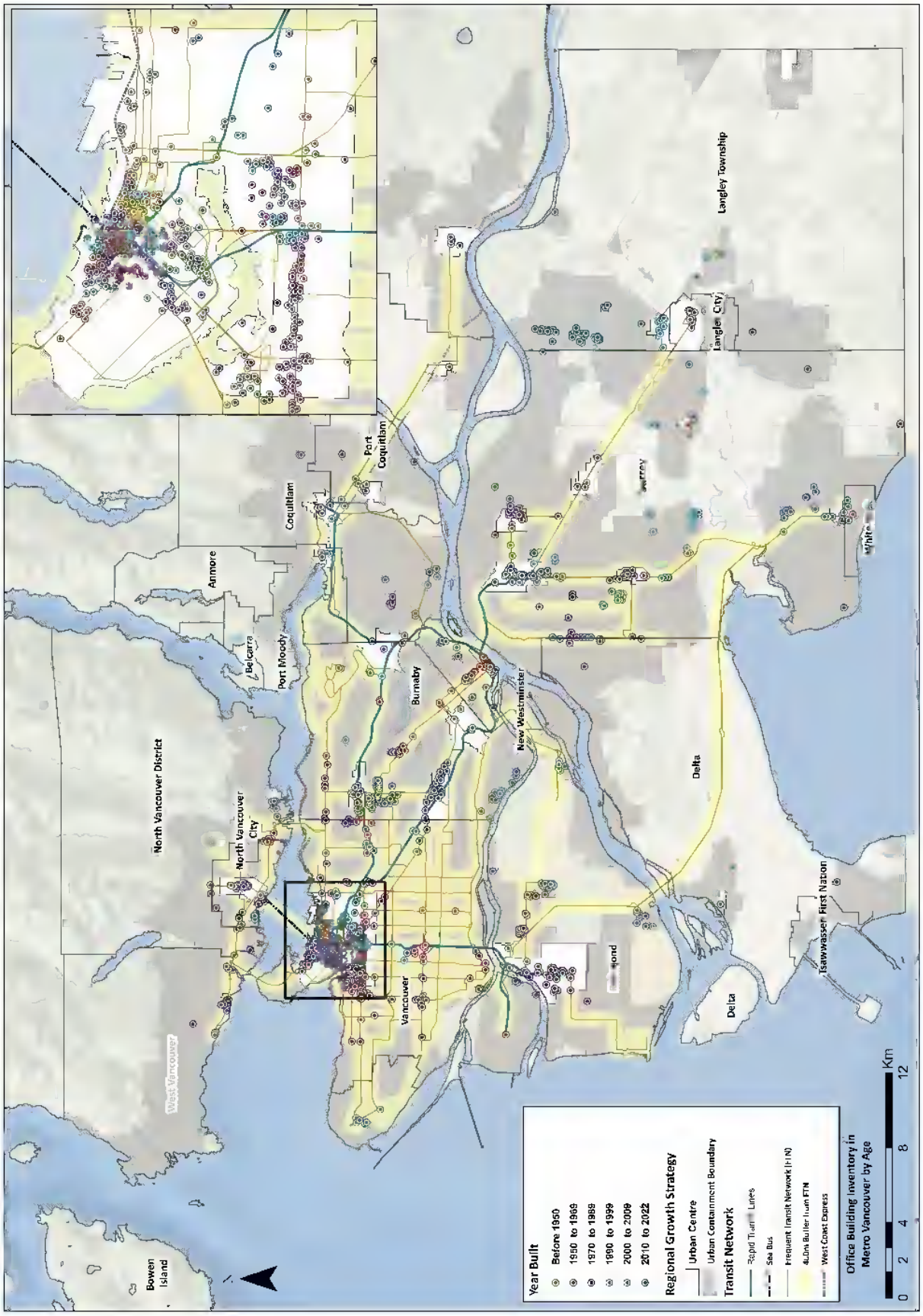
Based on the available records, the building year built (in the form of completions) was compiled. Note that in some cases older buildings have been substantially renovated; where building data is available for substantial renovations, the year renovated has replaced the initial year built. The completion of individual large projects can have a significant impact on the results during periods of relatively lower activity and in small markets. Map 5.5 shows the building inventory by year built.

As seen in Chart 5.3, a substantial portion of the current stock of office space was built in the decades between 1970 and 2019. Particularly, during the 1990 to 2009 period a large proportion of completed buildings were located outside of Urban Centres, whereas that ratio is much lower more recently.

Chart 5.3: Inventory by Period Built by Urban Centre Type



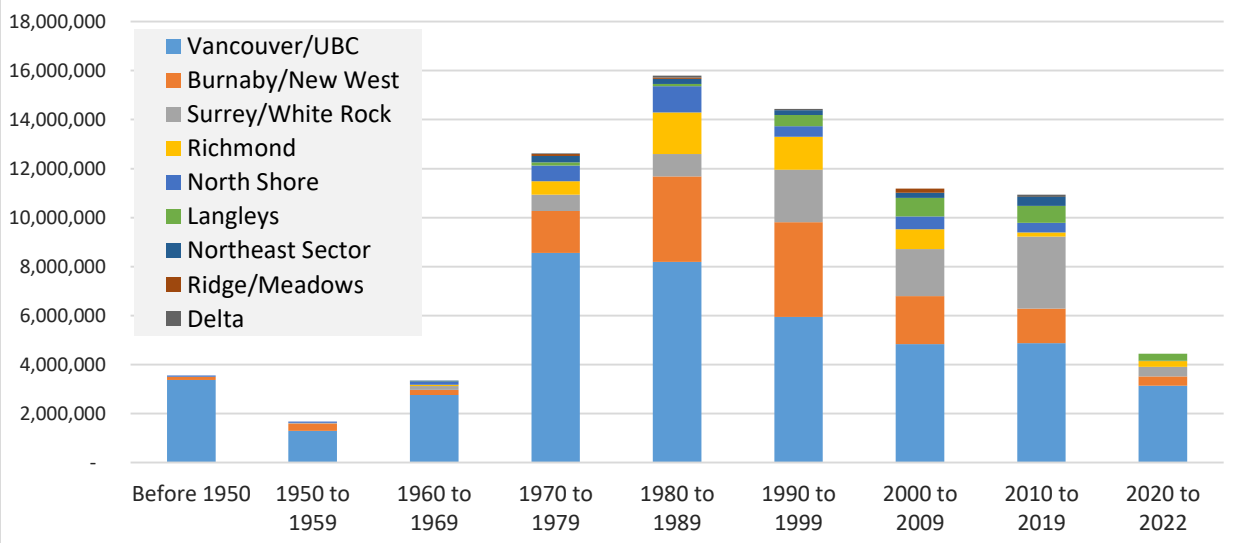
Map 5.5: Inventory by Building Year Built



5.5. Office Building Inventory Year Built by Location

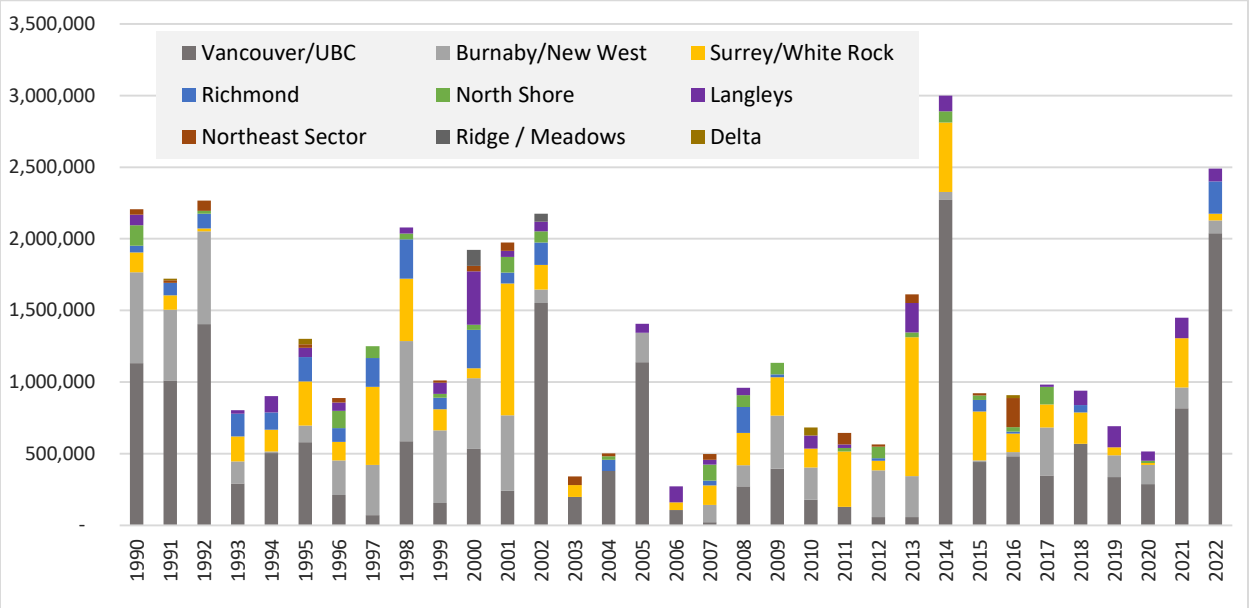
Chart 5.4 show the distribution of office space growth by sub-region and by period built. Much of the development was within the City of Vancouver, and to a lesser extent Burnaby / New Westminster during the 1980 to 2009 period. More recently, between 2010 and 2019 a greater proportion of development was in Surrey. There was a total of 41 million sq ft of office space developed during the 1990-2022 period, which provides for an average of approximately 1.7 million sq ft per year.

Chart 5.4: New Inventory by Sub-Region by Period Built



Completion rates vary considerably from year to year. Chart 5.5 shows the building year built distribution, with significant office development from 1990 to 2002, while during the 2003-2012 period, the completions were considerably lower. In years with higher levels of completion, a large proportion of that occurred in the City of Vancouver, mostly in the form of large new buildings in the downtown core.

Chart 5.5: New Inventory by Sub-Region (1990-2022)



5.6. Office Inventory Relative to Urban Centres and Transit Service

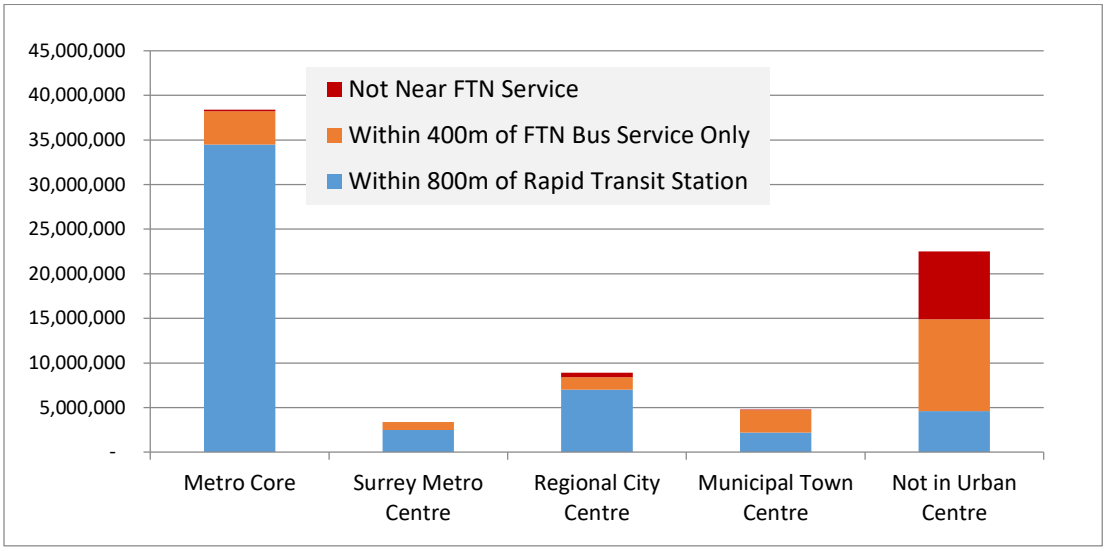
Table 5.5 shows the distribution of the office space relative to both Urban Centres and the FTN. Most office space is located within either an Urban Centre (71%) or within 400 metres of FTN bus / 800 metres of rapid transit service (88%), or within at least one of these geographies (90%). Most of the inventory in the Metro Core and the Regional City Centres (90% and 79%, respectively) is within 800 metres of rapid transit stations (SkyTrain), whereas 46% of the office space in Municipal Town Centres is near rapid transit.

Table 5.5: Inventory by Urban Centres and Transit Service

Centre Type / Transit Level	800m of Rapid Transit Station	400m of FTN Bus Service Only	Not Near FTN Service	Total Sq Ft	*% of Total*
Metro Core	34,473,000	3,693,000	160,000	**38,326,000**	*49%*
Surrey Metro Centre	2,515,000	877,000	-	**3,392,000**	*4%*
Regional City Centre	6,985,000	1,397,000	505,000	**8,887,000**	*11%*
Municipal Town	2,201,000	2,496,000	137,000	**4,834,000**	*6%*
Not in Urban Centre	4,630,000	10,340,000	7,613,000	**22,583,000**	*29%*
Total Sq Ft	**50,804,000**	**18,803,000**	**8,415,000**	**78,022,000**	*100%*
% of Total	*65%*	*24%*	*11%*	*100%*	

Chart 5.6 shows the inventory cross referenced by Urban Centre type and transit service level. Of the inventory not within Urban Centres (22.6 million sq ft), 20% was within 800 metres of rapid transit service and 46% was within 400 metres of FTN bus only. Approximately 7.6 million sq ft (10%) of the total 78 million sq ft inventory was neither in an Urban Centre nor near FTN transit (either bus or SkyTrain).

Chart 5.6: Inventory by Urban Centres and Transit Service

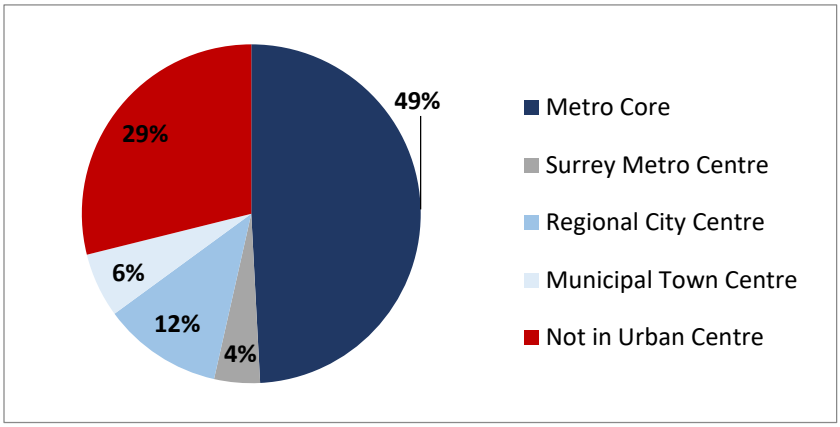


5.7. Office Inventory Relative to Urban Centres

Chart 5.7 shows the distribution of office space by sub-region relative to Urban Centre types. Of the total inventory in the region (78 million sq ft), 71% or 55 million sq ft was located within Urban Centres. The balance, 22.6 million sq ft, was not located in Urban Centres.

Specifically, of just the amount of office space within Urban Centres, 69% was located in the Metro Core (downtown Vancouver and the Broadway Corridor), 16% in Regional City Centres, 9% in Municipal Town Centres, and 6% in the Surrey Metro Centre.

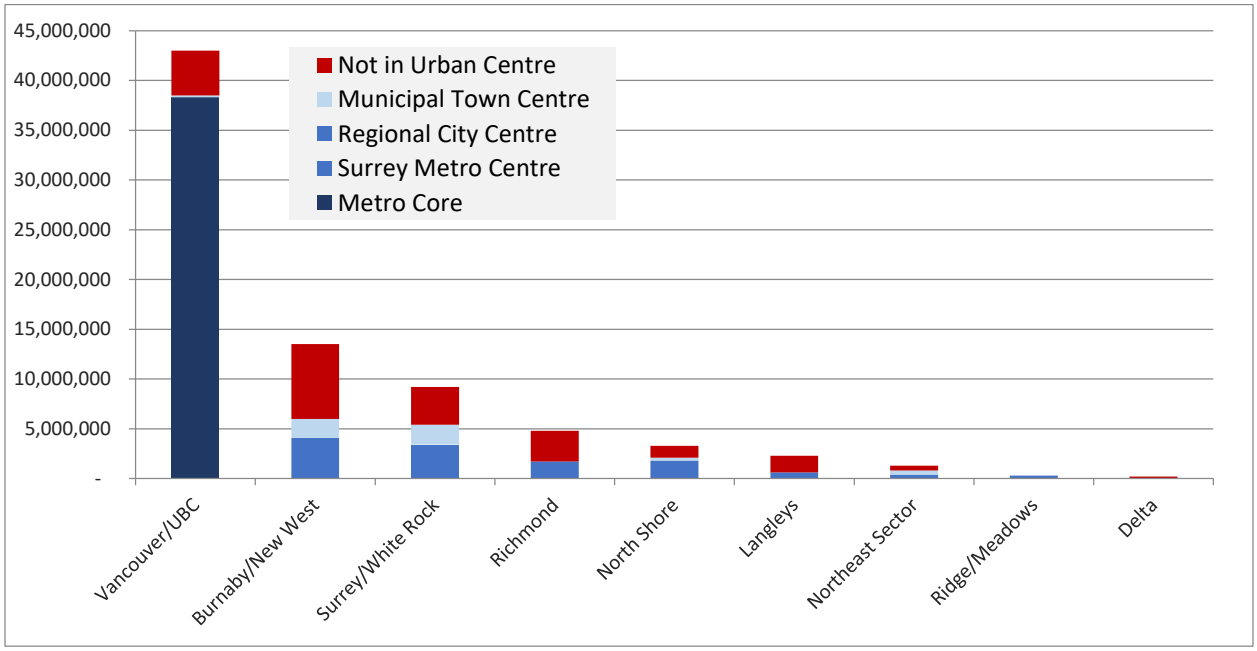
Chart 5.7: Inventory by Urban Centre Type



As shown on Chart 5.8, the 55 million sq ft of office space located in the 9 sub-regions and 26 Urban Centres was distributed as follows: Metro Core (downtown Vancouver and the Broadway Corridor) dominates with a total of 38 million sq ft or 69% of the total office space in Urban Centres in the region. The next largest Urban Centres (at less than one-tenth the size) are Metrotown City Centre and Surrey City Centre at approximately 3 million sq ft each, and Richmond City Centre at 2 million sq ft. The average size of the seven Regional City Centres was

1.3 million sq ft, while the seventeen Municipal Town Centres contain relatively limited amounts of office space (6% of the regional total), with an average of 280,000 sq ft of office space each.

Chart 5.8: Inventory by Sub-Region and by Urban Centre Type



Map 5.6 and Chart 5.9 show the inventory relative to Urban Centres. For Vancouver, the majority of space is within Urban Centres (i.e. Metro Core), whereas for Burnaby / New Westminster, North Shore, Richmond, and Surrey, a significant proportion of office space is not located in Urban Centres.

Map 5.6: Inventory by Urban Centre



5.8. Office Inventory Relative to Transit Service

Relative to the FTN, some 51 million sq ft (65%) of office space was located within 800 metres (10-minute walk) of a rapid transit station, and 18.8 million sq ft (24%) within 400 metres (5-minute walk) of FTN bus only. The balance, 8.4 million sq ft (11%) of office space, was located beyond the FTN service area.

Chart 5.9: Inventory by Transit Service

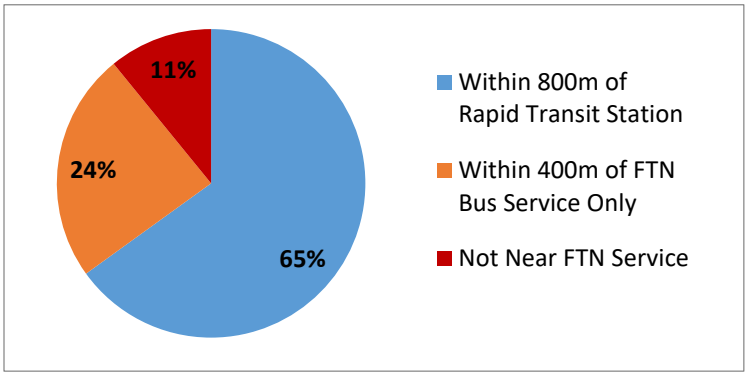
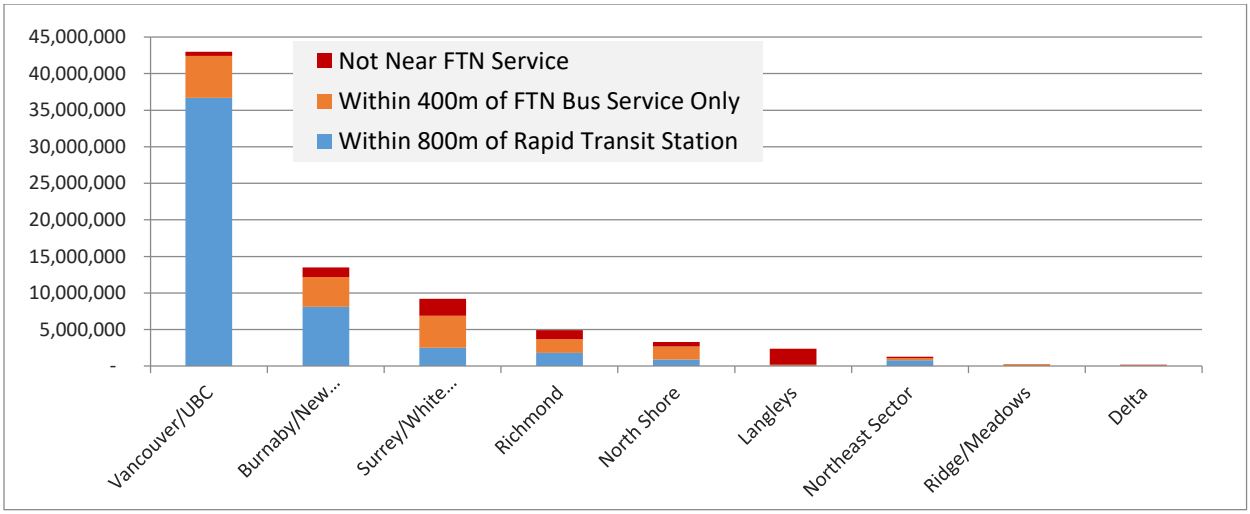


Chart 5.10 shows the distribution of office space by sub-region relative to transit service. Most of the office space in the City of Vancouver is near rapid transit (i.e. SkyTrain in the Metro Core), and the balance is served by FTN bus. For other sub-regions, the proportion of office space by rapid transit is lower, and the amount served by FTN bus is higher, as well as the amount of inventory not near FTN service.

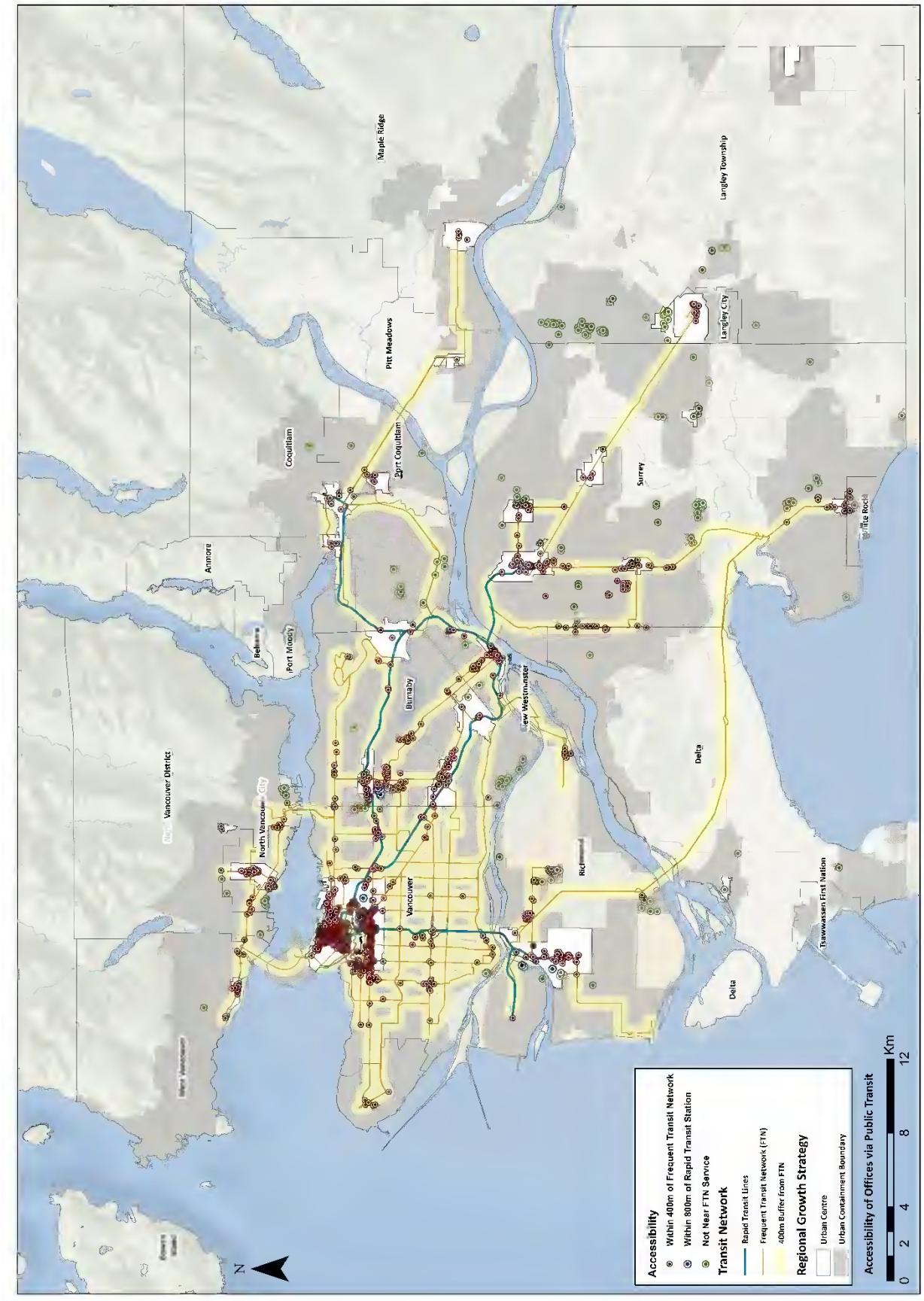
Chart 5.10: Inventory by Sub-Region and Transit Service



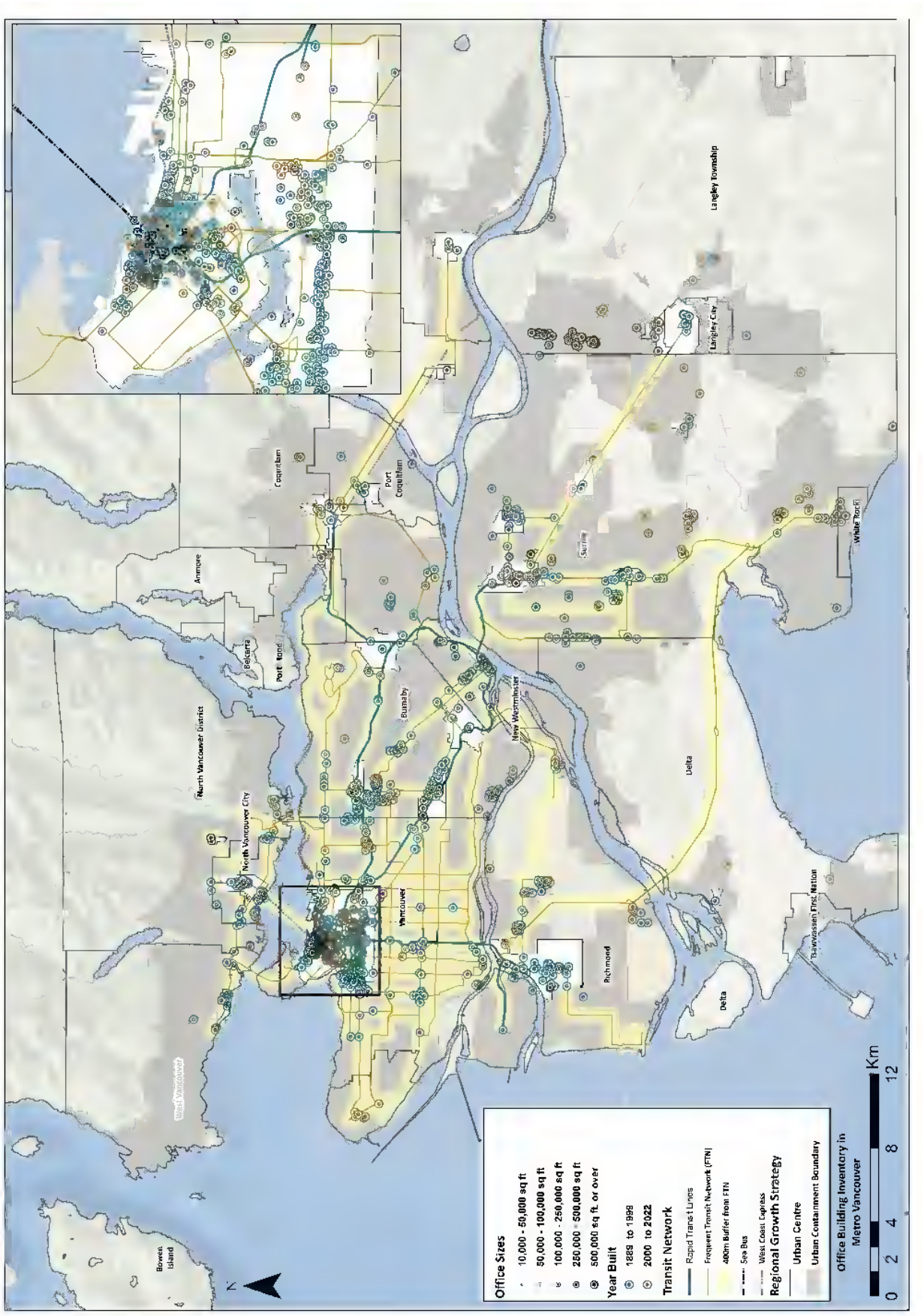
Map 5.7 show the inventory relative to transit service. For Vancouver, the majority of office space is within 800 metres of rapid transit stations, whereas for many outer parts of the region, a higher proportion of the inventory has FTN bus service only.

Map 5.8 illustrates the office inventory by location and size, with a large concentration of buildings in the Metro Core as well as some other clusters.

Map 5.7: Inventory by Transit Service Type



Map 5.8: Inventory by Building Size and Year Built



5.9. Newer Office Inventory Relative to Urban Centres and Transit Service

Charts 5.11 and 5.12 show the growth in office space between 1990-2022, totalling 41 million sq ft, relative to both Urban Centres and the Frequent Transit Network. More than half (60%) of the newer inventory was located within 800 metres of rapid transit stations, and 41% was within the Metro Core (all of which with access to FTN transit).

Urban Centres

Of the growth for the 1990-2022 period, 63% was within Urban Centres (compared to 71% for the entire stock). The balance, 15.3 million sq ft or 37%, was located outside of Urban Centres.

Chart 5.11: Growth by Urban Centre (1990-2022)

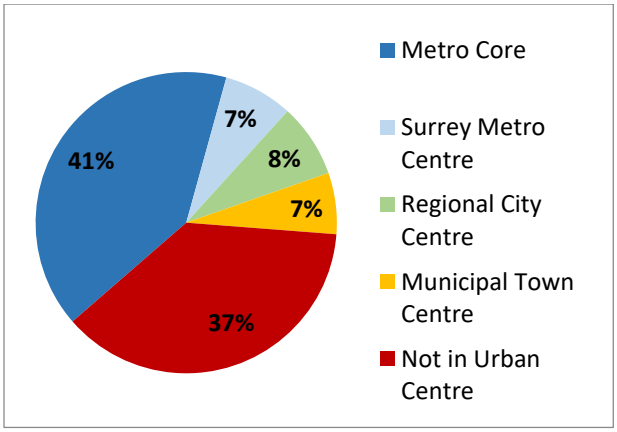
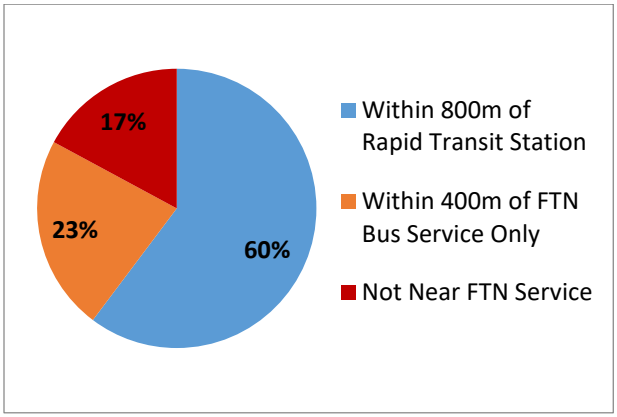


Chart 5.12: Growth by Transit Service (1990-2022)



The distribution of office development by Urban Centre type has varied from year to year over the past decades, as shown in Chart 5.13. Despite some years with a higher proportion of development in Urban Centre locations, non-Urban Centre development peaked in the 1990-2009 period, while from 2014 to 2022 the ratio of office space development in Urban Centres and particularly the Metro Core increased.

Chart 5.13: Inventory by Year Built and Urban Centre Type (1990-2022)

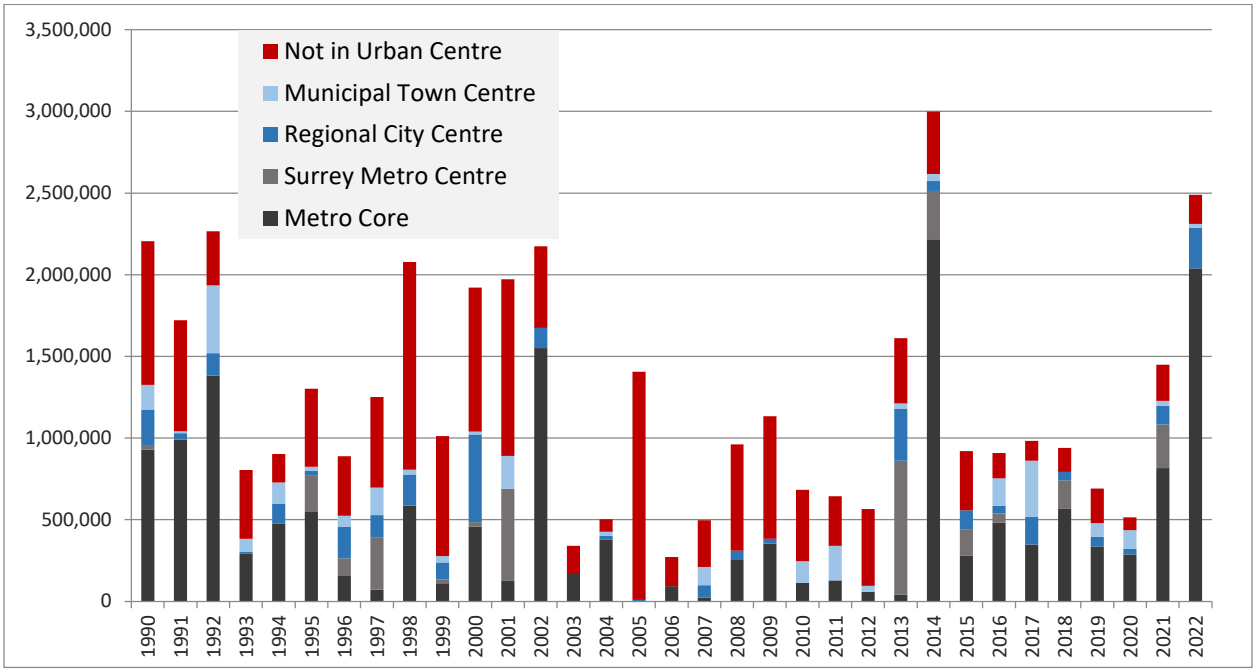
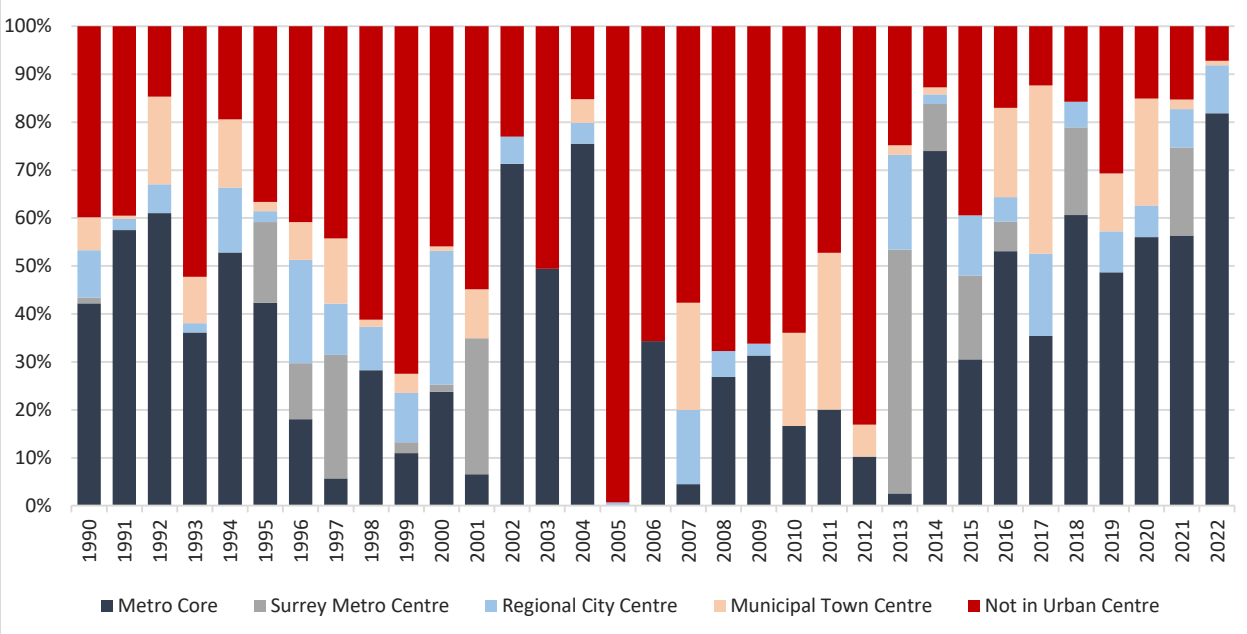


Chart 5.14 shows the building completions by year built from 1990-2022 relative to Urban Centre types as percentage of total completions. The distribution has differed considerably by year, although since 2006 the percentage of new office space development outside of Urban Centres has generally declined.

Chart 5.14: Inventory by Year Built and Urban Centre Type (1990-2022)



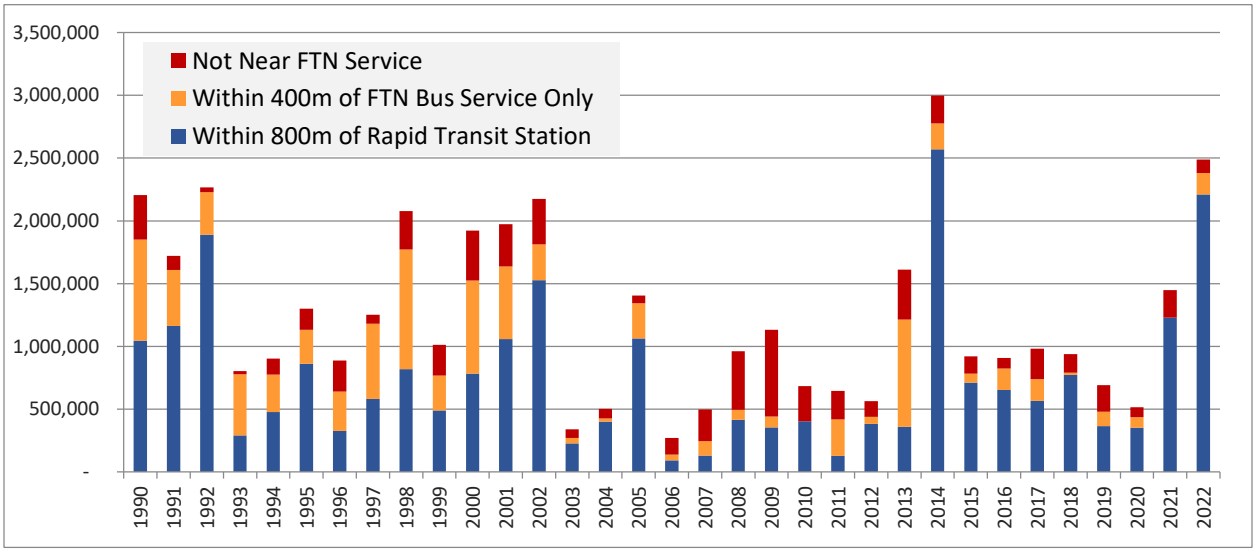
Frequent Transit Network

Chart 5.15 shows the office space growth in the region between 1990 and 2022 relative to the Frequent Transit Network (rapid transit stations and FTN bus). As can be seen, results vary

greatly by year, in some cases reflecting the impact of only a few new buildings completed per period, while in other years, completions of major projects have skewed the annual results.

Of the total growth for the 1990-2022 period, approximately 60% of new office space development was located within 800 metres of rapid transit, and 23% within 400 metres of FTN bus only. The balance, 7.0 million sq ft or 17%, was located in areas not accessible to the FTN.

Chart 5.15: Inventory by Year Built and Transit Service (1990-2022)



Cumulative Growth in Inventory Over Time

Charts 5.16, 5.17, and 5.18 show the cumulative growth in the office inventory from 1950 to 2022. Much of the pre-exiting inventory and growth was in the City of Vancouver and more precisely within the Metro Core. However, proportionally the amount of office space in Vancouver is declining, with growth in other areas such as Burnaby / New Westminster and Surrey / White Rock, some growth in other Urban Centres although also outside of Urban Centres, yet still mostly at locations with FTN transit service.

Chart 5.16: Cumulative Inventory Growth by Sub-Region (1950-2022)

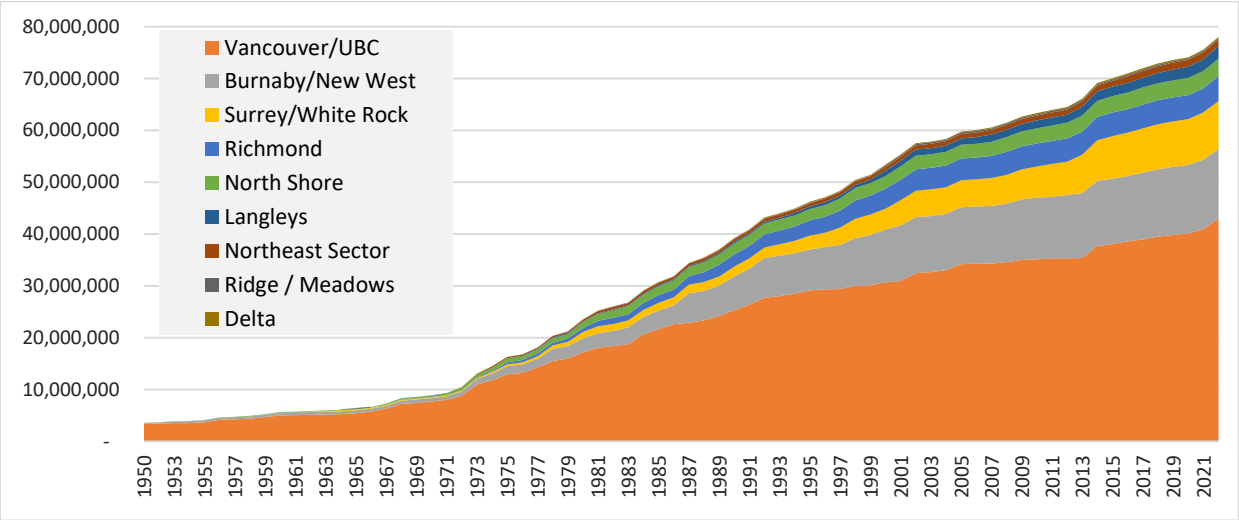


Chart 5.17: Cumulative Inventory Growth by Urban Centre Type (1950-2022)

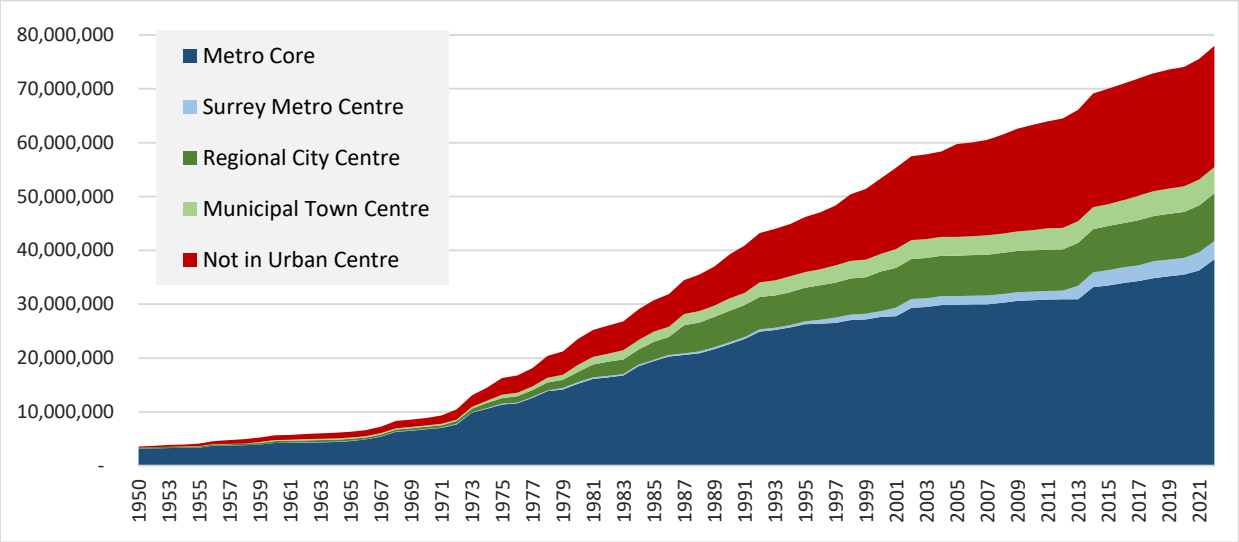
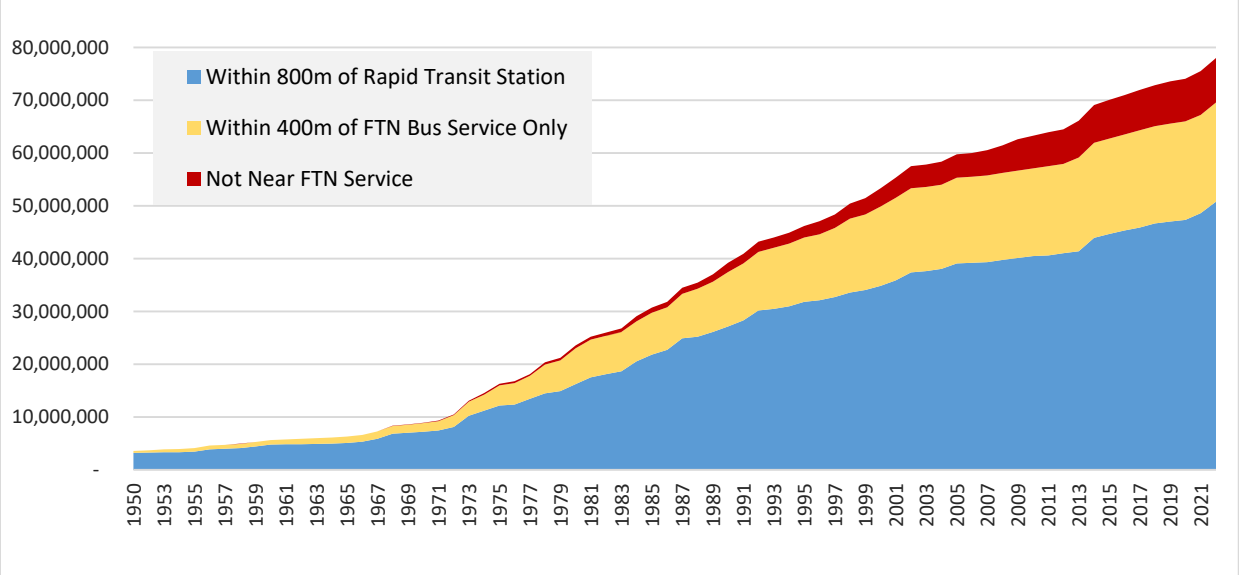


Chart 5.18: Cumulative Inventory Growth by Transit Service (1950-2022)



6.0 OFFICE TENANT CONSIDERATIONS

Office tenants are not all the same; the types of businesses and their accommodation needs vary, as do the local market characteristics and accommodation options in sub-markets. Some tenants need to be or prioritize downtown Vancouver near other corporate headquarters, some need to be close to their workforce, some serve their local community, and others prefer a business park campus-type environment. The following sections summarize the factors that tenants consider when selecting office space accommodations.

Although note that the office space market has been impacted at least temporarily by the COVID-19 pandemic. The ultimate long-term implications of the pandemic on office space demand and preferences are yet to be fully understood. Additionally, the 'war for talent', which grew with the pandemic especially for the tech sector and included employers providing employees much flexibility, has slowed, with now pressure to return to the office. The rationale and benefits of being in the office are still largely valid and valuable for activities that cannot be fully reproduced online.

Business Needs

Accommodation (re)location is a significant business decision by tenants. Different businesses with different needs are looking for different types of office accommodations. The list of criteria includes the following, with different prioritization or ranking depending on the sector or business:[23]

Business Objectives

- Employee retention
- Brand value enhancement
- Desire for prestige locations and client accessibility

Space / Design

- Current space needs and potential for future expansion
- Number of employees (range and estimated growth)
- Potential for efficiencies through consolidating multiple office spaces
- Office space and building design features – efficient and large floorplate design

Amenities / Features

- Image/quality/aesthetics
- Building services
- Office hours
- Security and access
- Communications infrastructure

Financial / Transition

- Budget
- Tenant improvement needs
- Timing / availability of space

[23] Adapted from: Colliers, Office Leasing Guide, 2016.

- Lease terms / structure /renewals
- Cost (lease rate, building management, property taxes) and tenant inducements
- Quality of property management service

Access

- Location
- Parking
- Accessibility – transit, roads, parking, congestion
- Proximity to airport and other regional destinations
- Proximity to employees, customers, suppliers, competitors, other corporate operations

Other

- Green building design features / environmental considerations / LEED Certification
- Signage / naming rights
- Requirement for non-office components (e.g. warehouse, storage, flex space)

6.1. Overview of Tenant Considerations

6.1.1. Workforce Demographics and Residential Location

Workforce demographics and place of residence have a bearing on office site selection. For example, employee age may influence preferences for commuting modes. Interviewees reported that older employees are more likely to own and use a vehicle to commute, whereas younger employees may prefer transit and biking. The type of work and pay level may also influence preferences.

Where employees live may also impact business location decisions, as tracked by postal code mapping analysis. Higher income employees may tend to live on the North Shore and west side of Vancouver and thus prefer a downtown Vancouver work location, whereas lower income employees may live in the eastern parts of the region where housing is generally more affordable, and prefer work locations in Burnaby or Surrey.

Common concerns of employees when faced with an office move are whether their commute will change, the design of the new office space, and the amenities available at or near the workplace. Businesses that are new to the region may also consider locations that are within convenient proximity to good neighbourhoods, housing, and schools, and other amenities for their workers.

6.1.2. Space Needs, Size of Space and Other Space Functions

The amount and type of office space per employee can vary greatly. For example, senior employees may require larger offices that include private meeting space, compared to junior employees who work in smaller workstations. There was a previous industry trend towards using office space more efficiently and increasing the density of employees, through smaller office sizes, more cubicles, open concept, fewer enclosed offices, and more efficient office design with modern furniture and equipment. However, with the COVID-19 pandemic this trend stopped and even reversed.

Smaller businesses prefer smaller building floorplates in order to avoid being one of many tenants on a large floor. Large businesses prefer buildings with larger floorplates that allow their employees to be spread over fewer floors, and provide for a more efficient design, such as fewer reception areas and common facilities.

Some businesses have quasi-industrial or non-office components, such as those that support manufacturing, distribution or warehouse functions, in proximity to their office / administration function. These types of businesses may be satisfied with Class B or C office space, rather than Class A. Such types of office / light industrial flex spaces are not typically found in Urban Centres. Therefore, these businesses may favour an office park / light industrial type building (i.e. flex space) and location (i.e. proximity to highways) to fulfil this need.

6.1.3. Employee Trips and Visitor Traffic

Although greatly impacted by the pandemic, some employees spend most of their day at their desk, whereas other employees often travel. The number of visitors to the business also varies depending on the sector. Accordingly, the importance of accessibility and proximity to customers, suppliers, branch offices / stores, and other related functions varies greatly. Accessibility and proximity, therefore, impact whether the business needs a location in an Urban Centre, near transit, or whether they may choose a suburban office park location with highway access. Accordingly, some companies are more likely to value an accessible location than others.

6.1.4. The Value of Prestige

There is a range of attributes offered by buildings, with some designs focused on architectural interest, while others on efficiencies. Some tenants are willing to pay a premium for unique and high profile space, while other businesses want a simpler space that effectively meets their needs and budget. For situations and scales that allow it, businesses may prefer to own or occupy an entire building in order to be in full control of how it is managed and help brand their company.

Some businesses desire a high prestige central business district office location (i.e. downtown Vancouver) and are willing and able to pay a premium. For example, a large law firm may want a downtown location close to its clients and other businesses and for profile. This proximity benefits the company and employees in terms of meeting time, accessibility to a larger number of other businesses, and provides more opportunities for face-to-face interactions. Proximity to a range of urban amenities is strongly desired by tech tenants.

Other businesses do not value such characteristics nor have the ability to pay as much. For example, a call centre may not afford higher rents, and does not generally have clients who visit the office, so a downtown location is not necessary.

6.1.5. Customer Market

Some businesses serve local population markets (e.g. medical or dental offices) and wish to be situated near their customers. These businesses tend to be smaller, and will likely grow at a rate similar to the population growth rate of the surrounding area. Other businesses serve the regional market and need a central location (downtown Vancouver, or near major highways), and may grow at faster rates. Some Metro Vancouver businesses operate beyond the region, so airport, rail, or port proximity is important to them.

6.1.6. Surrounding Uses

Some office tenants, especially corporate businesses, are very sensitive to the uses in the surrounding area, and may prefer to locate in an office-only building or commercial district, rather than having to share a building and facilities (i.e. elevator, lobby, parking) with non-office users such as residents and shoppers. Requiring mixed-use development in these cases can impose challenges for some office tenants (in addition to building design issues), and may deter some types of businesses.

6.1.7. Tenure and Leases

The nature of tenure itself impacts office markets. It is important to note that most businesses lease rather than own their accommodations, reflecting the fact that businesses prefer to invest their capital in their business operations rather than in a building. There are relatively few strata office buildings in the region, although some notable examples. A lease provides for lower costs and less commitment, whereas ownership provides security of tenure and capital appreciation potential.

Businesses often need to make decisions about office relocations 12-18 months before lease expiry because typical lease agreements and renewals require significant notice before the end of the lease. These office tenants must then be able to find a new office accommodation that meets their needs and that is available at the appropriate time. Relocating offices can be a significant decision for business tenants as it represents a major disruption in operations, moving expenses, a new location, and potentially higher operating costs.

Office space is usually leased for terms of five to ten year periods; longer for large and new spaces, and shorter for smaller spaces requiring less improvements. The tenant needs to have a reasonable understanding of their office space needs, which reflect their business and staffing requirements over this term, and then commit to leasing the space for this period. This can be a challenge for businesses that expand and contract significantly in response to changes in business or economic cycles. This has been particularly exemplified during the COVID-19 pandemic. Some businesses may be very sensitive to accommodation costs or may be less established or financially stable, which reduces their ability to incur significant costs or make a commitment to a long-term lease obligation. Co-working operators are filling this need for flexibility, and grew significantly leading up to the pandemic.

6.1.8. Business Costs

Tenants are sensitive to costs, and this can be especially true for branch offices, where their headquarters are located in another city and makes the final decision about accommodations. According to rough estimates by interviewees, office accommodation costs (e.g. rent, building management, and property taxes) are approximately 5% of a business' total operating cost. Staffing costs are usually by far the largest single cost (approximately 80%). Small and new businesses tend to also be very cost sensitive.

However, cost is not the sole deciding factor, and if space is poorly located or lacks needed features, low rent will not justify it. As office space in Urban Centres is usually more expensive (both rent and operating costs) compared to other locations, business tenants only pay a premium if there is a value or benefit to them. For some businesses, even aside from costs, an Urban Centre location may not meet their needs as well as an alternative location / facility.

Depending on the tenant needs and the office space, tenant improvements (renovation / customization) of the space must usually be made. This can represent a notable effort and cost to the tenant, only part of which is reimbursed by the landlord. In some cases, cost savings can be achieved by consolidating business operations into a single site and utilizing a more efficient design.

6.2. Office Amenities

The market for office space continues to change (and accentuated by the pandemic), with tenants increasingly demanding a workplace that appeals to workers. This is particularly the case during a competitive labour market where highly skilled workers are key, such as tech / software. Competition in the office market was once primarily determined by location, transit access, and costs. While those factors are still important, tenants are increasingly interested on building facilities and area amenities.[24]

To attract and retain employees, employers often seek space and buildings that provide amenities and vibrancy, yet also consideration of efficiencies. In the recent past, this included open plans with fewer private offices, typically resulting in less floor space per employee. Workers may not prefer these types of compact workspaces; they seek a more interactive, collaborative and vibrant office environment. The common element in successful designs is that they "activate" the spaces by creating opportunities for socialization and work in a wider range of places.

Providing activated spaces and many amenities has become increasingly a necessity, rather than a luxury, to attract and retain tenants and employees. The desired and increasingly required amenities for office tenants and workers continue to grow. This includes a good location, proximate transit access (i.e. rail rapid transit stations), surrounding urban destinations, building features, and modern space design.

[24] NAIOP Research Foundation - Richard Peiser, Raymond Torto, Activating Office Building Common Spaces for Competitive Advantage, 2017.

Some interviewees noted that in order to attract employees to the office, the workplace has to be superior to their home office and offer features and experiences that home does not have. That applies to both the work space and also the associated building amenities and surrounding destinations. For example, to overcome the commute, draw employees to the office because the workplace offers opportunity to interact with other team members, has on-site facilities like a gym or roof-top deck, is close to restaurants for lunch, and provides the ability to combine urban attractions and errands while downtown for the day (such as an event in the evening after work).

These increasingly-desired amenities and features are being retrofit into existing buildings and included in the design of new buildings. As more projects with these features come to market, they become the new Class AAA or A buildings. Tenants that want prime space will move to these modern buildings, out of other older ones which will move down the classification rating as they become dated, resulting in a reset or re-definition of building classifications, particularly in downtown Vancouver.

6.3. Building Features

For major building landlords, providing not only an office space but an entire building complex or campus is important. This may mean significant investments in enhancing the common areas (lobbies, elevators, and hallways), as well as proximate facilities, like plaza and retail with restaurants and associated place-making efforts. This is in order to make the entire experience attractive for employees as a 'third space', counterbalancing home and work. These efforts can include programing of activities and events in the building campus. If people are going to be induced to come to work, the experience of both the office space and the building place need to be attractive and active.

Amenities no longer simply mean a sandwich shop for lunch, rather a range of shops and services, such as restaurants, grocery stores, banks, gyms, entertainment, and other facilities in the immediate area. It is especially desirable if the facilities are within the same building or complex, highlighting the interest in mixed-use or multi-use developments.

In terms of building design, for top tier tenants, they want the best that new Class AAA buildings can offer. This includes large amenity spaces, conference facilities, ZERO Carbon and LEED Platinum certification, etc., as they plan to operate it for a long period.

For brand new office buildings, the space is usually offered by the landlord to the tenant as an empty shell (with only limited air conditioning system and no finished ceilings – this being a lower level of base delivery than in the past). The cost to build out accommodations for the tenant can be significant, in the order of $250 per sq ft; only a small part of which is funded by the landlord. To amortize this investment, the tenant will want a long enough lease, often ten years and with terms for extension. Existing space and smaller units may have shorter lease durations. (As improvement costs can be significant, some businesses don't want to walk away from their investment (which is a sunk cost); this can be more emotional for smaller businesses, while being purely a financial decision for big companies.)

Along with costs, the permitting process and construction period can both take considerable time, thus impacting how quickly landlords and tenants can respond to market forces and business changes. Permitting may be required even for relatively modest changes to existing space, causing delays for interior modification / upgrades / improvements and thus tenant moves.

6.4. Value of Locating in Urban Centres and Near Rapid Transit

Office location is typically very important to tenants; if the location is inaccessible, it can lead to operating inefficiencies and higher staff turnovers. Office locations with poor transit access are often difficult to lease, while locations close to rapid transit tend to have lower vacancy rates and higher rental rates.

Virtually all publications and interviewees stressed the importance of transit accessibility, namely SkyTrain. Since the 2010 Winter Olympics and construction of the Canada Line, there has been a marked increase in interest and acceptance of transit by SkyTrain for commuting. Office tenants have increasingly prioritized proximity to SkyTrain stations as an important criterion in selecting office accommodations. Light rail is preferred over bus, as bus service is seen as less permanent and not as reliable and comfortable as SkyTrain. SkyTrain service is extending to other parts of the region, including Port Moody / Coquitlam, Broadway Corridor, and Surrey / Langley City. Office developers are aware of the trend towards increased tenant appreciation of rapid transit access and are responding accordingly.

Transit accessible locations mean that there is less need for on-site parking per worker. However, developers caution that because of the greater space efficiencies in new buildings, parking requirements do not necessarily need to be reduced, as there may be more workers per sq ft (e.g. some offices accommodate 1 employee per 150 sq ft, compared to the previous standards of 1 employee per 250 sq ft). Even if an office building is well-served by transit, tenants still expect some level of parking because some employees will continue to drive to work, or use a vehicle during the day for work purposes.

In addition to access to transit, developers are cognizant that many employees also walk and bike to work, and are providing more facilities to support cyclists (e.g. locker facilities, secured bike parking, end-of-trip facilities). Also, the availability of amenities for employees, such as proximity to shops, restaurants, gyms and recreational facilities are of increasing importance for businesses.

Tenants want employees to be able to travel to work with ease, although workplace and commute patterns have been significantly impacted by the pandemic. Interviewees note that younger employees typically have a greater propensity to take transit, and that older employees who are accustomed to driving are not as likely to switch to transit if the employer moves to a location with good transit service. If the location is not near frequent transit service, employers or property managers may invest in a shuttle bus service to transport workers to the nearest rapid transit station. Office tenants are increasingly willing to pay a premium for access to rapid transit stations, or alternatively, may accept lower quality office accommodations if

located near rapid transit versus higher quality accommodations without such rapid transit access.

Access to SkyTrain and other amenities are ever-more important from the perspective of tenants, with an eye to attracting and retaining employees. A SkyTrain station alone is often no longer enough – business tenants want to be close to more amenities. Furthermore, desired accessibility to SkyTrain can mean less than the standard 400 to 800 metre (i.e. 5 to 10 minute) walking distance; while a shorter distance is preferred, it is important to recognize that how long a walk 'feels' can depend on the surrounding environment, sidewalk connectivity, and urban design.

6.5. Extent of Tenant Movement Between Geographic Areas

Interviewees and publications stated differing views about the relationship between the downtown Vancouver office market and that of the rest of the region. While most noted that relatively few tenants move between sub-markets (both geographies and office classes), some stated that with higher prices in the Vancouver CBD, some tenants may be tempted to move to less expensive locations. Conversely, in an effort to attract and retain a skilled workforce, some businesses (especially tech) 'need' to be in the downtown or surrounding core. And yet another perspective, is that with rising vacancy rates and sub-lease listings in the downtown, there may be more accommodation options for companies that want to relocate there.

Back-office employees that are not required to be downtown could be relocated to the suburban markets such as Burnaby, Richmond, and Surrey.[25] Although at the same time, some of this type of work is also being done by employees while working at home.

Suburban Office Obsolescence?

Suburban office parks have lost their luster for a variety of reasons, including a growing preference among younger workers to live (and work) in more dynamic urban centres than in the sometimes staid suburbs. Technological advancement has made the need for many clerical and processing jobs and associated back-end real estate increasingly obsolete.[26]

As the needs of the modern tenant becomes defined as trophy or Class AAA office space by rapid transit and robust amenities in Urban Centres, older properties are challenged to compete, especially 1980s and 1990s era campus settings. Yet, some outdated properties may still appear attractive to tenants who are value-conscious or who are seeking a specific type of space.[27]

Given that there have been very few new suburban office buildings constructed in the past decades, vacancy rates have been declining as space fills up in these buildings due to a local absorption. Businesses in suburban locations, when considering relocating to downtown, once they fully understand the much higher costs (both net rent and operating), typically renew at their existing location.

[25] Jones Lang LaSalle, Metro Vancouver Office Insight, Q2 2018.
[26] New York Times - Nick Corasaniti, As Office Parks Empty, Towns Turn Vacancies Into Opportunities, May 29 2018.
[27] NGKF Newmark Knight Frank, Suburban Office Obsolescence, 2015.

There are many factors that signify building obsolescence. Some of these can be addressed such as building upgrades and adding amenities, while others such as location or building design, cannot. Buildings near the incurably obsolete end of the spectrum are candidates for repurposing (i.e. by conversion to other uses or redevelopment).[28]

Other Locational Considerations

A central location for businesses is best to access the region's workforce - namely Vancouver or Burnaby - that is readily accessible from much of the region. Simple geography has resulted in much of Burnaby and downtown Vancouver being the central area and accessible via the transit and road networks.

Additional considerations about the market were expressed by interviewees, informing the potential, or limit, to attract office developments and tenants to outer Urban Centres:

- As the population, economic activity, and workforce grows in outer locations, the demand for office space in those areas will also grow. As more people move to the suburbs because of housing affordability, many may prefer to work within those communities to have shorter commutes. However, this may take a long time, as sub-markets still have limited scale and limited demand. And for some employees, working close to home in fact now means working at home, thus no increased demand for local office space.
- SkyTrain access helps, however in small markets, the impacts of new SkyTrain is limited compared to larger markets, and some areas are still 'at the end of the line', rather than in a more central location on the transit network. Office businesses want to be by other office businesses, making it difficult to establish new nodes.
- There is still a need for suburban office space. Some tenants enjoy a campus feel - low rise and accessible to certain amenities, instead of overly urban, congested, and high rises. However, businesses that want / need to be in the CBD are there and will pay for it.
- For Coquitlam City Centre, there is ongoing densification with multi-residential, but the office market is limited. Small office components in mixed-use buildings with local-serving businesses are more appropriate and realistic under current conditions. No large major tenants are likely to locate there unless locally owned or some other unique reasons.
- Surrey has the potential to accommodate an increasing number of local-serving firms and offices. Achievement of a critical mass is likely required to enable more office development over time, such as new corporate offices.
- On the North Shore, transportation access is a challenge for constructing new office buildings, and also for office tenants accessing the regional workforce.
- A number of interviewed developers commented that if municipalities require the provision of office space where it is not warranted by the market, or the approval process is too arduous, they may simply not build anything at this time, and wait for conditions to change.

[28] NGKF Newmark Knight Frank, Suburban Office Obsolescence, 2015.

- It was also noted that building new office space in a sub-market without adequate demand may simply steal or re-locate tenants from one part of that sub-market to another, not attract new tenants (i.e. zero-sum).
- The best effort to attract tenants to outer Urban Centres may be as a value proposition – i.e. lower rents, and offering urban features / amenities, in a location close to a growing workforce and economy. However, from a development perspective, construction costs are still high in all locations; so with low rents in areas with weak office demand, it is difficult to make such office development viable.

7.0 OFFICE DEVELOPER CONSIDERATIONS

The office development process is complex, capital intensive, and high risk. There are many different factors that can impact the development viability of sites and the potential for an office space component. The decision-making process may be gradual and iterative as the project investigation advances. In some cases, if circumstances become too challenging, a project may be deferred, cancelled, or an alternative use or design for the site may be considered.

Developing office buildings entail large and long-term investments, extending beyond individual business cycles. Developers and investors look to fundamental trends and forces over the decades, rather than months or years, balancing expected returns and possible risks.

To attract and retain the best tenants and employees, landlords and employers need to offer the best space. New buildings (Class AAA) are more efficient, have nicer space, with better amenities, etc. Whereas older Class B and C space is harder to lease, even if rent rates are lower.

For smaller or standard office units, tenants typically do not want to spend a lot of money and time to occupy them. Constructing and permitting office space improvements can take a long time and dissuade prospective tenants. Officer brokers suggest that landlords buildout small spaces for move-in-ready / turn-key condition to be more attractive to prospective tenants by shortening and simplifying the process.

7.1. Overview of Considerations

7.1.1. Developer Objectives

There are many aspects specific to the developer / investor that are relevant to the nature of an office project. This includes the type and amount of funds available for the investment (equity vs. debt financing), the corporate structure of the development company (i.e. whether they are the developer, investor, property manager, or all), risk tolerance, investment profile and objectives, and outlook (long-term vs. short-term). Some developers may prefer to develop and sell a project, whereas others (such as investment pension funds) may prefer to build and hold a project as a long-term investment.

The time and price at which the land was purchased impacts the financial viability of a project; if the land was acquired some time ago at a lower historic price, office development may be feasible, but not if the land were acquired at a more recent (higher) market price.

7.1.2. Market and Financial Conditions

Market conditions, specifically the demand for new office space, is the main driver for the viability of office buildings. Where and when the demand for office space is weak, there will be limited new office space built by the market. Local government goals for more office space will not be realized if the market demand is not in place to support the development. The market

reflects both the macro factors influencing office supply and demand in the region, and local area factors for specific districts.

Market conditions also affect the amount of building pre-leasing that is possible. Pre-leasing (or pre-sales for strata) is typically necessary to obtain project financing in order to proceed with construction. Generally, lenders will not finance a project until an adequate proportion of the building has been pre-leased. It can be challenging for office developers to secure pre-lease commitments (especially in suburban markets), because tenants may not want to commit to a new location in advance of it being built, they have other location choices available, and the relocation process is complex. Thus, some tenants may prefer to remain in their current space or move to an existing building. A slow absorption period for a building can mean a financial cost for the investor / developer. In a market such as Metro Vancouver, which has few large headquarters, it is difficult to attract new tenants to a yet-constructed building. Aside from some unique cases with large tenant committing to space in advance, developers may bring to market a limited amount of office space at a time, which is pre-leased or can be absorbed in a reasonable period.

Large office buildings (towers) are constructed all at once (with only very few exceptions), making the supply of new space very 'lumpy'. Conversely, low rise buildings can be built and leased in phases over time to match demand. Additionally, the cost of construction materials and labour may change during a development process, along with market conditions, which makes budgeting a challenge. All of these costs challenge developers when planning and evaluating the viability of a project.

Due to these financial challenges and requirements, investors in major office projects are typically pension funds, which can buy sites and hold them for long periods until the market supports a viable development. Institutional investors are typically well-financed, diversified, and interested in long-term investments and can wait longer for returns compared to merchant developers.

7.1.3. Land Availability and Cost

The challenge most cited by developers is the difficulty in acquiring sites for office development. Land costs are very high in the Metro Vancouver region and office development is usually a less profitable form of development, and values cannot compete against residential uses. If a municipal plan allows for a mixture of different uses on a site, the property will likely be priced by the vendor for the highest and best use, which may preclude the financial viability of office space. For some mixed-use projects the office component may add little net value for the developer.

In Urban Centres the properties are often smaller, thus necessitating a land assembly to create a larger viable development site. These properties usually have existing uses and businesses that may be difficult and expensive to assemble. The effort to purchase and assemble the properties from multiple owners (sometimes with individual properties each having multiple parties on title) can be time consuming and challenging. Instead, developers prefer a single

larger property; these rare types of sites are usually found in out-of-centre locations, such as industrial areas and greenfield sites, or redevelopment of urban retail plazas.

7.1.4. Construction Costs

High and rising construction costs (both the labour and material components) are a challenge for all developers. According to Altus[29], in the Metro Vancouver region, the cost to construct an office building ranges from $290 to $450 per sq ft, depending on the type of building, plus parking facility costs. Furthermore, tenant improvements / fit outs are an additional $85-$250 per sq ft, varying by the building and unit type and standard.

7.2. Municipal Approvals and Costs

The extent of municipal approval requirements is also a consideration in the development process. The municipal review and design process for a major project often lasts two or more years. The construction period is typically an additional two or three years. Together, this process represents a significant period while the investor is not receiving returns. Furthermore, risks during this period in the form of difficulty in obtaining municipal approvals, higher construction costs, changing economic cycles, or dampening market demand may hamper a project. Notably, not all projects that are approved actually get built, if such variables become negative.

Municipal fees and charges can be in the form of application fees, development cost charges, community amenity contributions, etc. Municipal processes and regulations impact the development approval time and costs, and add uncertainty and risks to a project. Jurisdictions in which the development requirements are not known or clear at the outset of an application are more challenging, because the costs are not predictable and are negotiated at the time of application review. These municipal processes and costs may lead developers to shift investments to jurisdictions that have a more "business-friendly" environment.

Some developers interviewed suggested that municipal development costs could be made lower at target locations, such as in Urban Centres and at rapid transit stations to encourage office development there, and allow mixed-use development where appropriate. It was also suggested that in municipalities that charge community amenity contributions, they should only be applied for residential components, because residential uses in a project generate the need for community amenities and the profitability to fund those amenities.

7.2.1. Municipal Development Policies

Both municipalities and developers appreciate policies that provide clarity and certainty about municipal expectations and development requirements in terms of use, density, design, and costs. As developers become more familiar with municipal plans, the process may run smoother. Plans and policies vary by city and area, as one size does not fit all.

[29] Altus Group, 2023 Canadian Construction Cost Guide, 2023.

That said, flexibility is also desired. Municipal plans / policies are often seen by developers as complex and inflexible, with long approval processes prone to delays which increase holding costs. There needs to be an appropriate balance between municipal goals and developer objectives.

Developers and brokers recognize municipal objectives for community building, however are concerned about policies requiring office in places where there is little or no market demand. Most developers are opposed to municipal policies that require developments to include a certain minimum amount of office space provision. Developers and brokers believe that such requirements can create excessive office supply in sub-markets that cannot be profitably leased, which drives down rents and competes with other successful office buildings. The developer often makes most of the profit with the residential component of a mixed-use development, and may rent or sell the office space at a discount. Alternatively, the office space may instead be sold as strata tenure to investors as smaller units.

Market forces, not municipal policies / regulations, are the primary reason to build office space; demand should be the driver of supply. The market rents in an area must be high enough to support development costs and the investment, and even that still does not guarantee project viability. Developer needs for financial viability should be considered as part of municipal plans.

7.2.2. Municipal Office Space Permitting Process

For the build-out of interior office space, which comprises either starting with the shell space in a brand-new building or taking over an existing space needing some upgrades / renovations, municipal permitting for various interior work are typically required.

Many interviewees noted that the process for permitting is long and unreasonable, which delays construction commencement and extends the entire business move timeline, with associated higher costs. In the City of Vancouver, there was previously the TIPs (Tenant Improvement Permit System) which was well-regarded and allowed for easy permitting of space in existing buildings that had previously gone through the permitting process. However, the program is now largely discontinued, with the city reviewing each permit anew.

Some suggested that some simple or low risk interior construction / renovation work should be allowed to commence while the permit is under review, in order to reduce downtime. For basic renovations associated with simple improvements and renovations, the City could identify office units that can be occupied and tenanted without triggering a change in use permit. Landlords and brokers also suggested that the city allow Certified Professionals to review drawings in order to save time.

The entire process of findings a space, negotiating a lease, obtaining permits, arranging renovations, and moving, can take over a year. In most cases, the landlord offers the occupant a Tenant Improvement allowance, but this amount is only a fraction of the total cost of renovating and holding the space while unused. Improvement costs for a shell can be up to $250 per sq ft, including voice / data drops and furniture. Cold (bare minimum) space vs Warm (lighting and some improvements) space varies in terms of delivery of the completed shell

space. Along with approval duration, rising construction costs and extended supply chains are also challenges.

Often, when considering a move, businesses are surprised by the time and cost, and instead may decide to simply stay in their existing space. With high costs, some tenants can be price sensitive when considering a possible move, which motivates them to stay or 'stick' in their existing space. To facilitate tenants moving into standard spaces, landlords can proactively build-out space in generic functional ways to make it easier and quicker to occupy. Whereas large international companies may not be as patient for a move to new or expanded accommodations; they can shift their operations to another international jurisdiction.

7.3. Mixed-Use, Multi-Use, Stand-Alone Projects

Mixed-use development can provide some benefits because it accommodates a wider range of uses with greater activities. In a mixed-use development, the retail component can be an amenity to the office component, and the residential occupants can help support the commercial businesses as a customer base. From the perspective of the developers, a mixed-use project (or multi-use, where the separate use buildings comprise a complex) with complementary uses, under the right conditions, can provide an opportunity for the residential component (which is typically higher value) to support or cross-subsidize the office component. This may be especially beneficial in suburban markets where it is difficult to pre-lease office space, yet the residential part can be pre-sold to secure project financing.

However, mixed-use development can also have some drawbacks. Residential and office users have different needs, due to the design requirements for the different users, preferences for floorplate sizes, and separate access facilities (lobby, elevator, parkade). This can impose extra design complications, costs, and inefficiencies. An office component within the podium of a multi-use building can lead to office floorplates that are sub-optimal – designed around the main part of the building, with the residential tower above and retail space below. In such cases, office unit sizes / depths, columns, elevators, lobbies, may not be ideal for the needs of office tenants, especially larger ones.

Tenure can also be an issue in mixed-use projects, with some parts of the building owned by occupants (condominium apartments) and other parts occupied by rental tenants (retail, office), with different tenures, terms, and interests. Mixed-use development should be considered at appropriate locations, reflecting site characteristics and market demand, and not forced into unsuitable locations. In some cases, multi-use development, with different uses in separate buildings may better serve the objective. In larger markets, standalone office buildings may be possible.

7.3.1. Other Considerations and Views

There are divergent views on the office aspect of mixed-use developments. Some interviewees noted that having a range of uses at a focused location, such as Transit-Oriented Development (TOD), provides for a desirable community. However, others reference examples of mixed-use projects poorly executed, such as commercial podiums with ground floor retail and only a few

floors of office, with a high-rise residential tower above. In such situations, the residential component may be the main driver of the project, and the office is an 'afterthought' that is 'tagged on', and not given enough attention or consideration.

Successful retail is an amenity, and if done well can attract residential and office uses. Whereas if done poorly, and stratified (which is often associated with lack of cohesive property management), it can be a negative attribute of a building. Conversely, a large complex with stand-alone commercial businesses can be better designed and managed, and is typically preferred by corporate office tenants.

There was also a range of views on the appropriateness of municipalities 'forcing' rather than 'encouraging' and 'supporting' office components in new development projects. Most developers are concerned that being required to build office space in a location with weak demand may lead to long-term vacancies, while some other interviewees believe that the office market may fulfil itself once built, even though pre-lease in those locations can be difficult.

If municipalities compel an office component on a site where the developer does not believe there is a market, the outcome may be that the site will not be (re)developed; instead, a phased approach or a smaller scale office component may be a solution. Yet in other locations, some lands are zoned / designated for exclusively employment uses (office, retail, industrial, potentially combined), but at urban locations by transit, apartment rental residential could also be part of mixed-use or multi-use developments, according to some developers. Allowing residential uses could be used as a tool to create and activate the desired employment space, that could lead to projects that support a complete community.

7.4. Development Risks

Developing office towers are complex in terms of design, approval, and construction processes. This lengthy process brings risks, because as time passes, the developer faces greater uncertainty; for example, the economy can slow, the office market can soften, or construction costs can increase. Although there may be strong demand in (some) Urban Centres, urban locations can magnify development challenges because there is more regulatory approval, design review, and public engagement.

As with any investment, if risks are high, investors will require a commensurate high return. Therefore, for projects to advance which are perceived as higher risk, they will need to offer a significant profit to attract investors / developers. This may attract only a very small number of interested parties, which limits competition and development activity.

Office development risks can be exacerbated in a volatile market or where there are uncertainties associated with the approval process. One noted challenge is finding good sites available in downtown Vancouver to develop at a financially viable price for office development.

In order to arrange project financing, typically pre-leasing commitments are required. Depending on market conditions, these commitments can be difficult to arrange, especially in

suburban markets or if the delivery dateline is uncertain due to the municipal approval process. Although as one interviewee noted, over time, Vancouver may be becoming less of a pre-lease market, with some developers willing to construct office buildings without pre-leases – this new supply can better accommodate office tenants wanting space with less lead time. However, that possible trend may be concluded with COVID-19 impacting the office market.

Municipal zoning that allows for a wide range of possible office tenants, or 'general office', is preferred over zones that are more restrictive and only allow certain specific types of business office uses, as this greatly reduces flexibility and increases investment risk if tenants change.

7.5. Landlord Tenanting Decisions

From a landlord leasing perspective, small and new companies are viewed as a higher risk type of tenant, with limited history and financial covenants, and a higher likelihood of not renewing their leases (as they are prone to either failing and closing, or booming and outgrowing their space). Instead, larger and established companies are the preferred types of tenants.

Some tenants may prefer an architecturally unique and high-profile building; however these buildings can be less efficient and cost more. From the investor / landlord perspective, they consider the long-term utilization and operation of the building, not just current needs.

Helping to fill the need for flexibility are the co-working providers (namely, WeWork and Regus / Spaces) that offer businesses a variety of office space accommodation options (which may be needed temporarily as a swing site for a business in between locations or for a specific project). These accommodations are available without the requirement for long-term leases, although that flexibility comes at a cost.

8.0 OFFICE DEVELOPMENT FROM THE MUNICIPAL PERSPECTIVE

Office buildings provide space for businesses, which helps to advance municipal objectives, ranging from growing employment within the community, reducing commute distances, complementing local amenities, and growing the economy of the city. Furthermore, office space and associated activity supports and enhances the build-out and success of transit-oriented Urban Centres.

Municipal governments, through their economic development and planning functions, can encourage and regulate development in all its forms in their communities. This includes promoting the community as a location for investment and directing office development to Urban Centres. Municipal economic development staff may help increase the profile of the community, promote economic opportunities, and share information to attract investment, while planning staff may establish the necessary land use plans and review development applications. In practice, municipal economic development offices may be more interested in attracting development to their municipality in general rather than to specific locations within Urban Centres, while planning staff are more interested in land use and design integration.

Ideally, government departments work in concert to facilitate desired investment and development, recognizing that there are different types of business tenants requiring different types of premises. However, the ability of municipal governments to attract business activity is limited, as developers and tenants invest in locations that are desirable from a market perspective, and government policies and tools have a minor impact on influencing market fundamentals. All of the interviewees recognized that the regional office market is limited and grows incrementally (with downtown Vancouver being a unique sub-market), making it a challenge to attract office development to many other Urban Centres.

Some of the planning, regulatory and fiscal tools noted in this report have been used by municipal governments at different times. As for policy, some plans require a certain amount of a development to be reserved for office or employment space. Another approach are policies that encourage office development, and provide for bonus density in exchange for the provision of office space. A common policy lever is to permit or require office (and retail) space as part of a mixed-use project; but municipal representatives indicate that this is sometimes resisted by the developer where office space is not in demand or deemed profitable.

Fiscal incentives have been tried as well. Lowering permitting fees seems to be the easiest tool, compared to the challenges of lowering municipal charges or property taxes. Municipal representatives interviewed noted that lowering Development Cost Charges (DCCs) is not an easy matter given the legislative requirements of DCC bylaws. Property tax exemptions for office space or providing “tax holidays” are not allowed under provincial legislation. Although in some jurisdictions, revitalization tax exemption programs have been used as an incentive to attract development in support of economic growth in the downtown. Lowering property tax rates or providing municipal grants equivalent to a portion of property taxes owing for the

creation of new office space has been used as an incentive in some jurisdictions, and is an option to consider where appropriate.

Some municipal staff interviewed cited a number of challenges with attracting and growing businesses that occupy office space: high employee housing costs and other costs of living; high business costs; numerous building, development and permitting regulations; limited amount of skilled workers available; and difficulty in accessing capital to grow businesses. In some cases, businesses find it challenging to remain in a smaller municipality; as they grow the number of employees or their needs evolve, they cannot find adequate space, and need a more central location.

8.1. Long Range Municipal Plans

Municipalities have land use plans and policies that are supportive of long-term community building, and require some space devoted for employment uses, such as office. As the area population and economy grow, those employment spaces will be needed. Having a long-term land use vision is important, yet some flexibility is helpful. For example, exact uses may evolve over time, phasing can change, and also consideration of broader economic issues. In addition to plans and actions to enhance area amenities and features, municipal economic development initiatives may help to attract businesses and workers to Urban Centres.

In the immediate term, outside of Vancouver, municipalities are generally attracting mixed-use projects with office in podium buildings (usually 2-6 levels). Gradually, over the longer-term, more standalone office buildings on lands designated for such are expected to be built as the demand for office space grows, providing accommodations for more businesses and larger office tenants.

Still, tensions remain between developers and municipalities about how much office is the right amount. City policy requirements for office space in a mixed-use development can be significant. In some cases, office-supportive uses or functions such as retail or amenities can be counted towards that space.

Developers also say that planners need to be less prescriptive. Rather than only allowing a very specific or limited form of office use in certain areas, allow all types of office uses and let the market determine specific uses. In the past, the concern was that tech tenants could not pay as much rent as regular office tenants; now the situation has reversed.

Other suggestions by developers included: letting the downtown emerge as a new innovative district; allowing greater flexibility and facilitate quick permitting, as was done with street patios during the pandemic; testing new initiatives as pilot projects, temporary uses, experiments, etc.; and set an overall tone for a business-friendly environment, and positivity about investment.

Proactive municipality incentives could include efforts to attract entrepreneurs, including package of lifestyle / workstyle improvements by making the place special and unique, such as creative districts, entertainment features, improved transit, etc. A major anchor / institution

(such as a government agency) can attract additional activity and create critical mass for an area to support market office development. Universities, possibly focused on technical skills training aspect, including employers involved in informing the curriculum, can help incubators expand, and grow the workforce and business ecosystem.

8.2. Metro Vancouver Regional Government Role

Municipal staff appreciate Metro Vancouver as a creditable source about the need for employment and job-supporting lands and their protection, and to defend against ongoing pressures for conversion to other uses. Namely, focusing office development to Urban Centres, and protecting industrial lands for industrial uses. This can and should include the provision of resources, references, guidelines, best practices, etc., that can help with local planning initiatives, however municipalities do not want regional policies that impose additional requirements or that limit municipal flexibility.

The regional growth strategy recognizes the long-term intent for further growth of Surrey and specifically Surrey City Centre, and the city appreciates enhancing this action. Through continued population growth in the region shifting east, Surrey is increasingly a major and connected centre for the Fraser Valley area.

9.0 FUTURE CONSIDERATIONS FOR OFFICE IN URBAN CENTRES

This section outlines various actions by different parties to support office space development and occupancy in Urban Centres. These items are organized into two parts: immediate priority actions, and a list of other areas for further exploration. All of these actions require a combination of technical solutions and political and industry support coordinated between the public and private sectors.

Municipalities in the Metro Vancouver region continue to undertake various efforts to attract office development. In some cases, these policy efforts match market forces, such as in downtown Vancouver where there is strong demand, especially for tech sector tenants who seek locations with rapid transit and urban amenities. In other places, market demand is spurring office development at SkyTrain locations that are not necessarily in Urban Centres. Elsewhere, municipalities are encouraging and requiring mixed-use development with office space components even where developers state that there is limited office market demand. Municipalities are requiring supply in the hopes of generating demand.

Municipalities want to attract office investment to their Urban Centres, while developers want to build development that fulfils market demand, and businesses want accommodations that meet their operational needs. Ultimately, office development is a large and long-term investment, with the main decision factors being market forces and values, specifically: land prices, construction costs, and lease rates.

9.1. Priority Actions

The issues most consistently expressed in interviews and supported by research, and which can be advanced in the shorter term with a relatively high potential of effectiveness, include:

9.1.1. Development Approval Process

Streamline the development review / approval process, reduce the uncertainties and risks, and manage municipal charges / fees.

- By providing a streamlined development application process and reducing regulatory barriers, the review process will benefit from less risk, time, and costs for developers. This will encourage and facilitate investment in municipalities with approval processes that are clear, consistent, and predictable.
- This is in response to the challenges developers experience; interviewee suggestions ranged from removing obstacles to development by simplifying the approval process, and allow higher densities where appropriate.
- As argued by several developers, the supply of office space in Vancouver is constrained by a slow approval process, in addition to the need to recognize market forces and business cycles. A quicker approval process would allow for more responsive office developments to meet market demand. Projects take a very long time - many years from

concept to completion - with approvals taking a significant part of that process, which makes it more difficult to make investment decisions that respond to market signals.

9.1.2. Land Use Planning

Encourage, but do not mandate, mixed-use projects with office components. Allow market demand to inform the supply of office development built in specific locations.

- Municipal government plans need to prioritize office development at Urban Centre (and secondarily to FTDA) locations and provide supportive and consistent policies. Plans that clearly designate "CBDs" in Urban Centres help provide direction and focus on where office development should go. If sites are designated / zoned for office uses only and this is not consistent with the market, they may remain undeveloped for a significant time.
- Municipalities can assist office development in Urban Centres by assembling lands in key areas and selling these to developers as prepared sites ready for development.
- Granting increased development rights for larger sites may encourage land assembly.
- Municipalities can help by providing the infrastructure, amenities, and facilities desired by businesses and workers in Urban Centres. Municipalities can also invest in initiatives that improve downtowns, such as façade improvement and crime reduction programs, urban design upgrades, supporting business improvement associations, and downtown promotional events.

9.1.3. Zoning Definition

Allow general office uses, rather than overly specific / limiting types of office uses. This would improve tenanting flexibility and decrease landlord risk.

- Interviewees stressed the importance of municipalities establishing zoning specifically for office uses in priority locations where there is market demand. Developers and brokers repeatedly stated that municipal zoning bylaws should not be overly prescriptive or restrictive about the specific type of office use permitted; rather, allow for 'general office', which could be used by different types of tenants to provide flexibility as the economy and market evolve.
- They also suggested flexibility for office zones to allow other supportive and ancillary activities.

9.1.4. Tenant Permits

Shorten and simplify the permitting process for basic interior renovations and improvements needed when new office tenants occupy a premise and operate a business.

- The tenant representatives interviewed had a number of suggestions for municipal actions. They requested consultation on government initiatives that could impact businesses (e.g. permitting and approval requirements and processes), and asked that governments keep business costs down, have competitive property tax rates, and improve processes for obtaining business licences.

- In terms of permitting, for office tenants moving into a building, the time to get a permit can be many months, for simple tenant improvement and occupancy permits. Building code requirements can trigger costly upgrades that make it difficult to bring existing space up to new standards, especially with older buildings.
- This lengthy, expensive, and cumbersome requirement can be costly for both the landlord and tenant. Accordingly, some tenants decide to stay in their current space rather than move.
- Cities are encouraged to simplify this permitting system, similar to the past City of Vancouver Tenant Improvement Permit System[30], but applicable to a wider range of buildings. Also, that municipalities should allow Certified Professionals to review drawings to expedite the approval process.

9.1.5. Municipal Incentives

Explore financial, regulatory, and other incentives to encourage office development.

- Municipalities could offer incentives for office development in Urban Centres, such as providing bonus density, reducing development fees, expediting development review processes, or lowering property taxes, and utilizing revitalization tax exemption programs, as appropriate. There may be lessons learned from some municipal programs with incentives to encourage rental and affordable housing developments.
- Other incentive or benefits may be in the form of improving the features and amenities of Urban Centres, ranging from enhanced urban design, investments in infrastructure and facilities, public spaces, transportation upgrades, etc., which all improve the desirability of the area.

9.1.6. Research

Undertake further relevant research and case studies / best practices / innovation profiles into topics such as mixed-use development, such as identifying opportunities to integrate office space into mixed-use and multi-use projects, but also identify where office components may or may not be warranted.

- Interviewees appreciated research and reference publications by Metro Vancouver about office, industrial, and employment matters. Specific possible additional areas for research: explore more consistent municipal zoning provisions across the region, explore how better to achieve a balance of housing and employment growth objectives, and document local market conditions.

9.2. Other Areas for Exploration

The following are potential additional areas and actions that could be explored by Metro Vancouver, municipalities, developers, and other organizations to encourage and facilitate office development in Urban Centres. Generally, these initiatives support sound land use

[30] TIPs is an alternative permit-issuing process for renovation projects which require a building permit or a development-building permit.

planning and policy development, an increase in technical research and information sharing, and further enhancing coordination and collaboration. Participation by all stakeholders is required to achieve success. Some of these actions are shorter term while others are longer term, and plans to encourage office development in Urban Centres must recognize market fundaments and tenant and developer needs, while advancing both local and regional goals. These actions are organized by the relevant level of government and can be advanced through inter-agency and industry collaboration.

9.2.1. Metro Vancouver

- Advance and implement the regional growth strategy and regional context statements with supportive municipal plans and policies that direct investment, jobs, and development to Urban Centres and secondarily to Frequent Transit Development Areas, and restrict significant office development in out-of-centre locations.
- Work with municipalities, other agencies, and the development community to consider possible refinements to regional policies to best support the goal of attracting office development to Urban Centres.
- Promote the importance of business and office space in the region as part of a healthy economy supporting prosperity in the form of investment, employment, and taxation. This can be through advancing and implementing the goals, strategies, and actions in the regional growth strategy and ensuring that municipal plans, including regional context statements, official community plans, area plans, and economic strategies, highlight the importance and value of office space to the economy and community.
- Document and share regional economic issues and explore advancing initiatives that support economic and employment growth, including office-based businesses, and promote the region as a destination for investment. This can include encouraging efforts by municipalities and the province to retain and attract businesses to the region and office space to Urban Centres through an environment that is conducive to business investment and growth.
- Collect and promote case studies and best practices about ways municipalities and developers can encourage and support office growth in Urban Centres.
- Maintain and share data, statistics, and other information resources about office buildings and Urban Centres that may be of use for municipalities, businesses, investors, developers, and tenants. Specifically, periodically update the inventory of office buildings in the region.
- Encourage, as appropriate, municipalities to:
    - Streamline the development and permit application processes – review, costs, time, risk – in general and specifically for office development in Urban Centres. This may include developing guidelines to facilitate a clear and timely review process.
    - Develop incentive programs for office development in Urban Centres. This may include conducting research about possible incentives and sharing materials with municipalities to inform them about available tools.
    - Prepare development policies and design guidelines to support office development in Urban Centres. This could include guidelines or templates benefiting municipalities, or hosting education / information sharing events.

- Encourage TransLink to continue to improve transit service to Urban Centres, and where appropriate, improved local transit service to connect existing office parks located in urban areas to the Frequent Transit Network or commuter level transit service.
- Work with TransLink and member municipalities to develop appropriate transportation and land use policies that support the development of office space in Urban Centre locations.
- Work with the provincial and federal governments to encourage them to locate their major office accommodations and appropriate facilities in transit-oriented, Urban Centre locations.
- Continue to support coordination on economic issues at the regional level. Activities such as data collection, research, information sharing, and networking to supplement municipal efforts.

9.2.2. Municipal Governments

- Fostering a business-friendly environment by promoting the importance of office space as part of a healthy economy supporting prosperity in the form of employment and taxation. This can be done through municipal official community plans and area plans as well as economic strategies that respond to the needs of business, specifically office tenants, and best ways to accommodate this form of development within the community.
- Promote the infill and intensification of Urban Centres through municipal plans and policies as opportunities for developers and businesses to invest.
- Ensure that municipal policies and zoning clearly identify and promote the CBD within each Urban Centre. Consider which areas can accommodate large scale office uses, and which are best for local serving office.
- Through official community plan or other council policy, not support or approve significant office developments in locations outside of Urban Centres.
- Within the context of overarching municipal and regional goals and objectives, consider reviewing zoning bylaws for office uses to:
    - Ensure that they do not unduly limit office development potential on Urban Centre lands.
    - Pre-zone lands for office uses, and not allow other unrelated uses, in appropriate locations. This would send clear direction to landowners and developers about the desired long-term use for those lands. This could also include establishing higher density zoning or bonus density provisions for office space use or a density transfer program.
    - Allow different forms of office building designs, such as larger floorplate low-rise office spaces which may be in demand and more efficient than smaller floorplates, while respecting local conditions.
    - Ensure requirements that mixed-use buildings include an office component only apply where appropriate and where the market supports it.
    - Implement flexible zoning that allows for 'general office' uses, rather than specific and restrictive types of office uses.
    - Limit office uses and amounts to a scale that are accessory to industrial uses in designated industrial areas.

    - Discourage significant office developments in locations outside of Urban Centres.
- Explore specific economic development initiatives to attract office investment; an 'open for business' approach for office development will encourage developers and businesses to consider investments in these communities.
- Invest in public infrastructure and facilities / amenities in Urban Centres to attract private sector investments. This could include investments in transportation and other infrastructure and community facilities / amenities that benefit businesses and workers.
- Consider offering greater development rights for larger sites to encourage land assembly for office development.
- Investigate implementing a program that fast-tracks building interior and occupancy permits for tenants (modelled on the previous City of Vancouver's "TIPs" program) as well as using Certified Professionals to review applications.
- Explore pre-servicing areas to be 'building-permit ready' for office buildings.
- Review property tax rates to support competitive business costs, and consider other appropriate financial incentives for new office buildings.
- Support Business Improvement Associations which may assist with promoting and improving business districts to make Urban Centres more attractive for office tenants.
- Locate municipal offices and facilities in Urban Centres; interviewees noted the City of Surrey's relocation of city hall to Surrey City Centre as a positive example.

9.2.3. Provincial / Federal Governments

- Share available data about office and employment development and related economic matters, through BC Assessment Authority, BC Stats and other applicable agencies.
- Locate provincial, federal and other government agency offices as well as major institutional facilities such as universities and hospitals in Urban Centres, where possible.
- Province – assist with review of property tax rates for office space to support competitive business costs. This may include leading a taskforce with stakeholders to review possible adjustments to property tax rates and policies.
- Province – support economic development initiatives that retain and attract businesses to the region. This may be through working with Metro Vancouver / Invest Vancouver and stakeholders to explore preparing a regional economic strategy and advancing initiatives that support economic and employment growth in the region, including efforts to retain large businesses and grow smaller businesses, and promote the region as a destination for investment.
- Invest in necessary infrastructure and facilities / amenities in Urban Centres to attract private sector investments. This could include investments in transportation and other infrastructure and community facilities / amenities that benefit businesses and workers.
- Develop implementation agreements or memorandums of understanding consistent with the regional growth strategy directing government investments to Urban Centres as well as other supportive actions.
- Province - help with training an educated workforce.
- Federal - allow immigration or temporary visas for skilled workers needed by growing businesses.

9.2.4. Development Community

- Share information and research with local governments to foster a better understanding of the development process. This may include periodic meetings to exchange information and ideas between the public and private sectors or other types of special events.
- Development groups, such as NAIOP, UDI, ULI, and BOMA, could work with local governments to inform municipal plans and policies that are supportive of office development in Urban Centres. This could include sharing expertise about the office development financial and market requirements for land use plans and policies to include viable office space components.
- Work with municipalities and Metro Vancouver to identify and address regulatory barriers and challenges for office development in Urban Centres.
- Explore the potential for mixed-use and multi-use developments with office components, where appropriate.
- Consider the commuting needs of employees and access via different transportation modes for office development, including the potential for transportation demand management strategies to encourage transit usage.
- Further explore financial and market viability of office development opportunities at Urban Centre locations, especially beyond the Vancouver Metro Core, rather than non centre locations for office projects.
- Apply lessons from other jurisdictions about office development in Urban Centres to the Metro Vancouver region.
- Promote the benefits of locating in Urban Centres to office developers, investors, businesses, tenants, and workers.

Appendix A: List of Interviewees

Organization	Name / Title
Altus Group	Andrew Petrozzi, Research Director for Western Canada
CoStar	Paul Richter, Director of Market Analytics, Western Canada
Hemson Consulting	Adam Mattinson, Consultant
Regus / IWC	Alex Kanaan, Team Lead Area Sales Manager
WeWork	Sean Lemckert, Portfolio Manager
GWL Realty Advisors	Wendy Waters, Vice President, Research Services & Strategy Anthio Yuen, Senior Director, Research Services & Strategy Sara Obidi, Research Analyst, Research Services & Strategy Peter Jenkins, Director of Leasing
Hudson Pacific Properties	Chuck We, Senior Vice President, Western Canada David Haugen, Senior Director Leasing
Oxford Properties	Ted Mildon, Director, Office Leasing
PCI Developments	Dan Turner, Executive Vice President Jarvis Rouillard, Senior Vice President
QuadReal Property Group	Jeff Rank, Senior Vice President - Leasing
Avison Young	Glenn Gardner, Principal - Office Sales & Leasing
Colliers	Rob Chasmar, Senior Vice President Shalisha Senkow, Associate Vice President, Workplace Advisory Russell Whitehead, Senior Vice President, Planning & Placemaking Susan Thompson, Associate Director, Research Adam Jacobs, National Senior Director of Research
CRESA	Ross Moore, Senior Vice President & Managing Broker
Cushman & Wakefield	Paul Carrothers, Vice President, Office Svetlana Lebedeva, Research Manager
CBRE	Eli Applebaum, Vice President
JLL	Mark Chambers, Executive Vice President of Office Leasing Shawna Rogowski, National Research Manager - Office
City of Burnaby	Chun Nam Law, Strategic Initiatives Planner Ian Wasson, Senior Planner Jesse Dill, Senior Planner Lily Ford, Senior Planner
City of Coquitlam	Andrew Merrill, Director Development Planning Genevieve Bucher, Director Community Planning Andre Isakov, Economic Development Manager
City of Richmond	John Hopkins, Director, Policy Planning Suzanne Carter-Huffman, Senior Planner

	Jill Shirey, Manager Economic Development
City of Surrey	Patrick Klassen, Community Planning Manager Preet Heer, Community Planning Manager Andrew Dong, Community Planner
City of Vancouver	Matthew Bourke, Planner III - City-Wide & Regional Planning Chris Clibbon, Planner II - City-Wide & Regional Planning Thien Phan, Senior Planner - Rezoning Centre John Grottenberg, Planner III - Special Projects Office Sean Martinez, Planner II - City-Wide & Regional Planning Nathan Bunio, Planner - City-Wide & Regional Planning
Vancouver Economic Commission	Bryan Buggey, Director - Strategic Initiatives and Sector Development James Raymond, Manager - Research & Analysis

Thank you to the interviewees who provided their insights to inform this report.

Interviews were conducted by Eric Aderneck, Senior Planner, Metro Vancouver, between mid-September 2022 and mid November 2022.

The preparation of the earlier edition of this report was informed by other interviews at that time. Comments that are still relevant are retained in the updated edition of this report.

Appendix B: Interview Discussion Questions

The following questions were provided to interviewees in advance of meetings for their preparation, noting that not all questions applied to all interviews.

Views on Metro Vancouver Office Market Issues and Trends:

1. What are the region's major strengths and weaknesses regarding office development and tenancy?
2. What are the greatest barriers / challenges to growing the corporate / headquarter office market in the region?
3. What are major issues or trends facing the office development market in Metro Vancouver (such as: impacts of COVID-19 and associated Work-From-Home vs Back-to-Office patterns, changing nature of work, tenure / co-working, tenant needs, lease values, land values, construction costs, building designs, regulatory / permitting, etc.), and how is this evolving?
4. For office tenants that are moving to the region, where are they moving from, and what are they seeking?
5. For office tenants that are expanding within the region, do they typically stay in the same geographic area or move, and what are they seeking?
6. Which sub-markets within the region compete / complement with each other, and which do not?
7. To what extend could office development and office tenants be guided to other Urban Centres outside of the City of Vancouver Metro Core?
8. How has the new supply of office buildings in the region, particularly in downtown Vancouver, impacted office market and tenancy?
9. Any notable observations about the sectors and sizes of office tenants seeking accommodations, and the type of desired spaces and features?

Questions for Developers and Brokers (some questions relate to tenants):

1. What are the key considerations / criteria for selecting a site for an office building development, and how might this be evolving (such as area features/amenities, proximity to transit, proximity to highways, availability of parking, mixed use vs single use complex, building designs, land values, lease rates, etc.)?
2. What are office tenant key selection criteria, and how has this changed?
3. Has the premium that tenants are willing to pay to locate in Urban Centres / near transit / amenities vs other locations without these features changed over the past five years (or since 2020 due to COVID-19)?
4. What do developers and tenants perceive to be positive or negative qualities associated with Urban Centres?
5. How does the market differentially consider Urban Centres, SkyTrain stations (historic, new, or planned), or proximity to frequent bus transit routes?
6. What are challenges or barriers to developing in Urban Centres vs other locations?

7. Could efforts by municipalities to reduce costs (such as reduced DCCs, application fees, approval processes timelines, etc.) or enhance services / amenities have a significant impact on office development / tenancy decisions?
8. What could municipalities or Metro Vancouver do to encourage additional office developments in Urban Centres?

Questions for Municipal Staff (Planning and Economic Development):

1. What are some notable municipal experiences or examples (both successes and challenges) to attract office development to cities or more specifically to Urban Centres?
2. What sorts of policies or programs does the city have in place to encourage office development in Urban Centres (or other target locations), and how do developers respond to those?
3. Has there been a notable shift (in the past five years, or since 2020 due to COVID-19) towards more office development occurring in Urban Centre locations vs suburban / highway oriented locations?
4. How do developers consider municipal and regional plans when selecting an office development site?
5. What if any planning research / policy could help support more office development in Urban Centres?

Appendix C: Corporate Headquarters and Major Office Employers

Large office tenants, such as corporate headquarters or major branch facilities, are usually required to warrant large office developments through pre-leasing space to finance new office buildings. Other major Canadian cities/regions have more corporate headquarters (HQs) that are able to commit to new office space; this is not generally the case in Metro Vancouver, which has more small and mid-sized offices. However, over the past few years significant tech companies have entered the Vancouver market and taken up large blocks of office space.

The Importance of Head Offices

The role of head offices and their associated benefits are described in this section, copied from a report focusing on trends in office headquarters and particularly in Vancouver[31]:

> *While head offices only employ a few hundred workers, they generate indirect benefits to the local economy. Their employees are highly-skilled, contribute more to the tax base, and support innovative activities. There is also likely to be additional employment generated by related businesses in the business service industry. The majority of head offices outsource accounting, legal, and advertising services. Expenditures on outsourcing for these three services amount to 65% of the wage bill of head offices, mostly on advertising. Jobs related to head office activities tend to require high skills, pay high wages and contribute strongly to tax revenues. Head office activities are innovative and innovation may generate knowledge spillovers and above-normal profits. Head offices of major corporations can be philanthropic, funding arts, education, and other community programs.*

Further, the following text is taken from a report on office headquarters in British Columbia and Vancouver by Business Council of British Columbia:[32]

> *The choice of head office location carries significance for the company and host jurisdiction alike. Of course, the presence of head offices also matters in a substantive way, not just symbolically. 'Head offices function as centres of command and control for corporations; they are often where key decision-makers are located.'[33] There are sound economic reasons why cities, states and provinces are keen to host the headquarters of large firms. To begin with, head offices bring high paying jobs, both directly but also indirectly because they are an important source of demand for locally provided producer services – e.g., law, accounting, engineering, executive search, etc.[34] Head offices act as anchors to the surrounding community by utilizing local suppliers, providing leadership*

[31] University of British Columbia, Sauder School of Business, Competition Policy Review Panel Research Paper Summary - Keith Head, John Ries, Head Office Location: Implications for Canada, 2008.
[32] Business Council of British Columbia - Jock Finlayson, Karen Graham, Corporate Headquarters and Head Office Employment in British Columbia: 2006 Update, 2006.
[33] Statistics Canada - John Baldwin, W. Mark Brown, Foreign Multinationals and Head Office Employment in Canadian Manufacturing Firms, June 2005.
[34] Federal Reserve Bank of Chicago, Economic Perspectives - T. Klier, W. Testa, Location Trends of Large Company Headquarters During the 1990s, Q2 2002.

and sponsorship of charitable organizations and the arts, and helping to establish business clusters of expertise and ideas.[35]

Indeed, the evidence suggests that the concentration of numerous head offices in a particular city or region often has a "cluster" effect, as corporate networks are formed, supplier industries develop tight linkages with headquarters operations, and ideas and best practices are shared among business leaders. These kinds of business clusters contribute to the development of vibrant communities.

The presence of a corporate headquarters can have numerous direct and indirect effects on a local economy[36]. They tend to have higher-paying jobs, and can attract other businesses that serve the corporation's needs and those of its well-paid employees. From the corporation's perspective, there are efficiency gains to be had from sharing services and having a concentration of knowledge.

Headquarter Location Decision Factors

Researchers have identified the main determinants of head office location as[37]:

- International accessibility
- A skilled workforce
- High quality of life to attract international staff
- Low corporate and personal taxes
- Excellent information and communication technology infrastructure
- Well-developed business support services (legal, accounting, public relations)
- Low risk (in terms of crime, exchange rates, regulatory and tax changes)
- Proximity to customers
- Proximity to production operations
- Cost and availability of office space

The propensity of attracting additional headquarters increases with the number of same-industry headquarters and activities in a region. The presence of specialized intermediate service providers including business services (such as advertising, employment agencies, computer services, legal services, engineering, and management services), and financial services (such as commercial banks, security and commodity brokers) exerts a positive and significant influence on the probability of receiving headquarters investment.

Economic geography theory suggests that the choice of headquarters location is a competition between the corporate need to be in proximity to customers and suppliers, high-level professional services and infrastructure, and motives for cost and tax savings. Headquarters relocation can thus add value to a firm and falls into a firm's value creation program. However, moving headquarters entails substantial costs - property acquisition and business interruptions, employee relocation, hiring, and training.

[35] International Financial Centre, British Columbia Newsletter - Ian Heine, The Loss of Head Offices in BC, June 2006.
[36] Fraser Forum - Hugh MacIntyre, Jason Clemens, Nadeem Esmail, Corporate Headquarters in Canada, January/February 2013.
[37] University of British Columbia, Sauder School of Business, Competition Policy Review Panel Research Paper Summary - Keith Head, John Ries, Head Office Location: Implications for Canada, 2008.

Attracting and Retaining Corporate Headquarters

To encourage headquarter development, the best response is to promote policies aimed at fostering a knowledge-based economy and a competitive business environment, such as investment in education, basic research, R&D promotion, and competitive taxes. This will benefit the economy as a whole along with helping to attract and grow head offices and associated employment.[38]

Experience from other jurisdictions can be summarized as a common set of factors (or conditions) that are necessary for a city-region to be successful in attracting new – and growing local – corporate offices. Research suggests that the most important factors are:[39]

- A clear regional vision and well-defined and well-executed investment attraction strategy;
- Aligned leadership by local business and civic leaders, acting as ambassadors for the city-region;
- A competitive overall business environment (tax burden, regulatory complexity, and immigration rules);
- Political and regulatory stability / certainty;
- World-class infrastructure (transport and telecommunications links), a high quality of life, and availability of good educational, health and financial / professional services;
- An effective investment promotion / attraction agency (ideally, a one-stop shop to communicate comparative advantage and facilitate investment); and
- An available skilled workforce.

Metro Vancouver Headquarter Attributes

The number of corporate headquarters in the Metro Vancouver region has declined or stayed constant over the past two decades, despite a growing population, workforce, and economy. This is due in part to past natural resource sector companies based in BC closed, relocated, or consolidated. These HQs have not been fully replaced by local companies expanding to national or international scale HQ operations, or HQs relocating to the region from elsewhere.

That noted, there have been significant 'branch' offices that have come to Vancouver and expanded. These are associated with the tech sector (software, animation, gaming, film, etc., and more recently bio-tech / life sciences), notably Microsoft and Amazon. Vancouver's proximity to Seattle and California and being in the same time zone are noted attractions, along with relatively low costs (both accommodations and labour), ease of entry for international talent, and favorable USD/CDN currency conversation rates.

Although high cost by Canadian comparison, Vancouver is not exceptionally expensive compared to other international cities. Most immigration, which is high in Canada, goes to Toronto and Vancouver. To attract international skilled workers to North America, visas to

[38] Statistics Canada - Desmond Beckstead, Mark Brown, Insights on the Canadian Economy: Head Office Employment in Canada, 1999 to 2005, 2006.

[39] Business Council of British Columbia, Canadian Head Office Survey: How Do Metro Vancouver and British Columbia Stack Up?, 2016.

Canada are easier to obtain than USA. According to some views, Canada now stands on its own as a destination, not just as a steppingstone to USA.

These features are incentives for tech companies to locate major branch operations in Vancouver, but not enough to attract full HQs. While virtually all large cities / regions want additional HQs, that may not be readily possible for Vancouver, nor as needed, given the diverse economy and growth of the tech sector.

Vancouver is now on the international map, yet has lower cost compared to San Francisco and Seattle, for example. This is a consideration for decisions by international companies about where to locate their operations and staff teams. One interviewee believed that if during an economic slowdown international tech companies start to layoff staff, they would do so first in cities where costs (which comprise mostly labour) is highest, before Vancouver.

Specifically, with a growing tech sector is an expanding workforce comprising both local university graduates and international immigrants. Some of these businesses and employees in the region may lead to spinoff / start-up businesses that further grow the local employment market and expand the associated economic ecosystem. (Associated with this growth in workforce is a need for increased housing supply, particularly well-located rental apartments close to employment centres, along with investments in transit, and enhanced amenities.)

The growing tech sector tenants are as large as some corporate HQs in terms of office sizes. These large 'lumpy' amounts of space are both substantial to build and to occupy all at once. In the past, it was extremely rare for a single tenant to occupy 400,000 sq ft of office space in the Metro Vancouver region. Companies like Amazon have pre-leased and absorbed such blocks of space, driving the development demand to build it. And now that there is an increasing number of large office buildings and modern spaces, they can accommodate other growing tenants.

Few HQ tenants in Vancouver means many smaller tenants, providing for a more diversified (and some say resilient) tenant market not dominated by a few large players, and thus less risk for office developers and landlords. The Vancouver office market, long known for small tenant sizes, is growing both through the noted large tech tenants and some expanding local companies (such as tech, apparel / clothing, as well as various professional services).

A sectoral or economic decline is not likely to affect all the many small tenants in the same way. Furthermore, smaller tenants are less able to readily rid excess office space, whereas large HQs with huge blocks of space can unload surplus space multiple floors at a time.

Relative to other major office markets in Canada, Vancouver is seen as distinct. Toronto is larger and is the financial capital of the country, and increasingly an international destination for such activities and firms. Calgary is associated with the oil and gas sector, with its periodic swings that can greatly impact the dependent business economy and office market.

Seattle is well-known for Microsoft and other software companies, but is in a league ahead of Vancouver. Vancouver's Asian connections are often noted as a feature, however given geo-political strains with China, not necessarily as strong or relevant as in the past. While Vancouver

is appreciated by residents for its nice weather and quality of life, that is not the main consideration for corporate location decisions; rather good value for the business, even if employees face high housing costs.

Also, according to some sources, for commute patterns in Vancouver versus some other city-regions, the commute lengths (as well as tolerance for such by workers) is notable lower in Vancouver. That may be a function of the relatively good transit service including SkyTrain in the Metro Vancouver region.

Other Considerations

The strengths of the Metro Vancouver regional economy that particularly relate to the office market, as noted by interviewees, include: a 'Vancouver' brand that is well recognized, growth in the tech sector with large American companies locating facilities in Vancouver to access an international workforce via Canadian immigration policies, the region being a livable and desirable place with many amenities, and a strong educational system that fosters talent.

In terms of challenges or weaknesses of the region, high cost of housing and living were noted by many interviewees, as well as high land and construction costs for development, and excessively long and uncertain approval processes that increase risks for building projects.

Although Vancouver is known for high housing prices and office rental rates (by Canadian standards), compared to some other cities from where businesses and employees are moving from, such as San Francisco or New York City, it is not more expensive.

Corporate Headquarters and Employment

There is a fundamental fact about the Metro Vancouver office market – there are relatively few large corporate headquarters and associated office employees. Over the past few decades, mainly due to changes in the resource sectors, which represented a significant number of the headquarter offices in the region, these businesses have declined. Since then, the tech sector has grown, however not necessarily in the form of headquarter operations.

Many foreign corporations are attracted to Toronto as a national office location or Calgary as a Western Canada regional office location, rather than necessarily Vancouver. However, this is evolving, with less office demand in Calgary, due to fluctuations in the resource economy. There are a number of factors that challenge Metro Vancouver and British Columbia as a location for office headquarters compared to other Canadian centres, namely higher real estate costs, high costs of doing business, and high housing prices which can impose challenges in relocating and attracting staff. Yet on the other hand, Metro Vancouver region offers many benefits as earlier noted.

The below table and figure contains data from 2012 to 2020, showing the number of corporate headquarters located in Canada, British Columbia, and Metro Vancouver. Approximately 77% of corporate headquarters in the province of British Columbia are located within the Metro Vancouver region. Because the companies in the Metro Vancouver region are larger than the provincial average, they comprise approximately 88% of the HQ jobs in the province. While the

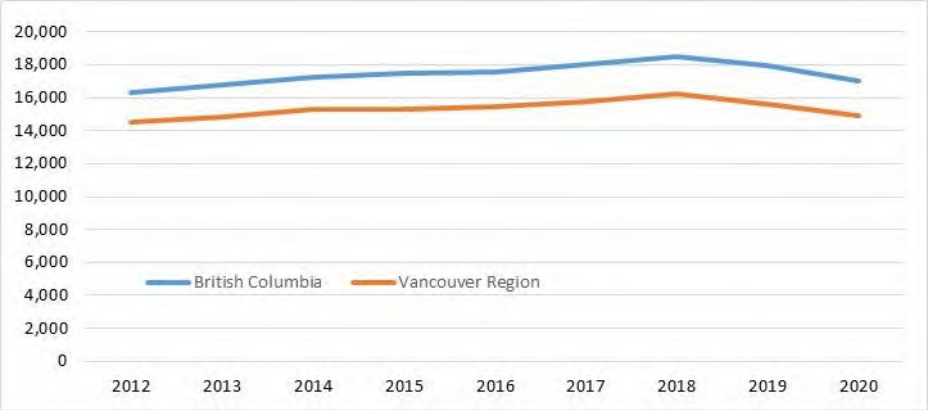
population and employment of the province and the region have increased, growth in headquarters and associated jobs has been relatively flat.

Table: Corporate HQ Offices and Jobs – Canada, British Columbia, Metro Vancouver

Corporate Head Offices	2012	2013	2014	2015	2016	2017	2018	2019	2020	*% Change*
Canada	2,793	2,773	2,759	2,736	2,728	2,729	2,737	2,736	2,694	*-3.5%*
British Columbia	319	319	313	311	307	308	313	319	314	*-1.6%*
Vancouver Region	244	242	239	237	239	239	242	247	241	*-1.2%*
Head Office Jobs	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	***% Change***
Canada	222,339	224,779	230,394	227,293	227,416	228,130	226,631	223,565	210,262	*-5.4%*
British Columbia	16,343	16,813	17,289	17,459	17,593	18,027	18,524	17,953	17,055	*4.4%*
Vancouver Region	14,513	14,840	15,281	15,290	15,423	15,783	16,261	15,605	14,898	*2.7%*
Population	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	***% Change***
Canada	34,714,222	35,082,954	35,437,435	35,702,908	36,109,487	36,545,236	37,065,084	37,601,230	38,007,166	*9.5%*
British Columbia	4,566,769	4,630,077	4,707,103	4,776,388	4,859,250	4,929,384	5,010,476	5,094,796	5,158,728	*13.0%*
Vancouver Region	2,418,938	2,459,426	2,507,414	2,544,484	2,582,202	2,616,904	2,658,582	2,709,277	2,746,491	*13.5%*

Source: Statistics Canada. Table 17-10-0135-01, Population estimates, July 1, by census metropolitan area and census agglomeration, 2016 boundaries

Chart: Head Office Jobs – British Columbia and Metro Vancouver



Metro Vancouver Headquarters

Over the last few decades, the Metro Vancouver region has seen the disappearance of some sizable businesses, due to consolidation in industries like mining and forestry, take-overs of large BC-based enterprises, and the relocation of companies to other jurisdictions. This has been offset to a significant extent by the growth of other BC-based enterprises, which have evolved from small firms to become larger organizations, as well as growth in the tech sector, although these are not necessarily corporate HQs.[40]

The following figure shows for the 2012 to 2020 period the number of corporate headquarters and number of headquarter jobs in the Metro Vancouver region. The number of corporate headquarters declined slightly and the number of headquarter jobs increased slightly during this decade. This was while the overall population and labour force of the region continued to grow. Thus, the number of headquarter jobs in the Metro Vancouver region as a proportion of total employment has stayed flat or declined.

[40] Business Council of British Columbia, Developing a Stronger Corporate Head Office Cluster, 2017.

Table: Corporate HQ Offices and Jobs – Metro Vancouver, 2012-2020

Geography	2012	2013	2014	2015	2016	2017	2018	2019	2020	*% Change*
Vancouver - HQs	244	242	239	237	239	239	242	247	241	*-1.2%*
Vancouver - HQ jobs	14,513	14,840	15,281	15,290	15,423	15,783	16,261	15,605	14,898	*2.7%*
Vancouver Region Population	2,418,938	2,459,426	2,507,414	2,544,484	2,582,202	2,616,904	2,658,582	2,709,277	2,746,491	*13.5%*
HQs per 1000 residents	0.101	0.098	0.095	0.093	0.093	0.091	0.091	0.091	0.088	*-13.0%*
HQ jobs per 1000 residents	6.00	6.03	6.09	6.01	5.97	6.03	6.12	5.76	5.42	*-9.6%*
Statistics Canada. Table 33-10-0110-01 Head offices and head office employment										

Using the same data and analysis, the number of headquarter jobs per 1,000 residents in the major business centres in Canada is shown in the below figure. Toronto has by far the greatest concentration of headquarters and associated employment in Canada, followed by Montreal, Calgary, and Vancouver.

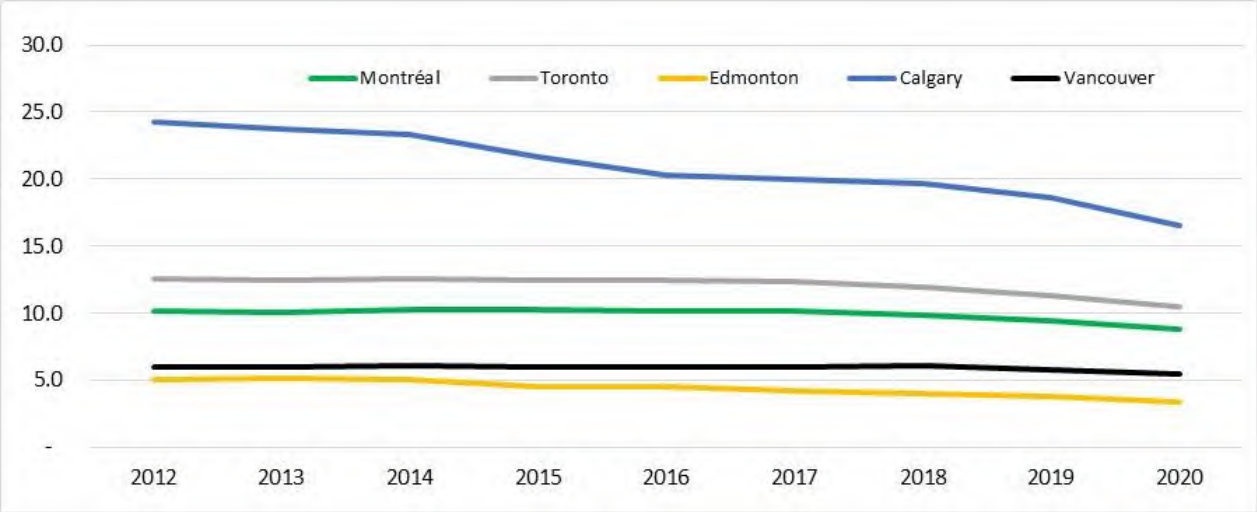
All Canadian metro regions experienced a decline in the number of headquarter jobs as a proportion of total employment during the 2012 to 2020 period, although Vancouver declined the least (it was the only geography not to decline in absolute numbers). Thus, Metro Vancouver's share of total headquarter employment in Canada increased slightly over this period, in part due to greater declines in other jurisdictions (and a total overall decline in Canada). Nevertheless, Metro Vancouver has a lower ratio of corporate headquarter jobs as compared to most other Canadian metro regions, apart from Edmonton.

Table: Corporate HQ Offices and Jobs – Major Canadian Markets, 2012-2020

Number of Head Offices	2012	2013	2014	2015	2016	2017	2018	2019	2020	*# Change*	*% Change*
Montréal	397	392	386	381	381	385	385	383	379	*-18*	*-4.5%*
Toronto	718	702	696	695	697	696	698	705	697	*-21*	*-2.9%*
Edmonton	120	119	118	113	114	115	117	120	115	*-5*	*-4.2%*
Calgary	222	216	215	210	209	213	212	204	197	*-25*	*-11.3%*
Vancouver	244	242	239	237	239	239	242	247	241	*-3*	*-1.2%*
Total	***1,701***	***1,671***	***1,654***	***1,636***	***1,640***	***1,648***	***1,654***	***1,659***	***1,629***	***-72***	***-4.2%***
Vancouver as % of Total	***14.3%***	***14.5%***	***14.4%***	***14.5%***	***14.6%***	***14.5%***	***14.6%***	***14.9%***	***14.8%***	***0.4%***	***3.1%***
Head Office Employment	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	*# Change*	*% Change*
Montréal	40,824	41,106	41,977	42,189	42,225	42,619	41,925	40,719	38,638	*-2,186*	*-5.4%*
Toronto	73,380	73,673	75,475	75,281	76,436	77,167	75,681	73,278	68,670	*-4,710*	*-6.4%*
Edmonton	6,242	6,559	6,658	6,138	6,148	5,924	5,739	5,518	4,951	*-1,291*	*-20.7%*
Calgary	31,572	31,935	32,284	30,604	29,161	29,068	29,251	28,222	25,606	*-5,966*	*-18.9%*
Vancouver	14,513	14,840	15,281	15,290	15,423	15,783	16,261	15,605	14,898	*385*	*2.7%*
Total	**166,531**	**168,113**	**171,675**	**169,502**	**169,393**	**170,561**	**168,857**	**163,342**	**152,763**	*-13,768*	*-8.3%*
Vancouver as % of Total	***8.7%***	***8.8%***	***8.9%***	***9.0%***	***9.1%***	***9.3%***	***9.6%***	***9.6%***	***9.8%***		
HQ Jobs per 1000 Residents	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	*# Change*	*% Change*
Montréal	10.1	10.1	10.3	10.3	10.2	10.2	9.8	9.4	8.8	*-1.3*	*-12.6%*
Toronto	12.5	12.4	12.6	12.5	12.5	12.4	11.9	11.3	10.5	*-2.1*	*-16.5%*
Edmonton	5.1	5.2	5.1	4.6	4.5	4.3	4.1	3.8	3.4	*-1.7*	*-33.3%*
Calgary	24.3	23.7	23.3	21.6	20.3	19.9	19.7	18.6	16.6	*-7.7*	*-31.7%*
Vancouver	6.0	6.0	6.1	6.0	6.0	6.0	6.1	5.8	5.4	*-0.6*	*-9.6%*
Average	**11.2**	**11.2**	**11.2**	**11.0**	**10.8**	**10.7**	**10.4**	**9.9**	**9.2**	*-2.1*	*-18.4%*

Source: Statistics Canada. Table 17-10-0135-01, Population estimates, July 1, by census metropolitan area and census agglomeration, 2016 boundaries

Chart: Headquarter Employment per 1000 Residents by Metro Region, 2012-2020



The following figure shows the amount of market office space (according to Colliers reports as of Q3 2022) and the regional population (according to census as of May 2021) for the major business centres in Canada. Calculating a ratio between the two values indicates the average amount of office floor space per resident in these metro regions. Based on this method, Metro Vancouver had 27 sq ft of market office space per resident, which is notably lower than Toronto at 38 sq ft and Calgary at 46 sq ft. (Note that these calculations exclude non-market office space such as government offices and institutions, which would likely be higher in government capital cities like Ottawa and Edmonton.)

The lower amount of office space reflects the fact that Metro Vancouver has a relatively limited corporate employment profile compared to the other Canadian cities, adjusted for population.

Table: Canadian Major Cities Office Space and Population Ratios

Region	Office Space Sq Ft	Regional Population	*Office SF per Pop.*
Montreal	99,011,837	4,342,213	*22.8*
Ottawa	44,275,821	1,125,306	*39.3*
Toronto	251,824,021	6,572,524	*38.3*
Edmonton	30,186,393	1,480,754	*20.4*
Calgary	72,107,737	1,559,284	*46.2*
Vancouver	75,178,790	2,773,148	*27.1*

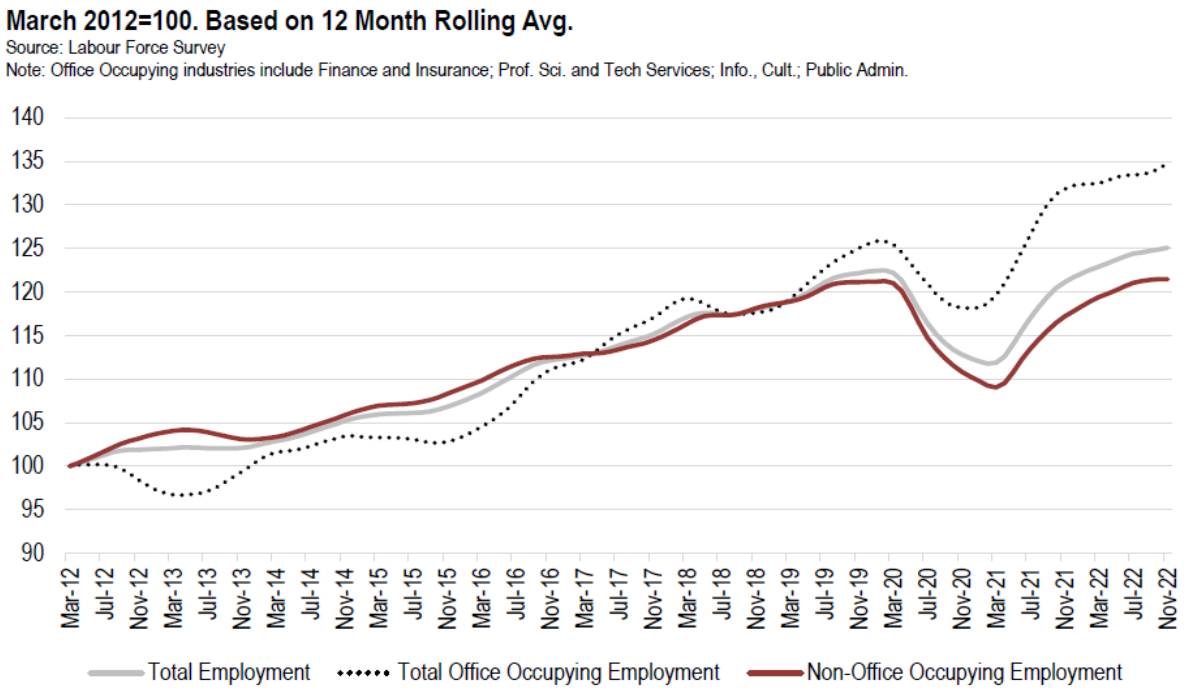
Note: Source: Statistics Canada. Table 17-10-0135-01. Population estimates, July 1, by census metropolitan area and census agglomeration, 2016 boundaries. Colliers Office Market Reports Q3 2022, Montreal, Ottawa, Toronto, Edmonton, Calgary, Vancouver. Ottawa office inventory and population does not include Gatineau. Office space is amount tracked in the market, not necessarily total inventory.

Office Employment Growth

The below figure shows the growth in employment in the Metro Vancouver region between 2012 and 2022. According to the classification of the labour force survey data, this shows that office type employment has grown faster that non-office employment, particularly between 2019 and 2022. All else being equal, this would indicate additional demand for office space to

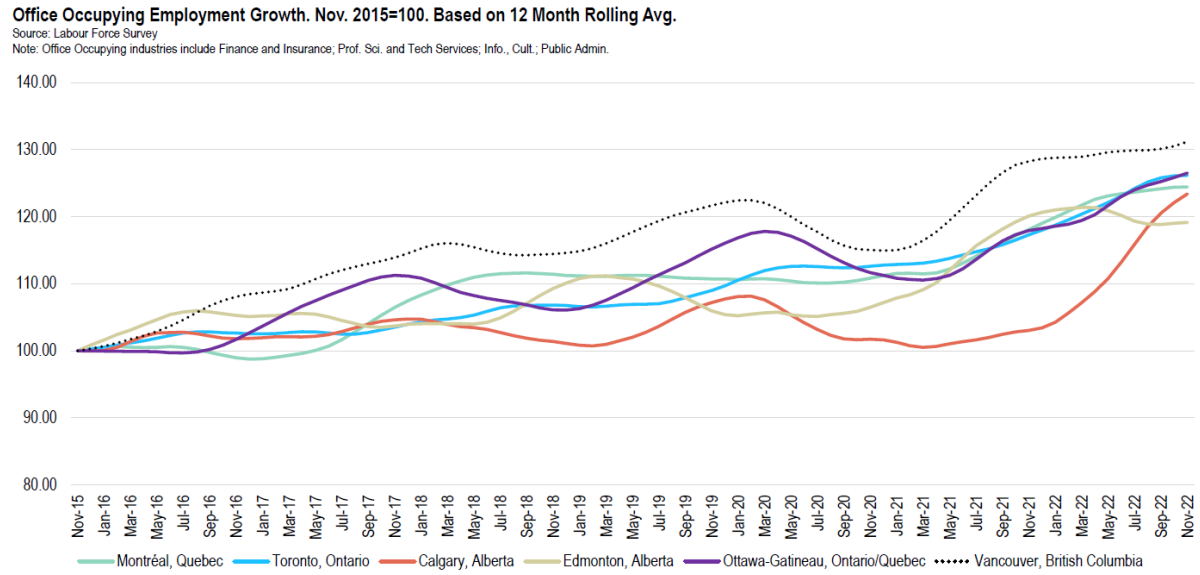
accommodate this growth in office employment, although adjusted for the fact that some employees may be working from home due to COVIC impacts. (Source: GWL Realty Advisors)

Chart: Metro Vancouver Office-Oriented Employment, 2012-2022



Comparing employment growth in Metro Vancouver with other major markets in Canada, between 2015 and 2022, percentage-wise Metro Vancouver grew faster and more consistently than the other markets. This may be a reflection of the strong growth in the tech sector in Vancouver during this period. (Source: GWL)

Chart: Vancouver Office Employment Growth, 2015-2022



Appendix D: The Evolution of Employment

For most businesses, their employees are key. With increasing attention to attracting and retaining talented staff in a competitive environment, especially in the tech sector, businesses are responding by selecting accommodations that have the location and features that employees want. The new and younger workforce, who sees work as a lifestyle and more than just a place to work and get paid, are no longer satisfied with a staid space. Instead, they want to work in a 'cool' place.

In some cases, COVID accelerated pre-existing trends and in other cases created new trends regarding workplaces.

Although real estate costs have risen, for most businesses accommodation costs are relatively small compared to staffing cost. Thus, looking holistically, businesses realize that paying a premium for a better location will result in benefits through higher employee satisfaction and retention. That said, for other businesses, perhaps with a workforce that is accustomed to commuting by car, a downtown location may not be desired or ideal.

Attracting Employees - The 'War for Talent'

Most work now is fundamentally different than it was in past decades, and the pace of change, fuelled by technology, economic and cultural trends, continues to accelerate. Amid this changing environment, companies must continuously maintain a competitive advantage to retain and attract talent.[41] The majority of workplaces in the past was dull, demotivating and incapable of effectively supporting collaborative or concentrated knowledge work. According to one publication: "In an attempt to create 'one size fits all' what resulted was 'one size fits nobody'".[42]

According to CBRE, agile real estate strategies incorporate:[43]

- **Diverse workplace design solutions**, fuelled by technology, to ensure the highest and best use of committed leased or owned space for the given requirements.
- **Flexible space solutions**, solving for requirements that are uncertain, transient or short-term.
- **Experience-led amenities, services and programming**, supported by technology, that offer substantive value to tenants beyond building location.
- **Diverse lease models** that range from long-term traditional leases and short-term turnkey solutions to on-demand, shared workspaces.

For occupiers and landlords, that means a focus on creating environments that enhance the workday experience. Across many industries, companies are adapting to the changing nature of work by refocusing on a workplace that offers balance, variety, and a sense of purpose. "It's not just about desks, offices, and conference rooms anymore, it's about engagement — specifically

[41] CBRE, The Agile Advantage, 2018.
[42] CBRE, FAST FORWARD 2030: The Future of Work and the Workplace, 2014.
[43] CBRE, The Agile Advantage, 2018.

a focus on the individual and supporting the uniqueness and value that comes from each person."[44]

The newest office designs are offering choices in when and where to work, placing more emphasis on purpose, providing places for social interaction, and adding interactivity that engages people.[45]

Considerations for Occupiers:[46]

- Commit to long-term requirements that are reasonably certain, and explore flexible space solutions for the rest.
- Focus on density and mobility in the workplace over traditional per-seat metrics.
- Design a workplace based on functionality for today and adaptability for the future.
- Invest resources into technology-enabled amenities, services and programming focused on the employee.
- Choose landlords committed to enhancing the overall experience of the building.

Considerations for Owners and Investors:[47]

- Build shared amenity floors that promote efficiency within traditional, tenant-leased environments.
- Provide the technology that tenants need to be successful and employees need to be engaged.
- Commit to the tenant experience journey through amenities, services and bespoke programming.
- Consider flexible space solutions to support evolving tenant demands.

Flexibility - From 'Workplaces' to 'Places to Work'

According to CBRE's view of the future, reference to the high-performance workplace will no longer refer to only space within the corporate office, although that will still remain a dominant part of where people work. "In 2030, we will think more about 'places to work' rather than the 'workplace'."[48]

Concepts such as 'the third place' (i.e. working in coffee shops and other public places) and co-working centres (i.e. work centres, often with memberships) could be considered as an extension of a corporation's core workplace.

Mobile technology has made "work from anywhere" a reality. The potential benefits of teleworking include increased productivity levels, reduced commuting times and costs, a wider pool of potential employees and improved employee job satisfaction linked to a better work/life balance.[49] Recent moves to more outcome-based work are making it possible to

[44] Gensler Dialogue ISSUE 31 - Vernon Mays, The Workplace Is Your Key Recruiting Tool, 2018.
[45] Gensler Dialogue ISSUE 31 - Vernon Mays, The Workplace Is Your Key Recruiting Tool, 2018.
[46] CBRE, The Agile Advantage, 2018.
[47] CBRE, The Agile Advantage, 2018.
[48] CBRE, FAST FORWARD 2030: The Future of Work and the Workplace, 2014.
[49] Griffith University: Peter Ross, Susan Ressia, Neither Office nor Home: Co-working as an Emerging Workplace Choice, 2015.

further decouple 'work' from a particular 'place'. Businesses have begun to rethink how they make use of their real estate to best facilitate work, by doing 'more with less'.[50]

At the same time, "going to the office" has other important qualities, such as being part of a community of people who exchange ideas and facilitate learning and co-creation, and thus spur innovation. For many workers today, co-working spaces offer the flexibility to combine mobile work with the connectedness and identity found in traditional offices.[51]

Activity-based working (ABW) describes a way to design space around different kinds of activities, or 'how' work gets done. In ABW spaces, employees select spaces suitable for the work task at hand. ABW offers a range of configurations geared towards different activities: creative team collaboration, meetings, quiet work, reflection, rest, and integrating workspace with hospitality amenities such as cafes.[52]

Real Estate as a Service - Rise of Co-working Operators

Prior to the COVID pandemic, co-working experienced exponential growth and established a global identity.[53] Co-working represents the rise of the real-estate-as-a-service model; real estate is transforming from a space utilization business to a service business.[54] The expansion of co-working employment has been described as a decentralised yet reflexive global movement.[55] Specifically, it reflects the decline in the number of traditional office workers and an increase in freelance and contract office workers.[56]

The stereotypical co-working space may be the opposite of traditional corporate workspaces, with a focus on technology, socializing, and informal 'play' spaces. However, new more sophisticated co-working spaces now provide concepts more relevant to larger organizations.

Unlike renting space in traditional offices, members of co-working spaces are not required to sign long-term leases, pay any deposits or spend large capital outlays on fit-outs, yet receive the right to use the office space and associated facilities.[57] People co-work for a broad range of reasons, including its relative cost, rental flexibility, the nature of their precarious work, the need for social interaction, the ability to engage in project work collaboration, and a better separation of work and home life.[58] Flexible office space arrangements are particularly attractive to small businesses that have difficulty acquiring the capital required for traditional real estate leases and are more uncertain about future space needs.

[50] University of Sydney, Co-working Spaces Australia: The new places where people work, businesses grow, and corporates connect, 2017.
[51] University of Sydney, Co-working Spaces Australia: The new places where people work, businesses grow, and corporates connect, 2017.
[52] University of Sydney, Co-working Spaces Australia: The new places where people work, businesses grow, and corporates connect, 2017.
[53] Cornell University / Cornell Real Estate Review - Daniel Wright, "Match Made in Heaven: Investment Benefits of Co-working Spaces in Historic Sacred Places", 2018.
[54] ULI Urban Land - John Egan, "Co-working Spaces Seen as Key Tenant for Houston Office", December 7 2018.
[55] City University of London - J. Merkel, "Co-working in the City", 2015.
[56] Cushman Wakefield, CO-WORKING and Flexible Office Space, 2018.
[57] European Real Estate Society - Chris Eves, Dulani Halvitigala, Hera Antoniades, "Co-working Space v. The Traditional Office Space: Challenges and Opportunities in Sydney", 2018.
[58] Griffith University: Peter Ross, Susan Ressia, Neither Office nor Home: Co-working as an Emerging Workplace Choice, 2015.

Co-working space is commonly a collaborative space in an office-like environment. The space can be in the form of very short office leases / agreements, used independently or collaboratively. The intent of co-working spaces includes a sense of community, encouraging greater productivity, providing access for mobile and freelance workers, and offering affordable solutions to start-ups unable to enter into long-term leases.[59] The fundamental concept of co-working is: create accessible, fully fitted out, office space on short-term leases.[60] Co-working providers are meeting the need with finished space that removes the hassle that small companies often face when they need to accommodate changing space requirements.[61]

Co-working spaces are shared working environments in which independent knowledge-workers gather to create knowledge and benefit from it, thereby "working alone, together" – or as one operator terms it: "*Work For Yourself, Not By Yourself!"*[62]

WeWork states: "It's about attracting and retaining talent among an increasingly liquid and digital workforce. We want people to make a life, not just a living."[63] Co-working with open concept work environments, with living-room style common areas and perks such as micro-roasted coffee, craft beer on draft and social events, also appeals to the millennial workforce, which has surpassed the Baby Boomer generation in size.[64]

In the face of long-term work fragmentation and outsourcing, co-working provides knowledge-workers with local communities and greater opportunities for collaboration with those communities.[65] However, simply putting people together in an open office space does not guarantee collaboration between co-worker members.[66] Coworkers frequently work alone in a shared space without much interaction, mutual support, or community orientation, which gives co-working hosts a special role in facilitating team work.[67]

Corporate occupiers can use co-working within their real estate portfolio, either as a provider of space at a single location or, on the other end of the spectrum, as an integrated partner across an entire portfolio. Large business occupiers are considering co-working for several reasons:[68]

- **Flexibility:** Co-working offers companies the option to quickly and easily expand or shrink their office portfolios on the margins. Co-working "swing space" can be used to manage space if a company needs to ramp up hiring or reduce headcount quickly.

[59] European Real Estate Society - Chris Eves, Dulani Halvitigala, Hera Antoniades, Co-working Space v. The Traditional Office Space: Challenges and Opportunities in Sydney, 2018.
[60] Cushman Wakefield, CO-WORKING and Flexible Office Space, 2018.
[61] BOMA BC Leasing Guide: Commercial Real Estate Office Space - Peter Mitham, "Shared Space - Co-working providers are changing how tenants lease space", 2018.
[62] Griffith University - Peter Ross, Susan Ressia, "Neither Office nor Home: Co-working as an Emerging Workplace Choice", 2015.
[63] ULI Urban Land - Leslie Braunstein, Inside the Office Space Revolution, October 26 2017.
[64] Altus Group, Top 10 Real INSIGHTS, 2018.
[65] White Rose Research / Journal of Business and Technical Communication - C. Spinuzzi, Z. Bodrožić, G. Scaratti, et al., Co-working is about community but what is 'community' in co-working?, 2018.
[66] Griffith University: Peter Ross, Susan Ressia, Neither Office nor Home: Co-working as an Emerging Workplace Choice, 2015.
[67] City University of London - J. Merkel, Co-working in the City, 2015.
[68] Cushman Wakefield, CO-WORKING and Flexible Office Space, 2018.

- **Talent Attraction/Retention:** Many employees are attracted to the "feel" of a co-working environment. Co-working can be a part of a company's human resources workplace planning which offers employees flexibility to work from outside the traditional, "corporate" office and in a desirable location. With the heightened focus on employee experience in a highly competitive job market, co-working can be a tool in attracting and retaining talent.
- **Cost Savings:** Even at a higher cost per square foot, flexible office space can help reduce overall commercial real estate costs in the long run. With a small, but growing proportion of a global portfolio in co-working, the remaining long-term, traditional leases can be tighter since organizations don't need to allow for as much expansion space that is not utilized or is underutilized for the first several years of the lease term. Co-working allows for the rest of the portfolio to be right-sized.
- **Innovation:** Specific teams or departments can be located in co-working facilities in order to develop a separate culture. These innovation labs can be a strategic tool for collaboration and creativity and/or can be designed to encourage employees to connect with other businesses outside of their organizations that may be future partners or customers.
- **Subleasing:** Corporate occupiers have partnered with real estate services firms or co-working providers to manage and monetize unused space by turning it into co-working space. This can be a creative alternative to leaving a location underutilized or subletting to a single tenant with a traditional sublease structure.

The demand for flexibility is not going to decline, especially considering the not-yet-fully known long-term implications of the COVID pandemic disruption.

Location of Co-working Facilities

Analysis indicates the majority of co-working spaces are located either in the heart of the Central Business District or the CBD fringe, with specific locations for the creative industries positioned furthest away from the CBD. In those cases, co-working operators are utilizing premium grade buildings.[69]

In other cases, commercial landlords may consider this as an opportunity to transform difficult-to-lease premises into co-working vibrant hubs. Instead of negotiating rental discounts with individual tenants, landlords are able to lease these spaces to co-working operators who bring credibility to buildings. As a result, co-working spaces can be attractive to landlords with underperforming or underutilized assets located in less desirable areas as they allow landlords to improve office space performance.[70]

Landlords

Historically with the preference to lease spaces to large-scale corporations and professional service firms, landlords were cautious in welcoming co-working operators into their buildings.

[69] European Real Estate Society - Chris Eves, Dulani Halvitigala, Hera Antoniades, Co-working Space v. The Traditional Office Space: Challenges and Opportunities in Sydney, 2018.

[70] European Real Estate Society - Chris Eves, Dulani Halvitigala, Hera Antoniades, Co-working Space v. The Traditional Office Space: Challenges and Opportunities in Sydney, 2018.

A co-working model can be considered an amenity to a building, and attract people and other tenants. Yet, while traditional office space is incorporating elements of the co-working environment, many landlords are not embracing it completely. States one office market expert: "Don't underestimate how concerned the landlords are about the tenant profile, because once a building has a reputation, it's hard to change. You want to set the tone early on. So the question is, do you want those co-working operators to set the tone of the building?"[71]

While an economic downturn may reduce the demand for co-working among freelancers, entrepreneurs, and small businesses, it also will likely cause large occupiers to think even more seriously about the need for flexibility in their office portfolios.[72]

[71] BOMA BC Leasing Guide: Commercial Real Estate Office Space - Peter Mitham, Shared Space - Co-working providers are changing how tenants lease space, 2018.
[72] Cushman Wakefield, CO-WORKING and Flexible Office Space, 2018.

Appendix E: Office Space Design

Well-designed office environments can offer workplace productivity benefits because of the opportunities they create for interaction and knowledge exchange, but research has highlighted noise, distraction and loss of privacy as significant productivity negatives associated with open plan layouts.[73] More recently, the significant impacts associated with COVID and the desire for physical separation to prevent contagions and the increase in online meetings have spurred further changes to office designs.

Space Design Trends

The design of office space continues to evolve. Layouts from decades ago with spacious private enclosed offices and large boardrooms, were replaced by cubicles and then open space layouts fitting more and more people into a tighter space. This extreme office space rationing was driven by cost saving initiatives. However, such designs were not generally desirable by employees, and in some cases leading to increased employee turnover, outweighing the savings in accommodation costs (note: for most office businesses, labour may be about 80% of their total costs, and space accommodations under 5%).

COVID has demonstrated that while some work can be done from anywhere, other types of work is best done at the office. For employees who are usually mobile, be it often travelling or working from home, a dedicated office space may be an unnecessary 'luxury', while employees who do concentrated work require quiet rooms. Business leaders increasingly recognize that people may have one job, but with multiple roles and tasks, may need different types of spaces / places.

The previous trend towards open concept office and maximum space efficiencies are now decidedly reversed with COVID, with the need for physical separation of workers in order to reduce the spread of communicable disease. Small workstations have been replaced by larger ones as well as more space for collaborative team activities. With fewer employees at work in person, physical separation increased and the employee densities decreased. Now that more employees are returning to work, there is a growing need to make the work place safe, comfortable, and attractive, with the definition of those standards evolving.

Workstations and Amount of Space per Worker

The end result is that the amount of space per employee may be pulled in two directions: higher, due to larger workstations and more common spaces, and lower due to desk sharing and fewer employees in the office (assuming the unused floor space can be sub-let). The net effect may be overall mixed or negligible, but how the space is designed and used has changed considerably. The footprint of office space is not actually reduced if a personal workstation is still required for each employee (even if the employee is not there five days a week), plus common areas, etc. Greater flexibility and more options allow people to change locations throughout the day depending on their task or activity. Accordingly, there may not be a change in office space demand directly commensurate with the number of employees, or as much space savings reductions as earlier rounds (pre-COVID) of space re-designs.

[73] Journal of Corporate Real Estate / Sheffield Hallam University - Barry Haynes, Louise Suckley, Nick Nunnington, Workplace productivity and office type: an evaluation of office occupier differences based on age and gender, 2017.

Proactive businesses are developing work place strategies to best meet their needs and those of their employees, both in the current term and into the future. Through assessing the type of work performed, needs of the employees, often informed through targeted interviews and employee surveys, satisfying requirements for both collaborative teamwork and individual quiet work, these strategies inform the amount of space that businesses need, along with design and location considerations.

If employers want to attract employees to the office, an effective and pleasant workspace should be provided – hoteling is not that. In theory, if people only come to work a few days per week and share space, this could mean less demand for office space. However, hot desk / hoteling is not popular with employees. It is widely viewed that COVID has proved hoteling to be largely a failure. Such workplace practices may be in response to the business trying to ration space and reduce costs, such as accommodating a growing workforce or moving to a smaller space that they can more efficiently utilize.

Attempts at hyper efficiency cannot always be achieved because businesses may need extra space in case of expansion. And for a small business, it is difficult to readily reduce the amount of space occupied and leased – depending on building size and floorplate, it may be possible to only do so by a floor at a time, rather than smaller areas.

Booking systems and software may be used to optimize space allocation, however requires advanced room reservations which takes away from opportunities for spontaneity and flexibility. The booking system is most effective if users ensure they cancel room booking when no longer needed, and still allocate some space available for unscheduled meetings, such as small breakouts rooms and individual phone booth stations that do not require advanced booking.

Communication and Interaction

Open-plan office layout is supposed to facilitate communication and interaction between coworkers, promoting workplace satisfaction and team work effectiveness. However, open-plan layouts are more disruptive due to uncontrollable noise and loss of privacy. According to workplace satisfaction surveys, enclosed private offices clearly outperformed open-plan layouts in most aspects of Indoor Environmental Quality, particularly acoustics, privacy, and proximity. Benefits of enhanced 'ease of interaction' were smaller than the penalties of increased noise level and decreased privacy from open-plan configuration.[74]

Some research results contradict the industry-accepted wisdom that open-plan layout enhances communication between colleagues and improves occupants' overall work environmental satisfaction. Moreover, the increase of overall workspace satisfaction due to the positive impact of ease of interaction in open-plan office layouts failed to offset the decrease by

[74] University of Sydney - Jungsoo Kim, Richard de Dear, Workspace satisfaction: The privacy-communication trade-off in open-plan offices, 2013.

negative impacts of noise and privacy. This implies the need for a certain level of privacy and acoustical quality.[75]

Workers in enclosed office spaces are more productive due to privacy and limited distractions, and those in open plan spaces were more productive because of access to informal meeting spaces. The productivity of those in enclosed shared spaces, however, suffered more due to crowding and interruptions, although work interactions and knowledge exchange were enhanced from this close proximity. Internal noise and proximity to colleagues had a similar impact on office occupiers regardless of the type of office. With such contrasting results, there is insufficient evidence to suggest that the productivity benefits of open plan office environments outweigh the productivity penalties, according to this research.[76]

Rather than prompting increasingly vibrant face-to-face collaboration, open architecture appeared to trigger a natural human response to socially withdraw from officemates and interact instead over email and instant message.[77]

Floor Plan Design

Increasingly, architects and designers are designing spaces to do more than simply house innovation-oriented activities. Their goals are also to "create communities," "facilitate collaboration" and "create serendipitous encounters."[78]

Regarding space design, it is recommended to provide:[79]

- A variety of workspaces, with an adequate mix of places supporting communication and collaboration and places supporting concentration and privacy, individually and for groups;
- Separations between open communication areas and working areas;
- Enough acoustic and visual privacy in open environments; sufficient acoustic materials and measures;
- Not too large open spaces, but smaller open zones with a good overview, alternating with enclosed spaces or panels;
- Short distances to places that are frequently needed by employees (e.g. spaces for ad hoc meetings for 2-4 persons);
- Natural materials and light colours and materials;
- Lots of daylight;
- Appropriate it facilities for different types of activities, including filing; and
- Clear behavioural rules to enable proper use of the workplaces.

[75] University of Sydney - Jungsoo Kim, Richard de Dear, Workspace satisfaction: The privacy-communication trade-off in open-plan offices, 2013.
[76] Journal of Corporate Real Estate / Sheffield Hallam University - Barry Haynes, Louise Suckley, Nick Nunnington, "Workplace productivity and office type: an evaluation of office occupier differences based on age and gender", 2017.
[77] Royal Society Publishing - Ethan S. Bernstein, Stephen Turban, The impact of the 'open' workspace on human collaboration, July 2 2018.
[78] Brookings Institution and Project for Public Spaces - Julie Wagner, Dan Watch, Innovation Spaces: The New Design of Work, 2017.
[79] Delft University of Technology - Sandra Brunia, Iris De Been, Theo Van der Voordt, Accommodating new ways of working: lessons from best practices and worst cases, 2016.

Single storey or same floor locations are preferred over multiple storeys as research shows that vertical separation has a more severe effect on separation than horizontal.[80]

Theoretically, providing less space per worker can translate into less total office space to support the same number of people, however this may have other negative consequences. Where possible, the ideal is to ensure every employee has their own dedicated desk, even if they're not in the office every day. It provides them with certainty of their work location, a place for their belongings, and a form of appreciation. Where this is not possible, employees may have to share work stations, which could be done at an office-wide, departmental, or team level with either unassigned work stations or scheduling of workers on specific days. This may optimize the accommodation efficiency, but limit interactions to only employees who overlap, rather than everyone.

Implementation

When leaders communicate the value of the new office space beforehand, proactively help workers acclimatize, and give employees leeway to adapt the space, workers are more enthusiastic about the change, have a better sense of how they should use it, and feel more place identity. Survey data reveals that workers who believed the space was designed to foster creativity, increase collaboration, enhance flexibility, and promote communication had more place identity.[81]

Rather than arguing over 'open' vs. 'closed' spaces, practitioners focus on creating the best working environment to support the needs of the specific organization, which is also evolving. The idea that 'one size fits all' when it comes to work environments is dead: "The workplace design industry is filled with over-simplified conversations about open vs. closed plan offices."[82]

Potential Backlash

Companies may be starting to see that squeezing more employees into less space can be counterproductive. At a panel about open space design, one executive stated: "The initial swing was too far. People are coming back and adding a little more space."[83] There is a backlash against the one-size-fits-all mindset, and focus on corporate efficiencies that pack more workers into less space.[84] As employee salaries account for the greatest expenses in a business, the penalty resulting from displaced employees is very likely to be more expensive than providing extra workstations.[85]

Prior to the COVID pandemic, open space / open concept office design was widely implemented, based on the multiple goals of encouraging employee collaboration and using space more efficiently. However, there is also increasing recognition that open concept may not be appropriate for all types of businesses or employees, especially where focused and

[80] Brookings Institution and Project for Public Spaces - Julie Wagner, Dan Watch, Innovation Spaces: The New Design of Work, 2017.
[81] Harvard Business Review - Brandi Pearce, Pamela Hinds, How to Make Sure People Won't Hate Your New Open Office Plan, January 2018.
[82] Work Design Magazine - Bob Fox, 2018 Workplace Trend Predictions, February 15 2018.
[83] ULI Urban Land - Patrick J. Kiger, "Workplaces May Not Shrink Further, but They May Gain Flexibility", May 3 2018.
[84] New York Times - Steve Lohr, "Don't Get Too Comfortable at That Desk", October 6 2017.
[85] 9 University of Sydney - Jungsoo Kima, Christhina Candidoa, Leena Thomas, Richard de Dear, "Desk ownership in the workplace: The effect of non-territorial working on employee workplace satisfaction, perceived productivity and health", 2016.

contemplative work is required, and that how the space is designed and programmed is also important. For a variety of different types of activities, workers need a variety of spaces; ranging from a desk, a private or quiet space, a phone booth for calls, meeting rooms, flex spaces, plus on-site amenities.

There is the risk from the business' perspective of overstating the benefit of open space at the loss of work quality environment, which may lead to higher turnover if poorly implemented. The focus is now more on providing the right types of spaces for employees, and using the space differently, rather than trying to use less space.

Also, open space can actually be expensive to provide, as the outfitting and improvements can be significant, and the requirements for building systems, such as HVAC, higher. Open concept with higher employee densities requires better building systems, commonly found in newer buildings and not old ones with sub-standard systems. Changing employee densities may also impact the amount of parking required.

Office Space per Employee

According to numerous sources,[86] in the years prior to COVID there was an ongoing trend towards less office space per employee. Increasingly, workers were moved from private enclosed offices to open workstations. Also, for additional efforts at space efficiency, some companies adopted open floor plans in which employees do not have permanently designated space; through hotelling and remote working they use unassigned office space / desks as needed. With reduced private office space, usually more and larger meeting areas and rooms are required ('collaborative space'). This arrangement, along with more efficient office space planning / design, modern furniture, equipment, technology and other features, allow for less average office space per worker. However, some academics note that stated targets by office space planners are overly ambitious or assume a stable workforce, which is not always the case.[87]

Office space per worker differs by industry sector as well as occupation. Businesses with higher levels of staffing changes and turnover can be harder to plan for, while businesses with a more homogeneous and stable workforce are easier to plan. Office space planning can be challenged by the growth rate of businesses, and can have 'shadow space' – space leased but not occupied to accommodate changes in space needs for the business as the number of employees change. Optimal office space decisions are harder for longer-term leases in which the amount of office space is fixed while business demands can vary reflecting changing economic and business cycles. Longer term leases prevent businesses from readily downsizing space until the lease expires, and thus are generally more likely to have excess capacity and lower utilization rates. This is further challenged by the fact that workforces are diverse and not all office space is the same and substitutable.[88] The risk of having too little office space must be weighed against the cost of having too much.

[86] CoreNet Global Research - Facilities Management News, Office Space per worker to drop to 100 sq ft or below for many companies within five years, March 2 2012.
[87] University of San Diego - Norman Miller, Estimating Office Space per Worker, Draft May 1 2012.
[88] University of San Diego - Norman Miller, Estimating Office Space per Worker, Draft May 1 2012.

Newer office space that is built-to-suit is more efficient than older space that has changed occupants (second generation tenants), and larger buildings tend to be more efficient than smaller ones. Thus when businesses move from an older accommodation to a new one, they typically require less total space, especially when operations are consolidated. Generally, more expensive office real estate markets are likely to press businesses to use space more efficiently, compared to lower cost markets.

Space Utilization by Sector

According to an American research report, office space per worker peaked near 370 sq ft at the end of 2009, a year or so after the great recession. In the years that followed, leases finally expired and firms were able to downsize space ('shadow inventories') that was no longer needed.[89] A similar pattern may occur associated with the COVID pandemic and subsequent years.

According to CBRE for Canada in 2012[90], the average amount of office space (net leasable floor space) per employee by sub-sector was as follows:

- Call Centres 100 sq ft
- Tech 120 sq ft
- Architecture & Engineering 170 sq ft
- Finance 170 sq ft
- Law Enforcement 200 sq ft
- Social Services 200 sq ft
- Biotech & Science 220 sq ft
- Legal 340 sq ft

Trends and Considerations

Firms retaining a multi-level hierarchy of management, with private dedicated office space configuration as a signal of rank will find it harder to use space efficiently.[91]Other factors beyond the number of employees influence space demand including, but not limited to, workspace utilization levels, relative rent levels and cycles, tenant type, occupant employee turnover, firm growth rates and culture.[92] Temporary office space, using conference rooms, co-working facilities, or letting employees work at home, may alleviate some pressure when a firm reaches capacity, but temporary space alternatives are fairly expensive compared with long-term leased space.[93]

One issue for landlords faced with high density office tenants is the need for greater parking per 1,000 sq ft of floor space. While traditional models of parking supply suggest three to four cars per 1,000 sq ft, this figure will likely need to be increased when space per worker is down to 150 sq ft or less.[94] However in a more urban location with transit, this number may differ.

[89] University of San Diego - Norman Miller, Estimating Office Space per Worker, Draft May 1 2012.
[90] Source: CBRE Research Department – Vancouver, 2012.
[91] University of San Diego - Norman Miller, Workplace trends in office space: implications for future office demand, 2014.
[92] University of San Diego - Norman Miller, Workplace trends in office space: implications for future office demand, 2014.
[93] University of San Diego - Norman Miller, Changing Trends in Office Space Requirements: Implications for Future Office Demand, 2013.
[94] University of San Diego - Norman Miller, Workplace trends in office space: implications for future office demand, 2014.

As noted by one academic in multiple publications:

- The long-term observer of corporate real estate planners has perpetually heard discussions on how to do more with less space and bring down real estate occupancy costs.[95]
- Few firms will ever be able to hit their target allocations of space per worker. The reasons are quite straightforward. Firms must anticipate growth and turnover, time to fill positions, and the types of spaces that are required. Seldom can any firm forecast growth rates or unexpected shrinkages of workers so accurately that this alone results in some over-consumption of space relative to average needs.[96]
- Based on reduced space usage, the demise of the office market has been exaggerated, and a continuation of space demand in excess of the targets espoused by some large corporations and space planners is more likely to be seen.[97]
- Overall, we should expect a greater spread of square feet per worker figures over the next several years, as some firms reduce footprints significantly while others maintain current practices with private dedicated space.[98]
- Ultimately, landlords are not selling space but rather productivity, which will command rental premiums.[99]

[95] University of San Diego - Norman Miller, Changing Trends in Office Space Requirements: Implications for Future Office Demand, 2013.
[96] University of San Diego - Norman Miller, Estimating Office Space per Worker, Draft May 1 2012.
[97] University of San Diego, Real Estate Issues - Norman Miller, Downsizing and Workplace Trends in the Office Market, 2013.
[98] University of San Diego - Norman Miller, Workplace trends in office space: implications for future office demand, 2014.
[99] University of San Diego, Real Estate Issues - Norman Miller, Downsizing and Workplace Trends in the Office Market, 2013.

Appendix F: Supplemental Office Inventory Data Tables

Geography	Metro Core / Surrey Centre	Regional City Centre	Municipal Town Centre	Not in Urban Centre	Total
Vancouver/UBC	38,300,000	-	200,000	4,500,000	**43,000,000**
Burnaby/New West	-	4,100,000	1,900,000	7,500,000	**13,500,000**
Surrey/White Rock	3,400,000	-	2,000,000	3,800,000	**9,200,000**
Richmond	-	1,700,000	-	3,100,000	**4,800,000**
North Shore	-	1,800,000	300,000	1,200,000	**3,300,000**
Langleys	-	600,000	-	1,700,000	**2,300,000**
Northeast Sector	-	400,000	400,000	500,000	**1,300,000**
Ridge/Meadows	-	300,000	-	-	**300,000**
Delta	-	-	-	200,000	**200,000**
Total	**41,700,000**	**8,900,000**	**4,800,000**	**22,500,000**	**77,900,000**

Sub-Region	Within 800m of Rapid Transit Station	Within 400m of FTN Bus Service Only	Not Near FTN Service	Total
Vancouver/UBC	36,700,000	5,700,000	600,000	**43,000,000**
Burnaby/New West	8,100,000	4,100,000	1,300,000	**13,500,000**
Surrey/White Rock	2,500,000	4,400,000	2,300,000	**9,200,000**
Richmond	1,800,000	1,900,000	1,200,000	**4,900,000**
North Shore	900,000	1,800,000	600,000	**3,300,000**
Langleys	-	200,000	2,200,000	**2,400,000**
Northeast Sector	800,000	300,000	200,000	**1,300,000**
Ridge/Meadows	-	300,000	-	**300,000**
Delta	-	100,000	100,000	**200,000**
Total	**50,800,000**	**18,800,000**	**8,500,000**	**78,100,000**

Geography	Within 800m of Rapid Transit	Within 400m of FTN Bus Service	Not Near FTN Service	Total
Metro Core	34,500,000	3,700,000	200,000	**38,400,000**
Surrey Metro Centre	2,500,000	900,000	-	**3,400,000**
Regional City Centre	7,000,000	1,400,000	500,000	**8,900,000**
Municipal Town Centre	2,200,000	2,500,000	100,000	**4,800,000**
Not in Urban Centre	4,600,000	10,300,000	7,600,000	**22,500,000**
Total	**50,800,000**	**18,800,000**	**8,400,000**	**78,000,000**

Urban Centre Type	Number	*Distribution*		Sq Ft	*Distribution*	Avg. Size	Average Size
Metro Core	514	*38%*		38,300,000	*49%*	74,500	74,513.62
Surrey Metro Centre	35	*3%*		3,400,000	*4%*	97,100	97,143
Regional City Centre	173	*13%*		8,900,000	*11%*	51,400	51,445
Municipal Town Centre	106	*8%*		4,800,000	*6%*	45,300	45,283
Not in Urban Centre	510	*38%*		22,600,000	*29%*	44,300	44,314
Total	**1338**	***100%***		**78,000,000**	***100%***	**58,300**	**58,296**

Sub-Region	Before 1950	1950 to 1959	1960 to 1969	1970 to 1979	1980 to 1989	1990 to 1999	2000 to 2009	2010 to 2019	2020 to 2022	Total
Vancouver/UBC	3,370,000	1,290,000	2,760,000	8,560,000	8,190,000	5,950,000	4,840,000	4,870,000	3,140,000	42,970,000
Burnaby/New West	130,000	310,000	210,000	1,710,000	3,490,000	3,860,000	1,960,000	1,420,000	370,000	13,460,000
Surrey/White Rock	-	20,000	150,000	670,000	920,000	2,150,000	1,920,000	2,940,000	400,000	9,170,000
Richmond	-	-	50,000	540,000	1,700,000	1,340,000	810,000	160,000	230,000	4,830,000
North Shore	60,000	60,000	120,000	650,000	1,070,000	430,000	520,000	400,000	10,000	3,320,000
Langleys	-	-	20,000	120,000	90,000	460,000	750,000	690,000	300,000	2,430,000
Northeast Sector	-	-	30,000	270,000	210,000	200,000	220,000	370,000	-	1,300,000
Ridge/Meadows	-	-	-	70,000	50,000	-	160,000	-	-	280,000
Delta	-	-	-	30,000	80,000	50,000	-	80,000	-	240,000
Total	**3,560,000**	**1,680,000**	**3,340,000**	**12,620,000**	**15,800,000**	**14,440,000**	**11,180,000**	**10,930,000**	**4,450,000**	**78,000,000**

Municipality	Number	*Distribution*		Sq Ft	*Distribution*	Avg. Size
City of Burnaby	162	*12%*		11,280,000	*14%*	69,600
City of Coquitlam	29	*2%*		800,000	*1%*	27,600
City of Delta	10	*1%*		240,000	*0%*	24,000
City of Langley	10	*1%*		220,000	*0%*	22,000
City of Maple Ridge	6	*0%*		270,000	*0%*	45,000
City of New Westminster	52	*4%*		2,190,000	*3%*	42,100
City of North Vancouver	59	*4%*		2,310,000	*3%*	39,200
City of Pitt Meadows	1	*0%*		10,000	*0%*	10,000
City of Port Coquitlam	9	*1%*		220,000	*0%*	24,400
City of Port Moody	4	*0%*		280,000	*0%*	70,000
City of Richmond	96	*7%*		4,840,000	*6%*	50,400
City of Surrey	177	*13%*		9,080,000	*12%*	51,300
City of Vancouver	617	*46%*		42,770,000	*55%*	69,300
City of White Rock	6	*0%*		110,000	*0%*	18,300
District of North Vancouver	18	*1%*		570,000	*1%*	31,700
District of West Vancouver	19	*1%*		450,000	*1%*	23,700
Township of Langley	56	*4%*		2,190,000	*3%*	39,100
UBC/UEL	7	*1%*		200,000	*0%*	28,600
Total	**1338**	***100%***		**78,030,000**	***100%***	**58,300**

Geography	General Urban	Industrial	Mixed Emp	Total	*% In General Urban*
City of Burnaby	5,390,000	5,790,000	100,000	11,280,000	*48%*
City of Coquitlam	740,000	50,000	-	800,000	*93%*
City of Delta	240,000	-	-	240,000	*100%*
City of Langley	220,000	-	-	220,000	*100%*
City of Maple Ridge	270,000	-	-	270,000	*100%*
City of New Westminster	2,170,000	-	10,000	2,190,000	*99%*
City of North Vancouver	2,000,000	310,000	-	2,310,000	*87%*
City of Pitt Meadows	10,000	-	-	10,000	*100%*
City of Port Coquitlam	200,000	-	20,000	220,000	*91%*
City of Port Moody	280,000	-	-	280,000	*100%*
City of Richmond	1,900,000	2,880,000	60,000	4,840,000	*39%*
City of Surrey	6,470,000	2,290,000	320,000	9,080,000	*71%*
City of Vancouver	37,780,000	2,870,000	2,120,000	42,770,000	*88%*
City of White Rock	110,000	-	-	110,000	*100%*
District of North Vancouver	570,000	-	-	570,000	*100%*
District of West Vancouver	450,000	-	-	450,000	*100%*
Township of Langley	830,000	1,310,000	50,000	2,190,000	*38%*
UBC/UEL	200,000	-	-	200,000	*100%*
Total	**59,830,000**	**15,500,000**	**2,680,000**	**78,030,000**	***77%***

Geography	Office Sq Ft	# Buildings	Avg Building Size
City of Burnaby	**11,275,000**	**162**	**70,000**
Metrotown	3,134,000	30	104,000
Brentwood MTC	1,218,000	14	87,000
Edmonds MTC	578,000	7	83,000
Lougheed Burnaby MTC	70,000	2	35,000
Not in Urban Centre	6,276,000	109	58,000
City of Coquitlam	**797,000**	**29**	**27,000**
Coquitlam City Centre	399,000	11	36,000
Lougheed Coquitlam MTC	17,000	1	17,000
Not in Urban Centre	381,000	17	22,000
City of Delta	**243,000**	**10**	**24,000**
Ladner MTC	12,000	1	12,000
Not in Urban Centre	231,000	9	26,000
City of Langley	**221,000**	**10**	**22,000**
Langley City Centre (in Langley City)	221,000	10	22,000
City of Maple Ridge	**266,000**	**6**	**44,000**
Maple Ridge City Centre	266,000	6	44,000
City of New Westminster	**2,185,000**	**52**	**42,000**
New Westminster City Centre	957,000	24	40,000
Not in Urban Centre	1,228,000	28	44,000
City of North Vancouver	**2,306,000**	**59**	**39,000**
Lonsdale	1,792,000	44	41,000
Not in Urban Centre	515,000	15	34,000
City of Pitt Meadows	**11,000**	**1**	**11,000**
Pitt Meadows MTC	11,000	1	11,000
City of Port Coquitlam	**219,000**	**9**	**24,000**
Port Coquitlam MTC	102,000	5	20,000
Not in Urban Centre	116,000	4	29,000
City of Port Moody	**284,000**	**4**	**71,000**
Inlet Centre MTC	284,000	4	71,000
City of Richmond	**4,839,000**	**96**	**50,000**
Richmond City Centre	1,699,000	36	47,000
Not in Urban Centre	3,140,000	60	52,000
City of Surrey	**9,081,000**	**177**	**51,000**
Surrey Metro Centre	3,392,000	35	97,000
Guildford MTC	966,000	22	44,000
Newton MTC	360,000	13	28,000
Fleetwood MTC	298,000	5	60,000
South Surrey MTC (Semiahmoo)	232,000	7	33,000
Cloverdale MTC	65,000	3	22,000
Not in Urban Centre	3,768,000	92	41,000
City of Vancouver	**42,774,000**	**617**	**69,000**
Metro Core	38,326,000	514	75,000
Oakridge MTC	183,000	3	61,000
Not in Urban Centre	4,265,000	100	43,000
City of White Rock	**107,000**	**6**	**18,000**
White Rock MTC	39,000	2	20,000
Not in Urban Centre	67,000	4	17,000
District of North Vancouver	**569,000**	**18**	**32,000**
Lynn Valley MTC	82,000	2	41,000
Not in Urban Centre	487,000	16	30,000
District of West Vancouver	**454,000**	**19**	**24,000**
Ambleside MTC	267,000	12	22,000
Not in Urban Centre	187,000	7	27,000
Township of Langley	**2,192,000**	**56**	**39,000**
Langley City Centre (in Langley Twp)	420,000	12	35,000
Willoughby MTC	49,000	2	25,000
Not in Urban Centre	1,723,000	42	41,000
UBC/UEL	**199,000**	**7**	**28,000**
Not in Urban Centre	199,000	7	28,000
Total	**78,022,000**	**1,338**	**58,000**

Geography	General Urban	Mixed Employment	Industrial	Total
City of Burnaby	**5,387,000**	**5,786,000**	**103,000**	**11,275,000**
Metrotown	3,134,000	-	-	3,134,000
Brentwood MTC	1,218,000	-	-	1,218,000
Edmonds MTC	578,000	-	-	578,000
Lougheed Burnaby MTC	70,000	-	-	70,000
Not in Urban Centre	387,000	5,786,000	103,000	6,276,000
City of Coquitlam	**743,000**	**54,000**	**-**	**797,000**
Coquitlam City Centre	399,000	-	-	399,000
Lougheed Coquitlam MTC	17,000	-	-	17,000
Not in Urban Centre	327,000	54,000	-	381,000
City of Delta	**243,000**	**-**	**-**	**243,000**
Ladner MTC	12,000	-	-	12,000
Not in Urban Centre	231,000	-	-	231,000
City of Langley	**221,000**	**-**	**-**	**221,000**
Langley City Centre (in Langley City)	221,000	-	-	221,000
City of Maple Ridge	**266,000**	**-**	**-**	**266,000**
Maple Ridge City Centre	266,000	-	-	266,000
City of New Westminster	**2,175,000**	**-**	**10,000**	**2,185,000**
New Westminster City Centre	957,000	-	-	957,000
Not in Urban Centre	1,218,000	-	10,000	1,228,000
City of North Vancouver	**1,996,000**	**310,000**	**-**	**2,306,000**
Lonsdale	1,792,000	-	-	1,792,000
Not in Urban Centre	205,000	310,000	-	515,000
City of Pitt Meadows	**11,000**	**-**	**-**	**11,000**
Pitt Meadows MTC	11,000	-	-	11,000
City of Port Coquitlam	**202,000**	**-**	**17,000**	**219,000**
Port Coquitlam MTC	102,000	-	-	102,000
Not in Urban Centre	99,000	-	17,000	116,000
City of Port Moody	**284,000**	**-**	**-**	**284,000**
Inlet Centre MTC	284,000	-	-	284,000
City of Richmond	**1,899,000**	**2,876,000**	**65,000**	**4,839,000**
Richmond City Centre	1,699,000	-	-	1,699,000
Not in Urban Centre	199,000	2,876,000	65,000	3,140,000
City of Surrey	**6,465,000**	**2,295,000**	**321,000**	**9,081,000**
Surrey Metro Centre	3,392,000	-	-	3,392,000
Guildford MTC	966,000	-	-	966,000
Newton MTC	342,000	-	18,000	360,000
Fleetwood MTC	88,000	210,000	-	298,000
South Surrey MTC (Semiahmoo)	232,000	-	-	232,000
Cloverdale MTC	31,000	-	34,000	65,000
Not in Urban Centre	1,415,000	2,084,000	269,000	3,768,000
City of Vancouver	**37,782,000**	**2,868,000**	**2,124,000**	**42,774,000**
Metro Core	35,401,000	1,017,000	1,908,000	38,326,000
Oakridge MTC	183,000	-	-	183,000
Not in Urban Centre	2,198,000	1,851,000	216,000	4,265,000
City of White Rock	**107,000**	**-**	**-**	**107,000**
White Rock MTC	39,000	-	-	39,000
Not in Urban Centre	67,000	-	-	67,000
District of North Vancouver	**569,000**	**-**	**-**	**569,000**
Lynn Valley MTC	82,000	-	-	82,000
Not in Urban Centre	487,000	-	-	487,000
District of West Vancouver	**454,000**	**-**	**-**	**454,000**
Ambleside MTC	267,000	-	-	267,000
Not in Urban Centre	187,000	-	-	187,000
Township of Langley	**825,000**	**1,313,000**	**53,000**	**2,192,000**
Langley City Centre (in Langley Twp)	420,000	-	-	420,000
Willoughby MTC	49,000	-	-	49,000
Not in Urban Centre	357,000	1,313,000	53,000	1,723,000
UBC/UEL	**199,000**	**-**	**-**	**199,000**
Not in Urban Centre	199,000	-	-	199,000
Total	**59,827,000**	**15,501,000**	**2,693,000**	**78,021,000**

Geography	Within 800m of Rapid Transit	Within 400m of FTN Bus Service Only	Not Near FTN Service	Total
City of Burnaby	**6,630,000**	**3,410,000**	**1,240,000**	**11,280,000**
Metrotown	3,130,000	-	-	3,130,000
Brentwood MTC	1,220,000	-	-	1,220,000
Edmonds MTC	450,000	120,000	10,000	580,000
Lougheed Burnaby MTC	70,000	-	-	70,000
Not in Urban Centre	1,760,000	3,290,000	1,230,000	6,280,000
City of Coquitlam	**440,000**	**170,000**	**180,000**	**790,000**
Coquitlam City Centre	400,000	-	-	400,000
Lougheed Coquitlam MTC	-	20,000	-	20,000
Not in Urban Centre	40,000	160,000	180,000	380,000
City of Delta	**-**	**140,000**	**100,000**	**240,000**
Ladner MTC	-	-	10,000	10,000
Not in Urban Centre	-	140,000	90,000	230,000
City of Langley	**-**	**220,000**	**-**	**220,000**
Langley City Centre (in Langley City)	-	220,000	-	220,000
City of Maple Ridge	**-**	**270,000**	**-**	**270,000**
Maple Ridge City Centre	-	270,000	-	270,000
City of New Westminster	**1,500,000**	**660,000**	**30,000**	**2,190,000**
New Westminster City Centre	960,000	-	-	960,000
Not in Urban Centre	540,000	660,000	30,000	1,230,000
City of North Vancouver	**900,000**	**1,120,000**	**290,000**	**2,310,000**
Lonsdale	880,000	910,000	-	1,790,000
Not in Urban Centre	20,000	210,000	290,000	520,000
City of Pitt Meadows	**-**	**10,000**	**-**	**10,000**
Pitt Meadows MTC	-	10,000	-	10,000
City of Port Coquitlam	**60,000**	**130,000**	**30,000**	**220,000**
Port Coquitlam MTC	-	100,000	-	100,000
Not in Urban Centre	60,000	20,000	30,000	110,000
City of Port Moody	**280,000**	**-**	**-**	**280,000**
Inlet Centre MTC	280,000	-	-	280,000
City of Richmond	**1,770,000**	**1,900,000**	**1,170,000**	**4,840,000**
Richmond City Centre	1,610,000	-	90,000	1,700,000
Not in Urban Centre	160,000	1,900,000	1,090,000	3,150,000
City of Surrey	**2,510,000**	**4,280,000**	**2,290,000**	**9,080,000**
Surrey Metro Centre	2,510,000	880,000	-	3,390,000
Guildford MTC	-	970,000	-	970,000
Newton MTC	-	360,000	-	360,000
Fleetwood MTC	-	300,000	-	300,000
South Surrey MTC (Semiahmoo)	-	230,000	-	230,000
Cloverdale MTC	-	-	60,000	60,000
Not in Urban Centre	-	1,540,000	2,220,000	3,760,000
City of Vancouver	**36,710,000**	**5,470,000**	**600,000**	**42,780,000**
Metro Core	34,470,000	3,690,000	160,000	38,320,000
Oakridge MTC	180,000	-	-	180,000
Not in Urban Centre	2,050,000	1,780,000	440,000	4,270,000
City of White Rock	**-**	**110,000**	**-**	**110,000**
White Rock MTC	-	40,000	-	40,000
Not in Urban Centre	-	70,000	-	70,000
District of North Vancouver	**-**	**290,000**	**280,000**	**570,000**
Lynn Valley MTC	-	80,000	-	80,000
Not in Urban Centre	-	210,000	280,000	490,000
District of West Vancouver	**-**	**440,000**	**20,000**	**460,000**
Ambleside MTC	-	270,000	-	270,000
Not in Urban Centre	-	170,000	20,000	190,000
Township of Langley	**-**	**-**	**2,190,000**	**2,190,000**
Langley City Centre (in Langley Twp)	-	-	420,000	420,000
Willoughby MTC	-	-	50,000	50,000
Not in Urban Centre	-	-	1,720,000	1,720,000
UBC/UEL	**-**	**200,000**	**-**	**200,000**
Not in Urban Centre	-	200,000	-	200,000
Total	**50,795,000**	**18,820,000**	**8,420,000**	**78,035,000**


metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION

To: Regional Planning Committee

From: Carla Stewart, Senior Planner, Regional Planning and Housing Services

Date: April 19, 2023 Meeting Date: May 12, 2023

Subject: **Agricultural Ecosystem Services in Metro Vancouver**

RECOMMENDATION

That the MVRD Board direct staff to prepare a white paper considering the feasibility of the recommendations contained in the Scoping Ecosystem Services on Agricultural Land within Metro Vancouver study, as presented in the report dated April 19, 2023, titled "Agricultural Ecosystem Services in Metro Vancouver".

EXECUTIVE SUMMARY

A recently completed study commissioned by Metro Vancouver, titled *Scoping Ecosystem Services on Agricultural Land within Metro Vancouver*, describes the many benefits provided by ecosystem services within the region's agricultural areas including supporting resilience to climate change impacts, supporting the production of local food, and contributing to the wider livability of the region. The study also identifies approaches and provides recommendations to establish stable, long-term regulatory and financial support for the continued use of ecosystem services on agricultural land.

PURPOSE

To convey to the MVRD Board the results from the *Scoping Ecosystem Services on Agricultural Land within Metro Vancouver* study completed by Upland Agriculture Consulting Ltd. and to describe the next steps in advancing the use of ecosystem services on agricultural land throughout the region (Attachment).

BACKGROUND

In 2011, Metro Vancouver completed the *Regional Food System Strategy*, a foundational document that identified the use and benefits of ecosystem services as key components in achieving a sustainable, resilient and healthy regional food system (Reference). Since that time, continuing to support and expand the use of ecosystem services on agricultural land has been identified and supported in many other plans and strategies including *Metro 2050* and the draft *Climate 2050 Agriculture Roadmap*.

The MVRD Board approved funding to support examining the benefits and potential uses of ecosystem services in agricultural lands in the region, and in October 2021, Upland Agricultural Consultants Ltd. was retained to complete a two-phase *Scoping Agricultural Ecosystem Services within Metro Vancouver* study to: identify the locations of the types of ecosystems present on agricultural land in the region; determine the overall services and benefits these areas provide; and recommend policies, regulations and financial mechanisms that can be used to expand the long-term viability of using agricultural land for these services. The Phase 1 results were shared with the

Agricultural Advisory Committee in September 2022 with the intent to share the completed study once available. Phase 2 results were completed in December 2022 with the final report being submitted by the consultant in January 2023. The Agricultural Advisory Committee reviewed the final report at their April 20, 2023 meeting and indicated support for the recommendations contained in the study.

ECOSYSTEM SERVICES ON AGRICULTURAL LAND

Ecosystem services are defined as natural assets that serve to benefit both people and wildlife, such as clean air and water, healthy riparian (fish-supporting stream) systems, healthy soils, and appropriate habitat for species at risk. Ecosystem services are also key components to building land-based, nature-based climate adaptation and mitigation solutions. The purpose of examining in more detail the presence and role of ecosystem services on agricultural lands in this region is to better understand how these natural areas support agricultural resilience, long-term food production and the overall livability of residents in the region. While there is a significant amount of research and practice that supports the use of ecosystem services in agricultural areas, a baseline of the benefits and capabilities of ecosystems on agricultural land in Metro Vancouver needed to be established in order to support ongoing work.

Phase 1 Results

Data collection and analysis conducted during Phase 1 of the study focused on literature and jurisdictional reviews and analyzing maps using multiple datasets from Metro Vancouver, the Province, Fraser Basin Council and the Watershed Salmon Society. This work identified the following:

- There are numerous programs and initiatives that have developed as support mechanisms for the agriculture sector over the past decade but they are largely managed by non-profit organizations and provide nominal incentives to farmers to enhance ecosystem services on their lands.
- The Agricultural Land Reserve comprises approximately 20% of the total area of Metro Vancouver, which includes over 40% of Metro Vancouver's total sensitive ecosystems, representing approximately 60% of wetlands and 40% of riparian areas within the region.
- Metro Vancouver's Sensitive Ecosystem Inventory data does not capture other types of ecosystems that also provide significant beneficial services to farms such as agricultural ditches, hedgerows and vegetative buffers.
- Benefits to agricultural operations vary according to ecosystem types but can generally be grouped into eight classifications including: water quality, water quantity, nutrient cycling, soil development, carbon storage, erosion control, habitat and biodiversity, and pollination.
- Best management practices are useful tools to support effective levels of restoration, conservation and maintenance and can be applied individually to improve production practices, improve farm yields, and overall increase the health and resilience of farm operations.

Phase 2 Results
Beyond identifying the types and benefits of ecosystem services in the region, the Study also focuses on identifying approaches for the long-term investment in, and support of, the use of ecosystem services. This can occur through several mechanisms including:

- *Policy* – Regional Growth Strategy, official community plans, agricultural and climate adaptation strategies.
- *Regulation* – zoning bylaws, development permit areas.
- *Financial Assistance* – fees, parcel tax, property transfer tax, property value tax.

With these mechanisms in mind, the Study identifies two approaches that Metro Vancouver can use simultaneously to initiate and support the long-term use of ecosystem services on agricultural lands:

Approach #1: Collaborate with local governments and the Province on policies and regulations that support ecosystem services on agricultural land. This involves developing a comprehensive regional approach for documenting and creating policy and implementation measures required for the long-term sustainability of ecosystem services.

Approach #2: Establish as regional conservation fund to support programs that steward ecosystem services on agricultural land. This involves developing a regional funding mechanism to provide financial incentives to the farming community to invest in ecosystem services protection and enhancement.

Each approach relies on the other for full effectiveness but each also requires a separate and robust review to determine appropriateness and feasibility. Regional polling may also be needed to understand how important ecosystem services are to the wider community to determine if or how willing residents would be to financially support a long-term payment plan for an ecosystem services protection program.

STUDY RECOMENDATIONS
The *Scoping Agricultural Ecosystem Services within Metro Vancouver* study provides five recommendations for moving forward with a long-term strategy to support the use of ecosystem services on agricultural land in the region:

1. Collaborate internally and externally to further explore and build a regional conservation fund that includes payment for ecosystem services on agricultural land;
2. Conduct polling across Metro Vancouver to gauge willingness and support to pay for ecosystem services on agricultural land;
3. Conduct in-depth mapping of ecosystem services on agricultural land in Metro Vancouver;
4. Estimate the financial value of ecosystem services on agricultural land in Metro Vancouver; and

5. Review and access options to align with the ongoing work to establish a Regional Green Infrastructure Network to further support ecosystem services on agricultural land.

Metro Vancouver Staff Analysis
The recommendations and next steps identified in the *Scoping Agricultural Ecosystem Services within Metro Vancouver* study reveal that, despite the work that has been undertaken to-date, a more comprehensive and consistent approach is needed to effectively and efficiently support the long-term use of ecosystem services on agricultural land across the region.

Staff support the Study recommendations for a number of reasons:

- Existing funding programs are inconsistent and unreliable and depend on non-profit organizations having sufficient capacity to apply for and manage funding that may be available on an ad-hoc bases. A region-wide payment for ecosystem services program would allow for a consistent and stable funding model with shared investment by and benefit to all Metro Vancouver residents;
- Restoring, maintaining and setting-aside natural areas located on farmland adds costs to agricultural operations that are often not financially manageable on a long-term basis. Payment for ecosystem services to participating farmers acknowledges these costs and provides the ability for farmers to continue to not use these lands for active agricultural production;
- Conducting region-wide polling will provide an opportunity for Metro Vancouver to determine the support among residents for a payment for ecosystem services program;
- The current Sensitive Ecosystem Inventory does not include other ecosystem types on agricultural land, such as hedgerows and agricultural buffers, that also contribute to ecosystem services. Preparing an in-depth map of the services that are provided will give a better understanding of which areas provide the highest benefit, and which areas may require interventions to increase benefit;
- Natural assets valuations are important to contribute to the discussion of payment for ecosystem services so that a complete picture is available to include in the discussion; and
- Aligning with existing work creates opportunities to increase internal efficiencies, take advantage of existing engagement opportunities, and create co-benefits for funding applications.

NEXT STEPS
The recommendations from the *Scoping Agricultural Ecosystem Services within Metro Vancouver* study require further review and analysis to determine feasibility, and a scope of work and budget for future work. As such, staff are recommending that a white paper be prepared that includes a thorough analysis of all five of the Study's recommendations. The white paper will be vetted and reviewed by the Agricultural Advisory Committee, Ministry of Agriculture, Agricultural Land Commission, and Regional Planning Advisory Committee prior to being forwarded to the Regional Planning Committee and MVRD Board for consideration. The intent of the white paper will be to further explore the feasibility of each of the Study's recommendations with an aim to advance the

utilization of a regional payment for ecosystem services program to leverage, encourage, and support the long-term utilization of ecosystem services on agricultural land within the Metro Vancouver region.

ALTERNATIVES

1. That the MVRD Board direct staff to prepare a white paper considering the feasibility of the recommendations contained in the Scoping Ecosystem Services on Agricultural Land within Metro Vancouver study as presented in the report dated April 19, 2023, titled "Agricultural Ecosystem Services in Metro Vancouver".
2. That the MVRD Board receive for information the report dated April 19, 2023, titled "Agricultural Ecosystem Services in Metro Vancouver" and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

The funds for the *Scoping Ecosystem Services on Agricultural Land within Metro Vancouver* study were split over the Board-approved 2021 and 2022 Regional Planning budgets. Any potential financial implications associated with payment or compensation for the protection of ecosystem services would need to be determined through further analysis and consideration.

CONCLUSION

A recently completed study commissioned by Metro Vancouver, titled *Scoping Ecosystem Services on Agricultural Land within Metro Vancouver*, describes the many benefits provided by ecosystem services within the region's agricultural areas, identifies approaches and provides recommendations to establish stable, long-term regulatory and financial support for the continued use of ecosystem services on agricultural land. After reviewing all existing programs and the long-term investment tools available to support ecosystem services on agricultural land, the study concludes by identifying that investing in healthy ecosystems on agricultural lands is a collective action that would not only benefit agricultural producers but also the region as a whole.

Attachment

Scoping Agricultural Ecosystem Services within Metro Vancouver study

References

Regional Food System Strategy

56234358



Scoping Ecosystem Services on Agricultural Land in Metro Vancouver

upland agricultural consulting

Acknowledgements

This project was completed by Upland Agricultural Consulting with assistance from Dave Zehnder, for Metro Vancouver Regional District in 2022.

Metro Vancouver is situated on the ancestral, traditional and unceded territories of the shared territories of many Indigenous peoples, including ten local First Nations: qićəy̓ (Katzie), qʷɑːn̓ ƛ̓ əṅ (Kwantlen), kʷikʷəƛ̓ əm (Kwikwetlem), máthxwi (Mˀ atsqui), xʷməθkʷəyəm (Musqueam), qiqéyt (Qaˀ yqayt), seˀmyaˀme (Semiahmoo), Sḵwx̱wú7mesh Úxwumixw (Squamish), scəwaθən məsteyəxʷ (Tsawwassen), səˀ líl̓wətaʔɬ (Tsleil-Waututh). These First Nations have lived in the area for thousands of years, working with natural systems to shape the land and food systems.

Cover Photo: Pacific Great Blue Heron actively foraging in a grassland set-aside field in West Delta. Credit: Delta Farmland & Wildlife Trust.

Executive Summary

When agricultural producers are supported in the care and management of ecosystems on agricultural land, the whole region benefits. The rationale for conserving and enhancing ecosystem services on agricultural land within Metro Vancouver is compelling. Agricultural lands host several ecosystem types from forests to wetlands to riparian areas; all with the ability to provide ecosystem services that can benefit the region and agricultural producers, particularly by building resilience within the face of climate change.

Financially supporting ecosystem services on agricultural land can be viewed as reallocating resources to manage and invest in ecosystems for the following benefits:

- Improved regional food security.
- Partnerships with First Nations to grow projects regarding Indigenous food systems.
- Preservation of natural assets and green infrastructure.
- Job creation for the food agriculture sector, and spin-off enterprises.
- Increased agri-tourism opportunities.
- New education and learning programs.

Investing in healthy ecosystems on agricultural lands can also be viewed as a type of 'collective insurance' since heathy ecosystems mitigate costs and damages to local governments associated with extreme weather events (e.g., floods and droughts) that will occur more frequently due to climate change. Understanding the economic value that healthy ecosystems can provide to minimize damages to infrastructure is crucial for decision-making when allocating resources to the management of natural assets and green infrastructure. Restoring and conserving ecosystems on a regional basis increases collective resiliency to disturbances, such as climate change, and can provide benefits to all citizens and sectors of Metro Vancouver for current and future generations.

Metro Vancouver undertook this *Scoping Ecosystem Services on Agricultural Land within Metro Vancouver* study with the following two objectives:

- To understand the benefits provided by ecosystem services within agricultural areas to resiliency, food production and the livability of the wider region, and,
- To identify and recommend policy, regulatory or financial actions and mechanisms that can be taken to expand the long-term viability of supporting ecosystem services on agricultural land.

Farmland within the Agricultural Land Reserve (ALR) makes up approximately 20% of the land base within Metro Vancouver Regional District (MVRD). The potential of these agricultural lands to support ES to the region has been recognized by MVRD in several planning and policy documents. For example in the *Regional Food System Strategy*, *Ecological Health Framework*, the *Climate 2050 Roadmap for Agriculture (DRAFT)*, and *Metro 2050 (DRAFT),* among many other policy documents.

Ecosystem Services on Agricultural Lands

> Over 40% of Metro Vancouver's total sensitive ecosystems are in the Agricultural Land Reserve.
>
> This includes approximately 60% of wetlands and 40% of riparian areas.

The type and amount of ecosystem services provided by agricultural land depends on agricultural practices and the ecosystems present. The results from this project's mapping exercise found that the ALR within Metro Vancouver hosts a diversity of ecosystems including forests, riparian areas, and wetlands. Within the Metro Vancouver regional core, the ALR hosts over 40% (14,459 ha) of Metro Vancouver's total sensitive ecosystems.[1] Approximately 60% (4,167 ha) of wetlands and 40% (3,318 ha) of riparian areas occur within the ALR in Metro Vancouver. This points to the importance of the ALR and the need to support agricultural producers in restoring and maintaining ecosystems to provide ES for the region.

Ecosystem services on agricultural lands and associated benefits are summarized in the following table:

Service Type	Benefits
Supporting Services	○ Habitat for many wildlife species and primary between fragmented landscapes. ○ Soil development and water retention.
Regulating Services	○ Riparian areas and wetlands slow down water movement and soil lost to erosion during floods. ○ Water storage helps to recharge groundwater, increasing and prolonging water availability for crops and irrigation. ○ Increased vegetation draws carbon dioxide out of the air. ○ Nutrient loading into watercourses from manure and fertilizer run-off is filtered by vegetation, which improves water quality. ○ Better drainage reduces ponding in fields and improves livestock health by reducing saturated pastures. ○ Beneficial insects such as lady bugs and bees improve pollination.
Provisioning Services	○ Forests and farm fields provide food and wood for residents and wildlife. ○ Riparian areas provide food, nutrients and clean water to all in-stream and downstream fish habitats.
Cultural Services	○ Healthy ecosystems increase the resiliency of farms for on-going access to local food. ○ Traditional food and medicine values for Indigenous communities are supported by healthy riparian ecosystems. ○ Residents benefit from trails, recreation, bird and animal watching opportunities in agricultural areas. ○ Healthy ecosystems contribute to clean air and clean waters, which benefits the health of all residents.

[1] The regional core is the more urbanized southern part of the region and excludes the large parks (e.g. North Shore Mountains) and estuaries under Provincial management, watersheds and other higher elevation areas. The regional core is most relevant to policy and planning and is where municipal decisions and actions will have the most impact.

Many of the ecosystem services on agricultural land can help to reduce some of the impacts from extreme weather events that are exacerbated by climate change. For example, during a flood, wetlands can store excess water flowing from farm fields, and a healthy riparian area can retain soil and reduce erosion of stream banks. During droughts, riparian areas provide a cool microclimate for fish, animals and insects.

While the benefits of restoring and conserving healthy ecosystems on agricultural land outweigh the disadvantages, it is acknowledged that drawbacks can arise. For example, a healthy riparian buffer may reduce the area available for planting crops. Healthy forest stands may increase grazing pressure from deer and elk, and an increase in beavers removing trees and building dams can cause localized flooding.[2] Some of these disadvantages can be mitigated by installing wildlife fencing or beaver guards, but there are still financial costs associated with this infrastructure.

Current Programs and Support for Ecosystem Services on Agricultural Land

Over the past decade, numerous programs and initiatives have developed in the region that support enhancing ecosystem services on agricultural lands. Most programs are undertaken by non-profit organizations with support from local municipalities, MVRD, and provincial and federal governments. Notable programs include Delta Farmland & Wildlife Trust, Langley Ecosystem Services Initiatives program, and Farmland Advantage. Most successful ecosystem services programs on farmland provide payments to farmers and/or landowners for ecosystem restoration and maintenance activities.

Assigning monetary value to ecosystem services is challenging. As part of the approach to assign values to ecosystem services, qualitative surveys can be used to understand how important ecosystem services are to the community and how much residents would be willing to pay. Recent findings from surveys in the City of Delta and the Township of Langley included indications that:

1. Respondents understood the important role that farmland plays in protecting and stewarding the environment, and
2. Respondents are willing to financially support the stewardship of ecosystem services on agricultural lands.

Approaches for Long-term Support of Ecosystem Services on Agricultural Land

Policy, financial and regulatory mechanisms were considered as part of this study, including:

- Policy: Official Community Plans, RGSs, and other local government plans and strategies.
- Regulatory: Zoning and land use bylaws, Statutory Right of Ways, and covenants on title.
- Financial: Fees, parcel tax, property transfer tax, and property value tax to fund stewardship of agricultural ES.

[2] George W. Powell. (2015). Agriculture and Ecological Services: Recommendations for Support Programming in British Columbia.

Two approaches emerged for Metro Vancouver to further explore for long-term support of ecosystem services on agricultural lands.

Approach #1: Collaborate with local governments and the province on policies and regulations that support ES on agricultural land.

- MVRD, along with most member municipalities, have expressed support for ecosystem services on farmland in planning documents and through various zoning and land use bylaws. However, there is no comprehensive regional approach for documenting and creating policy related to ecosystem services on agricultural lands, and additional efforts to implement existing policy statements are required for the long-term sustainability of ecosystem services on agricultural lands.

Approach #2: Establish a regional conservation fund to support programs that steward ecosystem services on agricultural land.

- A conservation fund is a local government service that is funded through a dedicated tax or fee, held and overseen by local government, and earmarked for the specific purpose of undertaking priority conservation projects throughout the region. Initiatives that support ecosystem services on agricultural lands can be established and operationalized through conservation funds. Several regional districts across the province have implemented conservation funds including the Regional District of East Kootenay, Regional District of Central Kootenay, Regional District of North Okanagan, and the Regional District Okanagan Similkameen. These funds provide support to local non-profit organizations for conservation and restoration projects that have led to healthier ecosystems.

It is acknowledged that each approach would require a separate robust review to determine appropriateness and feasibility.

Recommendations

The report provides 5 recommendations for Metro Vancouver, each of which is detailed in the table on the following page:

1. Collaborate internally and externally to further explore and build a regional conservation fund (or other appropriate funding mechanism) that includes payment for ecosystem services on agricultural land.
2. Conduct polling across Metro Vancouver to gauge support and willingness to pay for ecosystem services on agricultural land.
3. Conduct in-depth mapping of ecosystem services on agricultural land in Metro Vancouver.
4. Estimate the financial value of ecosystem services on agricultural land in Metro Vancouver.
5. Review and assess options to align with ongoing work to establish a Regional Green Infrastructure Network to support ecosystem services on agricultural land.

Recommendation	Rationale	Recommended Timeline
1. Collaborate internally and externally to further explore and build a regional conservation fund that includes payment for ecosystem services on agricultural land.	Internally, MVRD staff working on increasing resilience of the regional agricultural sector and the Regional Green Infrastructure Network can look for opportunities to align objectives with a conservation fund. Externally, staff can continue to collaboration with the Fraser Delta Farmland Protection and Stewardship Working Group. Engagement with Indigenous communities is also recommended.	Ongoing
2. Conduct polling across Metro Vancouver to gauge support and willingness to pay for ecosystem services on agricultural land.	Region-wide polling would assist MVRD decision-makers in understanding if residents support a regional conservation fund, and what types of projects residents would prioritize for improving the health of ecosystems.	Within 1 year
3. Conduct in-depth mapping of ecosystem services on agricultural land in Metro Vancouver.	Areas with the highest opportunity to focus efforts for stewardship of ecosystem services on agricultural lands should be identified. This mapping will inform ecosystem valuation calculations and can be aligned with Regional Green Infrastructure Network mapping.[3]	Within 1 -2 years
4. Estimate the financial value of ecosystem services on agricultural land in Metro Vancouver.	A detailed estimate of the economic value of ecosystem services on agricultural lands in Metro Vancouver would greatly assist decision-makers and the public in understanding the benefit to society from agricultural land stewardship. This will also assist in determining appropriate funding amounts for a regional conservation fund and what ecosystems should be prioritized for support.	Within 1-2 years
5. Review and assess options to align with the ongoing work to establish a Regional Green Infrastructure Network to support ecosystem services on agricultural land.	A Regional Green Infrastructure Network would acknowledge and identify all areas with significant ecosystem services in the region, including on agricultural land. The RGIN could be used to signify policy objectives for those lands, clarify decision-making requirements, and potentially minimize non-agricultural development.	Within 2 -3 years.

Recent plans and strategies adopted by Metro Vancouver recognize the importance of healthy ecosystems for a livable region and articulate that agriculture can play an important role in this respect. Several programs have been successful in incentivizing farmers to conserve and restore ecosystems in return for modest financial compensation; however, an overarching regional approach is missing. MVRD has an opportunity to provide a leadership role in connecting existing programs and leveraging regional initiatives to support payment for ecosystem services program for agricultural lands through the establishment of a regional conservation fund.

[3] Staff communication, Metro Vancouver. 2022. Update on Advancing the Regional Green Infrastructure Network.

Table of Contents

ACKNOWLEDGEMENTS I

EXECUTIVE SUMMARY II

TABLE OF TABLES IX

TABLE OF FIGURES X

DEFINITIONS XI

ACRONYMS XII

1.0 INTRODUCTION 1

2.0 PROJECT METHODOLOGY 2

2.1 Phases 1 and 2 2
2.2 Limitations 2

3.0 MVRD POLICY FOUNDATION FOR ECOSYSTEM SERVICES ON AGRICULTURAL LAND 3

3.1 Programs and Initiatives Supporting Ecosystem Services on Agricultural Land 4

4.0 ECOSYSTEMS SERVICES ON AGRICULTURAL LANDS IN METRO VANCOUVER 6

4.1 Categories of Ecosystem Services 8
4.2 Forest Ecosystem Services and Agricultural BMPs 9
4.2.1 Ecosystems Services Provided by Forests to Agriculture 10
4.2.2 Agricultural BMPs for Forest Ecosystems 10
4.3 Wetland, Riparian, and Freshwater Ecosystem Services and Agricultural BMPs 11
4.3.1 Ecosystems Services Provided by Riparian Wetland and Freshwater Ecosystems to Agriculture 13
4.3.2 Agricultural BMPs for Riparian, Wetland, and Freshwater Ecosystems 13
4.4 Old Fields and Hedgerows Ecosystem Services and Agricultural BMPs 15
4.4.1 Ecosystems Services provided by Old Fields and Hedgerows to Agriculture 17
4.4.2 Agricultural BMPs for Old Fields and Hedgerow Ecosystem Services 17
4.5 Dynamic Interactions between Agriculture and Ecosystem Services 18

5.0 OPPORTUNITIES TO ENHANCE ECOSYSTEM SERVICES ON AGRICULTURAL LANDS WITHIN METRO VANCOUVER 20

5.1 Enhancing Ecosystems on Agricultural Land 21
5.1.1 Areas with potential for conserving established ecosystems 21
5.1.2 Areas with potential for ecosystem connectivity 23
5.1.3 Areas with potential to mitigate flood impacts 25
5.2 Examples of Agricultural Lands Supporting Ecosystem Services 29
5.2.1 Maple Ridge: Riparian Area Conservation & Connectivity 29
5.2.2 Pitt Meadows: Riparian Area Restoration & Connectivity 31
5.2.3 Township of Langley: Riparian Area Restoration & Conservation 33
5.2.4 Richmond: Grassland Set-Aside Fields 35

5.2.5 Delta: Winter Cover Cropping *36*

6.0 VALUING AND SUPPORTING ECOSYSTEMS SERVICES ON AGRICULTURAL LAND 37

6.1 VALUATION FRAMEWORKS FOR ECOSYSTEM SERVICES 38
6.2 PUBLIC SUPPORT FOR STEWARDSHIP OF ECOSYSTEM SERVICES 41
6.3 LINKING ECOSYSTEM SERVICES, GREEN INFRASTRUCTURE AND NATURAL ASSETS ON AGRICULTURAL LAND 43

7.0 APPROACHES FOR ECOSYSTEM SERVICES SUPPORT ON AGRICULTURAL LAND 44

7.1 SUPPORTING STEWARDSHIP OF ECOSYSTEM SERVICES IN THE ALR THROUGH POLICY, ZONING AND BYLAWS 45
7.2 REGIONAL CONSERVATION FUND FOR SUPPORTING ECOSYSTEM SERVICES ON AGRICULTURAL LAND 47
7.2.1 Conservation Fund Financing Options *49*
7.3 COMPARING APPROACHES FOR SUPPORTING ECOSYSTEM SERVICES ON AGRICULTURAL LAND 52

8.0 CONCLUSIONS AND RECOMMENDATIONS 53

APPENDIX A: ASSUMPTIONS & LIMITATIONS OF MAPPING ANALYSIS AND LAYER DESCRIPTIONS & DATA SOURCES LVI

APPENDIX B: EXAMPLE OF A CONSERVATION FUND FOR METRO VANCOUVER LVIII

APPENDIX C: RESOURCES CONSULTED LXIV

Table of Tables

Table 1 Examples of Metro Vancouver Plans and Strategies with objectives to support healthy ecosystems. 4
Table 2 Examples of programs within Metro Vancouver supporting ES on agricultural lands. 5
Table 3 Top five ecosystems within the ALR in Metro Vancouver as classified by the SEI. 6
Table 4 Examples of ecosystem services provided by agricultural land in Metro Vancouver. 8
Table 5 Examples of ecosystem services provided by forests within the ALR in Metro Vancouver. 9
Table 6 Examples of the benefits to agriculture from ecosystem services provided by forests and tree stands. 10
Table 7 Ecosystem services provided by wetlands, riparian areas, and watercourses on agricultural lands. 12
Table 8 Examples of the benefits to agriculture from ecosystem services provided by wetlands, riparian areas, and watercourses. 13
Table 9 Ecosystem services provided by old fields and hedgerows. 16
Table 10 Examples of the benefits to agriculture from ecosystem services provided by old fields and hedgerows. 17
Table 11 Length of watercourses and area of riparian habitat in the ALR impacted by three flood scenarios. 25
Table 12 Recent polling results about the importance and willingness to pay for ecosystem services on agricultural lands. 42
Table 13 Differences in environmental protection authority for municipalities and regional districts. 46
Table 14 Comparing approaches for supporting ecosystem services on agricultural land in MV. 52
Table 15 Recommendations and rationale for long-term support of ecosystem services on agricultural lands in Metro Vancouver. 54
Table 16 Data Layer Sources and Descriptions. lvi
Table 17 Examples of Conservations Funds in BC. lxi
Table 18 Details of the West Vancouver Environmental Reserve Fund. lxiii

Table of Figures

Figure 1. Planting native species to stabilize riverbank on agricultural land. 1
Figure 2 Top 5 ecosystems identified in the SEI within the ALR in Metro Vancouver. 7
Figure 3 The complex interactions between agriculture and ecosystem services. 19
Figure 4 High opportunity areas for ecosystem conservation in the agricultural land reserve. 22
Figure 5 Examples of mapping data that can be used to identify areas with potential for connecting ecosystems. 24
Figure 6 ALR that will be impacted by a 100-year Fraser River freshet flood event. 26
Figure 7 ALR that will be impacted by a 500-year Fraser River freshet flood event. 27
Figure 8 ALR that will be impacted by a 500-year coastal storm surge event. 28
Figure 9 An example in Maple Ridge of an opportunity (red box) to conserve and connect ecosystems. 29
Figure 10 Example in the ALR of a watercourse with a riparian buffer that provides connectivity. 30
Figure 11 An example in Pitt Meadows of an opportunity (red box) to connect watercourses in flood extents. 31
Figure 12 Examples of disconnected watercourses that indicate opportunities for riparian restoration. 32
Figure 13 Fencing to protect riparian area from livestock. 34
Figure 14 Recently planted native plants along the riparian area. 35
Figure 15 Grassland set-aside field in Richmond. 36
Figure 16 Snow Geese grazing on a winter cover crop planted on farmland in Delta. 37
Figure 17 Description of the Total Economic Value Framework for valuing ecosystem services. 40
Figure 18 Land secured by the CRD Land Acquisition Fund, 2000 – 2022. lxiii

Definitions

Agricultural Lands	For the purposes of this report, the term 'agricultural lands' denotes lands with the Agricultural Land Reserve (ALR) as well as lands outside the ALR that are capable of supporting agriculture, whether they are being actively farmed at present time or not. The focus of the scope of this report is on agricultural lands when discussing ecosystem services broadly, and the ALR when analyzing land within Metro Vancouver specifically.
Ecosystems	Ecosystems are the dynamic complex set of relationships between plant, animal, and micro-organism communities and their non-living environment interacting as a functional unit.[4]
Ecosystem Services	Ecosystem services are the many ways that humans benefit from and depend on healthy functioning ecosystems. This dependency extends from essential support for life (e.g., because ecosystems produce oxygen and food) to security (e.g., by mitigating extreme weather events) and quality of life (e.g., by supporting psychological well-being).[5] Examples of ecosystem services include, but are not limited to, habitat for wildlife and Species at Risk from tree stands and hedgerows between fields, healthy riparian areas along streams for salmon habitat and flood mitigation, healthy soils that retain nutrients and carbon, and the production of food.
Healthy Ecosystems	Ecosystems that are healthy have the ability to maintain their plant and animal structure and functions (e.g. nutrient cycling, water cycling, etc.) over time and in the face of stressors.[6]

[4] Convention on Biological Diversity. Article 2. Terms of Use: https://www.cbd.int/convention/articles/?a=cbd-02
[5] Value of Nature to Canadians Study Taskforce. (2017). Completing and Using Ecosystem Service Assessment for Decision-Making: An Interdisciplinary Toolkit for Managers and Analysts. Ottawa, ON: Federal, Provincial, and Territorial Governments of Canada.
[6] Costanza, R., & Mageau, M. (1999). What is a healthy ecosystem?. Aquatic ecology, 33(1), 105-115.

Acronyms

AEP	Annual Exceedance Probability
ALR	Agricultural Land Reserve
BCCAF	BC Climate Agri-Solutions Fund
BMPs	Beneficial Management Practices
DFWT	Delta Farmland & Wildlife Trust
DPA	Development Permit Area
EAP	Ecological Accounting Process
ES	Ecosystem Services
ha	Hectares
MV	Metro Vancouver
MVRD	Metro Vancouver Regional District
PES	Payment for Ecosystem Services
RGIN	Regional Green Infrastructure Network
SEI	Sensitive Ecosystem Inventory
SROW	Statutory Right of Way
TEV	Total Economic Value
ToL	Township of Langley

1.0 Introduction

Amidst a rapidly changing climate and increasing urban pressures it is important to understand the value of ecosystem services on agricultural lands and how to support and enhance their continued benefits to society. Ecosystem services (ES) are the benefits that humans and society obtain from healthy ecosystems and their natural processes. Such services include flood mitigation, carbon sequestration, robust salmon populations, and clean air. Restoring and conserving ecosystems on a regional basis increases our collective resiliency to disturbances, such as climate change, and can provide benefits to all citizens and sectors of Metro Vancouver for current and future generations.



Figure 1. Planting native species to stabilize riverbank on agricultural land.[1]

Farmland within the Agricultural Land Reserve (ALR) makes up approximately 20% of the land base within the Metro Vancouver Regional District (MVRD) and its member municipalities. The potential of these agricultural lands to support ES to the region has been recognized by MVRD in several planning and policy documents. For example in the *Regional Food System Strategy*, *Ecological Health Framework*, the *Climate 2050 Roadmap for Agriculture (DRAFT)*, and *Metro 2050 (DRAFT),* among many other policy documents. However, further inquiry is needed to identify the breadth of possibilities and mechanisms that MVRD can use to support ecosystem services on agricultural lands over the long term.

MVRD undertook this *Scoping Ecosystem Services on Agricultural Land within Metro Vancouver* study with the following two objectives:

- To understand the benefits provided by ES within agricultural areas to resiliency, food production and the livability of the wider region, and,
- To identify and recommend policy, regulatory or financial actions and mechanisms that can be taken to expand the long-term viability of supporting agricultural ES.

This study identifies ecosystems on agricultural lands, outlines the value of ES to the region and provides recommendations for next steps in the long-term support for ES on agricultural lands.

2.0 Project Methodology

2.1 Phases 1 and 2

This study was separated into two phases. Phase 1 was completed from October 2021 to July 2022. A focused background, literature and jurisdictional document review, and mapping analysis was completed to investigate and describe the following topics:

- The impetus and support for agricultural ES within MVRD policies and plans;
- Current programs and initiatives within the region that are supporting ecosystem services on agricultural lands;
- The ecosystems and ES present on agricultural lands within the region;
- The benefits provided by ES on agricultural lands to the agricultural sector, general public, and to enhancing the overall health of regional ecosystems and increasing resilience to climate change impacts;
- Beneficial management practices (BMPs) to ensure effective restoration, conservation and maintenance of ES on agricultural lands; and,
- A mapping exercise to identify areas of the ALR within MV that have high opportunity for the provisioning of ES.

Phase Two, was completed between July 2022 and January 2023. A further secondary document and review was conducted into existing research on the value of ES on agricultural lands, and residents' willingness to pay for ES on agricultural lands in the region. Research and analysis was conducted to identify and understand the policy, regulatory and financial actions and mechanisms available to support long-term stewardship of ES on agricultural land. How these various approaches could work within the MV context, and a comparison of the two most feasible approaches was completed. Recommendations for next steps to further stewardship of ecosystem services on agricultural lands are outlined.

2.2 Limitations

Metro Vancouver is situated on the ancestral, traditional and unceded territories of the shared territories of many Indigenous peoples, including ten local First Nations: qić əy̓ (Katzie), qʷɑ:n̓ ƛ̓ əń (Kwantlen), kʷikʷəƛ̓ əm (Kwikwetlem), máthxwi (M̓ atsqui), xʷməθkʷəyəm (Musqueam), qiqéyt (Qa̓ yqayt), se'mya'me (Semiahmoo), Sḵwx̱wú7mesh Úxwumixw (Squamish), scəwaθən məsteyəxʷ (Tsawwassen), sə̓ lílwətaʔɬ̓ (Tsleil-Waututh). These First Nations have lived in the area for thousands of years, working with natural systems to shape the land and food systems. Engagement with First Nation communities did not occur as a part of this study, because the focus of this work was on an assessment landscape level ecosystem services and policy options, rather than on management options for specific parcels of land. However, future phases of work could and should include research and collaboration into the intersection of ecosystem services on agricultural lands and Indigenous land stewardship. This is also reflected in the recommendations.

3.0 MVRD Policy Foundation for Ecosystem Services on Agricultural Land

Metro Vancouver Regional District has adopted several frameworks, plans and strategies which identify opportunities to support agricultural ES and aim to conserve and enhance natural ecosystems. Four key documents are further described below: the *Regional Food System Strategy*, *Ecological Health Framework*, the *Climate 2050 Roadmap for Agriculture (DRAFT)*, and *Metro 2050 (DRAFT).*

The *Regional Food System Strategy,* adopted in 2011*,* is a foundational document that outlines goals, strategies and actions for achieving the vision of a regional food system that takes a "collaborative approach to a sustainable, resilient and healthy food system that will contribute to the well-being of all residents and the economic prosperity of the region while conserving ecological legacy." Several of the strategies in this document include support for farmers in implementing beneficial practices for ecosystem services to improve ecosystem health.[7]

In 2018, MVRD endorsed the *Ecological Health Framework* which underscores MVRD's role in supporting ecological health while setting out a clear vision, along with guiding principles, goals and strategies for actively advancing ecological health in the region. The *Ecological Health Framework* envisions MV as a "beautiful, healthy, and resilient environment for current and future generations." To achieve this vision there are three main goals, 1) building ecological resilience and minimizing impacts, 2) protecting natural areas and conserving ecosystem services, and 3) nurturing nature within communities.[8]

The *Climate 2050 Roadmap for Agriculture (DRAFT)* (2021) outlines several goals and strategies for the agriculture sector in MV to assist the region in becoming carbon neutral by 2050. Many of these strategies include supporting ecosystem services on agricultural lands to achieve net-zero emissions and a resilient local food system. The strategies that align most directly with this project are[9]:

- Strategy 1.6: Protect Agricultural Land for Ecosystem Services: Metro Vancouver will examine the use of ecosystem services as a benefit to the regional agricultural sector including what programs are most beneficial to farmers financially and what methods are most effective in securing land for ecosystem services and for ensuring the long-term health and resiliency of farming operations.
- Strategy 3.2: Support and Expand Ecosystem Services: Work with the BC Government, member jurisdictions, the farming community and other regional partners such as Farmland Advantage to determine how much agricultural land is available and appropriate to be used for ecosystem services, how individual farms can benefit from the restoration and protection of these lands (including riparian areas) on their farms, and how farmers and land owners can be compensated for keeping these lands set aside for ecosystem services. Metro Vancouver will provide regionally-appropriate guidance on the valuation methodologies, tools and decision-making frameworks needed to identify, preserve,

[7] Metro Vancouver. 2011. Regional Food System Strategy.
[8] Metro Vancouver. 2018. Ecological Health Framework.
[9] Metro Vancouver. 2021. Report to Climate Action Committee: Draft Climate 2050 Agriculture Roadmap.

restore, and, where necessary, expand natural ecosystems on agricultural land and will examine the benefits of connecting these areas within a regional Green Infrastructure Network.

In 2022, *Metro 2050 (DRAFT)*, the Regional Growth Strategy, was released and identifies the importance of protecting agricultural lands for the ongoing production of fresh and local food which contributes to a secure food supply and economic resilience, and recognizes the value of ecosystem services on agricultural lands (Goal 2, Strategy 2.3).[10] *Metro 2050 (DRAFT)* acknowledges the vulnerability of agriculture to impacts from climate change and supports policies that promote the adoption of farm practices to improve the health of on-farm ecosystems, which increases the region's capacity to adapt to and mitigate effects from climate change.

Numerous other MVRD documents also speak to the importance of robust ES for a liveable region through strategic management of public spaces such as regional, municipal parks, greenway corridors, and agricultural lands (Table 1). MVRD also has numerous regulations to support waste management, air quality control, climate change adaptation and mitigation and sustainable land use development to protect and enhance ecosystem services.

Table 1 Examples of Metro Vancouver Plans and Strategies with objectives to support healthy ecosystems.

DATE	DOCUMENT TITLE
2022	Metro 2050 (Draft)
2022	Climate 2050 Agriculture Roadmap (Draft)
2022	Regional Parks Plan
2021	Clean Air Plan
2020	Regional Greenways 2050
2019	Climate 2050 Strategic Framework
2018	Ecological Health Framework
2016	Regional Parks Plan
2016	Regional Food System Action Plan
2015	Green Infrastructure in Metro Vancouver
2015	Connecting the Dots: Regional Green Infrastructure Network Resource (
2014	Sensitive Ecosystem Inventory
2011	Regional Food System Strategy
2011	Metro 2040: Shaping our Future, Regional Growth Strategy
2008	Strategic Directions for Biodiversity Conservation

3.1 Programs and Initiatives Supporting Ecosystem Services on Agricultural Land

Over the past decade, numerous programs and initiatives have developed in the region that support enhancing ES on agricultural lands. The programs have been and are currently undertaken by non-profit organizations with the support from local municipalities, MVRD, and the provincial and federal governments. These programs provide incentives and support to farmers to enhance

[10] Metro Vancouver. 2022. Metro 2050.

the ecosystem services on their land, which are not traded in the marketplace but have great public value. The programs identify the ES that can be conserved, restored, enhanced, and maintained and develop plans to preserve them. Implementation may include actions such as regulating water or stream setbacks, using strategic fencing, restoration plantings, creating grassland set asides, and using cover cropping, to name a few. In addition, there is a vast amount of academic research being conducted in the region by several local universities and colleges relating to this topic.

Taking stock of the current projects, programs and initiatives in the region is helpful for MVRD to understand where they could play a role in this area and helps to inform this project's recommendations. Table 2 describes current initiatives in the region that are most closely aligned with supporting ES on agricultural lands. However, this is not an exhaustive list as there are countless non-profit organizations as well as provincial and federal programs that may overlap and have connection with the objectives of supporting ES on agricultural land.

Table 2 Examples of programs within Metro Vancouver supporting ES on agricultural lands.

Project Name	Organization	Description
BC Climate Agri-Solutions Fund	Investment Agriculture Foundation of BC	The BC Climate Agri-Solutions Fund (BCCAF) provides funding to help farmers tackle climate change by adopting BMPs that store carbon and reduce GHGs, specifically nitrogen management, cover cropping, and rotational grazing.
Environmental Farm Plan: Beneficial Management Practices	Investment Agriculture Foundation of BC	Funded by the Canadian Agricultural Partnership (CAP) Program, the Environmental Farm Plan Program's (EFP) objective is to provide farm and ranch operators with the means to identify agri-environmental risks and opportunities. Farms with EFPs may be eligible to apply for cost-shared incentives through the BMP program. There are BMPs which support farms to act on ecosystem services such as building soil health, increasing water retention, enhancing biodiversity, and sequestering carbon.
Farmland Advantage	Investment Agriculture Foundation of BC	Farmland Advantage is a BC-based Payment for Ecosystem Services (PES) program that provides financial compensation to farmers and ranchers to protect and enhance ecosystem services. The program identifies sensitive ecosystems in agricultural areas and then works with producers and Indigenous communities to restore degraded land. Since 2021, the program has worked within Metro Vancouver with farmers in the Bertrand Creek watershed and the Little Campbell River watershed.
Langley Ecosystem Services Initiative	Langley Sustainable Agriculture Foundation	This program ran as a pilot project from 2015 – 2019 with farmers in the Bertrand Creek watershed. This was a PES program that paid agricultural producers to use practices that resulted in an increase in ecological integrity. It was a farmer-led initiative and has since been folded into the Farmland Advantage program.
Stewardship Programs	Delta Farmland & Wildlife Trust	This program helps steward over 1,416 ha (3,500 acres) of wildlife habitat on farmland through co-operative arrangements with local farmers. Programs include: grassland set-asides, winter cover crops, and forage enhancement. This includes cost sharing payments to local farmers to help lessen the financial burden for farms to take land out of production for conservation purposes.

4.0 Ecosystems Services on Agricultural Lands in Metro Vancouver

Agricultural lands present a unique opportunity for the long-term provision of ES due to the development restrictions placed through the *Agricultural Land Commission Act* and the *Agricultural Land Reserve Regulation*. Almost 20% of the land within MV is designated as ALR, a portion of which is often left in a more natural state (such as watercourses, wetlands, and forests). This natural state is conducive to implementing BMPs that can conserve, restore and maintain ES. Additionally, in recent years, the potential of certain management practices on agricultural lands to assist in mitigating and adapting to climate change has become clearer, and academic and field research is being conducted to determine the most effective BMPs for sequestering carbon and reducing greenhouse gas emissions on farmland.

Identifying which ecosystems are present in the ALR within MV through mapping helps to determine where the greatest opportunities are for supporting ES. The Sensitive Ecosystem Inventory (SEI) mapping, conducted for MVRD in 2014 and updated in 2020, was used to inform the types and locations of ecosystems in the ALR (Table 3 below and Figure 2 next page). The SEI provides information for the locations of 'sensitive' and 'modified' ecosystems. Sensitive ecosystems are at-risk or are ecologically fragile in the context of the provincial landscape because of the diversity of species they support.[11] A 'modified' ecosystem is younger and more human-modified but still has ecological value and is important to biodiversity. The results of this project's mapping exercise indicated that the ALR within MV hosts a diversity of ecosystems such as forests, riparian areas and wetlands. Within the MV regional core, the ALR hosts over 40% of major ecosystem types (Table 3)[12] including approximately 60% of wetlands and 40% of riparian areas. This points to the high level of opportunity to leverage existing funding and support producers in restoring and maintaining these ecosystems to provide ES for the region.

Table 3 Top five ecosystems within the ALR in Metro Vancouver as classified by the SEI.[13]

	Ecosystem	*Total ha within Regional Core*	*Total ha within ALR*	*Percentage of ALR ha within Regional Core*
1	Forests	15,432	5,334	35%
2	Wetlands	6,900	4,167	60%
3	Riparian	7,937	3,318	42%
4	Old Fields[14]	2,134	1,418	66%
5	Freshwater	565	222	39%
	Total	**32,968**	**14,459**	**44%**

[11] Del Meidinger, Josephine Clark, & David Adamoski. 2014. Metro Vancouver. Sensitive Ecosystem Inventory, Technical Report
[12] The regional core is the more urbanized southern part of the region and excludes the large parks (e.g. North Shore Mountains) and estuaries under Provincial management, watersheds and other higher elevation areas. The regional core is most relevant to policy and planning and is where municipal decisions and actions will have the most impact.
[13] Numbers includes sensitive and modified ecosystems. Del Meidinger, Josephine Clark, & David Adamoski. 2014. Metro Vancouver. Sensitive Ecosystem Inventory, Technical Report; and. J. Clark. 2020. Metro Vancouver. Update of the Metro Vancouver Sensitive Ecosystem Inventory (2009 – 2014).
[14] Old field ecosystems are agricultural lands that were formerly cultivated or grazed but have since been abandoned and have well-developed herbaceous vegetation, some shrubs and potentially a few young trees. They may revert back to active agriculture over time based on the producer's management decisions.

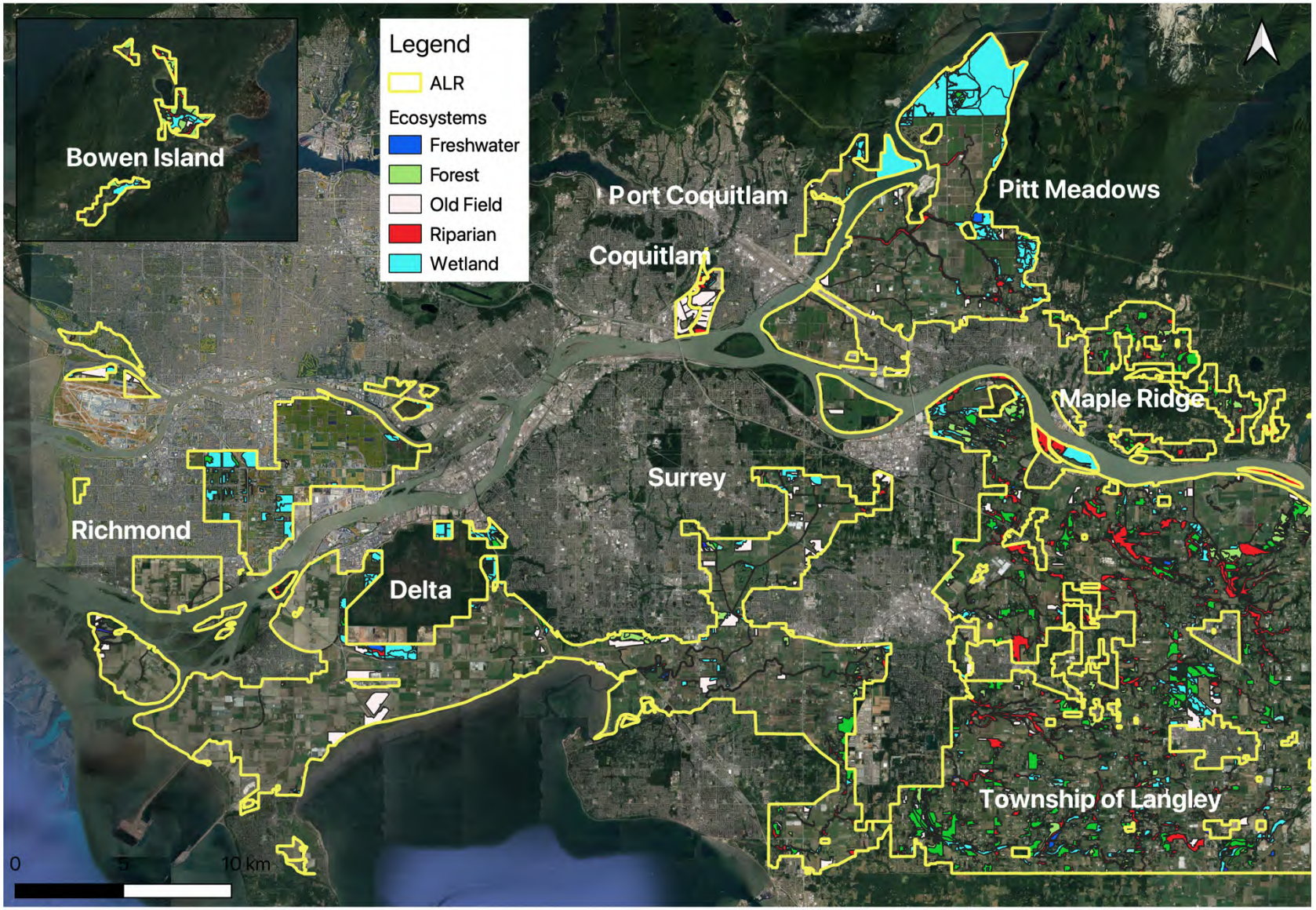


Figure 2 Top 5 ecosystems identified in the SEI within the ALR in Metro Vancouver.

4.1 Categories of Ecosystem Services

A list of the ecosystem services provided by agricultural land within MV is presented in Table 4. There are four key categories of ES:[15] [16]

1. **Supporting**: These are services necessary for ecosystem health and are the foundation for other services.
2. **Regulating**: Services that ecosystems provide by acting as regulators of ecosystem processes.
3. **Provisioning**: The products and materials provided by ecosystems.
4. **Cultural**: The non-material benefits of ecosystem that relate more directly to livability for the regions' residents and visitors.

Table 4 Examples of ecosystem services provided by agricultural land in Metro Vancouver.

	Supporting				*Regulating*					*Provisioning*			*Cultural*		
Ecosystem	Soil Health	Plant Growth	Biodiversity	Nutrient Cycling	Shading	Water Quality & Quantity	Carbon Storage	Clean Air	Pollination	Food & Fish	Fresh Water	Wood	Human Health	Recreation	Tourism & Beauty
Forest	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Riparian	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Freshwater			✓			✓				✓	✓		✓	✓	✓
Old Fields & Hedgerows	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓

Ecosystem services provided by healthy ecosystems on farmland benefit the wider region and society and agricultural producers. The subsequent sections describe these beneficial ecosystem services for each ecosystem present in the ALR. Examples of BMPs that can be implemented on agricultural lands to support healthy ecosystems are also outlined.

[15] Millennium Ecosystem Assessment. 2003)=. Ecosystems and Human Well-being: A Framework for Assessment.

[16] There are several international frameworks that have been developed for categorizing ES such as, the Millennium Ecosystem Assessment (2003), the Economics of Ecosystems and Biodiversity (2010); and the Common International Classification of Ecosystem Services (2016). The ES described in all three frameworks remain consistent and descriptions of ES are interchangeable between methodologies. To stay consistent with previous MV reports, this study uses the categories outlined in the MV Ecological Health Framework, which follow the Millennium Ecosystem Assessment Framework most closely.

4.2 Forest Ecosystem Services and Agricultural BMPs

There are a range of forest types and associated tree stand ages within the ALR in MV that provide a wide array of ES. There are mature forests which have trees that are over 80 years old, immature forests that are between 30-80 years old, and young forests that are less than 30 years old.[17] There are a diversity of forest stands and tree species in the region ranging from conifers, broadleaf and mixed species. Table 5 describes examples of ES provided by forests.

Table 5 Examples of ecosystem services provided by forests within the ALR in Metro Vancouver.[18]

Services	Description
Supporting *(soil development, nutrient cycling, photosynthesis, habitat, biodiversity)*	○ Forests are important habitat areas for many wildlife species, increasing animal and plant biodiversity, and serve as connections between ecosystems in a highly fragmented landscape. ○ The presence of vegetation with deep roots and biomass for increased decomposition assists in soil development and erosion control.
Regulating *(shading, water quantity, water quality, carbon storage, clean air, pollination)*	○ Vegetation increases filtration of water as it moves through the forest and increases water storage by slowing down the water which allows for greater water infiltration as it moves over the soil. ○ Trees and shrubs provide shading which helps to reduce temperatures nearby and contributes to clean air through photosynthesis. ○ The increase in plant biodiversity provides habitat for beneficial insects like pollinators. ○ During droughts, the water stored in soils by the forests is slowly released, providing water to adjacent ecosystems. ○ Forests draw carbon dioxide out of the air and stores it both above and below the ground.
Provisioning *(food, fish, fresh water, wood)*	○ Trees and native plant species within forests can provide food and wood. ○ Water storage and filtration benefit fish stock health.
Cultural *(human health, recreation, tourism, beauty)*	○ Healthy forests can increase the resiliency of farms for on-going access to local food. ○ Traditional food and medicine values for First Nation communities are supported. ○ Humans can benefit from trails, recreation, bird and animal watching opportunities. ○ Humans gain aesthetic value from forest landscapes. ○ Forests contribute to clean air and clean waters, which benefits the health of nearby residents.

[17] Del Meidinger, Josephine Clark, & David Adamoski. 2014. Metro Vancouver. Sensitive Ecosystem Inventory, Technical Report.
[18] Sources include: Del Meidinger, Josephine Clark, & David Adamoski. (2014). Metro Vancouver. Sensitive Ecosystem Inventory, Technical Report.; Felipe-Lucia, M. R., Soliveres, S., Penone, C., Manning, P., van der Plas, F., Boch, S., ... & Allan, E. 2018. Multiple forest attributes underpin the supply of multiple ecosystem services. Nature communications, 9(1), 1-11.;Gallay, I., Olah, B., Gallayová, Z., & Lepeška, T. 2021. Monetary Valuation of Flood Protection Ecosystem Service Based on Hydrological Modelling and Avoided Damage Costs. An Example from the Čierny Hron River Basin, Slovakia. Water, 13(2), 198.

4.2.1 Ecosystems Services Provided by Forests to Agriculture

Restoring, maintaining and conserving forest ecosystems on agricultural lands also provides benefits to agriculture. Table 6 describes examples of specific ES provided by forests that benefit agriculture.

Table 6 Examples of the benefits to agriculture from ecosystem services provided by forests and tree stands.

Ecosystem Services	Benefit to Agriculture
Water Quality	○ Forested areas filter water and reduce nutrient loading from manure run-off into watercourses, which improves water quality and provides cleaner water for irrigation or livestock watering.
Water Quantity	○ Water stored in forest ecosystems helps to recharge groundwater which can increase and prolong water availability for crops and irrigation. ○ Better drainage and flood control reduces in-field ponding and water-saturated soils. This can also improve livestock herd health by reducing foot rot in saturated pastures caused by poor drainage.
Nutrient Cycling	○ Forest ecosystems help to keep nutrients cycling through the soil, increasing availability for nearby crops.
Soil Development	○ Increased vegetation helps to retain soils through stable roots and build soils through increased biomass decomposition.
Carbon Storage	○ Forests and trees on agricultural lands where bare land was previously, increases soil carbon.
Erosion Control	○ Forests and tree on agricultural lands hold soils with their root systems and reduce soil erosion from wind and rain events.
Habitat and Biodiversity	○ Beneficial insects such as lady bugs, ground beetles, parasitoid wasps, syrphid flies and native bees improve pollination and can help reduce pest pressure on crops. ○ An increase in trees and shrubs can provide shade for livestock and can protect crops from strong winds.
Pollination	○ Better crop yields from native pollinators and honeybees that are using the ecosystems as habitats.

4.2.2 Agricultural BMPs for Forest Ecosystems

Examples of agricultural BMPs that enhance ecosystem services in forests and woodland areas include[19]:

- Planting locally adapted species, favouring native species.
- Managing the timing and intensity of livestock use of forested pastures and tree/shrub stands in native pastures to avoid heavy browsing and maintain healthy shrub/tree populations.
- Identifying existing forest stands for protection from cutting and deadwood removal.

[19] BC Ministry of Agriculture, Food and Fisheries. 2016. Developing a Riparian Management Plan Version 2.0. (Excerpts taken from the Riparian Management Field Workbook & Biodiversity Guide).

- Protecting nests built by large birds, such as raptors and herons by establishing vegetation buffers and minimizing activities near the nests.
- Establishing or maintaining non-timber forest products such as berries, nuts, mushrooms, vines, specialty trees, and shrubs.
- Leaving large rotting or hollow logs for habitat.
- Creating habitat and improving nutrient cycling by leaving branches, tree tops, cull logs, and log portions at felling sites, when possible.
- Replanting or allowing natural regeneration to (re)connect wooded areas on the farm.
- Integrating management of trees and livestock pasture (silvopasture).
- Conserving wildlife trees, rock piles, and other wildlife habitat features.
- Undertaking forest operations when soils are dry or frozen to minimize soil and root disturbance.
- Avoiding tree felling during breeding seasons of known wildlife species.
- Removing and controlling other invasive species and implementing other BMPs related to invasive species that have already been developed for MV.[20]

4.3 Wetland, Riparian, and Freshwater Ecosystem Services and Agricultural BMPs

The wetland, riparian and freshwater ecosystems within Metro Vancouver's agricultural lands are of particular importance as the health of these ecosystems heavily influence freshwater resources, landscapes, and species of significance, such as salmon.

- Wetland ecosystems are found where soils are saturated by water for enough time that the excess water and resulting low oxygen levels influence the vegetation and soil. They encompass a range of plant communities that include western red cedar/skunk cabbage swamps, cattail marshes, and peat moss dominated bogs.[21]

- Riparian ecosystems are associated with and influenced by freshwater. They generally occur along rivers, streams, and creeks, and fringes around lakes. These ecosystems are influenced by factors such as erosion, sedimentation, flooding, and/or irrigation due to proximity to the water body.[22]

- Freshwater ecosystems include bodies of water such as lakes and ponds that usually lack floating vegetation. On agricultural lands there may also be freshwater reservoirs that include smaller, modified ponds - even though the natural hydrology of reservoirs is modified, they are still important freshwater habitat.[23]

Most drainage ditches on agricultural lands are not fish-bearing; however, these ditches can be an important part of the region's watercourses as they connect with creeks, streams and rivers

[20] Invasive Species Council of Metro Vancouver has guidance on BMPs, relevant to agricultural lands.
[21] Del Meidinger, Josephine Clark, & David Adamoski. 2014. Metro Vancouver. Sensitive Ecosystem Inventory, Technical Report.
[22] Ibid.
[23] Ibid.

therefore influencing the health of those waters. Table 7 (next page) describes ES provided by these ecosystems on agricultural lands.

As the frequency and intensity of drought and flooding events continue to occur in the region, many of the services that these ecosystems provide can help to reduce some of the negative impacts from these events. For example, during a flood event, wetlands can store excess water and a healthy riparian area can retain soil and reduce erosion of stream banks. During droughts, vegetated areas can provide a cool microclimate for animals and insects, and there may be more water available for irrigation during droughts from water stored and slowly released from these ecosystems.

Table 7 Ecosystem services provided by wetlands, riparian areas, and watercourses on agricultural lands.[24]

Services	Description
Supporting *(soil development, nutrient cycling, photosynthesis, habitat, biodiversity)*	○ Healthy riparian areas reduce the loss of land to erosion as established native vegetation often have deep roots which stabilize banks and hold soil together. ○ Reduced erosion means less sediment is transported and keeps fish spawning areas clear of silt, reduces nutrient overloading and increases water quality. ○ Healthy wetland and riparian areas support a high number of native plant and animal species. Connected riparian areas allow fish, birds, mammals, amphibians and other species to move through the landscape.
Regulating *(shading, water quantity, water quality, carbon storage, clean air, pollination)*	○ Healthy wetlands and riparian areas improve flood control along watercourses by storing excess water and moderating the release of that water, reducing damage to adjacent areas during floods. ○ Riparian vegetation moderates water temperature, reduces input of silt and soil and filters and absorbs excess nutrients/contaminants to improve water quality. ○ The canopy of trees and shrubs provide shading of the water, moderating water temperature which is important for success of aquatic species such as fish. ○ Vegetated buffers draw carbon dioxide out of the air and store it both above and below the ground.
Provisioning *(food, fish, fresh water, wood)*	○ Riparian areas provide benefits to salmon and other fish populations as they provide food, nutrients and clean water to all in-stream and downstream fish habitats. This in turn positively impacts the health of salmon stocks for human economic and cultural activities.
Cultural *(human health, recreation, tourism, beauty)*	○ Humans benefit from access to food produced on farms and healthy riparian areas can increase the resiliency of farms for on-going access to local food. ○ Traditional food and medicine values for First Nation communities are supported. ○ Biodiversity in plants and animals can benefit farmers and the general public alike through pest control, increased pollination, allowing for bird watching opportunities, scientific research and nature-based recreation activities. ○ Residents gain aesthetic value from these landscapes.

[24] Sources Include: BC Government. (nd). Riparian Areas.; Perry, L. G., Reynolds, L. V., Beechie, T. J., Collins, M. J., & Shafroth, P. B. 2015. Incorporating climate change projections into riparian restoration planning and design. Ecohydrology, 8(5), 863-879.; Mike Pearson, David Zehnder, & DG Blair. 2018. The Stewardship Centre for British Columbia. Lands Near Water, Riparian Restoration & Enhancement.; Riis, T., Kelly-Quinn, M., Aguiar, F. C., Manolaki, P., Bruno, D., Bejarano, M. D., ... & Dufour, S. 2020. Global overview of ecosystem services provided by riparian vegetation. BioScience, 70(6), 501-514.

4.3.1 Ecosystems Services Provided by Riparian, Wetland, and Freshwater Ecosystems to Agriculture

Restoring, maintaining and conserving wetland, riparian and freshwater ecosystems on agricultural lands provide benefits to agricultural production and the agriculture sector. Table 8 describes specific ES that provided by these ecosystems that benefit agriculture.

Table 8 Examples of the benefits to agriculture from ecosystem services provided by wetlands, riparian areas, and watercourses.

Ecosystem Services	Benefit to Agriculture
Water Quality	○ Riparian areas filter water and reduce nutrient loading from manure run-off into the watercourses, which improves water quality and provides cleaner water for irrigation or livestock watering.
Water Quantity	○ Well managed wetland and watercourses can provide better drainage and flood control which reduces in-field ponding and water-saturated soils. This can also improve livestock herd health by reducing foot rot in saturated pastures. ○ Water is stored in these ecosystems and helps to recharge the groundwater which can increase and prolong water availability for crops and irrigation.
Nutrient Cycling	○ Riparian ecosystems help to keep nutrients in the area and cycling nutrients through the soil, possibly increasing availability for nearby crops.
Carbon Storage	○ Increased vegetation in riparian ecosystems on agricultural lands where bare land was previously, increases soil carbon.
Soil Development	○ Vegetation in riparian and wetland ecosystems helps to retain soils through stable roots and build soils through increased biomass and decomposition.
Erosion Control	○ Vegetative wetlands and riparian areas stabilize stream banks which reduces erosion of agricultural lands.
Habitat and Biodiversity	○ Beneficial insects such as lady bugs, ground beetles, parasitoid wasps, syrphid flies and native bees improve pollination and can help reduce pest pressure on crops.
Pollination	○ Better crop yields from native pollinators and honeybees that are using the ecosystems as habitats.

4.3.2 Agricultural BMPs for Riparian, Wetland, and Freshwater Ecosystems

Riparian Areas

Specific land management practices that protect riparian areas and enhance ES include[25]:

- Avoiding overuse of fertilizers or manure that may be transported into riparian areas.
- Protecting against loss of plant diversity and vitality in riparian areas.
- Protecting against the establishment of invasives species.
- Avoiding practices that artificially alter streamflow.

[25] BC Ministry of Agriculture, Food and Fisheries. 2021. British Columbia Environmental Farm Plan Reference Guide 6th Edition.

In some cases, the condition of the riparian area may require some investment to bring the area up to a healthier or proper functioning condition. Improvement of agricultural riparian areas can occur by implementing the following practices[26],[27]:

- Retaining a wide variety of native plants that are adapted to living in riparian areas.
- Encouraging a diverse mix of plant species and age that:
    - Are adapted to the climate, soil and water conditions;
    - Foster a good rooting system for stream bank stability.
- Developing off-channel watering and/or constructing fencing that controls livestock access to riparian areas and watercourses.
- Improving ground stability with erosion control structures by:
    - Contouring terraces with earthworks and seeding;
    - Stabilizing gullies and watercourses with erosion control matting, silt fencing, seeding;
    - Stabilizing banks through bank shaping, riprap, re-vegetation, and blanketing; and,
    - Protecting riparian trees and shrubs from rodents such as beavers.
- Managing the timing and extent of grazing in riparian areas to protect native species, leaving ample residue/litter, and avoiding creating wet trampled spots (e.g., avoiding overgrazing of forbs and shrubs).
- Constructing or relocating facilities and roads away from riparian areas.
- Where appropriate, using thorny shrubs (e.g., hawthorn) or dense plantings of conifers to deter livestock from using riparian areas.
- Avoiding or minimizing the impact of farm machinery use in or around riparian areas.
- Connecting or reconnecting riparian habitats by leaving an uncultivated corridor and planting native vegetation, a shelterbelt, or a hedgerow between them.
- Removing and controlling invasive species and implementing other BMPs related to invasive species that have already been developed for MV.[28]

Agricultural use of riparian areas can occur when the function of the riparian area is maintained. If livestock are well managed, forages grown in riparian areas can be harvested by grazing such as in riparian pastures. Specialty crops that can be harvested by hand can be grown in riparian areas and can include:

- Floral crops (pussy willow, contorted willow, ferns);
- Medicinal crops (cascara bark, hawthorn leaves and fruit);
- Food crops (fiddleheads, berries, nuts) and conifer boughs for the Christmas market.

[26] BC Ministry of Agriculture, Food and Fisheries. 2021. British Columbia Environmental Farm Plan Reference Guide 6th Edition..
[27] BC Ministry of Agriculture, Food and Fisheries. 2016. Developing a Riparian Management Plan Version 2.0. (Excerpts taken from the Riparian Management Field Workbook & Biodiversity Guide).
[28] Invasive Species Council of Metro Vancouver has guidance on BMPs, relevant to agricultural lands.

Wetland and Freshwater Areas

Examples of BMPs that protect wetland and freshwater areas and enhance ES include[29]:

- Keeping farm equipment above the high water mark.
- Where possible, allowing natural cycles and events to take place (e.g., periodic flooding; fallen trees left in stream to provide habitat).
- Enhancing aquatic habitat by maintaining features that provide habitat complexity, such as large woody debris.
- Avoiding obstructing water flows with crop harvesting debris.
- Allowing selected areas to flood to provide habitat for migratory waterfowl.
- Re-establishing drained wetlands by restoring their original drainage pattern.
- Limiting storm water movement into natural watercourses.
- Constructing artificial wetlands to improve water quality and enhance aquatic habitat.
- Minimizing the risk of trapping fish in seasonally wetted connections to aquatic habitat.
- Appropriately sizing and placing culverts so that fish passage is not impeded.
- Incorporating natural substrates such as gravel in open bottom culverts when constructing fish passage.
- Joining wetland and freshwater habitats by planting native vegetation, a shelterbelt, or a hedgerow between them.
- Removing aquatic invasive species such as yellow flag iris, purple loosestrife, parrot's feather and bullfrogs.[30]
- Removing and controlling other invasive species and implementing other BMPs related to invasive species that have already been developed for MV.[31]

4.4 Old Fields and Hedgerows Ecosystem Services and Agricultural BMPs

Old field ecosystems are agricultural lands that were formerly cultivated or grazed but have since been abandoned and have well-developed herbaceous vegetation, some shrubs and potentially a few young trees. The SEI includes old fields in the ecosystem inventory because this specific range in vegetation types and heights provides a variety of habitat for birds, animals and plants that increase biodiversity.[32] Without management, old fields will eventually become forests. However, there is also the possibility that old fields may be brought back into production, changing the state of vegetation and changing the ES provided by this specific ecosystem. Their important role in ecosystem health is noted based on their current ability to support critical habitat, regardless as to whether or not the use may change over time.

[29] BC Ministry of Agriculture, Food and Fisheries. 2016. Developing a Riparian Management Plan Version 2.0. (Excerpts taken from the Riparian Management Field Workbook & Biodiversity Guide).

[30] Invasive Species Council of Metro Vancouver has guidance on BMPs, relevant to agricultural lands.

[31] Ibid.

[32] Josephine Clark & Del Meidinger. 2020. Metro Vancouver. Update of the Metro Vancouver Sensitive Ecosystem Inventory (2009 -2014).

Hedgerows are an important component of old fields, as well as on actively farmed lands, however they are not specifically measured within the SEI. Obtaining information regarding specific areas covered by hedgerows is difficult because comprehensive mapping has not been completed. Hedgerows can be managed (planted) or un-managed (left to occur naturally) on agricultural lands and act as important habitat for birds and small mammals and vegetative buffers along roads or adjacent to suburban and urban areas.

Table 9 provides examples of how old fields and hedgerows in the ALR provide ecosystem service.

Table 9 Ecosystem services provided by old fields and hedgerows.[33]

Services	Description
Supporting *(soil development, nutrient cycling, photosynthesis, habitat, biodiversity)*	○ Old fields and hedgerows contribute to soil development, nutrient cycling, and provide habitat for insects and small mammals. For example, they can provide refuge for small mammals from predatory birds and be used for nesting for small birds.
Regulating *(shading, water quantity, water quality, carbon storage, clean air, pollination)*	○ There may be some potential for carbon storage if perennial species continue to grow in old fields and hedgerows. ○ Beneficial insects using old fields and hedgerows can increase pollination services.
Provisioning *(food, fish, fresh water, wood)*	○ These ecosystems may have native or wild plants that could provide food.
Cultural *(human health, recreation, tourism, beauty)*	○ Old fields can provide bird and animal watching opportunities. ○ Residents gain aesthetic value from these landscapes.

[33] Sources include: Bert, R., Steven, B., Victoria, N., Paul, P., & Kris, V. 2017. Ecosystem service delivery of agri-environment measures: A synthesis for hedgerows and grass strips on arable land. Agriculture, Ecosystems & Environment, 244, 32-51.; Del Meidinger, Josephine Clark, & David Adamoski. 2014. Metro Vancouver. Sensitive Ecosystem Inventory, Technical Report.

4.4.1 Ecosystems Services provided by Old Fields and Hedgerows to Agriculture

Old fields and hedgerow ecosystems can provide varying magnitudes of ES for agriculture, depending on the diversity and age of plants within the ecosystem. Table 10 describes specific ES from old fields and hedgerows that benefit agriculture.

Table 10 Examples of the benefits to agriculture from ecosystem services provided by old fields and hedgerows.

Ecosystem Service	Benefit to Agriculture
Nutrient Cycling	○ Old fields help to keep nutrients in the area and in cycling nutrients through the soil, possibly increasing availability for nearby crops.
Soil Development	○ The vegetation in old fields and hedgerows helps to retain soils through stable roots and builds soils through increased biomass and organic matter decomposition.
Erosion Control	○ Hedgerows on agricultural lands hold soils with their root systems and reduce soil erosion from winds and rain events.
Carbon Storage	○ Increased annual vegetation in these ecosystems on agricultural lands where bare land was previously, increases soil carbon.
Habitat and Biodiversity	○ Beneficial insects such as lady bugs, ground beetles, parasitoid wasps, syrphid flies and native bees improve pollination and can help reduce pest pressure on crops. ○ An increase in trees and shrubs in hedgerows can provide shade for livestock and can protect crops from strong winds.
Pollination	○ Better crop yields from native pollinators and honeybees that are using the ecosystems as habitats.

4.4.2 Agricultural BMPs for Old Fields and Hedgerow Ecosystem Services

Examples of BMPs in old fields and hedgerows areas include[34]:

- Using a variety of grazing management tools, including fencing (permanent and electric), herding, off-site watering, and strategically located salt, minerals, and supplemental feed in order to create a diverse plant community (types, sizes, ages).
- Using rotational grazing practices rather than season-long grazing to achieve rest and recovery of native plants.
- Becoming familiar with the growth cycle of key forage plants in order to better manage grazing.
- Allowing plants an effective rest period in order to establish good vegetative growth prior to grazing.
- Increasing the length and/or width of hedgerows on the farm.
- Implementing juvenile or pre-commercial thinning activities using manual, chemical, and/or mechanized techniques to prevent tree ingrowth.
- Controlling browsing by livestock so that hedgerows remain healthy and vigorous.

[34] BC Ministry of Agriculture, Food and Fisheries. 2016. Developing a Riparian Management Plan Version 2.0. (Excerpts taken from the Riparian Management Field Workbook & Biodiversity Guide).

- Connecting hedgerows, shrublands, and native pastures by planting local native species of forages, shrubs, and trees between them and by leaving an uncultivated corridor or tame pasture between them so natural infilling occurs.
- Deferring grazing in some areas that are used by ground-nesting birds until late in the nesting season.
- Using timed grazing to help control weeds. For example, to control the spread of Canada thistle, graze just before budding to weaken the plants and prevent them from going to seed.
- Removing and controlling invasive species and implementing other BMPs related to invasive species that have already been developed for MV.[35]

4.5 Dynamic Interactions between Agriculture and Ecosystem Services

Many of the benefits of healthy ecosystems to agricultural land have been identified; however, it is important to note the complexities in balancing the stewardship of ecosystems while producing agricultural products. While the benefits of healthy ecosystems on agricultural land outweigh the disadvantages, there can be negative impacts to agricultural productivity that can arise from increases in ES stewardship. For example, a reduction in planting area for ecosystem restoration set-asides, increased grazing pressure from deer and elk drawn to the natural areas, and an increase in beavers removing trees and building dams that can cause flooding.[36]

Agriculture can also have a negative impact on ecosystems (called ecosystem disservices) more generally. Ecosystem disservices from agriculture can include:[37]

- Habitat loss as land is cleared and developed for growing crops,
- Nutrient and chemical run-off into watercourses,
- Greenhouse gas emissions from farm equipment and livestock, and
- Soil loss due to erosion or tilling.

The ecosystem disservices arising from agriculture is highly dependent on the agricultural practices used and the agricultural products grown. There are numerous BMPs available and employed by farmers to address concerns around nutrient and chemical run-off, GHG emissions and soil loss. Increasingly, producers are proving that by employing BMPs and using sustainable and regenerative farming practices, agriculture can contribute positively to healthy ecosystems and climate change mitigation while producing food.

Regenerative agriculture is a holistic land management practice that holds potential to contribute to climate change mitigation by rebuilding soil organic matter and restoring degraded soil biodiversity resulting in carbon drawdown and improvement of the water cycle.[38] Regenerative

[35] Invasive Species Council of Metro Vancouver has guidance on BMPs, relevant to agricultural lands.
[36] George W. Powell. 2015. Agriculture and Ecological Services: Recommendations for Support Programming in British Columbia.
[37] Power, A. G. 2010. Ecosystem services and agriculture: tradeoffs and synergies. Philosophical transactions of the royal society B: biological sciences, 365(1554), 2959-2971.
[38] Metro Vancouver. 2022. Draft Agriculture Climate 2050 Roadmap.

agriculture practices contribute to ecosystem health and include no-till/minimum tillage, application of cover crops, crop rotations, compost, and animal manures, which restore the plant/soil microbiome to promote liberation, transfer, and cycling of essential soil nutrients, and well-managed grazing practices.[39]

Figure 2 outlines the complex interactions between farming, natural ecosystems, and ecosystem services and disservices.[40]

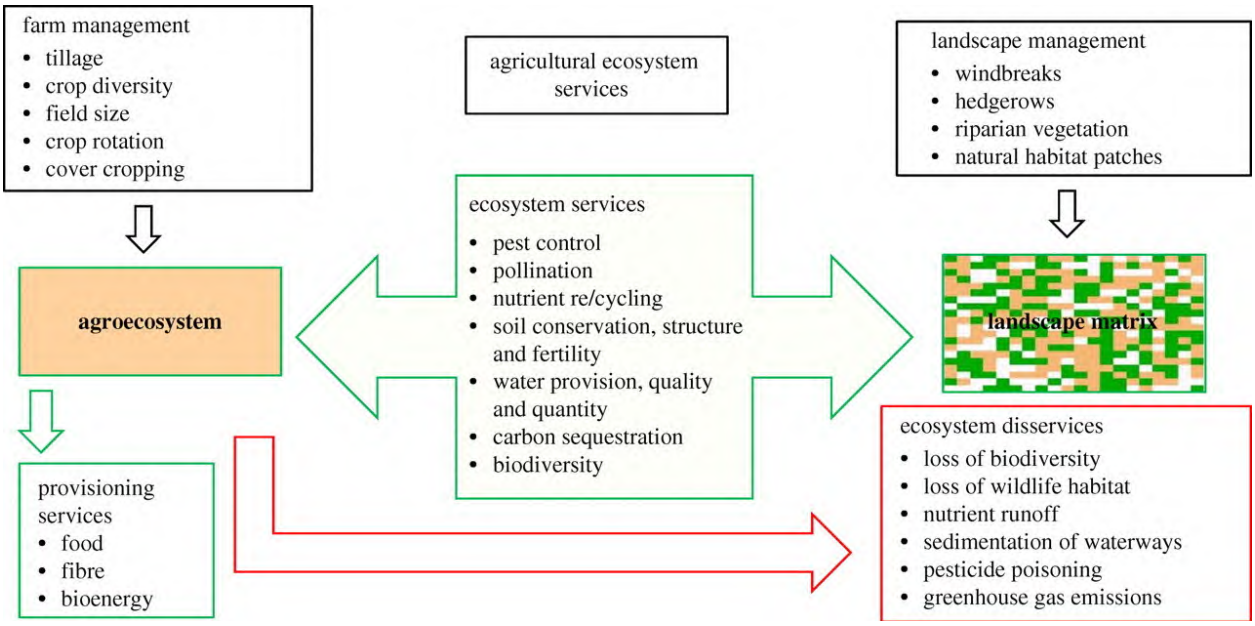


Figure 3 The complex interactions between agriculture and ecosystem services.[41]

[39] Regeneration International. 2017. What is Regenerative Agriculture?.
[40] Power, A. G. 2010. Ecosystem services and agriculture: trade-offs and synergies. Philosophical transactions of the royal society B: biological sciences, 365(1554), 2959-2971.
[41] Ibid.

5.0 Opportunities to Enhance Ecosystem Services on Agricultural Lands within Metro Vancouver

There are numerous opportunities for supporting ecosystem services in agricultural areas. These opportunities can be considered in two ways:

- Enhance and conserve existing natural areas on the farm, such as water-influenced and aquatic ecosystems (e.g. riparian, wetland, freshwater areas) and terrestrial ecosystems (e.g. hedgerows, grasslands and forested areas); and
- Employ sustainable and regenerative farm practices, such as cover cropping, crop rotations, reduced tillage, targeted grazing, and nutrient management, among many others.

For a more in-depth examination of these available opportunities, and given that approximately 60% of wetlands and 40% of riparian areas within the MV regional core occur on the ALR, this section will focus on how ecosystems influence water health by providing targeted analysis and examples.

Ecosystems influencing water health including wetlands, riparian areas and freshwater watercourses (creeks, streams, and fish-bearing agricultural ditches) were deemed the greatest opportunity for ecosystem enhancement on agricultural lands because these ecosystems currently provide, and have the future potential to expand crucial ecosystem services to the Metro Vancouver region such as clean water, fish and wildlife habitat, and flood impact mitigation. The changing climate is expected to cause longer lasting and more frequent droughts in the summer and increased precipitation and flooding events in the fall and winter.[42] If these water-influenced ecosystems are healthy[43], they are more resilient to disturbances and the ecosystem services they provide can help mitigate the effects of extreme flooding and droughts.

Ecosystems on agricultural lands also provide habitat for wildlife and salmon, acting as connections to different habitat types, and can serve as a buffer zone between natural areas and more intensive land uses.[44] There are over one hundred Species at Risk (SAR) within Metro Vancouver and the majority depend on wetland and riparian habitats including the Salish sucker, Nooksack dace, Oregon forest snail, Great Blue Heron and Oregon spotted frog, to name a few.[45] By better understanding the specific opportunities for conservation and restoration of aquatic ecosystems on agricultural lands, BMPs can be encouraged, supported and celebrated with the goal of improving the ecosystem services provided to the entire region.

---

[42] Metro Vancouver. n.d. Climate Projections for Metro Vancouver.

[43] Healthy wetland and riparian ecosystems have many of the following characteristics: mature trees, dead standing snags, an understory of native grasses, shrubs and plants, and logs and woody debris on the ground. (Source: Mike Pearson, David Zehnder, & DG Blair. 2018. The Stewardship Centre for British Columbia. Lands Near Water, Riparian Restoration & Enhancement.)

[44] George W. Powell. 2015. Agriculture and Ecological Services: Recommendations for Support Programming in British Columbia.

[45] Biodiversity Conservation Strategy Partnership. 2008. Strategic Directions for Biodiversity Conservation in the Metro Vancouver Region.

5.1 Enhancing Ecosystems on Agricultural Land

Several areas across Metro Vancouver emerged during the mapping process as high opportunity areas for conservation and restoration on agricultural land. To begin the assessment, ALR mapping[46] was used to identify agricultural lands. Next, a mapping layer identifying watercourses (e.g. creeks, streams and agricultural channels), was used to target water-influenced ecosystems such as wetlands and riparian areas. This initial assessment indicated that approximately 1,330 km of watercourses are present in the ALR in Metro Vancouver. ALR land with watercourses was then grouped into the following three categories of areas with potential for:

1. Conserving established ecosystems,
2. Enhancing disconnected watercourses, and,
3. Mitigating flood impacts.

These categories and areas were informed by GIS mapping layers available at the time of analysis (see Appendix A for assumptions and limitations of the mapping process).

5.1.1 Areas with potential for conserving established ecosystems

Conservation of healthy ecosystems is necessary to maintain the ES that are currently provided and ensure future long-term consistent provision of these services. Wetlands, riparian areas, and freshwater assets identified in the MV SEI were used to identify healthy ecosystems as these areas are ecologically significant and relatively unmodified.[47]

In order to explore areas with potential for conserving established ecosystems, the following mapping layers were combined:

- ALR base map,
- Watercourses within the ALR, and,
- Riparian, Wetland, and Freshwater ecosystems as identified by the SEI.

This mapping exercise illustrated there are approximately 7,700 ha of SEI wetland, riparian and freshwater ecosystems in the ALR. Some of these areas are already conserved, through municipal or regional parks in the ALR, such as the Pitt-Addington Marsh in Pitt Meadows. However, there remains thousands of hectares of riparian areas and wetlands on private properties within the ALR that present opportunities for ecosystem conservation and/or restoration. Site specific visits to these areas would be required to determine appropriate restoration and conservation BMPs.

Examples of areas with potential for conserving existing ecosystem services are described in section 5.2. Figure 4 (next page) illustrates the riparian, wetland and freshwater ecosystems identified in the SEI in the ALR within MV with potential for conservation.

[46] Only agricultural land within the ALR were assessed due to the availability of mapping layers. There is a small area of land used for agriculture outside of the ALR within Metro Vancouver, which could also be supported in stewarding agricultural ES.
[47] Del Meidinger, Josephine Clark, & David Adamoski. 2014. Metro Vancouver. Sensitive Ecosystem Inventory, Technical Report.

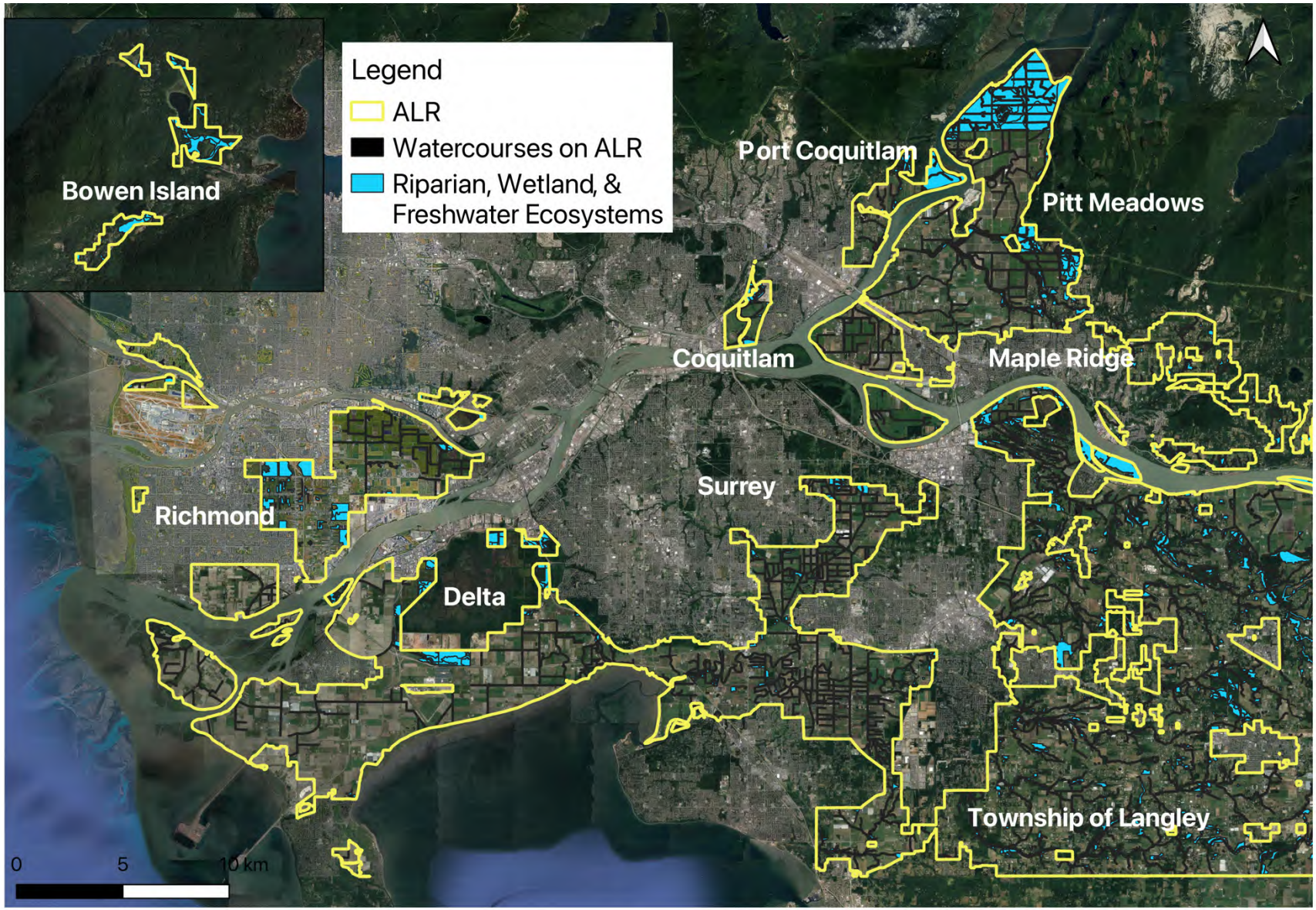


Figure 4 High opportunity areas for ecosystem conservation in the agricultural land reserve.

5.1.2 Areas with potential for ecosystem connectivity

Connecting watercourses within MV watersheds is another opportunity to target areas for restoring ecosystem services. Watercourses that are disconnected, meaning there is obstructive infrastructure (e.g. a pump station) that blocks the flow of water and/or there is a steep gradient of physical break in a water feature, present opportunities for potentially re-connecting riparian areas and watercourses.[48] Connected, healthy watercourses provide a greater level of ecosystem services, such as drainage, when compared to unconnected, fragmented watercourses. These can benefit both the farms within which they are found and the region as a whole.

A study completed in 2020 for Metro Vancouver identified areas of importance for ecosystem connectivity, which include agricultural lands along the southwest coast in Richmond and Delta.[49]

In order to explore examples of areas of opportunities for greater connectivity within the ALR, the following mapping layers were combined:

- ALR basemap,
- Watercourses within the ALR,
- Riparian, Wetland, and Freshwater ecosystems as identified by the SEI,
- Regional parks[50], and,
- Disconnected watercourses (mapping only available for watercourses leading to the Fraser River).

Based on the GIS mapping available, there are approximately 605 km of disconnected watercourses in the ALR within Metro Vancouver that appear to be discharging to the Fraser River. Figure 5 (next page) shows opportunities for areas of increasing or maintaining connectivity of water-influenced ecosystems.

These are the areas where the disconnected watercourses, regional parks and sensitive ecosystems intersect and/or are in proximity to one another. They are particularly prevalent in Pitt Meadows, Richmond, Delta, and north Langley – indicating opportunities for better drainage support. Site specific visits to these areas would be required to determine appropriate BMPs for increasing and/or maintaining ecosystem connectivity on a watercourse-by-watercourse basis. Examples are described in Section 5.2.

[48] A previous analysis to identify the disconnected watercourses leading to the Fraser River was undertaken by Watershed Watch Salmon Society and used in this mapping exercise with permission.

[49] Evaluation of Regional Ecosystem Connectivity, Metro Vancouver. 2020. Diamond Head Consulting.

[50] Areas adjacent to regional parks with natural areas and the SEI areas are examples of opportunities for connecting water-influenced habitats to more intact ecosystems.

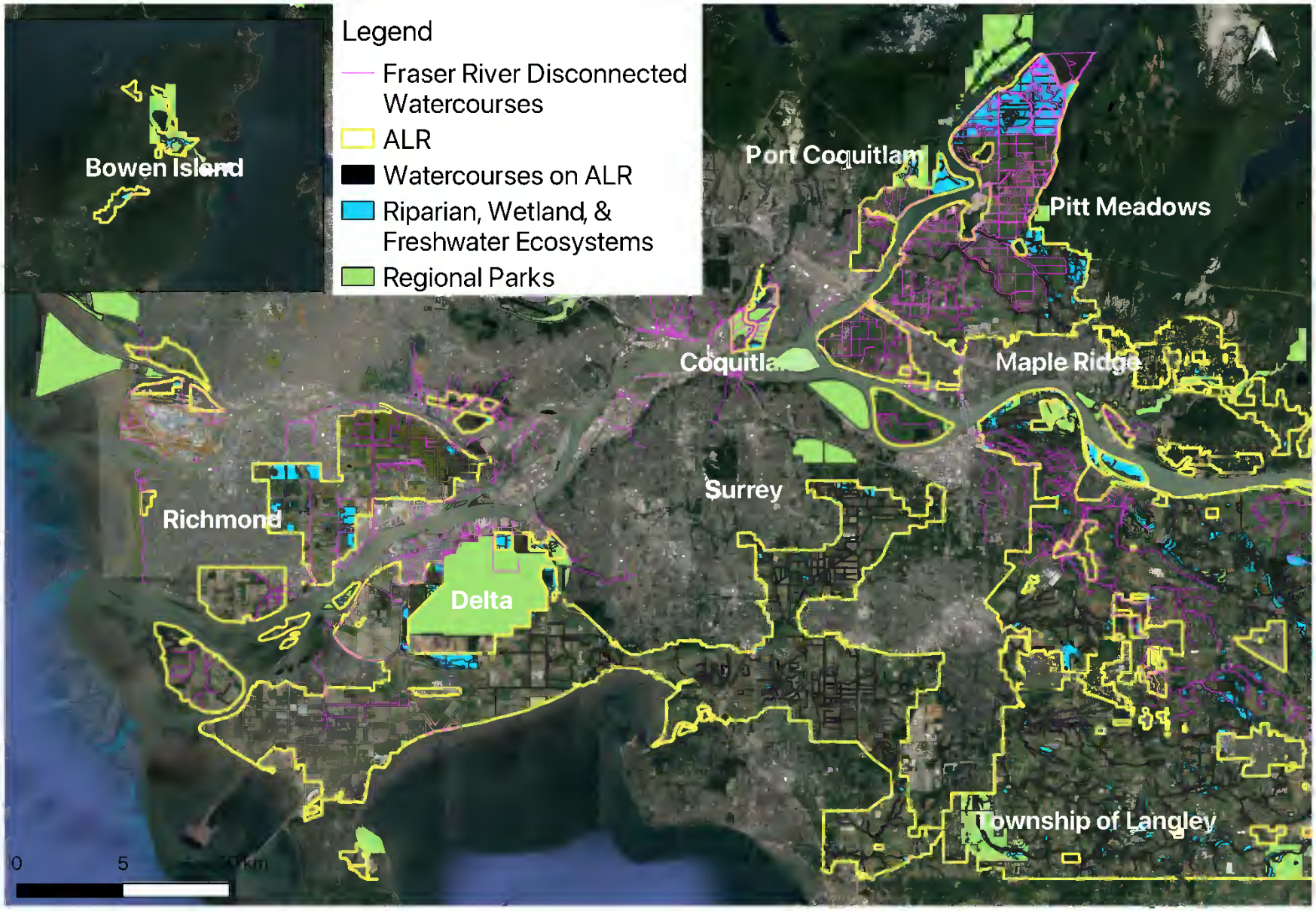


Figure 5 Examples of mapping data that can be used to identify areas with potential for connecting ecosystems.

5.1.3 Areas with potential to mitigate flood impacts

Healthy ecosystems have the potential to manage the flow and storage of water, which can help reduce the magnitude of flood damages in some instances.[51] Conserving and connecting existing aquatic ecosystems and restoring disconnected watercourses can help to manage the flow of water during a flood event. Targeting agricultural lands to restore and conserve ecosystems in flood risk areas can be part of a suite of tools to reduce a flood's impact within the region. To investigate the potential of the ALR to mitigate flood impacts, mapping data for three scenarios were explored[52] using mapping data that already aligns closely with projected impacts for the region due to climate change. Figures 6 and 7 (next pages) identify areas of the ALR that are projected to be impacted by Fraser River freshet flooding. The two flood scenarios estimate flood levels under projected climate change conditions in 2050.[53] The conditions include 0.5-metre sea level rise and changes in peak river flows. The two scenarios are a 1% Annual Exceedance Probability (AEP) flood (i.e. 100 year) or 0.2% AEP (i.e. 500 year) flood on the Fraser River.[54] These scenarios assume that dikes in different locations will overtop, but that no dikes will fully breach. Figure 8 (following pages) identifies a third scenario, whereby the ALR would be impacted by estimated flood levels of a 0.2% AEP (500 year) coastal storm surge flood under present day climate conditions and sea level. Table 11 presents the length of watercourses and area of riparian habitat in the ALR that would be within the flood extent of the three flood scenarios. These large numbers of watercourses and riparian areas illustrate the potential opportunities in the ALR to provide flood mitigation services.

Table 11 Length of watercourses and area of riparian habitat in the ALR impacted by three flood scenarios.

Flood Scenarios	Length of all watercourses within all ALR in MV (km)	Riparian habitat* within the ALR that would be flooded (ha)
2050 Fraser River Freshet 1% AEP (100 year) Flood	374	1,120
2050 Fraser River Freshet 0.2% (500 year) Flood	528	1,580
0.2% (500 year) Coastal Storm Surge Flood	819	2,460

*assumes 15m buffer on either side of watercourse

There are many additional flood scenarios that may occur, for example overland flooding from intense rainfall events and riverine flooding from major rivers (e.g. Alouette, Nicomekl, Serpentine and Little Campbell). In future analyses, these flood scenarios could be mapped to understand the full extent of flood mitigation potential of the ALR. It is likely that almost all of the ALR within MV could be impacted by overland, riverine and/or coastal flooding in the future.

[51] Aguiar, F. C., Manolaki, P., Bruno, D., Bejarano, M. D., ... & Dufour, S. 2020. Global overview of ecosystem services provided by riparian vegetation. BioScience, 70(6), 501-514.

[52] Fraser River Freshet Flood and Coastal Storm Surge Flood mapping layers were provided by the Fraser Basin Council.

[53] Fraser Basil Council. 2019. Flood Modelling and Mapping in BC's Lower Mainland: A Project Primer.

[54] Annual Exceedance Probability (AEP) Refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood that may be calculated to have a 1% chance to occur in any one year is described as 1% AEP. The measure has replaced more traditional time-based expressions of probabilities: 2% = 50-year flood, 1% = 100-year flood, 0.5% = 200-year flood, 0.2% = 500-year flood.

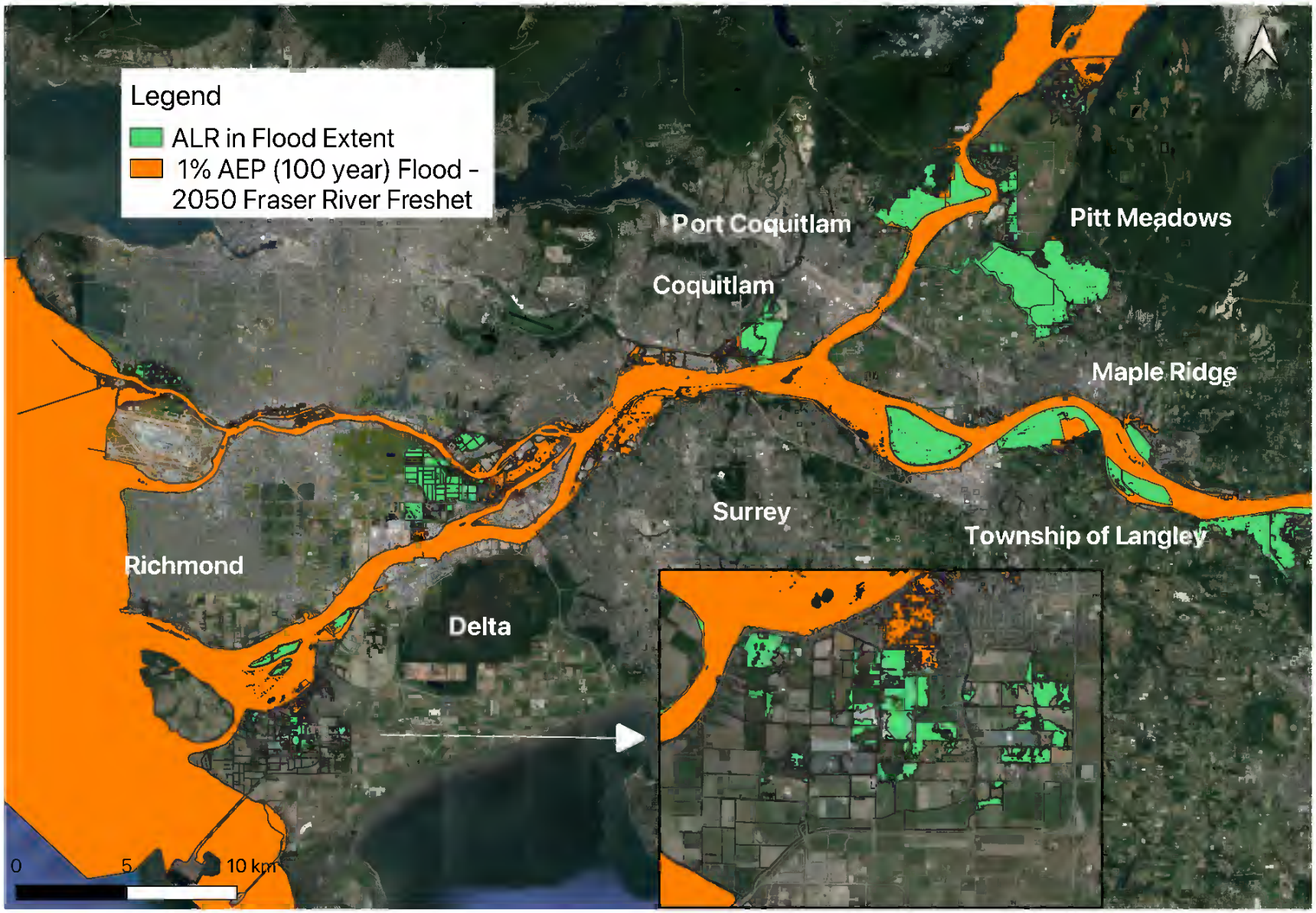


Figure 6 ALR that will be impacted by a 100-year Fraser River freshet flood event.

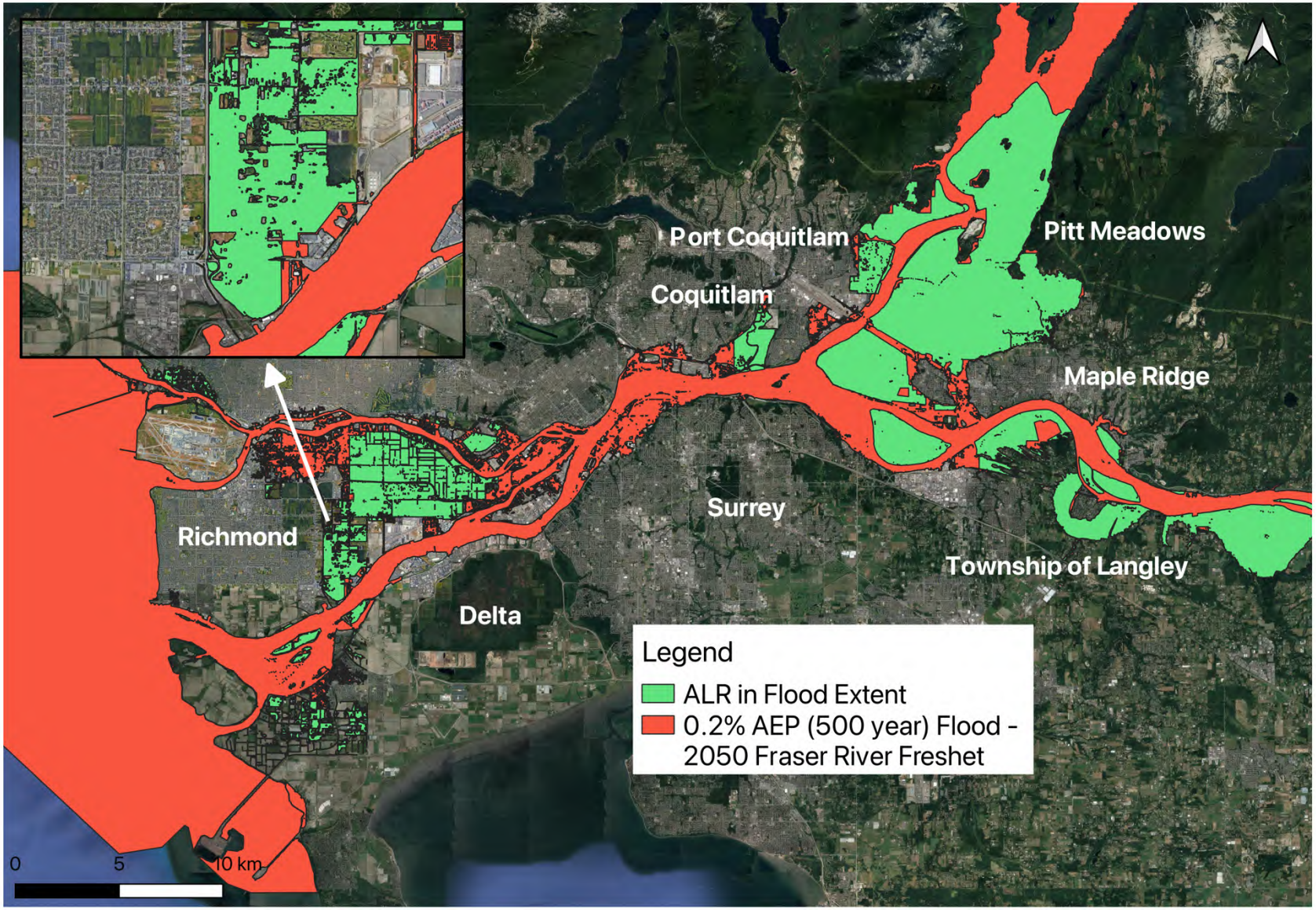


Figure 7 ALR that will be impacted by a 500-year Fraser River freshet flood event.

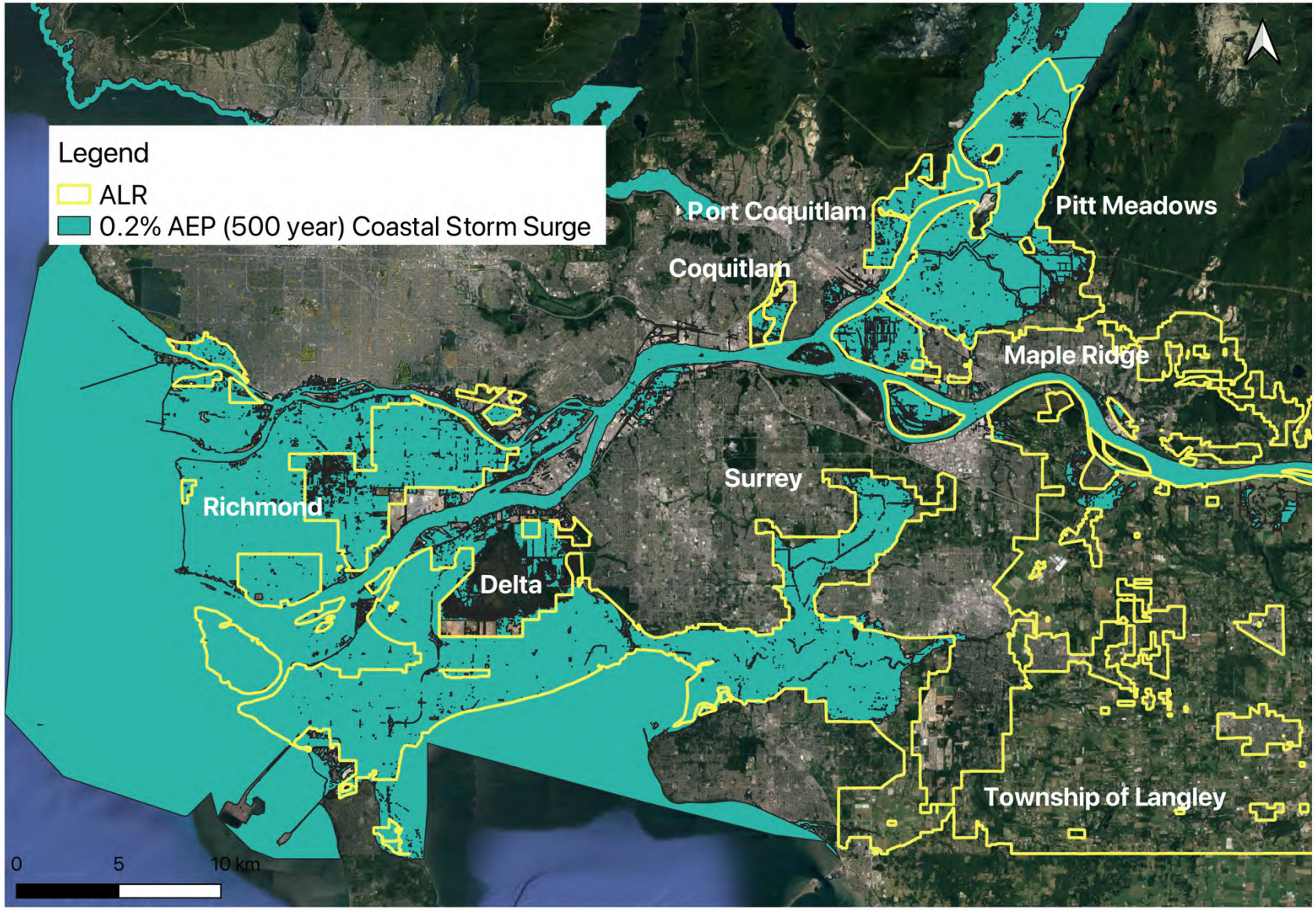


Figure 8 ALR that will be impacted by a 500-year coastal storm surge event.

5.2 Examples of Agricultural Lands Supporting Ecosystem Services

As identified through the mapping exercise and existing programs in the region, the total area and range of ecosystems in MV with opportunities to support ecosystem services within the ALR is vast. A selection were chosen to illustrate the wide-array of possibilities.

5.2.1 Maple Ridge: Riparian Area Conservation & Connectivity

Figure 9 presents an example of how agricultural lands provide corridors of connected habitat along watercourses. This area in Maple Ridge is classified as sensitive within the SEI indicating it is ecologically significant and relatively unmodified, presenting a good opportunity to conserve existing habitat. As illustrated in Figure 9, the vegetated areas along the watercourse in the ALR are connected to a regional park, providing a continuous riparian buffer and forested habitat. Figure 10 (next page) provides an example of the forest and riparian area along this watercourse. Examples of ecosystem services this area provides are: soil development and carbon storage, nutrient cycling, healthy habitat, biodiversity, increased water quality and water quantity (flood mitigation), clean air, and pollination among many others.

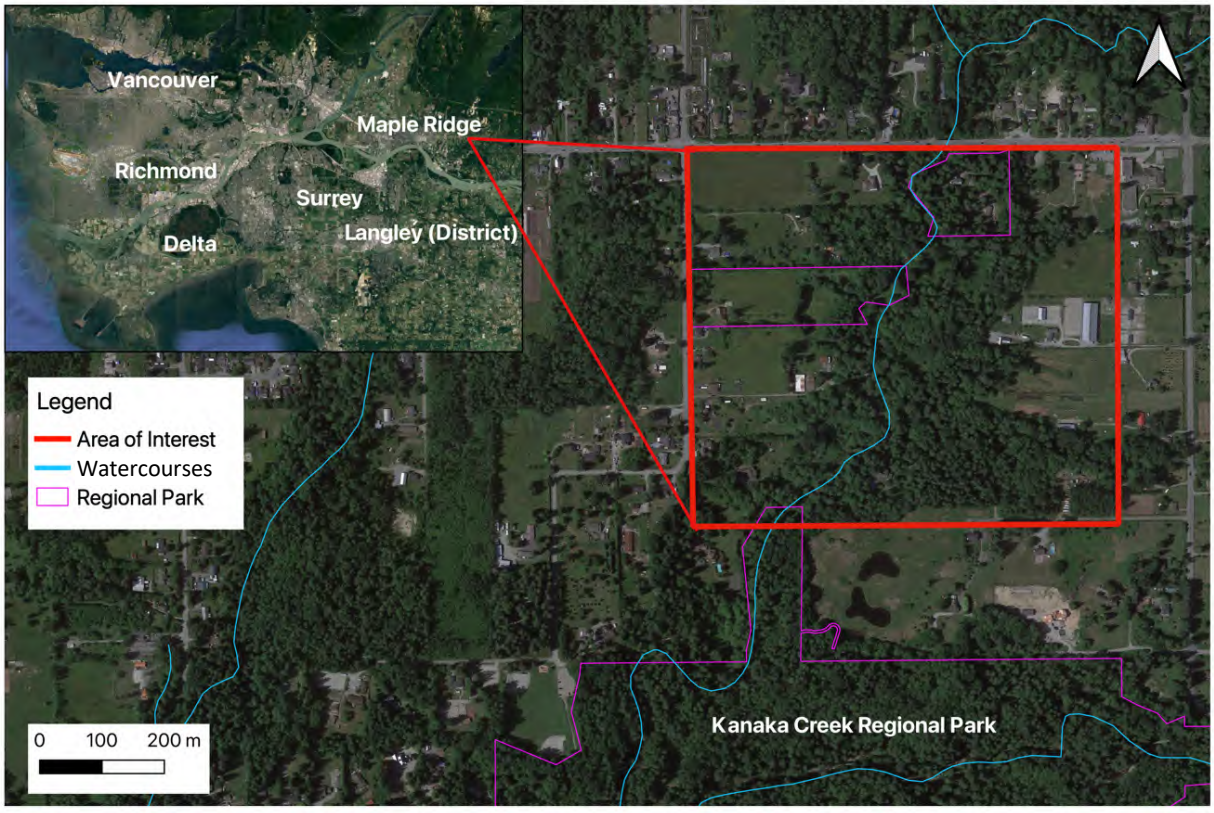


Figure 9 An example in Maple Ridge of an opportunity (red box) to conserve and connect ecosystems.



Figure 10 Example in the ALR of a watercourse with a riparian buffer that provides connectivity.

Examples of BMPs that landowners can employ to conserve this riparian buffer and forest ecosystems include the following:

- Identifying forest stands for protection from cutting and deadwood removal.
- Conserving wildlife trees, rock piles, and other wildlife habitat features.
- Retaining a wide variety of native plants that are adapted to living in riparian areas.
- Coordinating and implementing additional BMPs that have already been developed for MV, such as controlling invasive species.
- Avoiding or minimizing the impact of farm machinery use in or around riparian areas.
- Managing the timing and intensity of livestock use of forested pastures and tree/shrub stands to avoid heavy browsing and maintain healthy shrub/tree populations.

This is one of many areas in the ALR within Metro Vancouver that have healthy ecosystems. Assisting and engaging with landowners to conserve these areas is an opportunity to ensure these ecosystems stay healthy and provide the connectivity required for the robust provision of ecosystem services.

5.2.2 Pitt Meadows: Riparian Area Restoration & Connectivity

The area outlined in Figure 11 is an example of a watercourse within an agricultural area in Pitt Meadows that can be restored and connected to provide flood mitigation and habitat connectivity. The agricultural area is within the flood extent of the 0.2% AEP Fraser River freshet flood and the coastal storm surge, and the watercourse is classified as disconnected, indicating there are some obstructions limiting water passage. Some of this area is also classified at sensitive ecosystems, which provides the opportunity to conserve those ecosystems while connecting the entire watercourse to benefit drainage and restoring the riparian buffer where needed.

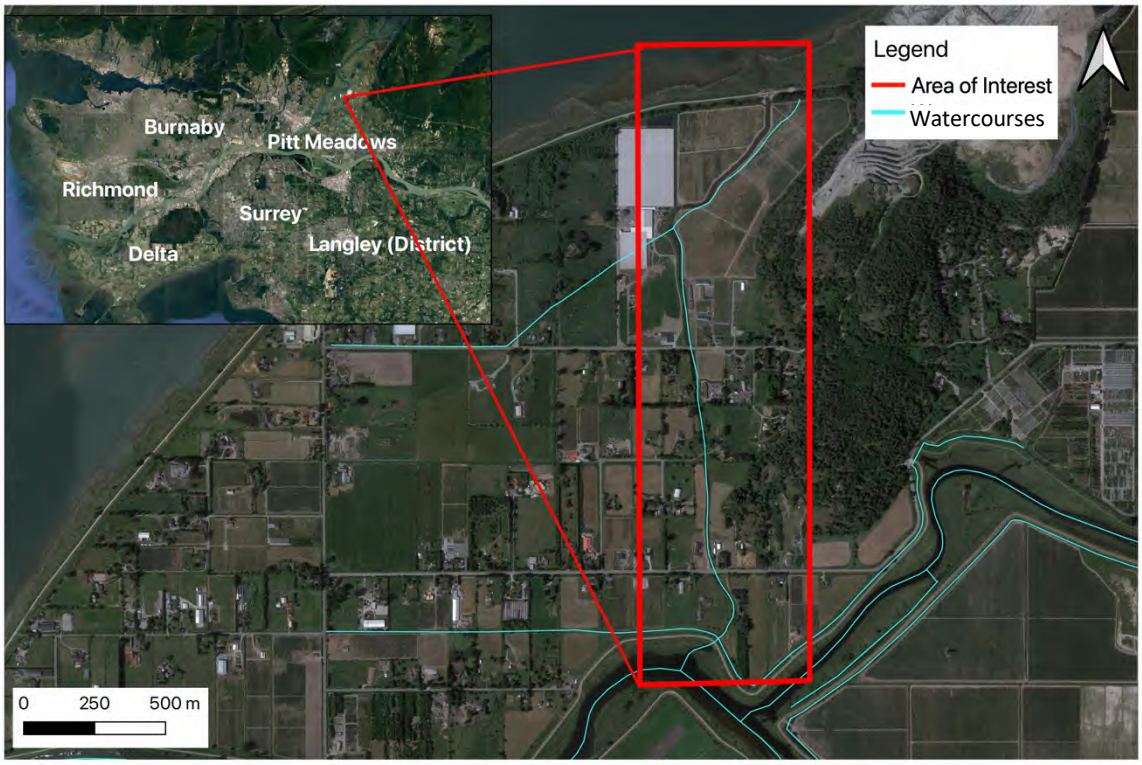


Figure 11 An example in Pitt Meadows of an opportunity (red box) to connect watercourses in flood extents.

Figure 12 (next page) illustrates examples of sites within this area where there are riparian areas with opportunities for restoration to improve drainage, water flow, and ecosystem health. In several places, there is no vegetation adjacent to the stream, or large areas of invasive species such as Himalayan blackberries, and/or no trees established.







Figure 12 Examples of disconnected watercourses that indicate opportunities for riparian restoration.

To increase the ecosystem services in these disconnected watercourses, riparian buffers can be restored with native species and obstructions in the watercourse can be removed. Restoring the vegetative riparian buffer allows for increased water storage, which can slow water movement during a flood event, and removing obstructions can assist with drainage.

Examples of BMPs the landowners can employ to restore the riparian buffer include the following[55]:

- Removing and controlling invasive species and implementing other BMPs related to invasive species that have already been developed for MV.[56]
- Avoiding or minimizing the impact of farm machinery use in or around riparian areas.
- Improving stability with erosion control structures by:
    - Contouring terraces with earthworks and seeding;
    - Stabilizing gullies and watercourses with erosion control matting, silt fencing, seeding;
    - Stabilizing banks through bank shaping, revetment, gabions, riprap, crib walls, re-vegetation, and blanketing; and
    - Protecting riparian trees and shrubs from rodents such as beavers.
- Appropriately sizing and placing culverts so that water movement is not impeded.
- Avoiding practices that artificially alter streamflow.

This is one of many areas in the ALR within Metro Vancouver that provides an opportunity to restore and connect watercourses to help manage flood impacts, increase habitat for wildlife, and improve drainage.

5.2.3 Township of Langley: Riparian Area Restoration & Conservation

Several agricultural producers in the Township of Langley participated in the Township's Ecosystem Services Initiative program from 2015-2019 and several have continued stewardship of ES in the Farmland Advantage program. Figure 13 and Figure 14 are examples of a property participating in the restoration and conservation of a riparian area over several years of being involved in PES programs. As part of the program, the landowner receives support in identifying BMPs for conserving and restoring the riparian buffer. The Farmland Advantage program assists with costs and coordination of the labour and equipment required to complete the restoration work. The landowner receives modest financial compensation for implementing the BMPs and is under contract to maintain healthy vegetation along the riparian area.

The landowner, in collaboration with local non-profit organizations, has implemented the following:

- Installed fencing along the creek to stop livestock access which has helped to reduce bank erosion and increase water quality.

[55] BC Ministry of Agriculture, Food and Fisheries. 2021. British Columbia Environmental Farm Plan Reference Guide 6th Edition.
[56] Invasive Species Council of Metro Vancouver has guidance on BMPs, relevant to agricultural lands.

- Eradicated Himalayan blackberry and planted native trees and shrubs to reduce erosion and capture sediment and nutrient run-off.
- Rehabilitated the stream channel with plantings and bank stabilization to limit impact of reed canary grass and restore ecosystem function.
- Maintained native plantings to ensure plants are established.

Examples of ecosystem services provided by this riparian area include soil development and carbon storage, nutrient cycling, healthy habitat, biodiversity, increased water quality and water quantity (flood mitigation), clean air, and pollination among many others.



Figure 13 Fencing to protect riparian area from livestock.[57]

[57] Farmland Advantage Program. Photo Credit: Darrel Zbeetnoff.



Figure 14 Recently planted native plants along the riparian area.[58]

5.2.4 Richmond: Grassland Set-Aside Fields

Several farmers in Richmond participate in the *Grassland Set-aside Stewardship Program* managed by the Delta Farmland & Wildlife Trust (DFWT). The program assists and compensates producers for planting grassland habitat on agricultural land and the grassland set-aside fields are left to rest for up to six years. Often farmers enroll in the program to restore degraded land, transition conventional fields into organic production or diversify options for crop rotations.

Fields brought out of production for grassland habitat provide many ecosystem services and benefits to producers including:

- Providing habitat for wildlife such as raptors, wading birds, songbirds, small mammals, and pollinating insects,
- Supporting high densities of the Townsend's Vole, a small native mammal, that is prey for a variety of raptors and wading birds,

[58] Ibid.

- Providing roosting habitat for ground-perching raptors, such as the Northern Harrier and Short-eared Owl, and
- Improving soil fertility including improved soil structure, reduced soil compaction, increased soil organic matter, and improved nutrient cycling.



Figure 15 Grassland set-aside field in Richmond.

5.2.5 Delta: Winter Cover Cropping

Winter cover cropping is a BMP that several farmers within the City of Delta employ, with the assistance of the DFWT *Winter Cover Crop Stewardship Program*. This program helps farmers establish vegetative cover on their fields after the harvest of their cash crop in late summer/early fall. A cost-share is offered to participating farmers to incentivize this sustainable practice.

Winter cover crops provide an array of ecosystem services and benefits to producers including:[59]

- Providing feeding habitat for herbivorous waterfowl and shorebirds,
- Providing food and habitat for soil microorganisms,
- Protecting the soil from erosion due to heavy winter rain,
- Scavenging excess nutrients such as nitrogen before they leach from the soil,
- Increasing soil organic matter,
- Reducing soil compaction,
- Improving water infiltration,
- Suppressing weeds, and,
- Increasing yields of cash crops.

[59] Delta Farmland & Wildlife Trust. Winter Cover Crop Stewardship Program.



Figure 16 Snow Geese grazing on a winter cover crop planted on farmland in Delta.[60]

6.0 Valuing and Supporting Ecosystems Services on Agricultural Land

Economic value is associated with products grown and sold from agricultural land, and to the land itself from a real estate perspective. However, other non-farming activities, such as stewarding healthy ecosystems, are rarely valued financially. Assigning monetary value to ecosystem services is a difficult task as they can neither be bought nor sold. However, numerous methods over the past decades have emerged in an attempt to measure their value. This include developing valuation frameworks, assessing public support, and evaluating services as green infrastructure assets. These are explored in the following sections.

[60] Bradbeer, David & Halpin, Luke. 2012. Managing cereal grasses as waterfowl lure crops: investigating planting dates and waterfowl feeding ecology. Delta Farmland & Wildlife Trust.

6.1 Valuation Frameworks for Ecosystem Services

Several reports have attempted to estimate the monetary value of ES provided by agricultural lands in MV.

- Using 2005 dollar values, a study found that the value of agricultural lands was $698 per ha for climate regulation (or stored carbon) and $422 per ha for recreation/tourism benefits.[61] In addition to the land used for crops, agricultural lands often have hedgerows, wetlands and/or forest stands which also store carbon and provide other ES benefits.
- A 2009 study conducted for MV concluded that the present value of public amenity benefits and ES provided by each ha of farmland in MV in 2007 was estimated to be $143,000 per ha.[62] This is about 10 times greater than the market value of farm products themselves, which were valued at $14,200 per ha. Amenity benefits associated with farmland that were identified in the report included access to local food, greenspace, lifestyle and viewscapes while ES included wildlife and fish habitat, and groundwater recharge.
- More recently, a 2020 study, provided estimates for grasslands that are set aside and hedgerow programs that are managed by the DFWT. The 220 ha of farmland under the grassland set aside program were estimated to provide annual ES value of $584,943, which is $2,660 per ha.[63] This includes ES provided by the grasslands such as improvements to air quality, water regulation, erosion control, soil formation, waste treatment, biological control, recreation and aesthetics, pollination services, public value/wildlife habitat, carbon storage and carbon sequestration. For the 3 ha of hedgerows, an annual average ES value of $4,053 was derived ($1,350 per ha), and there was a total contribution to public value for habitat of $3,885.[64]

These reports provide examples of the value of agricultural lands beyond food production. It is difficult to estimate the ES value of all agricultural lands in MV, but considering there are approximately 5,334 ha of forests, 3,318 ha of riparian areas and 4,167 ha of wetlands within the ALR, this amounts to vast economic benefits to the region from these ecosystems on agricultural lands. There are also several other benefits and opportunities that arise with the long-term stewardship of ES on agricultural lands such as improving partnerships with Indigenous communities to collaborate on traditional food system projects and developing research projects in partnership with local colleges and universities.

A new study to estimate the ES values contributed within the context of MV agricultural land would assist decision-makers and the public in understanding the benefit to society from the stewardship of agricultural lands.

[61] Wilson, Sara J. 2010. Natural Capital in BC's Lower Mainland: Valuing the Benefits from Nature. David Suzuki Foundation.
[62] Robbins, M., Olewiler, N., and M. Robinson. 2009. An Estimate of the Public Amenity Benefits and Ecological Goods provided by Farmland in Metro Vancouver.
[63] Kerr, Gillian. 2020. Ecosystem Services Assessment of Delta Farmland & Wildlife Trust Stewardship Programs.
[64] Ibid.

Case Study:
Valuing Bertrand Creek

In 2022, a study was completed in the Township of Langley that used the Ecological Accounting Process (EAP) to calculate the value of ecosystem services provided by Bertrand Creek. The EAP accounting system includes values from BC Assessment and Farm Credit Canada to determine the value of the protection and maintenance of the natural asset to the public. The EAP can be integrated into a Local Government Finance Strategy for sustainable infrastructure funding. In the ToL the EAP for Bertrand Creek was completed to describe and quantify the stream system's financial, social and ecological values. The study found that the value of Bertrand Creek is $1,550 per km and requires an annual management and maintenance value of $290,000 per year. Polling has shown that the residents of ToL are willing to pay a parcel tax fee for projects that improve ecosystem health on farmland. The value of Bertrand Creek calculated through the EAP process can help provide the baseline funding value required for a Payment for Ecosystem Services program for the watershed.

Figure 17 (next page) describes a framework, called the Total Economic Value (TEV), which is helpful in understanding the value of ES. The TEV framework indicates that agricultural lands are an important component of healthy regional ecosystems and have even greater potential to benefit the region if farm practices that increase the health of ecosystems are supported and incentivized.

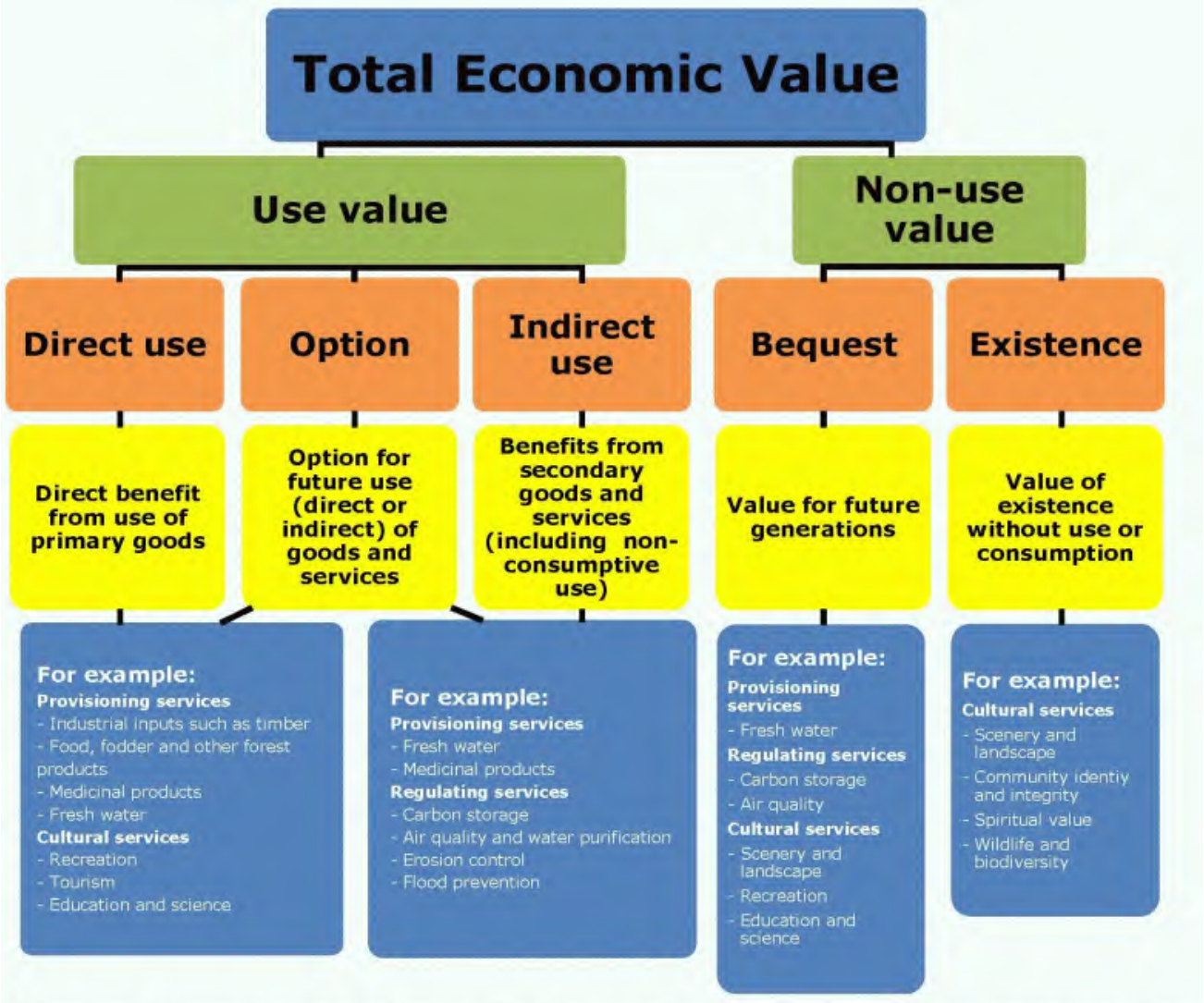


Figure 17 Description of the Total Economic Value Framework for valuing ecosystem services.[65]

[65] Statistics Canada.2013. Total Economic Value Framework.

6.2 Public Support for Stewardship of Ecosystem Services

As part of the approach to assign values to ES, qualitative surveys can be used to understand how important ES are to the community and how much residents would be willing to pay to support ES. Several recent studies and surveys have been conducted within MV that ask respondents to rank the importance of ES derived from agricultural land, and what, if any, monetary value they would be willing to contribute to a program that financially compensates agricultural producers for stewarding ES. Table 12 (next page) provides a summary of each study. The overall findings across all three studies were that:

1. Respondents understood the important role that farmland plays in protecting and stewarding the environment, and
2. Respondents are willing to financially support the stewardship of ES on agricultural lands.

In the broadest definition, the 'payment' in a payment for ecosystem services program can be viewed as a landowner contract designed to provide or maintain ecosystem services through the implementation of BMPs. For example, payments can be based on protecting a single ecosystem service (e.g. the mass of carbon sequestered) or a multitude of ecosystem services (e.g. maintaining riparian buffers that enhance wildlife habitat, soil conservation and control runoff).[66] PES programs can take many forms; however, most include some form of direct payments in exchange for a long term landowner agreement (e.g., a contract). Direct payment can be provided to the landowner or to local partners (e.g., restoration organizations) to implement and maintain the BMPs.

Direct payments may include:

- Cost-share programs, where the funder and farmer provide money (or in-kind labour), to implement or maintain BMPs. For example, the Provincial Environmental Farm Plan BMP program, which funds the implementation of winter cover crops to reduce exposed agricultural soils during winter.
- Compensation to offset opportunity costs from production lost to conservation or preservation. For example, DFWT program in which farmers are compensated for not cultivating an area of their land for several years and the land is planted with native grassland species.

[66] George W. Powell. 2015. Agriculture and Ecological Services: Recommendations for Support Programming in British Columbia.

Table 12 Recent polling results about the importance and willingness to pay for ecosystem services on agricultural lands.

Study Name	Delta Agriculture Plan Update Survey	Biodiversity Conservation Survey as part of the Birds and Biodiversity Conservation Strategy	Langley Ecological Services Initiative Community Survey
Date	2021	2019	2018
Municipality	City of Delta	City of Delta	Township of Langley
Organization	City of Delta	City of Delta	Langley Sustainable Agriculture Foundation
Objective(s)	To obtain feedback on issues, challenges, and opportunities as experienced by community members regarding the agriculture sector.	To determine local and community values and attitudes towards issues related to land, water, wildlife, agricultural lands, and heritage landscapes.	To determine the public acceptance of a sustainable funding method for a long term ecological services program in the Township of Langley.
Type	Online Survey	Phone Survey	Phone Survey
Responses	568	600	200
Findings	*I would be willing to pay higher taxes or fees to support ecosystem health on farmland* received an average agreement rating of 6.0/10. •80% responded yes to the question: *Do you support initiatives that work with farmers to protect natural areas?* • For the question: *How much would you be willing to pay more in taxes or fees per year to support ecosystem health on farmland?:* • 20% of respondents were willing to pay $0.50 – 4.99/year • 53% of respondents were willing to pay $5 -10/year • 9% were willing to pay more than $10/year • 12% of respondents were not willing to pay	• "Farmland supports birds and wildlife" received an average agreement rating of 8.9/10. • Among the 565 residents that travel on roads adjacent to farmer's fields in Delta, 69% indicate it is very important to them to conserve Delta's working agricultural landscape. • *I would be willing to pay higher taxes to protect the environment* received an average agreement rating of 6.1/10.	• 77% of respondents indicated support for the Langley Ecological Services Initiative (a PES project) with ecological protection, sustainability of farms and protection of ALR viewed as the key benefits. • 68% said they support compensating or making payments to farmers so they can take actions that protect and enhance natural areas on their farms. 18% did not support and 14% had no opinion. • All residents were asked what amount they believed would be a reasonable parcel tax on each property to provide sustainable funding for the initiative: • 44%, indicated an amount in the range of $10 to $20 • 26% indicated less than $10, and • 23% said no additional tax.

6.3 Linking Ecosystem Services, Green Infrastructure and Natural Assets on Agricultural Land

Local governments across the province, country and world are looking to green infrastructure and natural assets as a tool to adapt to climate change. Green infrastructure and natural assets are often defined in similar ways - they are the stock of natural resources or ecosystems (e.g., wetlands, forests, streams) that are relied upon, managed, or could be managed by a local government for the provision of one or more services to a community. They provide critical services and functions to communities both on their own and as part of infrastructure systems with engineered assets, including: soil quality and stability; flood protection; drainage and rainwater attenuation; water treatment and storage; recharge of aquifers, rivers and creeks; recreation; climate regulation; habitat and biodiversity; air quality regulation; and health and well-being.[67] Often green infrastructure includes 'bioengineered' approaches such as bioswales, rain gardens, green roofs, and others.[68] Increasingly there is growing evidence that through the management of natural assets, local governments can decrease capital, operations, and maintenance costs; increase levels of service; and, enhance their ability to adapt to climate change – all while protecting or enhancing the ES that natural assets bring to communities.[69]

Agricultural lands represent 20% of Metro Vancouver's land base, therefore these lands are home to a large part of the natural asset and green infrastructure network. Well managed agricultural lands can provide food along with ES to increase overall regional resiliency to climate change. There is an opportunity in MV in the planning and management of natural assets and green infrastructure to encourage, promote and incentivise increased stewardship of agricultural lands. This opportunity is identified in a research and planning project being undertaken by MVRD to advance a green infrastructure network across the region.[70] The primary objective of this Regional Green Infrastructure Network (RGIN) initiative is the protection of ecological connectivity and maximizing ES co-benefits. Agricultural lands are identified as important hubs for connectivity and providing ES, and compensation to farmers is mentioned. Other jurisdictions with MV have also conducted planning projects and strategies around the importance of supporting natural assets. For example the City of Surrey already has a green infrastructure network initiative established. While agricultural lands are recognized in regional and municipal planning projects as crucial to the resilience of natural assets, additional support is required to incentivize long-term stewardship of agricultural land and increase public awareness of the value of ES on agricultural land. Several options for support are describe in the next section.

[67] Asset Management BC. 2019. Integrating Natural Assets into Asset Management.
[68] Diamond Head Consulting, Ecoplan International, and Calypso Design. 2015. Connecting the Dots: Regional Green Infrastructure Network Resource Guide.
[69] Asset Management BC. 2019. Integrating Natural Assets into Asset Management.
[70] Staff communication, Metro Vancouver. 2022. Update on Advancing the Regional Green Infrastructure Network.

7.0 Approaches for Ecosystem Services Support on Agricultural Land

Policy, financial and regulatory mechanisms were researched and considered as approaches for supporting long-term agricultural ES within Metro Vancouver agricultural land. The approaches considered were:

- Policy: Official Community Plans, RGSs, and other local government plans and strategies.
- Regulatory: Zoning and land use bylaws, Statutory Right of Ways (SROWs), and covenants on title.
- Financial: Fees, parcels tax, property transfer tax, and property value tax to fund stewardship of ES on agricultural land.

The approaches were evaluated based on the following criteria:

- Effort of implementation,
- Timeframe to implement,
- Regional control and consistency, and
- Impact on the long-term stewardship of ecosystem services.

Based on the above criteria, the regulatory approaches of SROWs and covenants on title were deemed too improbable and time-consuming to implement on a regional scale over thousands of private properties due to costs, existing legislation, enforcement capacity, and the high cost of land in MV.

Provincial legislation limits local government authority to control activities within the ALR. The *Agricultural Land Commission Act* requires all local government bylaws to be consistent with the Act's mandate to protect farmland, however there is nothing with the ALC Act or regulations to suggest that restoration and maintenance of ecosystem services would not be supported. The *Farm Practices Protection (Right to Farm) Act* prohibits local government regulation from interfering with normal farm practices. Restricting agricultural uses on land within the ALR for ecological purposes must be done with caution so as not to limit the ability to farm the entire parcel. Covenants on agricultural land that stipulate certain stewardship activities, such as restoration and maintenance of 15 meters of vegetation next to streams, may be legal but would be challenging to monitor. These regulatory options would also require increased enforcement and compliance capacity within Metro Vancouver, and collaboration with member jurisdictions , to monitor any legal agreements on private lands.

Two approaches emerged as more appropriate for MV to initiate to support long-term ES benefits on agricultural land.

1. Support ES on agricultural land through policies and regulation in collaboration with local governments and the ALC.
2. Establish a regional conservation fund (or other appropriate funding mechanism) to support programs that steward PES programs on agricultural land.

These two approaches are described in more detail below. They do not preclude the ability for other projects, programs, or initiatives with similar ES objectives to operate alongside these approaches.

7.1 Supporting Stewardship of Ecosystem Services in the ALR through Policy, Zoning and Bylaws

As previously described, a significant portion of natural assets and green infrastructure in MV is in the ALR. This presents an opportunity, through policies and regulations, to encourage the stewardship of ES on agricultural land. Member municipalities and the MVRD already have the Regional Growth Strategy (RGS), OCPs, agricultural plans, climate change plans and other policy documents that support several aspects of agricultural stewardship such as encouraging soil conservation practices, wildlife friendly agricultural practices and acknowledgment of the potential for agricultural land to increase wildlife habitat and biodiversity and help the region adapt to and mitigate climate change.

In addition to policy statements, local governments have regulatory tools at their disposal such as zoning and land use bylaws, that can be used to support the ALR and its benefit as green infrastructure. However, at a regional district level, there are fewer options available as compared to the municipal level (see Table 13, next page). Local governments can use their zoning and Development Permit Area (DPA) guidelines to regulate the location of buildings and ancillary activities such as parking, and commercial uses, in favour of green infrastructure values.[71] Several municipalities already have DPAs related to environmental protection, streamside/watercourse protection, and farmland protection. However, the DPAs are not regionally consistent which can lead to different outcomes for the health of ecosystems on agricultural lands.

As previously mentioned, MVRD is working on a project to develop a Regional Green Infrastructure Network (RGIN). There is a strong opportunity to align the RGIN with agricultural lands to support ecosystem services. The RGIN is expected to acknowledge and identify all areas in the region with significant ES, including areas within the ALR. Once complete, while stopping short of regulating land use, the RGIN could be used to signify policy objectives, clarify decision-making requirements, and potentially minimize ALR applications for exclusion or non-farm use as it signals support for maintaining agricultural ES.

Overall, policies are important to create the foundation of support for ES on agricultural land. MVRD along with most member municipalities have expressed support in planning documents and though various zoning and land use bylaws. However, there is no comprehensive regional approach for documenting and creating policy for ES on agricultural land, and additional implementation efforts to follow through on the policy statements is required.

[71] University of Victoria, Environmental Law Centre. 2021. Green Bylaws Toolkit for Protecting and Enhancing the Natural Environment and Green Infrastructure.

Table 13 Differences in environmental protection authority for municipalities and regional districts.[72]

ENVIRONMENTAL PROTECTION AUTHORITY	MUNICIPAL	REGIONAL DISTRICT
Regional Growth Strategies	*Local Government Act* Part 13	*Local Government Act* Part 13
Official Community Plans (including Local Area & Watershed Plans)	*Local Government Act* ss.471-475, 477, 478, 510 (OCP) *Community Charter* s.69 (drainage)	*Local Government Act* ss.471-475, 477, 478, 510 (OCP) *Local Government Act* ss.306-307, 312 (drainage)
Zoning Density Bonus/Amenity Zoning Parking Runoff Control & Impermeable Surfaces	*Local Government Act* s.479 *Local Government Act* s.482 *Local Government Act* s.525 *Local Government Act* s.523	*Local Government Act* s.479 *Local Government Act* s.482 *Local Government Act* s.525 *Local Government Act* s.523
Development Permit Areas	*Local Government Act* ss.488-491	*Local Government Act* ss.488-491
Riparian Tax Exemption	*Community Charter* s.225	*Local Government Act* ss.394-395
Impact Assessment Development Approval Information Areas Development Process	*Local Government Act* ss.484-487 *Local Government Act* s.460	*Local Government Act* ss.484-487 *Local Government Act* s.460
Watercourse Protection Bylaw	*Community Charter* ss.8(3)(j), 9(3)(a) & 15 *Spheres of Concurrent Jurisdiction - Environment and Wildlife Regulation* s.2(1)(a)	
Rainwater Management Bylaw	*Local Government Act* s.523 (impermeable surfaces) *Community Charter* s.69 (drainage)	*Local Government Act* s.523 (impermeable surfaces) *Local Government Act* ss.306-307, 312 (drainage)
Landscaping Bylaw	*Local Government Act* s.527 *Community Charter* s.15	*Local Government Act* s.527
Tree Protection Bylaw	*Community Charter* ss.8(3)(c), 15 & 50	*Local Government Act* s.500
Soil Removal & Deposit Bylaw	*Community Charter* ss. 8(3)(m), 9(1)(e) & 15	*Local Government Act* s.327
Pesticide Use Bylaw	*Community Charter* ss.8(3)(j), 9(3)(a) & 15 *Spheres of Concurrent Jurisdiction - Environment and Wildlife Regulation* s.2(1)(b)(ii)	
Invasive Species Bylaw	*Community Charter* ss.8(3)(j), 8(3)(k), 9(3)(a) & 15 *Spheres of Concurrent Jurisdiction - Environment and Wildlife Regulation* s.2(1)(b)(iii) (control and eradication)	
Security	*Community Charter* ss.8(8)(c), 17 & 19 *Local Government Act* s.502	*Local Government Act* s.502
Subdivision Servicing Bylaw	*Local Government Act* s.506 *Land Title Act* ss.83, 86	*Local Government Act* s.506 *Land Title Act* ss. 83, 86
Development Cost Charges Bylaw	*Local Government Act* s.559-565	*Local Government Act* s.559-565

[72] University of Victoria, Environmental Law Centre. 2021. Green Bylaws Toolkit for Protecting and Enhancing the Natural Environment and Green Infrastructure.

7.2 Regional Conservation Fund for Supporting Ecosystem Services on Agricultural Land

The second approach considered in detail is the establishment of a regional conservation fund to support programs that steward ES on agricultural land. A conservation fund is a local government service that is funded through a dedicated tax or fee, held and overseen by local government, and earmarked for the specific purpose of undertaking projects that support environmental conservation and community sustainability. Conservation funds can be initiated by local governments or by non-governmental organizations, but often require partnership with municipal, regional and First Nation governments to implement fund procurement (for example through the adoption of a bylaw) and to oversee administration and management of how fund monies are spent. Several regional districts across the province have implemented conservation funds including the Regional District of East Kootenay, Regional District of Central Kootenay, Regional District of North Okanagan, and the Regional District Okanagan Similkameen. These funds provide support to local non-profit organizations for conservation and restoration projects that have led to healthier ecosystems.

For a regional conservation fund in MVRD, conservation and restoration of ecosystem services could be a strong component of the fund priorities, but other broader objectives for the region could also be included to allow for greater impact to improving ecosystem health and benefits to the region. For example, projects that align with the objectives of the RGIN could also be supported by a local conservation fund. The objective of a fund must be clear to the public, have strong public acceptability, and have limits on fees procured from the public. Based on the recent polling and surveys in the region (described in section 6.2), residents in Delta and ToL are willing to pay for projects that result in stewardship of ES on agricultural land, however more detailed region-wide polling is warranted.

The following section provides more details on potential financing approaches for a conservation fund. Appendix B provides in-depth details and examples of how a conservation fund could be structured and implemented in Metro Vancouver, along with examples of other regional conservation funds. Conducting region-wide public opinion surveys would be important in determining if there is region-wide support for a local conservation fund, in addition to discussions with MVRD and member municipality elected officials and First Nations.

What types of projects could be funded and what impacts would the projects have?

Example 1: Compensation for Winter Cover Cropping

The DFWT has a winter cover cropping program that offers a $123-173/ha cost-share for farmers. In MV, there are approximately 3,640 ha of annual vegetable crops grown that could be suitable for implementing cover crops once the cash crops are harvested (Source: 2016 Agricultural Land Use Inventory). Assisting producers across the region to plant cover crops would cost approximately $540,000 (assuming a cost-share of $148/acre for 3,640 ha). Collecting $1 per year from every household in MVRD would raise approximately one million dollars for a fund (2021 Census reported 1,043,315 Total Private Households in Metro Vancouver). That money could then be used to assist producers in cover crop plantings. The benefits of cover cropping to the MV region include soil building; carbon sequestration; reduction in erosion, soil and water retention during floods; and forage for wildlife (such as migratory birds in the Fraser River Delta).

Example 2: Compensation for Riparian Habitat Restoration

Since 2021, five farms in the Little Campbell River watershed within the City of Surrey have participated in the Farmland Advantage program to restore and enhance riparian areas on their properties. On these farms, invasive species such as blackberries and reed canary grass were removed and replaced with native species. Beaver guards were also installed to help secure the survival of young trees in the riparian zone. Farmland Advantage receives federal and provincial funding to provide limited funding to cover the cost of materials and labour to undertake ecosystem restoration work and pays the farmer $1,500 per year to maintain the restored area. A Metro Vancouver conservation fund could provide funding to programs such as Farmland Advantage, which then leverage other funding sources to maximize the number of contracts with agricultural landowners throughout the region.

7.2.1 Conservation Fund Financing Options

Potential options for financing a regional conservation fund are discussed below. If MVRD were to pursue a conservation fund for the region, discussions with municipal and regional staff and a legal team would be required to determine an appropriate mechanism for collecting monies for a fund.[73]

Property Value Tax

Local governments calculate property taxes on the basis of the assessed or net taxable value of land and improvements (e.g. house, garage), unless exempted, and on the local government tax rate.[74] Property value tax can also be calculated on land only or on improvements only. Most local governments calculate property taxes using the variable tax rate system where tax rates are based on an amount per $1,000 of assessed property value (e.g., $0.10 per $1,000 of assessed property value). Tax rates vary for different property classes of land such as agricultural, residential, industrial, and commercial, so if the tax rate stays the same but property values rise, the local government's property tax revenue rises.

Parcel Tax

Regional districts and municipalities can apply a parcel tax to properties that receive a particular service. A parcel tax can be imposed in one of three different ways: on the basis of the same amount for each parcel of land; on the taxable area of a parcel; or on the taxable frontage of the parcel. For conservation funds, a single amount for each parcel is the appropriate method to use.[75] Under this method, the service establishment bylaw states the maximum dollar amount that can be taxed or requestioned each year and that amount is divided equally across the taxable parcels in the service area. A parcel tax does not rise as property values increase. The maximum amount that can be taxed each year remains the same over time unless the bylaw includes a provision that the maximum is determined by so many dollars or cents per $1,000 of taxable assessed value in the service area. The local government must create a parcel tax roll to impose a parcel tax. The roll lists the parcels to be charged and includes the name and address of the owners of each parcel. Once the local government completes the parcel tax roll, they must make it available for public inspection. The local government must form a review panel to consider any complaints about the roll and to authenticate it.

---

[73] Taxation for regional district residents is different than for municipalities. In accordance with the *Local Government Act* (RSBC 2015 c.1), regional districts do not have the authority to issue property tax notices to residents and businesses, nor collect taxation directly from residents. In most regions of the province, municipalities collect the regional district taxes directly from citizens within their boundaries. As such, regional districts do not set property tax rates (often referred to as mill rates) for the annual tax requisitions they require to fund the numerous services and capital projects they steward on behalf of the community. Instead, municipalities (cities, towns, villages, etc.) do this for those regional district services their communities participate in and the provincial Surveyor of Taxes does this for ratepayers living in all rural areas outside of the boundaries of a municipality (e.g. electoral areas). Regional districts can present a requisition of funds from municipalities. The annual operating budget of local governments determines what the tax rates (mill rate) will be.

[74] South Okanagan-Similkameen Conservation Program. (2022). Local Conservation Funds in British Columbia: A Guide for Local Governments and Community Organizations (3rd ed.). Penticton, B.C.

[75] Ibid.

Fees

Both municipalities and regional districts may recover costs on a fee-for-service basis provided the fee is associated with an already established service. For example, instead of imposing a tax on property, a fee could be collected from each household as part of a local government water service (e.g., for a rainwater management program) or from park facility users (e.g., for ecosystem restoration within parks).[76] Within MV municipalities, property taxes include levies (fees) for the following institutions:

1. School tax (BC Government)
2. Metro Vancouver Regional District
3. Municipal Finance Authority
4. BC Assessment
5. TransLink

Property Transfer Tax

Property Transfer Tax is primarily collected when a property is purchased but there may be other instances of transactions when this tax is collected, such as forfeiture or foreclosure.[77] The property transfer tax is based on the fair market value of the property (land and improvements) on the day it was registered with the Land Title Office. Transfer tax rates are determined based on the value of the property and if the purchaser is a foreign national. The property transfer tax rate is:

- 1% of the fair market value up to and including $200,000
- 2% of the fair market value greater than $200,000 and up to and including $2,000,000
- 3% of the fair market value greater than $2,000,000
- Additional 2% if the property has residential property worth over $3,000,000.

The property transfer tax monies go to the province. MVRD would have to discuss the possibility of a small increase or a small proportion of the existing property transfer tax rate which would be earmarked for use in a MVRD conservation fund. Legal advice would be required to determine if an additional property transfer tax to provide monies to a conservation fund could be added to properties in Metro Vancouver.

[76] South Okanagan-Similkameen Conservation Program. (2022). Local Conservation Funds in British Columbia: A Guide for Local Governments and Community Organizations (3rd ed.). Penticton, B.C.
[77] Government of British Columbia. Accessed December 2022. Property Transfer Tax.

Examples of financial arrangements from other funds

District of West Vancouver: Environmental Reserve Fund
The annual Environmental Levy amounts to $800,000, which is equivalent to 1.00% tax rate increase. Single Family Dwellings pay $65 and Strata pay $29.

Regional District of Okanagan Similkameen:
The annual maximum amount to be requisitioned for the cost of the service is not to exceed the greater of $450,000 or $0.0292 per $1,000 of net taxable value of land and improvements in the Regional District of Okanagan-Similkameen.

Regional District of North Okanagan:
The maximum amount that may be requisitioned annually for the service is not to exceed $102,000 or $0.02 per $1,000 of net taxable value of land and improvements included in the service area, whichever is greater.

Regional District of Central Kootenay:
The maximum amount that may be requisitioned annually for the service shall be $106,500 or the product of $0.062 per $1,000 of taxable assessed value of land and improvements, whichever is greater. This amounts up to $15 per parcel of land annually.

7.3 Comparing Approaches for Supporting Ecosystem Services on Agricultural Land

The following table compares the two approaches for supporting ecosystem services on agricultural land within the MVRD.

Table 14 Comparing approaches for supporting ecosystem services on agricultural land in MV.

	Approach	
	Policy, Zoning and Bylaws	**Regional Conservation Fund**
Effort of implementation	- Engagement with First Nations required - Requires staff time for analysis of what policies, zoning and land use bylaws are working well. - Including agricultural ES in the discussions and objectives of the RGIN could align staff capacity.	- Requires funding and staff time for front-end work to determine public and political acceptability of a new fee/tax for a fund (e.g. through polling and outreach). - Requires MVRD staff capacity to assist in fund development. - Each taxpayer/landowner contribution is likely to be small.
Timeframe to implement	- Likely one to three years, but depends on staff capacity.	- The process of gauging public support for a fund, passing a bylaw to establish the fund, and putting the fund administration into place would likely be at least three years.
Regional Control and Consistency	- Certain policies, zoning and land use bylaws are already in place for some member municipalities and EAs that are supportive of ES, while others would require updates or new policies, zoning or land use bylaws. MVRD has little control over implementation of these approaches in municipalities, so they may not be regionally consistent.	- Ideally all municipalities, electoral areas and First Nation communities would participate in the fund. - Projects funded would benefit the entire region.
Impact on the Long-Term Stewardship of Ecosystem Services	- The impact depends on the strength of the policies, zoning and land use bylaws. These tools can be weakened over time if not kept relevant or political or if public desire to support ES declines. Resources for compliance and enforcement of existing or new policies and regulations can also be a challenge for local governments.	- Relative impact on funding projects to improve/protect ecosystem services on agricultural land throughout the region would be high. - Healthy ecosystems can help avoid damage to infrastructure and mitigate costs of recovery (for example, reducing inundation of flood water by slowing the movement of water across fields to allow for increased infiltration).

8.0 Conclusions and Recommendations

When agricultural producers are supported in the care and management of ecosystems on agricultural land, the whole region benefits. These benefits range from improved water quality, fish habitat, flood protection, carbon sequestration and healthy wildlife populations. One fifth of the land base in MVRD is agricultural land. Ecosystems such as wetlands, riparian areas, watercourses, and forests are common on farms. Currently, there is a patchwork of policy, regulatory and financial mechanisms used to support ES on agricultural land in MV. [78] However, there lacks an overarching regional approach for stewardship of these ES and there are a limited number of incentives available to agricultural producers to provide long-term support for stewarding healthy ecosystems on agricultural land. Recent studies in Delta and ToL have illustrated support for the role that agricultural land plays in protecting and stewarding the environment, and a willingness to pay for the stewardship of ES on agricultural lands.

There exists a need to increase stable, long-term support to foster healthy ecosystems on agricultural land, and to leverage existing payment for ecosystem services programs, which will in turn provide benefits to all residents through food production, healthier watercourses, increased biodiversity, and landscape resiliency. Conservation funds are increasingly being used by regional districts to provide financial support for the long-term stewardship of ecosystems in region across BC and represent an opportunity worth exploring for Metro Vancouver.

Financially supporting ecosystem services on agricultural land can be viewed as reallocating resources to manage lands and providing an investment of taxpayer dollars into the following:

- Improved regional food security.
- Partnerships with First Nations to grow projects regarding Indigenous food systems.
- Preservation of natural assets and green infrastructure.
- Job creation for the food agriculture sector, and spin-off enterprises.
- Stimulation of agricultural support sector businesses (e.g., seed companies, soil amendments).
- Increased agri-tourism opportunities.
- New education and learning programs.

Investing in healthy ecosystems on agricultural lands can also be viewed as a type of 'collective insurance' since heathy ecosystems mitigate costs and damages to local governments associated with extreme weather events (e.g., floods and droughts) that will occur more frequently due to climate change. Understanding the economic value that healthy ecosystems can provide to minimize damages to infrastructure is crucial for decision-making when allocating resources to the management of natural assets and green infrastructure.

To improve the long-term stewardship of ecosystem services on agricultural lands in MV, the following five recommendations are identified (Table 15, next page).

[78] Metro Vancouver. (2020). Agriculture Discussion Paper to support Climate 2050 and the Clean Air Plan.

Table 15 Recommendations and rationale for long-term support of ecosystem services on agricultural lands in Metro Vancouver.

Recommendation	Rationale	Recommended Timeline	Resources Required
1. Collaborate internally and externally to further explore and build a regional conservation fund (or other appropriate funding mechanism) that includes payment for ecosystem services on agricultural land.	Internally, MVRD staff working on the Regional Green Infrastructure Network can look for opportunities to align objectives with a conservation fund. It is recommended that this include engagement with First Nations communities. Externally, staff can continue to collaboration with the Fraser Delta Farmland Protection and Stewardship Working Group, who have been working since 2019 on the concept of establishing a regional conservation fund for ES on agricultural lands.[79]	Ongoing	Staff time, and/or consultant fees.
2. Conduct polling across MV to gauge support and willingness to pay for ecosystem services on agricultural land.	Gauging the interest and support by the public would assist MVRD decision-makers in understanding if residents support a regional conservation fund, and what types of projects residents would prioritize for improving the health of ecosystems. Staff will also need to determine support internally at committee levels, management, and elected officials.	Within 1 year	Staff time to hire polling firm and manage the project. Estimated polling fees of $50,000 – $70,000 to conduct region-wide polling. Some fees may be cost-shared with other organizations or intiatives.
3. Conduct in-depth mapping of ecosystem services on agricultural land in MV	Areas in MV with the highest opportunities to focus efforts for stewardship of ES on agricultural lands should be mapped at a high resolution. This mapping will inform ES valuation calculations and can be aligned with RGIN mapping.[80]	Within 1 -2 years	Staff time to issue RFP, hire consultant and manage the project. Estimated consultant fees of $15,000 – $40,000 to complete the project.

[79] The Fraser Delta Farmland Protection Stewardship Working Group is a collective of representatives from local, provincial and federal governments, and non-profit organizations working together toward a vision where, "Farmland is protected and stewarded to support long-term sustainability and resiliency of farming while optimizing biodiversity in the Fraser River Delta."

[80] Staff communication, Metro Vancouver. 2022. Update on Advancing the Regional Green Infrastructure Network.

Recommendation	Rationale	Recommended Timeline	Resources Required
4. Estimate the financial value of ecosystem services on agricultural land in Metro Vancouver	A detailed estimate of the financial/economic value of ES on agricultural lands in MV would greatly assist decision-makers and the public in understanding the benefit to society from agricultural land stewardship. Understanding the economic value of agricultural ES will also assist in determining appropriate funding amounts for a regional conservation fund and what ecosystems should be prioritized for financial support.	Within 1-2 years	Staff time to issue RFP, hire consultant and manage the project. Estimated consultant fees of $30,000 – $60,000 to complete the project.
5. Review and assess options to align with the ongoing work to establish a Regional Green Infrastructure Network to support ES on agricultural land.	A Regional Green Infrastructure Network would acknowledge and identify a connected network of ecological elements in the region, including on agricultural land, some of which would provide ecosystem services. The RGIN could be used to signify policy objectives for those lands, clarify decision-making requirements, and potentially minimize non-agricultural development.	Within 2 -3 years.	Staff time, and/or consultant fees.

Appendix A: Assumptions & Limitations of Mapping Analysis and Layer Descriptions & Data Sources

Assumptions of Analysis:

- All mapping layers used were from secondary sources, no original mapping data was collected, and the assumption was made that there are no major errors in the mapping layers.
- Assume all watercourses have the potential for providing ecosystem services, to some extent.

Limitations of Data:

- The mapping results provide a good starting point for identifying and quantifying ES in the ALR; however, due to mapping limitations, this mapping exercise could not identify all ecosystems with potential for providing beneficial ES. For example, not all of the agricultural watercourses, hedgerows, or windrows were captured, nor beneficial farming practices such as cover cropping.
- The 'Disconnected Watercourses' layer only captures disconnected watercourses leading to the Fraser River, and not watercourses leading to other major rivers in the region (e.g. the Serpentine River or Nicomekl River).
- Crops and small agricultural ditches/canals can change from year to year, so analysis is a snapshot in time for locations of some smaller watercourses.
- While it was noted that some agricultural ditches were captured in the 'Watercourses' mapping layer, arial images shows additional locations of agricultural ditches that were not captured in the watercourses data layer used.

Table 16 Data Layer Sources and Descriptions.

Layer Name	Description	Source
SEI Wetlands, Riparian Areas and Freshwater ecosystems	Riparian ecosystems are associated with and influenced by freshwater. They generally occur along rivers, streams, and creeks, but for SEI, also include fringes around lakes. These ecosystems are influenced by factors such as erosion, sedimentation, flooding, and/or subterranean irrigation due to proximity to the water body. This Class includes all vegetation developmental stages, i.e., structural stages 1 through 7, but only in a natural or semi-natural state. To calculate the riparian areas buffers of 20 m were used for streams and 50 m were used for rivers and lakes. Wetland ecosystems are found where soils are saturated by water for enough time that the excess water and resulting low oxygen levels influence the vegetation and soil. The water influence is generally seasonal or year-round and occurs either at or above the soil surface or within the root zone of plants. Wetlands are usually found in areas of flat or undulating terrain. They encompass a range of plant communities that includes western red cedar/skunk cabbage swamps, cattail marshes, and peat-moss dominated bogs. The wetland class is for freshwater wetlands.	MV Open Data Catalogue: MV SEI

Layer Name	Description	Source
Watercourses	This layer originates from the Freshwater Atlas Stream Network dataset. It shows stream, creeks, and some agricultural watercourses but likely does not capture all agricultural watercourses (e.g. ditches, canals).	BC Data Catalogue: Freshwater Atlas Stream Network
Disconnected Watercourses	Disconnected watercourses leading to the Fraser River. Disconnection calculated based on stream gradient (12%) and obstructive infrastructure.	Watershed Watch Salmon Society
ALR	The spatial representation for a segment of the boundary of an Agricultural Land Reserve (ALR), which is a parcel of land, based on soil and climate, deemed necessary to be maintained for agricultural use.	BC Data Catalogue: ALC Agricultural Land Reserve Lines
Regional Parks	Boundaries for Metro Vancouver Regional Parks, Ecological Conservancy Areas and Regional Park Reserves.	MV Open Data Catalogue: Metro Vancouver Regional Parks – Park Boundaries
Fraser River Freshet Flood Scenarios under 2050 climate conditions	The two layers estimate flood levels under projected climate change conditions in 2050. The conditions include 0.5-metre sea level rise and changes in peak river flows. The two scenarios are a 1% Annual Exceedance Probability flood (i.e., 100 year) or 0.2% AEP (i.e. 500 year flood) flood on the Fraser River.[81] These scenarios assume that dikes in different locations overtop, but that no dikes breach. These maps originates from the Fraser Basin Council.	Source: Fraser Basin Council
Coastal Storm Surge Flood Scenario	This layer illustrates the estimated flood levels in a 0.2% AEP (500 year) coastal storm surge flood under present day climate conditions and sea level, during a still water ocean state. These maps originates from the Fraser Basin Council.	Source: Fraser Basin Council

[81] Annual Exceedance Probability (AEP) Refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood that may be calculated to have a 1% chance to occur in any one year is described as 1% AEP. The measure has replaced more traditional time-based expressions of probabilities: 2% = 50-year flood, 1% = 100-year flood, 0.5% = 200-year flood, 0.2% = 500-year flood.

Appendix B: Example of a Conservation Fund for Metro Vancouver

Fund Purpose and Priorities

The purpose and priorities of the fund should be determined through polling of residents and by reviewing local government plans, policies and strategies that align with the objectives of supporting agricultural ES and environmental conservation.

Example Purpose: The Metro Vancouver Conservation Fund is a dedicated source of funding for the specific purpose of undertaking agricultural stewardship and environmental conservation projects within MVRD. The projects will improve the natural environment and food security, and ensure long-term sustainability of farms and healthy ecosystems in the region, that support a good quality of life in Metro Vancouver.

Example Priorities:

- Enhancing the sustainability, resilience and viability of local agriculture and food production.
- Protecting clean, abundant water resources.
- Preserving natural places for people to enjoy through recreation.
- Restoring and maintaining important habitats for Species at Risk, fish and wildlife, such as riparian areas through agricultural properties.
- Maintaining and enhancing ecosystem health to be more resilient to the effects of a changing climate, such as floods, fire, and drought, such as restoring riparian areas.
- Upgrading and maintaining key infrastructure such as ditches and dikes.

Example Targets and Issues:

Projects that can demonstrate a reduction of a known threat to an agricultural, ecosystem and/or biodiversity target will be given priority. The focus is on private land, but projects on both Crown and local government land could be considered. The targets are:

- Improving ecosystems on agricultural land,
- Land classified within the Sensitive Ecosystem Inventory,
- Land with high occurrences of invasive species,
- Land in or adjacent to parks and the green infrastructure network,
- Watersheds at important source water protection areas,
- Connectivity for natural areas and wildlife corridors,
- Native fish and wildlife habitat including for species at risk,
- Urban and rural wild-land interface areas, and,
- Land in floodplains or within projected flood extents of riverine and coastal floods.

Governance and Administration Options

The MVRD would be responsible for maintaining the fund including the responsibility of requisitioning funds, financial audits and providing final approval of potential projects. The MVRD would also appoint a Technical Advisory committee to assist in selection of potential projects to

be funded, which will help ensure projects of the highest merit receive funding, while still maintaining the final approval rights.

Example of process:

1. MVRD passes a bylaw that sets the stage for being able to requisition tax funds from municipalities for conservation purposes.
2. MVRD requisitions the funds to member municipalities through annual tax requisition, collects the fund money, selects/approves conservation projects, issues payments, and conducts financial audits of the fund.
3. MVRD can hire internal staff as the fund administrator/coordinator or hire a consultant.
4. Often a 'Technical Advisory Committee' is formed of subject matter experts who evaluate the project applications to the fund, and recommend to MVRD which projects should receive funding. Final approval of projects will be granted at a regular meeting of the MVRD Board of Directors.

Example of governance:

- This is a tax-based fund; therefore, in the decision-making process, taxpayers will be represented through their elected officials.
- The Fund was created to provide a conservation service. Technical merit is of utmost importance to determine which projects are supported.
- There is a relatively small amount of annual funding available and it is important to design a simple, cost effective decision-making structure.

Service Areas & Establishment Process

Establishment of a conservation fund within a regional district must be done through the creation of a bylaw. The bylaw can be established in two ways:

1. Assent voting (referendum) process.
2. Alternative approval process.

It is up to the regional district and member municipalities as to which option the bylaw is established.

Assent Voting Examples [82]

Columbia Valley Conservation Fund: Regional District of East Kootenay

The original goal was to have all municipalities and electoral areas in the RDEK participate in the service, however, the conservation fund idea only received support from the Upper Columbia Valley portion of the RDEK. The residents who were clear that they wanted the opportunity to vote on the initiative wanted it to happen in the most cost-effective way possible. This translated to an assent vote (referendum) being conducted in conjunction with a general election in 2008. Only electors in the service area (Upper Columbia Valley) were eligible to vote on the question of setting up a conservation fund. After a successful vote, the RDEK board adopted the bylaw to establish the Columbia Valley Local Conservation Fund service in the Upper Columbia Valley portion of the

[82] South Okanagan-Similkameen Conservation Program. (2022). Local Conservation Funds in British Columbia: A Guide for Local Governments and Community Organizations (3rd ed.). Penticton, B.C.

regional district, including the Village of Radium Hot Springs, District of Invermere, Village of Canal Flats, and RDEK electoral areas F & G.

Kootenay Lake Local Conservation Fund: Regional District of Central Kootenay
Even with residents' support, it was the elected officials' role to decide whether or not establishment would proceed. In this case, of the areas that indicated support at the public opinion research stage, one municipality opted out, and so the assent vote (referendum) question was posed, on a subregional basis, to voters in three RDCK electoral areas. The RDCK established the Kootenay Lake Local Conservation Fund after a successful vote in November 2014, which was held in conjunction with the local election in electoral areas A, D, and E. In October 2022, voters in the Slocan Valley (Area H) voted 'yes' to joining the Regional District of Central Kootenay Local Conservation Fund service that will support wildlife, habitat and water.

Alternative Approval Process Examples
South Okanagan Conservation Fund: Regional District of Okanagan-Similkameen
Elected officials decided whether their electoral area or municipality was interested in participating in the environmental conservation service. In the end, it was decided that the bylaw would be proposed as a subregional service for 6 of the 9 electoral areas and 3 of the 6 municipalities within the region (communities of Summerland, Penticton, and Oliver, and rural RDOS electoral areas A, C, D, E, I and F). Public approval for the bylaw was sought through alternative approval process conducted for the proposed sub-regional service as a whole. The alternative approval process was concluded with < 1% of eligible voters opposed to the proposed bylaw. In December 2016, the RDOS board approved the environmental conservation service bylaw that established the South Okanagan Conservation Fund.

North Okanagan Conservation Fund: Regional District of North Okanagan
The Okanagan Collaborative Conservation Program and its partners worked with Regional District staff and elected officials for 24 months to identify local conservation priorities for the fund's terms of reference and assisted with local government planning processes to create the fund. On January 22, 2020 the City of Armstrong, the Village of Lumby and Electoral Areas "B" through "F" established the service bylaw for a sub-regional conservation fund to support local conservation priories. The bylaw was established through the alternative approval process which notified property owners of a new conservation service in the form of a property tax. The alternative approval process easily passed with little to no opposition to establish the fund.

Fund Design
How the fund functions would be decided upon based on the priorities and targets. The following are examples of how a fund could be designed:

- A call for project proposals will be issued annually and will be advertised based on criteria set by the Consultant and approved by the MVRD Chief Administrative Officer or their designate.
- Funds will be dispersed annually, based on responses to calls for proposals. Any funds not dispersed can be carried forward to the next fiscal year.

- Projects must be in the Fund Service Area (e.g. the entire MVRD or certain municipalities/Electoral areas).
- Multi-year projects are acceptable to a maximum of a certain number of years. Such projects will receive annual funding approval, and will be subject to annual review by the Technical Advisory Committee to ensure they are on track.
- Projects should address MVRD threats identified and fall into at least one theme area.
- Proponents must be non-profit, have registered society status or must partner with an organization that has registered society status.
- Project evaluation by the Technical Advisory Committee includes consideration of conservation value for money.
- Proposals should reflect relationship to the MVRD Regional Growth Strategy and Municipal Official Community Plans.
- Proponents must be prepared to make a 10-minute presentation on the outcomes of their work on an annual basis, in addition to submitting written interim and final reports.
- Proponents will receive 80% of the grant upon signing a contribution agreement and 20% upon completion of the approved final report.
- Fund recognition. Proponents are required to acknowledge in all communications products including publications, public information releases, advertising, promotional announcements, activities, speeches, lectures, interviews, ceremonies and website materials related to the project, including on permanent signage. The MVRD logos must appear on all communications and promotional materials.
- Administrative costs should not exceed 7% of the annual fund amount.

Examples of other Conservation and Environmental Funds

There are several examples of local governments in BC that have created funds for environmental and conservation objectives (Table 16).

Table 17 Examples of Conservations Funds in BC.

	South Okanagan Conservation Fund	Columbia Valley Local Conservation Fund	Kootenay Lake Conservation Fund
Conservation Themes	Conservation of water quality and quantity stewardship, protection, enhancement and restoration of sensitive terrestrial and aquatic ecosystems, wildlife species & SAR and habitat for native fish and wildlife.	Water conservation, Wildlife and habitat conservation, open space conservation.	Aquatic systems, water conservation, wildlife and habitat conservation.
Fund purpose	Provide local financial support for projects (not under the responsibility of federal, provincial or local governments) that will	Provide local financial support for projects (not under the responsibility of the federal, provincial or local governments) that will contribute to the	Provide local financial support for projects (not under the responsibility of the federal, provincial or local governments) that will contribute to the

	contribute to conservation of natural areas.	conservation of our valuable natural areas.	conservation of our valuable natural areas.
	South Okanagan Conservation Fund	Columbia Valley Local Conservation Fund	Kootenay Lake Conservation Fund
Fund administration	RD maintains the fund, including decisions of awarding the grants, making payments, RD may hire a third party to administer the fund, or appoint a technical advisory committee to select projects and fund recipients.	RD maintains the fund, including final approval of all projects, grant payments and financial audits. The Kootenay Conservation Program is a partner in the fund and is responsible for all administrative activities pertaining to the fund other than direct financial administration and final approval of projects.	RD maintains the fund, including final approval of all projects, grant payments and financial audits. The Kootenay Conservation Program is a partner in the fund and is responsible for all administrative activities pertaining to the fund other than direct financial administration and final approval of projects.
Financing mechanism	Property tax- Fund not to exceed the greater of $450,000 or $0.0292 per thousand dollars of net taxable value of land and improvements in the RD.	Parcel tax of $0.5 per $1000 taxable assessed value, up to a maximum of $230,000 annually ($20 per parcel).	Parcel tax, $15/parcel/year applied to residential, commercial and industrial properties.
Fund Reach	38 grants funded, $1,528,791 awarded	From 2010-2020, 93 grants totaling $2.43 million	From 2016-2020, 29 grants, $400,000 awarded

District of West Vancouver Environmental Reserve Fund

Adopted by council on July 25, 2022[1], the District of West Vancouver adopted Bylaw number 5188, an Environmental Levy to fund efforts support and protect the natural environment through education, mitigation and adaptation efforts. Community engagement prior to the creation of this fund (December 2021- January 2022) showed a high level of concern for climate change and a support for the implementation of an environmental levy.

Mechanism and Amount:

- The annual Environmental levy would amount to $0.8M, which is equivalent to 1.00% tax rate increase.
- Single Family Dwellings will pay $65 and Strata will pay $29.

Purpose: Dedicated funds for climate change response, sustainability, and protecting the District's natural resources. The fund can be utilized by both internal and external bodies to contribute to the objective of the fund.

Administration: The new Manager of Climate Action & Environment (to be hired) will be responsible for creating a program to determine the best use of the Environmental Levy funds.

Table 18 Details of the West Vancouver Environmental Reserve Fund.

Source of financing	Use of Fund	Process of Funding of Services
Annual district environmental levy (property tax), Interest earned at the prevailing rate on the average annual balance in the Fund, Grants received from the district or external sources, any other amounts designated as contributions to the fund	The Fund may be used for external and District resources for: a) Programs that support the protection of the natural environment; b) Climate change response, mitigation, and adaptation; c) Sustainability and protection of the District's natural capital assets; and d) Reduction of Greenhouse Gas emissions both by corporate operations and the community.	Annual expenditures projected to be financed from the Fund shall form part of the Annual Financial Plan of the District, and no expenditures shall be made from the Fund that have not previously been included in the Annual Financial Plan as approved or amended, Monies from the Fund shall be expended pursuant to Council resolution.

Capital Regional District Land Acquisition Fund

In 2000 the Capital Regional District introduced the Land Acquisition Fund (LAF) for the exclusive purpose of expanding the regional parks system through land procurement. Since 2000, the CRD has secured 4,900 hectares of land into the parks system where is now serves as conservation space, habitat connectivity and recreational uses. The acquisition of land is guided by criteria laid out in the Regional Parks Land Acquisition Strategy. The LAF is funded by a household fee, which was initially set at $10 per household, but has since risen to $20 per household, with the expectation of the fee increasing to a maximum of $25 per household by 2029. The anticipated revenue stream will service up to $50 million of land purchases over 15 years, leveraging a net increase in land values of more than $100 million.

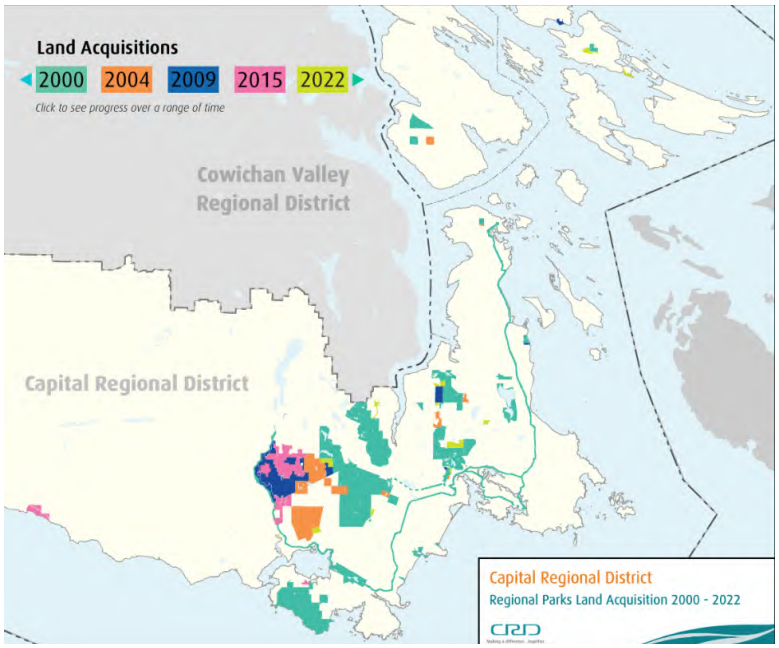


Figure 18 Land secured by the CRD Land Acquisition Fund, 2000 – 2022.

Appendix C: Resources Consulted

Asset Management BC. (2019). Integrating Natural Assets into Asset Management.

BC Ministry of Agriculture and Food. (2021). British Columbia Environmental Farm Plan Reference Guide 6th Edition.

BC Ministry of Agriculture and Food.(2016). Developing a Riparian Management Plan Version 2.0.

BC Ministry of Agriculture and Lands. (2007). Public Amenity Benefits and Ecological Services Provided by Farmland to Local Communities in the Fraser Valley.

Biodiversity Conservation Strategy Partnership. (2008). Strategic Directions for Biodiversity Conservation in the Metro Vancouver Region.

Biodiversity Conservation Survey as part of the Birds and Biodiversity Conservation Strategy. (2019).

Bradbeer, David & Halpin, Luke. (2012). Managing cereal grasses as waterfowl lure crops: investigating planting dates and waterfowl feeding ecology. Delta Farmland & Wildlife Trust.

Convention on Biological Diversity. (n.d). Article 2. Terms of Use: https://www.cbd.int/convention/articles/?a=cbd-02

Costanza, R., & Mageau, M. (1999). What is a healthy ecosystem?. *Aquatic ecology*, *33*(1), 105-115.

Del Meidinger, Josephine Clark, & David Adamoski. (2014). Metro Vancouver. Sensitive Ecosystem Inventory, Technical Report.

Delta Agriculture Plan Update Survey. (2022).

Delta Farmland & Wildlife Trust. (2022).

Diamond Head Consulting, Ecoplan International, and Calypso Design. (2015). Connecting the Dots: Regional Green Infrastructure Network Resource Guide.

George W. Powell. (2015). Agriculture and Ecological Services: Recommendations for Support Programming in British Columbia.

Government of British Columbia. Accessed December 2022. Property Transfer Tax.

Josephine Clark & Del Meidinger. (2020). Metro Vancouver. Update of the Metro Vancouver Sensitive Ecosystem Inventory (2009 -2014).

Kerr, Gillian. (2020). Ecosystem Services Assessment of Delta Farmland & Wildlife Trust Stewardship Programs.

Langley Ecological Services Initiative Community Survey. (2018).

Mark Robbins, Nancy Olewiler, & Marion Robinson. (2009). An estimate of the public amenity benefits and ecological goods provided by farmland in Metro Vancouver.

Metro Vancouver. (2021). Report to Climate Action Committee: Draft Climate 2050 Agriculture Roadmap.

Metro Vancouver. (2020). Agriculture Discussion Paper to support Climate 2050 and the Clean Air Plan.

Metro Vancouver. (2018). Ecological Health Framework.

Metro Vancouver. (2011). Regional Food System Strategy.

Metro Vancouver. (no date). Climate 2050 Summary, Let's Discuss Agriculture.

Metro Vancouver (no date). Climate Projections for Metro Vancouver.

Metro Vancouver. (no date). Policy Review Summary, Agriculture.

Mike Pearson, David Zehnder, & DG Blair. (2018). The Stewardship Centre for British Columbia. Agricultural Waterways, Drainage Maintenance and Stewardship.

Mike Pearson, David Zehnder, & DG Blair. (2018). The Stewardship Centre for British Columbia. Lands Near Water, Riparian Restoration & Enhancement.

Riis, T., Kelly-Quinn, M., Aguiar, F. C., Manolaki, P., Bruno, D., Bejarano, M. D., ... & Dufour, S. (2020). Global overview of ecosystem services provided by riparian vegetation. *BioScience*, *70*(6), 501-514.

Regeneration International. (2017). What is Regenerative Agriculture?.

Staff communication, Metro Vancouver. 2022. Update on Advancing the Regional Green Infrastructure Network.

Statistics Canada.(2013). Total Economic Value Framework.

South Okanagan-Similkameen Conservation Program. (2022). Local Conservation Funds in British Columbia: A Guide for Local Governments and Community Organizations (3rd ed.). Penticton, B.C.

Swinton, S. M., C. B. Jolejole-Foreman, F. Lupi, S. Ma, W. Zhang, and H. Chen. (2015). Economic value of ecosystem services from agriculture. Pages 54-76 in S. K. Hamilton, J. E. Doll, and G. P. Robertson, editors. The Ecology of Agricultural Landscapes: Long-Term Research on the Path to Sustainability. Oxford University Press, New York, New York, USA.

University of Victoria, Environmental Law Centre. (2021). Green Bylaws Toolkit for Protecting and Enhancing the Natural Environment and Green Infrastructure.

Value of Nature to Canadians Study Taskforce. (2017). Completing and Using Ecosystem Service Assessment for Decision-Making: An Interdisciplinary Toolkit for Managers and Analysts. Ottawa, ON: Federal, Provincial, and Territorial Governments of Canada.

Wilson, Sara J. (2010). Natural capital in BC's lower mainland: valuing the benefits from nature.

To: Regional Planning Committee

From: Carla Stewart, Senior Planner, Regional Planning and Housing Services

Date: April 20, 2023 Meeting Date: May 12, 2023

Subject: **2023 Agriculture Awareness Grant Recommendations**

RECOMMENDATION

That the MVRD Board award the annual Agriculture Awareness Grants, as presented in the report dated April 20, 2023, titled "2023 Agriculture Awareness Grant Recommendations", to the following 14 non-profit organizations:

a) BC Agriculture in the Classroom, for "Take a Bite of BC" in the amount of $5,000;
b) BC Chicken Grower's Association, for "Poultry in Motion Educational Mini Barn Program" in the amount of $4,000;
c) CEED Centre Society, for "CEED Centre Farm Market + Urban Ag Educational Series" in the amount of $2,000;
d) Delta Farmland and Wildlife Trust, for "Day at the Farm" in the amount of $1,750;
e) Earthwise Society, for "Tomato Festival" in the amount of $2,000;
f) Environmental Youth Alliance, for "Plant Gifts for Community Projects" in the amount of $5,000;
g) Farm Folk/City Folk, for "Sustainable Bites: Growing Agricultural Awareness" in the amount of $5,000;
h) BC Association of Farmer's Markets, for "In the Raw: BC Farm and Food Champions" in the amount of $4,000;
i) Growing Chef's Society, for "Classroom Gardening & Cooking Program" in the amount of $3,000;
j) Langley Environmental Partners Society, for "Langley Eats Local" in the amount of $3,000;
k) The Sharing Farm, for "Garlic Festival" in the amount of $2,250;
l) Lower Mainland Sheep Producers Association, for "Wool n' Ewe A'Fair" in the amount of $4,500;
m) Society Promoting Environmental Awareness (SPEC), for "Growing Food Literacy and Food System Engagement Campaign" in the amount of $4,750; and
n) Village Vancouver Transition Society, for "Permaculture Corridor Expansion" in the amount of $3,750.

EXECUTIVE SUMMARY

Metro Vancouver has awarded annual grants for agriculture awareness since 2008, as recommended by the Metro Vancouver Agricultural Advisory Committee. Programs and outreach that support local sustainable food production are important contributions toward increasing awareness across the region. The funding provided through the Agriculture Awareness Grants is particularly valuable now for those community organizations doing public outreach on the value of producing or buying food close to home. This report supports those efforts by providing

recommendations to the Regional Planning Committee and MVRD Board to award a total of $50,000 in Agricultural Awareness Grants to 14 non-profit organizations in 2023.

PURPOSE

The purpose of this report is to recommend that the MVRD Board award $50,000 in grants to 14 non-profit organizations from around the region that are leading public awareness activities about the importance of local agriculture and food production and about educating residents on how to grow and cook food produced in the region.

BACKGROUND

The MVRD Board has supported agriculture awareness since 1994 to, in part, raise public understanding about the importance of local food and agriculture production in the region. The grant program started in 2008 and continues to provide annual funding to non-profit organizations that undertake such things as hosting events, workshops and educational programs in schools and communities. This report provides the MVRD with a summary of the applications and recommends the awards for 2023.

AGRICULTURE AWARENESS GRANTS

The number of applications and grants awarded over the past 15 years is listed by year in Table 1. A description of previous grant recipients (Reference 1) and a video highlighting the positive impacts for two of the 2022 grant recipients (Reference 2) is available on the Metro Vancouver website.

Table 1: Metro Vancouver Agricultural Awareness Grant Program 2008 – 2022

Year	Number of Applications	Number of Grants Awarded	Funding Awarded
2008	11	3	$25,000
2009	14	5	$25,000
2010	14	7	$30,000
2011	12	9	$35,000
2012	27	8	$35,000
2013	13	9	$40,000
2014	15	11	$40,000
2015	14	11	$40,000
2016	12	11	$40,000
2017	21	13	$40,000
2018	24	12	$40,000
2019	15	13	$45,000
2020	21	12	$45,000
2021	14	11	$50,000
2022	16	14	$50,000
TOTAL	**243**	**149**	**$580,000**

In 2022, a total of $50,000 in Agricultural Awareness Grants was awarded to 14 non-profit organizations. Most of the projects funded through the program were able to complete their work program. Some organizations are in the last stages of completing their projects and will be submitting their final project reporting over the next several months. Some organizations have not

submitted their final reports and additional follow-up is required to determine if the project was completed and met its objectives.

GRANT APPLICATION EVALUATION CRITERIA

The mandatory requirements for agricultural awareness projects receiving a grant are:

a) have a regional scope (i.e. impacting more than one municipality);
b) be located in Metro Vancouver;
c) be administered by a non-profit organization in good standing; and
d) have matching funding (dollars or in-kind) from another organization.

The six evaluation criteria and basis for scoring are the following:

1. The agriculture awareness activity is unique. A high score will be given to awareness activities that are one of a kind in the region and are currently not being done by another organization in Metro Vancouver.
2. The geographic scope of the grants awarded reaches out to municipalities across the region. A high score will be awarded to projects that provide a broad reach in Metro Vancouver or are targetting areas that are currently not well served by agriculture awareness activities.
3. The activity reaches out to culturally diverse audiences, urban residents, youth or K-12 school aged children. A high score will be awarded when these audiences are targetted in the awareness activity.
4. The activity contributes to the following desirable outcomes that support regional policy objectives, where a high score is awarded when the agriculture awareness activity aligns with two or more of the regional policy objectives:
    - Educates residents about local food production;
    - Enhances food literacy and skills in schools;
    - Communicates how food choices support the local economy;
    - Supports the next generation of food producers; and
    - Involves community gatherings that educate residents about local food.
5. The grant request is in the range of $500 to $6,000. A higher score will be awarded if the Metro Vancouver cash contribution is greater than 20% of the total cash budget, so that projects that may have a greater financial need are prioritized.
6. The extent to which grant applicants have received previous Agriculture Awareness Grant funding, and the completion of the imposed conditions listed on the application form. Groups that have not previously received a grant would automatically score high, while the previous grant recipients would be scored based on past compliance with the five conditions.

2022 AGRICULTURE AWARENESS GRANTS

On February 3, 2023, agricultural-related organizations, community groups and municipal staff liaisons were notified about Metro Vancouver's 2023 Agriculture Awareness grants with an invitation to submit an application which was available on the Metro Vancouver website. 16 applications were received by the March 3, 2023 deadline.

The grant applications were initially evaluated by staff using the mandatory requirements and evaluation criteria listed above. The evaluation results were confirmed by the Metro Vancouver Agricultural Advisory Committee at its meeting on April, 20, 2023. Table 2, shown below, highlights the 2023 Agriculture Awareness Grant applications submitted by non-profit organizations, and the recommended grants. Each funding request was reviewed based on the amount of additional funding available to that organization and the overall amount that the organization was relying on the grant funding. The proposed grants being recommended were deemed to be the fairest based on the information received in each application. A summary description of all of the applications is provided in the attachment and a list of all the recommended Agriculture Awareness Grants is provided in Table 2.

Table 2: List of Recommended 2023 Agriculture Awareness Grant Amounts

#	NON-PROFIT GROUP	PROJECT TITLE	GRANT REQUEST	RECOMMENDED GRANT
1	BC Agriculture in the Classroom	Take a Bite of BC	$6,000	$5,000
2	BC Chicken Grower's Association	Poultry in Motion Educational Mini Barn Program	$5,000	$4,000
3	CEED Centre Society	CEED Centre Farm Market + Urban Ag Educational Series	$5,000	$2,000
4	Delta Farmland and Wildlife Trust	Day at the Farm	$2,000	$1,750
5	Earthwise Society	Tomato Festival	$2,500	$2,000
6	Environmental Youth Alliance	Plant Gifts for Community Project	$6,000	$5,000
7	FarmFolk/CityFolk	Sustainable Bites: Growing Agricultural Awareness	$6,000	$5,000
8	BC Association of Farmer's Markets	In the Raw: BC Farm and Food Champions	$5,000	$4,000
9	Growing Chef's Society	Classroom Gardening & Cooking Program	$6,000	$3,000
10	Langley Environmental Partners Society	Langley Eats Local	$6,000	$3,000
11	The Sharing Farm	Garlic Fest	$3,000	$2,250
12	Lower Mainland Sheep Producers Association	Wool n 'Ewe A'Fair	$6,000	$4,500
13	Society Promoting Environmental Awareness (SPEC)	Growing Food Literacy and Food System Engagement Campaign	$6,000	$4,750
14	Village Vancouver Transition Society	Permaculture Corridor Expansion	$6,000	$3,750
Total			**$70,500**	**$50,000**

ALTERNATIVES

1. That the MVRD Board award the annual Agriculture Awareness Grants, as presented in the report dated April 20, 2023, titled "2023 Agriculture Awareness Grant Recommendations", to the following 14 non-profit organizations:
   a) BC Agriculture in the Classroom, for "Take a Bite of BC" in the amount of $5,000;

b) BC Chicken Grower's Association, for "Poultry in Motion Educational Mini Barn Program" in the amount of $4,000;
c) CEED Centre Society, for "CEED Centre Farm Market + Urban Ag Educational Series" in the amount of $2,000;
d) Delta Farmland and Wildlife Trust, for "Day at the Farm" in the amount of $1,750;
e) Earthwise Society, for "Tomato Festival" in the amount of $2,000;
f) Environmental Youth Alliance, for "Plant Gifts for Community Projects" in the amount of $5,000;
g) FarmFolk/City Folk, for "Sustainable Bites: Growing Agricultural Awareness" in the amount of $5,000;
h) BC Association of Farmer's Markets, for "In the Raw: BC Farm and Food Champions" in the amount of $4,000;
i) Growing Chef's Society, for "Classroom Gardening & Cooking Program" in the amount of $3,000;
j) Langley Environmental Partners Society, for "Langley Eats Local" in the amount of $3,000;
k) The Sharing Farm, for "Garlic Festival" in the amount of $2,250;
l) Lower Mainland Sheep Producers Association, for "Wool n' Ewe A'Fair" in the amount of $4,500;
m) Society Promoting Environmental Awareness (SPEC), for "Growing Food Literacy and Food System Engagement Campaign" in the amount of $4,750; and
n) Village Vancouver Transition Society, for "Permaculture Corridor Expansion" in the amount of $3,750.

2. That the MVRD Board receive for information the report dated April 20, 2023 titled "2023 Agriculture Awareness Grant Recommendations" and provide alternative direction to staff.

FINANCIAL IMPLICATIONS

The total funds available for the Agriculture Awareness Grants in 2023 is $50,000. This amount is included in the Board-approved Regional Planning budget for 2023. If the Board chooses Alternative 1, the 14 successful grant recipients will be notified.

CONCLUSION

Based on the evaluation by Metro Vancouver Agricultural Advisory Committee members and by Metro Vancouver staff, 14 non-profit organizations are recommended to receive a 2023 Agriculture Awareness Grant, for a total amount of $50,000. The recommendations enable the continuation of successful educational programs and community agriculture-related events in 2023. Staff recommend Alternative 1.

Attachment

Full List of 2023 Agriculture Awareness Grant Applications

References

1. Previous Agriculture Awareness Grant Recipients
2. 2022 Agriculture Awareness Grant Video

56942017

Full List of 2023 Agriculture Awareness Applications

#	NON-PROFIT GROUP	PROJECT TITLE	BRIEF PROJECT DESCRIPTION	GRANT REQUEST	TOTAL BUDGET
1	BC Agriculture in the Classroom	Take a Bite of BC	Provides fresh BC grown products to BC Culinary Arts Secondary schools.	$6,000	$33,000
2	BC Chicken Grower's Association	Poultry in Motion Educational Mini Barn Program	Mobile mini barn used for public awareness about food safety, nutrition, animal care and bio-security.	$5,000	$65,780
3	CEED Centre Society	CEED Centre Farm Market + Urban Ag Educational Series	Inform the public how produce is grown by small local farms and how to grow their own food in an urban environment.	$5,000	$20,350
4	Delta Farmland and Wildlife Trust	Day at the Farm	Day event to increase awareness and support for local agriculture with a focus on local, sustainable agriculture.	$2,000	$47,475
5	Earthwise Society	Tomato Festival	Family-friendly community gathering and celebration of the history and diversity of BC agriculture.	$2,500	$6,000
6	Environmental Youth Alliance	Plant Gifts for Community Project	Opportunity for youth from equity-deserving communities to gain hands-on skills in native plant food and medicine production.	$6,000	$26,000
7	FarmFolk/CityFolk	Sustainable Bites: Growing Agricultural Awareness	Encourage residents to learn about and advance climate-friendly, resilient, thriving, sustainable food systems.	$6,000	$14,000
8	BC Association of Farmer's Markets	In the Raw: BC Farm and Food Champions	A travelling photography exhibit illustrating the story behind the local farmers who grow our food.	$5,000	$5,000
9	Growing Chef's Society	Classroom Gardening & Cooking Program	Hands-on education of elementary school students about local food options and how food choices affect their health, community, environment and economy.	$6,000	$241,473
10	Langley Environmental Partners Society	Langley Eats Local	Interactive learning experiences to school children about where food comes from.	$6,000	$57,200
11	Little Mountain Neighbourhood House	Feeding Our Future: Building our Collective Food Security Resilience	Increase food security and resilience in Little Mountain-Riley Park Neighbourhood.	$6,000	$13,660
12	Richmond Food Security Society/Urban Bounty	Climate Action in Urban Gardens - Boots on the Ground	Increase community education and awareness around climate adaptation in city gardens.	$5,000	$25,000
13	The Sharing Farm	Garlic Fest	Event to celebrate local, sustainable agriculture.	$3,000	$31,600
14	Lower Mainland Sheep Producers Association	Wool n 'Ewe A'Fair	Component of the Maple Ridge / Pitt Meadows Country Fest providing education and awareness of wool production.	$6,000	$7,830
15	Society Promoting Environmental Awareness (SPEC)	Growing Food Literacy and Food System Engagement Campaign	Create systems change through awareness, public engagement, volunteerism, and connection to nature.	$6,000	$12,000
16	Village Vancouver Transition Society	Permaculture Corridor Expansion	Expand geographic scope of food production and food knowledge and skill building in urban areas.	$6,000	$21,712
			TOTALS	**$81,500**	**$628,080**

To: Finance Committee

From: Sonu Kailley, Acting Director, Financial Planning
Financial Services

Date: May 9, 2023 Meeting Date: May 18, 2023

Subject: **2023 Budget Reserve Application – Regional Culture**

RECOMMENDATION
That the MVRD Board approve an additional $150,000 reserve application from the Grants Reserve Fund to fund eligible regional arts and culture projects as part of Metro Vancouver's regional cultural project grants program as presented in the report titled "2023 Budget Reserve Application – Regional Culture" dated May 9, 2023.

EXECUTIVE SUMMARY
Regional cultural grants from the Grants Reserve Fund support arts and culture organizations with creation, production, dissemination, audience development and research for eligible projects. This report is requesting the MVRD Board to approve an additional reserve application of $150,000 from the Grants Reserve Funds to fund eligible regional arts and culture projects as part of Metro Vancouver's regional cultural project grants program.

This Grants Reserve Fund is able to accommodate the additional application as it had a 2022 year-end balance of $2.1 million. This application is consistent with Board direction and with the use of reserves through the adopted reserve policy.

Going forward, the proposed 2024 budget for the Regional Culture Grants program will be prepared with a budget of $300,000 for Board approval in October with financial implications for both the reserve and future requisitions.

PURPOSE
To present, for approval an additional $150,000 reserve application for regional culture grants.

BACKGROUND
Regional cultural grants from the Grants Reserve Fund support arts and culture organizations with creation, production, dissemination, audience development and research for eligible projects. At the closed meeting on July 29, 2022 the MVRD Board directed staff to increase the funding for regional cultural grants program from $150,000 to $300,000 subject to future budget process. The impetus for the recommendation was to address the substantial increase in applications for support due to the significantly reduced funding and revenues available to cultural organizations during and following the pandemic.

Unfortunately, this was overlooked during the 2023 budget process and a budget adjustment is necessary to accommodate this direction with the source of the additional funding to come from

the Grants Reserve Fund. This reserve is able to accommodate the transfer as it had a year-end balance of $2.1 million.

Going forward, the proposed 2024 budget for the Regional Culture Grants program will be prepared with a budget of $300,000 for Board approval in October.

ALTERNATIVES

1. That the MVRD Board approve an additional $150,000 reserve application from the Grants Reserve Fund to fund eligible regional arts and culture projects as presented in the report titled "2023 Budget Reserve Application" dated May 9, 2023.

2. That the MVRD Board receive the report titled "2023 Budget Reserve Application" dated May 9, 2023 and provide alternate direction.

FINANCIAL IMPLICATIONS

Should the Board approve Alternative 1, there is no financial impact on the 2023 requisitions to member jurisdictions as the Grants Reserve Fund is able to accommodate the additional transfer.

CONCLUSION

At the closed meeting on July 29, 2022 the MVRD Board directed staff to increase the funding for regional cultural grants program from $150,000 to $300,000 subject to future budget process. This additional application can be accommodated from the Grants Reserve Funds and is consistent with Board direction and with the use of reserves through the adopted reserve policy.

To: MVRD Board of Directors

From: Janis Knaupp, Program Manager, Board and Information Services

Date: May 24, 2023 Meeting Date: June 2, 2023

Subject: **Metro Vancouver External Agency Activities Status Report - May 2023**

RECOMMENDATION

That the MVRD Board receive for information the following submissions from Metro Vancouver representatives to external organizations:

a) Agricultural Advisory Committee;
b) Delta Heritage Airpark Management Committee;
c) Fraser Basin Council Lower Mainland Flood Management Strategy Leadership Committee;
d) Fraser Valley Regional Library Board;
e) Katzie Treaty Negotiations Table;
f) Lower Mainland Local Government Association;
g) Metro Vancouver Regional Parks Foundation;
h) Municipal Finance Authority of BC;
i) National Zero Waste Council;
j) Sasamat Volunteer Fire Department Board of Trustees;
k) Union of British Columbia Municipalities Executive; and
l) Zero Emission Innovation Centre Board of Directors;

as provided in the report dated May 24, 2023, titled "Metro Vancouver External Agency Activities Status Report – May 2023".

EXECUTIVE SUMMARY

This report brings forward updates from representatives to Metro Vancouver external agencies.

PURPOSE

To update the Board on the recent activities of external agencies to which the MVRD Board has appointed representatives for 2023.

BACKGROUND

Each year, the Board appoints Metro Vancouver representatives to various external organizations. In accordance with board policy, appointees are required to provide the Board a written summary of key current and planned activities of the External Organization twice each year, in May and October.

Submissions received are attached to this report and are for the Board's information only. The Ocean Watch Action Committee and the Western Transportation Advisory Council (WESTAC) have not met to date.

ALTERNATIVES
This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS
There are no financial implications with receiving this report for information.

Attachments
1. "External Agency Status Report for Agricultural Advisory Committee", dated May 16, 2023
2. "External Agency Status Report for Delta Heritage Airpark Management Committee", dated May 5, 2023
3. "External Agency Status Report – Fraser Basin Council Lower Mainland Flood Management Strategy Leadership Committee", dated May 17, 2023
4. "External Agency Status Report for Fraser Valley Regional Library Board (FVRL)", dated May 19, 2023
5. "External Agency Activities Status Report – Katzie Treaty Negotiation Table", dated, April 18, 2023
6. "External Agency Status Report for Lower Mainland Local Government Association", dated April 15, 2023
7. "External Agency Status Report for Metro Vancouver Regional Parks Foundation – Update from October 1, 2022 to May 1, 2023", dated May 1, 2023
8. "External Agency Status Report for Municipal Finance Authority of BC", dated May 19, 2023
9. "External Agency Status Report for the National Zero Waste Council", dated May 16, 2023
10. "External Agency Status Report for Sasamat Volunteer Fire Department Board of Trustees", dated May 11, 2023
11. "External Agency Status Report for UBCM", dated May 16, 2023
12. "External Agency Status Report for Metro Vancouver Zero Emission Innovation Centre (ZEIC)", dated May 19, 2023

To: MVRD Board of Directors

From: Councillor Alicia Guichon, Metro Vancouver Appointed Representative

Date: May 16, 2023 Meeting Date: June 2, 2023

Subject: **External Agency Status Report for Agricultural Advisory Committee**

RECOMMENDATION
That the MVRD Board receive for information the report dated May 16, 2023 titled "External Agency Status Report for Agricultural Advisory Committee".

EXECUTIVE SUMMARY
This report provides a summary of the 2023 Agriculture Work Program presented at the Agricultural Advisory Committee April 2023 meeting. The Agricultural Advisory Committee is a volunteer committee of Metro Vancouver, with membership appointed by the MVRD Board Chair.

PURPOSE
To provide the MRVD Board with an update on 2023 Agriculture Work Program supported by the Agricultural Advisory Committee.

BACKGROUND
Regional Planning staff administer the function of the AAC which acts as a vital and direct conduit to the agricultural sector in the region. The Metro Vancouver AAC is a unique committee with a direct connection to the Metro Vancouver Regional Planning Committee. The AAC operates in four year terms, solicits volunteer representation directly from member jurisdictions, industry stakeholders and a MVRD Board representative, and requires its members be appointed by the MVRD Board Chair.

2023 AGRICULTURE WORK PROGRAM
The Regional Planning 2023 Agriculture Work Program includes several initiatives described below and will continue to evolve based on direction from management and direction from the Regional Planning Committee and MVRD Board.

Ecosystem Services on Agricultural Land
In 2021, the MVRD Board approved funding to support examining the benefits and potential uses of ecosystem services on agricultural land in the region. Upland Agricultural Consultants Ltd was retained to complete the work. The *Scoping Agricultural Ecosystem Services within Metro Vancouver* study identifies the locations and types of ecosystems on agricultural land, the types of ecosystem service benefits these natural areas provide, and recommends policies, regulations and financial mechanisms that can be used to expand the long-term viability of using agricultural lands for these services.

Agricultural Awareness Grants
An important role of the AAC is to evaluate and make recommendations regarding Metro Vancouver's annual Agriculture Awareness grants. Funding grants are provided to non-profit community organizations to educate the public about local food and agricultural production. Volunteer AAC members evaluate the grant applications based on specific criteria. The AAC then provides recommendations for the Agriculture Awareness grants that go to the Regional Planning Committee and MVRD Board for final approval.

Climate 2050 Agricultural Roadmap
On September 28, 2018, the MVRD Board adopted the *Climate 2050 Strategic Framework* that guides the region's policies and collective actions to inform climate change mitigation and adaptation measures in the coming years. Staff have been developing "roadmaps" by issue area that will link to the climate goals, strategies and actions in Metro Vancouver's management plans including *Metro 2050*, helping to integrate the regional response to climate change across its roles and functions. Agriculture is one of ten issue areas identified in *Climate 2050*. Work has been ongoing since 2021 on completing the draft *Climate 2050 Agriculture Roadmap*, which included engagement with the AAC. The draft Roadmap identifies actions to reduce emissions sourced from agricultural operations and focuses on adaptation and increasing resilience in the sector.

Regional Food System Strategy Update
Adopted in 2011, the *Regional Food System Strategy* was a first step in creating a collaborative approach to supporting a sustainable, resilient and healthy food system. The Strategy has contributed to the well-being of all residents as well as the economic prosperity of the region while also conserving a shared ecological legacy. When it was prepared, the Strategy took into account the current strengths of the regional food system and identified challenges that need to be overcome. An update to the Strategy will begin later in 2023.

Agricultural Land Use Inventory 2022 Update
Starting in 2021, Metro Vancouver and the Ministry of Agriculture and Food partnered to update the Agriculture Land Use Inventory (ALUI) that was previously completed in 2010-11. This updated inventory focuses on the Agricultural Land Reserve and all parcels farmed in the Metro Vancouver region and is the most comprehensive information resource available on agricultural land use in the region.

ALTERNATIVES
This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS
There are no financial implications.

CONCLUSION
This report provides a summary of the 2023 Agriculture Work Program presented at the Agricultural Advisory Committee April 2023 meeting. The Agricultural Advisory Committee is a volunteer committee of Metro Vancouver, with membership appointed by the MVRD Board Chair.

To: MVRD Board of Directors

From: Councillor Alicia Guichon, Metro Vancouver Appointed Representative

Date: May 5, 2023 Meeting Date: June 2, 2023

Subject: **External Agency Status Report for Delta Heritage Airpark Management Committee**

RECOMMENDATION

That the MVRD Board receive for information the report dated May 5, 2023 titled "External Agency Status Report for Delta Heritage Airpark Management Committee".

EXECUTIVE SUMMARY

This report provides a summary of activities of projects at the Delta Heritage Airpark by the Recreational Aircraft Association (RAA) Chapter 85. The Association operates the Airpark for its members and for the enjoyment of the general public.

PURPOSE

To provide the MRVD Board with an update on the activities of the Delta Heritage Airpark Management Committee.

BACKGROUND

Delta Heritage Airpark (DHAP) is owned by Metro Vancouver and operated by Recreational Aircraft Association Chapter 85 by way of a License Agreement. The License Agreement defines a Management Committee membership comprising of representatives from Airpark neighbours, Province of British Columbia, nonprofit organizations, Recreational Aircraft Association, an appointed elected official, Metro Vancouver staff, and staff from the City of Delta. The Management Committee formulates operating rules governing the Airpark and advises Metro Vancouver on policy matters. The Committee meets a minimum of two times per year.

MANAGEMENT COMMITTEE MEETING

The fall 2022 Delta Heritage Airpark Management Committee meeting was held on November 24, 2022 and conducted via videoconference. At the meeting, the Committee reviewed the financial reserve statement, flight incidents, DHAP operating and activities updates, and adopted the 5-year capital project plan. The Committee received for information the RAA Chapter 85 events and Environmental updates. The spring 2023 Delta Heritage Airpark Management Committee meeting is scheduled for May 11, 2023 and the next External Agency Status Report will include content from this meeting.

DELTA HERITAGE AIRPARK OPERATIONS

Flying Activities

The Flight Monitoring Sub-Committee reports on various incidents related to flight safety issues at the airpark to ensure compliance with federal regulations.

Activities at the Airpark

With the pandemic restrictions in the past, the first annual fly-in was held in June 2022 since 2019, with the public invited to see the aircraft and vintage automobile display. A pancake breakfast and barbeque lunch was provided. The monthly pancake breakfast events were re-launched for the public to attend. The annual Show and Shine was held in September with approximately 50 people and 10 airplanes in attendance. At the October 2022 RAA Chapter 85 meeting, elections were held for committee positions. On November 11, 2022 approximately 100 participants attended a Remembrance Day Service with three separate fly-bys piloted. Greg Booker's Zenith CH750 and Alex MacKay's CH601HDS took their first flights in the summer of 2022.

Improvements to the Airpark

- A Welcome sign was erected
- Hedgerow restoration continues
- Heroes Corner Mural concept
- Hangar pad repaired
- Taxiway repaving complete
- The annual Clean-Up Day event was held in June 2022
- Taxiway restoration project began in August 2022

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

There are no financial implications.

CONCLUSION

This report provides information on the activities of the Delta Heritage Airpark Management Committee and the RAA Chapter 85. The Management Committee meets twice per year. The fall 2022 Delta Heritage Airpark Management Committee meeting was held on November 24, 2022. The spring 2023 Delta Heritage Airpark Management Committee meeting is scheduled for May 11, 2023.

59056005

ATTACHMENT 3

To: MVRD Board of Directors

From: Director Dylan Kruger, Delta
Vice Chair John McEwen, Anmore
Director Nicole MacDonald, Pitt Meadows

Date: May 17, 2023 Meeting Date: June 2, 2023

Subject: **External Agency Status Report – Fraser Basin Council Lower Mainland Flood Management Strategy Leadership Committee**

The Fraser Basin Council (FBC) is facilitating the development of the Lower Mainland Flood Management Strategy (LMFMS), which is aimed at reducing flood risk and improving the flood resilience of communities along BC's lower Fraser River and south coast. The LMFMS is a collaborative initiative involving lower mainland organizations that have responsibilities or interests related to flood management and include the Government of Canada, the Province of British Columbia, Lower Mainland local and regional governments, First Nations governments, and non-governmental and private sector entities in the region.

The LMFMS Leadership Committee provides guidance and direction for the development of the LMFMS and the engagement with stakeholders. Vice-Chair McEwen, Director Kruger and Director MacDonald are appointed by the MVRD Board to serve on the LMFMS Leadership Committee to provide regional input to the Leadership Committee and periodically report back to the MVRD Board.

FBC supports, facilitates, and coordinates a collaborative initiative to reduce flood risk for communities throughout the Lower Mainland. Work in the 2022 focused on:

- Strengthening the LMFMS development process through the Leadership Committee (see below), associated caucuses, and drafting revisions to the Committee Terms of Reference.
- Comparing recently surveyed dike crest elevations with modelled water levels for the 20-, 50-, 100-, 200-year and 1894 Fraser River freshet floods. This information was sent to diking authorities to inform freshet preparedness and planning, and could also inform short, medium, and longer-term flood mitigation projects.
- Implementing improvements to the regional flood model, including an updated software version, recent dike survey data, and refinements to the model mesh to improve accuracy.
- Synthesizing the results of phase 1 and phase 2 LMFMS technical projects, regarding flood hazards, vulnerabilities, risks, and risk reduction; and how these findings can inform flood strategies.
- Updating FloodWise.ca, including updates on the LMFMS process and related projects, as well as information on atmospheric rivers.

Since the October 2022 update, the LMFMS Leadership Committee has met three times. There was an orientation provided for new members, and a subsequent focus on the “Pathways to Action on Flood Risk Reduction and Resilience” report. The Local Government Caucus of the Leadership Committee last met on February 13, 2023 to discuss the Leadership Committee’s terms of reference, First Nations’ participation and engagement, and options for completion of the Lower Mainland Flood Management Strategy.

metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION

ATTACHMENT 4

To: MVRD Board of Directors

From: Jen McCutcheon, EAA Director

Date: May 19, 2023 Meeting Date: June 2, 2020

Subject: **External Agency Status Report for Fraser Valley Regional Library Board (FVRL)**

RECOMMENDATION

That the MVRD Board receive for information the report dated May 19, 2023, titled "External Agency Status Report for Fraser Valley Regional Library (FVRL) Board".

EXECUTIVE SUMMARY

This report summarizes the relevant background and activities by the Fraser Valley Regional Library (FVRL) from the Metro Vancouver appointee to the FRVL Board of Directors for 2023. As required under the *Library Act*, Metro Vancouver's appointee to the FVRL Board of Directors is the Electoral Area A (EAA) Director.

PURPOSE

This report provides a status update of 2023 activities of the Fraser Valley Regional Library (FVRL) that were directly relevant to Metro Vancouver.

BACKGROUND

Representatives appointed by Metro Vancouver to various external organizations are required to report to the Board of Directors on the activities of those organizations.

As required under the *Library Act*, Metro Vancouver's appointee to the FVRL Board of Directors is the Electoral Area A Director. The Director attends FVRL Board meetings to represent the interests of residents on Barnston Island, which is the sole portion of Electoral Area A that participates in the FVRL District. As the elected representative for Area A, it is important that the Director attend FVRL Board meetings.

2023 STATUS UPDATE

Following the creating of a new FVRL Board (after the October 2022 municipal elections), the new FVRL Board participated in a two day orientation and strategic planning retreat.

Key areas covered during the retreat included:

- The history of the Fraser Valley Regional Library, and the value proposition offered by FVRL and the regional library model;
- The legislative framework governing library operations, including the BC Library Act, and where it intersects with the BC Community Charter, the BC Business Corporations Act, and other relevant parallel legislation;
- An overview of the FVRL budget, the financial policies, and the process by which the budget is established and approved annually;

- Detailed overviews of FVRL's business divisions, such as Customer Experience, Information Technology and Human Resources, as well as trends impacting these areas;
- A intensive discussion on library principles and professional values, and the ways in which they can impact Board members, and;
- An overview of FVRL's strategic plan "Opening Minds Enabling Dreams".

The Board members also participated in a live, interactive demonstration of The Playground at FVRL, very similar to the events that FVRL hosted at the Sept 2022 UBCM conference.

Operations at FVRL are continuing at a strong pace, continuing to roll out new programs regularly. For example, this spring, the FVRL launched the FVRL Adventure Passport, available to adventurers of all ages. It starts with our goal to get a library card, or a replacement card, for every child in the Fraser Valley. To celebrate the launch of the program, the library have brand new designs of our children's library card. In addition, the FVRL has added two new lending collections: 84 Radon Detectors and 94 Thermal Leak Detectors. The radon detectors allow families to monitor radon levels with both short and long term readings, and ensure that the levels in their homes are safe. Radon is an odourless naturally-occurring radioactive gas formed in the earth's crust. It is found in all buildings, and is the second leading cause of lung cancer in Canada after smoking. The thermal leak detectors use infrared sensors to detect surface temperatures, and can be used to identify thermal loss points in your home. Uptake of these products has been huge, with all the radon detectors and thermal leak detectors are out on loan, and 70 holds on the radon detectors. These new collections were purchased with financial support from a one-time Provincial Government grant received in 2022.

FINANCIAL IMPLICATIONS
There are no financial implications.

CONCLUSION
This report provided a status update of 2023 activities of the Fraser Valley Regional Library (FVRL) that were directly relevant to Metro Vancouver.

To: MVRD Board of Directors

From: Director Steve Ferguson, Township of Langley

Date: April 18, 2023 Meeting Date: June 2, 2023

Subject: **External Agency Status Report - Katzie Treaty Negotiation Table**

RECOMMENDATION

That the MVRD Board receive for information the report dated April 18, 2023 titled "External Agency Status Report for the Katzie Treaty Negotiation Table."

EXECUTIVE SUMMARY

This information report provides an overview of the Katzie treaty table negotiation efforts over the past six months including: background on Katzie First Nation, information on the First Nation's Statement of Intent area, the status of negotiations, and the roles and responsibilities of the local government representative sitting at the treaty table.

PURPOSE

To provide the MVRD Board with a status report from the appointed local government representative at the Katzie treaty negotiations table.

BACKGROUND

As a representative appointed by Metro Vancouver to various external organizations, under Board policy, a report is to be provided to the Board of Directors on the activities of the external agency, twice annually in May and in October.

The *Memorandum of Understanding between the Union of British Columbia Municipalities and the Ministry of Indigenous Relations and Reconciliation*, renewed on September 14, 2021 at the Union of BC Municipalities Convention, includes a process for local government participation in the negotiation and implementation of treaties. Local government representatives have a seat at the Katzie treaty table as part of the provincial negotiation team.

KATZIE TREATY NEGOTIATION TABLE

Katzie First Nation, with a current total population of 644 members, has five First Nation Reserves located within the boundaries of four different local governments: Pitt Meadows, Township of Langley, Maple Ridge, and two within Metro Vancouver's Electoral Area A.

Katzie has been operating under a *Land Code* since 2017. A Land Code is a comprehensive law created by a First Nation to replace 44 sections of the *Indian Act* that relate to land management.

Since 2005, Katzie has also entered into a number of Forest and Range Consultation and Revenue Sharing agreements with the provincial government.

Katzie has been involved at the treaty negotiation table since 1994. Its Statement of Intent area (corresponding to the First Nation's traditional territory) envelops the following local government jurisdictions: Burnaby, Coquitlam, Delta, City of Langley, Township of Langley, Maple Ridge, Metro Vancouver's Electoral Area A, New Westminster, Pitt Meadows, Port Coquitlam, Richmond, Surrey, and White Rock (Attachment 1).

UPDATE ON TREATY TABLE ACTIVITIES

On September 21, 2023, the BC Treaty Commission celebrated 30 years of the signing of the *BC Treaty Commission Agreement* that established the modern BC Treaty negotiation process. The process affirms the principles of self-definition and nationhood. The 2009 *Tsawwassen First Nation Final Agreement* was the first treaty achieved under the BC Treaty process. As part of the milestone anniversary celebrations, the BC Treaty Commission honoured the excellent work and leadership of the eight BC Modern Treaty Nations.

The Katzie treaty table is in Stage 4 of the six-stage BC Treaty Process (Agreement-in-Principle stage). However, Katzie is not following the traditional 6-step process as part of its treaty negotiations. Instead, Katzie is pursuing a new approach to self-government that focuses on the needs, values, and priorities of the Nation. This new process, called incremental self-government, is being outlined in a Memorandum of Understanding (MOU) negotiated between Katzie, BC, and Canada.

As part of this incremental approach, Katzie First Nation will negotiate a number of separate agreements with provincial and federal governments, which together could constitute a legally binding and constitutionally protected self-government agreement.

Katzie First Nation's new approach to treaty negotiations focuses on key principles such as:

- negotiations are based on the recognition of Indigenous title and rights;
- support for Indigenous self-government;
- treaties and agreements seen as flexible and living partnerships and as mechanisms to implement the *United Nations Declaration on the Rights of Indigenous Peoples*.

Tripartite negotiations have continued to take place on a monthly basis over the reporting period. Katzie treaty negotiation meetings are held in-camera. As per the *2021 Memorandum of Understanding* between the Union of BC Municipalities and the Province, negotiation updates can only be shared in-camera by the local government representative. However, for the purposes of this report, the following information can be shared publicly as it was released by the BC Treaty Commission as part of its 2022 Annual Report.

In recent months, Katzie First Nation has been mainly focusing on reinvigorating engagement efforts with Katzie community members on self-governance, strategic planning, and development of an election code.

Treaty Related Measures funding continues to support governance planning and research on fisheries interests. Treaty Related Measures are designed to resolve matters on an interim basis and to facilitate treaty negotiations. Treaty Related Measure projects are funded by Canada. Incremental self-government negotiations at this table are expected to continue at the current pace in 2023.

ALTERNATIVES
This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS
Treaty table meetings are held once a month. Meetings over the past six months have been held online. The meetings are anticipated to continue to take place online for the rest of this year. As such, the financial implications of attending treaty table meetings are minimal. Metro Vancouver pays the meeting honoraria for local government representation at the Katzie treaty table, and those costs were included in the 2023 budget. Thus, expenses incurred relate primarily to honoraria and staff time to attend virtual meetings.

The roles and responsibilities of table representatives, as developed over time by local government and provincial government staff, are set out in Attachment 2 of this report.

CONCLUSION
Katzie First Nation has been involved in treaty negotiations since 1994. Currently, Katzie is pursuing an incremental self-government agreement with BC and Canada. The table continues to meet on a regular monthly basis. The focus of negotiations has been on the exploration of options to recognize and protect Katzie's inherent title and rights. The First Nation's leadership team, including Council members, senior management, and treaty negotiators, is also working to reinvigorate engagement efforts with Katzie community members.

Attachments
1. Statement of Intent Area Map: Traditional Territory Boundary, Katzie First Nation
2. The Roles and Responsibilities of Table Representatives.

References
1. Memorandum of Understanding (MOU) between the Union of British Columbia Municipalities and the Ministry of Indigenous Relations and Reconciliation can be found here: https://www.ubcm.ca/sites/default/files/2021-09/mirr_-_ubcm_mou_2021_-_signed.pdf

2. 2022 Annual Report from the BC Treaty Commission can be found here: BCTC_Annual_Report_2022_Digital.pdf (www.bctreaty.ca)



Produced by the
BC Treaty Commission

Statement of Intent
Traditional Territory Boundary
Katzie Indian Band



This map represents approximate boundary of the traditional territory described in the First Nation Statement of Intent. The boundary is for illustrative purposes only, and may be updated in the future.

The Roles and Responsibilities of Treaty Table Representatives

Provide information to the Indigenous Relations Committee from the Treaty Table

1. Attend Metro Vancouver's Indigenous Relations Committee meetings, engage in discussion, and record outcomes.
2. Provide regular verbal information reports on table activities.
3. Provide advice and commentary on emerging issues.
4. Provide regular written information reports and related documentation for circulation to the Indigenous Relations Committee.
5. Regularly forward original table documentation to keep the master record updated.
6. Forward technical and other information requests from the treaty table to the Indigenous Relations Committee for action.
7. Develop a personal information records system for table specific documentation.
8. Adhere to all confidentiality requirements.

Provide information from the Indigenous Relations Committee to the Treaty Table (via BC negotiators)

1. Attend table meetings, engage in discussion, and record outcomes.
2. Keep informed on treaty issues and Indigenous relations.
3. Represent member local government interests.
4. Provide advice and commentary from a community perspective on issues impacting local government interests.
5. Report back on technical and other information requested by the treaty table.
6. Develop a personal information records system for table specific documentation.

To: MVRD Board of Directors

From: Nathan Pachal

Date: April 15, 2023 Meeting Date: June 2, 2023

Subject: **External Agency Status Report for Lower Mainland Local Government Association**

RECOMMENDATION
That the MVRD Board receive for information the report dated April, 15, 2023, titled "External Agency Status Report for Lower Mainland Local Government Association".

EXECUTIVE SUMMARY
The Lower Mainland Local Government Association ("LMLGA") is working toward the 2023 Annual Conference at Harrison Hot Springs Resort from May 3, 2023, through May 5, 2023.

PURPOSE
Inform the board on key current and planned activities of the LMLGA.

BACKGROUND
This report is required per Board policy.

LMLGA KEY CURRENT AND PLANNED ACTIVITIES
The LMLGA Executive had been planning for the 2023 Annual Conference & AGM, which will be held from May 3-5, 2022, at the Harrison Hot Springs Resort. Activities include:

- Setting the conference agenda
- Approving sponsors
- Reviewing resolution

The Executive has also reviewed the previous year's financial report of the organization and approved the organization's 2023 budget.

ALTERNATIVES
This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS
There are no financial implications.

CONCLUSION
The LGMGA Executive has been planning its Annual Conference & AGM.

To: MVRD Board of Directors

From: Vice Chair John McEwen and Director Mark Sager

Date: May 1, 2023 Meeting Date: June 2, 2023

Subject: **External Agency Status Report for Metro Vancouver Regional Parks Foundation – Update from October 1, 2022 to May 1, 2023**

RECOMMENDATION

That the MVRD Board receive for information the report dated May 1, 2023: "External Agency Status Report for Metro Vancouver Regional Parks Foundation – Update from October 1 2022 to May 1, 2023".

EXECUTIVE SUMMARY

Reports on two regular meetings, one special meeting and an AGM held by Metro Vancouver Regional Parks Foundation over a six- month period are provided. The Foundation's general operations are described.

PURPOSE

To provide the MVRD Board with an update on Metro Vancouver Regional Parks Foundation activities and highlights for the period October 1, 2022 to May 1, 2023.

BACKGROUND

Formed in 2000 as Pacific Parklands Foundation, Metro Vancouver Regional Parks Foundation (MVRP Foundation) is a registered charity with a mission to protect and enhance Metro Vancouver's Regional Parks system. The Foundation raises funds to help augment government funding for special projects and programs in Metro Vancouver's Regional Parks.

An independent board of volunteer directors meets a minimum of four times per year to oversee the management and operation of the Foundation. Since 2007, the Foundation has received annual contribution funding from Metro Vancouver.

In addition, the Foundation ensures that it remains both a society and a registered charity in good standing. Its fiscal year runs from October 1 to September 30, and each year its financial statements are audited. The Foundation strives to provide a strong return on investment to Metro Vancouver through its contribution funding.

HIGHLIGHTS

Regular meetings of MVRP Foundation board were held on November 29, 2022 and February 7, 2023. Updates were provided regarding the Foundation progress on the strategic plan, ongoing program support of CTS Youth Society, and fundraising initiatives. Updates were received on the continuing discussions regarding a Contribution and Collaboration agreement between Metro Vancouver and the Foundation. The Agreement was approved by the MVRP Foundation

board prior to its presentation to the Metro Vancouver Parks Committee at a special meeting held March 10, 2023.

AGM and Annual Report

- The Annual General meeting was held on February 7, 2023.
- The 2022 Annual Report highlighted:
    - $500,000 in donations and revenue
    - $420,000 disbursed in grants for projects and programs
    - 39 bus grants approved, 1,962 people connected with nature
    - Gordon Smith Youth Environmental Stewardship Award
    - D. M. Wosk Environmental Leadership Award

Highlights of grants and projects approved this period

- Acadia Forest Restoration to Metro Vancouver, $35,000
- Muench Bar Riparian Area Restoration to Metro Vancouver, $10,000
- Pollinator Meadow Augmentation to Pacific Spirit Park Association, $10,000
- Habitat Enhancement of Langley Bog to Derby Reach Regional Park
    - Designated Donation $14,000
    - George Ross Legacy $10,000
- Minnekhada Fire Recovery, Minnekhada Park Association, $6,500

Highlights of Funds raised this period

- Anonymous donation for the stewardship of Pacific Spirit Regional Park, $100,000
- 2023 REEL Earth Day Challenge, $100,000
- Park Partners Fundraising and matching campaign resulted in over $30,000 disbursed to park partners such as Pacific Spirit Park Society, Vancouver Avian Research Centre; K.E.E.P.S. and the Minnekhada Park Association.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

There are no financial implications.

CONCLUSION

Metro Vancouver Regional Parks Foundation continues to deliver on their mission under the direction of its volunteer Board. In collaboration with Regional Parks staff and park partners and volunteers, the Foundation remains active in its commitment in fundraising for Regional Parks programs and projects.

References

Further information on the activities of the Metro Vancouver Regional Parks Foundation can be found at www.mrvrpfoundation.ca

To: MVRD Board of Directors

From: Malcolm Brodie, Linda Buchanan, Sav Dhaliwal, George Harvie, Mike Hurley, Patrick Johnstone, Pardeep Kooner, John McEwen, Mark Sager, Brad West, Eric Woodward

Date: May 19, 2023 Meeting Date: June 2, 2023

Subject: **External Agency Status Report for Municipal Finance Authority of BC**

RECOMMENDATION

That the MVRD Board receive for information the report dated May 19, 2023, titled "External Agency Status Report for Municipal Finance Authority of BC".

PURPOSE

To report to the Board of Directors on the activities of the Municipal Finance Authority of British Columbia ("MFA").

BACKGROUND

The following is a review of activities of the MFA in 2022 and the first quarter of 2023 up to May 1st, with a focus on the activities of the past six months.

GOVERNANCE

Board of Trustee Meetings

The Board of Trustees met with management 5 times during the period of October 1, 2022 to May 1, 2023 to review operating performance, access to the financial markets, administration, and other miscellaneous items.

In addition, the Board of Trustees held several meetings of the Investment Advisory Committee which provides oversight for Pooled Investment Funds, and Trustees and management made presentations on behalf of the MFA at various local government conferences.

2022 IN REVIEW AND LOOKING FORWARD

Meetings of the Members were held on September 13, 2022 (Semi-Annual Meeting) and March 30, 2023 (Annual General Meeting).

From a **staffing perspective**, MFA made four new additions to its staff complement in the last year. Nicole Gervais was hired in the new role of Manager, Client Services, and was joined by Ryan Shore, as Associate, Client Services. Taryn Castles was hired to fulfil the Treasury

Payments Specialist role in early 2022 and will now be moving into the Accountant role. MFA has begun the hiring process to fulfil the Treasury Payments Specialist role as well as the Financial Analyst role. Lastly, Allison Ashcroft joined MFA in January of this year as MFA's new Director of Sustainability. Allison brings significant local government experience and subject matter expertise in sustainability and will be taking the lead in expanding MFA's strategy and processes for managing sustainability and climate-related risk and opportunities and the evolution of our ESG reporting.

Results from operations have been as planned and **borrowing activities and lending to Members** have been steady.

RESULTS

Income from Operating Activities, Short-Term Debt Fund, Retention Fund and Capital Adequacy

MFA's Retention Fund grew to $104.9 million at the end of 2022, a $2.9 million increase from 2021. This was accomplished by a combination of income from operations of $4.2 million, Short-Term Debt Fund earnings of $1.8 million and interest earned on the Retention Fund itself of $2.2 million. The $2.9 million increase included a $5.3 million fair market value loss (including expected credit loss provisions) on investment holdings for accounting purposes only (these are not realized economic losses).

The Retention Fund ($105 million) and the Debt Reserve Fund ($120 million) collectively comprise the total capital ($225 million) for the organization which supports MFA's AAA ratings per our Capital Adequacy Policy adopted by the Board of Trustees in September 2019. Capital is needed to absorb credit or other losses at the Authority, protecting bond investors. MFA's Capital Adequacy Policy targets a minimum capital level based on the greater of a non-risk capital assessment of $208 million and a risk-based capital assessment of $178 million. As a AAA issuer, MFA currently holds appropriate capital of $225 million which is adequate given the relative risks associated with assets held and the nature of its regional infrastructure banking operations.

Asset and Investment Management

Assets under management were $10.4 billion at the end of 2022. Assets comprise MFA's loans to clients of $5.6 billion, representing 1,561 outstanding long-term requests for financing through 28 regional districts and three other entities. Short-term loans outstanding of $168 million represented 92 short-term loans for financing and 354 equipment financing arrangements. Included in MFA's assets are cash and investments of $4.6 billion managed internally. Of these, $4.0 billion are held as sinking funds which reflect payments collected from clients and invested for the future retirement of debenture obligations. MFA also internally manages the Debt Reserve Fund, with investments valued at $120 million, and the Retention Fund, containing investments valued at $105 million at the end of the year.

BORROWING AND LENDING

Investor Relations

Management continues to actively promote MFA's credit story to institutional investors around the world. Investor development meetings are done in various formats, including one-on-one teleconference calls, one-on-one in-person meetings, and group conference presentations. Investor development is critical in differentiating MFA and achieving continuous access to the markets and the lowest cost of funds among our peers.

Triple A Credit Ratings

MFA's AAA credit ratings are the best attainable and allow MFA to access funding in the capital markets at the most favorable interest rates. On April 19 & 20, 2023, MFA presented the annual credit update in Toronto and New York City to our credit rating agencies: Moody's, Standard & Poor's (S&P), and Fitch Ratings. The conversations were constructive and very positive overall. Questions focused on housing affordability, the FFF DMAC Fund, ESG disclosures, market to market valuation, refinancing risk, and capital adequacy. Following these important annual meetings with each agency, there may be additional communication with MFA's team to clarify and collect more data about our organization. The agencies will begin to publish their reports over the next 4 to 8 weeks.

Borrowing in the Capital Markets and Long-term Lending

MFA issued $1,325 million of **long-term bonds** in 2022 – overall a net increase in debt of about $468 million from 2021, due to a higher funding requirement for new loans to Members and refinancing requirements that were higher than maturing market debt. MFA issued / reopened four debentures with borrowing rates of between 3.314% to 4.014%. Throughout 2022, MFA continued to access the lowest long-term rates in Canada when compared to its Municipal peers. This borrowing program refinanced maturing debt, underpinning both existing client loans as well as 88 new loans aggregating roughly $653 million to MFA clients.

On February 14, 2023, MFA reopened our December 2027 debenture for $120 million (bringing the total outstanding to $790 million) to fund a portion of April's refinancing requirement at a re-offer yield of 3.784%. The transaction was executed as a private placement with two large investors indicating early interest in the bonds in January.

New Long-Term Loans – 2022 Full Year		
Size	Number	Aggregate Amount ($)
Less than $1 million	38	$16,140,280
Between 1 & 5 million	28	57,399,787
Between 5 & 10 million	13	85,302,658
Between 10 & 15 million	1	12,500,000
Above 15 million	1	20,000,000
	1	22,000,000
	1	25,000,000
	1	25,500,000
	1	40,000,000
	1	93,600,000
	1	96,000,000
	1	160,000,000
Total	**88**	**$653,442,726**

Note: Figures are gross of expected credit loss provisions

Commercial Paper Issuance and Short-term Lending

At the end of 2022, MFA had $600 million in commercial paper outstanding to support MFA's current and expected growth in short-term lending. MFA issued $3.7 billion in commercial paper throughout the year in weekly auctions. Short-term loans are refinanced weekly, allowing for flexibility and efficiency for clients. This program is primarily used to provide interim financing for capital projects during construction and lending for MFA's equipment financing program. In 2022, new advances to clients totaled $110.5 million. At the end of December, MFA had 446 loans outstanding aggregating $168.1 million.

The Commercial Paper Program continues to provide low-cost short-term and equipment financing to clients. The MFA's short-term lending rate is currently 5.09%.

Pooled Investment Funds

One Year Performance and Returns of the Funds as of March 31, 2023:

As at	March 31, 2023	March 31, 2022	Change		1 Year Returns at March 31, 2023	
	$ millions				Funds	Benchmark
Money Market	1,132	1,203	(71)		3.03%	2.63%
Government Focused	373	307	66		1.74%	2.22 %
Bond Fund	804	692	112		1.22 %	0.50%
Fossil Fuel Free Bond	203	156	47		1.05 %	0.50%
Mortgage Fund	260	140	120		0.25%	0.45 %
DMAC	426	358	68		-0.60%	-0.08%
*Pooled High Interest Savings Account (PHISA)	2,178	2,118	60		N/A	N/A
AUM	**5,376**	**4,974**	**402**			

* Current Rate on CIBC PHISA is 5.05% on the first $200 million, and 4.47% on the remainder. Current rate for both National Bank and Scotiabank is 5.05%.

Diversified Multi-asset Class Pooled Fund ("DMAC") Update

MFA continues to discuss the merits of the DMAC fund with clients who have long term reserves. Whether or not clients are ready or willing to invest in the Fund, our dialogue has prompted key discussions with several local governments about the importance of estimating long-term cash flow when investment planning. Beyond the initial two seed investors, a new investor completed the requirements for entry in November 2022 and invested $12M into the Fund. MFA believes that new participants and incremental inflows to the DMAC Fund will continue in 2023.

The financial and investment markets have been extremely challenging since the launch of the DMAC in January 2022. As a result, returns were negative in 2022. However, the volatility of the DMAC relative to its returns was superior to most individual single-market global bond or stock indices. This is by design as it is a highly diversified global pooled fund with many types of investments in many markets. As of March 31, 2023, the YTD return of the DMAC is positive at + 3.37%.

Fossil Fuel Free Diversified Multi-asset Class Fund ("FFF DMAC")

Some members prefer Fossil Fuel Free (FFF) investing if possible. FFF investing is an investment approach that automatically excludes securities of entities directly involved in extraction, primary processing, or distribution of coal, oil, or natural gas. As a result of this preference for FFF investing by some members, Trustees expressed an interest in examining the possibility of introducing a FFF version of the DMAC.

MFA management presented the "FFF DMAC's Statement of Investment Beliefs and Principles" to Trustees on February 14th, 2023, along with the recommendation to proceed with formalizing the Fund; this was endorsed by Trustees. The introduction of the FFF DMAC Fund is expected in the second or third quarter of 2023, with a seed investment expected by one local government.

ESG (ENVIRONMENT, SOCIAL & GOVERNANCE) DISCLOSURES

MFA has been extremely active over the last few months meeting with sustainability and other professional staff from local governments across BC, as well as the Province of BC, in order to inform the approach and evolution of our ESG program strategy, processes and disclosures. This is an incredibly broad and complex space comprising emergent standards and the anticipation of future regulation. MFA fully recognizes the need to develop a phased and practical strategy for meeting the current and future expectations of investors and regulators related to MFA's material activities and areas of impact. MFA is particularly sensitive to the potential for added burden in order to collect data, and the impact to medium to smaller-sized local governments and limited staff resourcing.

SPONSORSHIP & EDUCATION SUPPORT

MFA is proud to be a major, non-commercial supporter of BC's local government elected official and staff education and conference events each year. MFA primarily supports financial education, in direct line with our own mandate, but also funds training in related topics such as management, leadership, asset management, risk management, and cybersecurity.

MFA remains committed to the provision of education focused on finance and business best practices for our clients and refers to this as our 'third pillar' alongside our lending and investment programs. This practice builds financial and operational strength for clients and expands and benefits the MFA's reputation as part of the local government system, as opposed to a 'commercial' service provider. This is a key way MFA differentiates itself from for-profit competitors and how MFA delivers value for our members.

2023 BUSINESS PLAN

Over the last 5 years, the MFA has been on a transformational journey as MFA modernizes and add even greater value for our clients.

- Increasing education and sponsorship support as our third pillar of services MFA offers
- Building resilience by strategically adding team members and formalizing cross-training
- Implementing new tools/processes in financial systems to reduce risk and manual effort
- Launching new investment products to meet evolving client needs and market changes
- Updating technology systems and increasing cybersecurity

SEMI-ANNUAL MEETING 2023

The Semi-Annual General Meeting and Financial Forum event is set to take place in person in Vancouver on Tuesday, September 19, 2023, in conjunction with the UBCM Annual Convention.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

There are no financial implications.

SUMMARY / CONCLUSION

n/a

To: MVRD Board of Directors

From: Craig Hodge, Director, Metro Vancouver Board, and Chair, National Zero Waste Council Management Board
Sarah Kirby-Yung, Director, Metro Vancouver Board, and National Zero Waste Council Management Board Member

Date: May 16, 2023 Meeting Date: June 2, 2023

Subject: **External Agency Status Report for the National Zero Waste Council**

RECOMMENDATION
That the MVRD Board receive for information the report dated May, 16, 2023, titled "External Agency Status Report for the National Zero Waste Council".

EXECUTIVE SUMMARY
Metro Vancouver established the Zero Waste Council in collaboration with the Federation of Canadian Municipalities in 2012 to advance waste prevention in Canada. It was born from a recognition that ambitious waste reduction targets, set regionally though extensive stakeholder consultation, would not be achieved unless collaborative action across sectors and jurisdictions took place. This recognition led to the Council's commitment to work upstream on prevention; focus on transforming how goods are designed, produced, and used; and collaborate with other leaders in government, business and community across Canada and internationally.

Since 2012, the Council has convened key actors to develop innovative collaborations, fund groundbreaking research, and pioneer an array of knowledge-building and knowledge-sharing activities, all focused on better understanding and articulating actions that can prevent waste and advance circularity.

In 2022, the Council focused its efforts on reducing food loss and waste, delivered the first year of the Circular Cities and Regions Initiative, worked collaboratively with the signatories of the Canada Plastic Pact to realize a circular economy for plastics, initiated research to support the advancement of reuse in Canada, and developed innovative pilots on recycled asphalt and wood waste through member-led working groups. Efforts in 2023 remain focused on advancing new solutions and approaches in the areas of food loss and waste, the built environment, reusable packaging, and the development of circular cities and regions.

PURPOSE
To provide an update on the activities of the National Zero Waste Council in 2022 and the priorities for 2023.

BACKGROUND

The National Zero Waste Council is a leadership initiative of Metro Vancouver. It was established in 2012 to advance waste prevention, recognizing that regional success can only be sustained in a context of harmonized policy and practice across local, provincial, and federal government jurisdictions and throughout supply chains. The Council is committed to acting collaboratively with business, government and community actors, at the national and international level, as an agent of change to prevent waste in the design, production and use of goods. Over the years, the focus of the Council has grown to include work to accelerate the transition to a circular economy- an important solutions framework for designing waste out of the system and addressing climate change.

The Council convenes and connects leaders from the public and private sectors across Canada to advance initiatives that catalyze action, and continue to harmonize policies and practices that effectively drive down waste, within our region and beyond. In addition, the Council has established important relationships with thought-leaders from national and international organizations, including the Ellen MacArthur Foundation, ReFED, Circle Economy, Upstream, and others engaged in accelerating the transition to a waste free, circular economy.

The Council forms part of Metro Vancouver's zero waste collaboration program and is supported by a Secretariat housed in the External Relations Department, working closely with Solid Waste Services. A Management Board of elected members provides guidance and advice on the work of the Council. Metro Vancouver has two seats on the Council's Management Board who are appointed annually by the Metro Vancouver Board based on recommendations from the Chair. Metro Vancouver is the permanent Chair of the Council Management Board.

In 2023, Directors Craig Hodge and Sarah Kirby-Yung were appointed to sit on the National Zero Waste Council Management Board and Director Hodge will serve as the Chair of the Council. Attached is a list of the members of the Management Board for 2023.

NATIONAL ZERO WASTE COUNCIL – 2022 UPDATE & 2023 PRIORITIES

The work of the Council is advanced through strategic initiatives, partnerships, and working groups. In all cases, the work of the Secretariat is augmented by the involvement of Council members. Currently, the Council has approximately 185 members from across Canada. Members include:

- provincial and local governments (including agencies);
- businesses from multinational corporates to small Canadian start-ups;
- industry and trade associations; and
- NGOs and community organizations.

The Council Management Board went through a strategic planning process in 2021-2022 that resulted in the *National Zero Waste Council 2022-2025 Strategic Plan.* This document provides a strategic framework for the Council's work in the short-term. A snapshot of the Council's strategic initiatives and partnerships as well as working groups are noted below.

Strategic Initiatives and Partnerships: 2022 Highlights & 2023 Priorities

Food Loss and Waste: In 2022, the Council worked with the Government of Canada to support innovation and policy change that will prevent and reduce food loss and waste. The Council is a member of Canada's National Food Policy Advisory Council that provides policy advice and recommendations directly to the Minister of Agriculture and Agrifoods Canada. As part of this work, the Council submitted recommendations regarding date labelling and effective measuring and monitoring tied to food waste reduction outcomes.

The Council also continued its role as Chair of the jury adjudicating submissions to the Government of Canada's Food Waste Reduction Challenge. This is a three-year commitment that concludes with two finalists being awarded support for commercially-scaled projects in 2023.

Lastly, the Council is now leading work to better understand how place-based food hubs can be an important means to advancing circular food systems that reduce food waste. The Council collaboratively completed a 2021 research project titled Circular Food Solutions in Canada: A Coast to Coast Landscape Scan. A virtual workshop of stakeholders, co-hosted by the Council and Circular Economy Leadership Canada (CELC), was held in April 2022 to test research findings and consider next steps. At this session, many communities and local governments identified the important role that circular food hubs could play in transforming the linear Canadian food system into one that was circular and waste free. In 2023, the Council will continue to build on this work, applying research and stakeholder input to on-the-ground testing. The Council will pilot place-based food hub development work in Nova Scotia, while linking change agents across Canada in a peer-to-peer learning network that builds the capacity of peer leaders to advance circular food hubs in their own jurisdictions, including Metro Vancouver. Project partners include Council members. A future roadmap for circular solution implementation will be developed and shared with other Canadian communities, supporting their own emergent circular and waste free food hubs. Environment and Climate Change Canada (ECCC) and Divert Nova Scotia are providing funding for this work.

Love Food Hate Waste (LFHW) Canada: Love Food Hate Waste Canada is national bilingual campaign that works with businesses, governments, and community groups across Canada to prevent household food waste. The campaign is led and coordinated by the Council, alongside eight campaign partners. In March of 2022, the Council participated in the first ever global Food Waste Action Week – a week of coordinated activity by the partners to international LFHW campaign. This was the most successful campaign of the year, reaching over 6.5 million Canadians with a message linking food waste reduction to climate action. LFHW is a highly successful behaviour change campaign and to capture the successes and activities of the campaign in its first years the report, *Making Every Bite Count: Our First Three Years – 2018 to 2021*, was published in June of 2022.

In 2023, the Council hosted the second annual Food Waste Action Week in March of 2023 – this time focused on lifestyle tips that will help people make the most of the food they have. A significant focus for the remainder of the year is on preventing fresh produce from being wasted. This work, partly funded by Environment and Climate Change Canada, will include a number of different activities throughout the year and into 2024.

Circular Cities and Regions Initiative: The Circular Cities and Regions Initiative (CCRI) is national collaboration developed and managed by the National Zero Waste Council, the Federation of

Canadian Municipalities (through the Green Municipal Fund), the Recycling Council of Alberta, and RECYC-QUEBEC to build circular economy knowledge and capacity among local governments in Canada. In the CCRI's first year (2021/2022), 15 cities and regions participated in an immersive year of circular economy knowledge sharing and capacity building. Ten more communities were welcomed into the CCRI's Peer-to-Peer (P2P) Network in 2022 and are now taking the next steps on their own circular economy journey:

Through the CCRI's P2P Network, participating local governments receive on on-one guidance and action planning support to advance their own circular economy objectives, and meet regularly to discuss common barriers and solutions as well as hear from experts in the field. This targeted work with specific communities is supplemented with a series of public webinars for individuals and organizations interested in circularity from a local perspective. To-date, seven public webinars have been hosted. This included a webinar in December of 2022 on how the circular economy can advance local climate action and, most recently, a webinar in May of 2023 on the concept of doughnut economics.

The Council is proud to report that the CCRI has been recognized as a national leader in sustainability excellence, receiving a Canada Clean50 Project Award for 2023. The CCRI remains a priority for the Council in 2023 and 2024.

Canada Plastics Pact (CPP): The Canada Plastics Pact is an important development in the Canadian landscape and the Council is proud to have played a key leadership role in establishing it. The CPP operates as a pre-competitive platform, bringing together corporate leaders and other key stakeholders across the plastics supply chain to develop a shared action plant to build a circular economy for plastics packaging. While much work at the CPP is currently focused on recyclability, it is important that a national pact designed to solve plastic waste includes upstream considerations to design out waste, rather than only focusing on downstream recycling.

Recognizing the Council's long-standing work in the area of waste prevention in Canada and it role in creating the CPP, the Council was invited to play a leadership role in the source reduction work of the CPP in 2022. The Source Reduction Rapid Action Group drafted a list of problematic and unnecessary plastics that should be eliminated, and is now being considered by partners to the CPP. Staff from the Council Secretariat and from Metro Vancouver Solid Waste Services will continue to actively participate in the CPP through 2023/2024, and advocate for upstream changes to design out waste and pollution.

Working Groups: 2022 Highlights and 2023 Priorities

Construction, Renovation and Demolition**:** This Working Group is focused on assessing opportunities to enhance waste prevention and promote circular economy principles within the construction and built environment sector in Canada. Through 2022, the Working Group operated two sub-working groups - one focused on advancing the use of recycled asphalt and the other on reducing wood waste. Each group met regularly throughout the year, with very engaged members representing a strong cross section across sectors. With respect to recycled asphalt, the group leveraged key learnings from the recycled asphalt pilot involving the collaboration of the City of

Richmond and Lafarge Canada, organizing a virtual workshop for the important stakeholders in road pavement projects ,and then created on line Recycled Asphalt Toolkit on the Council website.

Following an active year in 2022, the recycled asphalt group assessed its opportunities to continue its work in promoting recycling in road construction across Canada and determined that it was best to transition their insights and energies into a working group within the Transportation Association of Canada (TAC). The TAC group is developing guidelines for using recycled asphalt content across the public sector.

With respect to wood waste, late in 2022 the sub-group undertook a pilot project with the Center for Advanced Wood Processing at the University of British Columbia. The pilot involves the production of an engineered wood product from wood waste for higher value applications. Members of the working group were instrumental in identifying multiple sources for wood waste. Initial processing and performance assessments indicated some contaminated wood waste is difficult and time-intensive to process, while other sources are better-suited. Subsequent work will focus on performance testing of engineered wood waste products, and the economic viability of producing engineered wood for use in construction. This wood waste pilot will continue throughout 2023 and this will be the sole focus of the Construction, Renovation and Demolition Working Group.

Reuse Working Group: During the Council's 2022 strategic planning process, reuse was confirmed as a high priority area. Reuse is consistent with the mandate of the Council and the advancement of a circular economy in Canada. Many Council members are involved in initiatives and innovations related to reuse and could contribute knowledge and expertise to a new working group focused on advancing reuse systems. At its June meeting in 2022, the Management Board approved a process and budget to aid in the development of a Reuse Working Group. This involved contracting a landscape scan to better understand the current reuse economy across Canada, including research into opportunities for expanding reuse systems based on global and Canadian policy, regulations and innovations. The reuse landscape scan was completed at the end of 2022 and the findings were used to build a recommended scope for the formation of a Reuse Working Group, which will focus on reusable packaging for its first 1-2 years. The full reuse landscape scan can be found on the National Zero Waste Council website.

ALTERNATIVES
This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS
Core funding for the National Zero Waste Council is provided by Metro Vancouver. The 2022 budget of $437,071 included salaries for two full-time equivalent staff, who also work on the annual zero waste conference. This budget also includes project development funding of $120,700.

This core funding has been leveraged to seek funding and contributions from external project partners. The Love Food Hate Waste Canada (LFHW) is funded by service fees from its campaign partners. Other Council initiatives are supported through additional funding and in-kind support from partners and funding agencies.

CONCLUSION

Over the past ten years, the National Zero Waste Council has built a strong reputation across Canada by bringing together key actors from across the system to develop innovative collaborations, fund ground breaking research, and create dynamic engagement offerings that develop our collective understanding of the intersect of waste prevention and the circular economy.

In 2022, the Council helped lead and shape national work in key sectors of the economy, while also supporting the advancement of the circular economy discussion in Canada. This included work with Agriculture and Agri-foods Canada on policy and innovation to reduce food loss and waste across the food value chain; leading work on the development of circular food hubs in Canada, and continuing to develop and grow Love Food Hate Waste Canada. Additionally, we delivered in the inaugural year of the Circular Cities and Regions Initiative (CCRI) to build circular economy knowledge and capacity among local governments in Canada and continued to advocate for changes to eliminate problematic and unnecessary plastics packaging through the CPP. Finally, through the working groups of the Council, members from across different sectors are coming together on innovative research and pilots.

Attachment

National Zero Waste Council Management Board 2022 - 2023

References

1. National Zero Waste Council website
2. Love Food Hate Waste Canada
3. Circular Cities and Regions Initiative
4. Canada Plastics Pact
5. Recycled Asphalt Pavement Toolkit
6. Reuse in Canada Landscape Scan: Understanding Opportunities to Advance Reuse Systems

zeroWASTE
NATIONAL ZERO WASTE COUNCIL
An initiative of Metro Vancouver

Canada united in the achievement of zero waste, now and for future generations

2022-2023 MANAGEMENT BOARD

CHAIR Craig Hodge, Metro Vancouver
VICE CHAIR David Fung, Canadian Manufacturers and Exporters (CME)

GOVERNMENT

Josh Matlow	City of Toronto
Pete Fry	City of Vancouver
Marie-Andrée Mauger	Communauté Métropolitaine de Montréal (CMM)
Mairin Loewen	Federation of Canadian Municipalities (FCM)
Sara Jane O'Neill	Federation of Canadian Municipalities (FCM)
Sarah Kirby-Yung	Metro Vancouver
Sophie Langlois-Blouin	RECYC-QUEBEC

BUSINESS

Owen Miller-White	A&W Food Services of Canada Inc.
Leta LaRush	BASF Canada
Mikhael Metauro	Cascades
Glen Munholland	Circular Supply Chains
Nicole Fischer	Kraft Heinz
Lincoln Kyne	Lafarge Canada
Raman Johal	London Drugs
Manuel Gorrin	Nature's Path Foods
Louise Schwarz	Recycling Alternative
Maud Warner	TELUS
Adam Corneil	Unbuilders

BUSINESS ASSOCIATION

Andrew Macdonald	PAC Global
Julie Dickson	Retail Council of Canada (RCC)
Sandy Sigmund	Return-It
Jay Rao	Surrey Board of Trade

COMMUNITY

Laura Hardman	Ocean Wise
Vanessa Timmer	OneEarth Living
Lyndsay Poaps	Recycling Council of BC (RCBC)
Christina Seidel	Recycling Council of Alberta (RCA)
Lori Nikkel	Second Harvest
Tonny Colyn	The Salvation Army Thrift Store

metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION

ATTACHMENT 10

To: MVRD Board of Directors

From: Darrell Penner, Alternate Director

Date: May 11, 2023 Meeting Dates: March 2, 2023

Subject: **External Agency Status Report for Sasamat Volunteer Fire Department Board of Trustees**

RECOMMENDATION

That the MVRD Board receive for information the report dated May 11, 2023, titled "External Agency Status Report for Sasamat Volunteer Fire Department".

PURPOSE

To report to the Board of Directors on the activities of the Sasamat Volunteer Fire Department.

BACKGROUND

Board policy requires the reporting of activities twice annually in May and October.

KEY ACTIVITIES

2022 Financial Actuals – Sasamat Fire Protection Service On a budget with total expenditures of $880,326, the SVFD function was under budget by $588,369, or 60 percent (60%). This was primarily due to the unavailability to procure the firefighting apparatus. There was an overage of $39,866 for repairs and maintenance in the line item "Other Expenses" due to engine 3 having almost $14,000 in unplanned repairs following aerial and pump test inspections as well as unbudgeted maintenance costs for three new assets procured for use in 2022 (a single and tandem axel trailer, and the Ford F-150 truck).

Discussion ensued as to whether the "Other Expenses" were an operating or capital cost. Understanding is that it is currently expensed as an operating cost. Further discussion on whether such expenses and similar expenses should be treated as capital and hence financially split 50/50 between the two municipalities. MV staff to consult with MV Finance and report back to the Board with additional information.

MV staff cannot always complete the commercial vehicle inspections and have had to contract this out which has led to increased costs. MV will look at completing these inspections in house as often as possible.

The SVFD Board of Trustees endorse the work plan as presented in the report dated February 28, 2023 titled “2023 SVFD Quarterly Work Plan”.

FINANCIAL IMPLICATIONS

There are no unplanned/unbudgeted financial implications associated with these activities to-date.

SUMMARY / CONCLUSION

The Sasamat Fire Department Board of Trustees continues to oversee the planning, budgeting, and operation of the fire department through regular meetings and ongoing communication with the Fire Chief and Metro Vancouver SSEM staff.

To: MVRD Board of Directors

From: Director Craig Hodge

Date: May 16, 2023 Meeting Date: June 2, 2023

Subject: **External Agency Status Report for UBCM**

RECOMMENDATION
That the MVRD Board receive for information the report dated May 16, 2033 titled "External Agency Status Report for UBCM".

PURPOSE
To report to the Board of Directors on the activities of the Union of BC Municipalities ("UBCM").

BACKGROUND
The Union of B.C. Municipalities (UBCM) represents the common interests of local governments in dealings with the provincial and federal governments. UBCM is a non-partisan, member-based organization. The policy basis for the organization is developed through resolutions endorsed at its annual meeting, complemented by direct consultation and a range of working groups and committees. The Executive of UBCM, to which the GVRD provides a direct appointment, meets quarterly.

UBCM'S RECENT ACTIVITIES

Hosted a housing summit in April that drew 550 leaders from local government, the Province, industry, not-for-profit and Indigenous housing sectors. The expert panels at the summit were also drawn from these sectors. The purpose of the summit was to explore the opportunities and challenges involved in accelerating the delivery of increased housing supply in B.C.'s communities. Key themes identified throughout the event included the need for the province to consult carefully with local government as it moves forward with the Housing Supply Act; the critical role played by development finance and the infrastructure necessary to support growth; and the need to better integrate immigration policy with housing policy.

UBCM's Executive also hosted a series of meetings with the Premier, various Ministers and MLAs from all parties to highlight three critical issues for UBCM members. Building on the housing summit, Executive members spoke to the need for early and effective consultation on the province's proposed legislative changes with regard to housing supply, and the need for a supporting infrastructure plan. UBCM also discussed the pending updated Emergency Act, due to be tabled in the fall. Local governments will be given new responsibilities by the province under the new legislation, and Executive members spoke to the need for funding and other supports necessary in order to implement these changes. UBCM also spoke on behalf of resource-based communities and the need for more aggressive transition plans and retraining programs for impacted communities.

ALTERNATIVES

This is an information report. No alternatives are presented.

To: MVRD Board of Directors

From: Jen McCutcheon, EAA Director

Date: May 19, 2023 Meeting Date: June 2, 2023

Subject: **External Agency Status Report for Metro Vancouver Zero Emission Innovation Centre (ZEIC)**

RECOMMENDATION

That the MVRD Board receive for information the report dated May 19, 2023, titled "External Agency Status Report for Metro Vancouver Zero Emission Innovation Centre (ZEIC)".

EXECUTIVE SUMMARY

This report summarizes the relevant background and activities by the Metro Vancouver Zero Emission Innovation Centre (ZEIC) from the Metro Vancouver appointee to the ZEIC Board of Directors for 2023.

PURPOSE

This report provides a status update of 2023 activities of the ZEIC that were relevant to Metro Vancouver.

BACKGROUND

Representatives appointed by Metro Vancouver to various external organizations are required to report to the Board of Directors on the activities of those organizations.

Seeded by a $21.7 million federal endowment, the Zero Emission Innovation Centre (ZEIC) is a purpose-built charitable organization dedicated to market transformation and enabling zero carbon communities and economies across the region and province. ZEIC is part of the Low Carbon Cities Canada (LC3) Network established by the Government of Canada and the Federation of Canadian Municipalities.

ZEIC's vision is that, "*together, we enable a new era of climate action and innovation for an inclusive, prosperous, and healthy zero carbon future in our region by 2050*". ZEIC advances urban climate solutions in the green building, transportation, and renewable energy sectors through (1) partnerships and collaborations, (2) impact investment, (3) granting, and (4) education, training, and capacity building.

Working with governments, Indigenous partners, industry, and others, we support ambitious climate policy, address barriers, and catalyze, accelerate, and scale innovation to strengthen equitable and resilient communities for current and future generations. To deliver impact, ZEIC aims to:

- Connect and activate partners, investors and action-takers;
- Demonstrate and showcase viable solutions; and
- Invest in capacity building and readiness to scale climate actions.

ZEIC's strategic directions align with provincial, regional, and local climate action plans. Our programs help communities make progress towards their 2030 emissions reduction targets. Equity, long-term affordability, community health and well-being, environmental protection, and economic development are integral to how we develop and deliver our climate action programs.

2023 STATUS UPDATE

The ZEIC staff team continues to be actively engaged in delivering a variety of programs that support community climate action, focused predominantly on the building sector, in alignment with our mission and charitable purposes. Key program areas of note include

(1) the Zero Emissions Building Exchange (ZEBx),
(2) the Building to Electrification Coalition (B2E),
(3) an Embodied Carbon Centre of Excellence called Carbon Leadership Forum British Columbia (CLFBC),
(4) Women4Climate, and
(5) Retrofit Accelerator program, and
(6) Near Zero Program (www.nearzero.ca)

ZEIC is also involved in several national Low Carbon Cities Canada initiatives in support of local communities across the country.

(1) Zero Emissions Building Exchange (www.zebx.org)

The Zero Emissions Building Exchange, known as ZEBx, serves as an industry Centre of Excellence that strengthens the public, private, and civic capacities for zero emission buildings in Metro Vancouver and throughout British Columbia. ZEBx facilitates knowledge exchange between a variety of professionals in the building industry and maintains a community of practice through events, resource development and communications. ZEBx brings together industry silos, and collaborates with industry associations, governments, utilities, researchers, educational institutions, suppliers and global experts.

In the past two quarters, ZEIC:

- Hosted events such as the Decarb Lunch webinar series & podcasts, a webinar series on Planning for Building Decarbonization, a Tech Demo Series in partnership with BCIT and industry
- Published bi-monthly ZEBx newsletters and regular social media posts, monthly BC Building Step Code newsletters, and case studies

(2) Building to Electrification (B2E) Coalition Secretariat (www.b2electrification.org)

ZEIC serves as the secretariat for a first of its kind in Canada, BC-based coalition of industry experts, contractors, policy-makers, researchers, suppliers and financial institutions working collaboratively to ID and address barriers to electrification and catalyze a market shift towards building decarbonization through electrification of building heating and hot water systems.
In the past quarter, ZEIC:

- Grew the B2E membership to 117 members (an 30% increase in the past two quarters) from across the Province of BC from the public sector, industry, suppliers and non-profits all committed to supporting the implementation of the BC Electrification Roadmap and working together to overcome barriers to electrification of heating and hot water systems in buildings in the province;

• Hosted a 1 year anniversary event for the B2E Network with over 90 attendees with diverse representation across the region's building sector;
• Held quarterly B2E Leadership Council meetings and sub-committee meetings to advance initiatives and address barriers to electrification related to (1) awareness building, (2) technology and (3) expanding industry capacity;
• Held well-attended 'All Members' calls during which participants learned about and had an opportunity to raise questions about key initiatives around electrification in BC and upcoming Provincial policy and regulatory initiatives;
• Developed an agreement with the Canada Green Building Council for ZEIC to participate in a year-long initiative called the Low Carbon Trades Training Strategy. B2E Program Manager Mariko Michasiw will sit on the initiative governance committee and the B2E Expanding Industry Capacity working group will be engaged to help develop the strategy and will be involved in future in project implementation; and
• Published: monthly B2E newsletters and social media posts , developed multiple resources and case studies.

(3) Embodied Emissions Centre of Excellence – Carbon Leadership Forum British Columbia (www.clfvancouver.com)

Carbon Leadership Forum British Columbia (CLFBC) is British Columbia's Centre of Excellence for low carbon building design. Through this cross-sectoral network, we seek to accelerate the reduction of embodied carbon in buildings through the growth of knowledge, promotion of best practices, and by fostering collaboration. Prior to becoming part of ZEIC, CLFBC Vancouver was a volunteer-based organization. The program is now supported by a full-time program manager, support staff and an active volunteer advisory committee composed of industry and government representatives.

In the past two quarters, ZEIC:
• Published monthly newsletters and social media posts and created resources such as the Low Carbon Materials Sourcing Guide
• Hosted webinars and network convening events
• Hosted the inaugural 2023 BC Embodied Carbon Awards event, with 6 award recipients, over 100 attendees from industry and local governments, and event speakers ZEIC Board Chair Peter Robinson, Minister of Environment and Climate Change George Heyman, City of Vancouver Councillor Adriane Carr, and Manager Caroline Butchart. The Awards program is sponsored by Forestry Innovation Investment and City of Vancouver.

(4) Women4Climate Mentorship Program (www.w4c.org/mentorship/women4climate-vancouver)

The Women4Climate program aims to advance bold, local climate action in alignment with the City of Vancouver's Climate Emergency Action Plan and Climate Change Adaption Strategy. This program, supported by City of Vancouver, C40, and ZEIC, contributes to the next generation of climate leaders through a mentorship program dedicated to women working in climate to create a healthier, greener, more resilient, and economically prosperous urban future. Over the 10-month mentorship period, mentors share their knowledge, experiences, and support the mentees to develop their leadership skills while advancing their climate initiatives. Mentees are also able to access leadership training and participate in international networking events with other women working in climate. The program launched in September 2022 and currently has 11 mentees who were matched with mentors specific to their industry and climate action project. On Oct 6, 2022, ZEIC hosted a Mentor and Mentee Orientation

Event (Oct 6, 2022) and the mentee-mentor relationships and mentee training sessions have been ongoing over the past two quarters. On March 6, 2023, an excellent event was hosted by Vancouver City Council in which the mentees had an opportunity to present their various projects, insights and recommendations to City Council. The formal portion of the event was followed by informal networking with Council and program participants.

(5) Retrofit Accelerator

Metro Vancouver and ZEIC are working together to develop a regional retrofit accelerator focused on large buildings in the region. The initiative receives funding through Metro Vancouver's Sustainability Innovation Fund ($550K over two years) and from ZEIC. The program launched in late November and a new Program Manager, Darla Simpson, joined ZEIC to lead the initiative. Work on the development of the retrofit accelerator scope continued over the past quarter, led by Program Manager Darla Simpson who joined ZEIC full time in December 2022. In addition to developing regional advisory groups composed of both local government and industry representatives, the team is exploring retrofit accelerator models, best practices and exploring funding and revenue models that could sustain the accelerator services over the coming decade and beyond.

A key priority in the past quarter has been the development of a proposal to NRCan as part of the Deep Retrofit Accelerator Initiative (DRAI) for large buildings, which is strongly aligned with the objectives of the regional retrofit accelerator. The retrofit accelerator is intended to work with and support all municipalities, First Nations and Electoral areas in the Metro Vancouver region.

(6) Near Zero Program (www.nearzero.ca)

The Near Zero Program is a cross-industry, green initiative designed to accelerate and incentivize the rapid decarbonization of Vancouver homes. In the past quarter we launched two new streams of the Near Zero Program, stream 2 focused on embodied emissions and stream 3 focused on domestic hot water fuel switching. The program combines implementation-specific research, experience and capacity building with incentives.

FINANCIAL IMPLICATIONS

There are no financial implications.

CONCLUSION

This report provided a status update of 2023 activities of the Zero Emission Innovation Centre (ZEIC) that were relevant to Metro Vancouver.

To: Climate Action Committee

From: Marina Richter, Senior Policy Analyst, Parks and Environment Department
Esther Berube, Division Manager, Parks and Environment Department

Date: April 19, 2023 Meeting Date: May 11, 2023

Subject: **MVRD Agricultural Boilers Emission Regulation Amendment Bylaw No. 1350, 2022**

RECOMMENDATION

That the MVRD Board:

a) give first, second, and third reading to *Metro Vancouver Regional District Agricultural Boilers Emission Regulation Amendment Bylaw No. 1350, 2022*; and
b) pass and finally adopt *Metro Vancouver Regional District Agricultural Boilers Emission Regulation Amendment Bylaw No. 1350, 2022*.

EXECUTIVE SUMMARY

Metro Vancouver regulates the discharge of air contaminants through site-specific permits and emission regulations. A system of regulatory fees has been established to recover administrative costs and encourage emission reductions based on the potential health and environmental impact of air contaminants. The MVRD Board updated the fee rates on October 29, 2021, when it adopted *MVRD Air Quality Management Fees Regulation Bylaw No. 1330, 2021* (Bylaw 1330). For the facilities regulated under the *GVRD Agricultural Boilers Emission Regulation Bylaw No. 1098, 2008* (Bylaw 1098) the annual fees would increase by less than $2000 for most agricultural boiler facilities and up to $13,000 for two large facilities by 2028. Fee rate updates have been postponed until 2024 for agricultural boiler users in response to feedback during the engagement process, to allow the sector more time to explore emission reduction measures. Consequential amendments to Bylaw 1098 are needed to update fees in alignment with the fee rates in Bylaw 1330.

PURPOSE

To seek MVRD Board adoption of amendments to fees in Bylaw 1098 to align with Bylaw 1330, adopted by the MVRD Board in October 2021.

BACKGROUND

At its October 29, 2021 meeting, the MVRD Board adopted Bylaw 1330 (Reference 1), which repealed and replaced *GVRD Air Quality Management Fees Regulation Bylaw No. 1083, 2008* to update Metro Vancouver's air quality permit and regulatory fees. Consequently, updates to fees are needed in Bylaw 1098, in order to maintain consistency with the fee rates set out in Bylaw 1330.

RECENT AIR QUALITY FEE UPDATES

Metro Vancouver charges fees for authorized air emissions to recover the cost of its air quality regulatory services, incentivize emission reductions, and improve air quality. Fees are stipulated in Bylaw 1330 for individual permitted facilities and various emission regulations for industrial sectors. Emission regulations establish fixed registration fees, as well as annual administration fees that

have both fixed and variable components. The variable portion of the fees are based upon the quantity and type of air contaminants authorized to be discharged.

Engagement Feedback

During an engagement process from January to April 2021, Metro Vancouver sought feedback on adjusting fixed fees for inflation and increasing variable fees for emissions of air contaminants (Reference 2). Emails and invitations to webinars were sent to all facilities registered under Bylaw 1098. Metro Vancouver did not receive any feedback from these regulated facilities during the engagement period. Bylaw 1330 was then developed in alignment with Metro Vancouver's principles of continuous improvement, discharger pay, and cost recovery. Bylaw 1330 includes updated fees for emissions of air contaminants that reflect new information on the estimated costs of health impacts associated with various types of emissions. After Bylaw 1330 was adopted, some facilities with registered agricultural boilers, the BC Greenhouse Growers Association, and the Metro Vancouver Agricultural Advisory Committee expressed concerns about the fee increases. The BC Greenhouse Growers Association informed Metro Vancouver that they are researching alternative energy sources that would reduce emissions. Feedback included:

- Concerns over the fairness of increasing emission fees when the feasibility of low-emission energy sources is under review.
- The need for flexibility to use other fuels without paying additional fees during emergency interruptions in natural gas supply.

With the adoption of Bylaw 1330, supporting amendments to four of Metro Vancouver's emission regulations were needed to reflect the new fees and inflationary changes, since these fees had not increased since the bylaws were adopted in 2008. As specified in Bylaw 1330, the air contaminant emission fee rates used to calculate the variable emission fees will increase gradually until 2028. On May 27, 2022, the MVRD Board adopted amendments related to these fee updates in *GVRD Concrete and Concrete Products Industries Emission Regulation Bylaw No. 1084, 2008*, *GVRD Gasoline Distribution Emission Regulation Bylaw No. 1085, 2008, and GVRD Boilers and Process Heaters Emission Regulation Bylaw No. 1087, 2008.* Meanwhile, Metro Vancouver staff met with representatives of the BC Greenhouse Growers Association to identify ways to address concerns about the fees, including a deferral of the fee updates until 2024 and potential collaboration on emission reduction measures.

UPDATES TO BYLAW 1098 IN RESPONSE TO FEEDBACK

Bylaw 1098 includes fixed administrative fees as well as variable fees for particulate matter and nitrogen oxides (NOx). The fixed administrative fees would increase from $200 to $250 to reflect inflationary changes, as proposed during engagement. The proposed Amendment Bylaw 1350 (attached) seeks to replace the air contaminant emission fee rates in Bylaw 1098 to match the rates in Bylaw 1330. The variable annual fees would increase by an amount between $400 and $2000 dollars for most agricultural boiler facilities, and by up to $13,000 for two large facilities, between 2024 and 2028. Updated fees would take effect on January 1, 2024, to allow time for the agricultural boiler sector to complete research on low-emission energy sources and identify feasible technologies.

No amendments are needed to accommodate the request from the BC Greenhouse Growers Association for flexibility to use other fuels in an emergency, since Bylaw 1098 already includes provisions for the limited use of fuel oil as a standby fuel without additional fees.

ALTERNATIVES

1. That the MVRD Board:
   a) give first, second, and third reading to *Metro Vancouver Regional District Agricultural Boilers Emission Regulation Amendment Bylaw No. 1350, 2022*; and
   b) pass and finally adopt *Metro Vancouver Regional District Agricultural Boilers Emission Regulation Amendment Bylaw No. 1350, 2022*.

2. That the MVRD Board receive for information the report dated April 19, 2023, titled "MVRD Agricultural Boilers Emission Regulation Amendment Bylaw No. 1350, 2022" and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

Under Alternative 1, the proposed bylaw would update Bylaw 1098 to align with the regulatory fees in Bylaw 1330. Starting in 2024, updated regulatory costs would be recovered from emitters authorized under Bylaw 1098, in alignment with Metro Vancouver's principles of discharger pay, continuous improvement, and cost recovery.

CONCLUSION

After an engagement process from January to April 2021, the Board adopted the *MVRD Air Quality Management Fees Regulation Bylaw No. 1330, 2021* (Bylaw 1330) on October 29, 2021, to include updated fees for air emissions and account for inflationary changes that have not been reflected in the bylaw since 2008. Consequentially, changes to the *GVRD Agricultural Boilers Emission Regulation Bylaw No. 1098, 2008* (Bylaw 1098) are needed to ensure fees are aligned with the fees proposed during engagement and those set out in Bylaw 1330. The proposed bylaw addresses concerns raised by agricultural boiler users. With the amendments to Bylaw 1098, the expected fees from dischargers will cover a share of Metro Vancouver's air quality regulatory services, while also encouraging emission reductions and leading to air quality improvements. Staff recommends Alternative 1 to the MVRD Board.

Attachment

MVRD Agricultural Boilers Emission Regulation Amendment Bylaw No. 1350, 2022

References

1. *MVRD Air Quality Management Fees Regulation Bylaw No. 1330, 2021* (Bylaw 1330)
2. Discussion Paper - Proposed Amendments to Air Quality Permit and Regulatory Fees in Metro Vancouver

59408831

METRO VANCOUVER REGIONAL DISTRICT
BYLAW NO. 1350, 2022
A Bylaw to amend "Greater Vancouver Regional District Agricultural Boilers Emission Regulation Bylaw No. 1098, 2008"

WHEREAS:

A. The Metro Vancouver Regional District has enacted the "Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008";

B. That Bylaw contemplates that the Board of the Metro Vancouver Regional District may establish emission regulations and fees;

C. The Metro Vancouver Regional District has enacted the "Metro Vancouver Regional District Air Quality Management Fees Regulation Bylaw No. 1330, 2021";

D. The Metro Vancouver Regional District has enacted the "Greater Vancouver Regional District Agricultural Boilers Emission Regulation Bylaw No. 1098, 2008"; and

E. The Board of the Metro Vancouver Regional District wishes to amend the "Greater Vancouver Regional District Agricultural Boilers Emission Regulation Bylaw No. 1098, 2008".

NOW THEREFORE the Board of Directors of the Metro Vancouver Regional District enacts as follows:

Citation

1. The official citation of this bylaw is "Metro Vancouver Regional District Agricultural Boilers Emission Regulation Amendment Bylaw No. 1350, 2022".

Effective Date

2. This bylaw will come into effect on January 1, 2024.

Amendment of Bylaw

3. "Greater Vancouver Regional District Agricultural Boilers Emission Regulation Bylaw No. 1098, 2008", as amended, is amended as follows:

    a) Section 12 is deleted and replaced with the following:

        12. Each year, each registered operator of a boiler must pay to the District a fee of $250 plus the total emission fees calculated in accordance with Appendix 1 for each calendar year or portion thereof, payable by April 1 of each calendar year, or upon registration if registration occurs after April 1 of that year.

    b) Appendix 1 is amended by deleting Table 1 and replacing with the following:

Table 1 – Air Contaminant Emission Fees per Tonne of Air Contaminant

Column 1	Column 2				
Air contaminant	**Emission fee per tonne of air contaminant**				
	2024	**2025**	**2026**	**2027**	**2028 and later**
Fine Particulate Matter ($PM_{2.5}$)	$943	$1,157	$1,371	$1,586	$1,800
Nitrogen Oxides (NO_x)	$93	$107	$121	$136	$150

c) Section 2 in Appendix 1 is amended by adding the following subsection:

(3) For the purposes of calculating air contaminant emission fees, condensable particulate matter and filterable particulate matter are deemed to be fine particulate matter.

Read a first, second and third time this _____ day of _____, _____.

Passed and finally adopted this _____ day of _____, _____.

George V. Harvie, Chair

Dorothy Shermer, Corporate Officer

To: Regional Planning Committee

From: Jessica Jiang, Regional Planner, Regional Planning and Housing Services

Date: April 14, 2023 Meeting Date: May 12, 2023

Subject: **Metro 2050 Amendment Request - Township of Langley (23699 and 23737 Fraser Highway)**

RECOMMENDATION

That the MVRD Board:

a) initiate the regional growth strategy amendment process for the Township of Langley's requested regional land use designation amendment from Rural to Industrial for the lands located at 23699 and 23737 Fraser Highway;
b) give first, second, and third readings to "Metro Vancouver Regional District Regional Growth Strategy Amendment Bylaw No. 1365, 2023"; and
c) direct staff to notify affected local governments as per section 6.4.2 of *Metro 2050*.

EXECUTIVE SUMMARY

The Township of Langley is requesting a Type 2 Amendment to *Metro 2050* for 4.12 hectares of land located at 23699 and 23737 Fraser Highway, owned by Bath Investments Ltd. The proposed amendment would re-designate the regional land use designation from Rural to Industrial to permanently allow for industrial uses (open storage of building materials, parking of commercial vehicles and/or equipment, and vehicle storage) granted under a temporary use permit set to expire in May 2024, as well as allow for additional industrial uses subject to meeting certain development prerequisites.

The proposed amendment has been considered in relation to *Metro 2050*'s goals, strategies, and policies. The analysis demonstrates that on balance, the proposed amendment is supportable and is aligned with *Metro 2050*'s goals and strategies. The proposed amendment:

- allows for existing industrial uses to permanently operate on the subject properties;
- is consistent with the surrounding land use context and is in close proximity to other industrial designated uses along Fraser Highway; and
- provides employment generating uses in close proximity to the Regional Truck Route Network.

PURPOSE

To provide the Regional Planning Committee and the Metro Vancouver Regional District (MVRD) Board with the opportunity to consider the Township of Langley's request to amend *Metro 2050* and re-designate 23699 and 23737 Fraser Highway from Rural to Industrial through a Type 2 Amendment.

BACKGROUND

On July 11, 2022, the Township of Langley Council granted third reading to the Langley Official Community Plan (OCP) Bylaw 1979 No. 1842 Amendment (Rural Plan), Bylaw 1933 No. 3250 Amendment (Bath Investments Ltd.) Bylaw No. 5793. On September 21, 2022, Metro Vancouver received the request from the Township to consider a regional growth strategy amendment for the subject properties (Attachment 1). If adopted, the Township's Bylaw No. 5793 would amend the Langley Official Community Plan by changing the land use designation from Rural to Industrial.

The update to the regional growth strategy, *Metro 2050* was adopted on February 24, 2023, and *Metro 2040* was subsequently rescinded. As such, the application is now being brought forward under *Metro 2050*. The requested Type 2 amendment requires adoption through an affirmative two-thirds weighted vote of the MVRD Board. Since the Township of Langley is a signatory to *Metro 2050*, final adoption of the amended OCP Bylaw cannot occur until the MVRD Board has adopted the amending bylaw for *Metro 2050*.

SITE CONTEXT

The two properties at 23699 and 23737 Fraser Highway total 4.12 hectares. Property details and existing land use designations are provided in Table 1.

Table 1 – Existing Site Designations

Site Size	4.12 hectares (10.19 acres)
Site Location	23699 and 23737 Fraser Highway
Current RGS Designation	Rural
Current OCP Designation	Rural
Current Rural Plan Designation	Small Farms/Country Estates
Current Zoning	Rural Zone RU-1
Current Subdivision & Development Servicing	Level 4 – Rural
Agricultural Land Reserve (ALR)	No
Urban Containment Boundary	Outside of Urban Containment Boundary

On October 21, 2019, Township Council authorized issuance of a temporary use permit for 23699 and 23737 Fraser Highway, which allows:

a) open storage of building materials;
b) parking of commercial vehicles and/or equipment (excluding transportation and trucking terminals and compounds including public transportation depots);
c) vehicle storage (excluding wrecked vehicles, recreational vehicles, and boats);

The temporary use permit will expire on May 14, 2024. The Township is proposing to amend the regional land use designation, and corresponding local bylaws to permanently allow the uses permitted by the temporary use permit, as well as to permit additional industrial uses on the subject properties.

The subject properties are located within 150m of existing Industrial properties to the east. The subject properties are bound by properties with an Agricultural designation and that are in the ALR

to the north, Fraser Highway to the south, Rural designated properties not within the ALR to the east and west. There are some Industrial designated properties along Fraser Highway, though most properties in the area are designated Rural or Agricultural (Figure 1).

PROPOSED REGIONAL LAND USE DESIGNATION AMENDMENT

The Township of Langley can only adopt the proposed OCP Bylaw, No. 5793 after the MVRD Board approves the corresponding regional growth strategy amendment. The proposed Bylaw would amend the Township's OCP and Zoning Bylaws for the subject properties to permanently accommodate industrial use on the site, and add the properties to Development Permit Area 'B' – Rural Commercial/Industrial. The proposed designations are outlined in Table 2.

Table 2 – Proposed Site Designations

Designation	Current	Proposed
RGS	Rural	Industrial
OCP	Rural	Industrial
Rural Plan	Small Farms/Country Estates	Small Farms/Country Estates with site specific text amendment to permit industrial uses
Zoning	Rural Zone RU-1	Service Industrial Zone M-1B
Subdivision & Development Servicing	Level 4 – Rural	Level 1 – Urban

The new designations would permanently allow for the industrial uses permitted under the Temporary Use Permit, as well as allow for additional industrial uses subject to meeting certain development prerequisites. These additional uses are outlined under the M-1B zoning provisions.

Figure 1 – Existing Regional Land Use Designation



Figure 2 – Proposed Regional Land Use Designation



The Township has stipulated as a part of its application that the registration of a restrictive covenant is a development prerequisite, which prohibits any building on the site until full urban services pursuant to the Township's subdivision and development servicing bylaw service level 1 have been provided. Development permit applications will be required to allow Council to review the form, character, and siting of future developments on the site. See Attachment 2 for additional information.

The proposed amendment is a Type 2 amendment to Metro 2050, requiring an amendment bylaw passed by a two thirds weighted vote of the Metro Vancouver Board. The proposed amendment will be posted on the Metro Vancouver website, will have a comments form on the Metro Vancouver website, and materials from the Township of Langley public hearing will be provided to the MVRD Board.

Should the application proceed, an updated Regional Context Statement (RCS) that reflects the proposed regional land use designation change will be required. It is expected that the Township will submit the updated RCS for consideration of acceptance if the Board chooses to initiate the proposed amendment process for *Metro 2050* and gives 1st, 2nd and 3rd readings to the amendment bylaw.

REGIONAL PLANNING ANALYSIS

The Township of Langley's proposed amendment has been assessed in relation to applicable *Metro 2050* goals and policies. The intent of the assessment is not to duplicate the municipal planning process, but rather to identify any potential regional planning implications and the regional significance of the proposed land use changes in consideration of *Metro 2050*. A summary of the regional planning analysis is provided as follows.

Goal 1: Create a Compact Urban Area

Strategy 1.1 Contain urban development within the Urban Containment Boundary is committed to concentrating urban development within the urban containment boundary (UCB) and supporting the efficient and cost-effective provision of infrastructure and services and amenities. *Metro 2050* generally considers Industrial to be an Urban Land Use Designation, but Industrial lands may be identified outside of the Urban Containment Boundary, as is the case with this application.

In *Metro 2050* Rural lands are intended to protect the existing character, landscapes, and environmental qualities of rural communities outside the Urban Containment Boundary. Land uses in these areas include low density forms of residential; agricultural; and small-scale commercial, industrial, or institutional uses, that do not require the provision of urban services such as sewerage or transit. As such, Rural lands are not intended as future urban development areas and generally will not have access to regional sewerage services.

There are existing light industrial uses on the site that do not require connection to regional sewerage services. There are three Rural designated properties to the east of the site, with six Industrial properties beyond that. Given this, there is a likelihood that if successful, this re-designation could incentivize adjacent Rural designated properties to also seek re-designation.

Strategy 1.4: Protect Rural lands from urban development states Rural designated lands located outside the Urban Containment Boundary are not intended for urban forms of development. Policy 1.4.1 states that Metro Vancouver will "direct the Greater Vancouver Sewerage and Drainage District (GVS&DD) to not allow connections to regional sewerage services to lands with a Rural regional land use designation." Should the amendment application proceed, and the properties be re-designated to Industrial, the Township may apply for the site's inclusion in the regional sewerage area at the discretion of the GVS&DD.

Goal 2: Support a Sustainable Economy

Strategy 2.2: Protect the supply and enhance the efficient use of industrial land, contains policies that support protecting and appropriately using the region's limited supply of Industrial and Employment lands. The Metro Vancouver region is facing a critical shortage of industrial lands. Specifically, there is a constrained land supply, pressure on industrial lands to convert to other uses, site specific development issues, and a complex jurisdictional environment. The Metro Vancouver region has one of the tightest industrial markets in North America, with extremely low vacancy rates and escalading industrial lease prices. The limited industrial land options constrain possible economic and employment growth within the region. Industrial lands are crucial to support a prosperous, sustainable regional economy and to provide space to accommodate the many industrial activities and services needed in a growing region. While representing just 4 per cent of the region's land base, industrial lands accommodate over 25 per cent of the region's total employment, and contribute to the region's economic well-being, with important links to transportation, trade, and tax dollars. The proposed amendment, if approved, would be adding 4.12 hectares of Industrial land to the region's supply and formalizing the current use and operations of the subject properties. Furthermore, the site is located in close proximity to other industrial designated lands to the east. Should the subject properties be re-designated from Rural to Industrial, the use would be consistent with existing

industrial operations in the immediate vicinity. The site is also strategically located from a goods movement perspective, as Fraser Highway is a part of the Truck Route Network.

Strategy 2.3: Protect the supply of agricultural land and strengthen agricultural viability, contains policies that support protecting land for agricultural production. Urban uses adjacent to agricultural land, regardless of whether it is in the Agricultural Land Reserve (ALR), can negatively impact the ability for that agricultural land to remain viable and productive. *Metro 2050* policy 2.3.7 supports working with stakeholders to require agriculture impact assessments for development adjacent to agricultural land as a necessity to protect that land. Extending urban uses into areas that support agricultural production may result in exposing adjacent agricultural land to the negative effects of urban development. The application does not indicate analysis has been undertaken to assess how a permanent change from to Rural to Industrial for the subject properties will impact the adjacent rural lands which are indicated for small farm uses in the Township's Rural Plan.

Should the application be advanced, edge planning and appropriate interface management between urban and agricultural uses are encouraged in accordance with *Metro 2050* policy 2.3.12 c) iv). Appropriate interfacing is necessary to ensure the urban uses do not negatively impact the agricultural lands identified. The Township could consider including a condition of approval as a part of the OCP and Zoning bylaw amendment process to accomplish this.

Goal 5: Support Sustainable Transportation Choices

Strategy 5.1 Coordinate land use and transportation to encourage transit, multiple-occupancy vehicles, cycling and walking recognizes that the coordination of land use and transportation supports positive region building by ensuring communities are connected to sustainable transportation networks while investing in transportation improvements for existing neighbourhoods. The site is not well supported by walking and cycling infrastructure, or by public transportation. Should the proposed regional land use designation amendment be advanced by the MVRD Board, the Township of Langley is encouraged to integrate active transportation facilities into the site design and adjacent neighbourhood, while working with the applicant and TransLink to develop Transportation Demand Management programs (e.g. vanpools, secure bicycle parking) for future commuters to and from the site.

Strategy 5.2 Coordinate land use and transportation to support the safe and efficient movement of vehicles for passengers, goods, and services recognizes that roadways and truck routes play a vital role in supporting the regional economy, shaping regional growth, and connecting Metro Vancouver to other regions. The strategy also recognizes that making the most of the goods movement system requires protecting industrial lands. The subject properties are strategically located from a goods movement perspective, as Fraser Highway is a designated truck route that connects to several nearby industrial sites and the broader Truck Route Network. From a commuter standpoint, the site has limited transit service and is not well-connected to regional walking and cycling infrastructure. The majority of trips to and from this location will be made by private vehicle.

REGIONAL PLANNING ADVISORY COMMITTEE COMMENTS

An information report on the amendment application was provided to the Regional Planning Advisory Committee (RPAC) for comment on April 6, 2023. Staff from the Township of Langley presented on

the amendment application and were available to answer questions from committee members. One committee member inquired about the anticipated completion date for the Township's upcoming Fraser Highway Employment Lands Area Plan that was highlighted in the Townships' presentation. The study area of the Fraser Highway Employment Lands Area Play encompasses the subject properties.

IMPLICATIONS FOR METRO VANCOUVER UTILITY SERVICES

A summary of anticipated impacts on Metro Vancouver's utilities is as follows:

Liquid Waste Services (Greater Vancouver Sewerage & Drainage District)

Following an initial review of the amendment application, Liquid Waste Services (LWS) note that the Township proposes a restrictive covenant prohibiting buildings on the properties until such time that urban services are provided. LWS interprets this clause as the Township may consider requesting regional sewer services for the properties in the future. LWS confirms that the subject properties are located more than 7km from the nearest Metro Vancouver sewer facility (Langley Connector No. 3). However, the amendment application does not contain sufficient details to allow Metro Vancouver to provide informed comments on current or future servicing. Should a detailed servicing plan for the properties be developed, LWS requests that the Township submit details to Metro Vancouver through the established application process so that an impact analysis can be completed. The Township is also encouraged to consider integrating effective inflow and infiltration management approaches to limit extraneous inflows from any new development.

Water Services (Greater Vancouver Water District)

A drinking water demand forecasts was not provided as a part of the Township's application, as such the exact hydraulic impacts on the regional drinking water system cannot yet be determined. Based on the Township's GIS maps and water system map in the OCP (Map 10), the subject properties are not currently serviced by the Township of Langley's municipal drinking water system. The subject properties are located about 1.5km from the terminus of the Township's western drinking water system on the Fraser Highway. The Report to Mayor and Council included in the Township's application package recommends utility upgrades in accordance with the Township's Subdivision and Development Servicing Bylaw, which includes the provision of water services. Water Services would like confirmation that the subject properties will be serviced by the Township's drinking water system if the properties are re-designated. Should the proposed regional land use designation amendment be approved by the MVRD Board, Water Services would request that the Township provide a demand forecast and assessment of the anticipated impacts to the municipal and regional water systems, as well as a servicing plan for this development.

REGIONAL GROWTH STRATEGY AMENDMENT PROCESS AND NEXT STEPS

If the amendment bylaw receives 1st, 2nd, and 3rd readings, it will then be referred to affected local governments and relevant agencies, as well as posted on the Metro Vancouver website for a minimum of 45 days to provide an opportunity for comment. Comments received will be summarized and included in a report advancing the bylaw to the MVRD Board for consideration of final adoption. An updated RCS from the Township will be considered at the same Board meeting as final adoption of the proposed amendment.

ALTERNATIVES

1. That MVRD Board:
   a) initiate the regional growth strategy amendment process for the Township of Langley's requested regional land use designation amendment from Rural to Industrial for the lands located at 23699 and 23737 Fraser Highway;
   b) give first, second, and third readings to "Metro Vancouver Regional District Regional Growth Strategy Amendment Bylaw No. 1365, 2023"; and
   c) direct staff to notify affected local governments as per section 6.4.2 of Metro 2050.

2. That the MVRD Board decline the proposed amendment for 23699 and 23737 Fraser Highway and notify the Township of Langley of the decision.

FINANCIAL IMPLICATIONS

If the MVRD Board chooses Alternative 1, there are no financial implications for Metro Vancouver related to the acceptance of the Township of Langley's Type 2 Amendment. If the MVRD Board chooses Alternative 2, a dispute resolution process may take place as prescribed by the *Local Government Act*. The cost of a dispute resolution is prescribed based on the proportion of assessed land values. Metro Vancouver would be responsible for most of the associated costs.

SUMMARY/CONCLUSION

The Township of Langley has requested that the MVRD Board consider a Type 2 amendment to *Metro 2050* for two lots totalling 4.12 hectares located along Fraser Highway. The amendment to re-designate the site from a Rural to Industrial land use will permanently allow for industrial uses on the subject properties. Additional information is required to fully assess liquid waste and water servicing implications of this application should it proceed. This information can be received post adoption during the development planning stage.

Overall, the proposed amendment allows for existing industrial uses to continue operations on the subject properties. The subject properties are in close proximity to other industrial uses along Fraser Highway. The amendment also ensures employment generating uses in close proximity to the Regional Truck Route Network. Staff recommend Alternative 1.

Attachments

1. Correspondence dated September 21, 2022, from Township of Langley, to Metro Vancouver Board re: Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250 Amendment (Bath Investments Ltd.) Bylaw No. 5793
2. Township of Langley Report, dated June 27, 2022 (File: 10-33-0104)
3. Metro Vancouver Regional District Regional Growth Strategy Amendment Bylaw No. 1365, 2023

References

Metro 2050

59165548

Township of Langley

Est. 1873

September 21, 2022 Bylaw No. 5793

James Stiver, Division Manager,
Growth Management and Transportation
Metro Vancouver
Via Email: James.stiver@metrovancouver.org

Dear Mr. Stiver: James

Re: Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250 Amendment (Bath Investments Ltd.) Bylaw No. 5793

On July 11, 2022, Township of Langley Council granted third reading to Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250 Amendment (Bath Investments Ltd.) Bylaw No. 5793.

Bylaw No. 5793 amends the Langley Official Community Plan (OCP) by amending the land use designation of the subject lands from "Rural" to "Industrial."

Attached, please find the Report to Council, Bylaw No. 5793, and adopted Council Minutes submitted for your consideration of what is believed to be a "Type 2" Regional Growth Strategy Amendment application. Staff note that the proposed amendment to the Regional Context Statement is applicable only to Map A-1, which will bring the RCS into alignment with the proposed land use changes.

If you have any questions, please contact Joel Nagtegaal, Development Planner, at 604.533.6044 or via email at jnagtegaal@tol.ca.

Yours truly,

Ramin Seifi
GENERAL MANAGER, COMMUNITY DEVELOPMENT

Attachments
1. Report to Council and attachments dated June 27, 2022
2. Bylaw No. 5793
3. July 11, 2022 adopted Council Minutes

copy: Bath Investments Ltd./1083876 BC Ltd.
Ben Neff, Giesbrecht & Company

Attachment 1

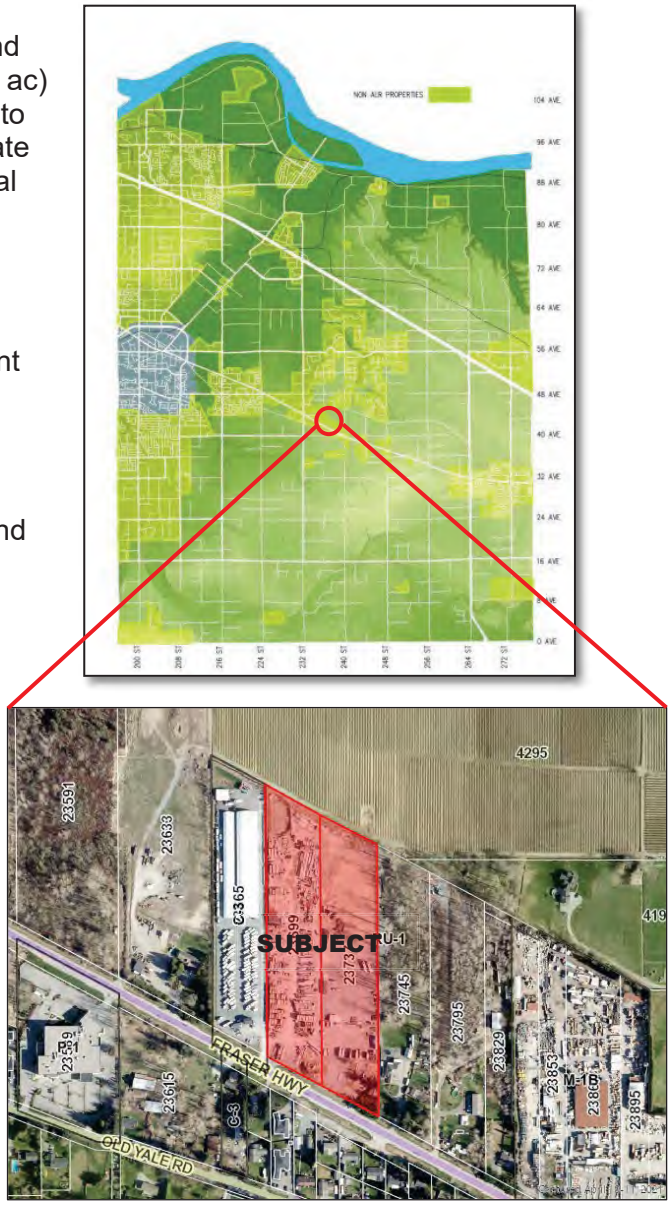
Township of Langley
Est. 1873

REPORT TO MAYOR AND COUNCIL

PRESENTED:	JUNE 27, 2022 - REGULAR MEETING	**REPORT:**	22-70
FROM:	COMMUNITY DEVELOPMENT DIVISION	**FILE:**	10-33-0104
SUBJECT:	OFFICIAL COMMUNITY PLAN AMENDMENT AND REZONING APPLICATION NO. 100201 (BATH INVESTMENTS LTD. / 23699 AND 23737 FRASER HIGHWAY)		

PROPOSAL:

Application to amend the Official Community Plan and Rural Plan and rezone approximately 4.12 ha (10.19 ac) of land located at 23699 and 23737 Fraser Highway to Service Industrial Zone M-1B in order to accommodate current temporary uses as well as additional industrial uses.



RECOMMENDATION SUMMARY:

That Council consider first and second reading of Bylaws No. 5793 and 5794 subject to 13 development prerequisites being satisfied prior to final reading of Rezoning Bylaw No. 5794; that Council consider first, second, and third readings to Bylaw No. 5803; and that staff be authorized to schedule the required public hearing should Council give the Bylaws first and second reading.

RATIONALE:

The proposed development is consistent with the overall objectives of the Official Community Plan with respect to creation of employment opportunities.

RECOMMENDATIONS:

That Council consider first and second reading of Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250 Amendment (Bath Investments Ltd.) Bylaw No. 5793 amending the Official Community Plan to change the designation of the lands from "Rural" to "Industrial" and amending the Rural Plan to permit industrial uses on the subject properties; and Township of Langley Zoning Bylaw 1987 No. 2500 Amendment (Bath Investments Ltd.) Bylaw No. 5794, rezoning 4.12 ha (10.19 ac) of land located at 23699 and 23737 Fraser Highway to Service Industrial Zone M-1B to permanently accommodate the uses permitted under Temporary Use Permit No. TU000001 as well as additional industrial uses subject to the following development prerequisites being satisfied to the acceptance of the Township of Langley General Manager of Engineering and Community Development, unless noted otherwise, prior to final reading:

1. A Servicing Agreement being entered into with the Township to secure required road and utility upgrades and extensions associated with proposed Fraser Highway transportation related items in accordance with the Township's Subdivision and Development Servicing Bylaw;
2. Submission of an erosion and sediment control plan in accordance with the Erosion and Sediment Control Bylaw;
3. Provision of road dedications, widenings, and necessary traffic improvements for Fraser Highway (including deceleration lane), in accordance with the Township's Master Transportation Plan, Subdivision and Development Servicing Bylaw, and the Street Trees and Boulevard Plantings Policy;
4. Secure a 10 m wide statutory right of way along the north portion of the site for future access;
5. Secure a 20 m wide statutory right of way on the central portion of the site for future access;
6. Provision of a final tree management plan incorporating tree retention, replacement, protection details, and security in compliance with the Subdivision and Development Servicing Bylaw (Schedule I – Tree Protection);
7. Provision of final landscape plans and security to the acceptance of the Manager of Green Infrastructure Services;
8. Registration of restrictive covenants:
    a. Restricting building construction (i.e., "no building") until a Development Permit is issued for the site and full services are provided in compliance with Subdivision and Development Servicing Bylaw 2019 No. 5382 Service Level 1;
    b. Restricting left hand turning movements from the western driveway onto and from Fraser Highway; and
    c. Requiring installation of an accepted landscape plan;
9. Demolition of the existing single family dwelling;
10. Approval of the necessary amendments to the Metro Vancouver Regional Growth Strategy (RGS) and Greater Vancouver Sewerage and Drainage District;
11. Completion of all relevant external agency, federal, provincial, regional, and Township approvals;
12. Compliance with Item 5.2(g) of Community Amenity Contributions (CAC) Policy in support of the OCP amendment; and
13. Payment of supplemental Rezoning fees, Development Engineering and Green Infrastructure service fees, Development Works Agreement (DWA) and Latecomer charges;

That Council consider the Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250 Amendment (Bath Investments Ltd.) Bylaw No. 5793 as consistent with the Township's Five Year Financial Plan as updated annually and with Metro Vancouver's Integrated Liquid Waste Resource Management Plan and Integrated Solid Waste and Resource Management Plan, the Housing Needs Report, and with the consultation requirement of Official Community Plan Consultation Policy (07-160);

That (at the time of third reading of Bylaw No. 5793) Council authorize staff to advance the application to Metro Vancouver for the proposed amendments to the Regional Growth Strategy;

That Council grant first, second, and third reading to Subdivision and Development Servicing Bylaw 2019 No. 5382 Amendment (Bath Investments Ltd.) Bylaw No. 5803 (and grant final reading at time of final reading of Bylaw No. 5794); and further

That Council authorize staff to schedule the required public hearing for the Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250 Amendment (Bath Investments Ltd.) Bylaw No. 5793 and Township of Langley Zoning Bylaw 1987 No. 2500 Amendment (Bath Investments Ltd.) Bylaw No. 5794.

EXECUTIVE SUMMARY:

On October 21, 2019, Council authorized issuance of a temporary use permit to temporarily permit a) open storage of building materials, b) parking of commercial vehicles and / or equipment (excluding transportation and trucking terminals and compounds including public transportation depots), and c) vehicle storage (excluding wrecked vehicles, recreational vehicles, and boats) on properties located at 23699 and 23737 Fraser Highway.

Giesbrecht & Company, on behalf of the owners, has applied to amend the Official Community Plan (OCP) and the Zoning Bylaw to permanently allow the uses permitted by the temporary use permit as well as permit additional industrial uses.

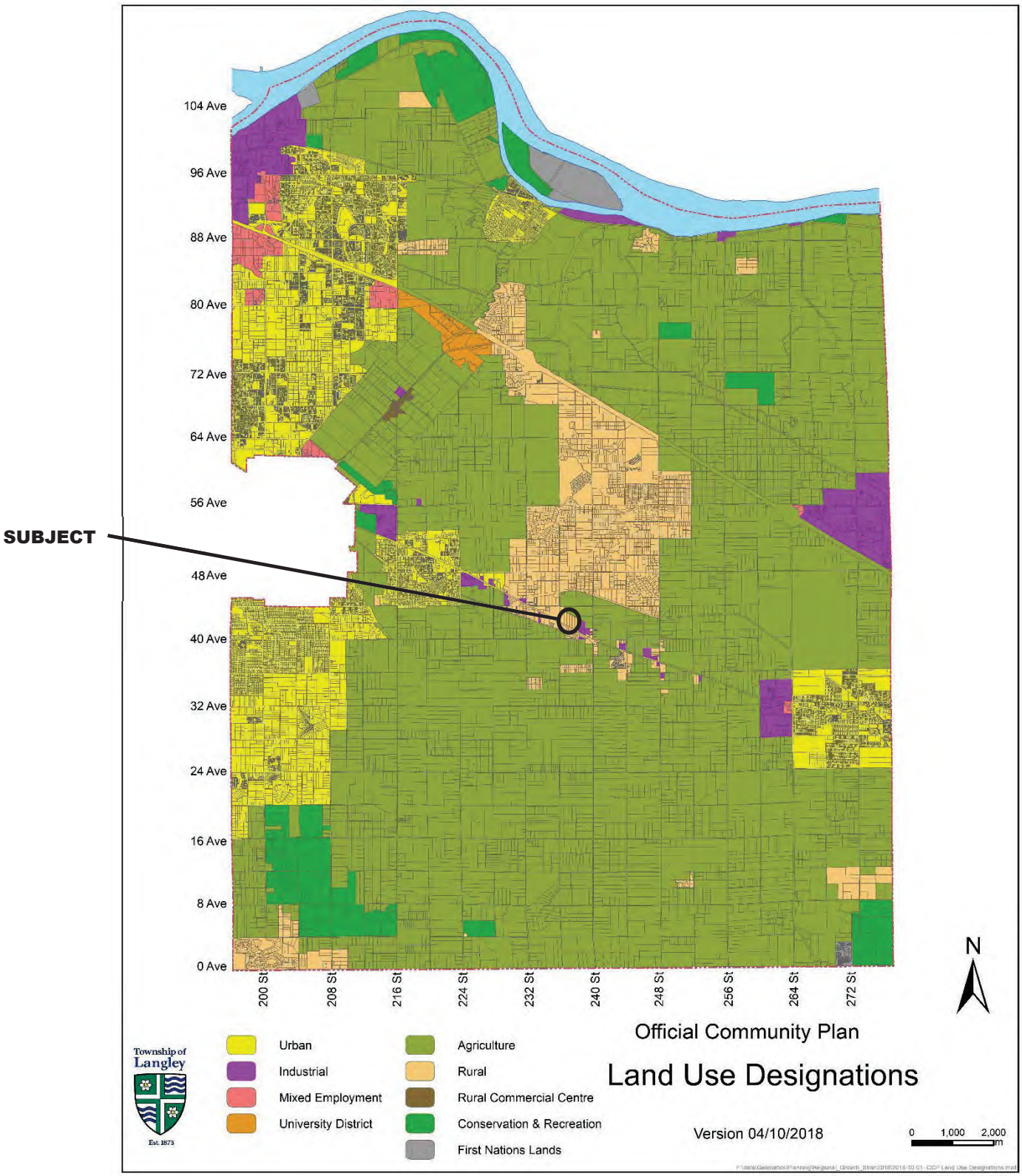
The subject lands are adjacent to an existing service commercial property and are within 150 m of other existing industrial properties on the north side of Fraser Highway. The subject application proposes to increase the industrial land base in the Township of Langley. Given the existing commercial and industrial properties in close proximity to the subject site and that the subject properties are not located in the Agricultural Land Reserve, staff recommend Council consider the application.

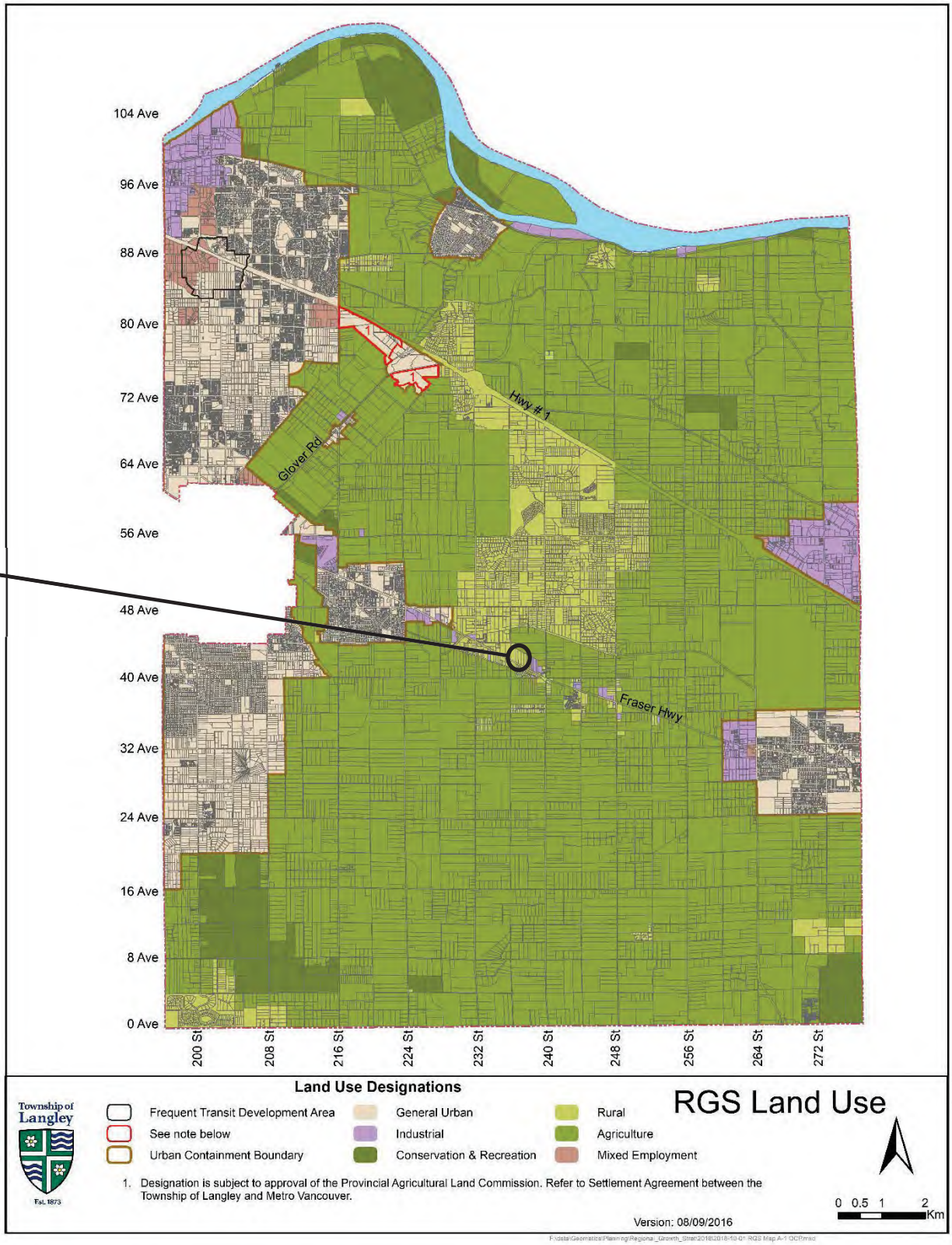
An amendment to the Subdivision and Development Servicing Bylaw 2019 No. 5382 is required to amend the site's service level from Level 4 – Rural to Level 1 – Urban. Staff note that an amendment to the Metro Vancouver Regional Growth Strategy (RGS) will also be required to accommodate the proposal should the Bylaws proceed to third reading.

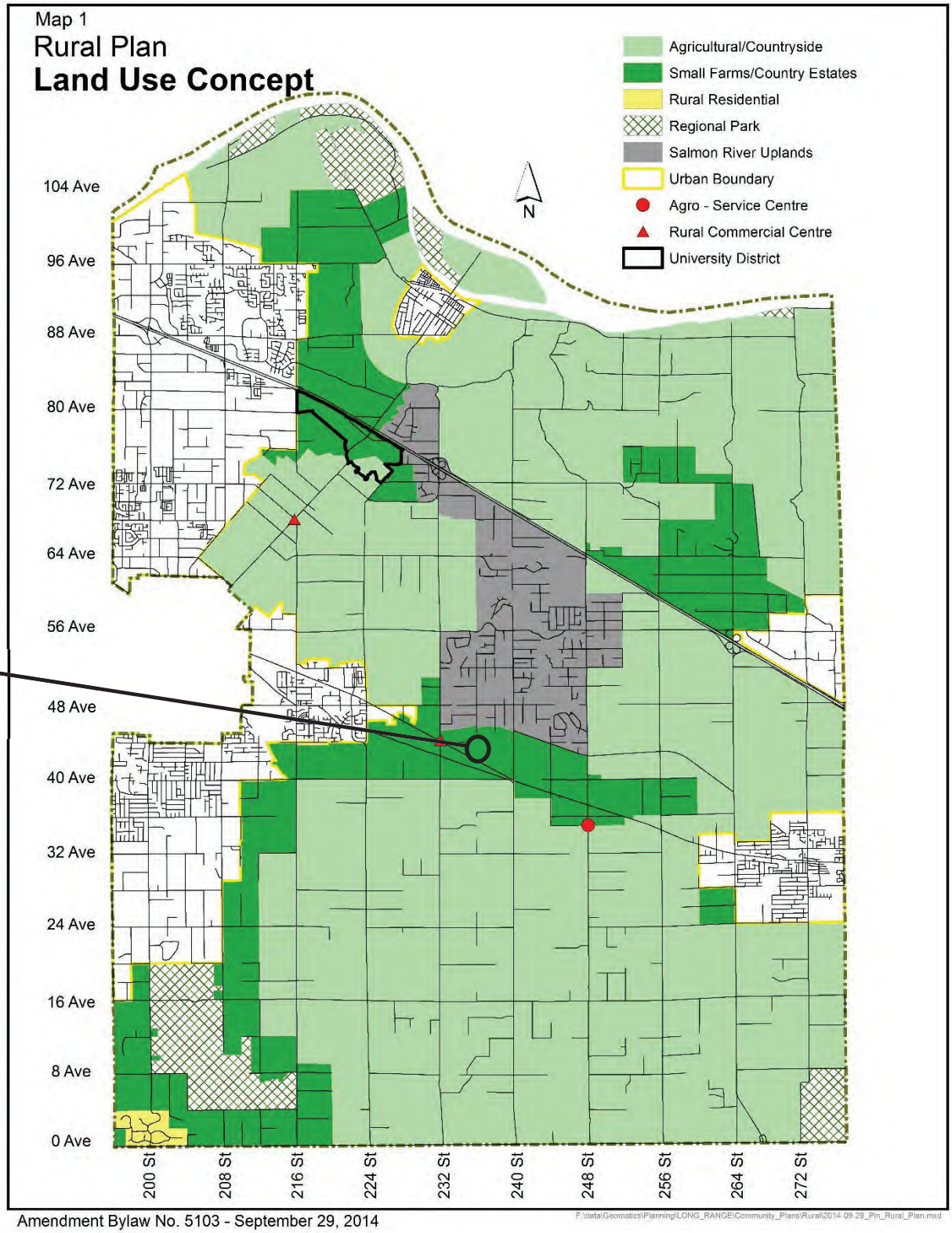
Future development permit applications will be necessary to allow Council the opportunity to review the form, character, and siting of future developments on the site. Staff recommend that the Official Community Plan and rezoning amendments be considered subject to the development prerequisites listed in this report being satisfied prior to Council's consideration of final reading of the applicable bylaws.

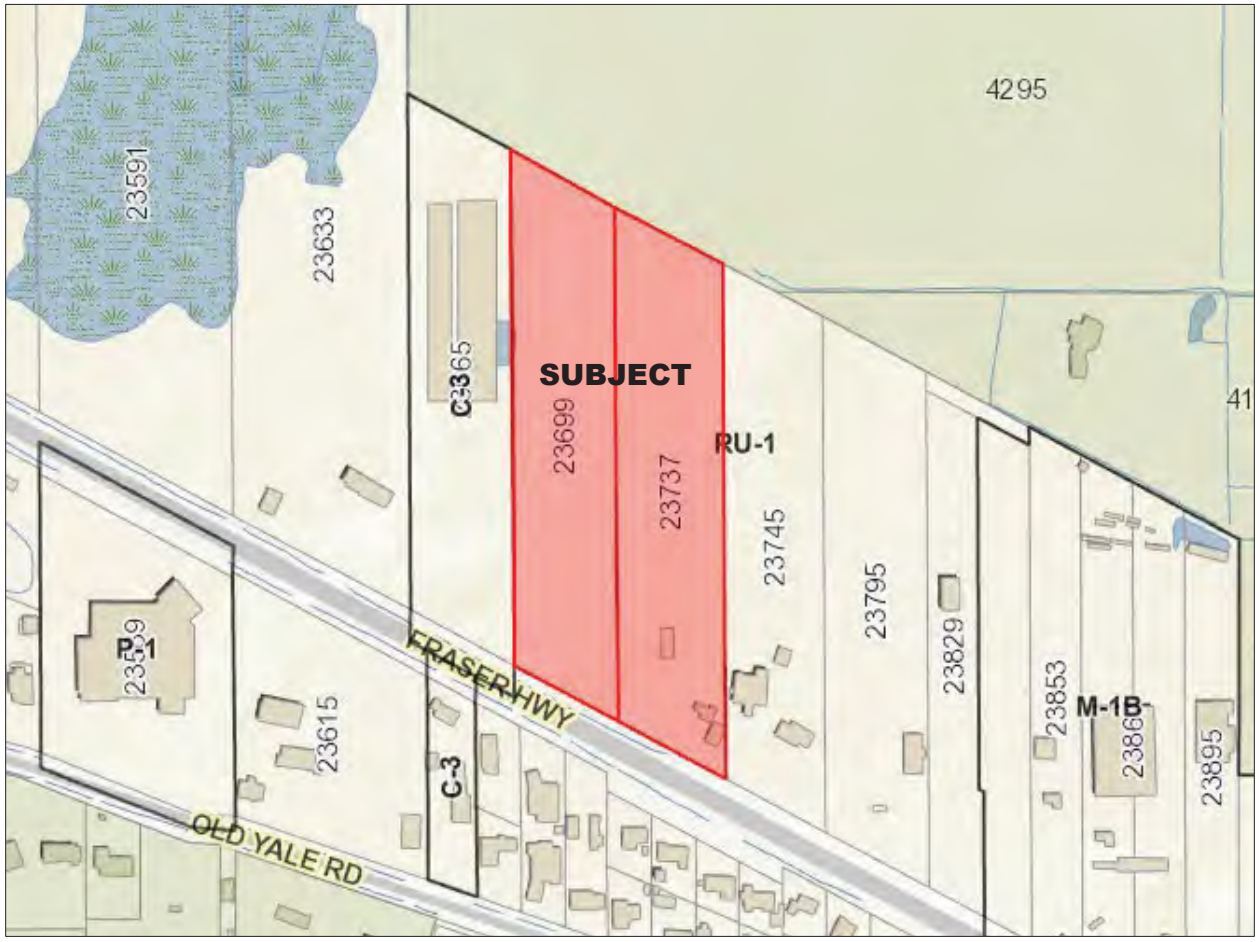
PURPOSE:

The purpose of this report is to advise and make recommendations to Council with respect to proposed Official Community Plan Amendment Bylaw No. 5793, Rezoning Bylaw No. 5794, and Subdivision and Development Servicing Bylaw Amendment Bylaw No. 5803.

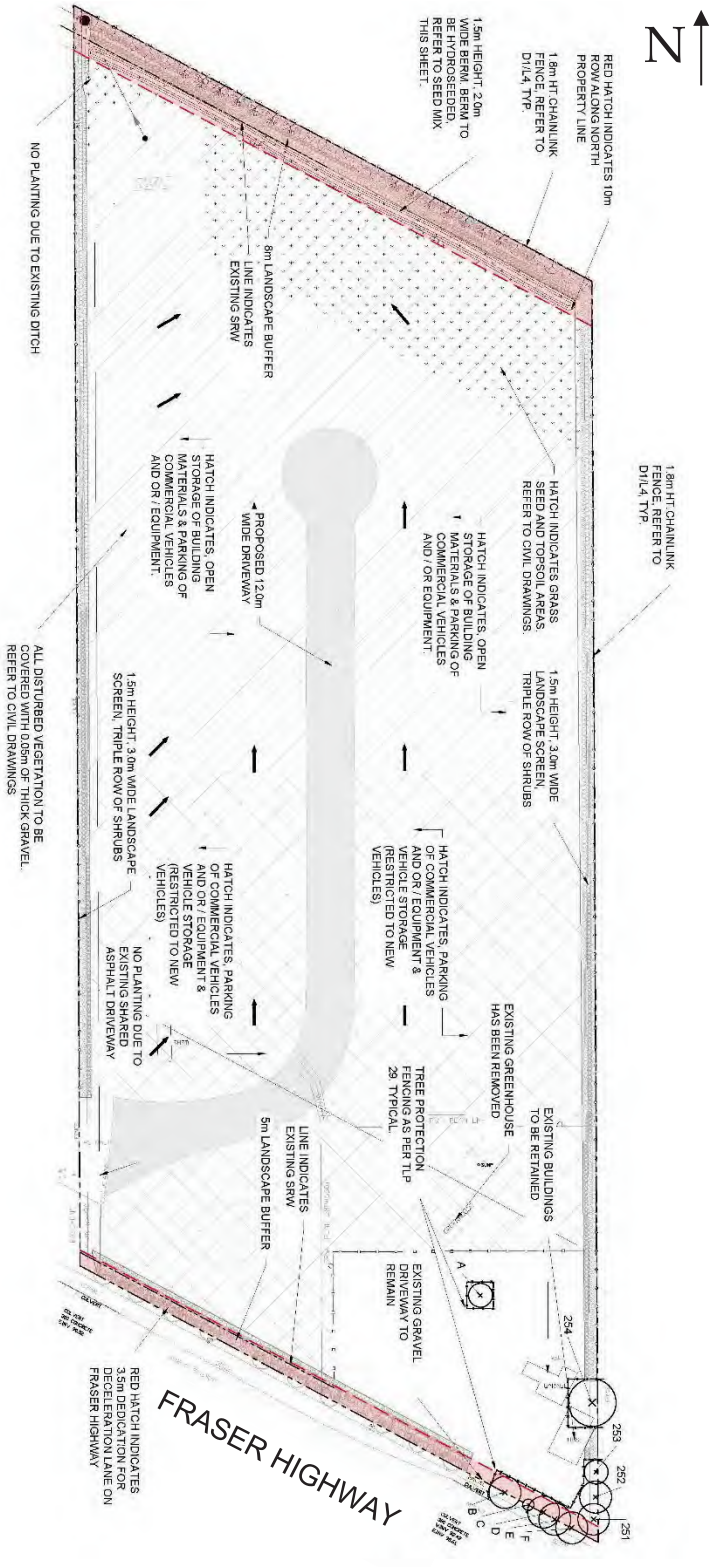

SUBJECT
104 Ave
96 Ave
88 Ave
80 Ave
72 Ave
64 Ave
56 Ave
48 Ave
40 Ave
32 Ave
24 Ave
16 Ave
8 Ave
0 Ave
200 St
208 St
216 St
224 St
232 St
240 St
248 St
256 St
264 St
272 St
N
Township of Langley
Est. 1873
Urban
Industrial
Mixed Employment
University District
Agriculture
Rural
Rural Commercial Centre
Conservation & Recreation
First Nations Lands
Official Community Plan
Land Use Designations
Version 04/10/2018
0 1,000 2,000 m


SUBJECT
104 Ave
96 Ave
88 Ave
80 Ave
72 Ave
64 Ave
56 Ave
48 Ave
40 Ave
32 Ave
24 Ave
16 Ave
8 Ave
0 Ave
200 St
208 St
216 St
224 St
232 St
240 St
248 St
256 St
264 St
272 St
Hwy # 1
Glover Rd
Fraser Hwy
Land Use Designations
Township of Langley
Est. 1873
Frequent Transit Development Area
See note below
Urban Containment Boundary
General Urban
Industrial
Conservation & Recreation
Rural
Agriculture
Mixed Employment
RGS Land Use
1. Designation is subject to approval of the Provincial Agricultural Land Commission. Refer to Settlement Agreement between the Township of Langley and Metro Vancouver.
0 0.5 1 2
Km
Version: 08/09/2016


Map 1
Rural Plan
Land Use Concept
Agricultural/Countryside
Small Farms/Country Estates
Rural Residential
Regional Park
Salmon River Uplands
Urban Boundary
Agro - Service Centre
Rural Commercial Centre
University District
N
104 Ave
96 Ave
88 Ave
80 Ave
72 Ave
64 Ave
56 Ave
48 Ave
40 Ave
32 Ave
24 Ave
16 Ave
8 Ave
0 Ave
200 St
208 St
216 St
224 St
232 St
240 St
248 St
256 St
264 St
272 St
SUBJECT
Amendment Bylaw No. 5103 - September 29, 2014
F:\data\Geomatics\Planning\LONG_RANGE\Community_Plans\Rural\2014-09-29_Pln_Rural_Plan.mxd



ZONING BYLAW NO. 2500



SITE PLAN – SUBMITTED BY APPLICANT

REFERENCE:

Owner:	Bath Investments Ltd. 23867 Fraser Highway Langley BC V2Z 2K5 1083876 BC Ltd. 23867 Fraser Highway Langley BC V2Z 2K5
Agent:	Giesbrecht & Company 353 PO Box 8000 Abbotsford BC V2S 2M5
Legal Description:	Lot 8 Section 33 Township 10 New Westminster District Plan 8793 Parcel “A” (Explanatory Plan 13205) Lots 6 and 7 Section 33 Township 10 New Westminster District Plan 8793
Civic Address:	23699 and 23737 Fraser Highway
Area:	4.12 ha (10.19 ac)
Official Community Plan: (existing)	Rural
Official Community Plan: (proposed)	Industrial
Rural Plan: (existing)	Small Farms / Country Estates
Rural Plan: (proposed)	Small Farms / Country Estates (with site-specific text amendment to permit industrial uses on the subject properties)
Existing Zoning:	Rural Zone RU-1
Proposed Zoning:	Service Industrial Zone M-1B

BACKGROUND/HISTORY:

The subject lands are currently zoned Rural Zone RU-1, designated Small Farms / Country Estates in the Rural Plan and accommodate a single family dwelling and accessory building on the southeast portion of the site and outdoor storage of equipment and vehicles on the rest of the site. On October 21, 2019, Council authorized issuance of a temporary use permit to temporarily permit a) open storage of building materials, b) parking of commercial vehicles and/or equipment (excluding transportation and trucking terminals and compounds including

public transportation depots), and c) vehicle storage (excluding wrecked vehicles, recreational vehicles, and boats) on properties located at 23699 and 23737 Fraser Highway. The properties are currently being used for the uses permitted by the temporary use permit. Stormwater management, including construction of an onsite detention stormwater pond, has been addressed in conjunction with a soil permit application on the subject properties.

The existing single family dwelling does not comply with proposed zoning siting provisions. Accordingly, a condition of Rezoning Bylaw No. 5794 has been included to remove the building.

DISCUSSION/ANALYSIS:

To accommodate the proposal to rezone the property to permanently allow the uses permitted by the temporary use permit as well as permit additional industrial uses (Attachment B), the applicant has applied for amendments to the Township's Official Community Plan (OCP) and Rural Plan. Staff note that an amendment to the Metro Vancouver Regional Growth Strategy (RGS) is also required. Given urban services are not available to the site, registration of a restrictive covenant prohibiting any building on the site until such time as full urban services pursuant to Subdivision and Development Servicing Bylaw Service Level – 1 have been provided is a development prerequisite.

Future Development Permit applications are required for any future buildings at which time Council will have the opportunity to review form, character, and siting matters prior to building permits being issued. A Development Permit typically details the form and character of each development including siting, access, parking, landscaping, building materials, colours, building elevations, and other site development items.

Adjacent Uses:

North:	A rural property within the ALR, 14.95 ac (36.95 ac), designated Small Farms / Country Estates in the Rural Plan and zoned Rural Zone RU-1;
South:	Fraser Highway, beyond which are lots designated Small Farms / Country Estates in the Rural Plan, zoned Rural Zone RU-1, not within the ALR;
East:	A rural property, designated Small Farms / Country Estates in the Rural Plan, zoned Rural Zone RU-1, not within the ALR; and
West:	A commercial property, designated Small Farms / Country Estates in the Rural Plan, zoned Service Commercial Zone C-3, not within the ALR.

Official Community Plan Amendment:

The subject lands are currently designated Rural in the OCP which intends to maintain the existing rural residential character of the area.

Section 2.2.9 of the OCP provides the following:

2.2.9. Consider undertaking more detailed plans to provide a vision and appropriate policies for the Salmon River Uplands and Fraser Highway corridor areas.

Staff note that as a development prerequisite for ToL Project No. 10-33-0091 (Oakbrook Foundation / 23400 – 44 Avenue), the proponent was required to provide a Fraser Highway Corridor Land Use Study which included the subject lands. While the study is not a Township plan, nor has it been endorsed by the Township, it did include conceptual land use information

indicating that lands on the north side of Fraser Highway between 232 Street and 240 Street could accommodate industrial uses, noting:

> *A shrinking industrial land supply in Metro Vancouver, high historical industrial growth rates in the Township, and the well-situated location of the Study Area at the convergence of 3 major truck routes, positions it as an attractive opportunity for industrial development. Fraser Highway is a provincial highway providing connections west to the City of Langley, Surrey, and east to Abbotsford and beyond. 232 Street provides a direct connection north to Highway 1 and south to 16 Avenue. 40 Avenue provides a connection west towards the Campbell Heights Industrial Area of Surrey.*
>
> *Industrial land-use within the Study Area is envisioned primarily north of Fraser Highway where some existing industrial-related uses are located, larger parcelization is conducive to larger format industrial users and consolidation, and because this area is generally separated from existing residential uses.*

The OCP outlines goals for employment lands in Section 3.7 - Employment Land Goals:

- *3.7.2 Ensure a long-term supply of employment lands is maintained, with a match between available land and the requirements of future market demand.*
- *3.7.4. Encourage industrial development that has a high employment ratio*
- *3.7.6. Consider designation of new employment lands where appropriate.*

Given the above, the proposal is, in staff's opinion, consistent with the above OCP goals.

Rural Plan Amendment:

The subject lands are currently designated Small Farms / Country Estates in the Rural Plan. Section 2.1 of the Rural Plan states "The primary goal of the Rural Plan is to enhance agricultural viability through recognition and protection of the diverse agricultural lands, preservation of larger lot sizes, creation of policies that reinforce designation of much of the land as ALR and encouragement of the agricultural industry within Langley…"

Policies for the Small Farms / Country Estates designation (Section 5.6 of the Rural Plan) indicate that the designation should provide for agricultural uses. Section 5.14 of the Rural Plan provides the following information with respect to industrial development:

> *Industrial development shall not be permitted in the rural area, but shall be directed to areas designated industrial growth and, where it meets the criteria, the Agro-Service Centre. Expansion of existing industrial uses on their present sites may be considered, subject to review of impacts on surrounding land and uses.*

Section 2.1 of the Rural Plan includes the following as a goal of the plan:

> *The plan recognizes the wide variety of uses currently existing in the area and is designed to accommodate continued agricultural use, expanded recreational opportunities, some additional small*

> *farms/country estates use and limited new commercial and industrial activities.*

Section 5.14.2 of the Rural Plan provides the following with respect to industrial development within the rural area:

> *5.14.2 Industrial development shall not be permitted in the rural area, but shall be directed to areas designated industrial growth and, where it meets the criteria, the Agro-Service Centre. Expansion of existing industrial uses on their present sites may be considered, subject to review of impacts on surrounding land and uses.*

According to the applicant, the intent of the proposal is as follows:

> *The intention of the proponent is for approximately 50 percent of the property to be used by the owner-occupier, Surrey Cedar Ltd., which would use the property to compliment its operations at 23867 Fraser Hwy, Langley, which employs 30 people. These complimentary uses would include overflow material and equipment for the mill. The remaining 50 percent of the site is intended to be rented out to various tenants for uses in-line with the TUP and future M-1B designation*

As indicated by the proponent, the current proposal accommodates, in part, expansion of an existing industrial use 150 m to the east.

Historically, industrial uses in the Rural Plan have been recognized under the Small Farms / Country Estates land use designation. Accordingly, Bylaw No. 5793 amends the Rural Plan by:

a) Adding provisions to the Small Farms / Country Estates designation to accommodate industrial development on a site specific basis on the subject properties; and
b) Adding the subject properties to Development Permit Area 'B' – Rural Commercial/Industrial.

Metro 2040 – Metro Vancouver Regional Growth Strategy (RGS):

The subject lands are designated Rural in the RGS. This designation is intended to limit development to a scale, form, and density consistent with the intent of the rural land use, and support agricultural uses within the ALR and, where appropriate, outside of the ALR. Staff note that the subject properties are not located in the ALR. Given the proposed OCP amendment and the need for the Township's OCP to align with the RGS, an amendment to the RGS is necessary to accommodate the proposed industrial land use.

The RGS states that additional industrial lands are needed in the region to meet the day to day needs of the population:

> *Market pressure to convert industrial lands to office, retail and housing has resulted in a diminished supply of industrial land in the region, while demand for land for industrial activities continues to increase as the population and economy of the region grow. Many industries provide for*

> *the day-to-day needs of the region's population, such as repair and servicing activities, and renovation and construction functions for shops, homes, hotels and restaurants. Additional lands are needed for container storage, freight forwarding, warehouses, and other distribution functions.*

The RGS and the Regional Context Statement Section 1.1.7(3) of the OCP provides guidance for redesignating land from Agriculture to Industrial as outlined below:

a) the proposed use is consistent with the general intent of the 'Industrial' land use designation contained in the Township of Langley's OCP;
b) the subject site is no more than 10 hectares in size;
c) the subject site is contiguous with the existing Urban Containment Boundary specified in the Regional Growth Strategy; and
d) the subject site is not contiguous with a site previously re-designated pursuant to Revised Context Statement Section 1.1.7.

While the proposal generally aligns with the above criteria as the proposed industrial use would be consistent with the general intent of the "industrial" land use designation contained in the Township's OCP and is less than 10 ha in size, staff note that the subject site is not contiguous with the urban containment boundary specified in the RGS.

A Type 2 – Minor Amendment to the Regional Growth Strategy requires a 'two-thirds weighted vote and regional public hearing' as identified in Section 6.3.3(c) of the RGS below:

> *6.3.3(c) amendment from Rural land use designation to Industrial, Mixed Employment or General Urban land use designations;*

Should Council grant third reading to the subject application, staff will advance application to Metro Vancouver for consideration of the necessary amendments to the RGS and the Greater Vancouver Sewerage and Drainage District (GVS & DD) catchment in order to accommodate the proposed change in land use.

Access:

The subject site is currently accessed via a shared driveway with the property to the east from Fraser Highway. The existing single-family dwelling is accessed via a separate driveway on Fraser Highway. As part of the development, the applicant will be required to provide a deceleration lane in front of the subject properties. Additionally, the applicant will be required to register a restrictive covenant limiting the existing shared driveway to right in / right out movements only. These requirements have been included in the list of development prerequisites to be completed prior to final reading of the rezoning bylaw.

Road dedications and statutory rights of ways have been historically secured on northerly portions of several properties between 236 Street and 240 Street on the north side of Fraser Highway in order to support future road infrastructure. Accordingly, securing rights of ways of 10 m on the northerly portion of the site as well as 20 m on the central portion of the site are included as development prerequisites.

Voluntary Community Benefit Contribution:

Recognizing that OCP land use amendments result in potential increases in land value, Council adopted amendments to the CAC policy in October 2021. Specifically, Item 5.2(g) of the Policy states:

> *With Section 5.2 (f) as a minimum, where the form of growth is more unique; and for more substantial or complex applications proposing an amendment to the OCP, at the discretion of the Township of Langley or as directed by Council, the Township working in collaboration with the applicant, will determine a more appropriate target CAC to ensure an appropriate level of alignment with the proposed OCP amendment*

In response to the policy, the applicant is proposing a $100,000 community benefit contribution donation to Foundry Langley. Foundry Langley is a resource centre for youth that will offer young people aged 12-24 access to mental health and substance use support, primary care, peer support, and social services. Based on the 4.12 ha (10.19 ac) site, this equates to a contribution of $24,271.84 per ha / $9,813.54 per ac.

According to the applicant,

> *The public amenity provided is employment opportunity and increase tax revenues. The properties are not part of the ALR. The land lift is minimal. $50+ million upgrades to servicing is required for any building or development to occur.*

Official Community Plan Consultation Policy:

Council's Official Community Plan Consultation Policy 07-160 requires Council to consider the OCP amendment in conjunction with the Financial Plan, Housing Needs Report, and any applicable waste management plan. Staff recommend that Council consider the proposed OCP amendment consistent with the Township's financial plans (both operating and capital) and Metro Vancouver's Waste Management Plans.

Zoning Amendment:

Bylaw No. 5794 proposes to rezone the subject properties to Service Industrial Zone M-1B with existing temporary uses on a site specific basis (Attachment B). The Service Industrial Zone M-1B is consistent with other industrial properties along Fraser Highway and permits a range of industrial uses. Staff note that any permitted uses in the proposed zone which require a building will not be permitted until a development permit and servicing have been issued and secured. The proposed development complies with the minimum parcel size provisions of the Service Industrial Zone M-1B.

Public Consultation:

Per Policy No. 07-169, the applicant held a Public Information Meeting on February 23, 2022. In accordance with the Policy, the applicant mailed notices to the surrounding area and posted notification in the local newspaper. The results are compiled and provided as Attachment A.

Servicing:

The subject property is designated Service Level 4 – Rural. Bylaw No. 5803 proposes to amend the Subdivision Development Servicing Bylaw to designate the subject site as Service Level 1 – Urban.

Prior to final reading, the applicant is required to enter into a Servicing Agreement to secure works and services such as construction of a deceleration lane on Fraser Highway, road works, and tree replacement with the Subdivision and Development Servicing Bylaw. Stormwater management, including construction of an onsite stormwater pond, has been addressed in conjunction with a soil permit application (SO002063) issued January 20, 2020 on the subject

properties. Road dedications and widening, and necessary traffic improvements will be required in accordance with the Township's Master Transportation Plan. The applicant will also be required to provide erosion and sediment control measures in accordance with the Erosion and Sediment Control Bylaw, to the acceptance of the General Manager of Engineering and Community Development prior to the issuance of any building permits. Given urban services are not available to the site, registration of a restrictive covenant prohibiting any building on the site until such time as full urban services pursuant to Subdivision and Development Servicing Bylaw Service Level – 1 have been provided is a development prerequisite.

Tree Protection/Replacement:

The tree management plans submitted by the applicant indicate that 10 significant trees exist on the subject site and all 10 are currently proposed for retention. In accordance with the Township's Subdivision and Development Servicing Bylaw (Schedule I – Tree Protection), a total of 276 replacement trees are required. The applicant is proposing 100 replacement trees to be planted on the site with funds for the remaining 176 replacement trees being secured for planting on identified public lands. Post development, approximately 110 trees will be in place with cash in lieu provided for the remaining 176 replacement trees. Final tree retention, protection, and replacement plans are subject to the final acceptance of the Township. This requirement has been included in the list of development prerequisites to be completed prior to final reading of the rezoning bylaw.

Environmental Considerations:

The Township's Sustainability Charter includes environmental objectives to protect and enhance rivers, streams, wildlife habitats and environmentally sensitive areas in the Township. These environmental objectives are supported by policy and guidance outlined in the Township's Environmentally Sensitive Areas Study, Wildlife Habitat Conservation Strategy, Schedule 3 of the OCP, Erosion and Sediment Control Bylaw, and Subdivision and Development Servicing Bylaw (Schedule I – Tree Protection) which promote sound environmental management practices and outline Township environmental performance expectations. The provision of stormwater management and sediment control measures and compliance with the Township's Subdivision and Development Servicing Bylaw (Schedule I – Tree Protection) satisfies the objectives of the Sustainability Charter.

Exterior Lighting Impact Policy:

As the subject site is located within 150 m (498 ft) of land designated for rural residential purposes, compliance with the Township's Exterior Lighting Impact Policy is required. Provision of an exterior lighting impact plan prepared by an electrical engineer to the acceptance of the Township would be required as part of a future development permit and prior to the issuance of a building permit.

Policy Considerations:

The proposed amendments to the OCP, Rural Plan, RGS, Subdivision and Development Servicing Bylaw, and proposed rezoning will enable future industrial development of the subject lands increasing the supply of employment land in the Township. The proposed development is

compatible with the overall objectives of the Township's Official Community Plan and Rural Plan.

Therefore, staff recommend Council consider first and second reading to Bylaws No. 5793 and 5794 subject to 13 development prerequisites; first, second, and third reading to Bylaw No. 5803; and that staff be authorized to schedule the required public hearing should Council give the Bylaws first and second reading.

Respectfully submitted,

Joel Nagtegaal
DEVELOPMENT PLANNER
for
COMMUNITY DEVELOPMENT DIVISION

ATTACHMENT A Public Information Meeting Summary

ATTACHMENT B Permitted and Proposed Uses

Giesbrecht & Co.
#353 – PO Box 8000, Abbotsford, BC, V2S 6H1
604.825.2123 | info@giesbrechtandco.com | www.giesbrechtandco.com

June 16, 2022

Township of Langley
20338 65 Ave
Langley, BC V2Y 3J1

10-33-0104

Attention: Joel Nagtegaal

Re: Overview of Public Information Meeting

It was held virtually on February 23, 2022, to view the rezoning proposal and provide comments and feedback prior to Township Council's consideration of this Application for 23699 and 23737 Fraser Highway.

Thirty-seven nearby properties were notified of the Public Information Meeting as provided by the Township of Langley Staff.

List of Attendees

TEAM MEMBER	**COMPANY**
Patrick Giesbrecht	Giesbrecht and Company
Benjamin Neff	Giesbrecht and Company
Sunjeev Bath	Bath Investment Ltd.
Jessica Thiessen	Krahn Engineering
Joel Nagtegaal	Township of Langley
Kim Richter	Township of Langley
Petrina Arnason	Township of Langley
FOIPPA s. 22(1)	General Public
FOIPPA s. 22(1)	General Public

Comments and questions were addressed regarding the entrance size to the property, future building concerns, and water servicing.

Giesbrecht & Co.
#353 – PO Box 8000, Abbotsford, BC, V2S 6H1
604.825.2123 | info@giesbrechtandco.com | www.giesbrechtandco.com

Should you have any further questions, please contact the undersigned 778.926.8412 or benjamin@giesbrechtandco.com

Yours truly,

Benjamin Neff
Manager
Giesbrecht and Company

EXISTING TEMPORARY USE PERMIT USES

1) open storage of building materials;
2) parking of commercial vehicles and / or equipment (excluding transportation and trucking terminals and compounds including public transportation depots); and
3) vehicle storage (excluding wrecked vehicles, recreational vehicles, and boats)

M-1B USES NOTING PROPOSED ADDITIONAL USES (BOLD)

1) accessory buildings and uses
2) accessory open storage
3) auction marts
4) bakeries
5) brewery or distillery
6) building supplies, lumber yards
7) commercial recreation, instruction and entertainment uses excluding arcades, pool halls and casino halls
8) dog daycare subject to Township of Langley Noise Control Bylaw 1988 as amended
9) nurseries and garden supply centres
10) offices accessory to permitted industrial uses
11) other service industrial uses compatible with service industrial areas
12) parking of commercial vehicles
13) public works yards, maintenance and storage facilities
14) printing and publishing
15) production studio
16) refund container return centre
17) residential uses accessory to industrial uses and subject to Section 701.4
18) restaurants
19) retail sales accessory to permitted industrial uses
20) service stations, gas bars
21) the light manufacture, assembly, repair, finishing and packaging of products
22) transportation and trucking terminals and compounds including public transportation depots
23) u-brews
24) vehicle body shops
25) vehicle repair shops
26) vehicle sales, rental and leasing
27) vehicle servicing
28) vehicle towing and temporary storage compounds for licensed vehicles excluding the storage of wrecked vehicles and/or discarded material, and excluding a wrecking and salvaging yard
29) veterinary clinics
30) warehousing, wholesaling and storage facilities excluding bulk energy storage facilities and the bulk storage of industrial chemicals, by-products and allied products
31) workshops for the following and similar trade contractors; building, electrical, heating, air conditioning, plumbing, refrigeration, roofing, septic tanks, signs, paving, and landscape contractors including the sale of garden ornaments, swimming pools and outdoor furniture
32) on Lot 8 Section 33 Township 10 New Westminster District Plan 8793; and Parcel “A” (Explanatory Plan 13205) Lots 6 and 7 Section 33 Township 10 New Westminster District Plan 8793 Section 701.1 uses subject to and including the following:
    a) open storage of building materials;
    b) parking of commercial vehicles and / or equipment (excluding transportation and trucking terminals and compounds including public transportation depots); and
    c) vehicle storage (excluding wrecked vehicles, recreational vehicles, and boats)

THE CORPORATION OF THE TOWNSHIP OF LANGLEY

LANGLEY OFFICIAL COMMUNITY PLAN BYLAW 1979 NO. 1842

AMENDMENT (RURAL PLAN) BYLAW 1993 NO. 3250

AMENDMENT (BATH INVESTMENTS LTD.) BYLAW NO. 5793

EXPLANATORY NOTE

Bylaw No. 5793 amends the Official Community Plan and Rural Plan by adding provisions to the “Small Farms / Country Estates” designation to accommodate industrial uses on a site specific basis at 23699 and 23737 Fraser Highway and includes the site as a mandatory Development Permit Area.

THE CORPORATION OF THE TOWNSHIP OF LANGLEY

LANGLEY OFFICIAL COMMUNITY PLAN BYLAW 1979 NO. 1842

AMENDMENT (RURAL PLAN) BYLAW 1993 NO. 3250

AMENDMENT (BATH INVESTMENTS LTD.) BYLAW NO. 5793

A Bylaw to amend the Rural Plan 1993 No. 3250

The Municipal Council of the Corporation of the Township of Langley, in Open Meeting Assembled, ENACTS AS FOLLOWS:

1. This Bylaw may be cited for all purposes as “Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250 Amendment (Bath Investments Ltd.) Bylaw No. 5793”.

2. The “Langley Official Community Plan Bylaw 1979 No. 1842” as amended is further amended by amending “Map 1 - Land Use” to change the designation of the lands from “Rural” to “Industrial” and further amending “Map A-1 RGS Land Use” from “Rural” to “Industrial” with respect to the lands described as:

   Lot 8 Section 33 Township 10 New Westminster District Plan 8793; and

   Parcel “A” (Explanatory Plan 13205) Lots 6 and 7 Section 33 Township 10 New Westminster District Plan 8793

3. The “Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250” as amended is further amended by:

   a) adding the following Section 5.5.7 after Section 5.5.6

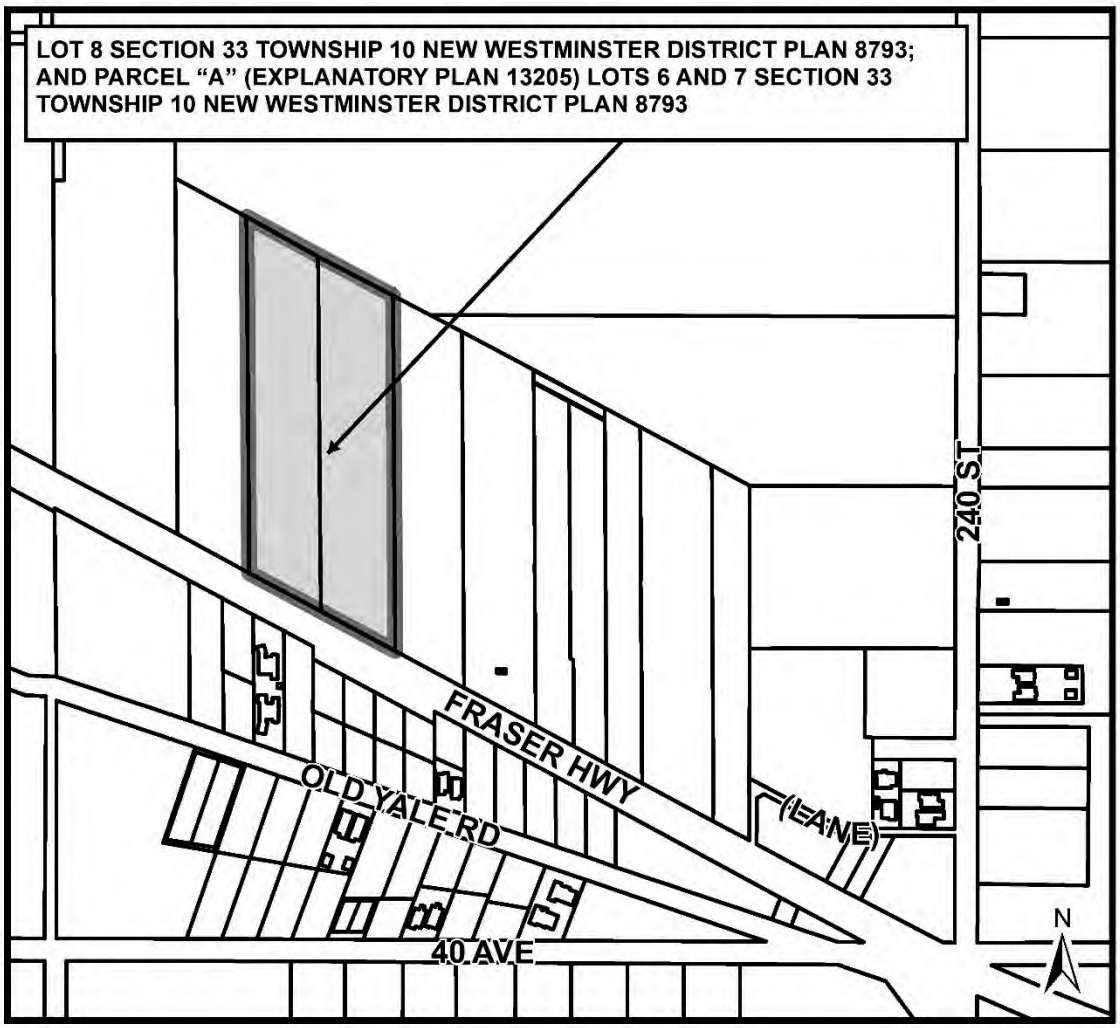
   5.5.7 Industrial uses are permitted on a site specific basis on lands described as Lot 8 Section 33 Township 10 New Westminster District Plan 8793; and Parcel “A” (Explanatory Plan 13205) Lots 6 and 7 Section 33 Township 10 New Westminster District Plan 8793

   b) by amending “Map 2 Development Permit Area B – Fraser Highway” to include the lands described as Lot 8 Section 33 Township 10 New Westminster District Plan 8793; and Parcel “A” (Explanatory Plan 13205) Lots 6 and 7 Section 33 Township 10 New Westminster District Plan 8793 to Development Permit Area “B”

READ A FIRST TIME the	day of	, 2022
READ A SECOND TIME the	day of	, 2022
PUBLIC HEARING HELD the	day of	, 2022
READ A THIRD TIME the	day of	, 2022
ADOPTED the	day of	, 2022

_____ Mayor _____ Township Clerk

SCHEDULE 'A'
BYLAW NO. 5793



THE CORPORATION OF THE TOWNSHIP OF LANGLEY

TOWNSHIP OF LANGLEY ONING BYLAW 1987 NO. 2500
AMENDMENT (BATH INVESTMENTS LTD.) BYLAW NO. 5794

EXPLANATORY NOTE

Bylaw No. 5794 rezones 4.12 ha (10.19 ac) of land at 23699 and 23737 Fraser Highway from Rural Zone RU-1 to Service Industrial Zone M-1B.

THE CORPORATION OF THE TOWNSHIP OF LANGLEY

TOWNSHIP OF LANGLEY ONING BYLAW 1987 NO. 2500

AMENDMENT (BATH INVESTMENTS LTD.) BYLAW NO. 5794

A Bylaw to amend Township of Langley Zoning Bylaw 1987 No. 2500

The Municipal Council of the Corporation of the Township of Langley, in Open Meeting Assembled, ENACTS AS FOLLOWS:

1. This Bylaw may be cited for all purposes as “Township of Langley Zoning Bylaw 1987 No. 2500 Amendment (Bath Investments Ltd.) Bylaw No. 5794”.

3. The “Township of Langley Zoning Bylaw 1987 No. 2500” as amended is further amended:

   a) Amending Section 701.1 Uses Permitted in Service Industrial Zone M-1A and M1-B by adding the following:

      “32) on Lot 8 Section 33 Township 10 New Westminster District Plan 8793; and Parcel “A” (Explanatory Plan 13205) Lots 6 and 7 Section 33 Township 10 New Westminster District Plan 8793 Section 701.1 uses subject to and including the following:
      a) open storage of building materials;
      b) parking of commercial vehicles and / or equipment (excluding transportation and trucking terminals and compounds including public transportation depots); and
      c) vehicle storage (excluding wrecked vehicles, recreational vehicles, and boats)”

2. The “Township of Langley Zoning Bylaw 1987 No. 2500” as amended is further amended by rezoning the lands described as:

   Lot 8 Section 33 Township 10 New Westminster District Plan 8793; and

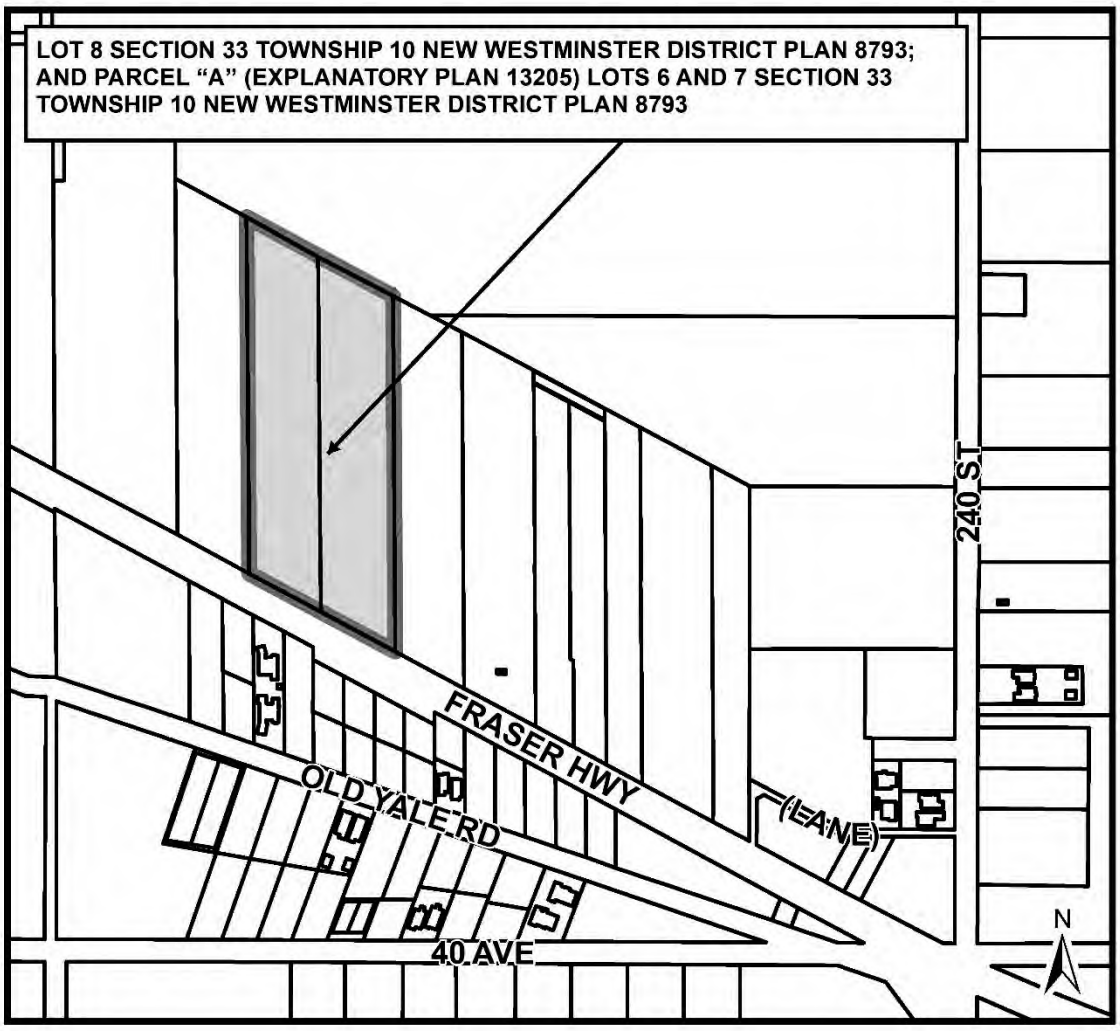
   Parcel “A” (Explanatory Plan 13205) Lots 6 and 7 Section 33 Township 10 New Westminster District Plan 8793

   As shown delineated on Schedule “A” attached to and forming part of this Bylaw to Service Industrial Zone M-1B.

READ A FIRST TIME the	day of	, 2022.
READ A SECOND TIME the	day of	, 2022.
PUBLIC HEARING HELD the	day of	, 2022.
READ A THIRD TIME the	day of	, 2022.
ADOPTED the	day of	, 2022.

_____ Mayor _____ Township Clerk

SCHEDULE 'A'
BYLAW NO. 5794



THE CORPORATION OF THE TOWNSHIP OF LANGLEY

TOWNSHIP OF LANGLEY SUBDIVISION AND DEVELOPMENT SERVICING BYLAW 2019 NO. 5382

AMENDMENT (BATH INVESTMENTS LTD.) BYLAW NO. 5803

EXPLANATORY NOTE

Bylaw No. 5803 amends Subdivision and Development Servicing Bylaw 2019 No. 5382 by changing the service level designation from Level 4 – Rural to Level 1 – Urban of the properties located at 23699 and 23737 Fraser Highway to coincide with rezoning from rural to industrial.

THE CORPORATION OF THE TOWNSHIP OF LANGLEY

TOWNSHIP OF LANGLEY SUBDIVISION AND DEVELOPMENT SERVICING BYLAW 2019 NO. 5382

AMENDMENT (BATH INVESTMENTS LTD.) BYLAW NO. 5803

The Municipal Council of the Corporation of the Township of Langley, in Open Meeting Assembled, ENACTS AS FOLLOWS:

1. This Bylaw may be cited for all purposes as “Subdivision and Development Servicing Bylaw 2019 No. 5808 Amendment (Bath Investments Ltd.) Bylaw No. 5803”.

3. The “Subdivision and Development Servicing Bylaw 2019 No. 5803” as amended is further amended by amending the map “Service Levels” in “Schedule A” to redesignate the lands as “Level 1 – Urban” with respect to lands described as:

   Lot 8 Section 33 Township 10 New Westminster District Plan 8793; and

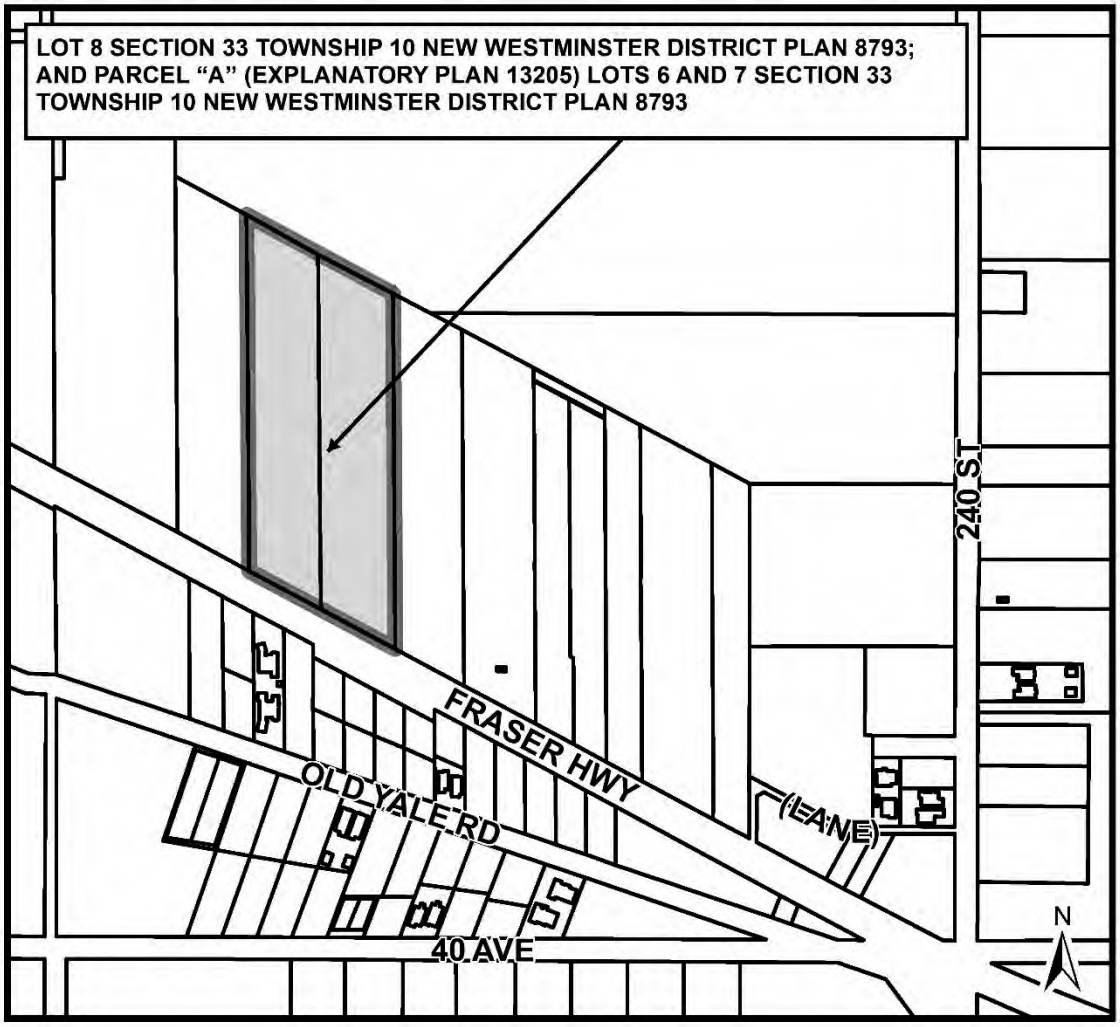
   Parcel “A” (Explanatory Plan 13205) Lots 6 and 7 Section 33 Township 10 New Westminster District Plan 8793

   As shown delineated on Schedule “A” attached to and forming part of this Bylaw.

READ A FIRST TIME the	day of	, 2022.
READ A SECOND TIME the	day of	, 2022.
READ A THIRD TIME the	day of	, 2022.
ADOPTED the	day of	, 2022.

_____ Mayor _____ Township Clerk

SCHEDULE 'A'
BYLAW NO. 5803



THE CORPORATION OF THE TOWNSHIP OF LANGLEY

LANGLEY OFFICIAL COMMUNITY PLAN BYLAW 1979 NO. 1842

AMENDMENT (RURAL PLAN) BYLAW 1993 NO. 3250

AMENDMENT (BATH INVESTMENTS LTD.) BYLAW NO. 5793

EXPLANATORY NOTE

Bylaw No. 5793 amends the Official Community Plan and Rural Plan by adding provisions to the “Small Farms / Country Estates” designation to accommodate industrial uses on a site specific basis at 23699 and 23737 Fraser Highway and includes the site as a mandatory Development Permit Area.

THE CORPORATION OF THE TOWNSHIP OF LANGLEY

LANGLEY OFFICIAL COMMUNITY PLAN BYLAW 1979 NO. 1842

AMENDMENT (RURAL PLAN) BYLAW 1993 NO. 3250

AMENDMENT (BATH INVESTMENTS LTD.) BYLAW NO. 5793

A Bylaw to amend the Rural Plan 1993 No. 3250

The Municipal Council of the Corporation of the Township of Langley, in Open Meeting Assembled, ENACTS AS FOLLOWS:

1. This Bylaw may be cited for all purposes as "Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250 Amendment (Bath Investments Ltd.) Bylaw No. 5793".

2. The "Langley Official Community Plan Bylaw 1979 No. 1842" as amended is further amended by amending "Map 1 - Land Use" to change the designation of the lands from "Rural" to "Industrial" and further amending "Map A-1 RGS Land Use" from "Rural" to "Industrial" with respect to the lands described as:

   Lot 8 Section 33 Township 10 New Westminster District Plan 8793; and

   Parcel "A" (Explanatory Plan 13205) Lots 6 and 7 Section 33 Township 10 New Westminster District Plan 8793

3. The "Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250" as amended is further amended by:

   a) adding the following Section 5.5.7 after Section 5.5.6

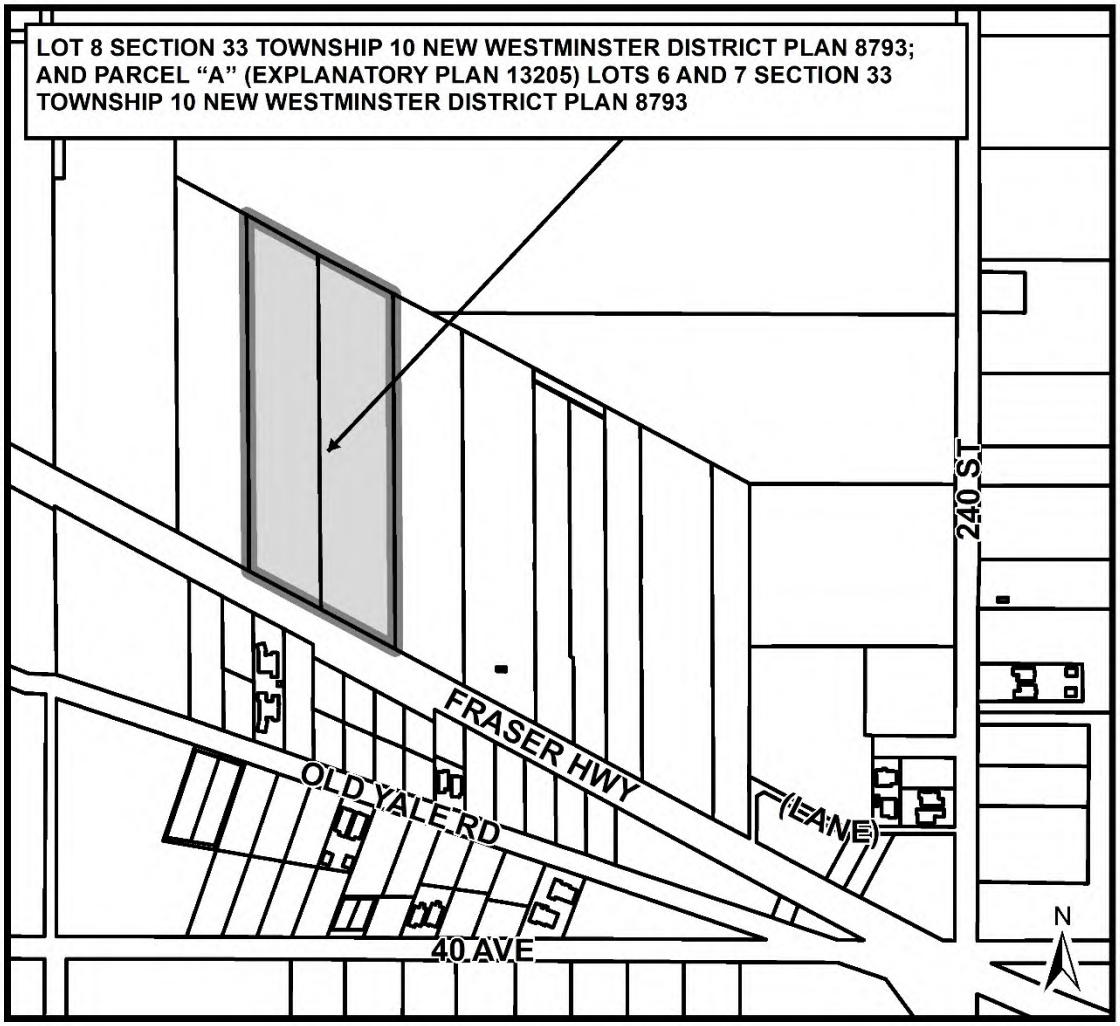
   5.5.7 Industrial uses are permitted on a site specific basis on lands described as Lot 8 Section 33 Township 10 New Westminster District Plan 8793; and Parcel "A" (Explanatory Plan 13205) Lots 6 and 7 Section 33 Township 10 New Westminster District Plan 8793

   b) by amending "Map 2 Development Permit Area B – Fraser Highway" to include the lands described as Lot 8 Section 33 Township 10 New Westminster District Plan 8793; and Parcel "A" (Explanatory Plan 13205) Lots 6 and 7 Section 33 Township 10 New Westminster District Plan 8793 to Development Permit Area "B"

READ A FIRST TIME the	27	day of	June	, 2022
READ A SECOND TIME the	27	day of	June	, 2022
PUBLIC HEARING HELD the	11	day of	July	, 2022
READ A THIRD TIME the	11	day of	July	, 2022
ADOPTED the		day of		, 2022

_____ Mayor _____ Township Clerk

SCHEDULE 'A'
BYLAW NO. 5793



C. PUBLIC HEARING

3. Official Community Plan Amendment and Rezoning Application No. 100201 (Bath Investments Ltd. / 23699 and 23737 Fraser Highway) Bylaw No. 5793 Bylaw No. 5794 Report 22-70
File CD 10-33-0104

"Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250 Amendment (Bath Investments Ltd.) Bylaw No. 5793"; and

"Township of Langley Zoning Bylaw 1987 No. 2500 Amendment (Bath Investments Ltd.) Bylaw No. 5794"

Explanation – Bylaw No. 5793

S. Richardson explained that Bylaw No. 5793 amends the Official Community Plan and Rural Plan by adding provisions to the "Small Farms / Country Estates" designation to accommodate industrial uses on a site specific basis at 23699 and 23737 Fraser Highway and includes the site as a mandatory Development Permit Area. 59 Public Notices were mailed out.

Explanation – Bylaw No. 5794

S. Richardson explained that Bylaw No. 5794 rezones 4.12 ha (10.19 ac) of land at 23699 and 23737 Fraser Highway from Rural Zone RU-1 to Service Industrial Zone M-1B.

Submissions from the public:

The following written submission was received from the public:

1. A. Vander eyk, a Langley resident, expressing concerns about size of buffer zones between the properties and the adjacent farmland, and the need for water and storm sewer to be installed down Fraser Highway to control the runoff.

Explanation by the proponent:

P. Giesbrecht, Giesbrecht & Company, was in attendance and commented that the landscaping is in compliance with the industrial provisions.

MOTION
Moved by Councillor Ferguson,
Seconded by Councillor Richter,
That Council consider third reading of "Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250 Amendment (Bath Investments Ltd.) Bylaw No. 5793"; and

C. PUBLIC HEARING

"Township of Langley Zoning Bylaw 1987 No. 2500 Amendment (Bath Investments Ltd.) Bylaw No. 5794".
CARRIED

Councillor Arnason opposed

MOTION
Moved by Councillor Whitmarsh,
Seconded by Councillor Woodward,
That Council grant third reading of "Langley Official Community Plan Bylaw 1979 No. 1842 Amendment (Rural Plan) Bylaw 1993 No. 3250 Amendment (Bath Investments Ltd.) Bylaw No. 5793"; and

"Township of Langley Zoning Bylaw 1987 No. 2500 Amendment (Bath Investments Ltd.) Bylaw No. 5794".
CARRIED

D. TERMINATE

Moved by Councillor Davis,
Seconded by Councillor Kunst,
That the meeting terminate at 7:21pm.
CARRIED

CERTIFIED CORRECT:

_____
Mayor

_____
Township Clerk

METRO VANCOUVER REGIONAL DISTRICT
BYLAW NO. 1365, 2023
A bylaw to amend "Metro Vancouver Regional District Regional Growth Strategy Bylaw No. 1339, 2022"

WHEREAS:

A. The Metro Vancouver Regional District Board (the "Board") adopted the *Metro Vancouver Regional District Regional Growth Strategy Bylaw No. 1339, 2022* on February 24, 2023;

NOW THEREFORE the Board of the Metro Vancouver Regional District enacts as follows:

Citation

1. The official citation of this bylaw is "Metro Vancouver Regional District Regional Growth Strategy Amendment Bylaw No. 1365, 2023".

Schedules

2. The following Schedules are attached to and form part of the bylaw:
   - Schedule "A", Subject Properties; and
   - Schedule "B", Official Regional Land Use Designation Maps.

Amendment of Bylaw

3. "Metro Vancouver Regional District Regional Growth Strategy Bylaw No. 1339, 2022" is amended as follows:

   a) re-designating the subject properties, as listed in the table below:

PID	Legal Description
001-900-706	Lot 8 Section 33 Township 10 New Westminster District Plan 8793
002-430-070	Parcel "A" (Explanatory Plan 13205) Lots 6 and 7 Section 33 Township 10 New Westminster District Plan 8793

   from 'Rural' to 'Industrial' as shown in Schedule "A" of this bylaw; and

   b) replacing the official regional land use designation maps numbered 2, 6, 7, and 12 in Schedule "A" of "Metro Vancouver Regional District Regional Growth Strategy Bylaw No. 1339, 2022" with the maps numbered 2, 6, 7, and 12 in Schedule "B" of this bylaw.

Read a first, second and third time this _____ day of _____, _____.

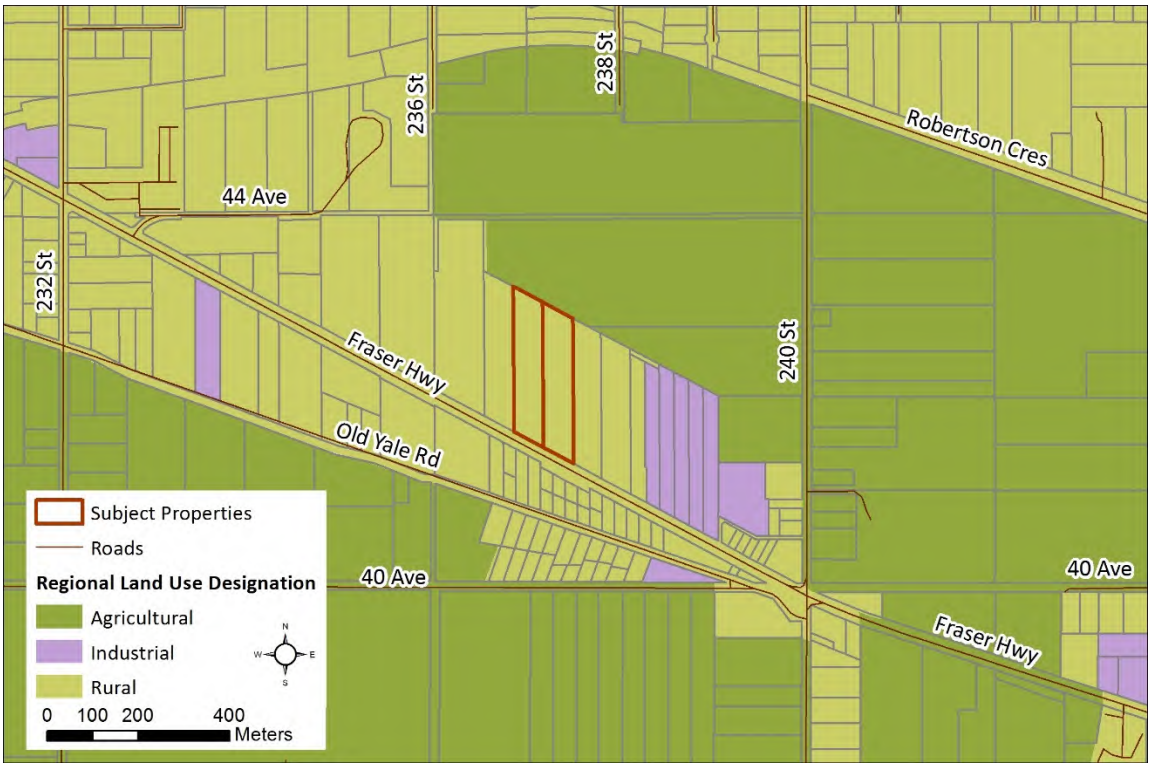
Passed and finally adopted this _____ day of _____, _____.

George V. Harvie, Chair

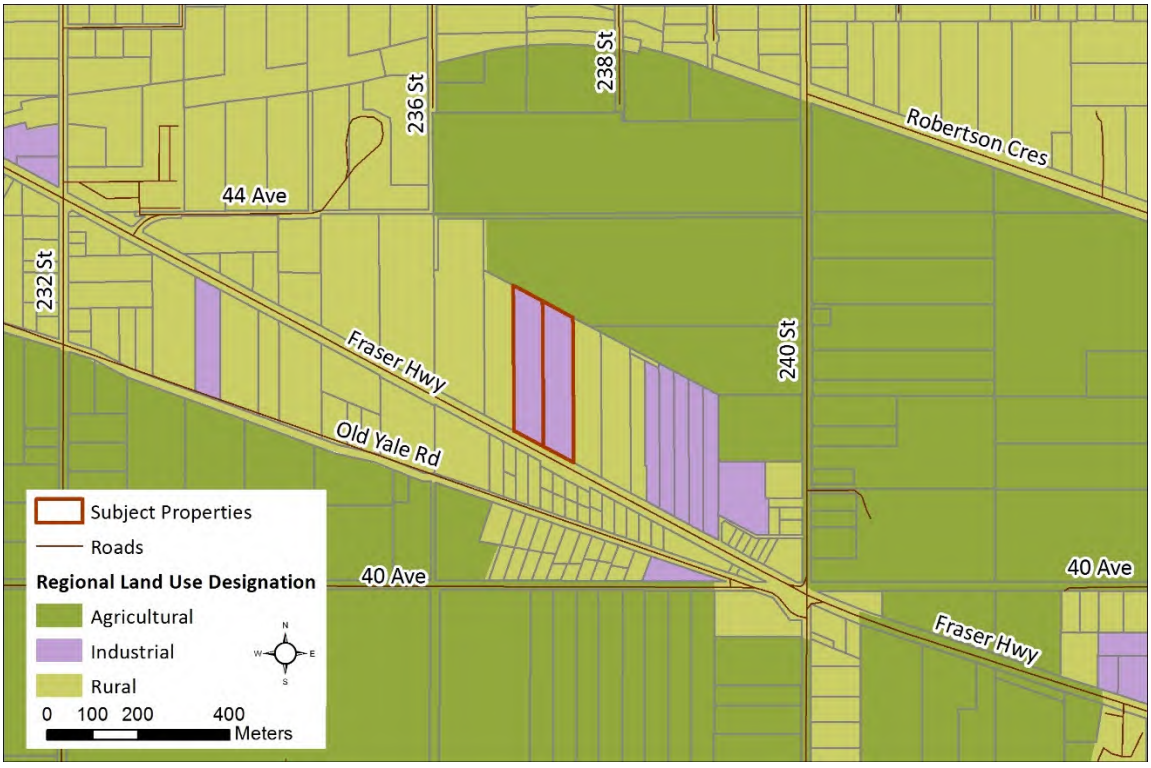
Dorothy Shermer, Corporate Officer

Schedule A
Subject Properties

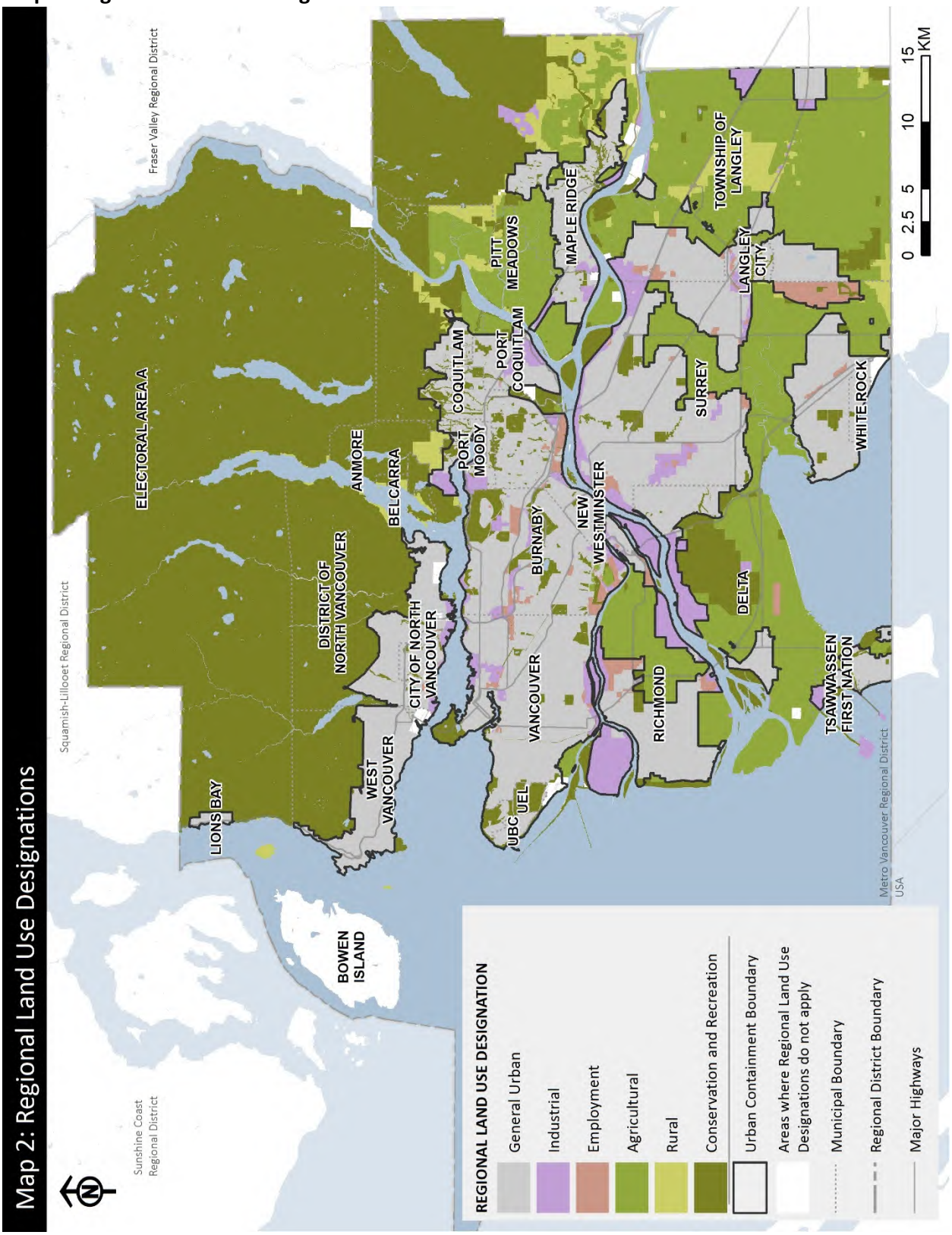
Prior to Amendment



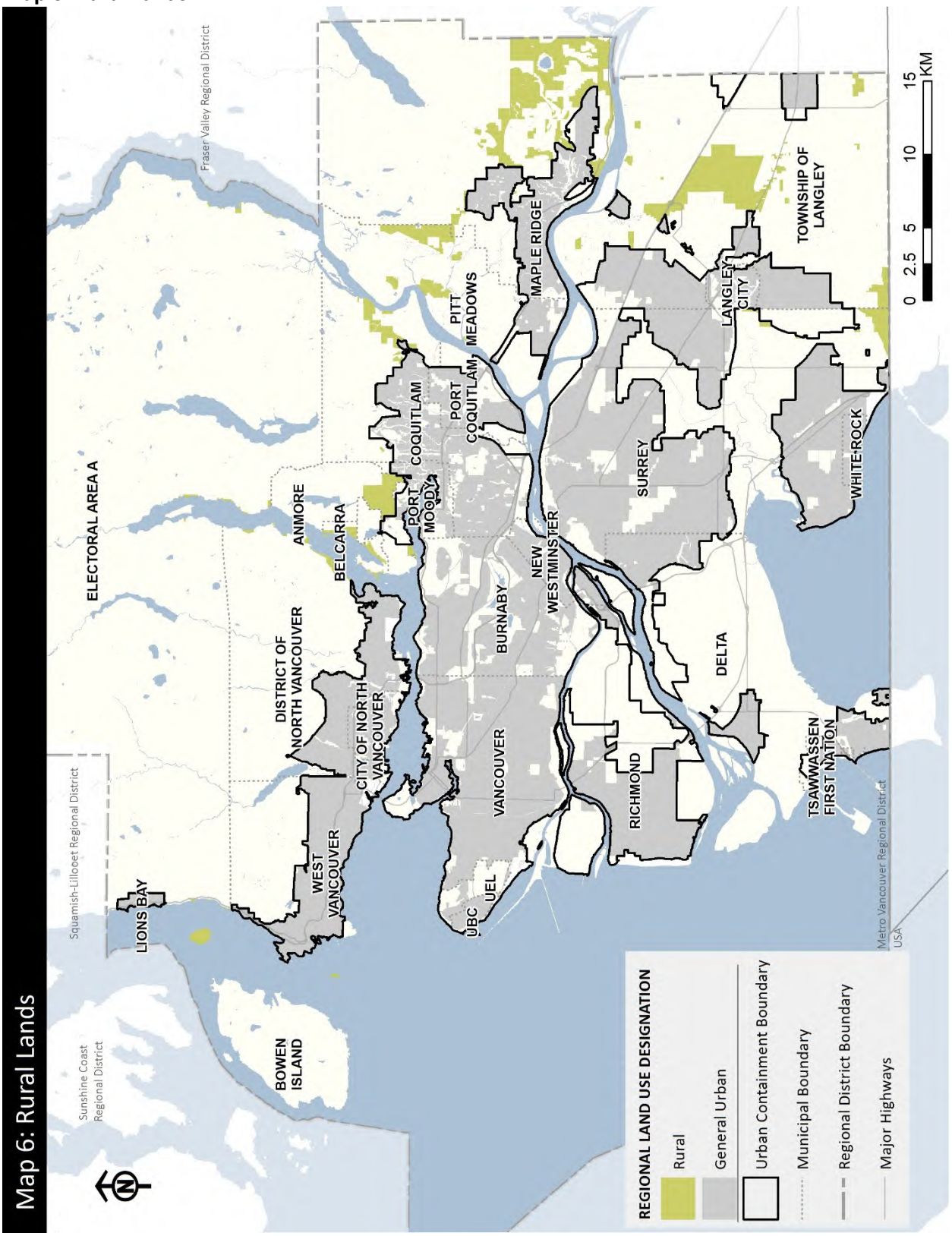
Post Amendment



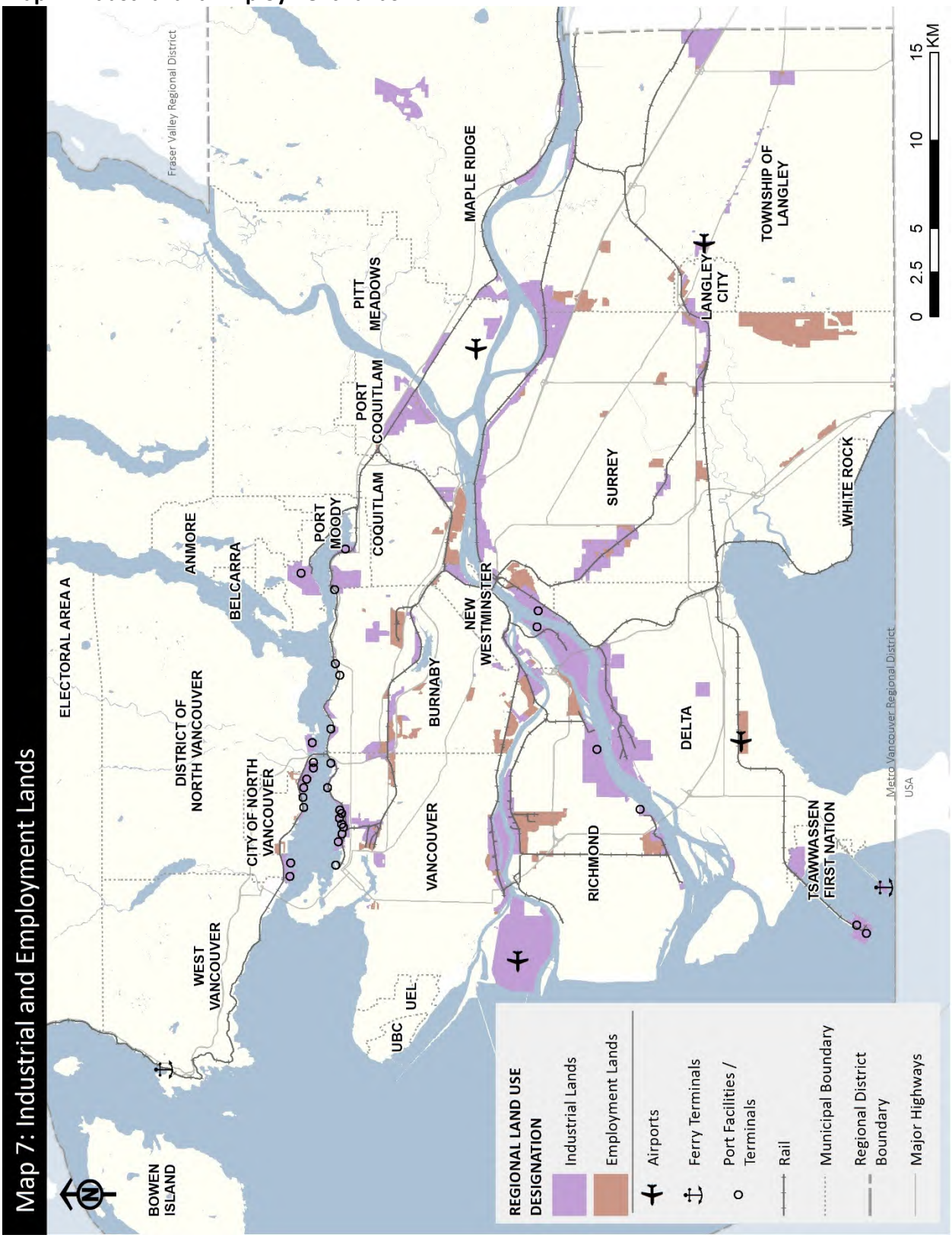
Map 2: Regional Land Use Designations



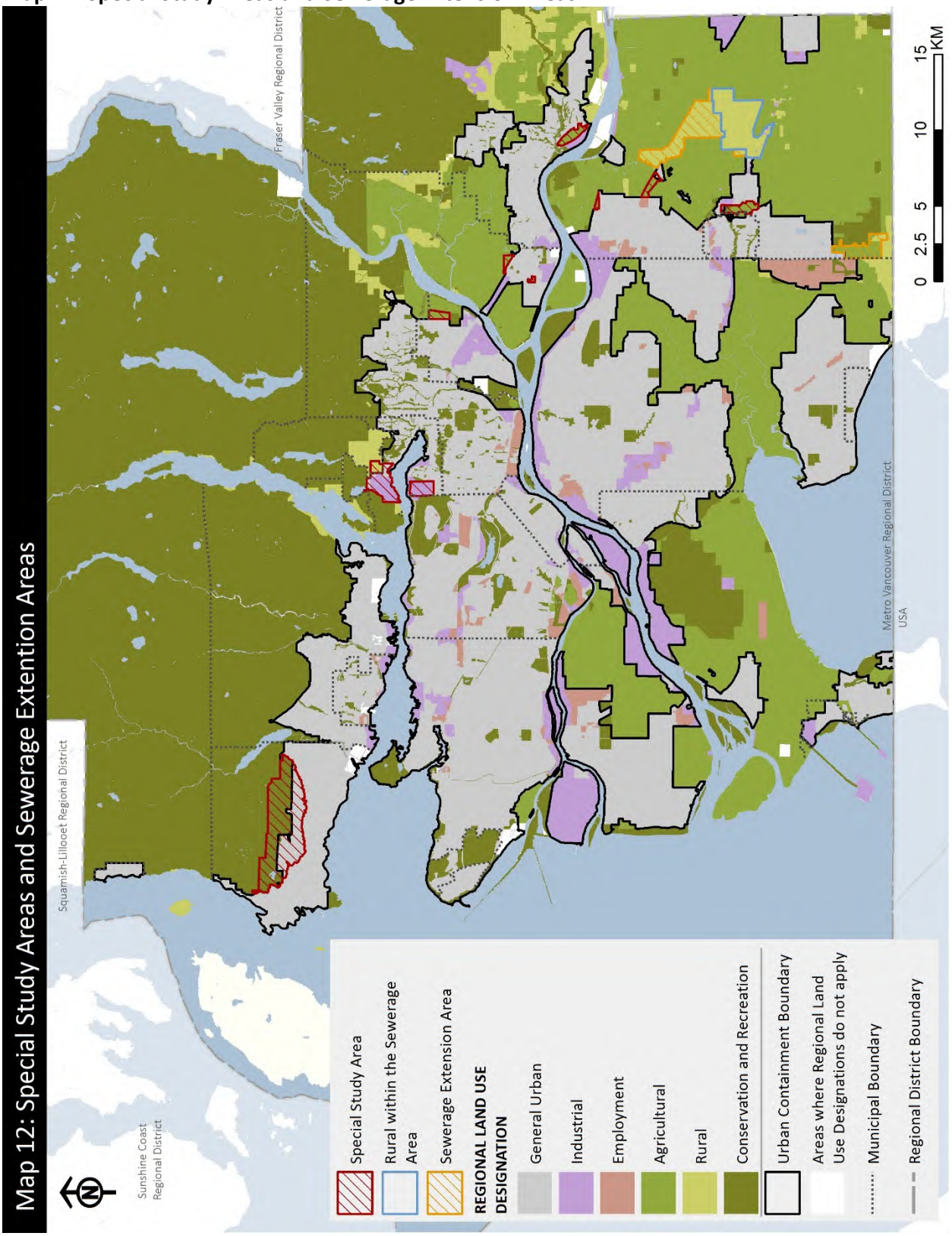
Map 6: Rural Lands



Map 7: Industrial and Employment Lands



Map 12: Special Study Areas and Sewerage Extension Areas



To: Finance Committee

From: Linda Sabatini, Director, Finance Operations

Date: May 8, 2023 Meeting Date: May 18, 2023

Subject: **Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023**

RECOMMENDATION

That the MVRD Board:

a) give first, second and third reading to the *Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023*; and,
b) pass, and finally adopt the *Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023.*

EXECUTIVE SUMMARY

Board approved bylaws for signing officers establish authority for the execution of Metro Vancouver Districts' banking and financial matters. The existing Banking Authority Bylaw No. 1324, approved on September 24, 2021, requires updating to accommodate organizational and signatory title changes that have occurred in 2022. *Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023* will repeal and replace *Metro Vancouver Regional District Banking Authority Bylaw No. 1324, 2021.* The new bylaw changes titles of individuals to their generic reference rather than specific descriptions of the function they oversee, reducing the need to amend the bylaw for minor organizational changes. The changes do not alter the bylaw framework that designates routine, lower risk matters to management within the Financial Services Department (Class B and Class C signatories) reducing the burden on Elected Officials and Senior Executives (Class A signatories).

The bylaw ensures there continues to be proper segregation of duty, sound internal controls, and strong governance structure for approvals, while improving the efficiency of the overall processes and reduces the need for bylaw amendments when organizational changes occur.

PURPOSE

To seek MVRD Board approval and adoption of the *Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023* to align the titles of the individuals with banking authority to the current organizational structure.

BACKGROUND

Board approved Bylaws for signing officers establish the framework of authority for the execution of Metro Vancouver Districts' banking and financial matters dealing with banks, investment firms or brokers and lending institutions. The existing banking authority bylaw, approved on September 24, 2021, introduced a three tier system of signing authorities to delegate lower matters to management within the Financial Services Department (Class B and Class C signatories) reducing the burden on Elected Officials and Senior Executives (Class A signatories). This provides Finance

management with the ability to sign for routine and lower risk banking matters, improving efficiency in processing these transactions.

The existing bylaw uses a risk based approach to designating authority. In 2021, "Class C" group of signatories was added to allow for general and operational banking matters with lower risk to be executed by Financial Services staff in order to reduce the number of routine matters requiring signatures from Class A. Common examples of these tasks include adding new banking services such as electronic payments and opening or closing of bank accounts.

For any type of long-term debt resulting in legal and major financial obligation to the organization, authorized signatories are restricted to the Board appointed positions. One signature from either the Board Chair or CAO together with the Treasurer/CFO will be required to sign. This is consistent with the signing requirement by the Municipal Financing Authority. In most cases, debt is long-term and material in value, and therefore assumes a higher risk profile.

Recent changes to the organization have resulted in changed titles of individuals listed within banking authority. This has created a risk in the execution of banking instructions as only two titles are active in the Class C signatory category. In order for financial transactions to continue to be executed in an efficient manner, a new banking bylaw is required. The changes to the bylaw do not change the type of transactions authorized or the framework of the bylaws.

BYLAW UPDATES

If the Board approves the recommendations, the previous Banking Authority Bylaw, *Metro Vancouver Regional District Banking Authority Bylaw No. 1324, 2021*, will be repealed and replaced by the attached Bylaw, *Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023.*

The key changes in the new bylaw include:

1) Removal of Specific Titles Assigned to Individuals
   The new bylaw removes the specific group that an individual oversees to reduce the need to revise the bylaw should organizational changes occur. During 2022, a number of organizational changes occurred in the Financial Services Department:
   - Director, Financial Planning and Operations was changed to Director, Financial Planning;
   - Director, Financial Operations was created;
   - Division Manager, Finance and Capital Planning was changed to Division Manager, Capital Planning; and
   - Director, Purchasing and Risk Manager was changed to Director, Procurement and transferred to the Procurement and Real Estate Services Department.

   Using generic titles such as "Director" or "Division Manager" working in the Financial Services Department, eliminates the need to revise the bylaw should further organizational changes occur and allows sufficient coverage for day-to-day banking.

2) Add the title Deputy Chief Administrative Officer to Class A
During 2022, two Deputy Chief Administrative Officer positions were created. The new bylaw adds these positions as Class A signatories.

3) Add all possible titles of a position
The bylaw adds the titles "Corporate Solicitor", "Chief Administrative Officer", "Treasurer" and "General Manager of Financial Services" to avoid any confusion when communicating with the banking industry.

The bolded text in Table 1 below shows the changes to the bylaw. There is fundamentally, no change to the framework of those with banking authority. Class B signatories are senior management in Financial Services that serve as the secondary approver for items listed in Section 3 and 4 of the bylaw.

Table 1

Existing Bylaw	New Bylaw
Class A	
Board Chair	Board Chair
Board Vice Chair	Board Vice Chair
Chief Administrative Officer	Chief Administrative Officer
General Manager Legal Services & Indigenous Relations	**Corporate Solicitor**
N/A	**Deputy Chief Administrative Officer**
Class B	
Treasurer / Chief Financial Officer	Chief Financial Officer / **General Manager of the Financial Services Department**
Director Financial Planning & Operations /Deputy Chief Financial Officer	**Individuals working in Financial Services with the title of Director or Deputy Chief Financial Officer or Deputy General Manager**
Director Purchasing & Risk Management	N/A
Class C	
Treasury Manager	**Program Manager, Treasury**
Division Manager Finance and Capital Planning	**Individuals working in the Financial Services Department with the title of Division Manager**
Division Manager Corporate Client Support	**Individuals working in the Financial Services Department with the title of Division Manager**
Division Manager Utility Client Support	**Individuals working in the Financial Services Department with the title of Division Manager**

The new Bylaw, as presented, will have no direct impact on financial operations, but will align the bylaw with the current organizational structure. There continues to be proper segregation of duty and sound governance to mitigate risks. The bylaw has been reviewed by Metro Vancouver's legal group, Board and Information Services department and incumbent banks, who concur with the approach of using standardized titles in the bylaw.

Once approved, the Banking Authority Bylaw, along with supporting documentation, will be forwarded to banks and investment institutions having dealings with Metro Vancouver's Districts.

ALTERNATIVES

1. That the MVRD Board:
   a) give first, second and third reading to the *Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023*; and,
   b) pass, and finally adopt the *Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023.*

2. That the Finance Committee receive for information the report dated May 8, 2023 titled "Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023**"** and provide alternate direction.

FINANCIAL IMPLICATIONS

There are no direct financial impacts to MVRD with the adoption of this bylaw. However, updating bylaws to address organizational changes will reduce administrative efforts and ensure the continued smooth operation of treasury activities.

CONCLUSION

The Banking Authority Bylaw aligns the titles of the signatories in the bylaw to the current organizational structure. This will allow for efficient processing of financial transactions while still maintaining proper segregation of duties and sound governance to mitigate financial risks.

Staff recommend adoption of the Banking Authority Bylaw as outlined in Alternative 1.

Attachments

1. "*Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023*"

METRO VANCOUVER REGIONAL DISTRICT
BYLAW NO. 1361, 2023
A Bylaw to Appoint Persons with Banking Authorities

WHEREAS:

A. Section 263 of the *Local Government Act* (the "Act") provides the Metro Vancouver Regional District (the "District") with all the rights of a corporation;

B. The Board of Directors of the District (the "Board") adopted the *Metro Vancouver Regional District Banking Authority Bylaw No. 1324, 2021* on September 24, 2021 to allow for routine banking and financial documents to be executed in a timely and efficient manner by delegating the authority to execute such documents; and

C. It is deemed expedient that the *Metro Vancouver Regional District Banking Authority Bylaw No. 1324, 2021* be repealed and that, pursuant to the Act, the persons set out below be authorized as signing officers of the District;

NOW THEREFORE the Board enacts as follows:

1. The official citation of this bylaw is "Metro Vancouver Regional District Banking Authority Bylaw No. 1361, 2023". This bylaw may be cited as the "MVRD Banking Authority Bylaw".

2. "Metro Vancouver Regional District Banking Authority Bylaw No. 1324, 2021", is hereby repealed.

3. Any one of the individuals in the Financial Services Department of the District with the title of:

    Chief Financial Officer
    General Manager
    Deputy General Manager
    Deputy Chief Financial Officer
    Director

    together with any one of the individuals in the Financial Services Department of the District with the title of:

    Program Manager, Treasury
    Division Manager

    are hereby authorized on behalf of the District to sign, accept, endorse or approve, under seal if necessary or convenient:

(i) instructions for the withdrawal of funds from accounts by way of cheque, wire payment instruction, pre-authorized debit authorization, or other orders for the payment of money from accounts;

(ii) contracts for foreign exchange or hedging instruments;

(iii) contracts for the issuance or acceptance of letters of credit;

(iv) requests for draws, draw downs, or advances under any agreements relating to letters of credit, bonds, or other types of security, borrowing money, or otherwise obtaining credit;

(v) opening and closing of accounts with banking and investment institutions; and

(vi) agreements for accounts, cash management or investment products or services.

4. Any one of the individuals with the title of:

Board Chair
Board Vice Chair
Chief Administrative Officer
Deputy Chief Administrative Officer
Corporate Solicitor

together with any one of the individuals in the Financial Services Department of the District with the title of:

Chief Financial Officer
General Manager
Deputy General Manager
Deputy Chief Financial Officer
Director

are hereby authorized on behalf of the District to sign, accept, endorse or approve, under seal if necessary or convenient:

(i) all of the items listed under Section 3; and

(ii) any other financial agreements or instruments not listed under Section 3 with the exception of the items relating to debt listed under Section 5.

5. Any one of the individuals with the title of:

Board Chair
Chief Administrative Officer

together with the individual with the title of:

Chief Financial Officer

are hereby authorized on behalf of the District to sign, accept, endorse or approve, under seal if necessary or convenient, any agreements, contracts or other authorizations for borrowing money or otherwise obtaining credit, issuance of debt, granting security, and/or providing guarantees.

Read a first, second and third time this _____ day of _____, _____.

Passed and finally adopted this _____ day of _____, _____.

_____
George V. Harvie, Chair

_____
Dorothy Shermer, Corporate Officer

COMMITTEE INFORMATION ITEMS AND DELEGATION SUMMARIES

Metro Vancouver Regional District
Board Meeting Date – Friday, June 2, 2023

This information item, listing recent information received by committee, is provided for the MVRD Board's information. Please access a complete PDF package here.

Climate Action Committee – May 11, 2023

Delegations:
No delegations presented

Information Items:
5.2 2023 Update on Liquid Waste Sustainability Innovation Fund Project

Regional Planning Committee – May 12, 2023

Delegations:
3.1 Stephen Richardson and Joel Nagtegaal, Township if Langley
Metro 2050 Amendment Request – Township of Langley (23699 and 23737 Fraser Highway)
No Executive Summary presented

Finance Committee – May 18, 2023

Delegation Summaries:
No delegations presented

Information Items:
5.4 Metro Vancouver Quarterly Financial Report – March 31, 2023
5.5 Treasury Report – January 1 to March 31, 2023

59453892