

**METRO VANCOUVER REGIONAL DISTRICT (MVRD)
BOARD OF DIRECTORS**

BOARD MEETING

Friday, November 29, 2024

9:00 am

28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia

Webstream available at <https://metrovancouver.org>

[Membership and Votes](#)

REVISED AGENDA¹

ELECTION

1. Election of Board Chair

Designated Speaker: Dorothy Shermer, Corporate Officer

2. Election of Board Vice Chair

Designated Speaker: Board Chair

3. Election of Alternate Board Chair and/or Alternate Board Vice Chair

Designated Speaker: Board Chair

Note: In the event the elected Board Chair or Vice Chair is not a member of the Greater Vancouver Water District and/or the Greater Vancouver Sewerage and Drainage District, an Alternate Board Chair or Alternate Board Vice Chair must be separately elected for that District

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A. ADOPTION OF THE AGENDA

1. November 29, 2024 Meeting Agenda

That the MVRD Board adopt the agenda for its meeting scheduled for November 29, 2024 as circulated.

B. ADOPTION OF THE MINUTES

1. November 1, 2024 Meeting Minutes

That the MVRD Board adopt the minutes for its meeting held November 1, 2024 as circulated.

pg. 6

C. DELEGATIONS

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

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 that 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. REGIONAL PLANNING COMMITTEE REPORTS

- 1.1 Metro 2050 – 2023 Annual Performance Monitoring Report** *pg. 18*
That the MVRD Board:
- a) receive for information the report dated October 11, 2024, titled “Metro 2050 – 2023 Annual Performance Monitoring Report”;
 - b) direct staff to forward a copy of the report dated October 11, 2024, titled “Metro 2050 – 2023 Annual Performance Monitoring Report” to the Ministry of Municipal Affairs and the Ministry of Citizen’s Services; and
 - c) forward a copy of the report dated October 11, 2024, titled “Metro – 2023 Annual Performance Monitoring Report” to Mayors, Chief and Councils at member jurisdictions for information.
- 1.2 Economic Impact of Industrial Lands in Metro Vancouver Study** *pg. 32*
That the MVRD Board:
- a) receive for information the report dated October 11, 2024, titled “Economic Impact of Industrial Lands in Metro Vancouver Study”; and
 - b) forward the “Economic Impact of Industrial Lands in Metro Vancouver Study” report to Mayors, Chief, and Councils at member jurisdictions for information with an offer of presenting the report findings to councils.
- 1.3 Streamlining Rental Housing through Standardized Designs and Regulations: Project Update** *pg. 97*
That the MVRD Board receive for information the report titled “Streamlining Rental Housing through Standardized Designs and Regulations: Project Update”, dated November 4, 2024.
- 1.4 Metro Vancouver Dwelling Unit Projections Update** *pg. 106*
That the MVRD Board receive for information the report dated October 11, 2024, titled “Metro Vancouver Dwelling Unit Projections Update”.
- 1.5 Metro Vancouver Residents’ Housing and Neighbourhood Preferences Model** *pg. 112*
That the MVRD Board receive for information the report dated October 16, 2024, titled “Metro Vancouver Residents’ Housing and Neighbourhood Preferences Model”.

2. FINANCE COMMITTEE REPORTS

- 2.1 Metro Vancouver’s 2024 Financial Performance Report** *pg. 253*
That the MVRD Board receive for information the report dated October 31, 2024 titled “Metro Vancouver’s 2024 Financial Performance Report”.

3. FLOOD RESILIENCY COMMITTEE REPORTS

- 3.1 Atmospheric River Event – Flooding & Operational Impacts** *pg. 290*
That the MVRD Board receive for information the presentation dated November 20, 2024, titled “Atmospheric River Event: Flooding & Operational Impacts”.

4. INVEST VANCOUVER MANAGEMENT BOARD REPORTS

- 4.1 Strategic Initiatives Update** *pg. 305*
That the MVRD Board receive for information the report dated November 8, 2024, titled “Strategic Initiatives Update”.
- 4.2 Investment Attraction Update – Q3 2024** *pg. 309*
That the MVRD Board receive for information the report dated November 1, 2024 titled “Investment Attraction Update – Q3 2024”.
- 4.3 Coordinated Approach to Address Issues Related to Recent Changes to Immigration Policy** *pg. 314*
That the MVRD Board send a letter to the Premier of British Columbia regarding the need for a coordinated approach to address the issues arising from recent changes in federal immigration policy, including coordinated data and addressing the impacts on post-secondary institutions and economic productivity.

5. CHIEF ADMINISTRATIVE OFFICER REPORTS

- 5.1 Proposed Updates to Metro Vancouver’s Ambient Air Quality Objectives** *pg. 315*
That the MVRD Board endorse updates to Metro Vancouver’s ambient air quality objectives for nitrogen dioxide, ground-level ozone, and sulphur dioxide, as outlined in the report dated October 23, 2024, titled “Proposed Updates to Metro Vancouver’s Ambient Air Quality Objectives”.
- 5.2 Air Quality Advisories During the Summer of 2024** *pg. 329*
That the MVRD Board receive for information the report dated October 16, 2024, titled “Air Quality Advisories During the Summer of 2024”.
- 5.3 Climate 2050 Progress Report 2023/2024** *pg. 335*
That the MVRD Board receive for information the report dated October 24, 2024, titled “Climate 2050 Progress Report 2023/2024”.

- 5.4 BC Hydro’s 2024 Call for Power** pg. 382
That the MVRD Board receive for information the report dated October 22, 2024, titled “BC Hydro’s 2024 Call for Power”.

F. ITEMS REMOVED FROM THE CONSENT AGENDA

G. REPORTS NOT INCLUDED IN CONSENT AGENDA

1. REGIONAL PARKS COMMITTEE REPORTS

- 1.1 MVRD Regional Parks Regulation Amendment Bylaw No. 1400, 2024 – Amends Bylaw No. 1177, 2012** pg. 392
That the MVRD Board:
a) give first, second, and third reading to *Metro Vancouver Regional District Regional Parks Regulation Amendment Bylaw No. 1400, 2024*; and
b) adopt *Metro Vancouver Regional District Regional Parks Regulation Amendment Bylaw No. 1400, 2024*.

2. CHIEF ADMINISTRATIVE OFFICER REPORTS

- 2.1 Sasamat Volunteer Fire Department Service Conversion Bylaw No. 1402, 2024** pg. 407
That the MVRD Board:
a) give first, second, and third readings to *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024*;
b) direct staff to seek participating area approval from the Village of Anmore and the Village of Belcarra for *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024* per section 342(2)(c) of the *Local Government Act*; and
c) direct staff to, once participating area approval has been obtained, submit *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024* to the Inspector of Municipalities for approval.

- 2.2 Adoption of MVRD Electoral Area A Zoning Amendment Bylaw 1399, 2024** pg. 413
That the MVRD Board adopt *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* as recommended in the report dated November 19, 2024 titled “Adoption of MVRD Electoral Area A Zoning Amendment Bylaw 1399, 2024”.

H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN

I. OTHER BUSINESS

- 1. MVRD Board Committee Information Items and Delegation Summaries** pg. 459

Added

- 2. Update from CAO on Staff Travel and 2025 PNE Verbal Report**
Designated Speaker: Jerry W. Dobrovlny, Chief Administrative Officer

J. 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.

K. ADJOURNMENT

That the MVRD Board adjourn its meeting of November 29, 2024.

**METRO VANCOUVER REGIONAL DISTRICT
BOARD OF DIRECTORS**

Minutes of the Regular Meeting of the Metro Vancouver Regional District (MVRD) Board of Directors held at 9:00 am on Friday, November 1, 2024, in the 28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia.

MEMBERS PRESENT:

Burnaby, Chair, Director Mike Hurley	Port Moody, Director Meghan Lahti*
Anmore, Vice Chair, Director John McEwen	Richmond, Director Chak Au
Belcarra, Director Jamie Ross	Richmond, Director Malcolm Brodie
Bowen Island, Director Andrew Leonard*	Richmond, Director Bill McNulty
Burnaby, Director Pietro Calendino	Surrey, Director Harry Bains (arrived at 9:02 am)
Burnaby, Director Sav Dhaliwal	Surrey, Director Doug Elford
Coquitlam, Director Craig Hodge	Surrey, Director Gordon Hepner*
Coquitlam, Director Teri Towner	Surrey, Director Pardeep Kooner
Delta, Director Rod Binder*	Surrey, Director Brenda Locke
Delta, Director Dylan Kruger	Surrey, Director Rob Stutt
Electoral Area A, Director Jen McCutcheon	Vancouver, Director Rebecca Bligh (arrived at 9:05 am)
Langley City, Director Paul Albrecht	Vancouver, Director Lisa Dominato
Langley Township, Alternate Director Tim Baillie for Director Steve Ferguson	Vancouver, Director Sarah Kirby-Yung
Langley Township, Director Eric Woodward	Vancouver, Director Mike Klassen
Lions Bay, Director Ken Berry* (arrived at 9:14 am)	Vancouver, Director Peter Meiszner
Maple Ridge, Director Dan Ruimy	Vancouver, Alternate Director Brian Montague for Director Ken Sim
New Westminster, Director Patrick Johnstone	Vancouver, Director Lenny Zhou
North Vancouver City, Director Linda Buchanan	West Vancouver, Alternate Director Sharon Thompson for Director Mark Sager
North Vancouver District, Director Lisa Muri	White Rock, Director Megan Knight*
Pitt Meadows, Director Nicole MacDonald	
Port Coquitlam, Director Brad West* (arrived at 9:11 am)	

* denotes electronic meeting participation as authorized by the *Procedure Bylaw*

MEMBERS ABSENT:

scəwáθən məsteyəx^w (Tsawwassen First Nation),
Director Laura Cassidy

STAFF PRESENT:

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

A. ADOPTION OF THE AGENDA

1. November 1, 2024 Meeting Agenda

It was MOVED and SECONDED

That the MVRD Board amend the agenda for its meeting scheduled for November 1, 2024 as circulated by adding the following delegations:

C1 – Roderick Louis; and

C2 – Russil Wvong.

CARRIED

It was MOVED and SECONDED

That the MVRD Board further amend the agenda for its meeting scheduled for November 1, 2024 by moving item H1 – Notice of Motion from Director Buchanan and Director Muri ahead of the consent agenda.

CARRIED

It was MOVED and SECONDED

That the MVRD Board adopt the agenda for its meeting scheduled for November 1, 2024 as amended.

CARRIED

B. ADOPTION OF THE MINUTES

1. September 27, 2024 Meeting Minutes

It was MOVED and SECONDED

That the MVRD Board adopt the minutes for its meeting held September 27, 2024 as circulated.

CARRIED

2. October 16, 2024 Special Joint Meeting Minutes

It was MOVED and SECONDED

That the MVRD Board adopt the special joint minutes for its meeting held October 16, 2024 as circulated.

CARRIED

C. DELEGATIONS

1. Roderick Louis

Roderick Louis provided a presentation titled “MVRD 2025 Budget and 2025 - 2029 Financial Plan and Five Year Bylaw 1401”, relating to item G3.1. He requested that the report be referred back to staff to consider amendments to the Regional Growth Strategy.

9:02 am Director Bains arrived at the meeting.

9:05 am Director Bligh arrived at the meeting.

2. Russil Wvong

Russil Wvong provided a presentation titled “Taxing land lift is an unreliable source of funding”, relating to item G3.1. He requested that staff report back on alternative sources of funding other than Development Cost Charges for Metro Vancouver’s capital budgets.

9:11 am Director West arrived at the meeting.

9:14 am Director Berry arrived at the meeting.

The agenda was varied to consider item H1 at this point.

H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN

1. Notice of Motion from Director Buchanan and Director Muri

The following notice of motion was provided by Director Buchanan and Director Muri at the September 27, 2024 MVRD meeting:

Whereas the proposed 2025-2029 Metro Vancouver Financial Plan currently projects an 11% increase for 2025 and;

Whereas residents and businesses are facing significant affordability challenges;

Therefore be it resolved that the Metro Vancouver Board of Directors direct staff to:

- 1) Revise the 2025 Budget to target a maximum 5-7% increase over 2024 levels.*
- 2) Implement zero-based budgeting for all departments for the 2026 budget cycle.*
- 3) Identify potential reductions for each department.*
- 4) Report back to the board with a revised Financial Plan reflecting these directives at the October 23rd Board Budget and Strategy Session for inclusion in the 2025 budget.*

It was noted that the fourth clause is no longer in order as it refers to a date that has since passed; the remainder were moved and seconded. Discussion ensued regarding the reconsideration of the proposed 9.9% tax increase in the 2025 Budget and budget development process.

Members requested a separation of the motion.

It was MOVED and SECONDED

That the Metro Vancouver Board of Directors direct staff to:

- 1) Revise the 2025 Budget to target a maximum 5-7% increase over 2024 levels.

DEFEATED

It was MOVED and SECONDED

That the Metro Vancouver Board of Directors direct staff to:

- 2) Implement zero-based budgeting for all departments for the 2026 budget cycle.

Recorded Vote

Name	For	Against
Albrecht. P		2
Au. C	3	
Baillie. T		3
Bains. H	5	
Berry. K		1
Binder. R		3
Bligh. R	5	
Brodie. M		4
Buchanan. L	3	
Calendino. P		4
Dhaliwal. S		4
Dominato. L	5	
Elford. D		4
Hepner. G	5	
Hodge. C		4
Hurley. M		5
Johnstone. P		4
Kirby-Yung. S		5
Klassen. M	5	
Knight. M	2	
Kooner. P	5	
Kruger. D		3
Lahti. M	2	
Leonard. A		1
Locke. B	5	
MacDonald. N		1
McCutcheon. J		1
McEwen. J		1
McNulty. W		4
Meiszner. P	4	

Montague. B	5	
Muri. L	5	
Ross. J		1
Ruimy. D		5
Stutt. R	5	
Thompson. S	3	
Towner. T		4
West. B		4
Woodward. E		4
Zhou. L	5	
Total Votes	72	72

DEFEATED

It was MOVED and SECONDED

That the Metro Vancouver Board of Directors direct staff to:

- 3) Identify potential reductions for each department.

CARRIED

Members put forward a request to the Chair to consider the establishment of two task forces: one to review budgeting, and one for reviewing the governance of Metro Vancouver.

The agenda order resumed with item D before the Board at this point.

D. INVITED PRESENTATIONS

No items presented.

E. CONSENT AGENDA

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

- 1.1 Public Education about Residential Indoor Wood Burning Requirements

It was MOVED and SECONDED

That the MVRD Board adopt the recommendations presented in the following items as presented in the November 1, 2024 MVRD Consent Agenda:

- 1.2 Tilbury Marine Jetty and Tilbury Phase 2 LNG Expansion Projects – Update
- 2.1 Walkability Index Update
- 2.2 Regional Context Statements – Submission Timelines
- 3.1 Metro Vancouver External Agency Activities Status Report – October 2024

CARRIED

The items and recommendations referred to above are as follows:

1.2 Tilbury Marine Jetty and Tilbury Phase 2 LNG Expansion Projects - Update

Report dated September 18, 2024, from Derek Jennejohn, Lead Senior Engineer, Air Quality and Climate Action Services, and Marcin Pachcinski, Division Manager, Electoral Area and Implementation Services, providing the MVRD Board with an update on the Tilbury Marine Jetty and Tilbury Phase 2 LNG Expansion Projects.

Recommendation

That the MVRD Board receive for information the report dated September 18, 2024, titled “Tilbury Marine Jetty and Tilbury Phase 2 LNG Expansion Projects – Update”.

Adopted on Consent

2.1 Walkability Index Update

Report dated September 9, 2024, from Agatha Czekajlo, Senior Policy and Planning Analyst, and Sinisa Vukicevic, Program Manager, Regional Planning Analytics, Regional Planning and Housing Services, providing the MVRD Board with a summary of the 2021 update to the Neighbourhood Built Environment and Walkability Surface analysis and associated maps.

Recommendation

That the MVRD Board:

- a) receive for information the report dated September 9, 2024, titled “Walkability Index Update”; and
- b) share the findings and report with member jurisdictions with an offer of a staff presentation to Council upon request.

Adopted on Consent

2.2 Regional Context Statements – Submission Timelines

Report dated September 13, 2024, from Jonathan Cote, Deputy General Manager, Regional Planning and Housing Development, Regional Planning and Housing Services, and Marcin Pachcinski, Division Manager, Electoral Area and Implementation Services, providing the MVRD Board with information regarding expected delays in member submission of Regional Context Statements.

Recommendation

That the MVRD Board receive for information the report dated September 13, 2024, titled “Regional Context Statements – Submission Timelines”.

Adopted on Consent

3.1 Metro Vancouver External Agency Activities Status Report – October 2024

Report dated October 18, 2024, from Jacque Killawee, Deputy Corporate Officer, providing the MVRD Board with updates from representatives to Metro Vancouver external agencies.

Recommendation

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

- a) Delta Heritage Airpark Management Committee;
- b) Fraser Basin Council;
- c) Fraser Basin Council, Lower Mainland Flood Management Strategy Leadership Committee
- d) Fraser Valley Regional Library Board;
- e) Lower Mainland Local Government Association;
- f) Metro Vancouver Regional Parks Foundation;
- g) Municipal Finance Authority of BC;
- h) National Zero Waste Council;
- i) Ocean Watch Action Committee;
- j) ąícąý (Katzie First Nation) Treaty Negotiation Table
- k) Sasamat Volunteer Fire Department Board of Trustees;
- l) Solid Waste and Recycling Industry Advisory Committee;
- m) Solid Waste Management Plan Public/Technical Advisory Committee;
- n) Union of BC Municipalities;
- o) UBCM Indigenous Relations Committee
- p) Western Transportation Advisory Council (WESTAC); and
- q) Zero Emissions Innovation Centre (ZEIC);

as provided in the report dated October 18, 2024 titled “Metro Vancouver External Agency Activities Status Report – October 2024”.

Adopted on Consent

F. ITEMS REMOVED FROM THE CONSENT AGENDA

Items removed from the Consent Agenda were considered in numerical order.

1.1 Public Education about Residential Indoor Wood Burning Requirements

Report dated September 6, 2024, from Julie Saxton, Program Manager, Environmental Regulation and Enforcement, and Jay Soper, Communications Specialist, External Relations, providing the MVRD Board with information on the *Metro Vancouver Regional District Residential Indoor Wood Burning Emission Regulation Bylaw No. 1303, 2020*, and how it will be promoted via a public education campaign.

It was MOVED and SECONDED

That the MVRD Board receive for information the report titled “Public Education about Residential Indoor Wood Burning Requirements”, dated September 6, 2024.

CARRIED

G. REPORTS NOT INCLUDED IN CONSENT AGENDA

1.1 Metro 2050 Type 3 Proposed Amendment – City of Surrey (15238 - 64 Avenue)

Report dated September 16, 2024, from Marcin Pachcinski, Division Manager, Electoral Area and Implementation Services, and Victor Cheung, Regional Planner, Regional Planning and Housing Services, providing the MVRD Board with an opportunity to consider the City of Surrey’s request to amend *Metro 2050* to accommodate a multi-tenant industrial building through a *Metro 2050* Type 3 amendment.

It was MOVED and SECONDED

That the MVRD Board:

- a) initiate the *Metro 2050* amendment process for the City of Surrey’s requested amendment to include the property located at 15238 - 64 Avenue within the Urban Containment Boundary and amend its regional land use designation from Agricultural to Industrial;
- b) give first, second, and third readings to *Metro Vancouver Regional District Regional Growth Strategy Amendment Bylaw No. 1396, 2024*; and
- c) direct staff to notify affected local governments as per section 6.4.2 of *Metro 2050*.

CARRIED

2.1 MVRD Temporary Borrowing Bylaw No. 1397, 2024

Report dated September 12, 2024, from Linda Sabatini, Director, Financial Operations, Financial Services, providing the MVRD Board with the *Metro Vancouver Regional District Temporary Borrowing Bylaw No. 1397, 2024* for consideration of first, second, and third reading, and adoption.

It was MOVED and SECONDED

That the MVRD Board:

- a) give consent to temporary borrow on behalf of the Metro Vancouver Housing Corporation (“MVHC”) an amount, or amounts in aggregate, not exceeding \$70 million dollars, the amount of *the Metro Vancouver Loan Authorization Bylaw No. 1381, 2024*, and the maximum borrowing authorized;
- b) give first, second and third readings to “*Metro Vancouver Regional District Temporary Borrowing Bylaw No. 1397, 2024*”.

CARRIED

It was MOVED and SECONDED

That the MVRD Board adopt “*Metro Vancouver Regional District Temporary Borrowing Bylaw No. 1397, 2024*” and forward it to the Municipal Finance Authority of British Columbia as approval for anticipated temporary borrowing applications.

CARRIED

- 3.1 MVRD 2025 Budget and 2025 - 2029 Financial Plan and Five Year Bylaw 1401**
Report dated October 25, 2024, from Harji Varn, Chief Financial Officer/General Manager, Financial Services, providing the MVRD Board with an opportunity to consider and approve the 2025 MVRD Annual Budget for Regional District Services, endorse the MVRD 2025 – 2029 Financial Plan, and the *Metro Vancouver Regional District 2025 to 2029 Financial Plan Bylaw No. 1401, 2024* for first, second, third reading, and adoption.

It was MOVED and SECONDED

That the MVRD Board approve the 2025 Annual Budget and endorse the 2025 – 2029 Financial Plan as shown in Attachment 1 of the report dated October 25, 2024, titled “MVRD 2025 Budget and 2025 - 2029 Financial Plan and Five Year Bylaw 1401”, in the following schedules:

- Revenue and Expenditure Summary
- Air Quality and Climate Action
- E911 Emergency Telephone Service
- Electoral Area Service
- General Government Administration
- General Government Zero Waste Collaboration Initiatives
- Housing Planning and Policy
- Invest Vancouver
- Regional Emergency Management
- Regional Employer Services
- Regional Global Positioning System
- Regional Parks
- Capital Portfolio - Regional Parks
- Regional Planning

CARRIED

Director Buchanan voted against

It was MOVED and SECONDED

That the MVRD Board approve the 2025 Annual Budget and endorse the 2025 - 2029 Financial Plan as shown in Attachment 1 as presented for the Sasamat Fire Protection Service, and shown in the following schedules:

- Revenue and Expenditure Summary
- Sasamat Fire Protection Service

CARRIED

It was MOVED and SECONDED

That the MVRD Board approve the 2025 Reserve Applications as shown in Attachment 2 of the report dated October 25, 2024, titled “MVRD 2025 Budget and 2025 - 2029 Financial Plan and Five Year Bylaw 1401”.

CARRIED

Director Buchanan voted against

It was MOVED and SECONDED

That the MVRD Board give first, second and third reading to *Metro Vancouver Regional District 2025 to 2029 Financial Plan Bylaw No. 1401, 2024*.

CARRIED

Director Buchanan voted against

It was MOVED and SECONDED

That the MVRD Board pass and finally adopt *Metro Vancouver Regional District 2025 to 2029 Financial Plan Bylaw No. 1401, 2024*.

CARRIED

Director Buchanan voted against

3.2 MVRD Electoral Area A Zoning Amendment Bylaw 1399, 2024

Report dated October 21, 2024, from Marcin Pachcinski, Division Manager, Electoral Area and Implementation Services, Regional Planning and Housing Services Department, providing the MVRD Board with the opportunity to consider *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* for first, second, and third reading.

It was MOVED and SECONDED

That the MVRD Board:

- a) give first, second, third readings to *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024*; and
- b) direct staff to forward the bylaw to the Ministry of Transportation and Infrastructure for approval.

CARRIED

3.3 Regional Growth Strategy Amendment Bylaw No. 1392, 2024 – City of Surrey (7880 128 St)

Report dated October 9, 2024, from Dorothy Shermer, Corporate Officer, and Heather McNell, Deputy Chief Administrative Officer, Policy and Planning, providing the MVRD Board with a summary of comments received as a result of the notification to affected local governments and agencies, and an opportunity to consider the *Metro Vancouver Regional District Regional Growth Strategy Amendment Bylaw No. 1392, 2024* for adoption.

It was MOVED and SECONDED

That the MVRD Board:

- a) receive for information the comments from the affected local governments and agencies as presented in the report dated October 9, 2024, titled “Regional Growth Strategy Amendment Bylaw No. 1392, 2024 – City of Surrey (7880 128 St)”; and
- b) adopt *Metro Vancouver Regional District Regional Growth Strategy Amendment Bylaw No. 1392, 2024*; and
- c) accept the City of Surrey’s amended, and corresponding, Regional Context Statement showing 7880 128 Street amended from an “Industrial” to “Employment” regional land use designation.

CARRIED

Director Albrecht voted against

I. OTHER BUSINESS

1. MVRD Board Committee Information Items and Delegation Summaries

J. RESOLUTION TO CLOSE MEETING

It was MOVED and SECONDED

That the MVRD Board close its meeting scheduled for November 1, 2024 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:
- (e) the acquisition, disposition or expropriation of land or improvements, if the council considers that disclosure could reasonably be expected to harm the interests of the municipality;
 - (g) litigation or potential litigation affecting the municipality; and
 - (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.

CARRIED

K. ADJOURNMENT

It was MOVED and SECONDED

That the MVRD Board adjourn its meeting of November 1, 2024.

CARRIED

(Time: 10:17 am)

CERTIFIED CORRECT

Dorothy Shermer, Corporate Officer

Mike Hurley, Chair

71595973

To: Regional Planning Committee

From: Sinisa Vukicevic, Program Manager, Regional Planning and Housing Services and Heidi Lam, Senior Policy and Planning Analyst, Regional Planning and Housing Services

Date: October 11, 2024 Meeting Date: November 8, 2024

Subject: **Metro 2050 – 2023 Annual Performance Monitoring Report**

RECOMMENDATION

That the MVRD Board:

- a) receive for information the report dated October 11, 2024, titled “Metro 2050 – 2023 Annual Performance Monitoring Report”; and
 - b) direct staff to forward a copy of the report dated October 11, 2024, titled “Metro 2050 – 2023 Annual Performance Monitoring Report” to the Ministry of Municipal Affairs and the Ministry of Citizen’s Services; and
 - c) forward a copy of the report dated October 11, 2024, titled “Metro – 2023 Annual Performance Monitoring Report” to Mayors, Chief and Councils at member jurisdictions for information.
-

EXECUTIVE SUMMARY

The *Metro 2050* Performance Monitoring Dashboard tracks 29 key performance measures for *Metro 2050*, and provides a framework for discussing its implementation for the Metro Vancouver Board, member jurisdictions, TransLink, other regional agencies, and the general public. The dashboard details each measure’s vision, offers transparency on the status, and supports information with relevant data. With these insights, the MVRD Board can review and evaluate the state of growth management in the region, monitor progress, address emerging issues, and facilitate collective decision-making among stakeholders.

A highlight of selected performance measures include:

- Between 2016 and 2021, 98% of Metro Vancouver’s total dwelling unit growth occurred within the Urban Containment Boundary, meeting the regional target of 98%;
- Between 2016 and 2021, 41% of Metro Vancouver’s total dwelling unit growth occurred within Urban Centres, with a total increase of 31,635 units, which exceeds the regional target of 40%;
- In 2021, 56% of Metro Vancouver residents live in the region’s priority growth areas (22% in Urban Centres, 2% in Frequent Transit Development Areas, and 32% in Major Transit Growth Corridors); and
- The 2020 Regional Industrial Lands Inventory identified 10,250 hectares of land with an Industrial or Employment regional land use designation. 81.61% was developed lands and 18.39% was vacant lands.

The *Local Government Act* and *Metro 2050* require annual reporting on the regional growth strategy’s progress. The 2023 Annual Performance Monitoring Report provides a summary of progress towards the 29 performance measures set out in *Metro 2050*. A complete profile of the

performance measures with detailed data breakdown is available on the new *Metro 2050* Performance Monitoring Dashboard (Reference 1).

PURPOSE

To provide the Regional Planning Committee and MVRD Board the 2023 annual performance monitoring report of the region's performance towards the goals of *Metro 2050*. This report provides a highlight and status update on the 29 performance measures listed in Section G of *Metro 2050*.

BACKGROUND

Metro 2050, was adopted on February 24, 2023. It is the regional federation's collective vision for how growth will be managed to support the creation of complete, connected, and resilient communities, while protecting important lands and supporting the efficient provision of urban infrastructure like transit and utilities. *Metro 2050* has 29 performance measures that track progress toward the goals set out in the regional growth strategy.

Annual reporting on the regional growth strategy's progress is required by Subsection 452(1)(b) of the *Local Government Act* and Section 6.13.3 of *Metro 2050*. The *Metro 2050* Performance Monitoring Dashboard, along with this annual report, fulfill Metro Vancouver's legislative obligation. Additionally, it meets the priority action set out in Metro Vancouver's Board Strategic Plan 2022-2026 to "help the region monitor progress towards the targets of *Metro 2050* and create a central location for planners, decision makers, and the public to explore and use data from various regional data models, inventories, and projects".

NEW METRO 2050 DASHBOARD

Due to the recent refresh of the Metro Vancouver website, the previous *Metro 2040* Performance Monitoring Dashboard was removed in summer 2023. The former dashboard, launched in May 2017, averaged 15,000 user sessions per year. Over its six years of operation, the dashboard attracted approximately 52,000 unique users, with 70% being national and 30% international. In total, it logged 80,000 user sessions. Overall, the usage of the former dashboard was strong and consistent.

Over the past year, Metro Vancouver staff have worked to construct a new *Metro 2050* Performance Monitoring Dashboard built on a modern platform utilizing the latest PowerBI technology. This updated dashboard offers improved functionality across various devices and introduces several enhanced features, such as the ability to export data, interact with graphs, utilize sorting functions, and enjoy better integration with the main Metro Vancouver website. The new design now adheres to Metro Vancouver's latest software requirements, design guidelines, corporate branding guidelines, and corporate standards. The new *Metro 2050* Performance Monitoring Dashboard shares regional data with stakeholders on an interactive, dynamic, and user-friendly platform that can be updated in real-time as data becomes available.

Metro Vancouver recognizes the vital role performance monitoring plays in the implementation of *Metro 2050* and in collective decision-making. The 29 measures outlined in Section G: Performance Monitoring of *Metro 2050* provide a framework for discussing its implementation among the Metro

Vancouver Board, member jurisdictions, TransLink, other regional agencies, and the general public. The new *Metro 2050* Performance Monitoring Dashboard details each measure’s vision, offers transparency on their status, and supports the information with relevant data. Through this process, the MVRD Board can review and evaluate the state of growth management in the region, monitor progress, and address any emerging issues.

The dashboard will be published officially and linked on the Metro Vancouver main website on November 1, 2024 to align with the submission timing of the “*Metro 2050 – 2023 Annual Performance Monitoring Report*” to the Regional Planning Committee and MVRD Board in November 2024.

PERFORMANCE MONITORING

Metro 2050 identifies 29 key performance and context measures to assess the success of its goals, strategies and policy actions. These measures provide a framework for performance monitoring and enable an informed review of the regional growth strategy as needed. This annual performance monitoring report process supports the implementation of *Metro 2050* and tracks its progress toward achieving its goals.

Tables 1 to 6 highlight the 29 performance measures. It is important to note that this is the first annual performance monitoring report for *Metro 2050* and many of the performance measures are still establishing baseline data. Future annual reports will assess the performance and status of each measure and incorporate more historical data particularly for performance measures that originated from *Metro 2040*. Detailed information on each performance measures’ vision, intent, progress, data source, methodology, and data files is available for viewing and download through the *Metro 2050* Performance Monitoring Dashboard.

Table 1. Metro 2050 Performance Measures – Regional Land Use Designations

Measure	Performance
Total and cumulative change in hectares of land in each of the six regional land use designations	<p>In 2023, 28.91 hectares of land had amended regional land use designations. The total and cumulative change (2023) are as follows:</p> <ul style="list-style-type: none"> • General Urban 69,627 ha (net gain of 10.2 ha) • Industrial 10,468 ha (net gain of 8.5 ha) • Employment 3,536 ha (no change) • Agricultural 54,680 ha (net loss of 14.6 ha) • Rural 8,102 ha (net loss of 4.1 ha) • Conservation and Recreation 137,680 ha (no change) <p>The regional land use changes stem from 3 regional land use designation amendments from the Township of Langley and City of Surrey.</p> <p>Since the adoption of <i>Metro 2040</i> in 2011 to 2023, 1,392.12 hectares of land had amended regional land use designations. The cumulative change are as follows:</p> <ul style="list-style-type: none"> • General Urban – net loss of 561.77 ha

	<ul style="list-style-type: none"> • Industrial – net gain of 76.93 ha • Employment – net gain of 145.86 ha • Agricultural, net loss of 200.2 ha • Rural – net loss of 371.87 ha • Conservation and Recreation – net gain of 916.65 ha
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Table 2. Metro 2050 Performance Measures – Goal 1: Create a Compact Urban Area

Measure	Performance
Total and cumulative change in hectares of land in the Urban Containment Boundary	<p>In 2023, the Urban Containment Boundary expanded by 14.59 hectares. The expansion stems from 1 regional land use designation amendment from the Township of Langley.</p> <p>Urban Containment Boundary area</p> <ul style="list-style-type: none"> • 89,462 ha – 2011 (<i>Metro 2040</i> adoption), 31.58% of regional area • 89,853 ha - Feb 2023 (<i>Metro 2050</i> adoption), 31.72% of regional area • 89,868 ha – year end 2023, 31.73% of regional area <p>Since the adoption of <i>Metro 2040</i> in 2011 to 2023 year end, the Urban Containment Boundary expanded by 406.29 hectares.</p>
Percent of regional dwelling unit growth located within the Urban Containment Boundary (regional target of 98%)	<p>Between 2016 and 2021, 98% of Metro Vancouver’s total dwelling unit growth occurred within the Urban Containment Boundary over this five-year Census period.</p> <p>2016 Custom Census Data – Total Dwelling Units</p> <ul style="list-style-type: none"> • 1,027,613 units in Metro Vancouver • 1,002,899 units in Urban Containment Boundary <p>2021 Custom Census Data – Total Dwelling Units</p> <ul style="list-style-type: none"> • 1,104,532 units in Metro Vancouver • 1,078,132 units in Urban Containment Boundary
Number and status of new regional sewerage service connection applications made for areas outside of Urban Containment Boundary to lands with an Agricultural, Rural, or Conservation and Recreation regional land use designation	<p>In 2023, there were two new sanitary service connection applications and approvals outside the Urban Containment Boundary located in Township of Langley and City of Maple Ridge.</p>

<p>Change in hectares of greenfield lands within the Urban Containment Boundary that have a General Urban regional land use designation</p>	<p>This performance measure tracks the development of greenfield lands across the region relative to the region’s growth through infill and redevelopment in existing urban areas. In 2022, the Metro Vancouver region had approximately 4,015 hectares of greenfield lands within the UCB. This accounts for 5.8% of all lands with a General Urban regional land use designation at 69,627 hectares.</p> <p>Under this performance measure methodology, greenfield lands must have a general urban regional land use designation in <i>Metro 2050</i>, have an urban type Official Community Plan land use designation, be a contiguous area, be located within the Urban Containment Boundary, be without a servicing connection as of 2022 year end, and be verified visually using 2022 orthophotos. More details are available on the <i>Metro 2050</i> Performance Monitoring Dashboard.</p>
<p>Percent of regional dwelling unit growth located in Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors</p>	<p>Between 2016 and 2021, the total number of dwelling units increased by 31,635 in Urban Centres, by 5,315 in Frequent Transit Development Areas, and by 76,919 across the region. Hence, 41% of Metro Vancouver’s total dwelling unit growth occurred within Urban Centres and 7% within Frequent Transit Development Areas over this five-year Census period.</p> <p>2016 Custom Census Data – Total Dwelling Units</p> <ul style="list-style-type: none"> • 1,027,613 units in Metro Vancouver • 283,795 units in Urban Centres • 18,280 units in Frequent Transit Development Areas <p>2021 Custom Census Data – Total Dwelling Units</p> <ul style="list-style-type: none"> • 1,104,532 units in Metro Vancouver • 315,430 units in Urban Centres • 23,595 units in Frequent Transit Development Areas • 335,550 units in Major Transit Growth Corridors
<p>Change in "Activity Density" in Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors</p>	<p>Activity Density is measured by people plus jobs per hectare. In 2021, the combined for all Urban Centres is 131 Jobs + People/ hectare; for Frequent Transit Development Areas is 80 Jobs + People/ hectare; and for Major Transit Growth Corridors is 50 Jobs + People/ hectare. This is a new performance measure under <i>Metro 2050</i>. Historical data collection is currently underway and the findings will be available in early 2025.</p>
<p>A walkability index composed of: land use mix, commercial</p>	<p>The latest 2021 Walkability Index was completed in September 2024. The study findings and index maps are now available for</p>

<p>floor area ratio, intersection density, residential density, and sidewalk completeness</p>	<p>download and viewing on the <i>Metro 2050</i> Performance Monitoring Dashboard. The results are shown side by side with the previous 2016 Walkability Index for comparison. From 2016 to 2021, walkability improved across the majority of Metro Vancouver with more pronounced improvements in Urban Centres and Frequent Transit Development Areas. Greater walkability was attributed mostly to increased net residential density and/or land use mix in Vancouver, Burnaby, New Westminster, the North Shore, western parts of Coquitlam, and northwestern parts of Surrey. In other areas, greater walkability was associated with increased intersection and/or net residential density.</p>
<p>Total and change in number of community services and amenities in Urban Centres and Frequent Transit Development Areas, including, but not limited to child care and green space</p>	<p>This is a new performance measure in <i>Metro 2050</i>. Performance measure methodology will be developed in 2025.</p>

Table 3. Metro 2050 Performance Measures – Goal 2: Support a Sustainable Economy

Measure	Performance
<p>Percent of regional employment growth located in Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors</p>	<p>Between 2016 and 2021, the employed labour force grew by 4% from 1,111,450 jobs to 1,158,545 jobs across the region. Urban Centres and Frequent Transit Development Areas lost 60,870 and 3,560 jobs, respectively.</p> <p>2016 Custom Census Data – Total Employed Labour Force</p> <ul style="list-style-type: none"> • 1,111,450 jobs in Metro Vancouver • 445,955 jobs in Urban Centres • 33,460 jobs in Frequent Transit Development Areas <p>2021 Custom Census Data – Total Employed Labour Force</p> <ul style="list-style-type: none"> • 1,158,545 jobs in Metro Vancouver • 385,085 jobs in Urban Centres • 29,900 jobs in Frequent Transit Development Areas • 310,845 jobs in Major Transit Growth Corridors <p>It is important to note that the timing of the 2021 Census was during the COVID-19 pandemic, which had several impacts on employment levels, including heightened unemployment, business and site closures, and the relocation of certain employment to remote work. Since then, the Metro Vancouver region has shown a steady increase in average employment between 2021 and 2024, highlighting that the regional economy</p>

	has remained in a state of continued growth and has a stable labour market.
Total and change in employment by sector in Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors	Data collection is currently underway and the findings will be available in 2025.
Change in office floor area within Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors	<p>In 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. 55 million sq ft (71%) of office space were located in Urban Centres. For office space within Urban Centres, 69% is located in the Metro Core, 16% in Regional City Centres, 9% in Municipal Town Centres, and 6% in the Surrey Metro Centre.</p> <p>In comparison, there were 80 million sq ft of office space in the region located within 1,392 buildings with 10,000 sq ft or more of office space in 2018. 55 million sq ft (69%) of office space were located in Urban Centres.</p>
Percent of land in ALR that is actively farmed	<p>Metro Vancouver monitors the status of agricultural land, including the amount of actively farmed land, with the objective of promoting agricultural viability and food production in collaboration with the province and the Agricultural Land Commission.</p> <p style="text-align: center;">Metro Vancouver ALR Land Cover Overview (2016)</p> <ul style="list-style-type: none"> • Activity farmed – 29,320 ha (51%) • Natural and Semi-natural – 17,178 ha (30%) • Anthropogenic (not farmed) – 9,675 ha (17%) • Inactively farmed – 953 ha (2%) <p>The Agricultural Land Use Inventory will be updated in 2025.</p>
Average number of km travelled for commute region-wide	<p>This performance measure provides contextual information on how far employees travel for work and the changing nature of work across the region.</p> <p>Metro Vancouver (2017)</p> <p>Average trip length to work or university by auto driver</p> <ul style="list-style-type: none"> • Burnaby – 12.2 km • Coquitlam – 15.8 km • Delta – 16.0 km • Electoral Area A UBC/UEL – 9.9 km • Langley City – 13.9 km • Langley Township – 17.9 km

	<ul style="list-style-type: none"> • Maple Ridge – 20.8 km • New Westminster – 14.9 km • North Vancouver City – 10.4 km • North Vancouver District – 12.7 km • Pitt Meadows – 13.5 km • Port Coquitlam – 15.4 km • Port Moody – 16.4 km • Richmond – 12.6 km • Surrey – 16.3 km • Vancouver – 10.4 km • West Vancouver – 12.7 km • White Rock – 26.5 km • Others – 15.8 km • Metro Vancouver total – 14.3 km <p>The data source is TransLink’s 2017 Metro Vancouver Regional Trip Diary. Data breakdown by municipality is available for download and viewing on the <i>Metro 2050</i> Performance Monitoring Dashboard. The 2023 Regional Trip Diary data will be available in 2025 and the <i>Metro 2050</i> dashboard will be updated at that time.</p>
<p>Average number of minutes travelled for commute region-wide</p>	<p>This performance measure provides contextual information about how long it takes employees to travel for work and its destination.</p> <p>Metro Vancouver (2021)</p> <p>Employed labour force with usual place of work or no fixed workplace address – commuting duration</p> <ul style="list-style-type: none"> • < 15 mins – 202,980 people • 15 to 29 mins – 341,035 people • 30 to 44 mins – 258,225 people • 45 to 59 mins – 96,495 people • ≥ 60 mins – 79,825 people <p>Employed labour force with usual place of work – commuting destination</p> <ul style="list-style-type: none"> • Commute within census subdivision of residence – 365,810 people • Commute to a different census subdivision within census division of residence – 407,305 people • Commute to a different census subdivision and census division within province of residence – 13,135 people

	<ul style="list-style-type: none"> • Commute to a different province – 2,335 people <p>The data source is 2021 Census data. Data breakdown by municipality is available for download and viewing on the <i>Metro 2050</i> Performance Monitoring Dashboard.</p>
<p>Average trip length by transportation mode region-wide</p>	<p>This performance measure provides contextual information on employees’ travel method and frequency.</p> <p>Metro Vancouver (2017)</p> <p>Trips to work or university by travel mode</p> <ul style="list-style-type: none"> • 63.09% auto driver • 7.13% auto passenger • 18.33% transit • 2.19% bike • 9.27% walk <p>Number of trips to work or university by travel mode</p> <ul style="list-style-type: none"> • 994,200 trips by auto driver • 112,300 trips by auto passenger • 288,800 trips by transit • 34,500 trips by bike • 146,100 trips by walking <p>The data source is TransLink’s 2017 Metro Vancouver Regional Trip Diary. Data breakdown by municipality is available for download and viewing on the <i>Metro 2050</i> Performance Monitoring Dashboard. The 2023 Regional Trip Diary data will soon be available in 2025.</p>
<p>Total and cumulative change in hectares of land designated Industrial and Employment that is developed and vacant</p>	<p>Metro Vancouver monitors the ways in which industrial lands are used in the region.</p> <p>2020 Regional Industrial Lands Inventory</p> <ul style="list-style-type: none"> • 10,250 ha of land with an industrial or employment regional land use designation <ul style="list-style-type: none"> ○ 83% developed, 17% vacant <p>2015 Regional Industrial Lands Inventory (unadjusted)</p> <ul style="list-style-type: none"> • 10,335 ha of land with an industrial or employment regional land use designation <ul style="list-style-type: none"> ○ 79% developed, 21% vacant

Table 4. *Metro 2050* Performance Measures – Goal 3: Protect the Environment, Address Climate Change, and Respond to Natural Hazards

Measure	Performance
Change in hectares of land protected for nature across the region (40% to 50%)	<p>The Regional Protected Natural Areas dataset is compiled by Metro Vancouver using various data sources to track the area of land protected for nature. In 2013, 40% of the region’s land base is protected for nature. This includes federal, provincial, and municipal parks, terrestrial-based wildlife management areas, ecological reserves, regional parks, watersheds, the Lower Seymour Conservation Reserve, Buntzen Lake Recreation Area, University of British Columbia Malcolm Knapp and British Columbia Institute of Technology research forests.</p> <p>An update to the Regional Protected Natural Areas dataset is planned in 2025.</p>
Change in percentage of regional total tree canopy cover within the Urban Containment Boundary (regional target from 32% to 40%)	<p>Between 2014 and 2020, the regional tree canopy cover decreased from 32% to 31% within the Urban Containment Boundary. The next update to the Regional Tree Canopy Cover dataset is planned in 2027 to 2028.</p>
Change in hectares of land identified as Sensitive or Modified Ecosystem	<p>Between 2014 and 2020, 335 ha of Sensitive Ecosystems and 566 ha of Modified Ecosystem were lost. In 2020, there are 149,617 ha of Sensitive Ecosystems and 26,812 ha of Modified Ecosystem. The next update to the Sensitive Ecosystem Inventory is planned in 2027 to 2028.</p>
Change in hectares of identified Sensitive and Modified Ecosystem rated high quality	<p>Ecosystem quality changes will be included in the next update to the Sensitive Ecosystem Inventory in 2027 to 2028.</p>
Total and change in tonnes of GHG emissions related to land use, buildings, industry, agriculture, waste, transportation, and other emission sources in support of the regional target to reduce GHG emissions by 45% below 2010 levels by the year 2030 and to achieve a carbon neutral region by the year 2050	<p>The strategies and policy actions of <i>Metro 2050</i> encourage greenhouse gas emission reduction across the region. This key performance measure has an ambitious target for the region to reduce GHGs by 45% by 2030 compared to the 2010 levels, and be carbon neutral by 2050.</p> <p>Metro Vancouver has historically compiled a regional emission inventory every five years. Regional GHG emissions were 14.8 million tonnes in 2020, less than a 1% reduction from the 2010 baseline.</p> <p>Metro Vancouver is moving towards an annual emission that will improve our ability to track and measure the impacts of <i>Climate 2050</i> and other climate actions taking place in the region. The regional emissions inventories for on-road transportation and</p>

	<p>buildings are completed and GHG inventories for other sectors will be available soon.</p> <p>In 2022, the total regional GHGs from buildings was 4.7 million tonnes of CO₂e, and total regional GHG emissions from on-road vehicles was 6.5 million tonnes of CO₂e.</p>
Tonnes of carbon storage in natural areas including lands with Rural, Conservation and Recreation, and Agricultural regional land use designations	An update to the Regional Carbon Storage Dataset is planned for completion in 2026. The carbon storage dataset measures the tonnes of carbon storage in natural areas including lands with a Rural, Conservation and Recreation, and Agricultural regional land use designation.

Table 5. Metro 2050 Performance Measures – Goal 4: Provide Diverse and Affordable Housing Choices

Measure	Performance
Percentage of newly completed housing units built within Urban Centres and Frequent Transit Development Areas that are affordable rental housing units	This is a new performance measure and has a regional target of 15% to the year 2050. Data collection is currently underway and the findings will be available in early 2025.
Percentage of household income spent on housing and transportation expenses across the region and by tenure and income level	<p>In 2011, housing and transportation costs took up 49% of the pre-tax income of working renter households and 40% of the pre-tax income of working owner households.</p> <p>The 2024 Housing and Transportation Cost Burden study is currently underway. The findings and data will be available in early 2025.</p>

Table 6. Metro 2050 Performance Measures – Goal 5: Support Sustainable Transportation Choices

Measure	Performance
Total and change in trips by transportation mode	<p>This performance measure provides contextual information about the overall change in residents’ trips and trip length by transportation mode for all trip purposes (to home, work/ university, grade school, escorting, shopping/ personal business, and social/ recreation/ dining).</p> <p>Metro Vancouver (2017)</p> <p>Percentage of all trips by travel mode</p> <ul style="list-style-type: none"> • 55.8% auto driver • 16.76% auto passenger • 11.76% transit

	<ul style="list-style-type: none"> • 1.62% bike • 14.05% walk <p>Number of all trips by travel mode</p> <ul style="list-style-type: none"> • 4,379,500 trips by auto driver • 1,315,500 trips by auto passenger • 923,000 trips by transit • 127,500 trips by bike • 1,103,100 trips by walking <p>A full data breakdown by municipality is available on the <i>Metro 2050</i> Performance Monitoring Dashboard. The data source is TransLink’s 2017 Metro Vancouver Regional Trip Diary. The 2023 Regional Trip Diary data will soon be available in 2025.</p>
<p>Percent of residents within the Major Transit Growth Corridors</p>	<p>In 2021, 56% of Metro Vancouver residents lived in the region’s priority growth areas (22% in Urban Centres, 2% in Frequent Transit Development Areas, and 32% in Major Transit Growth Corridors).</p>
<p>Total and per-capita change in the number of actively insured vehicles</p>	<p>This performance measure provides contextual information about the change in personal vehicle ownership across the region and change in vehicle ownership per capita. The population count is based on census data that includes people for ages 15 to 64.</p> <p>In 2021, there were 1,360,428 actively insured passenger vehicles in Metro Vancouver. Car ownership per capita was 0.8. A full data breakdown by municipality is available on the <i>Metro 2050</i> Performance Monitoring Dashboard. The data source is ICBC’s public database of statistics.</p>
<p>Total and per-capita change in vehicle km travelled</p>	<p>This contextual measure informs the change in auto drivers’ travel behaviour by municipality and per capita.</p> <p>Metro Vancouver (2017)</p> <p>All trips by auto driver – vehicle km travelled (VKT), VKT per capita</p> <ul style="list-style-type: none"> • Burnaby – 3,301,800 VKT, 14.4 VKT/capita • Coquitlam – 2,827,700 VKT, 20.6 VKT/capita • Delta – 2,631,800 VKT, 25.6 VKT/capita • Electoral Area A UBC/UEL – 141,300 VKT, 10.1 VKT/capita • Langley City – 574,600 VKT, 22.5 VKT/capita

	<ul style="list-style-type: none"> • Langley Township – 3,580,400 VKT, 31.2 VKT/capita • Maple Ridge – 2,724,000 VKT, 33.1 VKT/capita • New Westminister – 1,123,500 VKT, 15.9 VKT/capita • North Vancouver City – 827,400 VKT, 15.5 VKT/capita • North Vancouver District – 1,780,200 VKT, 21 VKT/capita • Pitt Meadows – 424,700 VKT, 24.3 VKT/capita • Port Coquitlam – 1,340,700 VKT, 22.9 VKT/capita • Port Moody – 818,200 VKT, 24 VKT/capita • Richmond – 2,928,400 VKT, 14.6 VKT/capita • Surrey – 11,150,500 VKT, 21.5 VKT/capita • Vancouver – 6,772,900 VKT, 10.7 VKT/capita • West Vancouver – 768,900 VKT, 18.3 VKT/capita • White Rock – 638,300 VKT, 30.2 VKT/capita • Others – 235,400 VKT, 25.8 VKT/capita <p>The data source is TransLink’s 2017 Metro Vancouver Regional Trip Diary. The 2023 Regional Trip Diary data will soon be available in 2025.</p>
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METRO 2050 AMENDMENTS IN 2023

From the adoption of the *Metro 2050* on February 24, 2023 to December 31, 2023, there were three approved land use designation amendments to *Metro 2050*:

- Bylaw No. 1364, 2023 – A Type 3 regional land use designation amendment from Agricultural to Industrial and to expand the Urban Containment Boundary by 14.59 hectares. The subject properties are located at Gloucester Industrial Park at 26477, 26695, 26601, 26575, and 26713 56 Avenue; 26500 Block of 56 Avenue; 5670 264 Street; and 5625 268 Street in Township of Langley;
- Bylaw No. 1365, 2023 – A Type 2 regional land use designation amendment from Rural to Industrial for 4.12 hectares of the lands located at 23699 and 23737 Fraser Highway in Township of Langley; and
- Bylaw No. 1366, 2023 – A Type 3 regional land use designation amendment from Industrial to General Urban for 10.2 hectares of lands located at 11420 157A Street in Surrey’s Fraser Heights area.

ALTERNATIVES

1. That the MVRD Board:
 - a) receive for information the report dated October 11, 2024, titled “Metro 2050 – 2023 Annual Performance Monitoring Report”; and
 - b) direct staff to forward a copy of the report dated October 11, 2024, titled “Metro 2050 – 2023 Annual Performance Monitoring Report” to the Ministry of Municipal Affairs and the Ministry of Citizen’s Services; and

- c) forward a copy of the report dated October 11, 2024, titled “Metro – 2023 Annual Performance Monitoring Report” to Mayors, Chief and Councils at member jurisdictions for information.
2. That the MVRD Board receive for information the report dated October 11, 2024, titled “Metro 2050 – 2023 Annual Performance Monitoring Report”.

FINANCIAL IMPLICATIONS

Data acquisition and development for performance monitoring is a regular component of the annual Regional Planning budget.

NEXT STEPS

It is recommended that copies of the report dated October 11, 2024, titled “Metro 2050 – 2023 Annual Performance Monitoring Report” be forwarded to all member jurisdictions for information. Staff are available to present the report to staff teams and/or Councils upon request.

CONCLUSION

The *Local Government Act* and *Metro 2050* require annual reporting on the regional growth strategy’s progress. The 2023 Annual Performance Monitoring Report provides a summary of progress toward the 29 performance measures set out in *Metro 2050*. A complete profile of the performance measures with detailed data breakdown is available on the new *Metro 2050* Performance Monitoring Dashboard. The new dashboard is built on the latest data visualization platform with advanced data exploration tools and functions. It shares regional data with stakeholders in an interactive, dynamic, and user-friendly format that can be updated in real-time as data becomes available.

The new *Metro 2050* Performance Monitoring Dashboard launched as a beta version on October 4, 2024 and will be published officially on the Metro Vancouver main website on November 1, 2024.

REFERENCES

1. [Metro 2050 Performance Monitoring Dashboard](#)

71128626

To: Regional Planning Committee

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

Date: October 11, 2024 Meeting Date: November 8, 2024

Subject: **Economic Impact of Industrial Lands in Metro Vancouver Study**

RECOMMENDATION

That the MVRD Board:

- a) receive for information the report dated October 11, 2024, titled “Economic Impact of Industrial Lands in Metro Vancouver Study”; and
 - b) forward the “Economic Impact of Industrial Lands in Metro Vancouver Study” report to Mayors, Chief, and Councils at member jurisdictions for information with an offer of presenting the report findings to councils.
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EXECUTIVE SUMMARY

Metro Vancouver has updated the Economic Impact of Industrial Lands Study (Attachment 1) to document the economic value and employment contribution of the region’s industrial lands using the latest available data, including employment counts from the 2021 Census and land uses from the 2020 Regional Industrial Lands Inventory. The previous study was completed in 2019.

The updated study illustrates that:

- industrial lands continue to represent 4% of the Metro Vancouver land base and 22% of the region’s jobs;
- total industrial activity accounts for 31% of the jobs in the region and pays 14% higher on average;
- through indirect and induced impacts, activity located on industrial lands contributes a total of 468,600 jobs to the regional economy, 513,700 jobs in British Columbia, and 584,100 jobs in Canada;
- industrial lands account for 30% (\$43 billion) of the region’s overall GDP, and contribute \$8 billion annually in government tax revenues.

The updated and enhanced 2024 Economic Impact of Industrial Lands Study reiterates for Metro Vancouver, member jurisdictions, and stakeholders, that industrial lands are the foundation for a significant amount of the region’s total economic activity, with a disproportionately large amount of employment and wages above the regional average. The study also informs the ongoing implementation of the Regional Industrial Lands Strategy (RILS) (Reference 1) and *Metro 2050*.

PURPOSE

To provide the Regional Planning Committee and MVRD Board with the updated Economic Impact of Industrial Lands in Metro Vancouver study.

BACKGROUND

Industrial lands are an important part of the region's land base and economy. The Metro Vancouver region has a limited supply of industrial lands and a strong demand for industrial space, which has resulted in extremely low vacancy rates, with high rents and land prices. To support the development of the Regional Industrial Lands Strategy (approved in 2020), Metro Vancouver commissioned InterVISTAS Consultants to complete the 2019 Industrial Lands: Economic Impact and Future Importance Study (Reference 2). In 2024, Metro Vancouver commissioned InterVISTAS to update the study. This report conveys the results to the Committee and Board.

INDUSTRIAL LANDS ECONOMIC IMPACT STUDY

The updated study examines the following:

- Economic and employment impacts of industrial lands in Metro Vancouver;
- Impact of Metro Vancouver's industrial lands on the regional, provincial, and national economies;
- Interdependencies with non-industrial lands and activities;
- Importance of industrial activities in supporting and diversifying the economy;
- Consequences of an insufficient supply of industrial lands in the region; and
- Need to protect and intensify / densify industrial lands for industrial purposes.

No stand-alone statistical sources accurately capture employment taking place on the region's industrial lands. Consequently, the employment (and wage) information contained in the study was obtained by undertaking a custom analysis of the Statistics Canada 2021 Census, augmented by the Bank of Canada's inflation calculator. This information was cross-referenced with the Metro Vancouver 2020 Regional Industrial Lands Inventory and other available sources to ensure data was captured for the activities occurring on these lands.

Scope of the Update

In support of the ongoing advancement and implementation of RILS, Metro Vancouver contracted InterVISTAS Consultants to update the 2019 Industrial Lands: Economic Impact and Future Importance Study. This 2024 update entails compiling the most recently-available data, including: Census (2021), Regional Industrial Lands Inventory (2020), Industrial Intensification Study (2021), Regional Industrial Lands Strategy (2020), *Metro 2050* (2023), and other sources.

Specifically, the work included updating the following components:

- Industrial lands context in Metro Vancouver;
- Current regional planning policy framework;
- Methodology and impact analysis calculations;
- Economic model with custom multipliers and ratios from the 2021 Census dataset;
- Tax model to reflect 2021 tax rates;
- Key messages from the original study; and
- Findings from other recent relevant studies.

Industrial lands serve various purposes, such as warehousing, distribution, manufacturing, emerging technology businesses, and other uses. The economic impact for each of the following sectors was

quantified in the study: Production, Distribution, Repair, Public Infrastructure and Administration, Trade-Oriented, and Non-Industrial activity.

The geographic coverage excludes direct industrial related operations that do not take place on industrial land, and includes non-industrial activities (such as commercial) taking place on industrial land. The study describes the direct, indirect, and induced employment, wages, GDP, and output across industrial and non-industrial sectors. Impacts are presented for the Metro Vancouver region, British Columbia, and Canada.

Data Limitations

Noting the 2021 Census occurred during COVID when economic and employment activities / patterns were greatly disrupted, there are limitations in data and comparability with other studies and points in time. The number of workers having an 'at home' or no fixed workplace increased significantly in the 2021 Census as compared to 2016, in part due to the following:

- The unemployment rate was double what it was shortly prior to the pandemic;
- Temporary business closures resulting in an undercount of employment levels; and
- Relocation of certain employment to remote work (e.g. work-from-home) instead of onsite.

Given the 2021 Census data limitations, the results have limited comparability to previous studies. It remains to be determined whether the job counts in the 2021 Census reflect a temporary, pandemic-driven condition or a permanent, structural change in employment and operations associated with industrial lands (pandemic-related or otherwise).

The observed change (i.e. the 2016 to 2021 decrease) in direct job counts located on industrial lands could be attributable to one or more of the following:

- Labour mobility trends toward work-from-home (in which case a meaningful share of employment by remote workers are not captured in this study);
- Transitory effects of the pandemic (e.g. temporary layoffs, shutdowns, or moves to offsite work locations during the Census survey period);
- Increasing productivity or technological changes which require fewer workers located on industrial lands; and/or
- A genuine decline in business activity and employment associated with industrial lands.

KEY FINDINGS

Industrial lands in Metro Vancouver support significant employment and economic activity. Economic activity on industrial lands contributes directly to employment in the region, as well as to the provincial and national Gross Domestic Product (GDP). Economic activity can be measured in various ways, including: employment, wages, GDP, and economic output, to capture the entire amount of activity.

Specifically, the updated study found the following:

- Industrial lands represent 4% of the region's land base, and directly accommodates 22% (315,300) of jobs in the region. These industrial activities have demonstrated far-reaching impacts to the local, provincial, and national economic growth and development, that is predominantly related to moving goods from, to and through the Vancouver region.

- Industrial activity (whether located on industrial lands or not) accounts for 31% (444,700) of jobs in Metro Vancouver. Of these jobs, 42% (186,100) were located on industrial lands, and the remaining (58%, 258,600 jobs) were located on other lands in the region.
- Across all activities located on industrial lands, industrial jobs pay 14% higher on average than non-industrial jobs. When inflating to 2024 dollars, the average industrial job located on industrial land equates to \$76,800. The highest paying sectors on industrial land are Public Infrastructure & Administration and Trade-Oriented, both of which are industrial sectors paying over \$84,000 per job.
- Through indirect and induced impacts, industrial and non-industrial activity located on industrial lands contribute a total of 468,600 jobs to the region's economy, 513,700 in British Columbia, and 584,100 in Canada. The contribution to total wages was \$29 billion for the region in 2021.
- Industrial lands account for 30% (\$43 billion) of the Metro Vancouver region's overall GDP (direct, indirect, and induced impacts). That amount increases to over \$48 billion in the province, and in grand total \$57 billion in Canada.
- Activities on industrial lands contribute tax revenues to all levels of government, totaling \$8 billion annually. These amounts are as follows: municipal property taxes are \$250 million, provincial taxes are \$1.9 billion, and federal taxes are \$5.9 billion.

The study reiterates that industrial lands are the foundation for a significant amount of the region's total economic activity, with a disproportionately large amount of employment and wages above the regional average. Industrial lands serve both an important regional role and as a facilitator of trade-related activities for British Columbia and Canada as a whole.

Industrial activities accounted for 59% of employment located on industrial lands but 68% of the direct GDP generated on industrial lands. This emphasizes the role that industrial activity plays in supporting productivity throughout the region's economy, because the industrial sectors have higher economic multipliers (greater linkages and spending with other sectors), higher average wages, and a greater contribution to GDP and economic output. The study notes that there is a sizeable amount of non-industrial activities taking place on industrial lands. These non-industrial activities directly represent 41% of the jobs on industrial lands. This alludes to a notable amount of industrial lands being used for purposes other than their intended use.

The potential effects of an insufficient supply of industrial land on the regional economy, while difficult to precisely ascertain, would vary by sector and likely be negative for the region as a whole. The extent to which industrial activities could be moved elsewhere, such as the Fraser Valley or Alberta, vary by sector. According to another study by InterVISTAS¹, over the 4.5-year period from January 2019 to June 2023, an estimated 5.1 million sq. ft. (or average of over 1 million sq. ft. per annum) of space was taken up by firms in Calgary rather than Metro Vancouver. The economic impact of these lost opportunities to Calgary is estimated to be over 6,300 direct jobs, paying \$477 million wages, generating \$494 million in GDP and \$828 million in economic output. The jobs lost to Alberta represent a lost opportunity for the local economy in Metro Vancouver and for BC residents to be employed in high salary sectors of the economy.

¹ Economic Impact Study of the Critical Shortage of Industrial Land in Metro Vancouver, 2023.

Through enhanced industrial lands protection and intensification / densification policies and initiatives in Metro Vancouver, the supply of industrial space can be enhanced to better meet the demand. These policies are outlined in *Metro 2050*, as well as the Regional Industrial Lands Strategy, which Metro Vancouver continues to advance and implement.

NEXT STEPS

The scope of work for the study was presented to the Regional Planning Advisory Committee at its meeting on March 15, 2024, and to the Regional Planning Committee on April 5, 2024, for information. The completed study was advanced to the Regional Planning Advisory Committee at its meeting on October 11, 2024. The study will be advanced to the MVRD Board in November 2024, and subsequently published on the Metro Vancouver website. The results will help communicate the importance of industrial land uses and be used to inform industrial lands initiatives and related employment and economic matters, as well as the ongoing implementation of RILS.

ALTERNATIVES

1. That the MVRD Board:
 - a) receive for information the report dated October 11, 2024, titled “Economic Impact of Industrial Lands in Metro Vancouver Study”; and
 - b) forward the “Economic Impact of Industrial Lands in Metro Vancouver Study” report to Mayors, Chief, and Councils at member jurisdictions for information with an offer of presenting the report findings to councils.
2. That the MVRD Board receive for information the report dated October 11, 2024, titled “Economic Impact of Industrial Lands in Metro Vancouver Study”.

FINANCIAL IMPLICATIONS

A budget of \$30,000 included in the MVRD Board-approved 2024 Regional Planning budget was used to retain the consultant to complete the study.

CONCLUSION

The updated 2024 Economic Impact of Industrial Lands in Metro Vancouver Study incorporates the latest data available, profiles key findings, reiterates the importance of industrial lands, the significance of industrial economic and employment activities in the region, and the need to protect and intensify / densify industrial lands. In summary, industrial lands represent 4% of the Metro Vancouver region’s land base and accommodate 22% of the region’s jobs. Furthermore, total industrial activity accounts for 31% of the jobs in the region and pay 14% higher on average. Through indirect and induced impacts, activity located on industrial lands contribute a total of 468,600 jobs to the region’s economy, 513,700 in British Columbia, and 584,100 in Canada, and account for 30% (\$43 billion) of the Metro Vancouver region’s overall GDP and contribute \$8 billion annually in government tax revenues. The study will support the ongoing implementation of the Regional Industrial Lands Strategy, *Metro 2050*, and Metro Vancouver and member jurisdiction policy goals.

ATTACHMENTS

1. Economic Impact of Industrial Lands in Metro Vancouver Study, 2024

2. Presentation re: Economic Impact of Industrial Lands in Metro Vancouver Study

REFERENCES

1. [Metro Vancouver Regional Industrial Lands Strategy, 2020](#)
2. [Metro Vancouver Industrial Lands: Economic Impact and Future Importance Study, 2019](#)

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Economic Impact of Industrial Lands in Metro Vancouver Study

Prepared for Metro Vancouver Regional District

September 25, 2024

FINAL REPORT



Executive Summary

Metro Vancouver, in its commitment to lead the advancement of the Regional Industrial Lands Strategy, has undertaken an analysis to quantify and describe the economic value generated by sectors operating on industrial lands within the region. The study's findings inform the implementation of the Regional Industrial Lands Strategy, a collaborative effort led by regional agencies and organizations. This study is an update to the prior study released in early 2019.

Similar to the prior study, this analysis focuses on the economic contributions made by businesses operating on industrial lands within the Vancouver region. These industrial lands are categorized based on the most recent Metro Vancouver 2020 Regional Industrial Lands Inventory.¹

Industrial lands serve various purposes, such as warehousing, manufacturing, and supporting emerging technology businesses. They provide essential employment opportunities and contribute to supply chains. Over time, regional definitions of industrial lands have adapted to accommodate new technologies and non-traditional uses. In Metro Vancouver's Regional Industrial Lands Strategy, the term "industrial" includes the following uses:

- light and heavy industrial production (including manufacturing and assembly),
- distribution,
- repair,
- construction materials and equipment,
- infrastructure,
- outdoor storage activities,
- wholesale.²

It is also worth noting the importance of Trade-Oriented lands in the region, as these lands and the activities that take place on them are vitally important to support goods movement in, out, and through the Metro Vancouver region. Activities that take place on these lands keep British Columbia and Canada connected to the global supply chain. Marine terminal facilities, distribution centres, warehouses, container storage and freight forwarding activities are key components of logistics supply chains. Operations taking place on Trade-Oriented lands require large, contiguous sites to accommodate the goods movement functions of Port of Vancouver and Vancouver International Airport and associated activities. The Port of Vancouver, Canada's busiest marine port and key national supply chain partner has an economic impact of 103,000 jobs in British Columbia. The availability of industrial lands is integral to the smooth flow of goods to, through, and from Canada's busiest port. Thus, the Metro Vancouver region

¹ Metro Vancouver Regional Industrial Lands Strategy. Metro Vancouver, 2020. <https://metrovancover.org/services/regional-planning/Documents/regional-industrial-lands-strategy-report.pdf>

² Metro Vancouver Regional Industrial Lands Strategy. Metro Vancouver, 2020. <https://metrovancover.org/services/regional-planning/Documents/regional-industrial-lands-strategy-report.pdf>

needs to protect existing industrial lands and make the best and most efficient use of the industrial lands through intensification and densification.

To assess the economic impact of industrial land, Metro Vancouver utilized custom data extracted from Statistics Canada's 2021 Census. The prior study utilized 2016 Census data extracts. This data formed the foundation for analyzing economic activity across the region. Given the timing of the 2021 Census during the COVID-19 pandemic, the custom data extracted from the 2021 Census reported a net 50,000 fewer jobs located physically on industrial land compared the 2016 Census data extract due to the following conditions at the time as well as the specific geographically defined scope of this study:

- The COVID-19 pandemic had several impacts on employment levels at the time of the 2021 Census, including heightened unemployment, business and site closures, and the relocation of certain employment to remote work (e.g. work-from-home) instead of onsite.
- Given the geographic scope of this study, which focuses only on the employment physically located on industrial lands, it does not capture work-from-home employment related to industrial activities.

(See page 15 for more detailed info on Special Considerations related to the 2021 Census.)

Average wages are strong for industrial related activities

Across all activities located on industrial lands, industrial jobs pay 14% higher on average than non-industrial jobs.

Industrial jobs paid on average, \$67,900 in 2021, compared to \$59,500 for non-industrial jobs on these lands, equivalent to a premium of 14%. When inflating to 2024 dollars, the average industrial job located on industrial land equates to \$76,800. The highest paying sectors for employment on industrial land are Public Infrastructure & Administration and Trade-Oriented, both of which are industrial sectors paying over \$84,000 per job located on industrial land. This is comparable to the average wage paid throughout the region in the Research & Development, Professional & Technical Services sector.

Industrial lands generate a significant portion of the region's total Gross Domestic Product (GDP). The significant employment that takes place on the region's industrial lands also generate total GDP (direct, indirect, and induced impacts) amounting to over \$43 billion in the region, over \$48 billion in the province, and in grand total \$57 billion in Canada.

This amounts to 30% of the region's overall GDP, which demonstrates the importance of the jobs and activities that take place on the region's industrial lands. In 2023, the GDP of the region was \$142 billion (in 2021 dollars).³

Industrial activities located on industrial lands account for approximately \$30 billion or 21% of the region's total GDP. These industrial activities have demonstrated far-reaching impacts to the local, provincial and national economic growth and development, that is predominantly related to moving goods from, to and through the Vancouver region.

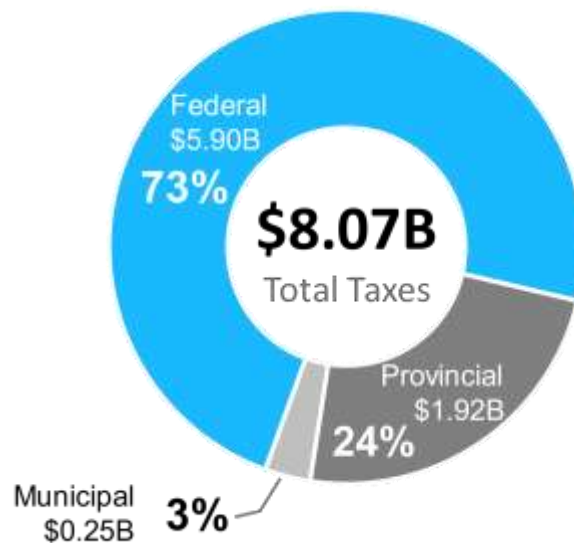
³ Source: <https://vancouvereconomic.com/economic-snapshot/>. Metro Vancouver's GDP amounted to \$158 billion in 2023. To keep consistent with the presentation of impacts in terms of 2021 dollars, Metro Vancouver's GDP in 2023 of \$158 billion is deflated to \$142 billion in 2021 dollars.

Activities on Industrial Lands Contribute Tax Revenues to All Levels of Government

The tax impacts of direct employment and business activities located on industrial lands amount to an estimated \$8 billion which are accrued to federal, provincial and municipal governments, as shown in **Figure ES-1**. This estimate includes personal and corporate income taxes, employment insurance contributions, Canada pension plan payments, and workplace safety and insurance board contributions attributable to the direct employment and activity on industrial land only.

- Municipal taxes collected through property taxes are estimated to amount to \$250 million
- Federal taxes are estimated to be \$5.9 billion
- Provincial taxes are estimated to be \$1.9 billion

Figure ES-1: Direct Tax Impact of Industrial Lands, 2021



Industrial Lands in the Metro Vancouver Region Support Significant Employment in the Region

Industrial lands account for 4% of land area, yet host 22% of jobs in Metro Vancouver.

The Metro Vancouver region covers a land area of approximately 280,120 hectares (2,800 square kilometres), of which industrial lands account for 4% of the total land area, at 11,500 hectares.

There were an estimated 1.4 million jobs in the region. According to the Census 2021 data extract, there are a total of 315,300 jobs located on industrial lands. This represents 22% of the region’s total jobs, located on 4% of the region’s land mass.

Industrial activity (whether located on industrial lands or not) accounts for 31% of jobs in Metro Vancouver.

Industrial activity is not limited to industrial lands. There was a total of 444,700 industrial jobs in the region – defined as employment by businesses in industrial activities based on their North American Industry Classification System (NAICS) code – of which nearly 42% or 186,100 jobs were located on industrial lands and the remaining 258,600 industrial related activity jobs were located on other lands in the region. These industrial jobs contribute significantly to the region’s economy, representing 31% of total jobs in the region, regardless of location.

Figure ES-2 shows the jobs allocations by the different types of activities that occur on industrial lands in the region. **Figure ES-3** shows the breakdown of jobs in the region that are located both on and off industrial lands.

Figure ES-2: Direct Employment on Industrial Land, 2021

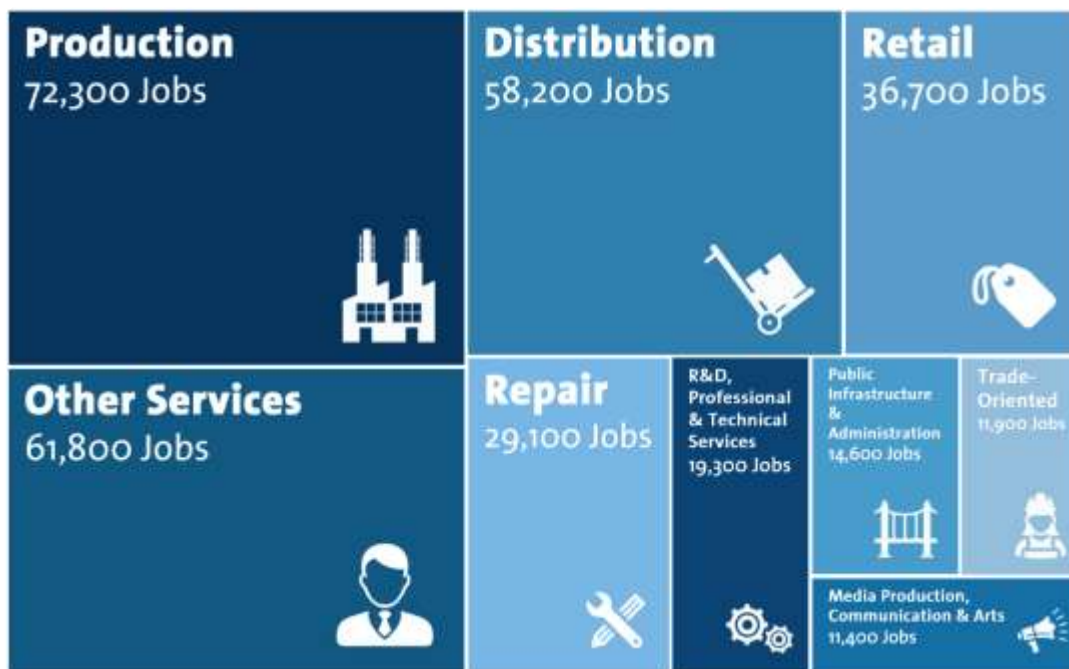


Figure ES-3: Vancouver CMA Direct Employment (Jobs) by Sector and Land Use, 2021

	Industrial Jobs	Non-Industrial Jobs	Total
Industrial Lands	186,100	129,200	315,300
Non-Industrial Lands	258,600	863,300	1,121,900
Total	444,700	992,500	1,437,200

Source: Metro Vancouver custom extract of Statistics Canada Census 2021 data. InterVISTAS analysis and calculations.
 Notes: Employment located on industrial land as defined by Metro Vancouver based on its 2020 Industrial Land Inventory Report methodology, including a proportion of workers with no fixed workplace attributable to industrial land (see **Section 2.3.1**) as well as an uplift to allow for undercount rates in the 2021 Census. These figures do **not** include the region's workers who worked from home.

Industrial land activities are interdependent with businesses throughout the region

The region's industrial lands play a crucial role in supporting jobs in various sectors, making the region one of Canada's most dynamic and deeply connected to other parts of the economy. Industrial activities like manufacturing, import/export, and warehousing operate independently, but they also rely on non-industrial sectors, especially professional services located in urban areas. Additionally, industrial activities depend on intermediate products from other businesses. For instance, the construction sector needs supplies like concrete and steel from industrial lands. Also, the e-commerce sector, including companies like Amazon, uses industrial lands for warehousing and distribution.

Activities on the region's industrial lands contribute to economic diversity

Activities on the region's industrial lands boost economic diversity, making the economy more resilient to industry-specific downturns. This diversity is crucial for economic health and stability. Protecting industrial activity is key to maintaining this diversity. Manufacturing, which requires advanced skills and offers above-average wages, is vital for a vibrant local economy. Industrial lands also support new sectors like e-commerce, which rely on large distribution centres rather than numerous local retailers.

Consequences of an insufficient supply of industrial lands in Metro Vancouver

An insufficient supply of industrial lands in Metro Vancouver can have several significant consequences:

- **Increased Land Prices and Lease Rates:** As the cost of industrial land rises, it will become more expensive for businesses to operate in Metro Vancouver. Some firms currently operating in Metro Vancouver may find it challenging to expand their operations. Other firms looking to access the Western Canada market may opt to start operation outside of Metro Vancouver.
- **Low Vacancy Rates:** The shortage leads to very low vacancy rates, which can make it difficult for new businesses to find suitable locations. Low vacancy rates put increased pressure on prices and other operating expenses.

- **Relocation of Businesses:** Companies may choose to relocate to other regions with more affordable and available industrial land, e.g., within the province, outside of Metro Vancouver or outside the provinces, such as Calgary. This can result in job losses and a decrease in local economic activity.
- **Strain on Infrastructure:** As businesses seek to find suitable land, there can be increased strain on transportation and logistics infrastructure, leading to higher costs and inefficiencies due to congestion and longer lead times to travel to transportation nodes such as the Port of Vancouver and Vancouver International Airport.
- **Diversification Challenges:** Industrial lands are crucial for a diverse economy. Diverse economies are less sensitive and more resilient to general business cycles. When a risk is spread across multiple businesses and industries, an economy becomes stronger and better able to weather challenges.

Greater Vancouver Board of Trade Study: Economic Impact Study of the Critical Shortage of Industrial Lands in Metro Vancouver

Local companies in Metro Vancouver are relocating due to rising rent and lease costs, limited space, and a lack of expansion opportunities. Businesses aiming to establish operations in Western Canada are increasingly choosing Calgary as a viable alternative to Vancouver. Calgary offers lower overall costs, abundant land, and excellent transportation options.

In September 2023, the Greater Vancouver Board of Trade released a study on the Critical Shortage of Industrial Lands in the Metro Vancouver region.⁴ A key finding from that study was over the preceding 5 years, the Metro Vancouver region was losing business and economic activity to the Calgary area due to the Vancouver region not being able to accommodate growth of firms already operating in the region or new entrants to the Western Canada market that opted for lower accommodation costs on offer in Calgary. The opportunity loss for the Metro Vancouver region amounted to approximately 6,300 direct jobs, \$477 million in wages, \$494 million in GDP, and \$828 million in economic output over the 5-year time frame.

Some key messages from that study commissioned by the Greater Vancouver Board of Trade and NAIOP include:

- **Long-standing Shortage:** Metro Vancouver has faced a critical shortage of industrial lands for over a decade due to escalating land prices, low vacancy rates, and rising rental costs.
- **Limited Land Mass:** Industrial lands constitute only 4% of Metro Vancouver's total area. Increasing industrial zoning could address the annual demand of 250-300 acres and the existing backlog.

⁴ Economic Impact Study of the Critical Shortage of Industrial Land in Metro Vancouver (<https://www.boardoftrade.com/news/report/2023-industrial-land-shortage>)

- **Development Barriers:** Reviewing barriers to industrial land development is essential to encourage investment and prevent companies from relocating. This requires collaboration among municipal governments and other stakeholders.
- **Economic Impact:** Industrial lands significantly impact Metro Vancouver's economy, providing high-paying, skilled jobs.

Key challenges identified in that study regarding the Regional Industrial Lands Strategy, include:

- **A constrained land supply.** Due to geographical attributes and increasing demand, additional constraints are being put on the industrial land supply. There is also an increasing need for large parcel sizes, to support trade-oriented activities.
- **Pressure on industrial lands.** As the population grows, there is an increased need for land. This provides added pressure to potentially convert industrial land for non-industrial purposes.
- **Site and adjacency issues.** Available industrial sites are lacking connectivity to services and utilities.
- **Complex jurisdictional environment.** With overlapping jurisdictions, which may create a complex regulatory environment.

From that study, potential improvements to the industrial lands program were noted as follows:

- **Revisit update schedule.** The current 5-year regional industrial lands inventory update schedule may be too long, given the level of activities taking place on industrial lands. Consider shortening to every 2-3 years in order to provide a more current snapshot.
- **Re-examine formulas for regional voting for land use changes.** Due to the differing volume of industrial land in each jurisdiction, there is a need to balance the jurisdiction's needs with that of the overall region's requirements for industrial lands.
- **Include trade-enabling land as a land use designation.** Placing a designation for trade-enabling lands would help to preserve lands that are identified as supporting the national supply-chain.
- **Enrich the Metro Vancouver industrial lands inventory with market readiness / suitability scoring.** A review of improving the information contained in the inventory can better outline suitability and market readiness for the development of industrial lands across the region.
- **Examine land uses currently permitted on industrial lands.** Current industrial zoning and land use designations are broad, allowing non-industrial activities to take place on industrial lands.
- **Consider the impacts/challenges of relative development approval timeframes across the region.** An assessment of industrial development and approval timelines should be reviewed and streamlined, if possible to increase efficiencies.

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1 Introduction

Metro Vancouver commissioned Inter VISTAS Consulting Inc. (Inter VISTAS) in 2024 to conduct an update to the economic impact study of the activities on zoned and/or designated industrial lands in the region based on latest data available, including the 2021 Census and the Metro Vancouver 2020 Regional Industrial Lands Inventory. The prior 2019 study utilized similar data from the Census 2016 and the 2015 Inventory. This new study uses updated data from the Statistics Canada Census 2021 database and other available sources to provide information to inform strategic planning of industrial lands at both the regional and local levels. Given the timing of the Census 2021, which was conducted during the COVID-19 pandemic, caution is advised when comparing this data and study to prior work.

Throughout this study, reference is made to the ‘region’ which refers to the geographic scope covering the Vancouver CMA. Industrial lands are used for industrial purposes, including warehousing, distribution, manufacturing, processing, local production, and new emerging technology-driven businesses. Industrial lands support diverse employment opportunities and key commercial activities that are vital to supply chains. Regional definitions of industrial lands have evolved over the years as new technologies have been introduced and some jurisdictions have permitted some non-traditional uses on industrial lands.

In Metro Vancouver’s Regional Industrial Lands Strategy, the term “industrial” includes the following uses:

- light and heavy industrial production (including manufacturing and assembly),
- distribution,
- repair,
- construction materials and equipment,
- infrastructure,
- outdoor storage activities,
- wholesale.⁵

Overall, industrial land users are a diverse group representing a varied collection of economic sectors including manufacturing, distribution, e-commerce, and film production. In addition to supporting trade between Canada and the rest of the world through the Port of Vancouver, the Metro Vancouver region’s industrial lands also provide services to businesses, create jobs across a variety of sectors, and enable regional prosperity.

Trade-oriented lands are a critical subset of industrial lands which support trade flows between Canada and its international trading partners.⁶ These lands can have different land use requirements than other

⁵ Metro Vancouver Regional Industrial Lands Strategy. Metro Vancouver, 2020. <https://metrovancover.org/services/regional-planning/Documents/regional-industrial-lands-strategy-report.pdf>

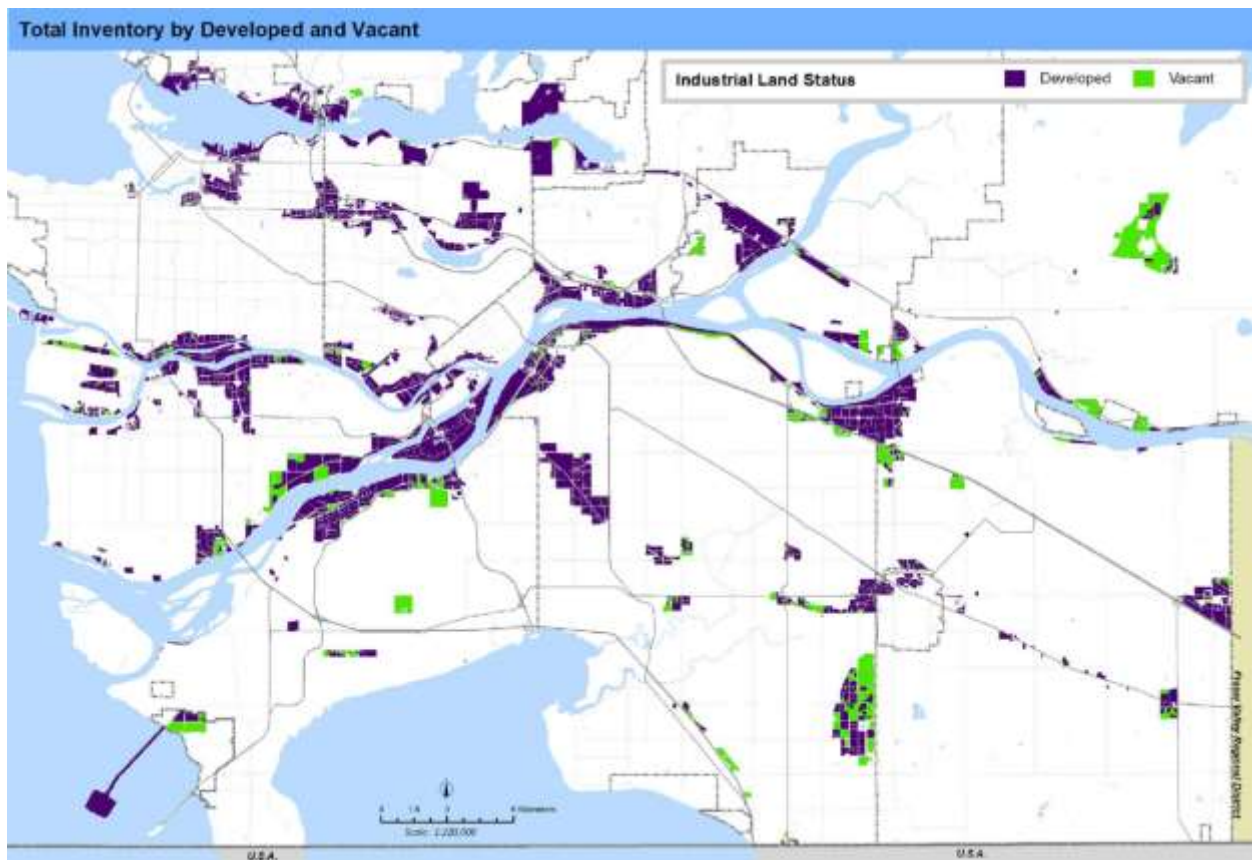
⁶ Definition of Trade Oriented ([Metro 2050 Implementation Guideline Industrial and Employment Lands](#)): *The Trade-Oriented Lands Overlay is intended for Industrial lands that are required to support goods movement in, out, and through the Metro Vancouver region, and that keep British Columbia and Canada connected to the global supply chain. These important areas are occupied by such uses as: terminal facilities, distribution centres, warehouses, container storage, and freight forwarding activities that serve a*

industrial lands, including the size of the land and access to the waterfront and/or major transportation corridors.

1.1 Importance of Industrial Lands to Metro Vancouver

The Metro Vancouver region covers a land area of approximately 280,120 hectares (2,800 square kilometres). Of this, industrial lands account for 4% of the total land area, at 11,500 hectares, according to the Metro Vancouver 2020 Regional Industrial Lands Inventory (see inventory report for greater detail). See **Figure 1-1**.

Figure 1-1: Map of Metro Vancouver 2020 Regional Industrial Lands Inventory⁷



In 2023, the total population of the Metro Vancouver region was estimated at 2.97 million.⁸ The region accounts for 54% of B.C.'s total population and 57% of the provincial economy, underscoring its role as

national trade function and contribute to the provincial and regional economies. These operations generally require large sites and are located near major transportation infrastructure corridors and terminals. Industrial lands with a Trade-Oriented Lands Overlay are not intended for stratification tenure or small lot subdivision.

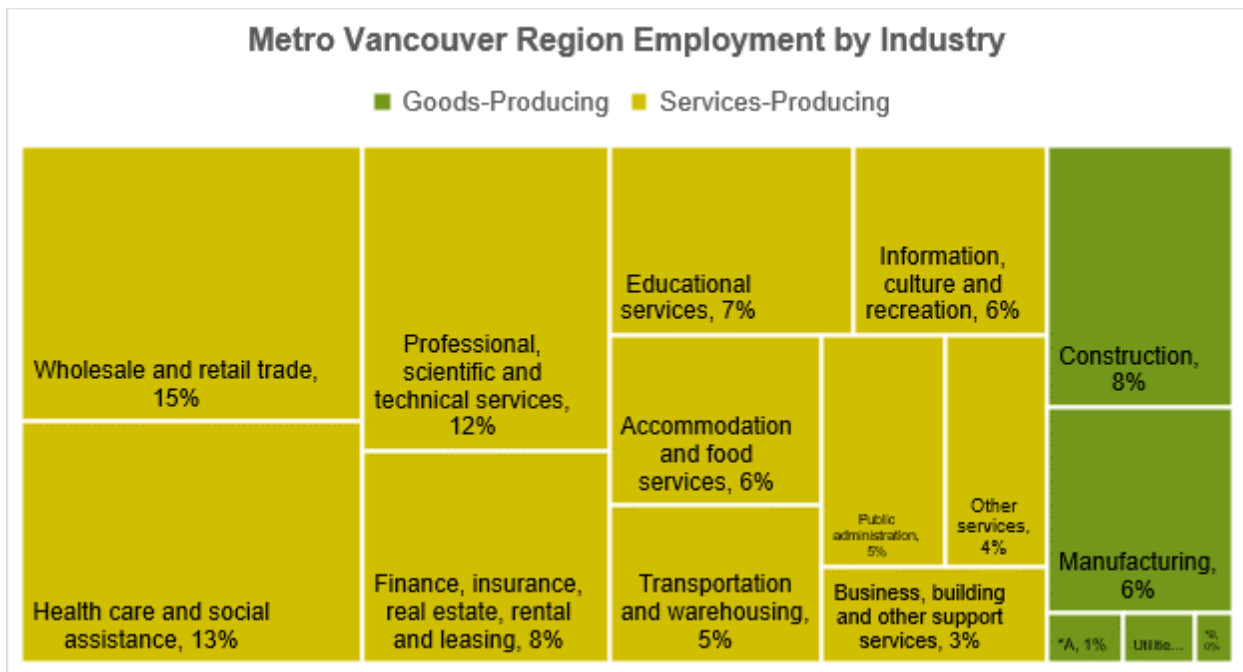
⁷ Metro 2050. Metro Vancouver, 2022. <https://metrovancouver.org/services/regional-planning/Documents/metro-2050-map-7.pdf>

⁸ 2023 Population Estimates. BC Stats. <https://bcstats.shinyapps.io/popApp/>

an economic generator and as a facilitator of economic activity throughout the province.⁹¹⁰ The Metro Vancouver region’s significant and growing population and high number of employed residents are positive indicators of industrial land needs. The region’s industrial lands are home to a range of employment activities that are essential for the regional, provincial, and national economies.

The regional economy comprises a variety of sectors, with 85% of the population in a service-producing sector and 15% in a goods-producing sector.¹¹ As of 2024, the largest sectors in the regional economy are Wholesale and Retail Trade, Health Care and Social Assistance, and Professional, Scientific, and Technical Services. Education, Finance, Construction, and Manufacturing also feature as prominent sectors in the region.¹² Many of these sectors either directly use industrial lands for their activities or rely on supply chains including national trade that require the use of industrial lands.

Figure 1-2: Employment Categorization by Industry – July 2024 Three Month Moving Average, Vancouver Census Metropolitan Area¹³



Notes: *A = Forestry, Fishing, Mining, Quarrying, Oil and Gas. *B = Agriculture

⁹ Ibid.

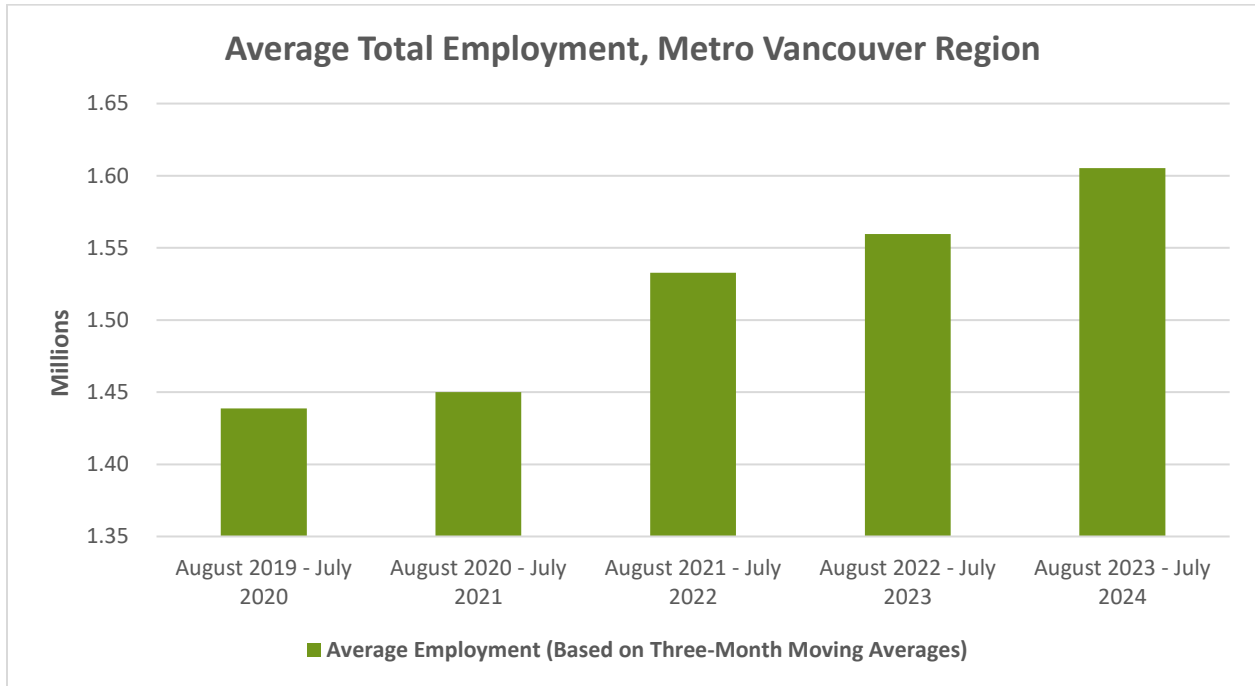
¹⁰ Statistics Canada. Table 36-10-0468-01 Gross domestic product (GDP) at basic prices, by census metropolitan area (CMA) (x 1,000,000). <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610046801>

¹¹ Employment by industry, three-month moving average, unadjusted for seasonality (x 1,000). Statistics Canada, 2024. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410037901&pickMembers%5B0%5D=1.34&cubeTimeFrame.startMonth=11&cubeTimeFrame.startYear=2023&cubeTimeFrame.endMonth=03&cubeTimeFrame.endYear=2024&referencePeriods=20231101%2C20240301>

¹² Ibid.

¹³ Ibid.

Figure 1-3: Average Monthly Employment – August 2019 to July 2024, Vancouver Census Metropolitan Area¹⁴



The above figure shows a steady increase in the average employment in the Metro Vancouver region over the five years ended July 2024, highlighting that the regional economy has remained in a state of continued growth and has had a stable labour market over the last half-decade. A high and increasing number of employed residents is a positive indicator of the need for industrial lands in the region.

Industrial lands are a crucial piece of the Metro Vancouver regional economy and the economies of British Columbia and Canada. However, the direct economic activity taking place on industrial lands does not alone demonstrate the importance of this resource. Wages for workers are higher for many industrial jobs compared to service jobs, providing for greater positive economic impacts. Moreover, there are indirect and induced impacts in the economy from industrial activities because of their connections across several sectors and the amount of spending conducted by the people they employ. Only a portion of the activities which support the operations and output of industrial lands takes place directly on industrial lands themselves. There are significant interdependencies between industrial and non-industrial activities that support supply chains and the needs of industrial activities themselves. Industrial activity makes a strong contribution to the diversity and resilience of the regional economy, acting as a steady generator of economic activity.

The Port of Vancouver is by far the largest port in Canada and the second largest in North America (by tonnes of cargo throughput). Finding new industrial lands to support logistics, warehousing, storage, and distribution uses is critical to the region’s health as a port city and international gateway. The Metro Vancouver region offers the best location for most logistics’ operations connected to the port’s operations;

¹⁴ Ibid.

however, this is dependent on the availability of spatially and infrastructurally optimized industrial lands to support them.

For trade-oriented activities, industrial lands supporting logistics operations need to be large, flat, located near truck and rail infrastructure and corridors, on or close to the waterfront, and/or close to major container terminals. These activities also require large contiguous pieces of land to support efficient volume throughput. Beyond the trade-oriented dimension, with strong logistics operations, small businesses can benefit from proximity and economies of scale.

Without industrial lands, the Port of Vancouver would not be able to provide and sustain a full suite of efficient services and would lose its competitive edge to other ports and other regional transportation hubs. Moreover, a lack of industrial lands would make the Metro Vancouver region less competitive for both trade and non-trade related growth. The Metro Vancouver region needs to protect existing industrial lands and make the best and most efficient use of the industrial lands through intensification and densification.

Industrial lands are essential in retaining the Metro Vancouver region's competitive advantage compared to peer regions around the world. Moreover, the region's competitive advantage as a business hub and as one of the most livable and economically prosperous metropolitan areas in the world is dependent on its ability to enhance productivity, attract investment, and build infrastructure.¹⁵ Industrial lands are essential places to support innovation and creativity for businesses and entrepreneurs that drive regional growth. However, businesses may be squeezed out of the Metro Vancouver region's industrial lands because of low vacancy and high rent that has resulted from supply constraints. Effective land management is challenging the Metro Vancouver region's competitive advantage and ability to retain, attract, and grow businesses and investment.

1.2 Overview of Metro Vancouver Regional Industrial Lands Strategy and Metro 2050

Given the crucial need to preserve and effectively utilize industrial lands in the region, Metro Vancouver approved a Regional Industrial Lands Strategy in 2020. It summarized the challenge facing the Metro Vancouver region's industrial lands as a constrained land supply, pressures on industrial lands to convert them to other uses, site and adjacency issues, and a complex jurisdictional environment.¹⁶ The Strategy was developed by a Task Force comprising representatives from around the region including Metro Vancouver Board Directors and key non-voting organisations such as the Port of Vancouver, TransLink, BC Chamber of Commerce, Urban Development Institute, BC Ministry of Jobs Economic Development and Innovation, and Agricultural Land Commission.¹⁷

¹⁵ Benchmarking Greater Vancouver Report. The Greater Vancouver Board of Trade and the Business of Cities, 2024. <https://www.boardoftrade.com/files/advocacy/2024-benchmarking-vancouver-report/benchmarking-vancouver-report-2024.pdf>

¹⁶ Metro Vancouver Regional Industrial Lands Strategy. Metro Vancouver, 2020. <https://metrovancover.org/services/regional-planning/Documents/regional-industrial-lands-strategy-report.pdf>

¹⁷ Ibid.

The Regional Industrial Lands Strategy was created with a purpose to “ensure sufficient industrial lands to meet the needs of a growing and evolving regional economy to the year 2050.”¹⁸ The Strategy proposes a number of recommendations organized around “4 big moves” which are to protect the region’s remaining industrial lands, intensify and optimize industrial lands, bring the existing land supply to market and address site issues, and ensure a coordinated approach.¹⁹ Protecting industrial lands is of critical importance in this land-constrained region given that long-term demand continues to increase while lands face increased speculation and pressures to convert to commercial and residential uses.²⁰ As noted in the Strategy, it is also critical that the utility of industrial lands be maximized by ensuring that barriers to intensification / densification are reduced and industrial lands are optimized. Locations of industrial parcels have significant implications for their utility as there are often site-specific challenges for industrial lands such as limited infrastructure and environmental concerns.²¹

The Strategy points out that resolving the Metro Vancouver region’s industrial lands problem requires coordination across a diverse range of stakeholders including the province, municipalities, and transportation authorities. This is especially important to avoid the risk of displacement of existing industrial activities which may be forced to relocate outside of the Metro Vancouver region.

Metro 2050, the Regional Growth Strategy (adopted in February 2023), includes policies and land use designations to protect industrial lands for industrial uses, as well as consideration of other related transportation and employment matters. Metro Vancouver has also published implementation guidelines for Industrial and Employment Lands in support of Metro 2050.

The implementation guidelines, released in November 2023, provide guidance on protecting, efficiently developing, and using industrial lands in line with the strategies and actions of Metro 2050. Metro 2050 takes several steps to further protect industrial lands including by encouraging the densification and intensification of industrial uses on industrial lands. This means enhancing the infrastructure and increasing the amount of activity on industrial lands.

Metro 2050 also creates a trade-oriented lands overlay to identify lands that are required to support goods movement that are critical to the region’s role in international trade and better protect them.²² (Note: The Port of Vancouver has a ‘trade-enabling’ industrial land concept.)

Overall, the guidance established for member jurisdictions in the Implementation Guidelines is to achieve specific actions or deliverables to meet the policy directions in Metro 2050. These deliverables vary based on each policy. Notable deliverables include parcel-based designations for Industrial and Employment lands, ensuring the alignment of zoning bylaws with the industrial lands protection policy, supporting related and appropriate accessory uses on industrial lands, removing restrictions to intensification and densification, enabling co-location spaces, and connecting industrial lands with the region’s transportation network.²³

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Ibid.

²¹ Ibid.

²² Metro 2050 Implementation Guidelines - Industrial and Employment Lands. <https://metrovancover.org/services/regional-planning/Documents/metro-2050-implementation-guideline-industrial-and-employment-lands.pdf>

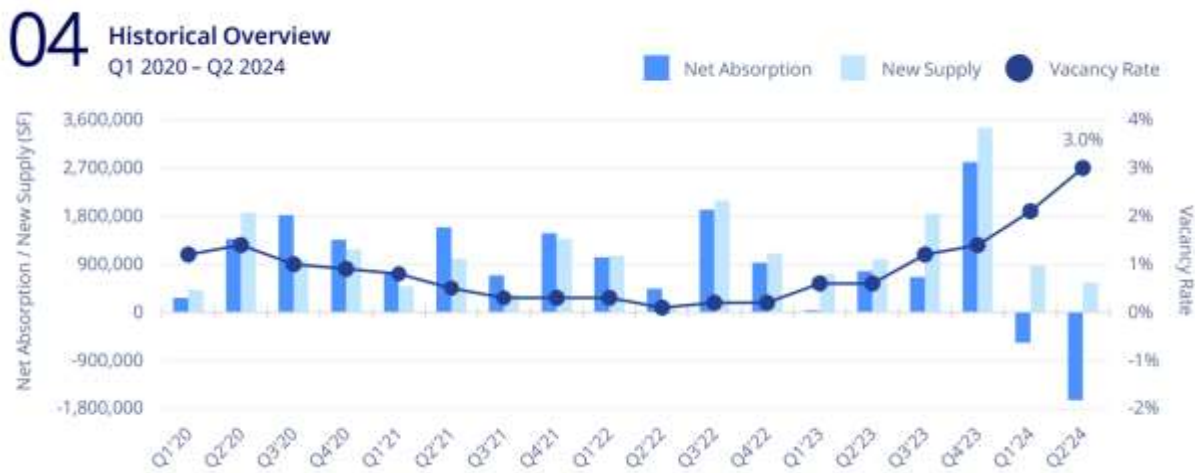
²³ Ibid.

1.3 The Future for Industrial Lands

Demand for industrial space in the Metro Vancouver region has continued to grow at a fast pace due to a growing population, economy, and trade, and the rapid adoption of e-commerce, among other factors, which have created a need for more warehouse space for the distribution of goods and just-in-time products. The supply of industrial space, on the other hand, has not kept pace with demand, even as more than 36 million sq ft of industrial building floor space has been added to the region between 2013 and 2023.²⁴

Up until 2023, a decreasing vacancy rate and upward pressure on rental rates have been the consequence of this challenging interaction of supply and demand trends. However, as of Q2 2024, the vacancy rate has risen to 3% (which is still considered very low) as demand has moderately softened for industrial space in a high-interest rate environment with significant economic uncertainty and high building costs. Rental rates also declined 5.2% year over year in line with this moderation, reaching \$20.91 per square foot in Q2 2024.²⁵ This slowdown in activity has created additional time for the market to absorb available space. The five year quarterly average net absorption rate was 897,000 sq ft.²⁶

Figure 1-4: 2020-2024 Historical Overview of Net Absorption/New Supply and Vacancy Rates for Industrial Lands, Metro Vancouver Region – Colliers Canada²⁷



Despite the slowdown of demand in the immediate term, demand for industrial space will continue to be driven by long-term population, trade, and employment growth in the Metro Vancouver region. The demand for industrial lands is expected to continue growing in the years ahead, outpacing supply. It is projected that the total supply of industrial lands will be absorbed between 2035 and 2047 (effective

²⁴ Economic Impact Study of the Critical Shortage of Industrial Land in Metro Vancouver. The Greater Vancouver Board of Trade and NAIOP Vancouver – Prepared by InterVISTAS with Urban Systems, 2023. <https://www.boardoftrade.com/files/news/2023/EIS%20of%20the%20Critical%20Shortage%20of%20Industrial%20Land%20in%20Metro%20Vancouver%20Sept%202012.pdf>

²⁵ Vancouver Industrial Market Report. Colliers Macaulay Nicolls Inc, 2024. <https://www.collierscanada.com/en-ca/research/vancouver-industrial-market-report-2024-q2>

²⁶ Ibid.

²⁷ Ibid.

supply reached in approximately 2025),²⁸ posing a significant challenge for the Metro Vancouver region's existing and prospective industrial businesses. Businesses will be faced with fewer options for their accommodations, and higher rent levels. Some businesses may be required to relocate outside of the region, negatively impacting economic development and leading to supply chain impacts and affordability issues. This threatens to exacerbate the existing challenges posed for businesses by a lack of available industrial land, including growth limitations, and constraints on production and employment.

Several barriers exist to industrial development in the Metro Vancouver region in addition to the lack of available industrial lands.²⁹ These barriers or challenges include:

- **Land Use Priorities and Allocations:** Shortages of land across the region are challenged by several competing priorities including the need for more residential space. Some industrial lands are currently being used for non-industrial purposes.
- **Re-Zoning Processes:** The re-zoning process from one type of industrial uses to another type of industrial use can be complex and time-consuming for developers.³⁰
- **Protection of Industrial Lands:** Some industrial lands in the inventory could be re-developed for non-industrial use as they are not fully protected by policy and/or zoning, thus at risk of loss.
- **Location of Available Lands:** Some lands that could be used for industrial purposes lack access to key transportation corridors and infrastructure services which makes development challenging and operations less efficient.
- **Size of Land Parcels:** Many land parcels are too small for trade-oriented purposes or are subject to strata tenure, which compounds the existing barrier of access to transportation infrastructure. Larger sites are needed for operational scale and optimal efficiency.

Many industrial activities themselves are also undergoing a transformation that will change how and when industrial lands are used. The Regional Industrial Lands Strategy highlights several new forms of industrial activity that are emerging, including the following:³¹

- Clustering or co-location of related operations to support eco-industrial networks and circular economy systems where companies can share resources and use each other's by-products.
- High-tech and new industry forms including e-commerce, direct-to-consumer delivery, and on-demand manufacturing.
- Mega-distribution and e-commerce logistics facilities.
- Automation and robotics.
- Integrated spaces where design, manufacturing, distribution and retail can occur together.

²⁸ Economic Impact Study of the Critical Shortage of Industrial Land in Metro Vancouver. The Greater Vancouver Board of Trade and NAIOP Vancouver – Prepared by InterVISTAS with Urban Systems. <https://www.boardoftrade.com/files/news/2023/EIS%20of%20the%20Critical%20Shortage%20of%20Industrial%20Land%20in%20Metro%20Vancouver%20Sept%2012.pdf>

²⁹ Ibid.

³⁰ Burnaby Employment Land Study Concludes Need For 22M Sq. Ft of Commercial Space. Storeys, 2024. <https://storeys.com/burnaby-2050-commercial-real-estate/>

³¹ Metro Vancouver Regional Industrial Lands Strategy. Metro Vancouver, 2020. <https://metrovancover.org/services/regional-planning/Documents/regional-industrial-lands-strategy-report.pdf>

2 Economic Impact Analysis Approach and Methodology

2.1 Introduction

Economic activity on industrial lands contributes directly to employment in the region, as well as the provincial and national Gross Domestic Product (GDP) at large.³² More importantly, it also acts as an economic catalyst, facilitating the growth of regional businesses and industrial sectors. This takes place through supply chain linkages and inputs to other sectors, such as materials for the local construction sector and national trade, for example. The economic contribution of industrial lands, as well as the port, international airport, rail, and related trade-facilitating services is termed the *economic impact* of industrial lands.³³

Economic impact is a measure of the spending and employment associated with a sector of the economy, a specific project (such as the construction of a new facility), or a change in government policy or regulation. Economic impact can be measured in various ways. Two of the most common ways to assess economic impact are in terms of the dollar value of industrial output produced, or in terms of employment generated. Other measures are GDP and wages. All of these are used to express the gross level of activity or expenditure from a sector of the economy, a specific project or development, or a change in policy or regulation. These measures can be useful in developing an understanding of projects, investments and economic sectors.³⁴ The different measurements of economic impact, including employment, wages, GDP and economic output are explained in **Figure 2-1**.

This study examines the economic impact of the region's industrial lands on the regional, provincial, and national economies. One of the most important components of the economic impact is given particular attention here: *Employment Impact*. Other economic impact measures such as wages, GDP, and economic output are also considered and presented.

³² GDP is a measure of the value added by labour and capital services used to produce final goods and services, as a result of economic activity in the nation. This measure is net of the value of intermediate goods and services used up to produce the final goods and services.

³³ This includes all port and airport terminal/building tenants, land tenants, subtenants, and also relevant employment of firms that are located off port/airport and industrial lands.

³⁴ Economic impact is different from a cost-benefit analysis that weighs benefits against costs.

Figure 2-1: Measurements of Economic Impact

<p>Employment (Jobs)</p>	<p>The number of people employed by a particular source. Because certain jobs may only be part-time or seasonal, the number of jobs is generally greater than the number of full-time equivalent positions.</p>
<p>Wages</p>	<p>The wages, salaries, bonuses, benefits and other remuneration earned by the associated workforce.</p>
<p>Gross Domestic Product (GDP)</p>	<p>A measure of the value added by labour and capital services used to produce final goods and services, as a result of economic activity in the nation. This measure is net of the value of intermediate goods and services used up to produce the final goods and services.</p>
<p>Economic Output</p>	<p>The dollar value of industrial output produced. Sometimes referred to as “economic activity,” it reflects the spending (i.e., capital improvement plus revenue) by firms, organisations and individuals.</p>

2.2 Categories of Economic Impact

The three major components of economic impact are *direct, indirect, and induced impacts*, as described below. These distinctions are used as a base for the estimation of the total economic impact of the Metro Vancouver region’s industrial lands. Each of these three components requires different tools of analysis. Employment impact analysis determines the economic impact in terms of jobs created and salaries / wages paid.

Direct Impact



Direct impacts account for the economic activity of the target sector itself. For instance, all employment that is directly related to work taking place on industrial lands.

Indirect Impact



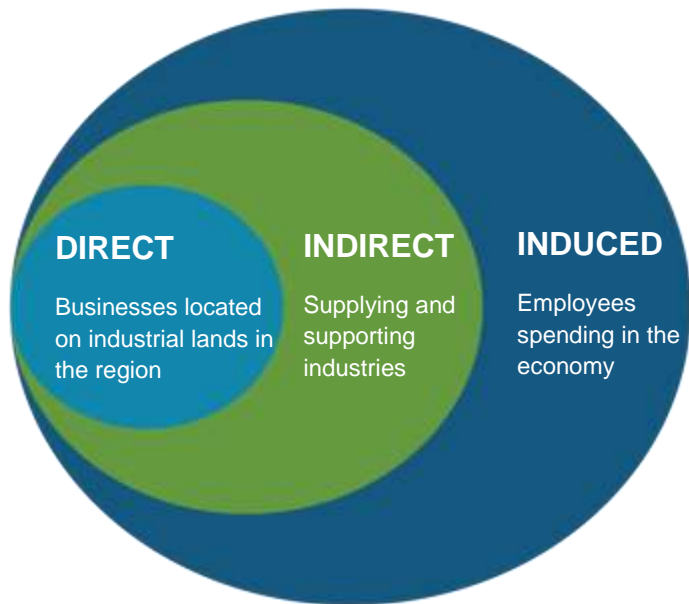
Indirect impacts are those that result because of the direct impacts. This involves employment in upstream industries that supply or provide goods and services to the businesses on industrial lands. For instance, indirect employment includes the portion of employment in input or supplier industries which are dependent on sales to the manufacturing sector, e.g. parts suppliers for heavy machinery.

Induced Impact



Induced employment is generated from expenditures by individuals employed directly or indirectly. For instance, if a manager at a manufacturing business decides to renovate her home, this would result in induced employment hours in the general economy as the renovation would support hours of employment in the construction industry, the construction materials industry, etc. Induced impact is often called the “household-spending effect”. Induced impacts are not limited to or within a specific sector.

Figure 2-2: Categories of Economic Impact Generated and Facilitated by the Region’s Industrial Lands



Total Impacts

Total impacts are the sum of direct, indirect, and induced effects, using established multipliers. These three categories of impacts are illustrated in **Figure 2-2**. Combined, the indirect plus induced impacts are referred to as “secondary effects” or “multiplier impacts”, as they reflect the broader ripple effect (using calculated ratios) from the study sector (industrial lands) rather than just the economic activity associated with that sector directly.

2.3 Economic Impact Methodology

This section summarizes the data and modelling approach used to assess the economic impact of the region's industrial land at a regional, provincial, and national levels.

2.3.1 Custom 2021 Census Data Extract

Because no statistical geographies accurately capture employment taking place on the region's industrial lands, Metro Vancouver obtained a custom data extract of Statistics Canada's 2021 Census to undertake the study. The 2021 Census reflects a survey of the Canadian population as of May 2021, including residents' employment status, primary place of work, and related employment details during the week of May 2 to May 8, 2021.³⁵ Note that these results were impacted by the COVID-19 pandemic at the time and may not accurately reflect the current context.

The custom data extract was based on the Metro Vancouver 2020 Regional Industrial Lands Inventory which categorised industrial land based on municipal designation and/or zoning.³⁶ Additionally, the industrial land inventory includes the Port of Vancouver and Vancouver International Airport (YVR). Mapping the industrial lands inventory to the 2021 Census data therefore produced figures for employment whose primary place of work was located on industrial land, as well as the associated wages for that employment.

Wage information captured in the custom 2021 Census data was recorded in 2020 prices and required inflating to 2021 prices for the economic impact analysis. An annual average inflation rate of 1.034% was used based on the national Consumer Price Index as reported by Statistics Canada.³⁷ While changes to wages can vary across different sectors, regions, and provinces it is recognised that national economy-wide inflation provides a reliable means of comparing overall rates of change, and are not subject to statistical inaccuracies of small sample sizes which can often be the case with industry or location-specific wage inflation.

To allow for comparisons to be made to the rest of the region, the custom 2021 Census data extract captured employment and wage information for each municipality, electoral area and First Nation land that comprises the Metro Vancouver region. This geography is referred to as the Vancouver Census Metropolitan Area (CMA), for which data was also obtained in the custom 2021 Census data extract. Throughout the study, reference is made to the 'region' which refers to the geographic scope covering the Vancouver CMA.

³⁵ For details, refer to the 2021 Census reference materials (<https://www12.statcan.gc.ca/census-recensement/2021/ref/index-eng.cfm>)

³⁶ <https://metrovancover.org/services/regional-planning/Documents/metro-vancouver-2020-industrial-lands-inventory-technical-report.pdf>

³⁷ Annual average rate calculated from Statistics Canada Table 18-10-0004-01: Consumer Price Index, monthly, not seasonally adjusted, Canada, All-items.

Geographic Coverage

Given the approach taken for this analysis, whereby Census employment data is mapped to industrial lands (per the 2020 Regional Industrial Lands Inventory), the assessment of the economic impact of the region’s industrial land is based upon a specific geographic definition rather than a comprehensive assessment of all industrial related jobs and businesses in the region. **The geographic coverage excludes direct industrial related operations that do not take place on industrial land.** For example, as part of the ‘Trade-Oriented’ sector, Port of Vancouver land is considered in the analysis, but its operational employment and head offices located at Canada Place are excluded since they are not located on industrial lands. This results in an undercount of the economic impact associated with industrial activity.

This approach also means that any activity occurring on industrial land will be captured, even those that may not be industrial operations. **In turn, the geographic coverage includes non-industrial activities (such as commercial) taking place on industrial land.** For example, these may be office or retail uses that are incorporated with industrial businesses or some standalone commercial operations on industrial lands.

Figure 2-3: Geographic Coverage of Analysis

		Economic Activity	
		Industrial Sectors	Non-Industrial Sectors
Land Inventory	Industrial Lands	X	X
	Non-Industrial Lands	(not counted)	(not counted)

Definition of Industrial Activities

Metro Vancouver’s custom 2021 Census data extract involved a unique definition of economic sectors to best reflect activity taking place on industrial land. To achieve this, Metro Vancouver defined a set of custom sectors using the North American Industry Classification System (NAICS) at the four-digit level.

NAICS is a classification system that allows for comparability of economic activity in Canada, the United States, and Mexico. The classification system is hierarchical and records economic activities at different levels of detail, starting at two digits for broad industries, such as: 11 Agriculture and 23 Construction. This increases to five digits to reflect more specific industries and sub-sectors, such as: 11111 Soybean farming and 23611 Residential building construction.³⁸

³⁸ While there is an additional, sixth digit level in the NAICS codes, it refers to country specific activity and discrepancies across different countries; a zero as the sixth digit indicates that there is no further national detail.

Employment and wage data specific to the four-digit NAICS level allowed Metro Vancouver to define custom sectors that best resemble the primary activities that take place on industrial land, as well as to better distinguish between 'industrial' and 'non-industrial' activities. The 'Trade-Oriented' sector includes industrial activities taking place on port and YVR airport lands. **Figure 2-4** below summarises the custom sectors used in the analysis, with the corresponding coverage of two-digit NAICS industries. The reported shares shown are based on the region's total employment taking place both on and off industrial lands.

Note that the geographic coverage and custom sector definition used by Metro Vancouver to understand activities on industrial land means that comparisons to other analyses cannot be made. For example, employment in the Production sector reported in this study should not be compared to employment in Manufacturing in another study due to the different definitions of economic activity. Additionally, the geographic coverage of the data, and subsequent analysis, focuses on the industrial land inventory; industrial sector employment that does not predominantly occur on industrial land is not captured in this economic impact analysis.

Figure 2-4: Metro Vancouver custom sector definitions

Activity	Metro Vancouver Custom Sector Definition	2 Digit NAICS Comparison
Industrial	Distribution	<ul style="list-style-type: none"> 100% of employment within 41 Wholesale Trade 88% of employment within 48-49 Transportation and Warehousing
	Production	<ul style="list-style-type: none"> 100% of employment within 11 Agriculture 100% of employment within 21 Mining, Quarrying, and Oil and Gas Extraction 39% of employment within 23 Construction 100% of employment within 31-33 Manufacturing
	Public Infrastructure & Administration	<ul style="list-style-type: none"> 100% of employment within 22 Utilities 6% of employment within 23 Construction 7% of employment within 56 Administrative and Support, Waste Management and Remediation Services 100% of employment within 91 Public Administration
	Repair	<ul style="list-style-type: none"> 55% of employment within 23 Construction 25% of employment within 81 Other Services (except Public Administration)
	Trade-Oriented	<ul style="list-style-type: none"> All industrial sector employment (Distribution, Production, Public Infrastructure & Administration and Repair) taking place on Port of Vancouver and YVR lands. Non-industrial activities taking place on Port and YVR land, such as Retail, are excluded.
Non-Industrial	Media Production, Communication and Arts	<ul style="list-style-type: none"> 100% of employment within 51 Information and Cultural Industries 100% of employment within 71 Arts, Entertainment and Recreation
	R&D, Professional and Technical Services	<ul style="list-style-type: none"> 77% of employment within 54 Professional, Scientific and Technical Services
	Retail	<ul style="list-style-type: none"> 100% of employment within 44-45 Retail Trade
	Other Services	<ul style="list-style-type: none"> 12% of employment within 48-49 Transportation and Warehousing

Activity	Metro Vancouver Custom Sector Definition	2 Digit NAICS Comparison
		<ul style="list-style-type: none"> ▪ 100% of employment within 52 Finance and Insurance ▪ 100% of employment within 53 Real Estate and Rental and Leasing ▪ 23% of employment within 54 Professional, Scientific and Technical Services ▪ 100% of employment within 55 Management of Companies and Enterprises ▪ 93% of employment within 56 Administrative and Support, Waste Management and Remediation Services ▪ 100% of employment within 61 Educational Services ▪ 100% of employment within 62 Health Care and Social Assistance ▪ 100% of employment within 72 Accommodation and Food Services ▪ 75% of employment within 81 Other Services (except Public Administration)
	<p>Total activity covered by Metro Vancouver’s custom Industrial and Non-Industrial sectors</p>	<p>All economic activity from 11 Agriculture through to 91 Public Administration is collectively counted under Metro Vancouver’s custom sector definitions</p>

Treatment of Workers with No Fixed Workplace

The Statistics Canada 2021 Census data accounts for the component of the region’s workforce which has no fixed workplace; for example, this would include truck drivers in the logistics sectors transporting goods and materials to/from industrial lands such as warehouses and distribution centres. Information on these workers with no fixed workplace was reported by Statistics Canada as part of the 2021 Census data. Due to the impacts of the COVID-19 pandemic on economic and employment activities / patterns, the number of workers with no fixed workplace increased significantly in the 2021 Census, as compared to 2016.

Metro Vancouver developed a method to account for workers with no fixed workplace that are attributable to activity generated on the region’s industrial land. Using 2021 Census data, this method provides the estimates broken down by industry sector (2-digit NAICS codes) for all municipalities in the region. The calculation begins by allocating 50% of municipal workers with no fixed workplace to industrial land, based on the proportion of industrial land population relative to the municipal population. The remaining 50% is then attributed according to each industrial land’s share of the municipal employment.

Due to the limited availability of data on workers with no fixed workplace captured by the 2021 Census, industry information is only recorded at the two-digit NAICS level. To be accounted for in the analysis of economic activity taking place on the region’s industrial land, the employment data on workers with no fixed workplace were converted from two-digit NAICS level to the eight custom sectors defined by Metro Vancouver following the attribution set out in **Figure 2-4**.

Adjustment for Census Undercount

Following each Census, Statistics Canada undertakes assessments to estimate the population that was not captured by that Census. Metro Vancouver, as well as other agencies such as BC Stats, incorporates a Census undercount in all population estimates and projections. To be consistent with this approach, Metro Vancouver accounted for undercount in the custom 2021 Census data extract used to assess the economic impact of the region's industrial land.

Metro Vancouver referred to the estimated 2021 Census undercount of 6.17% for the Vancouver CMA's working-age population – that is, the population aged 15 to 64. The custom data extract for employment with a usual place of work located on industrial lands, as well as Metro Vancouver's estimate for workers with no fixed workplace attributable to industrial lands, were both assumed to reflect a 6.17% Census undercount rate and were adjusted accordingly to determine the final employment figures.

Special Considerations related to the 2021 Census

The methodology used in this 2024 study, and outlined above, replicates the approach used in the original 2019 economic impact study. Both studies used custom Census data extracts as the primary data inputs for generating employment and income estimates on the region's industrial lands. The 2019 study was based on a custom 2016 Census data extract in relation to the region's 2015 Regional Industrial Lands Inventory, while the 2024 study is based on a custom 2021 Census data extract in relation to the region's 2020 Regional Industrial Lands Inventory. While some minor changes occurred between the 2015 and 2020 Lands Inventories through the modest addition and removal of lands, these changes had no material effect on the variance in results between the two studies. Rather, the bigger contributing factor for the variance between the two studies results is an implied fewer jobs reported to be located on industrial lands between the two Census years. Specifically, the 2021 Census data extract (after adjustments for Census undercount and jobs with no fixed workplace) reports nearly 50,000 fewer jobs located on industrial land compared the 2016 Census data extract – from 364,100 jobs in the 2016 Census to 315,300 jobs in the 2021 Census.

While readers may intuitively interpret this as a loss in direct industrial-related activity over time, this conclusion cannot be definitively made from this study. In particular, the following caveats should be noted:

- **The 2021 Census was conducted during the COVID-19 pandemic** – the data from the 2021 Census reflects Canadian residents' lives during a specific point in time in Spring 2021, which was largely affected by the COVID-19 pandemic. For employment data such as work status and primary place of work, the 2021 Census reflects workers' situation during the week of May 2 to May 8, 2021, and pandemic-related circumstances which materially affected employment levels at the time. This includes:
 - The unemployment rate in Metro Vancouver was double what it was shortly prior to the pandemic.
 - Temporary business closures resulting in a reduction of employment levels.
 - Relocation of certain employment to remote work (e.g. work-from-home) instead of onsite.

For instance, workers who were either temporarily laid off or allowed to work from home during pandemic-related closures at their primary place of work would not be captured in the job counts from the custom 2021 Census data extract.

- **Work-From-Home employment grew during the 2021 Census** – the geographic coverage applied for the custom 2021 Census data extract means that only employment that was physically conducted on industrial lands, or employment associated with activity on industrial lands but with no fixed workplace, were counted. By definition, the segment of the workforce which worked from home was excluded. However, the pandemic facilitated a rise in the number and types of jobs which could be done remotely from a home workspace. The 2021 Census reported nearly 355,100 people worked from home throughout the Vancouver CMA, an increase of more than 250,200 jobs (+239%) since the 2016 Census.³⁹ This compares to approximately 201,300 fewer (-20%) jobs with a fixed workplace outside the home over the same period. While this implies, in part, some transition of jobs to a work-from-home status, no assumptions have been made in this study to allocate any portion of remote workers which may be attributable to businesses or activities on industrial lands.

Furthermore, it remains to be determined whether the employment counts at that time reflect a temporary, pandemic-driven condition or a permanent, structural change in employment and operations associated with industrial lands (pandemic-related or otherwise). In the words of Statistics Canada, “We expected Census 2021 data to reveal some extraordinary patterns, but what is currently unclear is to what extent those patterns are attributable to the pandemic.”⁴⁰

As a result, the change in direct job counts located on industrial lands could be attributable to labour mobility trends toward work-from-home (in which case a meaningful share of employment by remote workers are not captured in this study), transitory effects of the pandemic (e.g. temporary layoffs, shutdowns, or moves to offsite work locations during the Census survey period), increasing productivity or technological changes which require fewer workers located on industrial lands, a genuine decline in business activity and employment associated with industrial lands, or some combination thereof.

The uncertainty of the 2021 employment counts on the region’s industrial lands likely underestimates the economic impact results estimated in this study. Caution is therefore advised when comparing this study to prior work.

Summary of Study Limitations

As described in the preceding sections, the results from this study likely underestimate the economic impacts associated with industrial activity due to certain key limitations:

- The geographic scope of the study covers employment located on industrial lands, and therefore any industrial sector activity which does not take place on industrial lands is not counted.
- The 2021 Census data extract reports a net difference of 50,000 fewer jobs taking place on industrial lands relative to the 2016 Census data extract despite known considerable development activity and

³⁹ Statistics Canada. Table 98-10-0470-01. Place of work status by industry sectors, work activity during the reference year, age and gender: Census metropolitan areas, tracked census agglomerations and census tracts; Statistics Canada - 2016 Census. Catalogue Number 98-400-X2016320.

⁴⁰ Statistics Canada presentation, “Effects of the COVID-19 Pandemic on Data Analysis and Comparability Over Time Considerations for Canada and Census 2021” (<https://unstats.un.org/unsd/statcom/52nd-session/side-events/presentations/se-20210225-Canada.pdf>).

market demand for industrial lands over that timeframe. The uncertainty of the 2021 Census job counts on the region's industrial lands is presumably impacted by several issues related to the timing of the 2021 Census. In particular, the COVID-19 pandemic affected employment rates as well as workplace locations, with much of the region's workforce shifting toward working from home and therefore not counted due to the geographic boundaries of the study.

2.3.2 Estimating Economic Impacts

The direct employment of industrial sector activities taking place on the region's industrial land was sourced using the custom 2021 Census data extract, following the geographic coverage and custom sector definitions set out in the previous section. This data formed the foundation for the economic impact analysis, providing direct employment and direct wage information for industrial land and the region.

Employment figures are generally more understandable by the public and decision makers than more abstract measures, such as economic output or GDP. Employment figures also have the advantage of being a more accurate measure, because there is less chance of double counting. As such, employment impacts form the focus of the analysis.

The direct GDP and economic output impacts are estimated using industry specific ratios provided by Statistics Canada's 2019 National and Provincial Input-Output Multipliers. These are the latest relevant multipliers available at the time of the study and were released in December 2022. Although 2020 multipliers have also since been released, Statistics Canada's formal recommendation is that the 2020 multipliers should only be used for analysing impacts occurring in the year 2020, and economic impact analysis for more current periods should refer to the 2019 multipliers as they are likely more reflective of current (post COVID-19 recovery) economic structures.⁴¹

Estimating Indirect and Induced Impacts with Economic Multipliers and Ratios

After considering direct economic impacts, the study then assessed the indirect and induced employment supported by the region's industrial land. Indirect and induced economic activity in terms of economic output and GDP were also assessed.

Measurement of indirect and induced economic activity is difficult. While it may be possible to conduct a survey of downstream employers, the survey would need to cover thousands of firms in order to completely include indirect employment. For induced employment, the entire economy would need to be scrutinised. In addition to the time and financial resources needed to conduct such surveys, the quality of responses would be suspect.

As an alternative to costly and inaccurate surveys, indirect and induced effects are typically measured using *economic multipliers and ratios*. Multipliers are derived from models of the general economy. They come in a variety of forms and differ greatly in definition and

Statistics Canada economic multipliers and ratios (2019) for the Province of British Columbia were used for the analysis.

⁴¹ Footnote 4, Statistics Canada Table: 36-10-0595-01 Input-output multipliers, provincial and territorial, detail level, accessed June 2024.

application. Thus, great care must be exercised in choosing the appropriate set of multipliers to use. In addition, the use of multiplier analysis is limited by a number of factors, these being:

- the accuracy of the structure and parameters of the underlying model;
- the level of unemployment in the economy;
- the assumption of constant returns to scale in production;
- the assumption that the economy's structure is static over time; and
- the assumption that there are no displacement effects.

Multiplier impacts must be interpreted with caution since they may be illusory when the economy experiences high employment and output near industry capacity. When they are reported, it is recommended that the reader be reminded of the limitations of the use of multipliers. Mindful of these limitations, this study has undertaken multiplier analysis to estimate indirect and induced employment. Emphasis is nonetheless placed on the direct economic impacts as these are based on data captured by the 2021 Census using the specific methodology outlined above to best reflect the activities taking place on industrial land.

For this study, InterVISTAS applied economic multipliers and ratios for the Province of British Columbia based on Statistics Canada's 2019 Provincial Input-Output model. While 2020 multipliers were also available at the time of this study, Statistics Canada notes that the ratios and multipliers for 2020 reflect the unique conditions caused by the global pandemic in that specific year, and therefore recommends using the 2019 Input-Output multiplier dataset as the most suitable for assessing impacts related to more current economic conditions including those in 2021.

The multipliers and ratios are based on a highly detailed accounting of provincial economic structures or relationships. The model tracks how the goods and services produced by industry are used by other industries and final users. The provincial multipliers for dollar figure impacts were updated to 2021 dollars using Consumer Price Index (CPI) data from Statistics Canada to account for price changes since 2019. Where noted, the report occasionally includes the dollar figure impacts in 2024 figures for current context, using the same CPI source data.

Because the study used custom sector definitions to best reflect activities taking place on industrial land, aggregate multiplier ratios had to be calculated to assess the indirect and induced impacts. This involved calculating new sector multipliers for those set out in **Figure 2-4** by weighting Statistics Canada's industry specific multiplier ratios (which are categorized using the Input-Output Industry Classification) to the corresponding employment in each industry as defined on a NAICS basis. This process created eight sets of multipliers for the custom sectors used in this study.

There is a broad range of economic activity captured within Metro Vancouver's eight custom sectors. It should therefore be recognised that the aggregate multiplier ratios calculated in this study consolidate the full range of multiplier ratios and the economic impact of specific industries.⁴² For example, within the Production sector the 'Semiconductor and other electronic component manufacturing' sub-sector has an indirect job multiplier of 0.32 at the British Columbia level. This means that every 1 job in that industry is

⁴² Refer to the detailed multipliers from Statistics Canada, from which the custom sector multipliers for this study were developed. Statistics Canada Table: 36-10-0595-01 Input-output multipliers, provincial and territorial, detail level, accessed June 2024.

associated with a further 0.32 jobs in indirect industries. In comparison, the Production sector also includes the 'meat product manufacturing' sub-sector which has an indirect job multiplier of 1.81. This demonstrates how the economic impact of different specific industries can vary considerably. While the aggregate economic multipliers for the eight custom sectors used by Metro Vancouver are the best reflection of their economic impact, it is worth remembering that performance within each custom sector can vary significantly.

Adjustment for Regional Level Economic Multipliers

To develop regional level multipliers to assess the economic impacts of industrial land in the region, InterVISTAS adjusted the 2019 British Columbia multipliers provided by Statistics Canada. The multipliers and ratios used to estimate employment, economic output, and GDP impacts in the region are proportional to those of British Columbia.

The proportion of provincial impacts estimated to occur within the region were estimated using a standard two-step process. First, all the direct and 50% of the indirect and induced employment in British Columbia is assumed to be realised in the Metro Vancouver region. Then, for the remaining 50% of indirect and induced provincial employment, only a portion of each is assigned to the region. These proportions were determined by calculating the ratio of employment in each of the eight custom sectors as well as for total employment in the Vancouver region compared to the whole of British Columbia, based on the 2021 Census data. The custom sector ratios were used for allocating the remaining indirect impacts, while the total employment ratio was used for allocating the remaining induced impacts as it represents the regional concentration of the overall economy through which the household spending effect is dispersed. For example, the region accounts for 66% of British Columbia's Distribution sector employment and 55% of total provincial employment. Therefore, after assuming that 50% of the indirect and induced employment impact is realised in the Vancouver region, the remaining 50% of indirect impact for the Distribution sector is proportioned by 66%, while the remaining 50% of induced impact for the Distribution sector is proportioned by 55%. This amounts to a total of 83% of the indirect impacts and 78% of the induced impacts for the Distribution sector realized in the Vancouver region.

This approximate method is used because Statistics Canada does not produce multipliers and ratios for sub-provincial regions. While some employment and income multipliers were developed for Metro Vancouver in 1986, these were not deemed appropriate for this analysis due to changes to the economy, outdated data and incomparability with Metro Vancouver's custom defined sectors.

2.3.3 Estimating Tax Revenue Impacts

The tax revenue contributions to the Federal, Provincial and Municipal levels of government that are associated with the region's industrial lands are also estimated.

Tax impacts include income taxes paid by employers and employees (such as payroll taxes) for direct employment and economic activity associated with the region's industrial land. This is calculated using

InterVISTAS' tax model which considers personal and corporate income tax rates, employment insurance contributions, Canada pension plan payments, and workplace safety and insurance board contributions.⁴³

Municipal property tax revenues generated by 'Light Industry', 'Major Industry' and 'Utilities' property Classes 5, 4, and 2 respectively, are also taken into account.⁴⁴ Note that this includes properties with industrial related property classes that are not necessarily located on industrial land according to Metro Vancouver's geographic definition set out in **Section 2.3.1**. Further, this does not include any relevant property tax revenues associated with the Class 6 'Business and Other' property class, which includes warehousing along with other non-industrial uses such as offices, retail, hotels, and motels.⁴⁵

Federal, Provincial, and Municipal tax impacts are based upon 2021 tax rates and revenues.

⁴³ InterVISTAS' tax model draws upon 2021 tax rates and information provided by Canada Revenue Agency, British Columbia Provincial Government and WorkSafe BC.

⁴⁴ British Columbia Provincial Government Tax Burden Schedule 707 – 2021 Assessments, Tax Rates, Municipal Taxes and Class Proportions of Taxes and Assessments.

⁴⁵ <https://info.bcassessment.ca/Services-products/property-classes-and-exemptions/understanding-property-classes-and-exemptions>

3 Economic Impact of Industrial Lands in Metro Vancouver

This chapter describes the direct, indirect and induced employment, wages, GDP and output across industrial and non-industrial sectors located on the region's industrial lands. Impacts are presented for the region, British Columbia, and Canada. The economic impact of each sector on industrial land is summarised in their own sections as follows:

- Production
- Distribution
- Repair
- Public Infrastructure and Administration
- Trade-Oriented
- Non-Industrial activity, including:
 - Media Production, Communication and Arts
 - R&D, Professional and Technical Services
 - Retail
 - Other Services

Note that Metro Vancouver's custom defined sectors used in this study are not comparable with other studies or analyses of the 2021 Census. This is because Metro Vancouver developed its own industry definitions to best reflect the activities taking place on industrial land – further information is provided in **Section 2.3.1**.

3.1 Economic Impacts of Industrial Land

The direct employment associated with the region's industrial land, compared to the region as a whole, is summarised in **Figure 3-1** below. This is derived from a unique analysis of Census 2021 data with the following coverage:

- The direct employment *includes* workers whose regular place of work is located on industrial lands;
- The direct employment *includes* an estimated portion of the region's workers with no fixed workplace (e.g. truck drivers) but who are assumed to visit or serve the activities located on industrial lands;
- The direct employment *does not include* any potential work-from-home employment which may be attributable to businesses located on industrial lands.

Further, the findings reflect particular conditions at the time the Census 2021 was conducted during the COVID-19 pandemic. Refer to **Section 2.3.1** for further details on the methodology and limitations in comparing these findings to the prior study. An estimated 21.9% of the region's jobs are directly attributable to industrial land, and 41.8% of all jobs in industrial sectors are attributed to industrial land. A breakdown of direct employment on industrial land by sector is further illustrated in **Figure 3-2**.

Figure 3-1: Direct Employment (Jobs) by Industrial and Non-industrial Sectors, 2021

Sector	Industrial Land ¹	Not Located on Industrial Land ²	Region Total ³	% Located on Industrial Land
Production	72,300	73,300	145,600	49.7%
Distribution	58,200	65,600	123,800	47.0%
Repair	29,100	49,400	78,500	37.1%
Public Infrastructure and Administration	14,600	70,300	84,900	17.2%
Trade-Oriented	11,900	0	11,900	100.0%
Total Industrial Activities	186,100	258,600	444,700	41.8%
Media Production, Communication and Arts	11,400	70,900	82,300	13.9%
R&D, Professional and Technical Services	19,300	106,200	125,500	15.4%
Retail	36,700	123,100	159,800	23.0%
Other Services	61,800	563,100	624,900	9.9%
Total Non-Industrial Activities	129,200	863,300	992,500	13.0%
Total Direct Employment	315,300	1,121,900	1,437,200	21.9%

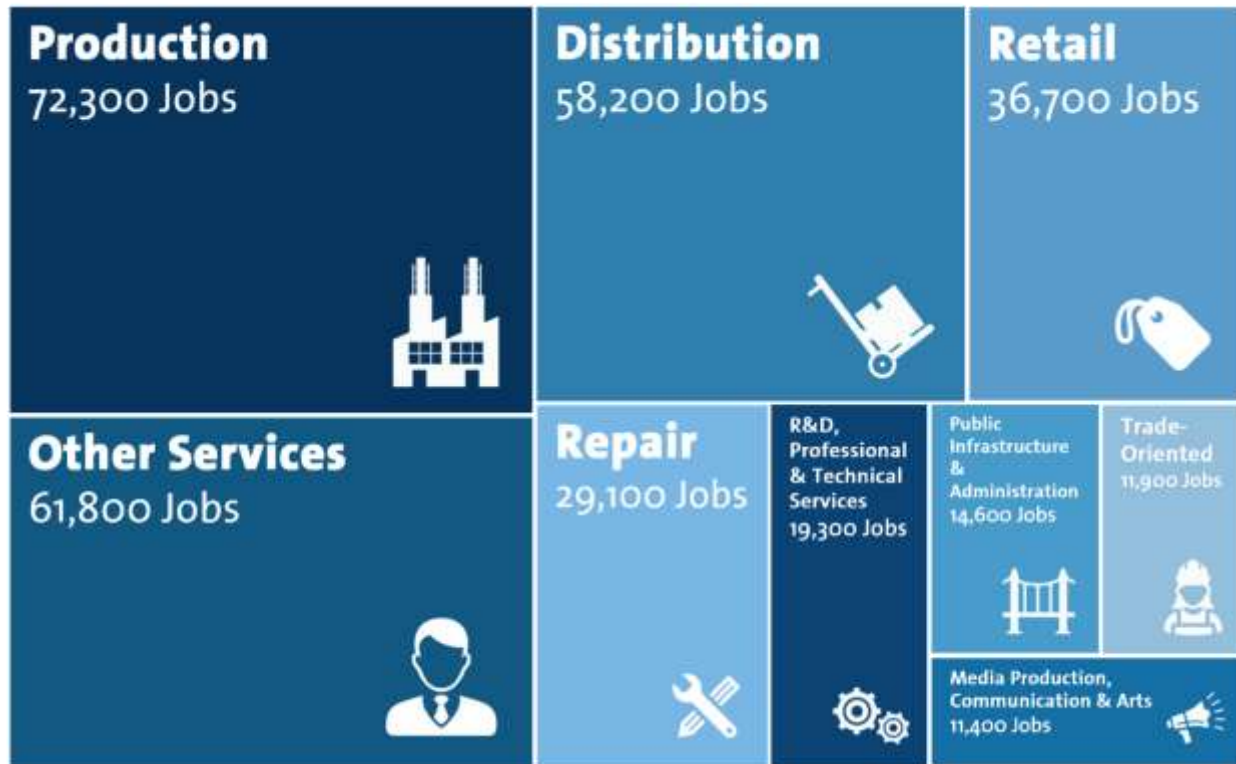
Source: Metro Vancouver custom extract of Statistics Canada Census 2021 data. InterVISTAS analysis and calculations. Note data are rounded and may not sum to totals shown.

1 Employment located on industrial land as defined by Metro Vancouver based on its 2020 Industrial Land Inventory Report methodology, including a proportion of workers with no fixed workplace attributable to industrial land (see **Section 2.3.1**) as well as an uplift to allow for undercount rates in the 2021 Census. These figures do **not** include any allocation for the region's workers working from home whose employment may be attributable to businesses located on industrial land.

2 Employment in the Vancouver region, equivalent to Statistics Canada's Vancouver Census Metropolitan Area. The employment figures include workers with no fixed workplace that are not attributable to industrial land (see **Section 2.3.1**) as well as an uplift to allow for undercount rates in the 2021 Census. These figures do **not** include the region's workers who worked from home.

3 Employment in the Vancouver region, equivalent to Statistics Canada's Vancouver Census Metropolitan Area. The employment figures include workers with no fixed workplace that are not attributable to industrial land (see **Section 2.3.1**) as well as an uplift to allow for undercount rates in the 2021 Census. These figures do **not** include the region's workers who worked from home.

Figure 3-2: Direct Employment (Jobs) on Industrial Land, 2021



On average, industrial jobs tend to pay higher wages than non-industrial jobs, though this can vary by specific type of industrial sector. For industrial jobs located on industrial land, the average wage (all income received as wages, salaries, and commissions from paid employment) was \$67,900 as of the 2021 Census, or roughly 14% higher than the average wage of \$59,500 paid for non-industrial jobs on industrial lands, as shown below in **Figure 3-3**.⁴⁶ This average industrial wage of \$67,900 as of the 2021 Census equals approximately \$76,800 when inflated to 2024 dollars.

Further, average wages on industrial land are generally comparable to the average wages in the region. Across all sectors, in 2021 the average wage for employment on industrial land is estimated to be \$64,500, compared to \$66,200 across the entire region (see **Figure 3-3**). While each industrial sector will have its own nuances associated with how its workforce is distributed across the region’s land, the slightly higher average wage for industrial sector employees located on non-industrial lands might be attributable to the portion of the workforce whose jobs can be done on a commercial property or other non-industrial location. For instance, this could include corporate/executive management and administrative jobs, located in office buildings, which may pay more on average relative to technical and trades occupations whose activities must physically be done on industrial sites.

The highest paying sectors for employment on industrial land are Public Infrastructure & Administration and Trade-Oriented, both of which are industrial sectors paying over \$84,000 per job located on industrial

⁴⁶ For the 2021 Census, the reference period for employment income is the calendar year 2020. As such, the wage figures reported herein have been inflated into 2021 prices.

land in 2021. This is comparable to the average wage paid throughout the region in the Research & Development, Professional & Technical Services sector.

Figure 3-3: Average Wages on Industrial Land Compared to Regional Totals, 2021

Sector		Jobs located on Industrial Land	Jobs in the Region
Industrial Sector Jobs	Production	\$65,500	\$71,700
	Distribution	\$65,100	\$71,700
	Repair	\$64,400	\$60,500
	Public Infrastructure & Administration	\$84,400	\$85,400
	Trade-Oriented	\$84,300	\$84,300
	Industrial Sector Average	\$67,900	\$73,900
Non-Industrial Sector Jobs	Media Production, Communication, Arts	\$61,900	\$70,700
	R&D, Professional & Technical Services	\$78,600	\$85,000
	Retail	\$52,900	\$46,800
	Other Services	\$56,700	\$62,200
	Non-Industrial Sector Average	\$59,500	\$63,300
Average of All jobs		\$64,500	\$66,200

Source: Metro Vancouver custom extract of Statistics Canada Census 2021 data. InterVISTAS analysis and calculations. Note data are rounded and prices are in 2021 dollars.

Workers with No Fixed Workplace

While the majority of employment attributable to industrial lands pertains to jobs physically performed on industrial lands, the analysis in this study also accounts for a component of the workforce which has no fixed workplace, such as truck drivers in the logistics sector transporting goods and materials between construction sites or distribution centres. Information on workers with no fixed workplace was provided by Statistics Canada as a segment of the 2021 Census. This data indicates an estimated 202,400 such workers in the Vancouver CMA (after applying an uplift based on the undercount rate for the 2021 Census), or around 14% of the total region’s employment excluding work-from-home jobs.

Taking into account the distribution of population and sector employment across the region, Metro Vancouver estimated that 34,200 workers with no fixed workplace can be attributed to industrial lands. This is equivalent to nearly 11% of the estimated employment directly taking place on industrial land (see **Figure 3-5**). This estimate considers the location of industrial lands in relation to the population of the municipality in which they are located and the employment across relevant sectors. Because the Census only records the employment of workers with no fixed workplace at the two-digit NAICS level, the analysis assumed that the sector profile of such workers matched that of the wider economy. This was necessary to allocate workers with no fixed workplace to the custom defined sectors used in this analysis.

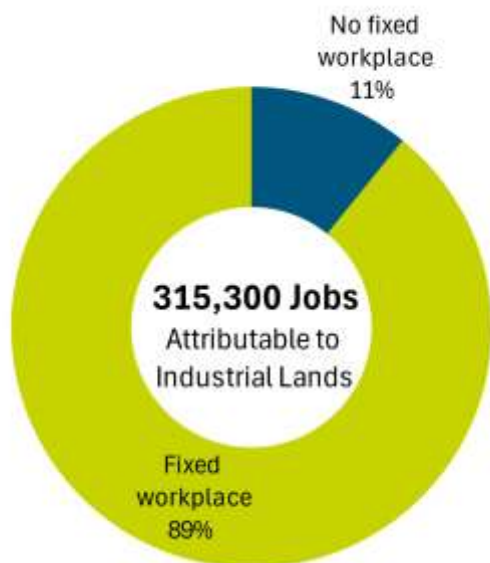
Figure 3-4 below summarises the estimate of workers with no fixed workplace allocated by sector on industrial lands and across the region overall in 2021.

Figure 3-4: Workers with No Fixed Workplace, 2021

Sector	Industrial Land	Region Total
Industrial Activity	18,500	109,500
Production	5,500	32,300
Distribution	4,900	29,200
Repair	6,300	37,200
Public Infrastructure & Admin	1,800	10,800
Non-Industrial Activity	15,700	92,900
Media Production/Comm/Art	2,000	12,000
R&D Professional/Technical	900	5,500
Retail	1,600	9,300
Other Services	11,200	66,100
Total	34,200	202,400

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Figures include the uplift applied to account for the undercount rate in Census 2021. Region Total refers to the combined region total across all lands.

Figure 3-5: Workers Attributable to Industrial Land, by Location Type, 2021



Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations.

Indirect and Induced Impacts of Industrial Activity on Industrial Lands

The previous sections discussed how *direct* employment related to economic activity on the region's industrial lands was measured.

However, the economic impact does not end there, as other sectors of the economy can be dependent on these direct businesses. Indirect impacts are generated by suppliers to the businesses located on industrial lands. In addition, there may be additional impacts to the wider economy when direct (and indirect) employees spend their wages. These effects are referred to as induced impacts. Total impacts therefore equal the sum of direct, indirect, and induced effects.

The indirect and induced impacts were estimated using Statistics Canada's economic multipliers and ratios for the Province of British Columbia and Canada.⁴⁷ In addition, indirect and induced impacts on the region were estimated by using weighted economic multiplier ratios. Further information on the method used to calculate economic multipliers for the region is provided in **Section 2.3.2**.

Figure 3-6 summarises the direct, indirect, and induced economic impacts of employment located on industrial lands and specifically related to industrial activity in the Production, Distribution, Repair, Public Infrastructure and Administration and Trade-Oriented sectors. The economic impacts of Non-Industrial sectors located on industrial land are summarised in **Section 3.7**.

Industrial sectors located on the region's industrial land directly contribute 186,100 jobs, \$12.6 billion in wages, \$17.7 billion in GDP, and \$37.4 billion in output. When indirect and induced impacts are considered, the economic impact of Industrial sectors located on industrial land in the region increases further to 296,000 jobs, \$19.0 billion in wages, \$29.9 billion in GDP, and \$58.9 billion in output.

Impacts increase further from the regional level up to the British Columbia level and across Canada due to increasing economic multipliers. Economic multipliers increase as the size of economies and the connectivity between sectors increase. For example, the total jobs (direct, indirect and induced) increase from 296,000 within the region to 329,400 in British Columbia and to 381,500 across Canada.

⁴⁷ The multipliers used for the analysis are based on Statistics Canada economic multipliers and ratios for British Columbia from the 2019 Interprovincial Input-Output model, the most recent data available. These multipliers were updated with Consumer Price Indices to account for inflation to 2021.

Figure 3-6: Economic Impact of Industrial Sector Employment Located on Industrial Land, 2021

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
Employment (Jobs)	Direct	186,100	186,100	186,100
	Indirect	62,800	82,700	112,600
	Induced	47,100	60,600	82,700
	Total	296,000	329,400	381,500
Employment Income (\$ Billions)	Direct	\$12.6	\$12.6	\$12.6
	Indirect	\$4.0	\$5.3	\$7.5
	Induced	\$2.3	\$3.0	\$4.4
	Total	\$19.0	\$20.9	\$24.6
GDP (\$ Billions)	Direct	\$17.7	\$17.7	\$17.7
	Indirect	\$6.4	\$8.5	\$12.5
	Induced	\$5.8	\$7.5	\$10.2
	Total	\$29.9	\$33.6	\$40.4
Economic Output (\$ Billions)	Direct	\$37.4	\$37.4	\$37.4
	Indirect	\$12.6	\$16.6	\$25.3
	Induced	\$9.0	\$11.5	\$16.8
	Total	\$58.9	\$65.5	\$79.5

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

3.2 Production Sector

There are an estimated 72,300 direct jobs supported by the Production sector located on the region’s industrial lands. This includes base material, mineral, or food production activities as well as manufacturing. In 2021, average annual wages for Production jobs located on industrial land amounted to \$65,500, compared to an average of \$66,200 in the region across all sectors. The industrial lands’ Production sector is estimated to have a direct workforce income of \$4.7 billion, direct GDP of \$6.6 billion, and direct economic output of \$16.6 billion.

Figure 3-7 below presents the direct, indirect and induced economic impacts of the region’s industrial land related Production sector on the region, British Columbia and across Canada. The total employment impact of the industrial land’s Production sector increases to 118,000 jobs for the region, 133,200 jobs in British Columbia, and 156,800 in Canada. Total job impacts include the employment directly associated with the Production sector located on the region’s industrial land, indirect jobs supported in supply chain businesses, and induced jobs supported by wages spent by direct and indirect jobs. For the region, total workforce wages associated with the Production sector located on industrial land is estimated to be \$7.4 billion, \$8.3 billion in British Columbia, and \$10.0 billion in Canada.

While the Production sector on the region’s industrial lands directly generates \$6.6 billion of GDP, this increases to a total GDP contribution of \$11.6 billion to the entire region. This further increases to a total GDP contribution of \$13.3 billion to British Columbia’s economy and \$16.4 billion to Canada’s economy. Direct economic output of the industrial land’s Production sector is \$16.6 billion. This increases to a total impact of \$25.8 billion of economic output to the region, \$28.9 billion to British Columbia, and \$35.6 billion to Canada.

Figure 3-7: Economic Impact of the Production Sector Located on Industrial Land, 2021

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
Employment (Jobs)	Direct	72,300	72,300	72,300
	Indirect	28,100	38,300	52,700
	Induced	17,600	22,600	31,800
	Total	118,000	133,200	156,800
Employment Income (\$ Billions)	Direct	\$4.7	\$4.7	\$4.7
	Indirect	\$1.8	\$2.4	\$3.5
	Induced	\$0.9	\$1.1	\$1.7
	Total	\$7.4	\$8.3	\$10.0
GDP (\$ Billions)	Direct	\$6.6	\$6.6	\$6.6
	Indirect	\$2.8	\$3.9	\$5.9
	Induced	\$2.2	\$2.8	\$3.9
	Total	\$11.6	\$13.3	\$16.4
Economic Output (\$ Billions)	Direct	\$16.6	\$16.6	\$16.6
	Indirect	\$5.9	\$8.0	\$12.5
	Induced	\$3.4	\$4.3	\$6.5
	Total	\$25.8	\$28.9	\$35.6

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

3.3 Distribution Sector

There are an estimated 58,200 direct jobs in the Distribution sector located on the region’s industrial lands. This is 47.0% of the estimated 123,800 Distribution jobs in the region. Average wages for Distribution jobs on industrial land are \$65,100. While this falls just beneath the average wage of \$66,200 for all jobs in the region, it exceeds the average wage for non-industrial jobs in the region of \$63,300. The industrial lands’ Distribution sector is estimated to have a direct workforce income of \$3.8 billion, direct GDP of \$5.3 billion, and direct economic output of \$9.7 billion.

Figure 3-8 presents the direct, indirect and induced economic impacts of the region’s industrial land related Distribution sector on the region, British Columbia and across Canada. The total employment

impact of the Distribution sector located on industrial lands increases to 89,400 jobs for the region, 97,100 in British Columbia and 111,200 in Canada. Total job impacts include the employment directly associated with the Distribution sector located on the region's industrial land, indirect jobs supported in supply chain businesses, and induced jobs supported by wages spent by direct and indirect jobs. For the region, total workforce income associated with the industrial land-dependent Distribution sector is estimated to be \$5.6 billion, \$6.0 billion in British Columbia and \$7.0 billion in Canada.

While the Distribution sector on industrial lands directly generates \$5.3 billion of GDP, this increases to a total GDP contribution of \$8.9 billion within the entire region. This further increases to a total GDP contribution of \$9.7 billion to British Columbia's economy and \$11.6 billion to Canada's economy. Direct economic output of the Distribution sector on industrial lands is \$9.7 billion. This increases to a total impact of \$15.8 billion of economic output to the region, \$17.2 billion to British Columbia, and \$20.9 billion to Canada.

Figure 3-8: Economic Impact of the Distribution Sector Located on Industrial Land, 2021

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
Employment (Jobs)	Direct	58,200	58,200	58,200
	Indirect	16,400	19,800	27,500
	Induced	14,800	19,100	25,600
	Total	89,400	97,100	111,200
Employment Income (\$ Billions)	Direct	\$3.8	\$3.8	\$3.8
	Indirect	\$1.0	\$1.3	\$1.8
	Induced	\$0.7	\$0.9	\$1.4
	Total	\$5.6	\$6.0	\$7.0
GDP (\$ Billions)	Direct	\$5.3	\$5.3	\$5.3
	Indirect	\$1.7	\$2.1	\$3.1
	Induced	\$1.8	\$2.4	\$3.2
	Total	\$8.9	\$9.7	\$11.6
Economic Output (\$ Billions)	Direct	\$9.7	\$9.7	\$9.7
	Indirect	\$3.3	\$3.9	\$6.1
	Induced	\$2.8	\$3.6	\$5.2
	Total	\$15.8	\$17.2	\$20.9

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

3.4 Repair Sector

There are an estimated 29,100 direct jobs in the Repair sector located on the region’s industrial lands. This primarily includes jobs associated with automotive or machinery repair and construction-related activities. Average wages for Repair sector jobs located on industrial land are \$64,400, compared to an average of \$66,200 in the region across all sectors. The industrial lands’ Repair sector is estimated to have a direct workforce income of \$1.9 billion, direct GDP of \$2.6 billion, and direct economic output of \$5.5 billion.

Figure 3-9 presents the direct, indirect and induced economic impacts of the region’s industrial land related Repair sector on the region, British Columbia and across Canada.

Figure 3-9: Economic Impact of the Repair Sector Located on Industrial Land, 2021

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
Employment (Jobs)	Direct	29,100	29,100	29,100
	Indirect	8,400	11,500	15,800
	Induced	6,700	8,600	11,700
	Total	44,200	49,200	56,700
Employment Income (\$ Billions)	Direct	\$1.9	\$1.9	\$1.9
	Indirect	\$0.6	\$0.8	\$1.1
	Induced	\$0.3	\$0.4	\$0.6
	Total	\$2.8	\$3.1	\$3.6
GDP (\$ Billions)	Direct	\$2.6	\$2.6	\$2.6
	Indirect	\$0.9	\$1.2	\$1.7
	Induced	\$0.8	\$1.1	\$1.5
	Total	\$4.3	\$4.8	\$5.8
Economic Output (\$ Billions)	Direct	\$5.5	\$5.5	\$5.5
	Indirect	\$1.7	\$2.3	\$3.4
	Induced	\$1.3	\$1.6	\$2.4
	Total	\$8.4	\$9.4	\$11.3

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

The total employment impact of the Repair sector located on industrial lands increases to 44,200 jobs for the region, 49,200 in British Columbia, and 56,700 in Canada. Total job impacts include the employment directly associated with the Repair sector located on the region’s industrial land, indirect jobs supported in supply chain businesses, and induced jobs supported by wages spent by direct and indirect jobs. For the region, total workforce income associated with the industrial land-dependent Repair sector is estimated to be \$2.8 billion, \$3.1 billion in British Columbia, and \$3.6 billion in Canada.

While the Repair sector on industrial lands directly generates \$2.6 billion of GDP, this increases to a total GDP contribution of \$4.3 billion within the region. This further increases to a total GDP contribution of \$4.8 billion to British Columbia's economy and \$5.8 billion to Canada's economy. Direct economic output of the Repair sector on industrial lands is \$5.5 billion. This increases to a total impact of \$8.4 billion of economic output to the region, \$9.4 billion to British Columbia, and \$11.3 billion to Canada.

3.5 Public Infrastructure and Administration Sector

There are an estimated 14,600 direct jobs supported by the region's Public Infrastructure and Administration sector located on industrial lands. This includes an estimated 6,200 jobs associated with critical infrastructure such as electricity generation and transmission, utilities, and waste management. The remaining 8,400 jobs are associated with public administration positions. Average wages for Public Infrastructure and Administration jobs located on industrial land are \$84,400, compared to an average of \$66,200 in the region across all sectors. The industrial lands' Public Infrastructure and Administration sector is estimated to have a direct workforce income of \$1.2 billion, direct GDP of \$2.0 billion and direct economic output of \$3.5 billion.

Figure 3-10 presents the direct, indirect and induced economic impacts of the region's industrial land related Public Infrastructure and Administration sector on the region, British Columbia, and across Canada.

The total employment impact of the Public Infrastructure and Administration sector located on industrial lands increases to 25,800 jobs for the region, 29,600 in British Columbia and 33,400 in Canada. Total job impacts include the employment directly associated with the Public Infrastructure and Administration sector located on the region's industrial land, indirect jobs supported in supply chain businesses, and induced jobs supported by wages spent by direct and indirect jobs. For the region, total workforce income associated with the industrial land-dependent Public Infrastructure and Administration sector is estimated to be \$1.9 billion, \$2.1 billion in British Columbia, and \$2.4 billion in Canada.

While the Public Infrastructure and Administration sector on industrial lands directly generates \$2.0 billion of GDP, this increases to a total GDP contribution of \$3.3 billion within the region. This further increases to a total GDP contribution of \$3.7 billion to British Columbia's economy and \$4.2 billion to Canada's economy. Direct economic output of the Public Infrastructure and Administration sector on industrial lands is \$3.5 billion. This provides for a total impact of \$5.6 billion of economic output to the region, \$6.3 billion to British Columbia, and \$7.2 billion to Canada.

Figure 3-10: Economic Impact of the Public Infrastructure and Administration Sector Located on Industrial Land, 2021

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
Employment (Jobs)	Direct	14,600	14,600	14,600
	Indirect	6,300	8,600	10,500
	Induced	4,900	6,300	8,300
	Total	25,800	29,600	33,400
Employment Income (\$ Billions)	Direct	\$1.2	\$1.2	\$1.2
	Indirect	\$0.4	\$0.6	\$0.7
	Induced	\$0.2	\$0.3	\$0.4
	Total	\$1.9	\$2.1	\$2.4
GDP (\$ Billions)	Direct	\$2.0	\$2.0	\$2.0
	Indirect	\$0.7	\$0.9	\$1.1
	Induced	\$0.6	\$0.8	\$1.0
	Total	\$3.3	\$3.7	\$4.2
Economic Output (\$ Billions)	Direct	\$3.5	\$3.5	\$3.5
	Indirect	\$1.1	\$1.5	\$2.0
	Induced	\$0.9	\$1.2	\$1.7
	Total	\$5.6	\$6.3	\$7.2

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

3.6 Trade-Oriented Sector

The Trade-Oriented sector supports inter-provincial and international import and export markets, including activities such as the movement and storage of goods. It comprises industrial activities taking place on land supporting the mandates of the Port of Vancouver and YVR, as set out in **Section 2.3.1**. The Trade-Oriented Sector includes activities in the Production, Distribution, Repair, and Public Infrastructure and Administration sectors that specifically take place on the Port and YVR lands. As with the other sectors located on industrial lands, only the portions of Port and YVR activities that occur on industrial lands are included in the analysis. For example, the Port’s operational jobs located at Canada Place are excluded from the analysis.

There are an estimated 11,900 direct jobs supported by the region’s Trade-Oriented sector. Average wages for Trade-Oriented jobs located on industrial land are \$84,300, compared to an average of \$66,200 in the region across all sectors. The Trade-Oriented sector is estimated to have a direct workforce income of \$1.0 billion, direct GDP of \$1.1 billion and direct economic output of \$2.1 billion.

Figure 3-11 presents the direct, indirect and induced economic impacts of the industrial lands' Trade-Oriented sector on the region, British Columbia and across Canada.

Figure 3-11: Economic Impact of the Trade-Oriented Sector Located on Industrial Land, 2021

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
Employment (Jobs)	Direct	11,900	11,900	11,900
	Indirect	3,600	4,500	6,100
	Induced	3,000	3,900	5,300
	Total	18,500	20,300	23,300
Employment Income (\$ Billions)	Direct	\$1.0	\$1.0	\$1.0
	Indirect	\$0.2	\$0.3	\$0.4
	Induced	\$0.2	\$0.2	\$0.3
	Total	\$1.4	\$1.5	\$1.7
GDP (\$ Billions)	Direct	\$1.1	\$1.1	\$1.1
	Indirect	\$0.4	\$0.5	\$0.7
	Induced	\$0.4	\$0.5	\$0.7
	Total	\$1.9	\$2.1	\$2.5
Economic Output (\$ Billions)	Direct	\$2.1	\$2.1	\$2.1
	Indirect	\$0.7	\$0.9	\$1.4
	Induced	\$0.6	\$0.8	\$1.1
	Total	\$3.4	\$3.8	\$4.5

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

The total employment impact of the Trade-Oriented sector increases to 18,500 jobs for the region, 20,300 in British Columbia, and 23,300 in Canada. Total job impacts include the employment directly associated with the Trade-Oriented sector located on industrial land, indirect jobs supported in supply chain businesses, and induced jobs supported by wages spent by direct and indirect jobs. Catalytic impacts brought about by global connectivity from YVR are not taken into account; neither are spending impacts generated by visitors travelling through YVR. For the region total workforce income associated with the sector is estimated to be \$1.4 billion, \$1.5 billion in British Columbia and \$1.7 billion in Canada.

While the Trade-Oriented sector directly generates \$1.1 billion of GDP, this increases to a total GDP contribution of \$1.9 billion to the region. This further increases to a total GDP contribution of \$2.1 billion to British Columbia's economy and \$2.5 billion to Canada's economy. Direct economic output of the Trade-Oriented sector located on industrial land is \$2.1 billion. This increases to a total impact of \$3.4 billion of economic output to the region, \$3.8 billion to British Columbia, and \$4.5 billion to Canada.

3.7 Non-Industrial Activities

In addition to the industrial activities taking place on industrial lands outlined in previous sections, there is a significant amount of quasi-industrial and Non-Industrial activity taking place on industrial lands. These sectors are not the intended use for industrial lands but do in some cases operate on industrial lands nonetheless. Non-Industrial sectors include the following:

- Media Production, Communication and Arts
- R&D, Professional and Technical Services
- Retail
- Other Services

Together these sectors account for 129,200 direct jobs on industrial land, \$7.7 billion of direct income, \$8.4 of direct GDP, and \$13.5 billion of direct economic output. As previously summarised in **Figure 3-1**, the Other Services sector accounts for nearly half (48%) of all employment in Non-Industrial sectors located on industrial land. It is followed by Retail, then R&D, Professional, and Technical Services, and finally Media Production, Communication, and Arts.

Figure 3-12 presents the direct, indirect and induced economic impacts of the region's Non-Industrial sectors located on industrial land.

The total employment impact of the Non-Industrial sectors located on industrial land increases to 172,700 jobs for the region, 184,400 in British Columbia, and 202,700 in Canada. Total job impacts include the employment directly associated with Non-Industrial sectors located on industrial land, indirect jobs supported in supply chain businesses, and induced jobs supported by wages spent by direct and indirect jobs. For the region, total workforce income associated with the Non-Industrial sectors located on industrial land is estimated to be \$10.0 billion, \$10.6 billion in British Columbia, and \$11.9 billion in Canada.

While the Non-Industrial sectors located on industrial land directly generate \$8.4 billion of GDP, this increases to a total GDP contribution of \$13.2 billion to the region. This further increases to a total GDP contribution of \$14.5 billion to British Columbia's economy and \$16.7 billion to Canada's economy. Direct economic output of the Non-Industrial sectors located on industrial land is \$13.5 billion. This increases to a total impact of \$21.3 billion of economic output to the region, \$23.4 billion to British Columbia, and \$27.7 billion to Canada.

Figure 3-12: Economic Impact of Non-Industrial Sectors Located on Industrial Land, 2021

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
Employment (Jobs)	Direct	129,200	129,200	129,200
	Indirect	22,500	28,200	37,700
	Induced	21,000	27,000	35,800
	Total	172,700	184,400	202,700
Employment Income (\$ Billions)	Direct	\$7.7	\$7.7	\$7.7
	Indirect	\$1.3	\$1.6	\$2.3
	Induced	\$1.0	\$1.3	\$1.9
	Total	\$10.0	\$10.6	\$11.9
GDP (\$ Billions)	Direct	\$8.4	\$8.4	\$8.4
	Indirect	\$2.1	\$2.7	\$3.8
	Induced	\$2.6	\$3.3	\$4.4
	Total	\$13.2	\$14.5	\$16.7
Economic Output (\$ Billions)	Direct	\$13.5	\$13.5	\$13.5
	Indirect	\$3.8	\$4.7	\$6.9
	Induced	\$4.0	\$5.1	\$7.3
	Total	\$21.3	\$23.4	\$27.7

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

3.8 Tax Impact of Industrial Lands

The region's industrial land generated an estimated \$5.9 billion in tax revenues and fees for the federal government and \$1.9 billion for the provincial government in 2021. This is based upon the direct employment in industrial and non-industrial sectors taking place on industrial land in 2021 as set out in **Figure 3-1**, with tax impacts based on 2021 rates and estimated using InterVISTAS' tax model.⁴⁸ **Figure 3-13** summarises the tax revenues generated by all direct employment (both Industrial and Non-Industrial) located on industrial land.

⁴⁸ The InterVISTAS tax model considers personal and corporate income tax rates, employment insurance contributions, Canada pension plan payments, and workplace safety and insurance board contributions. Note that premiums for mandatory health care in BC are no longer charged to all residents but instead covered through income tax revenues for eligible brackets. As such, health care premiums are assumed to already be incorporated under the income tax estimates shown.

Figure 3-13: Federal and Provincial Tax Impacts from Direct Employment in Industrial Sectors Located on Industrial Land, 2021

Federal Taxes		Provincial Taxes	
Tax	Amount (\$ Billions)	Tax	Amount (\$ Billions)
Personal Income Tax	\$2.37	Personal Income Tax	\$0.94
Corporate Income Tax	\$0.90	Corporate Income Tax	\$0.57
Employment Insurance - Employer	\$0.39	WorkSafeBC	\$0.41
Employment Insurance - Employee	\$0.28		
Canada Pension Plan - Employer	\$0.98		
Canada Pension Plan - Employee	\$0.98		
Grand Total	\$5.90	Grand Total	\$1.92

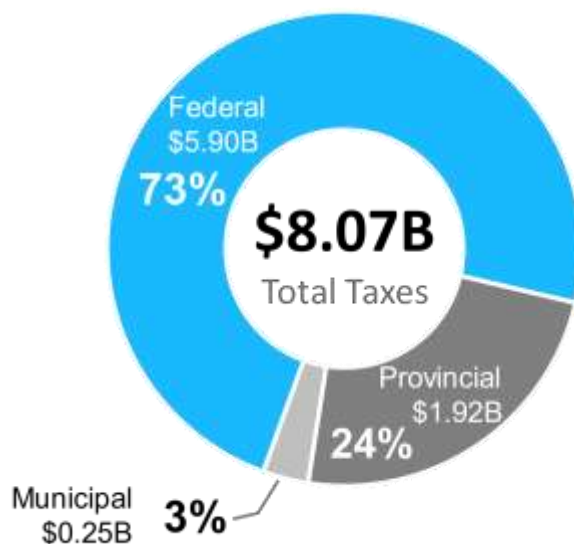
Source: InterVISTAS analysis and calculations. Prices are in 2021 dollars.

Industrial sector jobs on industrial land make a greater contribution to federal and provincial tax revenues compared to non-industrial sector jobs located on industrial land; \$4.9 billion compared to \$2.9 billion. This is largely because industrial sector jobs have higher average wages than non-industrial jobs, and WorkSafe BC rates are typically higher for industrial related jobs.

Municipal property tax revenues generated by 'Light Industry', 'Major Industry' and 'Utilities' property classes totalled \$0.25 billion in the region in 2021.⁴⁹ Roughly half (\$0.12 billion) of these municipal tax revenues were generated by 'Light Industry' property classes, \$0.07 billion were generated by 'Major Industry' property classes, followed by 'Utilities' generating \$0.06 billion (figures are rounded). Note that this includes properties with industrial related property classes that are not necessarily located on industrial land according to Metro Vancouver's geographic definition set out in **Section 2.3.1**. **Figure 3-14** summarizes the tax impacts, by level of government.

⁴⁹ British Columbia Provincial Government Tax Burden Schedule 707 – 2021 Assessments, Tax Rates, Municipal Taxes and Class Proportions of Taxes and Assessments.

Figure 3-14: Federal, Provincial and Municipal Tax Impacts Generated by Industrial Land, 2021



Source: InterVISTAS' Tax Model based on 2021 rates, and analysis of British Columbia Provincial Government Tax Burden Schedule 707 – 2021 Assessments, Tax Rates, Municipal Taxes and Class Proportions of Taxes and Assessments.

3.9 Total Economic Impact

Industrial lands in the region directly contribute 315,300 jobs to the region's economy. This includes 186,100 jobs involved specifically in industrial sectors, or nearly 42% of industrial sector jobs in the region (the remainder of which are located on non-industrial lands), as summarized in **Figure 3-15**.

Figure 3-15: Vancouver CMA Direct Employment (Jobs) by Sector and Land Use, 2021

	Industrial Jobs	Non-Industrial Jobs	Total
Industrial Lands	186,100	129,200	315,300
Non-Industrial Lands	258,600	863,300	1,121,900
Total	444,700	992,500	1,437,200

Source: Metro Vancouver custom extract of Statistics Canada Census 2021 data. InterVISTAS analysis and calculations.
 Notes: Employment located on industrial land as defined by Metro Vancouver based on its 2020 Industrial Land Inventory Report methodology, including a proportion of workers with no fixed workplace attributable to industrial land (see **Section 2.3.1**) as well as an uplift to allow for undercount rates in the 2021 Census. These figures do **not** include the region's workers who worked from home.

The activities occurring on industrial lands translate into a significant economic impact through wages, GDP and output, as well as the indirect and induced impacts, on the region, British Columbia and across Canada. This is presented in **Figure 3-16**. Together, Industrial and Non-Industrial activity located on industrial lands contribute a total of 468,600 jobs (direct, indirect, and induced) to the region's economy (equivalent to 33% of total employment in the region), 513,700 jobs in British Columbia, and 584,100 jobs in Canada. The contribution to total wages is significant at \$29.0 billion for the regional level alone in 2021.

Given the relatively high economic multipliers from Industrial sectors, the region's industrial land generated an estimated total GDP of \$43.1 billion to the region's economy (equivalent to 30% of the total GDP in the region), \$48.1 billion in British Columbia, and \$57.0 billion to Canada's economy in 2021. The total economic output from industrial land is an estimated \$80.2 billion to the region, \$88.9 billion to British Columbia, and \$107.2 billion to Canada's economy in 2021. When inflated to 2024 dollars, this amounts to \$90.7 billion in total economic output to the region alone, along with \$100.5 billion to British Columbia, and \$121.1 billion to Canada. This highlights the importance of the economic linkages and impact that the region's industrial land and its industrial sectors, has on the region and wider economy.

Non-Industrial sectors located on industrial land make an important contribution to the economy, but their impact is proportionately lower than Industrial sectors. While Non-Industrial sectors accounted for 41% of the direct jobs located on industrial land as of Census 2021,⁵⁰ they accounted for approximately 38% of the direct wages, 32% of the direct GDP, and 27% of the direct economic output associated with industrial lands. This is because the Industrial sectors have higher economic multipliers (greater linkages and spending with other sectors), higher average wages and a greater contribution to GDP and economic output. This is also the case for the total economic impacts across the region, British Columbia and Canada. The higher GDP and economic output of Industrial sectors compared to Non-Industrial sectors emphasises the important role that industrial lands play in supporting higher levels of productivity in Metro Vancouver and British Columbia. The detailed breakdowns of industrial land's impacts by sector are outlined further in **Figure 3-17**. These results are charted in **Figures 3-18** to **Figure 3-21**.

Beyond its economic impacts, the region's industrial land also makes an important contribution to municipal, provincial, and federal tax revenues. This is estimated to be \$5.9 billion of tax revenues for the federal government, \$1.9 billion for the provincial government and \$0.25 billion for municipal governments in the region in 2021, based on its direct jobs. When inflated to 2024 dollars, this amounts to over \$9.1 billion in tax impact including \$6.7 billion in federal tax revenues, \$2.2 billion in provincial tax revenues, and \$0.25 billion in municipal tax revenues.

⁵⁰ In the study, [Economic Impact Study of the Critical Shortage of Industrial Land in Metro Vancouver](#), authored by InterVISTAS Consulting and Urban Systems, the study highlighted a number of potential improvements to current industry lands policy. One potential improvement cited was to "examine land uses currently permitted on industrial lands: Current industrial zoning and land use designations are broad, and permit uses that may not be strictly industrial. Currently, permitted land uses like tech parks, recreation (including indoor playgrounds, laser tag etc.), accessory residential units, or self-storage may be better suited to other areas. Industrial land uses, and zones, need to be re-examined to focus on employment-generating activities and core industrial uses, while mitigating conflicts between adjacent land uses."

Figure 3-16: Economic and Employment Impact of All Sectors Located on Industrial Land, 2021

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
Employment (Jobs)	Direct	315,300	315,300	315,300
	Indirect	85,300	110,900	150,300
	Induced	68,000	87,600	118,500
	Total	468,600	513,700	584,100
Employment Income (\$ Billions)	Direct	\$20.3	\$20.3	\$20.3
	Indirect	\$5.3	\$6.9	\$9.8
	Induced	\$3.4	\$4.3	\$6.3
	Total	\$29.0	\$31.6	\$36.4
GDP (\$ Billions)	Direct	\$26.1	\$26.1	\$26.1
	Indirect	\$8.6	\$11.2	\$16.3
	Induced	\$8.4	\$10.8	\$14.7
	Total	\$43.1	\$48.1	\$57.0
Economic Output (\$ Billions)	Direct	\$50.9	\$50.9	\$50.9
	Indirect	\$16.4	\$21.4	\$32.3
	Induced	\$13.0	\$16.7	\$24.0
	Total	\$80.2	\$88.9	\$107.2

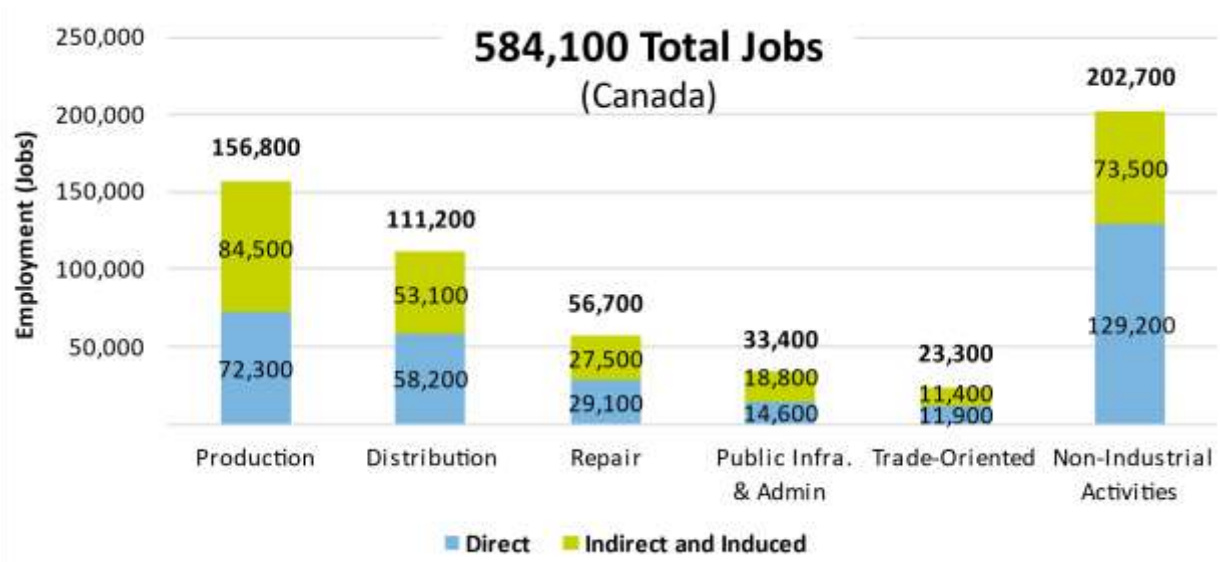
Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

Figure 3-17: Economic Impact of Industrial Land by Sector, 2021

		Impacts in Vancouver Region							Impacts in British Columbia							Impacts in Canada						
		Production	Distribution	Repair	Public Infra. & Admin	Trade-Oriented	Non-Industrial Activities	Total	Production	Distribution	Repair	Public Infra. & Admin	Trade-Oriented	Non-Industrial Activities	Total	Production	Distribution	Repair	Public Infra. & Admin	Trade-Oriented	Non-Industrial Activities	Total
Employment (Jobs)	Direct	72,300	58,200	29,100	14,600	11,900	129,200	315,300	72,300	58,200	29,100	14,600	11,900	129,200	315,300	72,300	58,200	29,100	14,600	11,900	129,200	315,300
	Indirect	28,100	16,400	8,400	6,300	3,600	22,500	85,300	38,300	19,800	11,500	8,600	4,500	28,200	110,900	52,700	27,500	15,800	10,500	6,100	37,700	150,300
	Induced	17,600	14,800	6,700	4,900	3,000	21,000	68,000	22,600	19,100	8,600	6,300	3,900	27,000	87,600	31,800	25,600	11,700	8,300	5,300	35,800	118,500
	Total	118,000	89,400	44,200	25,800	18,500	172,700	468,600	133,200	97,100	49,200	29,600	20,300	184,400	513,700	156,800	111,200	56,700	33,400	23,300	202,700	584,100
Employment Income (\$ Billions)	Direct	\$4.7	\$3.8	\$1.9	\$1.2	\$1.0	\$7.7	\$20.3	\$4.7	\$3.8	\$1.9	\$1.2	\$1.0	\$7.7	\$20.3	\$4.7	\$3.8	\$1.9	\$1.2	\$1.0	\$7.7	\$20.3
	Indirect	\$1.8	\$1.0	\$0.6	\$0.4	\$0.2	\$1.3	\$5.3	\$2.4	\$1.3	\$0.8	\$0.6	\$0.3	\$1.6	\$6.9	\$3.5	\$1.8	\$1.1	\$0.7	\$0.4	\$2.3	\$9.8
	Induced	\$0.9	\$0.7	\$0.3	\$0.2	\$0.2	\$1.0	\$3.4	\$1.1	\$0.9	\$0.4	\$0.3	\$0.2	\$1.3	\$4.3	\$1.7	\$1.4	\$0.6	\$0.4	\$0.3	\$1.9	\$6.3
	Total	\$7.4	\$5.6	\$2.8	\$1.9	\$1.4	\$10.0	\$29.0	\$8.3	\$6.0	\$3.1	\$2.1	\$1.5	\$10.6	\$31.6	\$10.0	\$7.0	\$3.6	\$2.4	\$1.7	\$11.9	\$36.4
GDP (\$ Billions)	Direct	\$6.6	\$5.3	\$2.6	\$2.0	\$1.1	\$8.4	\$26.1	\$6.6	\$5.3	\$2.6	\$2.0	\$1.1	\$8.4	\$26.1	\$6.6	\$5.3	\$2.6	\$2.0	\$1.1	\$8.4	\$26.1
	Indirect	\$2.8	\$1.7	\$0.9	\$0.7	\$0.4	\$2.1	\$8.6	\$3.9	\$2.1	\$1.2	\$0.9	\$0.5	\$2.7	\$11.2	\$5.9	\$3.1	\$1.7	\$1.1	\$0.7	\$3.8	\$16.3
	Induced	\$2.2	\$1.8	\$0.8	\$0.6	\$0.4	\$2.6	\$8.4	\$2.8	\$2.4	\$1.1	\$0.8	\$0.5	\$3.3	\$10.8	\$3.9	\$3.2	\$1.5	\$1.0	\$0.7	\$4.4	\$14.7
	Total	\$11.6	\$8.9	\$4.3	\$3.3	\$1.9	\$13.2	\$43.1	\$13.3	\$9.7	\$4.8	\$3.7	\$2.1	\$14.5	\$48.1	\$16.4	\$11.6	\$5.8	\$4.2	\$2.5	\$16.7	\$57.0
Economic Output (\$ Billions)	Direct	\$16.6	\$9.7	\$5.5	\$3.5	\$2.1	\$13.5	\$50.9	\$16.6	\$9.7	\$5.5	\$3.5	\$2.1	\$13.5	\$50.9	\$16.6	\$9.7	\$5.5	\$3.5	\$2.1	\$13.5	\$50.9
	Indirect	\$5.9	\$3.3	\$1.7	\$1.1	\$0.7	\$3.8	\$16.4	\$8.0	\$3.9	\$2.3	\$1.5	\$0.9	\$4.7	\$21.4	\$12.5	\$6.1	\$3.4	\$2.0	\$1.4	\$6.9	\$32.3
	Induced	\$3.4	\$2.8	\$1.3	\$0.9	\$0.6	\$4.0	\$13.0	\$4.3	\$3.6	\$1.6	\$1.2	\$0.8	\$5.1	\$16.7	\$6.5	\$5.2	\$2.4	\$1.7	\$1.1	\$7.3	\$24.0
	Total	\$25.8	\$15.8	\$8.4	\$5.6	\$3.4	\$21.3	\$80.2	\$28.9	\$17.2	\$9.4	\$6.3	\$3.8	\$23.4	\$88.9	\$35.6	\$20.9	\$11.3	\$7.2	\$4.5	\$27.7	\$107.2

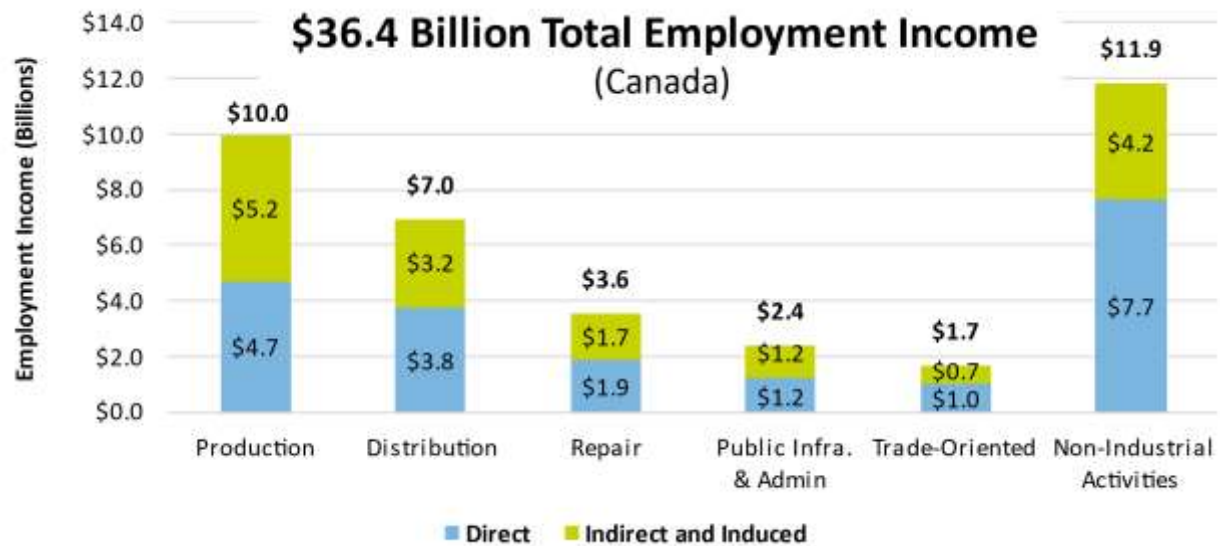
Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note figures may not sum to totals due to rounding. Prices are 2021 dollars.

Figure 3-18: Employment Impacts (Canada) of Industrial Land by Sector, 2021



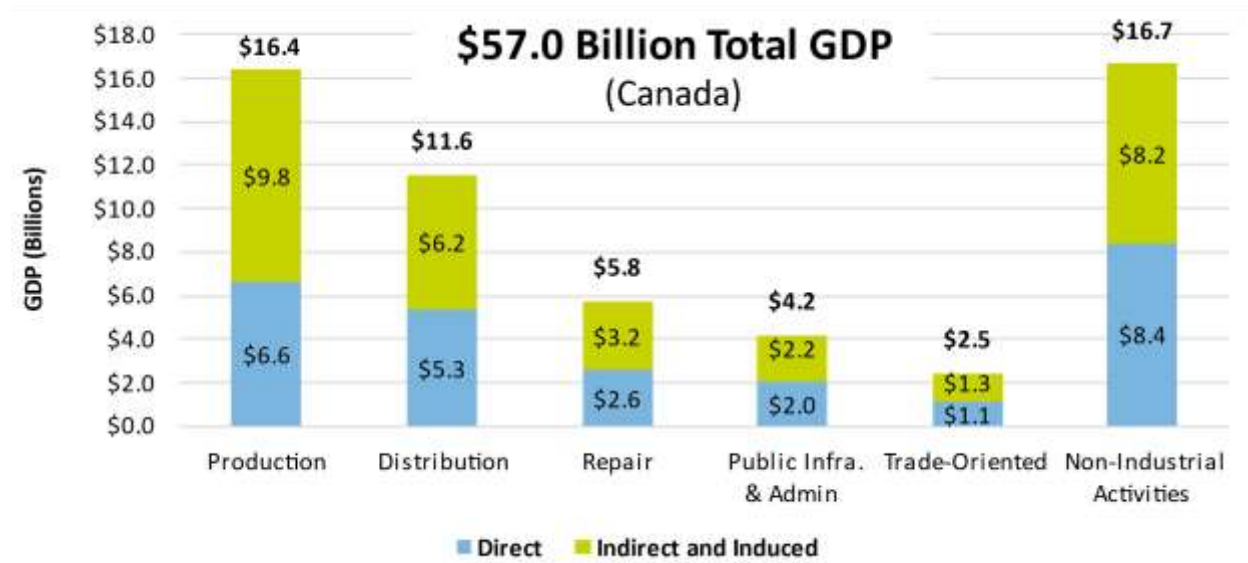
Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note figures may not sum to totals due to rounding. Prices are 2021 dollars.

Figure 3-19: Employment Income Impacts (Canada) of Industrial Land by Sector, 2021



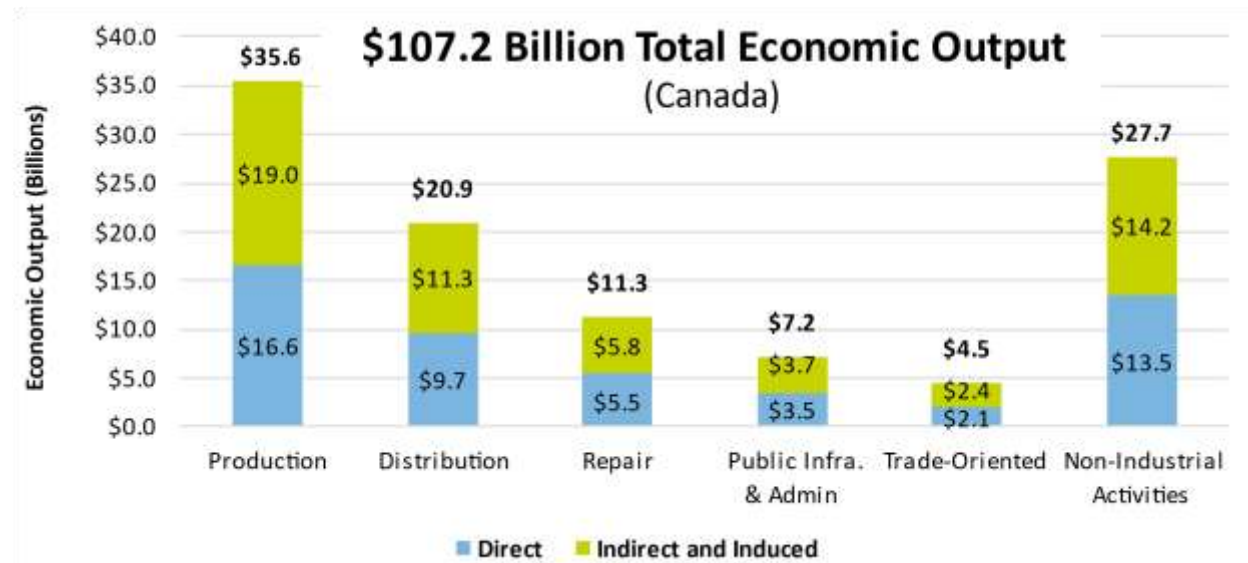
Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note figures may not sum to totals due to rounding. Prices are 2021 dollars.

Figure 3-20: GDP Impacts (Canada) of Industrial Land by Sector, 2021



Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note figures may not sum to totals due to rounding. Prices are 2021 dollars.

Figure 3-21: Economic Output Impacts (Canada) of Industrial Land by Sector, 2021



Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note figures may not sum to totals due to rounding. Prices are 2021 dollars.

4 Key Messages

This study finds that the businesses operating on industrial lands in the Metro Vancouver region continue to make substantial economic contributions. Key findings include the following:

Employment Impact in the Metro Vancouver Region

- Industrial lands account for 4% of land area yet host 22% of jobs located in the region.
- There is substantial employment associated with industrial activity which can be located both on and off industrial lands. Industrial activity (whether located on industrial lands or not) accounts for 444,700 jobs or 31% of all employment in the Metro Vancouver region.
- Industrial activity located on industrial lands directly employs 186,100 jobs, accounting for 42% of all industrial related jobs in the region. The remainder of industrial-related employment (258,600 jobs) is located offsite from industrial lands and can include corporate and administrative positions located in commercial-zoned offices or home offices, as well as any other positions at industrial businesses which do not need to be physically performed on an industrial site.
- There are substantial non-industrial activities taking place on industrial lands. These non-industrial activities on industrial lands directly employ 129,200 jobs in the region. This alludes to a sizable amount of industrial lands being used for purposes other than their intended use.

Employment Income Impact in the Metro Vancouver Region

- Across all activities located on industrial lands, industrial jobs paid 14% higher on average than non-industrial jobs in 2021.
- The highest paying sectors for employment on industrial lands are Public Infrastructure & Administration and Trade-Oriented, both of which paying over \$84,000 per job.

GDP Impact in the Metro Vancouver Region

- Combined, all activities on industrial lands generate a significant amount of Gross Domestic Product (GDP). Industrial lands supported a total (direct, indirect, and induced) GDP impact of over \$43 billion within the region alone in 2021, or approximately 30% of the total GDP generated in the region.
- Of this, industrial activities located on industrial lands accounted for approximately \$30 billion in total GDP impact within the region in 2021, or 21% of the total GDP generated in the region.
- Across the region's industrial lands, the GDP contribution made by industrial activities is proportionally higher than that of non-industrial activities. Industrial activities accounted for 59% of employment located on industrial lands but 68% of the direct GDP generated on industrial lands. This emphasizes the role that industrial activity plays in supporting productivity throughout the region's economy.

Direct Tax Impact

- The region's industrial lands contribute to municipal, provincial, and federal tax revenues. This includes \$5.9 billion of tax revenues for the federal government, \$1.9 billion for the provincial government, and \$0.25 billion in property taxes for municipal governments in the region in 2021.



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Economic Impact of Industrial Lands in Metro Vancouver Study

Eric Aderneck, RPP, MPL, BCOM, DULE

Senior Planner, Regional Planning and Housing Services

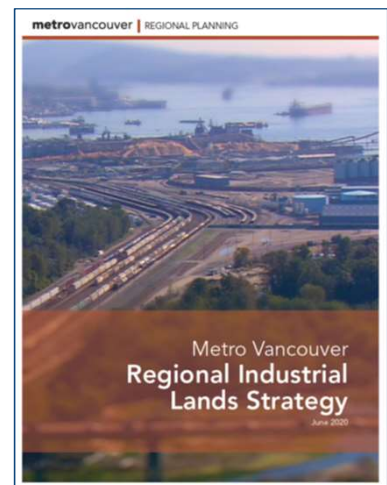
Regional Planning Committee | November 8, 2024

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REGIONAL INDUSTRIAL LANDS STRATEGY

34 recommendations, with 10 priority actions, organized in 4 ‘big moves’

1. Protect Remaining Industrial Lands
2. Intensify and Optimize Industrial Lands
3. Bring Existing Supply to Market & Address Site Issues
4. Ensure a Coordinated Approach

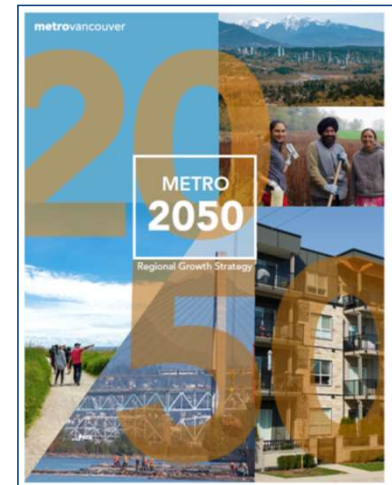


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METRO 2050

Strategy 2.2: Protect the supply and enhance the efficient use of industrial land

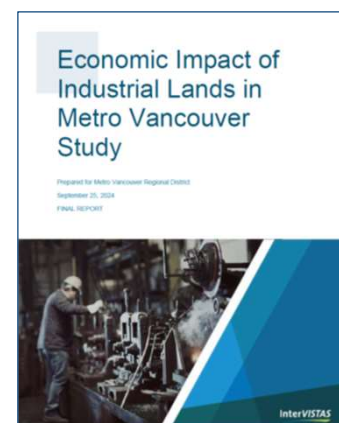
- Support and protect industrial lands for industrial uses
- Encourage improved utilization and intensification of industrial lands for industrial activities
- Monitor the supply, demand, and utilization of industrial lands



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2024 STUDY – UPDATE OF 2019 STUDY

- Economic and employment impacts of industrial land on the region, province, and nation
- Interdependencies with other lands and activities
- Importance of industrial activities in supporting and diversifying the economy
- Consequences of an insufficient supply of lands
- Need to protect / intensify / densify industrial lands

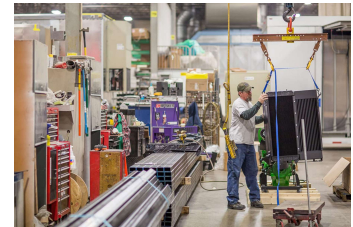


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DATA LIMITATIONS – COVID DISRUPTION

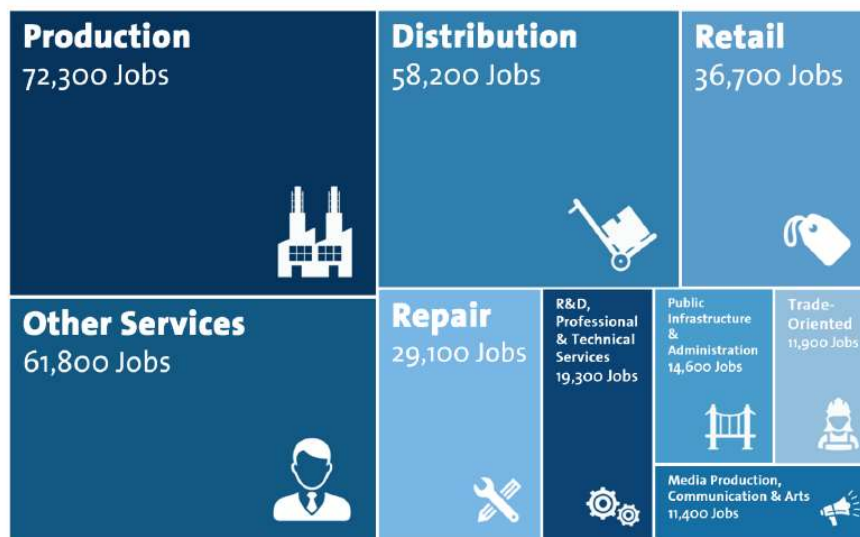
Number of employees working at home or with no fixed workplace increased in 2021:

- Unemployment rate in Metro Vancouver was double what it was prior to the pandemic
- Temporary business closures resulting in an undercount of employment levels
- Relocation of certain employment to remote work (e.g. work-from-home) instead of onsite



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INDUSTRIAL ECONOMIC ACTIVITIES



- 4% of the region's land base
- 22% of jobs in the region
- 14% higher pay levels
- \$8 Billion in tax contributions to governments

ADDITIONAL FINDINGS

- Industrial lands accommodate 22% (315,300) of jobs in the region
- Industrial activity (whether located on industrial lands or not) accounts for 31% (444,700) of jobs
- Through indirect & induced impacts, industrial and non-industrial activity located on industrial lands contribute 468,600 jobs to the region's economy, 513,700 in BC, and 584,100 in Canada
- Industrial lands account for 30% (\$43 billion) of the region's GDP
- Sizeable amount of non-industrial activities on industrial lands

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NEXT STEPS

- MVRD Board
- Published on website and shared with stakeholders
- Questions and Discussion



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To: Regional Planning Committee

From: Jessica Hayes, Program Manager, Housing Policy and Planning,
Regional Planning and Housing Services

Date: November 4, 2024 Meeting Date: November 8, 2024

Subject: **Streamlining Rental Housing through Standardized Designs and Regulations:
Project Update**

RECOMMENDATION

That the MVRD Board receive for information the report titled “Streamlining Rental Housing through Standardized Designs and Regulations: Project Update”, dated November 4, 2024.

EXECUTIVE SUMMARY

Metro Vancouver, in partnership with the Province, member jurisdictions, and other partners is developing a blueprint to accelerate the delivery of six-storey rental housing through simplification of regulatory requirements and standardized design approaches. The project is supported by both the Metro Vancouver Regional District Sustainability Innovation Fund (SIF) and the Canada Mortgage and Housing Corporation's (CMHC) Housing Supply Challenge Round 5 – ‘Level Up’ and is rapidly advancing due to recently confirmed additional funding from the CMHC program and associated timelines.

The Rental Housing Blueprint project is focused on six-storey multi-family apartment buildings, a housing form with strong potential to help meet the acute need for rental housing in the region. Project objectives include reducing overall housing delivery timelines, addressing skilled trade labour shortages, and creating a supportive environment for off-site construction. Using technology and innovation, and moving toward off-site construction, there is potential to reduce the cost and complexity of rental housing delivery, while still constructing quality housing with high standards for livability and sustainability. A final draft of the standardized regulation is being reviewed by key partners, and will be presented to the Regional Planning and Housing Committees in early 2025. It is also anticipated that a full suite of reference designs will be available by February 2025, as well as training and support for municipalities who want to move toward using digital Building Information Modelling (BIM) and e-compliance systems in their approval processes.

There are opportunities for ongoing collaboration with member jurisdictions who want to participate in shaping the outcomes of the standardized regulatory and design approaches, and project milestones will be presented to the Regional Planning Advisory Committee (RPAC), the Regional Planning and Housing Committees and the Metro Vancouver Board at regular intervals. Resources will also be available through the project to support implementation and demonstration of the project’s outcomes in municipalities that are currently advancing initiatives related to simplification and digitization, and will be coordinated through the Regional Administrators’ Advisory Committee (RAAC).

This report provides a project update and overview, including upcoming opportunities for support to Metro Vancouver member jurisdictions, and is being presented to both the Regional Planning and Housing Committees for information.

PURPOSE

To provide the Regional Planning and Housing Committees and Metro Vancouver Board with an update on the Rental Housing Blueprint project to streamline the delivery of six-storey rental apartment housing through simplification of regulatory requirements and standardized design approaches, including resources available for member jurisdictions to advance implementation.

BACKGROUND

The Rental Housing Blueprint project was initiated in 2023 by Metro Vancouver and the Province of British Columbia to streamline multi-family rental housing delivery through standardization and modern construction methods.

At its September 29, 2023 meeting, the MVRD Board directed staff to send correspondence to member jurisdictions, inviting them to participate in the creation of standardized zoning and design standards for six-storey rental buildings as part of a collaborative project (Reference 1).

In November 2023, 11 member jurisdictions confirmed their interest in co-creating a standardized regulatory approach, participating in workshops and feedback sessions throughout Q1-Q3 2024. This phase of the project is nearing completion and will result in the development of an opt-in standardized and simplified regulatory approach for six-storey rental buildings (anticipated in Q1 2025). The second phase of the project has been advancing concurrently, and will result in vetted reference designs for six-storey rental buildings that are aligned with the standardized regulations, and be ready for pre-approval. These project components are discussed in more detail in the sections below.

The project components have been awarded multi-year funding through both the Metro Vancouver Regional District Sustainability Innovation Fund (SIF) and the Canada Mortgage and Housing Corporation's (CMHC) Housing Supply Challenge Round 5 – 'Level Up'. On November 1, 2024, CMHC announced the finalists in Round 5 of the Housing Supply Challenge, awarding an additional \$3M to support the project. Support, through expertise and funding, will be available for member jurisdictions to implement elements of the Rental Housing Blueprint as the project advances.

OVERVIEW OF PROJECT OBJECTIVES

The demand for rental housing in Metro Vancouver has significantly outpaced the growth in the supply of purpose-built rental units. Between 2011 and 2021, only 10,000 new purpose-built rental units were added in the region, compared to 87,000 new renter households. To help meet regional housing needs, *Metro 2050*, the regional growth strategy, highlights the importance of increasing the supply of purpose-built rental housing as a key component of providing more diverse and affordable housing.

A Focus on Six-Storey Rental Apartments

The Rental Housing Blueprint project is focused on streamlining designs and regulations to enable six-storey multi-family buildings. Six-storey wood frame apartments were selected as a focus for the initiative given that this form is generally cost effective, economically viable, and widely accepted in the region. This building form maximizes the amount of density provided by light wood-frame construction, reducing per-unit and per-square foot building costs when compared to higher-density forms of development that require concrete or mass timber construction. Six-storey wood frame construction also tends towards simpler architectural forms and massing which works well with standardization and simplified regulations, guidelines and codes. Six-storey buildings are supported across urban and suburban areas, and in various land use designations, such as transitional areas, corridors, mixed-use zones, towns, and village centers as indicated in Official Community Plans (OCPs) throughout the region.

Reducing Overall Delivery Times

Six-storey rental buildings can contribute to increased purpose-built rental housing supply in the region, particularly if current approvals and construction timelines across Metro Vancouver can be accelerated. The current average project delivery time is approximately 4.5 years, with 2-2.5 years in municipal approvals. A standardized regional regulatory approach could streamline and clarify this process, making it easier and faster to deliver rental housing.

Addressing Critical Labour Shortages

In addition, the project aims to address the skilled trades labour gap by creating an environment that encourages and facilitates off-site construction and the use of prefabricated components. By 2028, 700,000 trades workers in Canada are expected to retire, which will continue to pose challenges for the delivery of new housing. There is potential to cut the cost of construction and significantly speed up rental housing delivery using off-site manufacturing when it is fully scaled.

Creating a Supportive Environment for Off-Site Construction

Consequently, the project aims to create the conditions for scaling up new approaches to construction, by creating a supportive environment for using off-site and prefabricated building components and predictable, simple, and uniform requirements and processes that enhance certainty and enable cost and time savings. A regulatory framework that is simple and easy to interpret will streamline the planning process and lend itself to modernization of the housing delivery system by enabling the use of electronic compliance checks, reference designs, and modern methods of construction. In addition, the project seeks to research, document, and promote best practices and successful off-site construction prototypes, to combat negative perceptions of quality that conflate modern methods of construction with temporary forms of prefabricated or modular housing, most often used as workforce housing or as a rapid response to homelessness.

PROJECT STATUS UPDATE

Metro Vancouver, in partnership with the Province and 11 member jurisdictions, is developing a blueprint to accelerate the delivery of six-storey rental housing (Reference 2). Metro Vancouver has allocated \$2.1M from the Regional District Sustainability Innovation Fund (SIF) to support this work over three years. This includes a \$1M+ contribution for demonstration of the learnings in a future

Metro Vancouver Housing redevelopment project. The Rental Housing Blueprint has two main elements:

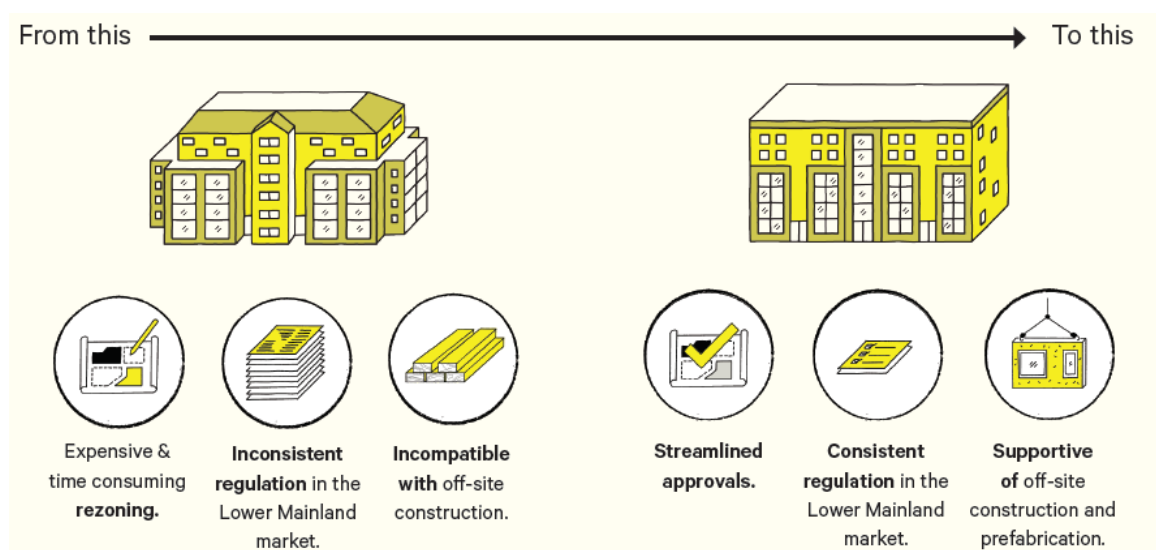
1. Standardized Regulations

In May 2023, SvN Architects & Planners and B Collective were contracted by Metro Vancouver to develop a regional approach to regulating six-storey rental buildings (e.g. zoning regulations and design standards). The regulatory framework is being co-developed in partnership with the following 11 member jurisdictions who signed up as local government champions of the initiative:

- Bowen Island Municipality
- City of Burnaby
- City of Delta
- City of Langley
- City of Maple Ridge
- City of New Westminster
- District of North Vancouver
- City of Richmond
- City of Surrey
- City of Vancouver
- City of White Rock

This phase of the project seeks to streamline approaches to governing building bulk and siting. In 2023, Metro Vancouver staff surveyed several off-site and modular construction manufacturers who identified a favourable regulatory environment as the biggest factor when evaluating potential markets for expansion. The opt-in regulation aims to use simplified measures such as maximum height, minimum setbacks and maximum unit depth values to control building bulk and siting. The approach seeks to eliminate complex calculations and variation between jurisdictions, which can be barriers to standardization. As a result, the use of Floor Area Ratio (FAR)/Floor Space Ratio (FSR) and lot coverage are not recommended. Instead, the regulations opt for an objective approach based on precedents in other leading jurisdictions, and the overall project objectives (Figure 1).

Figure 1: Rental Housing Blueprint Standardized Regulatory Approach



Source: SvN Architects and Planners

In addition, the standardized regulations aim to move away from design guidelines that require interpretation and discretion, and instead toward design standards are:

- **Measurable and verifiable:** Requirements are specified through criteria that can be objectively assessed and verified through quantifiable data, with no grey area—discretionary and subjective components create the need for negotiation which add to the timeline and complexity of projects; and,
- **Machine readable:** Objectivity is required to enable electronic compliance review (using specialized software which is rapidly increasing in capability), which will in turn accelerate the regulatory review process. These approaches provide manufacturers of prefabricated building components with greater clarity on requirements and improved certainty, which is a precondition for investment in this emerging sector.

As shown in the diagram below (Figure 2), design guidelines can introduce subjectivity and increase the time it takes for a development applicant to achieve desired design outcomes.

Figure 2: Design Guideline Subjectivity vs. Objective Design Standards

Design Guideline	Design Standard
Example: <i>Incorporate frequent entrances along commercial frontages to create visual interest and support pedestrian activity.</i>	Example: <i>Locate entrances along commercial frontages no more than 7 metres apart.</i>

A final draft of the standardized regulation is being circulated to these municipal partners for staff review in Q4 2024 and will be presented to the Regional Planning Committee and Housing Committee in early 2025.

2. Standardized Design Approach

The second stream of work is to develop a standardized design approach for six-storey rental buildings. This phase of the project is led by BC Housing, with Metro Vancouver as a key partner, and is supported by grant funding awarded through the CMHC Housing Supply Challenge. Round 5 of the Housing Supply Challenge is called Level-Up: Transforming the Way Canada Delivers Housing. This challenge seeks to increase the adoption of system-level solutions that transform Canada’s ability to produce more community and market housing, faster. The project team has to date been awarded two prizes of \$1M and \$3M respectively, to continue scaling the project as finalists in the competition (Reference 3). In March 2025, there is an opportunity to advance to the final stage of the Housing Supply Challenge, with an additional \$5M prize available.

The project will produce several building designs that are vetted by local governments, funders, and industry, resulting in reference designs that are:

- **Simplified and cost effective:** Reduced design complexity and utilization of building components manufactured in controlled, off-site factories will maximize efficiency and cost effectiveness by reducing labour needs and customizations on a project-by-project basis;
- **Scalable and replicable:** Moving toward pre-zoning and pre-approval of replicable designs will de-risk projects and scale up production, increasing investments in rental housing;

- **Optimized for off-site construction:** Reference designs can create demand for off-site methods and opportunities for bulk production of prefabricated components to increase efficient delivery, particularly for frequent builders (e.g. public sector); and,
- **Flexible:** Standard unit types and other building components can be combined in different ways to adapt to site conditions.

While the first component of the project addresses the regulatory environment, this component of the project addresses all aspects of the design and construction process, applying new technologies and modern methods of construction, including hybrid approaches where a building is made up of a series of components, for example, design modules, flat packed wall panels, and structural components that can be scaled and modified for different site sizes and conditions (Figure 3).

Figure 3: Standard Design Approach

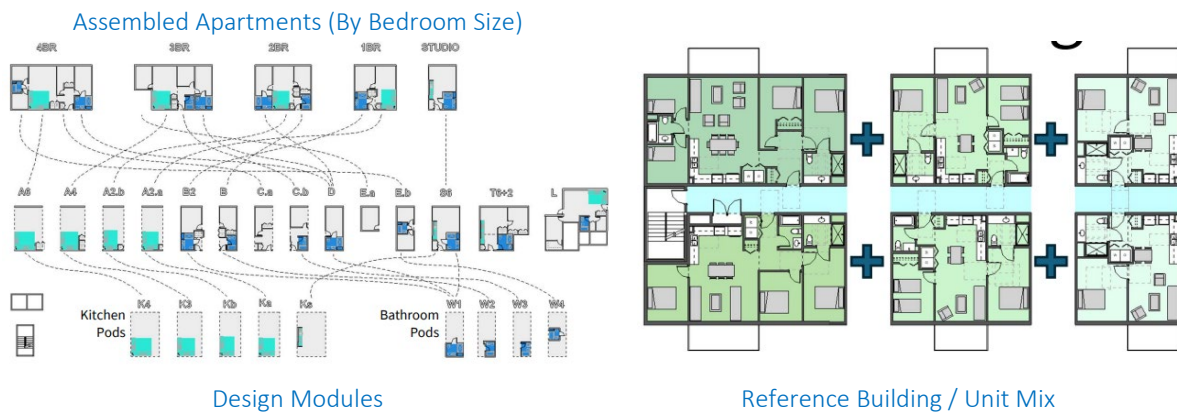
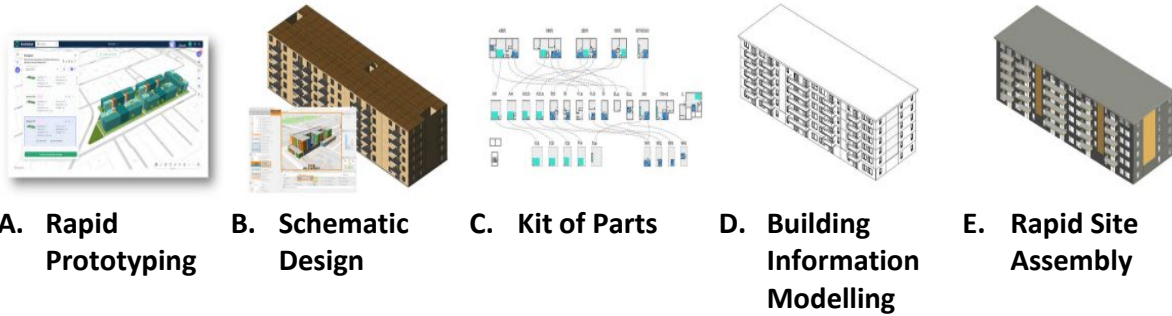


Figure 4 below further describes the innovations that will be integrated throughout the design and construction processes, including:

- Rapid Prototyping:** Ability to use rules-based generative design software to rapidly generate multiple viable building concepts for a site that fit with the standard regulation requirements and reference building design elements.
- Schematic Design:** Site concepts can be quickly expanded into more detailed designs by using and adapting the elements from open-source plan sets (reference building designs). This includes “modules” for units and structural elements which are non-proprietary and "open source," and which are designed to evolve based on experience of design consultants, manufacturers and builders.
- Kit of Parts:** The project will make a prefabrication optimizer widely available including an online platform and library of parts. A software system will allow design teams to easily test and apply prefabricated components. Manufacturers will have the ability to upload products to the library of parts.
- Building Information Modelling (BIM):** The design process will be integrated throughout using BIM – a system which creates a precise, three-dimensional set of plans and reduces waste from conflicts and errors in construction.

E. Rapid Site Assembly: The project is designed to progressively enable a greater percentage of building components to be produced off-site, starting with the simplest elements which can be easily produced and shipped, such as flat, open wall panels, and moving over time to include a full suite of building systems such as bathroom and kitchen pods, flooring, and structural elements.

Figure 4: Accelerating the Design and Construction Process



The use of technology and innovation, and moving toward off-site construction has the potential to reduce the cost of construction and speed up rental housing delivery, while delivering quality housing with high standards for livability and sustainability. The reference design and construction approaches will be tested through demonstration projects in future phases of the Rental Housing Blueprint project, including identifying demonstration projects on Metro Vancouver Housing sites. An initial version of the reference design adapted for non-market rental housing was created in the first phase of the project as proof of concept (Figure 5).

Figure 5: Reference Design Sample Rendering



Source: Iredale Architecture

NEXT STEPS

A final draft of the standardized regulation is being circulated to staff in the participating 11 member jurisdictions for review in Q4 2024 and will be presented to the Regional Planning Committee and Housing Committee in early 2025. Concurrently, the standardized design approach is advancing rapidly, and it is anticipated that a full suite of reference designs will be available by February 2025, as well as training and support for any member jurisdictions who wish to move toward using digital Building Information Modelling (BIM) and e-compliance systems in their approval processes.

Opportunities to Support Member Jurisdictions

At this stage, Metro Vancouver is inviting all member jurisdictions to re-engage with the project, beyond the initial 11 member jurisdictions who signed on as local government champions in late 2023. As the project continues, there will be opportunities for ongoing collaboration with all local governments who want to participate in shaping the outcomes of the standardized regulatory and design approaches. Project milestones will be presented to the Regional Planning Advisory Committee (RPAC), and the Regional Planning and Housing Committees at regular intervals.

In addition, resources are available through the project to support implementation and demonstration of the project's outcomes in municipalities that are currently advancing initiatives related to simplification and digitization. Examples of such initiatives might include planned implementation of electronic compliance, readiness to introduce or adopt changes to six-storey apartment zones to support increased standardization, or willingness to vet reference building designs through some form of pre-approval.

For jurisdictions that are interested and can demonstrate readiness to implement elements of the Rental Housing Blueprint, support through the grant could be in the form of consulting resources for making process improvements and/or bylaw changes that align with the objectives of the project, and other support as identified.

Metro Vancouver staff will work with member jurisdiction senior administrators through the Regional Administrators Advisory Committee (RAAC) to advance these opportunities.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

Stream 1 of the Rental Housing Blueprint project is supported through a mix of in-house staff and consultant support. Costs for consultant support are included in the 2024 and 2025 Housing Policy and Planning budgets and work plan, and supported through project-specific funding from the Metro Vancouver Regional District Sustainability and Innovation (SIF) Fund. Phase 2 of the Rental Housing Blueprint project is supported through a combination of SIF funding and additional grant funding awarded to a multi-agency team as part of the CMHC Housing Supply Challenge Round 5 – Level Up.

CONCLUSION

The Rental Housing Blueprint project seeks to streamline rental housing through standardized designs and regulations. In November 2023, 11 member jurisdictions confirmed their interest in co-creating standardized regulations to expedite the delivery of rental housing. This phase of the project is nearing completion and will result in an opt-in standardized and simplified regulatory approach for six-storey buildings. The second phase of the project has been advancing concurrently, and will produce reference designs that are aligned with the standardized regulations. These project deliverables will be presented to the Regional Planning and Housing Committees in Q1 2025.

This report provides a status update on all aspects of the project and next steps, which include ongoing participation in shaping the outcomes of the standardized regulatory and design approaches, and opportunities for member jurisdictions to access resources to advance implementation of activities that align with the Rental Housing Blueprint in their communities.

REFERENCES

1. Regional Planning Committee report dated August 14, 2023 titled "[Streamlining the Delivery of Rental Housing Through Pre-Approved Plans and Off-Site Construction](#)".
2. [Rental Housing Blueprint | Metro Vancouver](#)
3. [Funding Recipients for Round 5 of the Housing Supply Challenge | CMHC \(cmhc-schl.gc.ca\)](#)

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To: Regional Planning Committee

From: Sinisa Vukicevic, Program Manager, Regional Planning Analytics,
Regional Planning and Housing Services

Date: October 11, 2024 Meeting Date: November 8, 2024

Subject: **Metro Vancouver Dwelling Unit Projections Update**

RECOMMENDATION

That the MVRD Board receive for information the report dated October 11, 2024, titled “Metro Vancouver Dwelling Unit Projections Update”.

EXECUTIVE SUMMARY

This report follows the recently completed update on regional population projections. The region is expected to add, on average, approximately 21,000 net new units annually from 2021 to 2051. We anticipate a higher growth rate in the future for the region in comparison to previous projections in *Metro 2050*, with an average annual growth rate of 1.55%.

Metro Vancouver updates regional and municipal dwelling unit projections regularly. Metro Vancouver’s projections have been the main source for estimating future demand for land, housing, jobs, and utilities for many years and guide land use and infrastructure planning initiatives among Metro Vancouver’s utilities, member jurisdictions, TransLink and other regional agencies. Projection modeling intends to promote collaboration and consistency among provincial, regional, and municipal planning agencies and establish a common basis of information, assumptions, and implementation methods. The projections incorporate recent higher federal immigration targets, but do not fully account for the impact of recent provincial housing legislation and housing targets. Staff will continue to work on analyzing the implications the updated projected growth will have on capital programs as well as changes in growth distribution across the region.

PURPOSE

To provide the Regional Planning Committee and MVRD Board with an update on Metro Vancouver’s dwelling unit projections.

BACKGROUND

Since the adoption of *Metro 2050*, several new data inputs and variables have emerged that require updated population projections for the region. Recently completed population projections were presented to the MVRD Board in July of this year and show stronger than anticipated population growth influenced by high in-migration to the region. Based on this update, dwelling unit projections have now been completed and are being provided for information and regional use.

PROJECTIONS UPDATE

The Metro Vancouver region has historically been one of the most desirable places to live in Canada, attracting both internal migrants and immigrants. The region is expected to add on average

about 21,000 net new units annually from 2021 to 2051, which is a higher than the average of net completions from 2019 to 2023 (20,000). Historically, the number of regional housing units grew at an average annual rate of 1.40% between 2016 and 2021. In this period, some member jurisdictions experienced faster growth, like the Township of Langley, the City of North Vancouver and New Westminster. Nearly half of the regional housing growth was in Vancouver and Surrey. A higher growth rate for the region is anticipated in comparison to the previous projections in *Metro 2050*, with an average annual rate of 1.55%. Member jurisdictions like the Township of Langley, New Westminster, Coquitlam, and Maple Ridge are expected to surpass 1.7%. Vancouver and Surrey together are anticipated to take 45% of the future growth between 2021 and 2051.

From 2001 to 2021, single-detached homes in the region declined by 12%, whereas multiplex units more than doubled. Given historical trends and other factors, such as the limited supply of residential land and housing affordability, Metro Vancouver is projecting a continued decrease in single-detached homes and a shift towards multiplex, row houses, and apartments. About two-thirds of the net new units added to the region are expected to be apartments. Half of the net new apartments are projected to be concentrated in Vancouver, Surrey, and Burnaby.

Key Changes in Methodology and Assumptions

Scenario Development

The most significant change in the updated projections methodology is in the projection scenarios. In the past, Metro Vancouver developed a medium growth scenario for population growth and applied a +/-15 percent variance over time to calculate high and low growth estimates. With the updated methodology, three scenarios (high, medium and low) result from variations in the composition assumption for the projected population. The population projections scenarios have been modelled independently, according to modified assumptions about immigration and the resulting fertility rate. The only difference among the three scenarios is the projected population living in private dwelling units; all other inputs remain the same.

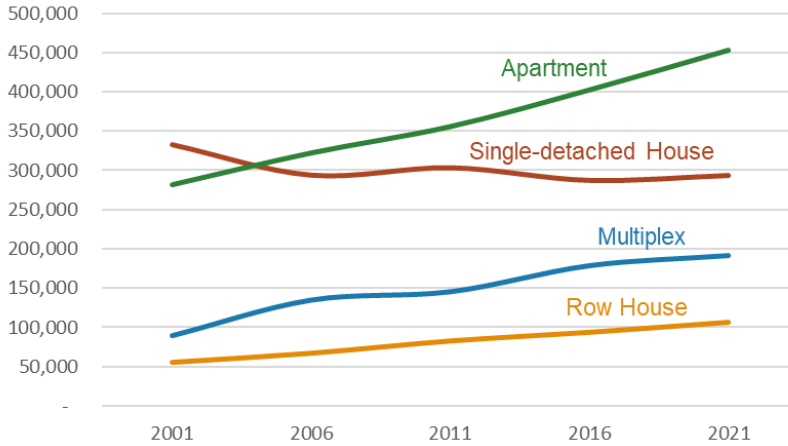
Base Year and Historic Data

With 2021 Census data now available, the base modelling year has changed from 2016 (the year of the previous Census) to 2021. New Census data expands the time-series analysis, with the new Census period 2016-2021 added to reflect the recent changes in housing patterns.

The new model assumes a gradual decrease in single-detached units across all member jurisdictions based on several key considerations. First, historical data on unit growth or housing starts indicates a consistent decline in single-detached units in the region (Figure 2), reflecting a shift towards higher-density housing types. Second, rising housing costs make single-detached homes relatively less affordable, leading to a preference for more cost-effective housing options such as apartments. According to the 2021 Census, the median value of single-detached dwelling units in the City of Vancouver is \$2.2 million, while it is \$760,000 for apartment units in a building that has fewer than five storeys (Reference 1). Third, municipal planning policies promote efficient land use by implementing the conversion of low-density residential areas into higher-density developments. The municipal projections do not yet fully account for the impact of recent provincial housing legislation, due to the lack of historical data or relevant new studies that can be relied on. Metro Vancouver is working closely with member jurisdictions to ensure impacts related to provincial

housing legislation, housing targets, and corresponding updated Official Community Plans are incorporated into the region’s population projections.

Figure 1. Estimated Dwelling Units in Metro Vancouver (Census)



Modelling Results

The number of dwelling units in the region is projected to reach 1.72 million by the year 2050, under Metro Vancouver’s MediumGrowth Scenario (Figure 3). All of the scenarios exceed the 1.59 million dwelling units projected in *Metro 2050*. Strong population growth influenced by high immigration has caused an increase in dwelling unit projections through all three scenarios. Under the Medium Growth Scenario, the estimated average household size for net new units added in the region is 2.21, almost identical to the 5-year historical trend observed from 2016 to 2021 (where households averaged 2.19 people). The region is expected to experience a decline in single-detached units, but will experience a significant increase in apartments (Figure 4). Approximately two-thirds of the net new units to be added to the region (68%) are projected to be apartments (Figure 5), representing a slight increase from the 61% estimated based on Census from 2016 to 2021. This result aligns with the historical trends in housing starts from 2014 to 2023. The proportion of “apartment and others” units (i.e., all dwellings other than single-detached, semi-detached, and row houses) has shown a general upward trend (ranging from 60% to 83%), despite some fluctuations. A map of the projected (Medium-Growth Scenario) growth in dwelling units from 2021 to 2051 by member jurisdiction is shown in Figure 6; a map showing the projected (Medium-Growth Scenario) percent increase in dwelling units from 2021 to 2051 by member jurisdiction is shown in Figure 7.

Figure 2. Projected Dwelling Units in Metro Vancouver from 2025-2051

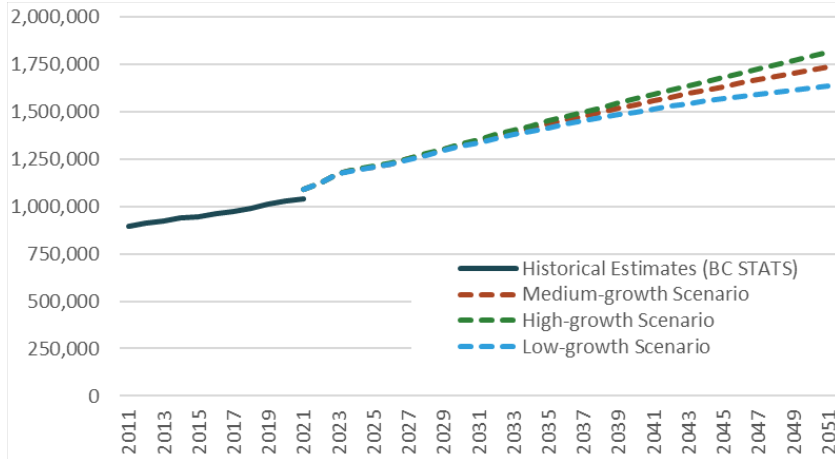


Figure 3. Projected Dwelling Units by Dwelling Structural Type in Metro Vancouver to 2051, Medium-Growth Scenario

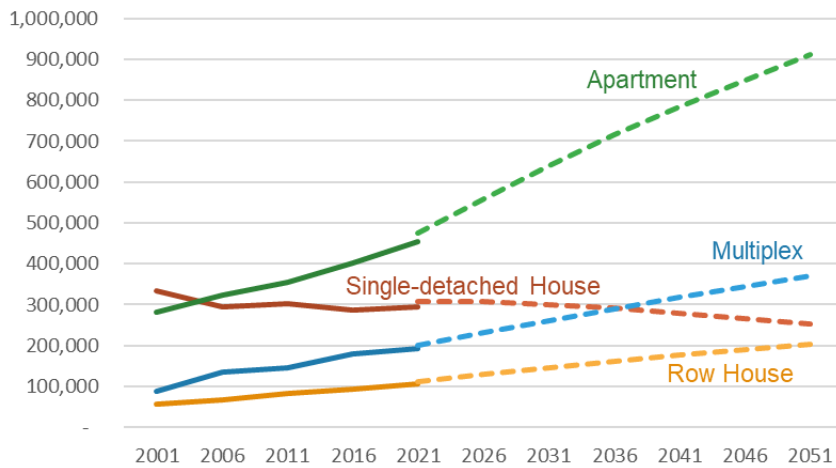


Figure 4. Distribution of Projected Dwelling Units Growth (2021 to 2051) by Dwelling Structural Type in Metro Vancouver, Medium-growth Scenario

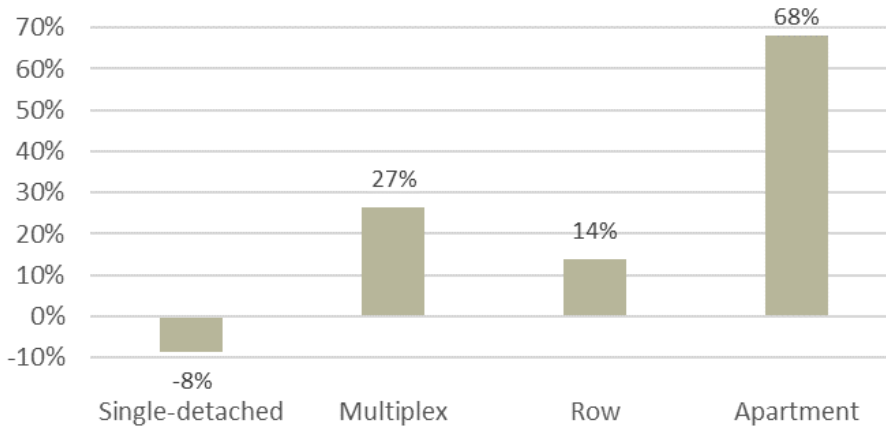


Figure 5. Map of Projected Change in Dwelling Units (Medium-Growth Scenario), from 2021 to 2051, by Member Jurisdiction

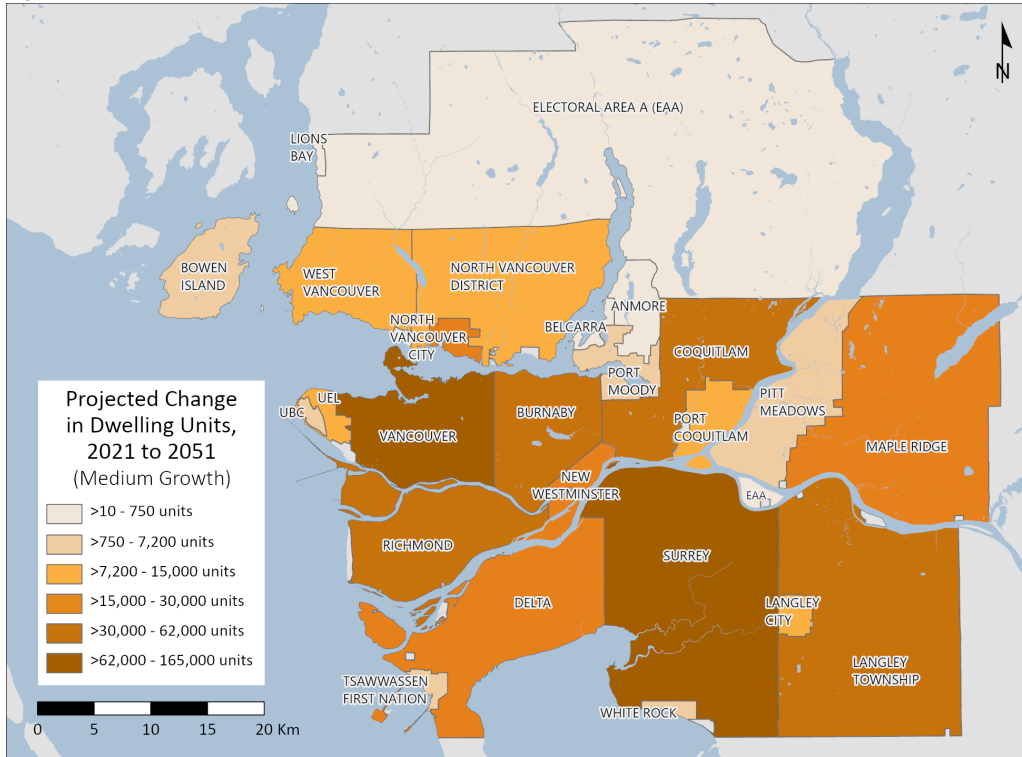
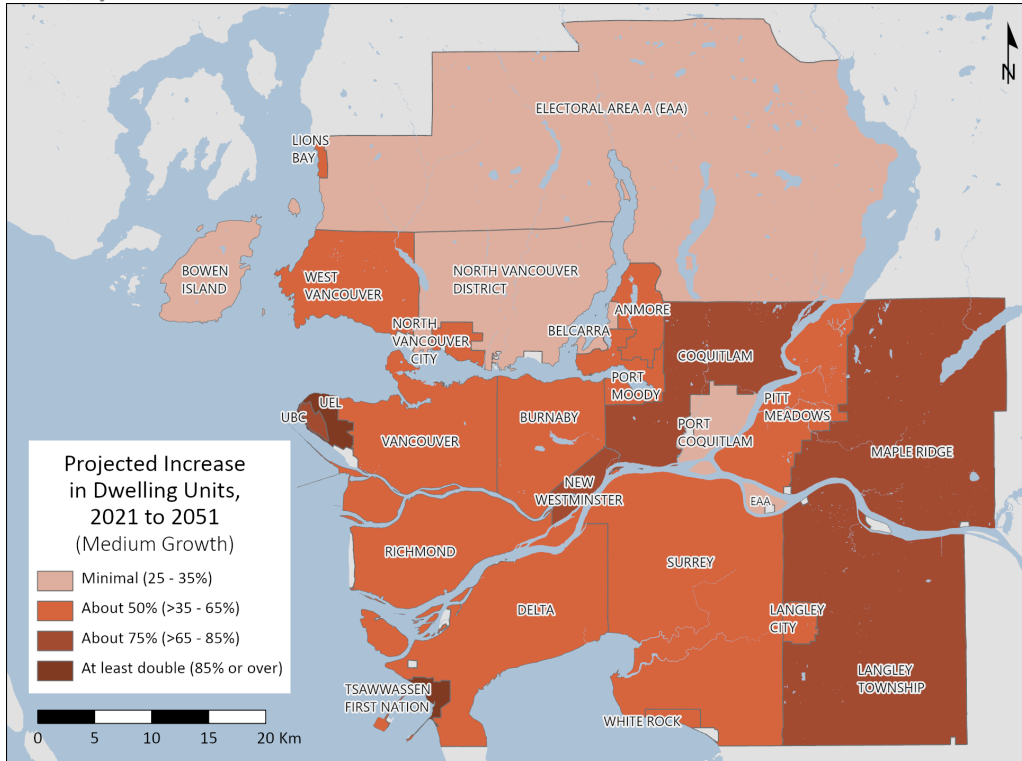


Figure 6. Map of Projected Increase (%) in Dwelling Units (Medium-Growth Scenario), from 2021 to 2051, by Member Jurisdiction



ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

There are no financial implications associated with this report. This project is part of the regular work program for the Regional Planning and Housing Services Department and is included in the 2024 budget.

CONCLUSION

Metro Vancouver updates regional and municipal dwelling unit projections regularly. Metro Vancouver's projections have been the main source for estimating future demand for land, housing, jobs, and utilities for many years and guide land use and infrastructure planning initiatives among Metro Vancouver's utilities, member jurisdictions, TransLink and other regional agencies. Projection modeling intends to promote collaboration and consistency among provincial, regional, and municipal planning agencies and establish a common basis of information, assumptions, and implementation methods.

This update incorporates the most up-to-date data from the 2021 Census and new population projections completed in July 2024. The updated dwelling unit projections anticipate faster growth than that which formed the basis of *Metro 2050*, and show that the region is now expected to grow by on average 21,000 net new units annually between 2021 and 2051. The results will be published on Metro Vancouver's website and available upon request.

NEXT STEPS

Metro Vancouver's updated projections are provided to Metro Vancouver's utilities, member jurisdictions, TransLink and other regional agencies and will be used as a collaborative guide for land use and infrastructure planning initiatives. Dwelling unit projections at the regional, sub-regional and municipal levels have all been updated and will replace the previous projections on Metro Vancouver's website. Staff will continue to work on analyzing the implications the updated projected growth will have on capital programs as well as changes in growth distribution across the region. Moving forward, projections will be updated every year, and the Regional Planning Committee and MVRD Board will be informed about potential changes in projections and demographic trends in the region. Regional Planning staff will maintain the collaboration with member jurisdictions and BC Stats representatives on land-use and growth analysis and will use RPAC's Forecasting and Data Task Force to share and communicate federal and provincial initiatives with member jurisdictions.

REFERENCES

1. Statistics Canada. [Table 98-10-0257-01](#), Value (owner-estimated) of dwelling by structural type of dwelling: Canada, provinces and territories and census subdivisions with a population 5,000 or more
2. [Metro Vancouver Growth Projections – 2024 Update](#)

To: Regional Planning Committee

From: Sinisa Vukicevic, Program Manager, Regional Planning Analytics and Agatha Czekajlo, Senior Policy and Planning Analyst, Regional Planning and Housing Services

Date: October 16, 2024 Meeting Date: November 8, 2024

Subject: **Metro Vancouver Residents' Housing and Neighbourhood Preferences Model**

RECOMMENDATION

That the MVRD Board receive for information the report dated October 16, 2024, titled "Metro Vancouver Residents' Housing and Neighbourhood Preferences Model".

EXECUTIVE SUMMARY

Metro Vancouver has been leading a multi-year Social and Community Data Land Use Project to better understand housing and neighbourhood needs and preferences across the region. The "Metro Vancouver Residents' Housing and Neighbourhood Preferences Model" extrapolates the survey-based movement behaviour (as "stickers", "movers", "bouncers") and dwelling structure type preferences (single detached and multi-attached housing, row houses, apartments) of long-term residents¹ to all households/household maintainers across the region. Key findings include:

- Most households can be classified as "stickers" (i.e., no recent relocations), who were more likely to prefer single detached housing.
- Those who relocated more often (i.e., "movers" and "bouncers") were more likely to prefer a greater diversity of dwelling structure types.
- Multi-attached housing was a common second choice, especially by those who were younger (aged 18–44), with high household incomes (i.e., at least \$85,000/year, total before-tax), and high household cost to income ratios.²
- Apartment preference was greatest in areas with high current supplies (i.e., Burnaby, Vancouver, New Westminster) and was associated with low household cost to income ratios.

This study illustrates that some dwelling structure type preferences may not be fully aligned with current housing supplies, regional plans, and the new provincial housing legislation. The outcomes of this project may assist in the planning of future regional growth and urban design patterns.

PURPOSE

To provide the Regional Planning Committee (RPL) with the Metro Vancouver Residents' Housing and Neighbourhood Preferences Model report (Attachment 1) and associated member jurisdiction summary report (Attachment 2).

¹ "Residents" were defined as those who were born in Canada or arrived in Canada before the year 2000.

² "Household cost to income ratio" refers to the proportion of a household's income (total annual before-tax) that is reportedly used on household costs, including monthly rent or the mortgage payments, property taxes and condominium fees (for owners) and the costs of electricity, heat, hot water, sewer, etc.

BACKGROUND

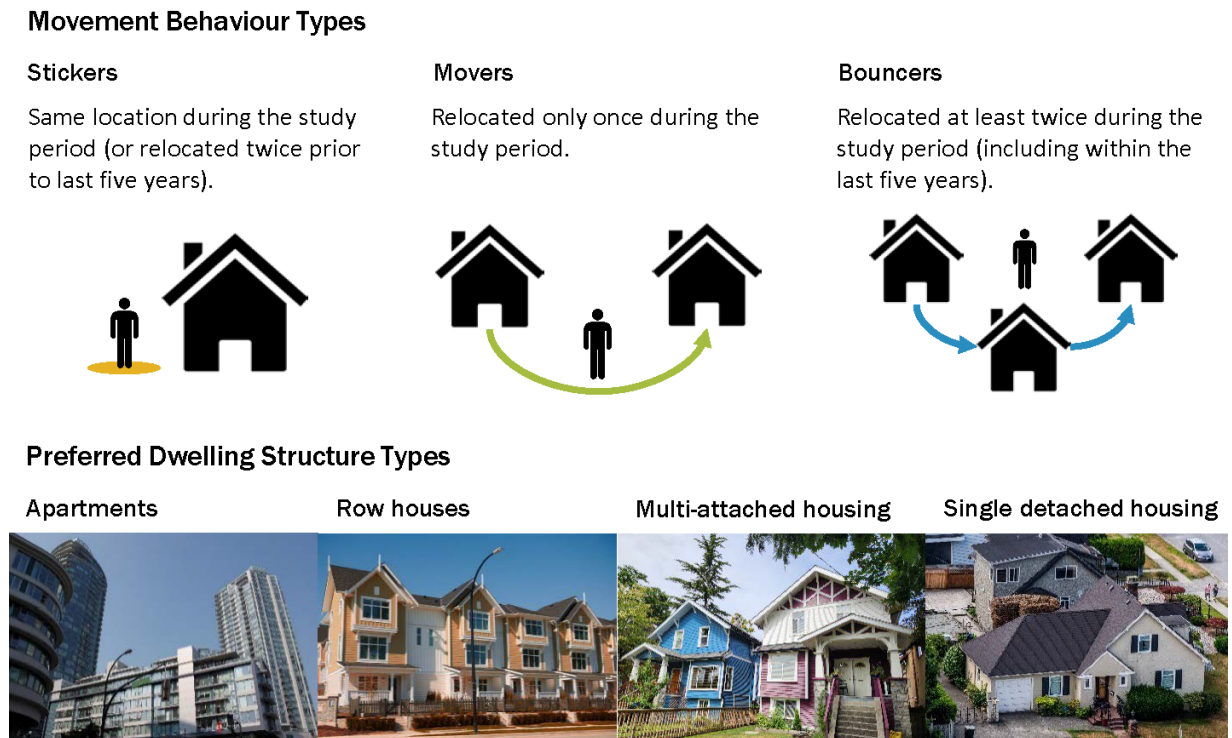
Metro Vancouver has been leading a multi-year Social and Community Data Land Use Project to better understand housing and neighbourhood needs and preferences across the region (Reference 1). The project was initiated through the Sustainable Innovation Fund and has resulted in a unique, in-house research model. The Model will be updated with new Census data, which will allow us to track the change in preferences for housing needs and preferences between Census periods.

STUDY OVERVIEW

This project was motivated by recent, external studies that found associations between a greater preference for smaller homes and improved neighbourhood walkability by many American city dwellers (Reference 2). Additionally, this work was influenced by several Canadian surveys that reiterated the growing unaffordability crisis and livability concerns of both renters and homeowners (References 3 and 4) – which have pressured many Metro Vancouverites to consider leaving the region (Reference 5).

The Model used recent survey data (conducted in 2023) and current Census data (2021) that focused on long-term resident household maintainers to predict the movement behaviour type (as “stickers”, “movers”, “bouncers”) and preferred dwelling structure type (apartment, row house, and multi-attached and single detached housing) of all households/household maintainers across the region, for the study period of 2000–2023 (Figure 1). Additional data, namely federal income tax information (2011–2016), generalized land use data (2011, 2016, 2020), and Census data (2001, 2006, 2011, 2016, 2021), was used in additional complimentary analyses.

Figure 1. Illustration of movement behaviour types and preferred dwelling structure types.



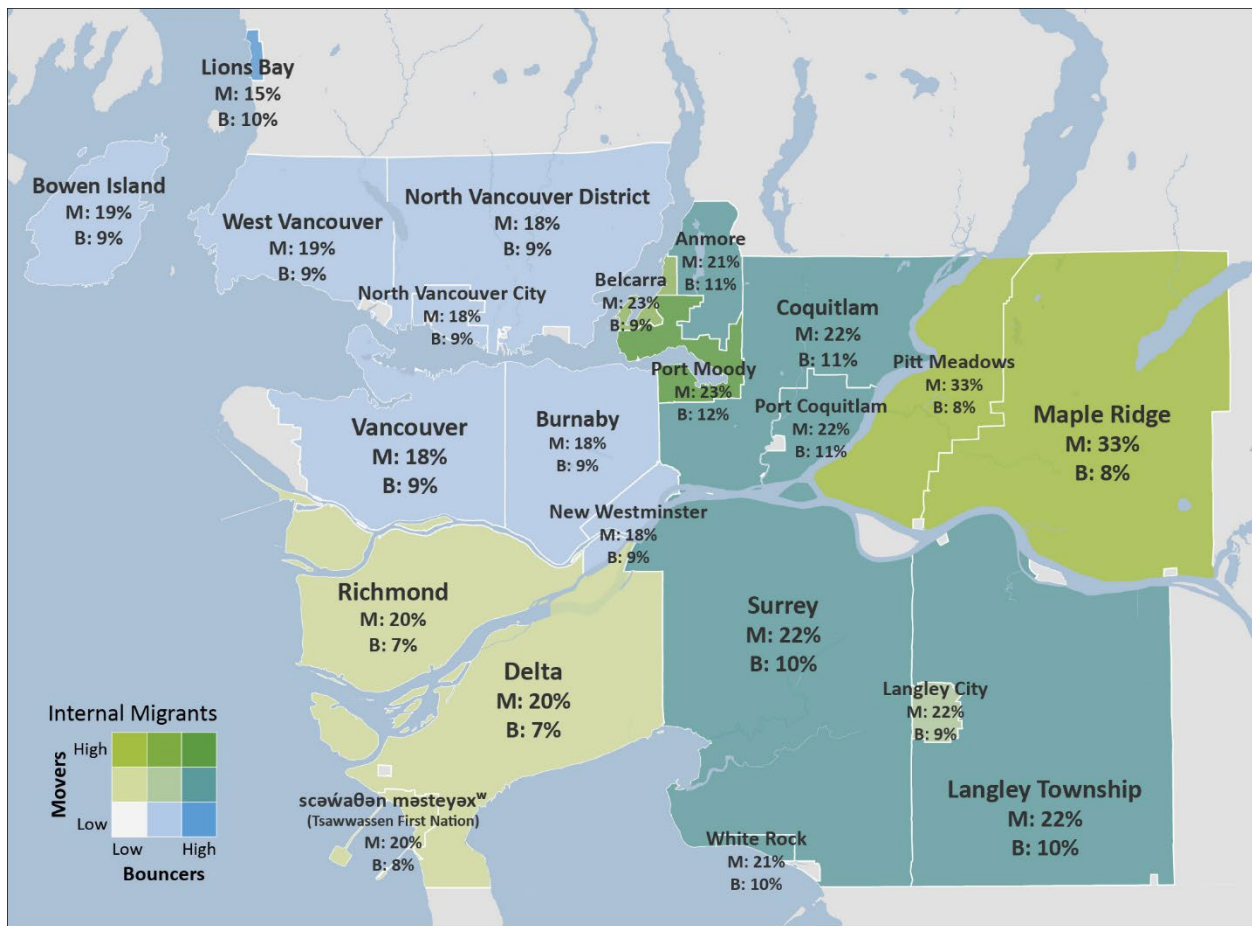
KEY RESULTS

Highlights of this work are presented and discussed through the following questions:

How many households in Metro Vancouver relocated or remained in their housing locations over the study period (2000–2023)?

- Nearly 30 per cent of households across Metro Vancouver relocated during the study period, including 20 per cent (207,900 households) as movers and 9 per cent (93,200 households) as bouncers.
- Bouncer household maintainers were more likely to be Millennial/Gen Z, report moderately-high household cost to income ratios (30–49 per cent), and live in the Northeast sub-region. Mover household maintainers were more likely to be older (aged 35–64), report lower household cost to income ratios, and live in the Ridge Meadows sub-region (Figure 2).
- Burrard Peninsula, North Shore, and South of Fraser – West sub-regions had relatively high proportions of sticker households (70 per cent or greater). Sticker household maintainers ranged in age (35–74) but included relatively more seniors (65 or over) than mover and bouncer household maintainers, and were more likely to report low household cost to income ratios.

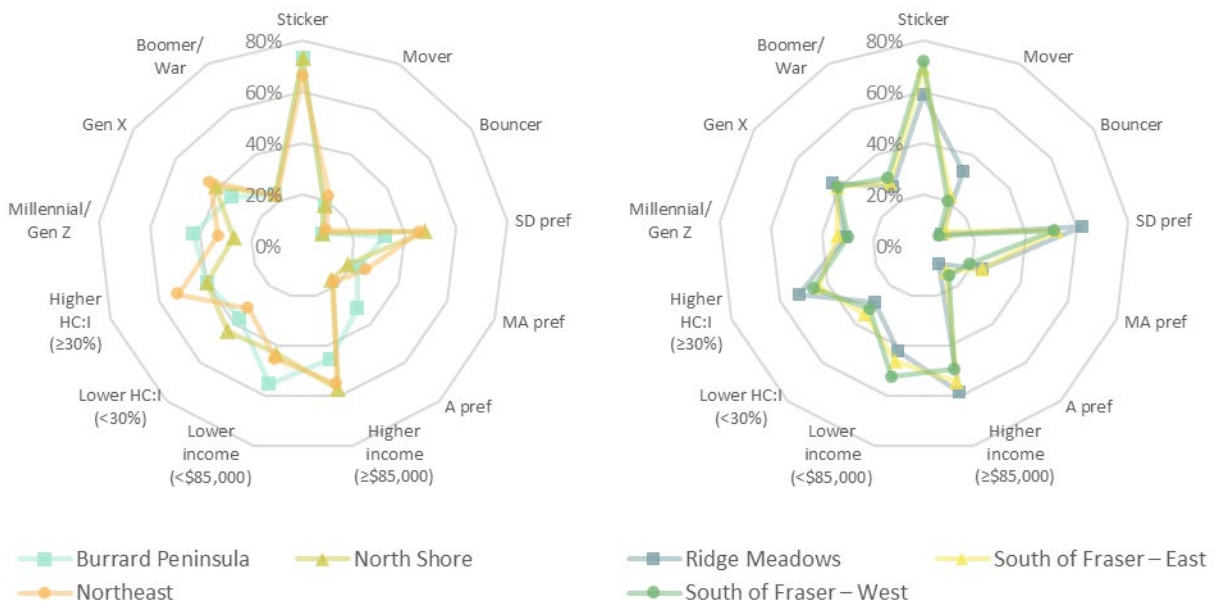
Figure 2. Map of modelled mover and bouncer households, by member jurisdiction.



Which dwelling structure(s) was more likely preferred in each jurisdiction?

- Household maintainers who preferred apartments were more likely to live in the Burrard Peninsula (Figure 3), which had the greatest share of apartment units in the region (59 per cent in 2020). Apartment preference was also associated with low household cost to income ratios (and household incomes of \$60,000/year or less) – which included a greater proportion of seniors. In New Westminister and Vancouver, this also included many as young as age 35 and earning a moderately-high household income (\$60,000–84,999/year).
- Single detached preference was associated with high household incomes (\$85,000/year or over) and relatively low household costs relative to income. Those who preferred single detached housing were more likely to live in South of Fraser – West and the North Shore; these sub-regions had relatively higher proportions (about 30 per cent each) of single detached housing within their current (2020) supplies.
- Multi-attached homes were the most common second choice (following single detached housing in most cases) in many member jurisdictions, but especially in the Northeast and Ridge Meadows sub-regions. Those who preferred multi-attached homes were more likely to be Millennial/Gen Z, as well as report relatively high household cost to income ratios despite higher household incomes (most earning at least \$85,000/year).
- Similar to those who preferred single detached housing, household maintainers who preferred row houses were more likely to live in the South of Fraser – West and the North Shore sub-regions. The regional housing supply (2022) had few row houses; however, South of Fraser – West had relatively more (16 per cent) than the North Shore (eight per cent). Those who preferred row houses were more likely to be Millennial (25–44) and earn a moderate household income (\$35,000–84,999/year).

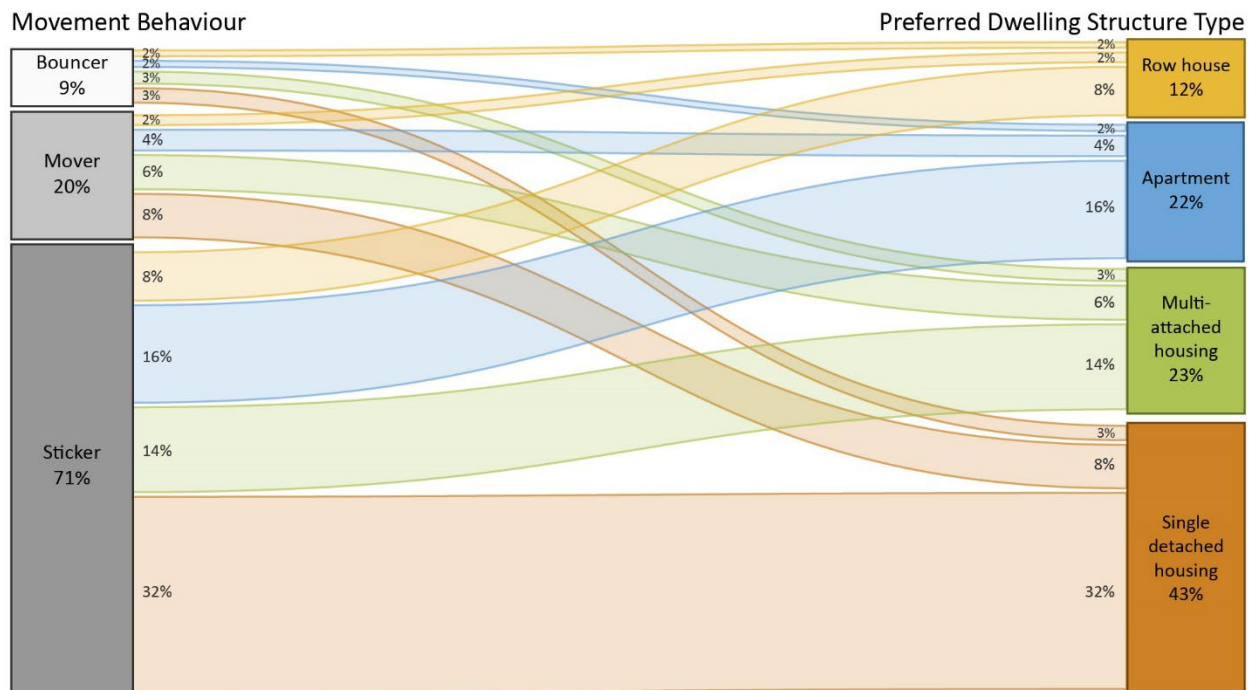
Figure 3. Proportion of key variables, namely movement behaviour, preferred dwelling structure (single detached housing (SD), multi-attached housing (MA), apartment (A)), household income (total annual before-tax), household cost to income ratio (HC:I), age group, by sub-region.



What were the dwelling preferences of household maintainers who changed their housing locations?

- Single detached housing was the top dwelling structure type preference across Metro Vancouver household maintainers; however, mover and bouncer household maintainers preferred a greater diversity of dwelling structure types (Figure 4). Compared to stickers, movers and bouncers were more likely to prefer multi-attached homes (+11 and +9 percentage points (points thereafter), respectively).
- Sticker household maintainers were marginally more likely to prefer apartments than movers and bouncers (+3 and +4 points, respectively). This finding is associated with the relatively large proportion of senior household maintainers who are stickers (29 per cent; 12 points more than senior movers, and 23 points more than senior bouncers), and their greater association with apartment preference.

Figure 4. Distribution of preferred dwelling structure types per movement behaviour group, for Metro Vancouver.



If household maintainers changed their housing location, where would they settle based on their dwelling preferences and constraints related to land use type and housing supply?

- Langley City, White Rock, City of North Vancouver, and Richmond had greater preferences for single detached housing despite a proportionally lower number of single detached homes currently and decreasing supply since 2001. The preference for lower density, single detached homes in these jurisdictions was associated with Gen X (45–64) and household incomes of at least \$85,000/year.
- A greater proportion of Langley City and Port Moody household maintainers preferred multi-attached housing than their current supplies provide, even with an increase in the

number of multi-attached units since 2001. Anmore, Belcarra, Bowen Island, and to a lesser extent Lions Bay, also had greater preferences for multi-attached homes (and other higher density dwelling structure types) compared to existing and historic supplies.

- Langley City, White Rock, City of North Vancouver, New Westminster household maintainers had lower preferences for apartments than existing current supply.

NEXT STEPS

The Metro Vancouver Residents' Housing and Neighbourhood Preferences Model and associated member jurisdiction summary report and data will be made available to RPL members and municipal staff upon request, and will be published on the Metro Vancouver website in the Fall.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

This project was supported through the 2022-2023 Sustainability Innovation Fund (SIF). The total project cost amounted to \$74,000 to support the modelling and survey components of the Metro Vancouver Residents' Housing and Neighbourhood Preferences Model Report.

CONCLUSION

The Metro Vancouver Residents' Housing and Neighbourhood Preferences Model predicts the movement behaviour (2000–2023) and current dwelling structure type preferences of households/household maintainers across the region. Summarized results include the modelled proportions of movement behaviour types and preferred dwelling structure types, as well as relationships with key demographic variables. Patterns in movement behaviour and dwelling structure type preferences were identified for the region and sub-regions, as well as by member jurisdictions (reported in the Member Jurisdiction Summary Report; Attachment 2). The outcomes of this project may assist in the planning of future regional growth and urban design patterns.

ATTACHMENTS

1. "Metro Vancouver Residents' Housing and Neighbourhood Preference Model", dated August 19, 2024.
2. "Metro Vancouver Residents' Housing and Neighbourhood Preferences Model: Jurisdiction Summary Reports", dated August 19, 2024.

REFERENCES

1. [MVRD Board staff report dated January 26, 2024, titled "Metro Vancouver Resident and Immigrant Behaviour Model: Phase One and Two"](#).
2. [National Association of Realtors Community and Transportation Preference Surveys](#)
3. [The Housing Crisis in Canada | Leger \(leger360.com\)](#)
4. [Housing Affordability in Canada: 2022 RE/MAX Report \(remax.ca\)](#)
5. [Metro Elects: Exploring the Region's Top Issues and Opportunities | Mustel Group \(mustelgroup.com\)](#)



Metro Vancouver Residents' Housing and Neighbourhood Preferences Model

August 19, 2024

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EXECUTIVE SUMMARY

Background

The Residents’ Housing and Neighbourhood Preferences Model builds on previous work (though the multi-year Social and Community Data Land Use Project) that investigates the housing and lifestyle conditions, motivations, and preferences of Metro Vancouverites. The main objective of this recent work was to develop a model that extrapolates the survey-based movement behaviour (as “stickers”, “movers”, “bouncers”; for the study period of 2000–2023) and dwelling structure type preferences (single detached and multi-attached housing, row houses, apartments) of long-term residents¹ to all households² and household maintainers across the region. This was done through a multi-modelling approach was applied using random forest and population synthesis models with recent survey (conducted in 2023; limited to long-term resident results) and 2021 Census data. Figure 1 illustrates the movement behaviour types and preferred dwelling structure types investigated in this study.

Movement Behaviour Types

Stickers

Same location during the study period (or relocated twice prior to last five years).



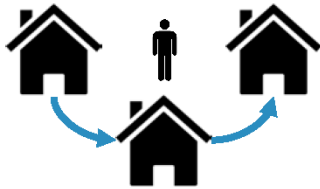
Movers

Relocated only once during the study period.



Bouncers

Relocated at least twice during the study period (including within the last five years).



Preferred Dwelling Structure Types

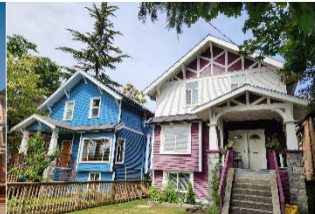
Apartments



Row houses



Multi-attached housing



Single detached housing



Figure 1. Illustration of movement behaviour types (stickers, movers, bouncers) and examples of preferred dwelling structure types (single detached housing, multi-attached housing, row houses, apartments).

¹ “Residents” were defined as those who were born in Canada or arrived in Canada before the year 2000.

² Household refers to a person or group of persons who occupy the same dwelling and do not have a usual place of residence elsewhere in Canada or abroad.

“Stickers” included households that remained in the same location (i.e., only one postal code) during the study period or those that moved at least twice (i.e., at least three postal codes) before the last five years of the study period (2000–2023). Those who relocated only once were considered “movers”, while those who relocated more often and within the last five years of the study period were classified as “bouncers”. Preferred dwelling structure types considered in this study included single detached housing, multi-attached housing (i.e., multiplex residential, like duplexes and triplexes), row houses (or townhouses), and apartments. Additional, complimentary analyses were conducted to investigate dwelling structure type preferences in relation to recent intra-regional migrations, and how land use and housing supply constraints compared to preferred dwelling structure types by jurisdiction.

Summary of Results

The Metro Vancouver Residents’ Housing and Neighbourhood Preferences Model project was guided by the following five questions:

How many households in Metro Vancouver relocated or remained in their housing locations over the study period (2000–2023)?

- Nearly 30 per cent of Metro Vancouver households relocated during the study period, including 20 per cent (207,900 households) as movers and 9 per cent (93,200 households) as bouncers.
- Movers were more likely to live in the Ridge Meadows³ sub-region (33 per cent; 13 percentage points above regional average), while bouncers were more likely to live in the Northeast⁴ (11 per cent; 2 percentage points above regional average).
- Member jurisdictions with relatively high proportions (70 per cent or greater) of sticker households included: Bowen Island, Burnaby, Delta, Lions Bay, New Westminster, City of North Vancouver (CNV), Richmond, scáwáθan məsteyəx^w (Tsawwassen First Nation), Vancouver, and West Vancouver (including Horseshoe Bay).

Which dwelling structure(s) was more likely preferred in each jurisdiction?

- Household maintainers who preferred apartments were more likely to live in the Burrard Peninsula,⁵ which had the greatest share of apartment units in the region (59 per cent in 2020).
- Those who preferred single detached housing were more likely to live in South of Fraser – West⁶ as well as the North Shore.⁷ These sub-regions did not have the greatest share of regional single detached housing in 2022, but did have relatively high proportions of single detached homes within their housing supplies (at about 30 per cent each).
- Following the top preference of single detached homes, household maintainers in the Northeast and Ridge Meadows sub-regions were more likely to prefer multi-attached housing. The

³ Ridge Meadows includes Maple Ridge and Pitt Meadows.

⁴ The Northeast includes Anmore, Belcarra, Coquitlam, Port Coquitlam, Port Moody.

⁵ Burrard Peninsula includes Burnaby, New Westminster, and Vancouver.

⁶ South of Fraser – West includes Delta, Richmond, and scáwáθan məsteyəx^w (Tsawwassen First Nation).

⁷ The North Shore includes Bowen Island, City and District of North Vancouver, Lions Bay, and West Vancouver (including Horseshoe Bay).

Northeast had a moderate proportion of multi-attached units in their 2022 housing supply (23 per cent), whereas Ridge Meadows was limited (12 per cent).

- Similar to those who preferred single detached housing, household maintainers who preferred row houses were more likely to live in South of Fraser – West and the North Shore. The 2022 housing supply included few row houses across the region; South of Fraser – West had a relatively greater proportion (16 per cent) than the North Shore (eight per cent).

What were the dwelling preferences of household maintainers who changed their housing locations?

- Single detached housing was the top dwelling structure type preference across Metro Vancouver household maintainers. Meanwhile, those who relocated (i.e., movers and bouncers) preferred a greater diversity of dwelling structure types. For example, movers and bouncers were more likely to prefer multi-attached homes than stickers (+11 and +9 percentage points, respectively).
- Stickers were marginally more likely to prefer apartments than movers and bouncers (+3 and +4 per cent points, respectively). This finding is associated with the relatively large proportion of seniors (aged 65 or over) who are stickers (29 per cent; +12 percentage points than movers, and +23 percentage points than bouncers), and their greater likelihood to prefer apartments.
- Despite a relatively high preference (27 per cent) for medium/high density dwelling structure types (i.e., multi-attached housing, row houses, and apartments) across the region, 10 per cent more relocations to low density dwelling structures (i.e., single detached housing) than medium/high density dwelling structures housing occurred between 2011 and 2019.

How did various demographic groups differ in their likelihood to relocate and dwelling preferences?

Movement behaviour type:

- Bouncers were more likely to be Millennial (25–44), have a university undergraduate degree, and report household cost to income ratios⁸ of 30–49 per cent.
- Movers were more likely to be working-age (35–64), partially completed a college/trade degree or equivalent, and report lower household cost to income ratios than bouncers.
- Stickers included a relatively even mix of 35–44, 45–54, and 55–64 year olds, as well as a larger proportion of those aged 65–74 than movers and bouncers. Stickers were also more likely to report low household cost to income ratios.
- Normalizing income to household costs provided greater predictability of movement behaviour and preferred dwelling structure type than household income (total annual before-tax) alone.

Dwelling structure type:

- Household maintainers who preferred multi-attached homes were more likely to be Millennial/Gen Z (18–44), have a university graduate degree or only a high school diploma, live

⁸ “Household cost to income ratio” refers to the proportion of a household’s total annual before-tax income that is reportedly used on household costs, including monthly rent or the mortgage payments, property taxes and condominium fees (for owners) and the costs of electricity, heat, hot water, sewer, etc.

in a home with at least three bedrooms, and report household cost to income ratios of 50 per cent or more (and more likely to earn a high total annual before-tax household income, of at least \$85,000/year).

- Conversely, those who preferred apartments were more likely to have one or two bedrooms and report low household cost to income ratios (and earn less than \$60,000/year). This group disproportionately included seniors (aged 65 or over) compared to the overall household maintainer population. Education levels for those preferring apartments (as well as single detached and row houses) were similar to all modelled household maintainers.
- Household maintainers who preferred single detached housing were more likely to have a high household income (total annual before-tax), relatively low household costs, and have at least three bedrooms.
- Those who preferred row houses were more likely to be Millennial, earn \$35,000–84,999 per year, and have two bedrooms (or to a lesser extent, three bedrooms).

If household maintainers changed their housing location, where would they settle based on their dwelling preferences and constraints related to land use type and housing supply?

- Anmore, Belcarra, Bowen Island, and to a lesser extent Lions Bay, had a greater proportion of existing single detached housing units (based on 2020 land use data) than their modelled preference, and greater preferences for multi-attached, row house, and apartments units than existing and historic supply (based on 2001–2016 Census data). Those who preferred multi-attached housing, row houses, and apartments in Anmore, Belcarra, Bowen Island, and Lions Bay were more likely to be younger (aged 18–34).
- Langley City, White Rock, CNV, and Richmond had greater preferences for single detached housing despite a proportionally low number of single detached homes and decreasing supply since 2001. Those who preferred low density, single detached homes in these jurisdictions (as well as in Anmore, Belcarra, Bowen Island, and Lions Bay) were more likely to be Gen X (45–64) and earn at least \$85,000/year (at least \$60,000/year for CNV).
- Langley City, White Rock, CNV, New Westminster, and to lesser extents Richmond and Vancouver, had lower preferences for apartments than existing supply and despite an increase in apartment units since 2001. Those who preferred apartments were more likely to be older (65 or over) and earn less than \$35,000/year. For New Westminster and Vancouver, this also included those as young as age 35 and earning \$60,000–84,999/year.
- Langley City and Port Moody had greater preferences for multi-attached housing than their current supplies, alongside an increase in the number of multi-attached units since 2001. The preference for multi-attached housing in these jurisdictions was mainly driven by those who were middle-aged (35–54) and earning at least \$60,000/year (total before-tax, household).
- With new increasing redevelopment opportunities of single detached homes into dwelling structure types of greater density (via the new provincial housing legislation) and the increasingly constrained supply of single detached homes across the region, many residents may be motivated to emigrate from the region or make alternate decisions on their dwelling structure type. The long term impacts of the Legislation are not fully understood at this time.

INTRODUCTION

The Metro Vancouver Residents' Housing and Neighbourhood Preferences Model builds on previous work (though the multi-year Social and Community Data Land Use Project) that investigates the housing and lifestyle conditions, motivations, and preferences of Metro Vancouverites.⁹ This work was motivated by a recent, external study that found many American city dwellers preferred smaller homes and improved neighbourhood walkability, despite a reduced preference for urban areas during the COVID-19 pandemic.¹⁰ Additionally, mounting financial burdens have reshaped the lives of many urban dwellers across North America. Several recent Canadian surveys have reiterated the growing unaffordability crisis and livability concerns of both renters and homeowners,^{11,12} which have led to increased pressure for many Metro Vancouverites to leave the region.¹³

This report summarizes the methodology and results of the Metro Vancouver Residents' Housing and Neighbourhood Preferences Model, created in collaboration with Leger Marketing Inc. Specifically, the Model extrapolates survey-based information about long-term residents' movement behaviour (household) and preferred dwelling structure types (of household maintainers) to the entire regional household/household maintainer population. "Movement behaviour" describes the pattern of living location over the study period (2000–2023), and includes the following groups: "sticker",¹⁴ "mover",¹⁵ and "bouncer".¹⁶ "Preferred dwelling structure types" included in this study include: single detached house, multi-attached house, row house, and apartment.

The analysis presented in this report focuses on the following five questions:

- 1) How many households in Metro Vancouver relocated or remained in their housing locations over the study period (2000–2023)?
- 2) Which dwelling structure(s) was more likely preferred in each jurisdiction?
- 3) What were the dwelling preferences of household maintainers who changed their housing locations?
- 4) How did various demographic groups differ in their likelihood to relocate and dwelling preferences?
- 5) If household maintainers changed their housing location, where would they settle based on their dwelling preferences and constraints related to land use type and housing supply?

⁹ [MVRD Board Meeting Agenda Package \(Page 121\) – January 26, 2024 \(metrovancouver.org\)](#).

¹⁰ [National Association of Realtors Community and Transportation Preference Surveys](#).

¹¹ [The Housing Crisis in Canada | Leger \(leger360.com\)](#).

¹² [Housing Affordability in Canada: 2022 RE/MAX Report \(remax.ca\)](#).

¹³ [Metro Elects: Exploring the Region's Top Issues and Opportunities | Mustel Group \(mustelgroup.com\)](#).

¹⁴ "Sticker" refers to an individual who has either: (i) remained in the same location (i.e., only one postal code) during the study period, or; (ii) has relocated at least twice (i.e., at least three different postal codes) prior to the last five years of the study period.

¹⁵ "Mover" refers to an individual who has relocated once (i.e., two different postal codes) during the study period.

¹⁶ "Bouncer" refers to an individual who has relocated at least twice (i.e., at least three different postal codes) during the study period, with at least one relocation during the last five years of the study period.

Residents' conditions and preferences survey data

This study utilized a recent survey (conducted by Leger Marketing Inc.) which included nearly 3,000 long-term resident respondents (all aged 18 or over). The survey focused on questions related to household composition, socioeconomic status, as well as current and ideal values about residence and neighbourhood choices, including preferred dwelling structure type. Movement behaviour types were determined using survey data about postal code changes.¹⁷ Survey respondents were assumed to be the household maintainer. More details about the survey are provided in the Metro Vancouver Resident and Immigrant Behaviour Model: Phase One and Two Study Outcomes report.¹⁸

Background on additional analyses

Two complimentary analyses were also completed to better understand how preferred dwelling structure types of internal migrants (i.e., movers and bouncers) related to historic movements across residential land uses, as well as how dwelling structure type preferences related to existing land use and housing supply.

First, intra-regional movement between residential land uses was assessed between 2011 and 2019.¹⁹ For this study, movement behaviour was determined using federal income tax information, specifically the Longitudinal Administrative Databank (LAD),²⁰ which includes annual data summarized at the postal code level. The resulting dataset includes 34 million individual records of internal movement (also referred to as relocations) for residents during the study period. Metro Vancouver land use data was then used to determine residential land use (2011 land use data for 2011–2015 LAD data; 2016 land use data²¹ for 2016–2019 LAD data). This analysis was conducted in collaboration with Licker Geospatial Consulting Co., and was an extension of Phase One of the Metro Vancouver Resident and Immigrant Behaviour Model project.²²

The second analysis was conducted internally by Regional Planning staff to contextualize preferred dwelling structure types to existing land use and housing supply. In particular, predicted dwelling structure type preferences were compared to current housing supply for each jurisdiction using 2020 generalized land use data.²³ This analysis provided insight about discrepancies in dwelling structure type availability and demand; however, information about unit size and suitability per household was limited, but would be influential in a household's housing decision.

¹⁷ The study period considered for movement behaviour types in the survey was from 2000 to 2023.

¹⁸ [MVRD Board Meeting Agenda Package \(Page 121\) – January 26, 2024 \(metrovancover.org\)](#).

¹⁹ The study period of the additional analysis using LAD data encompasses a portion of years (2011–2019) that are considered in determining movement behaviour via the survey (2000–2023) and outside the census year (2021).

²⁰ [Surveys and statistical programs – Longitudinal Administrative Databank \(LAD\) \(statcan.gc.ca\)](#).

²¹ [Landuse 2016 - Code Description | Metro Vancouver Open Data Portal \(arcgis.com\)](#).

²² Same as footnote 18.

²³ 2020 generalized land use data is an update of the currently available dataset online, *Landuse 2016*, available at: <https://open-data-portal-metrovancover.hub.arcgis.com/datasets/metrovancover::landuse-2016-code-description/about>.

METHODOLOGY

Metro Vancouver Residents’ Housing and Neighbourhood Preferences Model was completed using a multi-model approach to extrapolate survey results to the regional household population, using Census-based controls of household age, total annual before-tax household income, and size (Figure 2). This approach consisted of the following steps:

- 1) Develop a random forest model to predict movement behaviour type using survey data (i.e., Movement Behaviour Type (MBT) random forest model).
- 2) Develop a random forest model to predict preferred dwelling structure type using survey data as well as predicted movement type behaviour from step 1 (i.e., Preferred Dwelling Structure Type (PDST) random forest model).
- 3) Expand the survey data, including predicted movement behaviour type and preferred dwelling structure type, using 2021 Census data as controls in a Population Synthesis (PS) Model to derive regional-level household population results (i.e., Population Synthesis data).
- 4) Apply MBT model to the population synthesis results to predict movement behaviour type at the regional household population level (i.e., PS with predicted MBT).
- 5) Apply the PDST model to the PS with predicted MBT results to predict preferred dwelling structure type at the regional household population level (i.e., PS with predicted MBT and PDST).

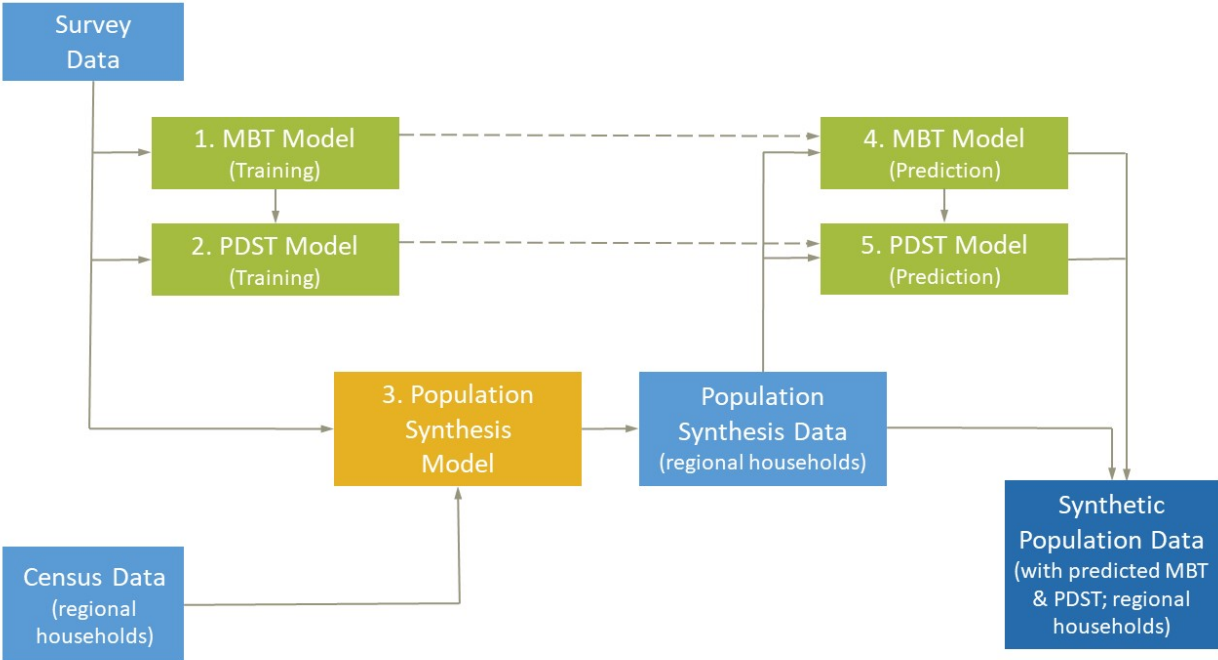


Figure 2. Project workflow, including steps utilizing the Movement Behaviour Type (MBT) and Preferred Dwelling Structure Type (PDST) random forest models and population synthesis model. The dashed lines indicate model results were subsequently used as model inputs.

Data

Two key data sources were utilized for the Metro Vancouver Residents' Housing and Neighbourhood Preferences Model: recent survey data²⁴ and 2021 Census data. The survey data captured one response per household (total of 2,989 long-term resident respondents), and was conducted from March 14 to April 27, 2023.²⁵ The Census data included a total household count of 1,031,940²⁶ and the following variables: household age,²⁷ household size,²⁸ and total annual before-tax household income.²⁹ Household age and size data were downloaded as Statistics Canada tables,^{30,31} whereas household income was acquired through the *cancensus*³² and *cansim*³³ R packages. Additional data details are provided in Table B1 in Appendix B.

Survey and Census input data and results were provided at the member jurisdiction level.^{34,35} However, due to relatively small survey sample sizes,³⁶ the following sub-regions were used to generate household maintainer age, household size, and household income (total annual before-tax) demographic breaks:

- Burrard Peninsula: Burnaby, New Westminster, and Vancouver
- Northeast: Anmore, Belcarra, Coquitlam, Port Coquitlam, and Port Moody
- North Shore: Bowen Island, City and District of North Vancouver, Lions Bay, and West Vancouver (including Horseshoe Bay)
- Ridge Meadows: Maple Ridge and Pitt Meadows
- South of Fraser – East: Langley City and Township, Surrey, and White Rock
- South of Fraser – West: Delta, Richmond, and scəwáθən məsteyəx^w (Tsawwassen First Nation)

²⁴ [MVRD Board Meeting Agenda Package \(Page 121\) – January 26, 2024 \(metrovancover.org\)](#).

²⁵ This study assumed that each survey respondent (per household) was the household maintainer.

²⁶ Refers to an aggregated total number of private households in private dwellings occupied by usual residents in Metro Vancouver, excluding Indian Reserves and Electoral Area A. Source: [Statistics Canada. Table 98-10-0041-01. Structural type of dwelling and household size: Canada, provinces and territories, census divisions and census subdivisions, Persons in private households in occupied private dwellings, 2021 Census.](#)

²⁷ 'Household age' from census data refers to the age of the household maintainer.

²⁸ 'Household size' from census data refers to the sum of individuals per household.

²⁹ 'Household income' from the census data refers to the total annual income per household.

³⁰ [Statistics Canada. Table 98-10-0232-01 Age of primary household maintainer by tenure: Canada, provinces and territories, census divisions and census subdivisions.](#)

³¹ [Statistics Canada. Table 98-10-0240-01 Structural type of dwelling by tenure: Canada, provinces and territories, census divisions and census subdivisions.](#)

³² von Bergmann, J., Jacobs, A., & Shkolnik, D. (2022). *cancensus*: R package to access, retrieve, and work with Canadian Census data and geography. Version 0.5.7. <https://mountainmath.github.io/cancensus/>.

³³ von Bergmann, J., & Shkolnik, D. (2023). *cansim*: functions and convenience tools for accessing Statistics Canada data tables. Version 0.3.15. <https://mountainmath.github.io/cansim/>.

³⁴ The jurisdiction for each movement behaviour group represents the last recorded living location.

³⁵ Total household population control was applied at jurisdiction level.

³⁶ For generating a robust estimate of synthetic population, the population synthesis model requires a minimum sample of 20 to 50 for the demographic breaks used as population control.

A map showing Metro Vancouver sub-regions and member jurisdictions is provided as Figure 3. The University of British Columbia / University Endowment Lands, Other First Nations / Indian Reserves, and Electoral Area A were not included in the modelling work due to data unavailability in the Census or survey data.



Figure 3. Map of Metro Vancouver sub-regions and member jurisdictions.

Models

The multi-model approach of the Metro Vancouver Residents' Housing and Neighbourhood Preferences Model included the use of random forest³⁷ and population synthesis³⁸ models. Random forest is an ensemble learning method that constructs multiple decision trees during training. It combines the

³⁷ Breiman, L. (2001). Random forests. *Machine Learning*, 45, 5–32. <https://doi.org/10.1023/A:1010933404324>.

³⁸ [PopulationSim – Documentation \(activitiesim.github.io\)](https://github.com/activitiesim/PopulationSim).

output of individual trees to improve accuracy and control over-fitting. Population synthesis creates an artificial population that resembles a real-world population (e.g., of individuals, households, household maintainers) based on data from a representative sample that describes key attributes of the population at a given time.

Random forest models were used as these models performed best compared to other tested models (specifically deep learning and gradient boost models; model performance details are provided in Appendix C). Random forest is particularly robust with mixed data types due to its ability to handle heterogeneity in the dataset. It is also robust to outliers and non-linear data, and provides estimates of feature importance to better understand relationships between input and predicted variables. Random forest models for this study were applied using R software,³⁹ including the packages *pacman*,⁴⁰ *data.table*,⁴¹ *dplyr*,⁴² *tidyverse*,⁴³ *caret*,⁴⁴ and *randomForest*.⁴⁵

For this project, population synthesis modelling was conducted using the python-based tool *PopulationSim* (version 0.5.1). Applying survey responses to a population synthesis model can reflect the characteristics of a local population and enable the assessment of potential impacts of local public policies.⁴⁶ Population synthesis has also been used for activity-based travel demand models to predict individual travel choices⁴⁷ or activities.^{48,49} *PopulationSim* starts with a seed sample (survey data) and marginal distributions/population controls (2021 Census data; specifically household age, income (total annual before-tax), and size) as inputs, and employs data fitting techniques to generate weights that

³⁹ R Core Team. (2018). R: A language and environment for statistical computing. Version 4.2.2. R Foundation for Statistical Computing, Vienna, Austria. <https://www.R-project.org/>.

⁴⁰ Rinker, T. W., & Kurkiewicz, D. (2017). *pacman*: Package Management for R. R package version 0.5.1. Buffalo, New York. <http://github.com/trinker/pacman>.

⁴¹ Barrett, T., Dowle, M., & Srinivasan A. (2023). *data.table*: Extension of `data.frame`. R package version 1.14.10. <https://CRAN.R-project.org/package=data.table>.

⁴² Wickham, H., François, R., Henry, L., Müller, K., & Vaughan, D. (2023). *dplyr*: A Grammar of Data Manipulation. R package version 1.1.2. <https://CRAN.R-project.org/package=dplyr>.

⁴³ Wickham, H., Averick, M., Bryan, J., Chang, W., McGowan, L. D., François, R., Grolemund, G., Hayes, A., Henry, L., Hester, J., Kuhn, M., Pedersen, T. L., Miller, E., Bache, S. M., Müller, K., Ooms, J., Robinson, D., Seidel, D. P., Spinu, V., Takahashi, K., Vaughan, D., Wilke, C., Woo, K., & Yutani, H. (2019). Welcome to the tidyverse. *Journal of Open Source Software*, 4(43), 1686. doi:10.21105/joss.01686.

⁴⁴ Kuhn, M. (2008). Building Predictive Models in R Using the caret Package. *Journal of Statistical Software*, 28(5), 1–26. <https://doi.org/10.18637/jss.v028.i05>.

⁴⁵ Liaw, A., & Wiener, M. (2002). Classification and Regression by randomForest. *R News*, 2(3), 18–22. <https://journal.r-project.org/articles/RN-2002-022/>.

⁴⁶ Prédhumeau, M., & Manley, E. (2023). A synthetic population for agent-based modelling in Canada. *Sci Data* 10, 148. <https://doi.org/10.1038/s41597-023-02030-4>.

⁴⁷ Freedman, J., & Hensle, D. (2021). *ActivitySim: An Advanced Activity-Based Travel Demand Model Built by and for Users* [White paper]. Resource Systems Group, Inc. <https://rsginc.com/activitysim-white-paper/>.

⁴⁸ Galli, E., Cuéllar, L., Eidenbenz, S., Ewers, M., Mniszewski, S., & Teuscher, C. (2009). ActivitySim: large-scale agent-based activity generation for infrastructure simulation. In Proceedings of the 2009 Spring Simulation Multiconference (SpringSim '09). *Society for Computer Simulation International*, San Diego, CA, USA, Article 16, 1–9. Available from https://lanl.gov/orgs/adts/publications/science_highlights_2009/3mnisz.pdf.

⁴⁹ Viegas de Lima, I., Danaf, M., Akkinapally, A., De Azevedo, C. L., & Ben-Akiva, M. (2018). Modeling Framework and Implementation of Activity- and Agent-Based Simulation: An Application to the Greater Boston Area. *Transportation Research Record*, 2672(49), 146–157. <https://doi.org/10.1177/0361198118798970>.

align the seed sample with population controls to generate a synthetic population. Population synthesis is a beneficial method to apply attributes of a sample to the population level as it can handle detailed household and person-level attributes. Population synthesis is also adaptable for various geographic scales and future projections.

Challenges to using a population synthesis model included:

- Requirement of comprehensive and accurate input data (e.g., Census data, surveys);
- Involves complex data fitting techniques (e.g., iterative proportional fitting or entropy maximization algorithms); and
- Can be computationally intensive, especially for large regions.

RESULTS

Relocation Patterns

The following section addresses the question:

How many households in Metro Vancouver relocated or remained in their housing locations over the study period (2000–2023)?

Most households were identified as stickers through the survey (i.e., Household Survey in Figure 4; 1,991 households), translating to a predicted household population of 730,811 (71 per cent). The remaining households, nearly 30 per cent of the predicted household population, relocated during the study period. One in five predicted households were movers during the study time, and fewer than 10 per cent bounced to multiple housing locations. Figure 4 shows the distribution of movement behaviour for the household survey (long-term resident respondents) and the predicted household population (Table B2 in Appendix B provides the count values).

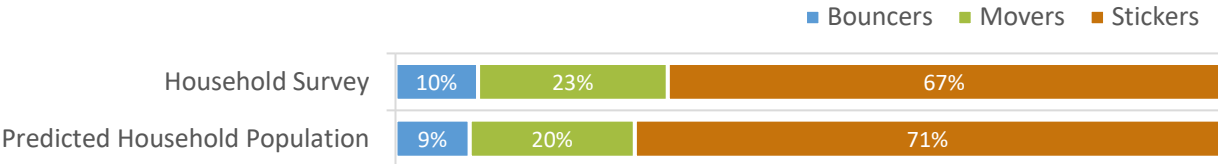


Figure 4. Distribution of movement behaviour (%) for long-term resident survey respondents and the predicted household population.

Proportions of predicted movement behaviour types varied across Metro Vancouver jurisdictions (Figure 5). The highest proportions of households that moved were found in the Ridge Meadows sub-region – at 33 per cent of predicted households being movers in each of Maple Ridge and Pitt Meadows (spatially visualized in Figure 6). To lesser extents, a greater proportion of movers were found in South of Fraser – East (Langley City and Township, Surrey, White Rock) and the Northeast (Anmore, Belcarra, Coquitlam, Port Coquitlam, Port Moody) than the remaining sub-regions. The highest proportions of households who bounced around were found in the Northeast – particularly Port Moody, Port Coquitlam, Coquitlam, Anmore (at 11–12 per cent; spatially visualized in Figure 7). In comparison, sub-regions with the largest proportions of sticker households (70–75 per cent) included Burrard Peninsula (i.e., Burnaby, New Westminister, Vancouver), South of Fraser – West (i.e., Delta, Richmond, sc̓w̓aθ̓ən məsteyəxʷ (Tsawwassen First Nation)), and select jurisdiction in the North Shore (particularly Lions Bay, City and District of North Vancouver, and West Vancouver). A map of sticker households is provided as Figure B1 in Appendix B.

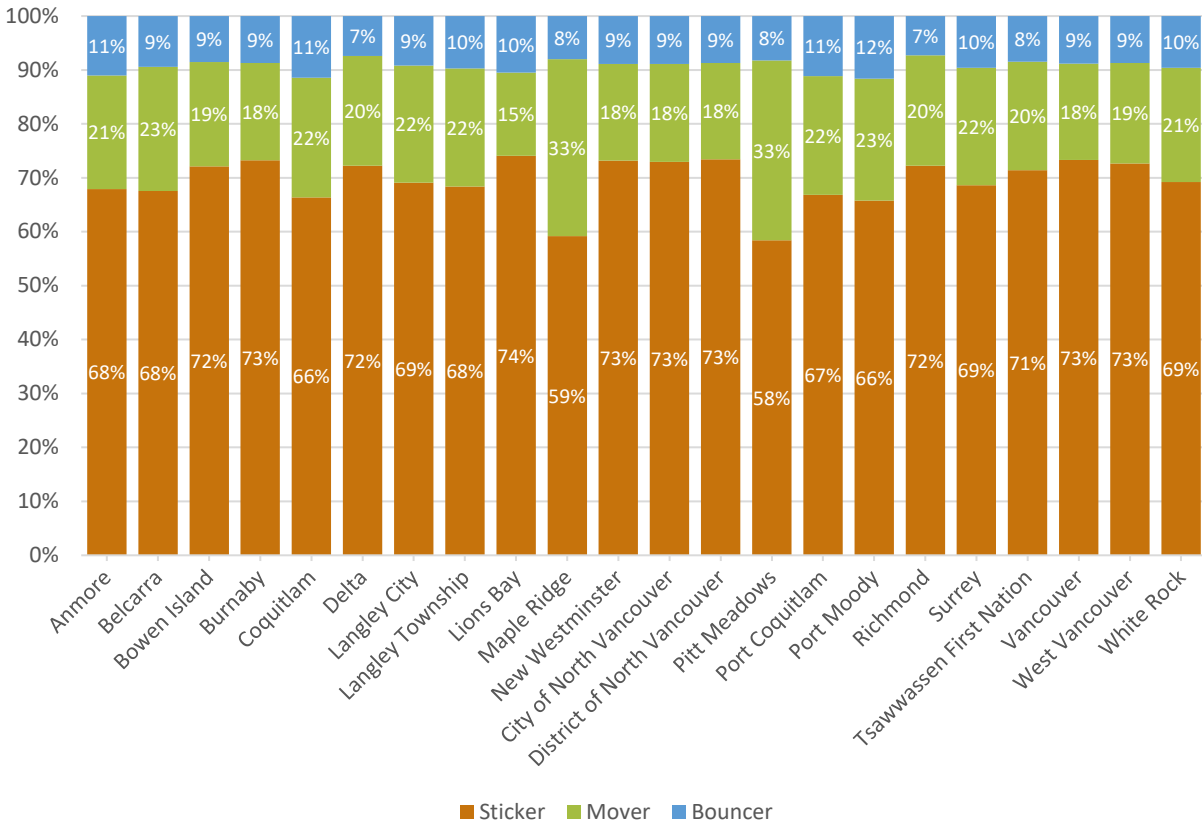


Figure 5. Distribution (%) of predicted household movement behaviour, per jurisdiction. Note: West Vancouver includes Horseshoe Bay.

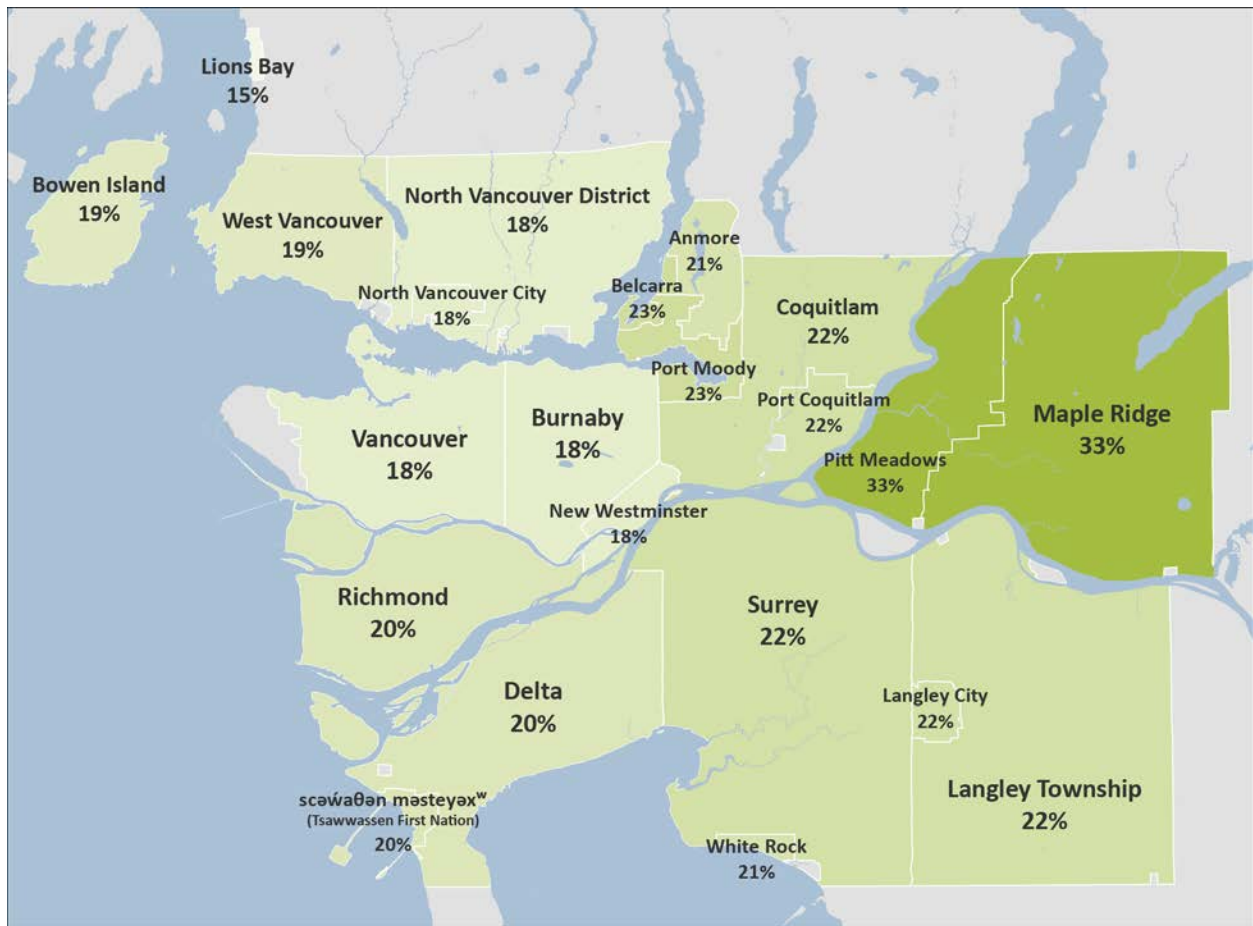


Figure 6. Percentage (%) of jurisdictions' predicted households classified as movers. The graduated colour scheme corresponds with the minimum and maximum values of the data presented. Note: West Vancouver includes Horseshoe Bay.

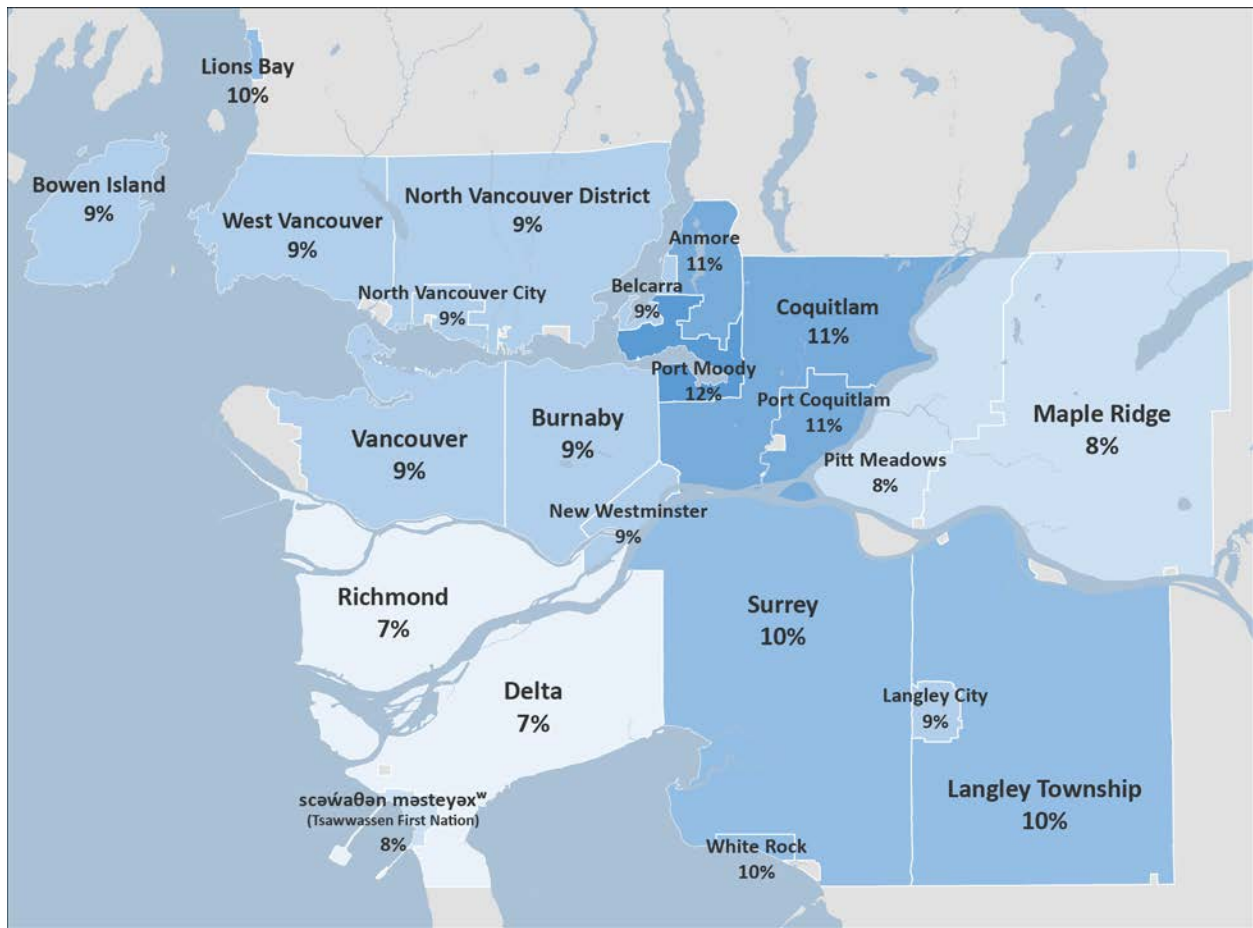


Figure 7. Percentage (%) of jurisdictions' predicted households classified as bouncers. The graduated colour scheme corresponds with the minimum and maximum values of the data presented. Note: West Vancouver includes Horseshoe Bay.

Dwelling Preferences

The following section addresses the question:

Which dwelling structure(s) was more likely preferred in each jurisdiction?

Single detached housing was the dominant preferred dwelling structure type across Metro Vancouver’s household maintainers (Figure 8; Table B3 in Appendix B provides count values), as well as across the majority of member jurisdictions (Figure 9). Following single detached housing, apartments and multi-attached housing were equally preferred by nearly a quarter of household maintainers, each. Only one-in-ten household maintainers were likely to prefer a row house.

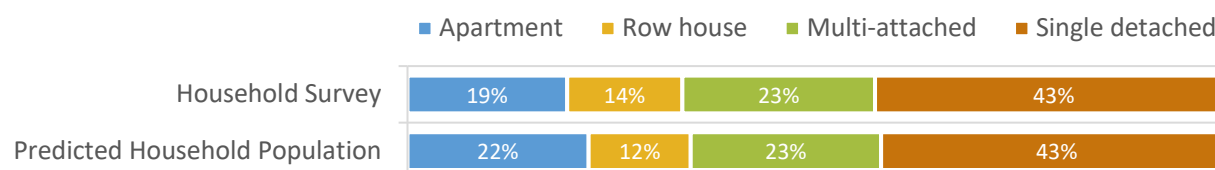


Figure 8. Distribution of preferred dwelling structure type (%) for long-term resident survey respondents and the predicted household population.

Single detached homes were most preferred across almost all Metro Vancouver jurisdictions – except for those living in the Burrard Peninsula (i.e., Burnaby, New Westminster, Vancouver), who had an equal preference for apartments (spatially visualized in Figure 10). Household maintainers living in Ridge Meadows (i.e., Maple Ridge, Pitt Meadows) were more likely to prefer single detached homes than in other sub-regions and jurisdictions. The preference for multi-attached housing was similar across jurisdictions; however, household maintainers in the Northeast (i.e., Anmore, Belcarra, Coquitlam, Port Coquitlam, Port Moody) were most likely to have this preference, followed by those living in Ridge Meadows, South of Fraser – East (i.e., Langley City and Township, Surrey, White Rock), and the Burrard Peninsula. Figure 11 shows the spatial distribution of multi-attached housing preference across member jurisdictions. Row houses were least preferred across the region; however, household maintainers of South of Fraser – West (i.e., Delta, Richmond, scəwəθən məsteyəx™ (Tsawwassen First Nation)) as well as of the North Shore (i.e., Bowen Island, City and District of North Vancouver, Lions Bay, West Vancouver) were equally likely to prefer row houses and apartments. Maps showing the preference for single detached homes and row houses are provided as Figures B2 and B3, respectively, in Appendix B.

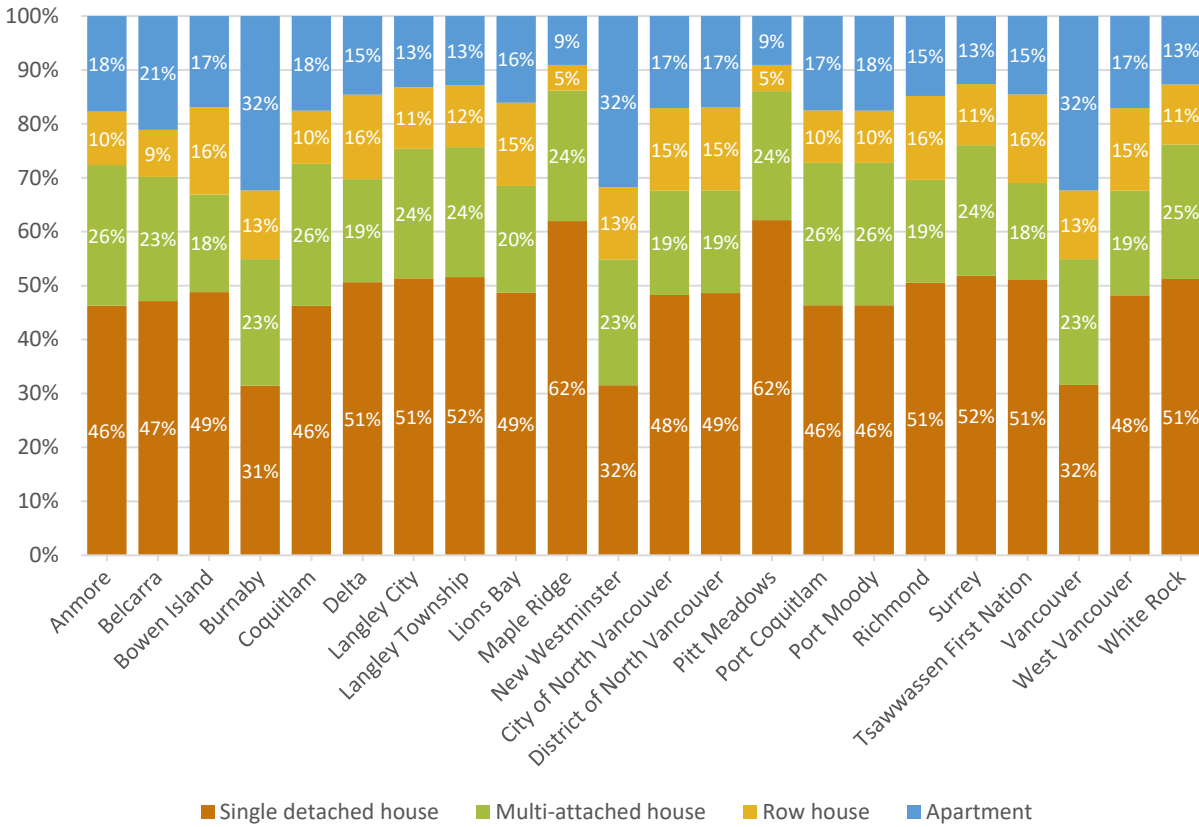


Figure 9. Distribution (%) of predicted household maintainers' preferred dwelling structure type, per jurisdiction. Note: West Vancouver includes Horseshoe Bay.

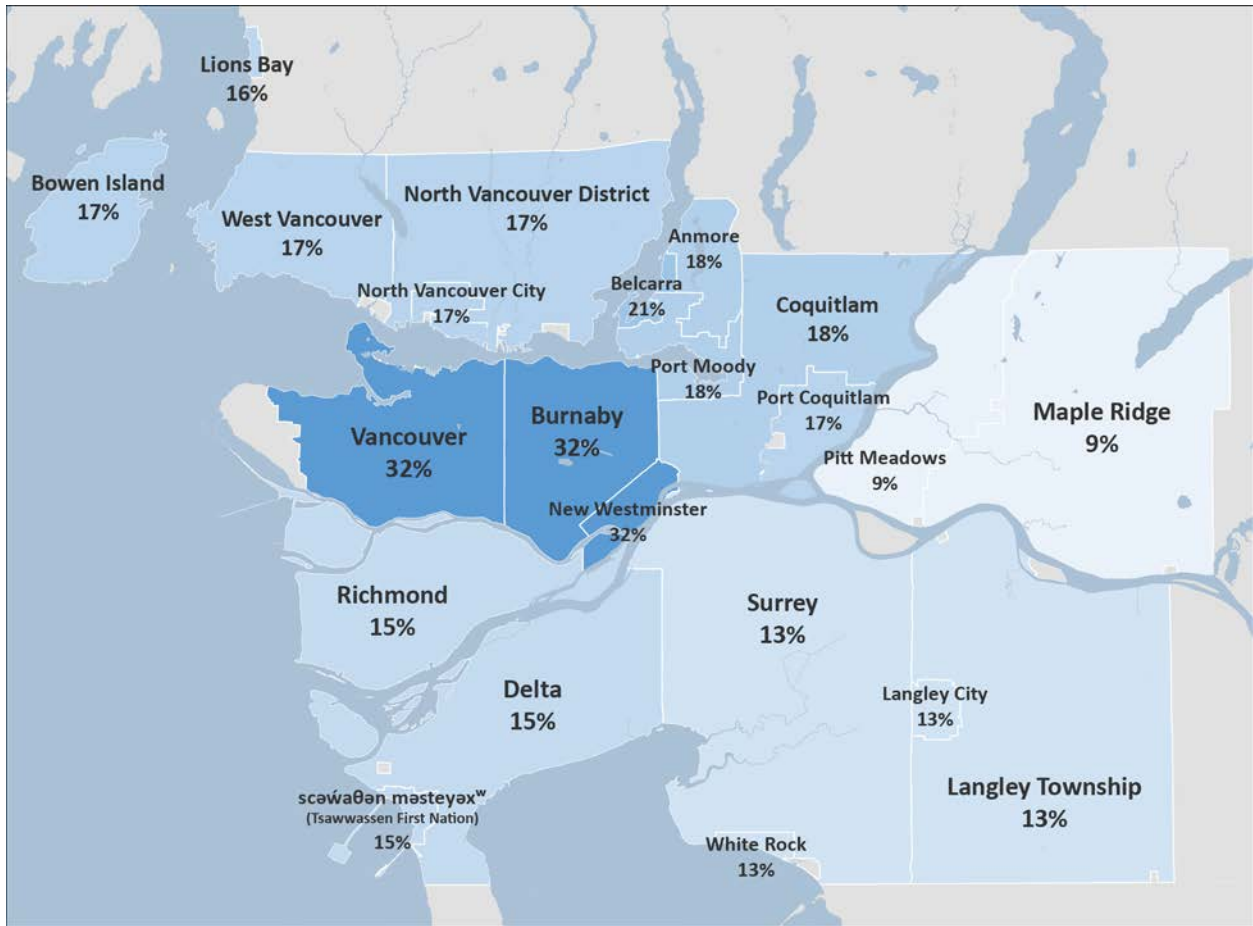


Figure 10. Percentage (%) of jurisdictions' predicted household maintainers with the preference for apartments. The graduated colour scheme corresponds with the minimum and maximum values of the data presented. Note: West Vancouver includes Horseshoe Bay.

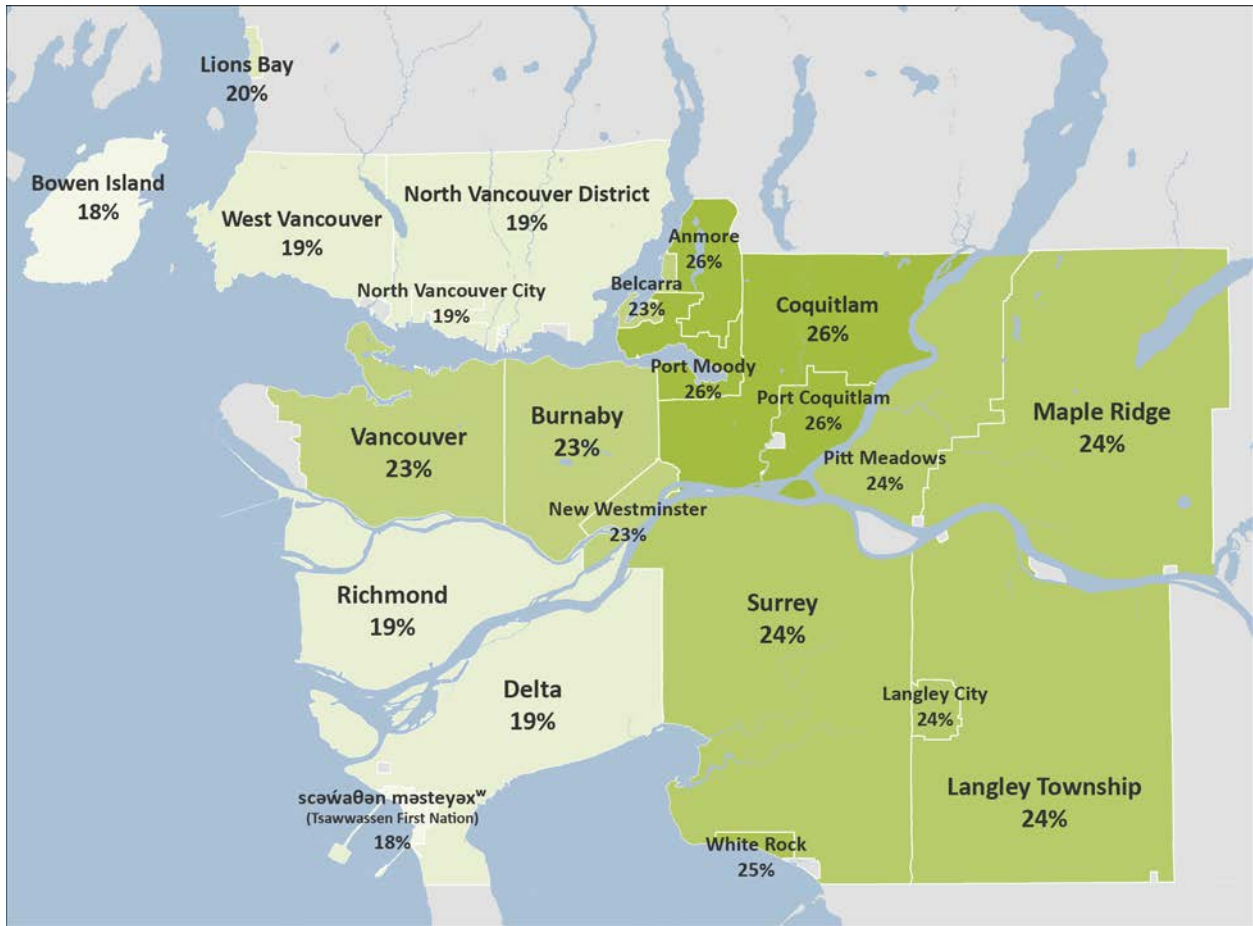


Figure 11. Percentage (%) of jurisdictions' predicted household maintainers with the preference for multi-attached housing. The graduated colour scheme corresponds with the minimum and maximum values of the data presented. Note: West Vancouver includes Horseshoe Bay.

Preferred Dwelling Structure Type by Movement Behaviour Type

The following section addresses the question:

What were the dwelling preferences of household maintainers who changed their housing locations?

Cross-referencing movement behaviour types showed that the preferred dwelling structure type of household maintainers was in part related to whether a household has relocated (Figure 12; more details in Figure B4, in Appendix B). Overall, an increased preference for single detached housing was observed as one “settles down” (i.e., moving across the gradient from ‘bouncer’ to ‘mover’ to ‘sticker’) – whereas those who moved more often (i.e., bouncers) had a greater diversity of dwelling structure type preferences. However, stickers were more likely to prefer living in apartments than movers and bouncers (+3 and +4 percentage points, respectively). In contrast, movers and bouncers were more likely to prefer multi-attached homes than stickers (+11 and +9 percentage points, respectively).

Additionally, bouncers were more likely to prefer row houses compared to movers (7 percentage point difference) and stickers (6 percentage point difference).

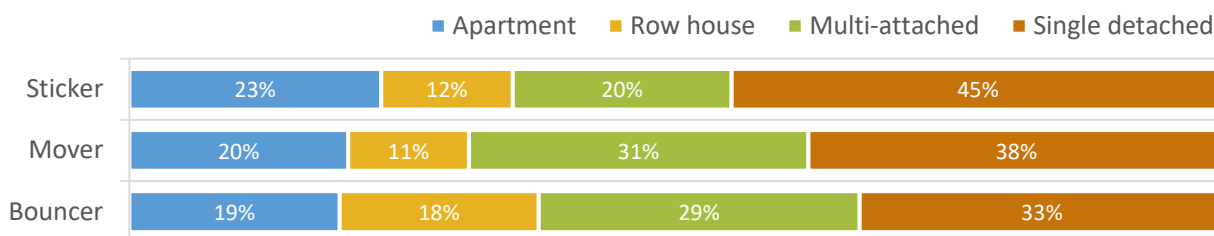


Figure 12. Distribution (%) of predicted household maintainers' preferred dwelling structure type, per movement behaviour type.

Dwelling structure type preferences of movers and bouncers varied depending on the jurisdiction (Figure 13; more details in Table B4 in Appendix B). Like the total household population, movers were more likely to prefer single detached housing. However, some jurisdictions (including many in the Northeast sub-region) had the similar or slightly greater preferences for multi-attached than single detached housing.⁵⁰ Burnaby, New Westminster, and Vancouver had similar proportions of movers that preferred single detached and multi-attached housing, as well as apartments. Although movers were more likely to prefer multi-attached housing than row houses, movers in Bowen Island and in Lions Bay were more likely to prefer row houses over multi-attached homes (+10 and +17 percentage points, respectively). Movers that relocated to/within select jurisdictions – specifically Bowen Island, Lions Bay, City and District of North Vancouver, and West Vancouver – were more likely to prefer row houses than apartments.

Bouncers' dwelling structure type preferences were more varied across jurisdictions. For example, greater proportions of bouncers who relocated to/within Bowen Island, City and District of North Vancouver, Lions Bay, West Vancouver, and Richmond preferred multi-attached housing than single-detached homes. Additionally, bouncers in many jurisdictions had similar preferences for single detached housing and/or multi-attached housing and/or apartments.^{51,52,53} In other jurisdictions, like Lions Bay and West Vancouver, bouncers were more likely to prefer multi-attached housing over all other dwelling structure types. Bouncers who relocated to/within Belcarra were more likely to prefer apartments over single detached and multi-attached housing (24 per cent difference, each).

⁵⁰ Particularly Anmore, Belcarra, Burnaby, Coquitlam, Vancouver, New Westminster, Port Coquitlam, and Port Moody.

⁵¹ Bouncers with similar preferences for single detached and multi-attached housing were identified in the Burrard Peninsula (i.e., Burnaby, New Westminster, and Vancouver).

⁵² Bouncers with similar preferences for multi-attached housing and apartments were identified in Coquitlam, Port Coquitlam, and to a lesser extent Port Moody.

⁵³ Bouncers with similar preferences for single detached housing, multi-attached housing, and apartments were identified in Anmore and scəwəθən məsteyəx^w (Tsawwassen First Nation).

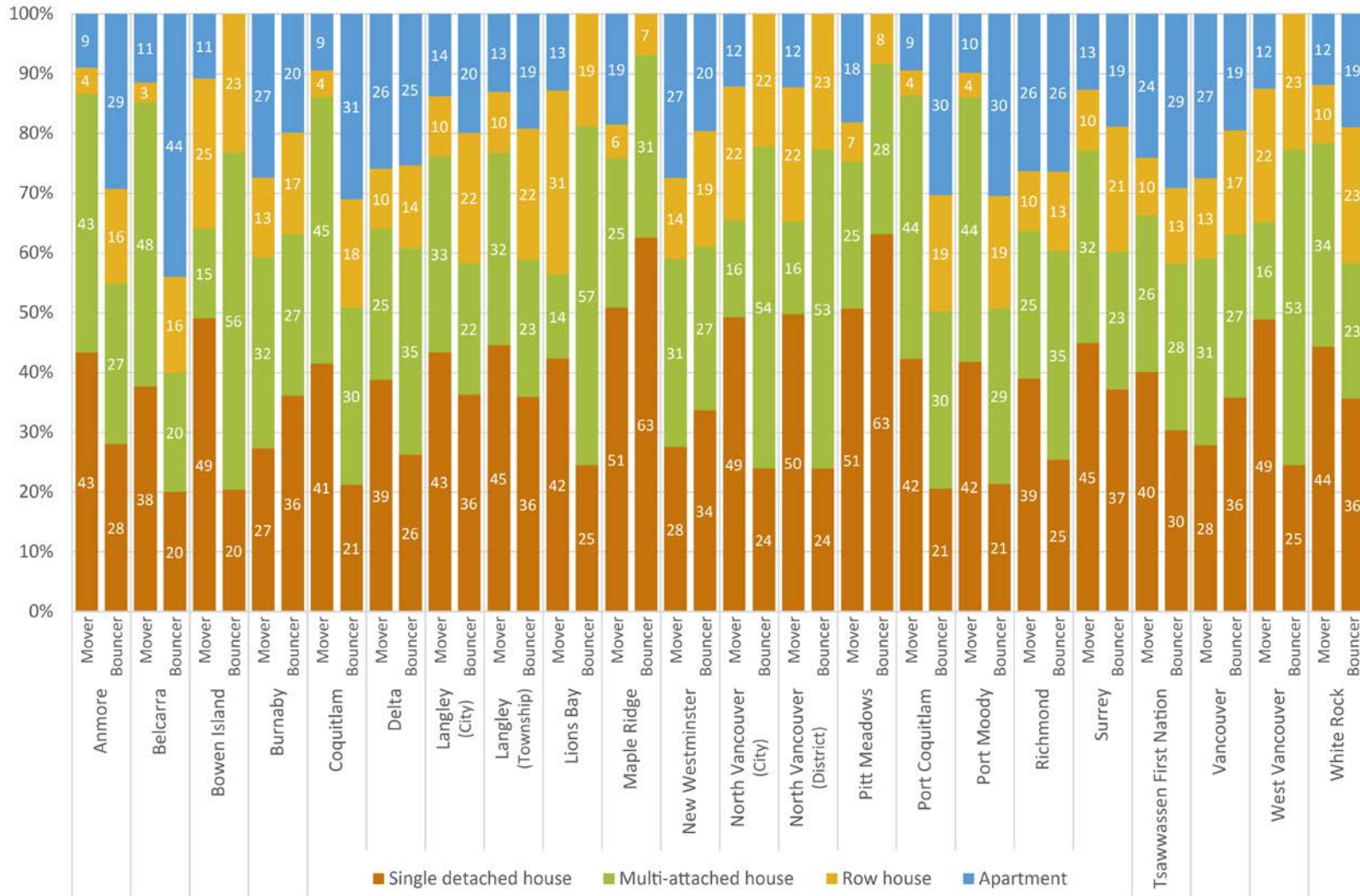


Figure 13. Distribution (%) of predicted household maintainers' preferred dwelling structure type, per movement behaviour type, for each jurisdiction. Note: West Vancouver includes Horseshoe Bay.

Comparison to Internal Migrations between Residential Land Uses

Tax data from the Longitudinal Administrative Databank (LAD)⁵⁴ and land use data⁵⁵ were used to investigate internal migrations between residential land uses within the region, from 2011 to 2019.⁵⁶ This analysis provides context to how the dwelling preferences of internal migrants translated into on-the-ground relocations; this relates to the question:

What were the dwelling preferences for household maintainers who changed their housing locations?

Table 1 summarizes all internal migrations (also referred to as relocations) between residential land uses, from 2011 to 2019. The majority of relocations were associated with low density residential lands, followed by high density residential lands.⁵⁷ Specifically, most relocations occurred between low density residential lands (includes single detached housing; 28 per cent), likely in part due to the abundance of this land use type across the region. Much fewer relocations occurred from low density to high density residential (includes apartments; eight per cent), or vice versa – from high to low density residential (seven per cent). Similarly, eight per cent of relocations occurred from low density residential to rural or non-residential land uses, and seven per cent of relocations in the opposite direction – from rural/non-residential lands to low density residential. Another seven per cent of relocations occurred between high density residential land uses.

Table 1. The proportion of relocations from (origin) and to (destination) for each residential land use type, from 2011 to 2019. Acquired from the Longitudinal Administrative Databank, and cross-referenced with land use data.

Origin	Destination					Total
	Low Density Residential	Medium Density Residential	High Density Residential	Mixed Use	Rural or Non-residential	
Low Density Residential	28%	4%	8%	2%	8%	50%
Mixed Use	1%	0%	1%	1%	1%	4%
High Density Residential	7%	2%	7%	1%	3%	20%
Medium Density Residential	4%	1%	2%	0%	2%	9%
Rural or Non-Residential	7%	2%	3%	1%	4%	17%
Total	47%	9%	21%	5%	18%	100%

⁵⁴ [Surveys and statistical programs – Longitudinal Administrative Databank \(LAD\) \(statcan.gc.ca\)](https://www25.statcan.gc.ca/lengweb/lengweb.nsf/(symbol)/2820002).

⁵⁵ 2011 internal land use data was used for LAD data between 2011 and 2015, and 2016 land use data was used for LAD data between 2016 and 2019. The 2016 land use data is available at: <https://open-data-portal-metrovancouver.hub.arcgis.com/datasets/metrovancouver::landuse-2016-code-description/about>.

⁵⁶ The study period of the additional analysis using LAD data encompasses a portion of years (2011–2019) that are considered in determining movement behaviour via the survey (2000–2023) and outside the census year (2021).

⁵⁷ Low density residential includes single detached housing and mobile homes; medium density residential includes town houses (i.e., row houses); high density residential includes apartments (low-rise and mid/high-rise) and institutional and non-market housing; mixed use includes mixed residential (low-rise and mid/high-rise apartment) commercial; rural includes rural residential parcels, and; non-residential includes all remaining land uses.

The greatest proportion of relocations occurred on low density residential lands, which mainly includes single detached housing (45 per cent of all parcels in 2016) and mobile homes (less than one per cent of all parcels in 2016). This result aligned with single-detached housing being the most preferred dwelling structure type by internal migrants (i.e., movers and bouncers; Figure 14), alongside the abundance of this dwelling structure type across the region. Much fewer relocations occurred between medium density residential (includes row houses and multi-attached housing) and high density residential (includes apartments), as well as mixed land uses (also includes apartments). If considered as one group, preference for any medium/high density dwelling structure type (including apartments on mixed use lands) amounted to 64 per cent for internal migrants – 27 per cent greater than the predicted preference for single detached housing.⁵⁸ In parallel, 35 per cent of all 2011–2019 relocations were to land uses with medium/high density dwelling structure types – 15 per cent of which were from medium/high density land uses and another 14 percent from low density residential. However, the number of all relocations to medium/high density dwelling structure types was still about 10 per cent lower than the number of all relocations to low density residential (i.e., single detached housing; 47 per cent).

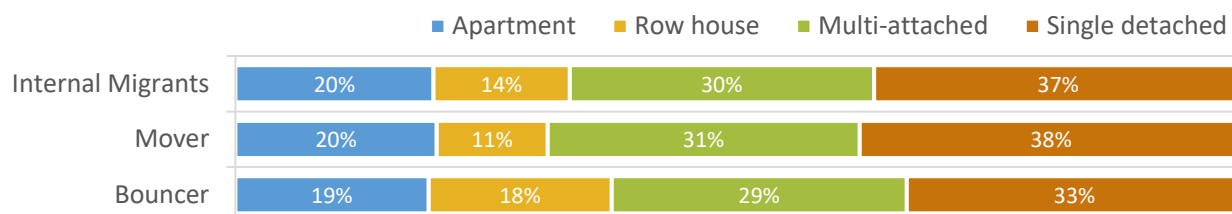


Figure 14. Distribution (%) of predicted household maintainers' preferred dwelling structure, per movers, bouncers, and internal migrants (i.e., movers and bouncers). Note: this figure uses some of the same values as in Figure 11).

Figure 15 shows hotspots of internal migrants (2011–2019) across the region.⁵⁹ The highest concentrations of internal migrants in the region for the 2011–2019 time period were associated with higher density areas and some mixed use areas, including Vancouver's downtown and Broadway Corridor areas, as well as Vancouver's lower density neighbourhoods of Strathcona, Marpole, Kensington-Cedar Cottage. Other jurisdictions also had hotspots of internal migrants, including the City of North Vancouver, Burnaby (specifically the Burnaby Heights neighbourhood), New Westminster's downtown area, the Steveston neighbourhood in Richmond, the Austin Heights neighbourhood in Coquitlam, and White Rock. Overall, urban centres, Frequent Transit Development Areas (FTDAs), and areas close to rapid transit lines had higher concentrations of internal migrants than other areas during the study time.

⁵⁸ In comparison, stickers only indicated a 55 per cent preference (7–11 percentage points lower) towards medium/high density dwelling structure types (more details in the *Dwelling Preferences* subsection).

⁵⁹ May differ from maps in the *Relocation Patterns* subsection due to calculation by region versus by jurisdictions. Additionally, the study times varied; 2011–2019 for Figure 14, versus 2000–2023 for those in *Relocation Patterns*.

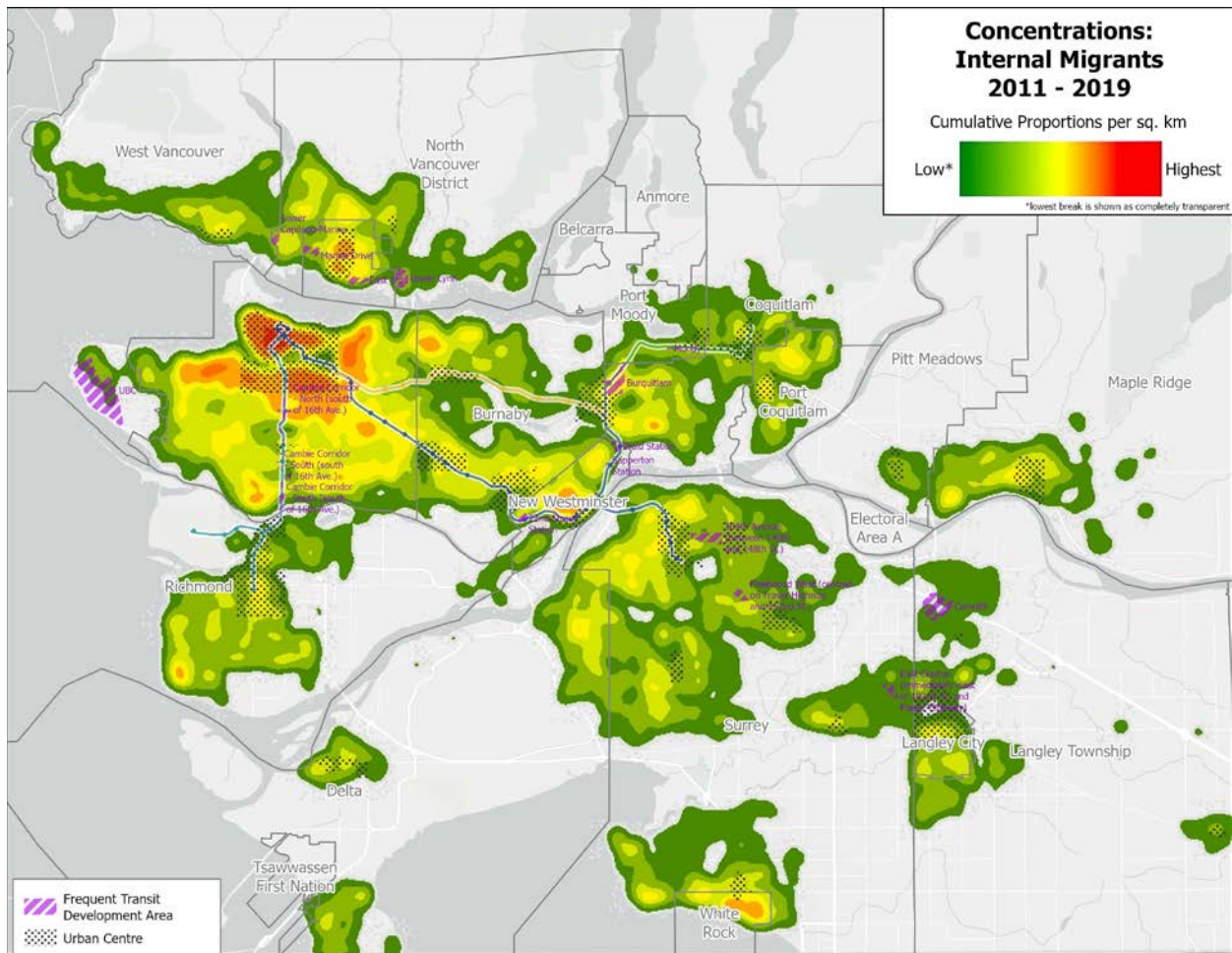


Figure 15. Concentration density of internal migrants in the region, based on income tax information – specifically the Longitudinal Administrative Databank for long-term residents (as defined in the study). Density was calculated in ArcGIS Pro using kernel density estimation, which generates a smooth, tapered surface that represents the magnitude-per-unit area of point or polyline features. This method was used to visualize the geographic concentration of 34 million internal migrant records, by postal code.

Predictors of Movement Behaviour and Dwelling Preferences

The following section addresses the question:

How did various demographic groups differ in their likelihood to relocate and dwelling preferences?

To identify who would be more likely to relocate (i.e., classified as a mover or bouncer) and their dwelling structure type preferences, the predicted household population dataset (output of the population synthesis model) was analyzed by key demographic groups based on the following high-importance predictor variables:⁶⁰ current number of bedrooms, age (of household maintainer), household cost to income ratio, education level (of household maintainer). The distributions of predicted movement behaviour types and preferred dwelling structure types across the highly important variables are described in more detail below. Household income (total annual before-tax) was also discussed to contextualize household cost to income ratio results. Although sub-region was considered a top five predictor for each model, those results were not included in this section as jurisdiction and sub-region level analyses were detailed in previous sections (see *Relocation Patterns* and *Dwelling Preferences* sub-sections). Additional variable importance details are provided in Tables B5–14 and Figures B5–6 in Appendix B and in Figures C3 and C4 in Appendix C.

Current Bedroom Count

Stickers and movers were more likely to live in a home with at least three bedrooms as well as more likely to prefer single detached housing than bouncers (Figure 16). Specifically, more stickers and movers (+10 percentage points, each) than bouncers lived in a home with at least a three bedrooms. In contrast, bouncers had a greater range in bedroom count. About more bouncers than other movement behaviour types lived in one-bedroom units and studios (i.e., no bedroom; +7 and +3 percentage points, respectively). All movement behaviour types were equally likely to live in two- and three-bedroom homes.

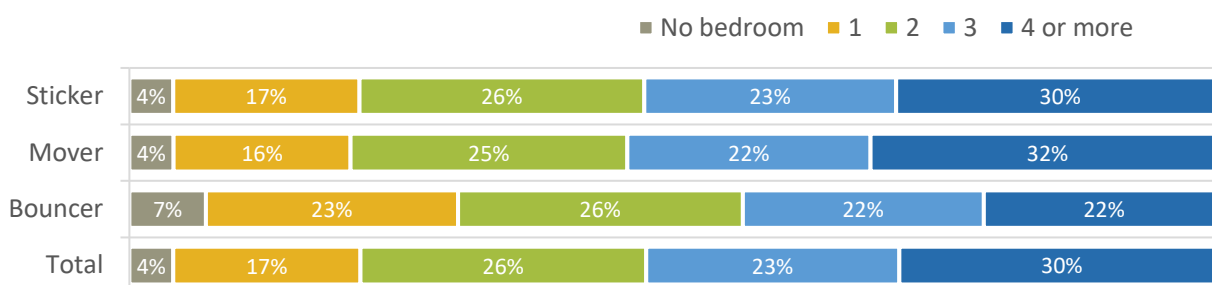


Figure 16. Distribution of current number of bedrooms (%) for the predicted household population, per movement behaviour type.

⁶⁰ Predictor variable importance was identified through the random forest models, and indicates which variables are more likely to be influential towards the predicted variable.

Preferred dwelling types per movement behaviour type corresponded with the current number of bedrooms (Figure 17). Household maintainers who preferred apartments were more likely to have one or two bedrooms, while those who preferred single-detached or multi-attached homes were more likely to have at least three bedrooms. For household maintainers with three or more bedrooms: a 60 percentage point difference was observed between those who preferred single detached and those who preferred apartments, and a 50 percentage points difference between multi-attached and apartment preference. These differences were driven by the proportion of household maintainers with four or more bedrooms per dwelling structure type preference. Household maintainers who preferred row houses were more likely to have two bedrooms (41 per cent), followed by three bedrooms (28 per cent).

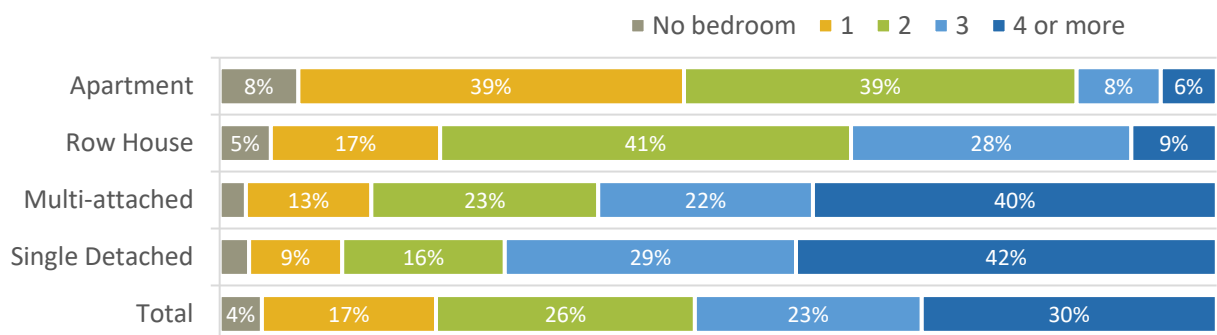


Figure 17. Distribution of current number of bedrooms (%) for the predicted household population, per preferred dwelling structure type.

Age (of Household Maintainers)

Age was also an important factor in predicting movement behaviour type (Figure 18), with bouncers more likely to be aged 25–44 (i.e., Gen Z / Millennials). Compared to all household maintainers, bouncers included a greater proportion aged 25–34 and 35–44 (+18 and +13 percentage points, respectively). Movers were mostly evenly split between ages 25–34 and 35–44, as well as ages 45–54 and 55–64 (i.e., Gen X). Stickers also included a relatively even mix of household maintainers between the ages of 35–44, 45–54, and 55–64, as well as a larger proportion of those aged 65–74 (i.e., Boomer/War generation) than movers and bouncers.

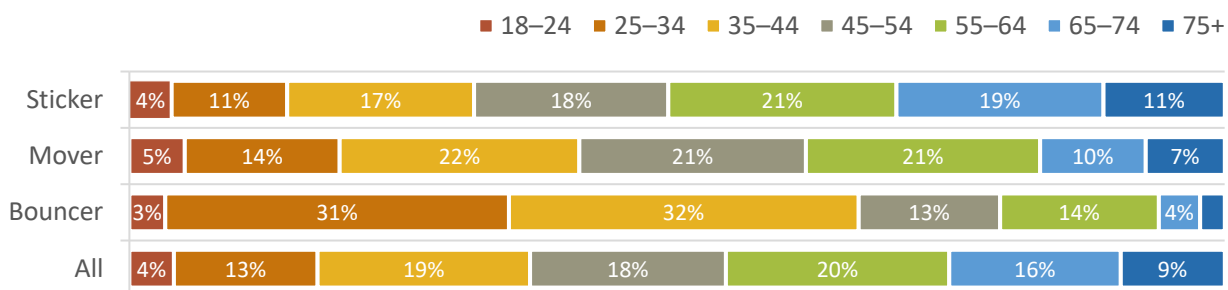


Figure 18. Distribution of age groups of household maintainers (%) for the predicted household population, per movement behaviour type.

Dwelling structure type preferences were relatively similar across those aged 25 to 64, but with select key differences (Figure 19). The preference for multi-attached housing or row houses was greater among younger household maintainers (aged 18–44), while those who preferred single-detached houses skewed relatively older (aged 65 or over). For example, a 19 percentage point difference was observed for household maintainers aged 18–44 who preferred multi-attached housing over apartments and a 16 percentage point difference between multi-attached and single-detached housing. In contrast, a quarter of those who preferred apartments were aged of 65–74 (+9 percentage points than all predicted households; +8–18 percentage points cent more than household maintainers who preferred other dwelling structure types). The remainder of household maintainers who preferred apartments were split relatively evenly across ages 25–34, 55–64, and 75+.

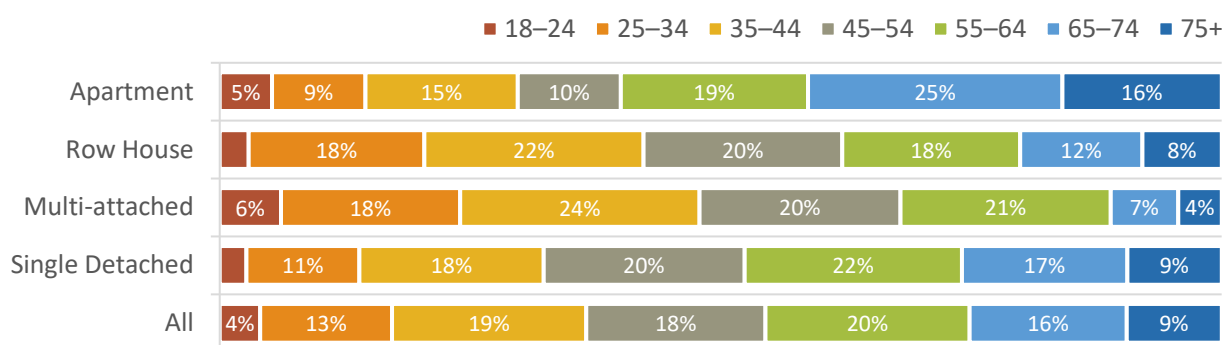


Figure 19. Distribution of age groups of household maintainers (%) for the predicted household population, per preferred dwelling structure type.

Ratio of Household Cost to Income and Household Income

The household cost to income ratio provides an understanding of housing affordability; households spending more than 30 per cent of their total annual before-tax household income on housing are likely to experience housing affordability challenges.⁶¹ For improved comprehension of the relationship between the household cost to income ratio and predicted movement behaviour type and preferred dwelling structure type, the distribution of total annual before-tax household income also investigated.

Those with greater household cost to income ratios were more likely to be bouncers than movers or stickers (Figure 20). Two-fifths of bouncers were predicted to have household costs amount to at least half of their income, compared to only about quarter each of movers and of stickers with the same ratio. Another two-fifths of bouncers indicated that their household costs were 30–49 per cent of their income. In contrast, movers and stickers were more likely to report household costs amounting to less than half of their income – with stickers more likely to report lower household cost to income ratios than movers.

In contrast to the ratio of household cost to income, distributions of household income (total annual before-tax) were generally comparable between stickers, movers, and bouncers (see Figure B5 in Appendix B). For example, about half of each movement behaviour type had a predicted total annual

⁶¹ [CMHC introduces the Housing Hardship Measure | CMHC \(cmhc-schl.gc.ca\)](https://www.cmhc-schl.gc.ca/en/CMHC-introduces-the-Housing-Hardship-Measure).

before-tax household income of at least \$85,000. Likewise, for each movement behaviour type, about one-fifth of household maintainers had household incomes of “less than \$35,000”, “\$35,000–59,999”, and “\$60,000–84,999”, each. These results emphasize the significance of normalizing household income by household cost for predicting movement behaviour type.

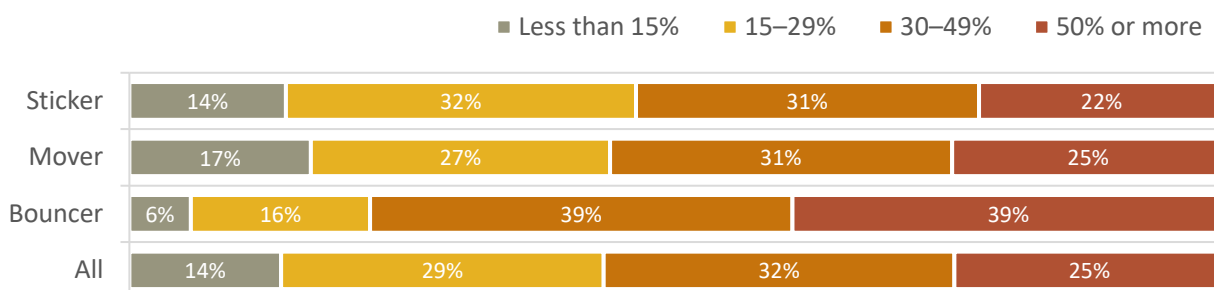


Figure 20. Distribution of household cost to income ratios (%) for the predicted household population, per movement behaviour type.

Household cost to income ratio as well as total annual before-tax household income varied between each preferred dwelling structure type (Figure 21; see Figure B6 in Appendix B for household income). Household maintainers who preferred apartments were more likely to have a low household cost to income ratio (i.e., 15 per cent or less) as well as earn low or moderately low incomes compared to those with other dwelling structure type preferences. Specifically, over a quarter of household maintainers who preferred apartments made less than \$35,000, and a fifth earned \$35,000–59,999. In comparison, only one-third of those who preferred apartments had high household incomes (i.e., \$85,000 or greater). Household maintainers who preferred single-detached homes were more likely to have a high household income (59 per cent) and spend a relatively low proportion of their income on household costs (i.e., ratio of 15–29 per cent). Those who preferred multi-attached homes were more likely to have a high household income (56 per cent) but also have relatively high household costs relative to their income. In particular, over three-fifths of household maintainers who preferred multi-attached homes were predicted to have a household cost to income ratio of 30 per cent or more.

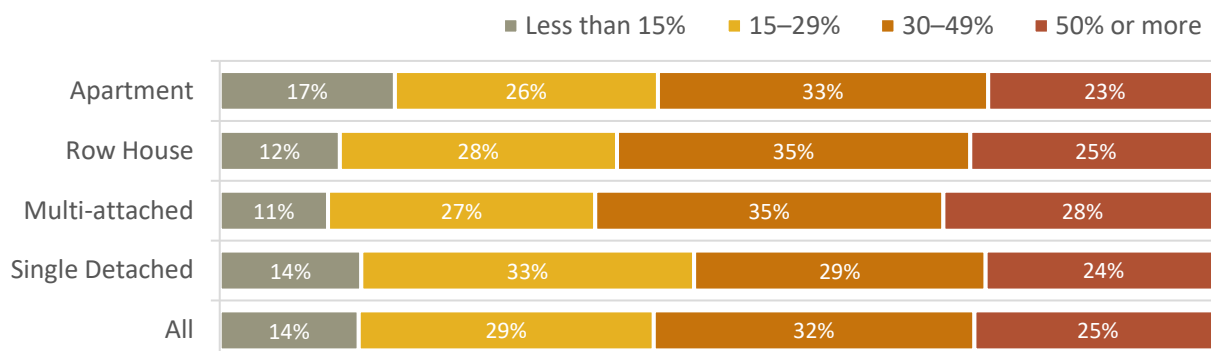


Figure 21. Distribution of household cost to income ratios (%) for the predicted household population, per dwelling structure type.

Education Level (of Household Maintainers)

Over a third of Metro Vancouver household maintainers were predicted to have a university undergraduate degree (Figure 22); however, bouncers were more likely to have a university undergraduate degree than other movement behaviour types (nearly 10 percentage point difference). Additionally, fewer bouncers were predicted to have some (but not completed) college/trade or equivalent schooling than movers and stickers. The distribution of other education levels was relatively similar across movement behaviour types.

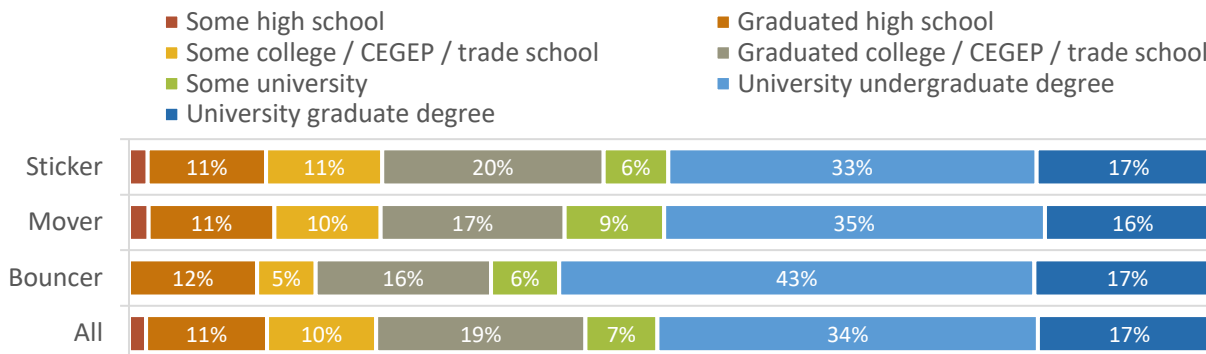


Figure 22. Distribution of education level of household maintainers (%) for the predicted household population, per movement behaviour type.

The proportions of preferred dwelling structure types were relatively consistent across education levels (Figure 23). Only a small difference (2–4 percentage points) was observed between the proportion of household maintainers who preferred multi-attached housing and had a university graduate degree versus those with less education. Meanwhile, slightly fewer household maintainers who preferred multi-attached homes had graduated college/trade school or equivalent than those with other dwelling structure type preferences (3–4 percentage point difference).

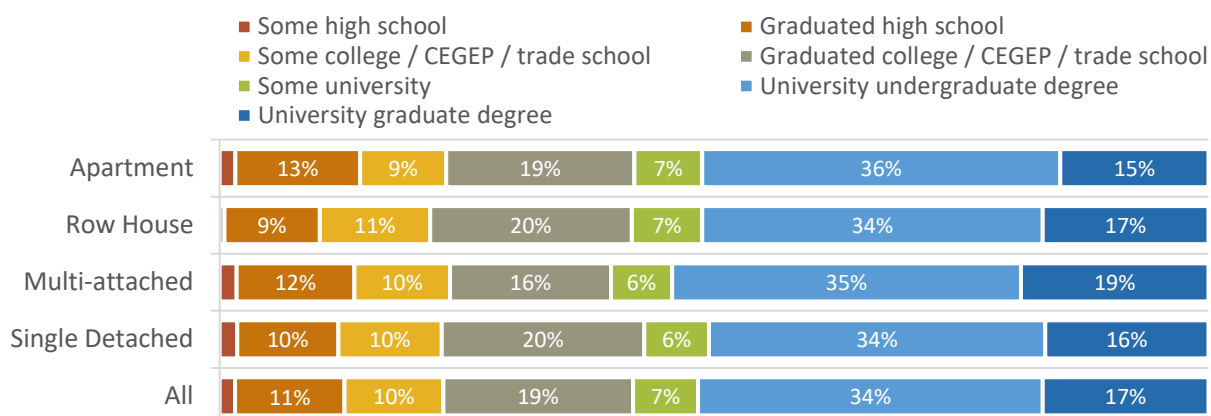


Figure 23. Distribution of education level of household maintainers (%) for the predicted household population, per preferred dwelling structure type.

Comparison to Existing Land Use and Housing Supply

As another complimentary analysis, predicted dwelling structure type preferences per jurisdiction were compared to current housing supplies using 2020 generalized land use data to assess proportional availability and theoretical demand.^{62,63,64} This section addresses the following question:

If household maintainers changed their housing location, where would they settle based on their dwelling preferences and constraints related to land use type and housing supply?

Figure 24 shows the difference between the relative preference for a given dwelling structure type to the proportion of units of the given dwelling structure type in 2020 (detailed results provided in Tables B15–19 in Appendix B). For example, this study predicted a lower preference for single-detached housing than the proportional existing supply in Anmore, Belcarra, Bowen Island, and to a lesser extent Lions Bay. Like for most jurisdictions in the region, household maintainers in Anmore, Belcarra, Bowen Island, and Lions Bay who preferred single detached homes were more likely to be aged 55–64, and to lesser extents those who were younger (aged 35–54) or older (aged 65 or over). In contrast, younger household maintainers (aged 18–34) of Anmore, Belcarra, Bowen Island, and Lions Bay were more likely to prefer multi-attached housing, row houses, or apartments. The preference for multi-attached housing in Anmore, Belcarra, Bowen Island, and Lions Bay was also greater for those earning at least \$60,000; household maintainers with lower household incomes (total annual before-tax) were equally likely to prefer single-detached and multi-attached housing (and apartments for those making less than \$35,000). However, based on historic census data, the number of single-detached housing units in Anmore, Belcarra, Bowen Island, and Lions Bay increased or remained relatively constant since 2001

⁶² Dwellings structure type preferences were compared with the following 2020 land use classes: (i) apartment preference was compared with the 2020 land use classes “Mixed Residential (Low-rise Apartment) Commercial”, “Mixed Residential (Mid/High-Rise Apartment) Commercial”, “Residential – Institutional Care / Non-Market Housing”, “Residential – Low-rise Apartment”, “Residential – Mid/High-rise Apartment”; (ii) row house preference was compared with the 2020 land use class “Residential – Townhouse”, which includes row houses / town houses and stacked attached structures; multi-attached housing preference was compared with the 2020 land use class “Residential – Multiplex”, which includes detached house properties having two or more dwelling units (e.g., a duplex unit or a detached unit having one or more secondary suites, and/or coach house or laneway house), and; single detached housing preference was compared with the 2020 land use class “Residential – Single Detached”, which includes primarily single-detached houses, as well as mobile homes and rural large lots.

⁶³ Data used is an update of the currently available dataset, *Landuse 2016*, available at: <https://open-data-portal-metrovancouver.hub.arcgis.com/datasets/metrovancouver::landuse-2016-code-description/about>.

⁶⁴ This analysis provided insight into discrepancies between dwelling stock and preferences; however, information about unit size and suitability was limited but would be influential in a household’s housing decision.

while the number of apartment units has been stagnant during the same time.^{65,66,67,68,69} Meanwhile, average household size for single-detached housing increased by 0.3 per cent in Lions Bay, from 2.64 in 2006 to 2.76 in 2021 (average household size for single-detached housing of other mentioned jurisdictions remained relatively constant during the same time).⁷⁰ Similar rates of change in average household size were also observed more recently, from 2016 to 2021, for the same jurisdictions.

On the other hand, Langley City, White Rock, City of North Vancouver, New Westminister, and to lesser extents Richmond and Vancouver, had a much lower preference for apartments than existing supply. Additionally, historic census data indicated that the number of apartment units in these jurisdictions has increased between 2001 and 2021, at rates ranging between 1.4 per cent (White Rock) to 5.1 per cent (Richmond).⁷¹ In these jurisdictions, those who did prefer apartments were more likely to be older – primarily aged 65 or older – but also many as young as age 35 in New Westminister and Vancouver. Those making less than \$35,000 in Langley City, White Rock, City of North Vancouver, New Westminister, Richmond, and Vancouver, and to a lesser extent \$60,000–84,999 (New Westminister and Vancouver), were also more likely to prefer apartments. The average household size for apartments in these jurisdictions has remained relatively similar between 2001 and 2021 (ranging between 1.47 to 2.09), except for New Westminister (+0.5 percentage points; 1.67 in 2001 to 1.83 in 2021) and Vancouver (+0.3 percentage points; 1.63 in 2001 to 1.72 in 2021).⁷² More recently, from 2016 to 2021, average

⁶⁵ [Statistics Canada. Table 98-10-0041-01. Structural type of dwelling and household size: Canada, provinces and territories, census divisions and census subdivisions, 2021 Census.](#)

⁶⁶ [Statistics Canada. Table 98-400-X2016017. Structural type of dwelling and household size for occupied private dwellings of Canada, provinces and territories, census divisions and census subdivisions, 2016 Census.](#)

⁶⁷ Statistics Canada. Custom data request, EO2194. Period of construction, structural type of dwelling, housing tenure including presence of mortgage and subsidized housing, condition of dwelling, shelter-cost-to-income ratio for owners and tenant households, 2011 National Household Survey.

⁶⁸ [Statistics Canada. Table 97-554-XCB2006032. Structural type of dwelling and household size for occupied private dwellings of Canada, provinces, territories, census divisions and census subdivisions, 2006 Census.](#)

⁶⁹ [Statistics Canada. Table 95F0487XCB2001001. Profile of marital status, common-law status, families, dwellings and households, for Canada, provinces, territories, census divisions and census subdivisions, 2001 Census.](#)

⁷⁰ Data unavailable for select years and jurisdictions. Sources include those in footnotes 69-73 and the following: (i) [Statistics Canada. Table 98-10-0043-01. Structural type of dwelling, age and gender: Canada, provinces and territories, census divisions and census subdivisions, Persons in private households in occupied private dwellings, 2021 Census;](#) (ii) [Statistics Canada. Table 98-400-X2016015. Structural type of dwelling, age and sex for the population in occupied private dwellings of Canada, provinces and territories, census divisions and census subdivisions, 2016 Census;](#) (iii) [Statistics Canada. Table 98-313-XCB2011028. Structural type of dwelling, age groups and sex for the population in occupied private dwellings of Canada, provinces and territories, census divisions and census subdivisions, 2011 Census;](#) (iv) [Statistics Canada. Table 97-554-X2006029. Structural type of dwelling and household size for occupied private dwellings of Canada, provinces and territories, census divisions, census subdivisions and dissemination areas, 2006 Census;](#) (v) [Statistics Canada. Table 95F0327XCB2001006. Household size and structural type of dwelling for occupied private dwellings, for Canada, provinces, territories, census divisions and census subdivisions, 2001 Census.](#)

⁷¹ Sources include those listed in footnotes 69-73.

⁷² Sources include those listed in footnotes 69-74.

household size for apartments increased by 1.6 per cent in Langley City (1.69 to 1.82), 0.6 per cent in New Westminster (1.78 to 1.83), and 0.5 per cent in White Rock (1.47 to 1.50).⁷³

In contrast, a greater proportion of households in the City of North Vancouver, Langley City, White Rock, and to a lesser extent Richmond, preferred single-detached homes than their jurisdictions' current stock. Similar to household maintainers in Anmore, Belcarra, Bowen Island, and Lions Bay, the preference for single-detached housing in the City of North Vancouver (CNV), Langley City, White Rock, and Richmond in particular was driven primarily by those aged 45–64 (up to age 74 for Richmond; also 75+ for CNV) and making a total annual before-tax household income of at least \$85,000 (at least \$60,000 for CNV). However, historic Census data indicated that the number of single detached housing units decreased in CNV, Langley City, White Rock, and Richmond since 2001 – at rates as low as -1.5 per cent for the City of North Vancouver and -1.1 per cent for White Rock.⁷⁴ Meanwhile, average household size for single-detached housing varied since 2001; average household size in White Rock increased by 0.3 per cent (2.49 in 2001 to 2.65 in 2021) and by 0.1 per cent in the City of North Vancouver (2.89 in 2001 to 2.95 in 2021), but decreased by 0.4 per cent in Richmond (3.39 in 2001 to 3.15 in 2021) and by 0.2 per cent in Langley City (3.10 in 2001 to 2.99 in 2021).⁷⁵ However, more recently, Langley City observed a 0.5 per cent increase in household size for single-detached housing (2.92 in 2016 to 2.99 in 2021).

Discrepancies between preferred dwelling structure type and the current supply of multi-attached and row housing were lower than those for single-detached homes and apartments. However, greater preferences for multi-attached housing than the current supply were identified for Anmore, Belcarra, Bowen Island, Langley City, and Port Moody (differences ranging between 14 to 26 per cent). This preference was driven mainly by those aged 55–64 (also aged 35–54 in Anmore, Langley City, and Port Moody; also aged 65–74 in Anmore). Greater preference for multi-attached homes in Anmore, Belcarra, Bowen Island, Langley City, and Port Moody was also identified for those with household incomes (total annual before-tax) of at least \$60,000. The number of multi-attached housing units in these jurisdictions increased from 2001 to 2021, by 9.4 per cent in Bowen Island and 8.0 per cent in Anmore.⁷⁶ 20-year trends in average household size did not vary substantially for multi-attached housing in these jurisdictions; however, since 2016, average household size for multi-attached housing has increased in several of the specified jurisdictions. This included increases of 3.8 per cent in Belcarra (1.89 in 2016 to 2.25 in 2021), 0.8 per cent in Langley City (2.54 in 2016 to 2.65 in 2021), and 0.5 per cent in Bowen Island (2.25 in 2016 to 2.30 in 2021).⁷⁷

Compared to other dwelling structure types, preferences for row houses were more closely matched with existing supply across the region. Bowen Island, Lions Bay, and West Vancouver had relatively more

⁷³ Richmond observed a 0.4 per cent decrease in average household size for apartments, from 2016 to 2021 (2.02 to 1.98); City of North Vancouver observed a 0.3 per cent increase in average household size for apartments, from 2016 to 2021 (1.76 to 1.79). Vancouver observed a 0.1 per cent increase in average household size for apartments, from 2016 to 2021 (1.71 to 1.72). Sources include those listed in footnotes 69-74.

⁷⁴ Sources include those listed in footnotes 69-73.

⁷⁵ Sources include those listed in footnotes 69-74.

⁷⁶ Sources include those listed in footnotes 69-73.

⁷⁷ Anmore observed a 0.5 per cent decrease in average household size for multi-attached housing, from 2016 to 2021 (2.84 to 2.77); Port Moody observed a 0.1 per cent decrease in average household size for multi-attached housing, from 2016 to 2021 (2.72 to 2.70). Sources include those listed in footnotes 69-74.

household maintainers who preferred row houses than the proportion of row houses in the existing stock (12–14 per cent difference). In these jurisdictions, household maintainers aged 35–44 (and 44–54 for Bowen Island and West Vancouver), and earning a household income (total annual before-tax) of at least \$60,000 (\$60,000–84,999 for Lions Bay) were more likely to prefer row houses. However, the number of row house units in these jurisdictions has remained relatively low and stagnant since 2001.⁷⁸ In contrast, a greater current supply than preference for row houses was identified in Port Moody, Pitt Meadows, and scə́waθən məsteyəx^w (Tsawwassen First Nation). This discrepancy has likely increased over time, especially in Pitt Meadows and Port Moody, which saw 3.2 and 2.6 per cent increases in row house units, respectively, since 2001.⁷⁹ Household maintainers aged 25–34 and 55–64 in Port Moody, 65–74 in Pitt Meadows, and 25–74 in scə́waθən məsteyəx^w (Tsawwassen First Nation) were more likely to prefer row houses. Additionally, those earning \$35,000–59,999 in Port Moody and Pitt Meadows, and earning less than \$35,000 in scə́waθən məsteyəx^w (Tsawwassen First Nation), were also more likely to prefer row houses. Meanwhile, average household sizes for row houses in Pitt Meadows and Port Moody have marginally decreased; by 0.2 per cent in Pitt Meadows (2.60 in 2001 to 2.48 in 2021), and by 0.1 per cent in Port Moody (2.96 in 2001 to 2.88 in 2021).⁸⁰

⁷⁸ Sources include those listed in footnotes 69-73.

⁷⁹ Data unavailable for scə́waθən məsteyəx^w (Tsawwassen First Nation). Sources include those listed in footnotes 69-73.

⁸⁰ Sources include those listed in footnotes 69-74.

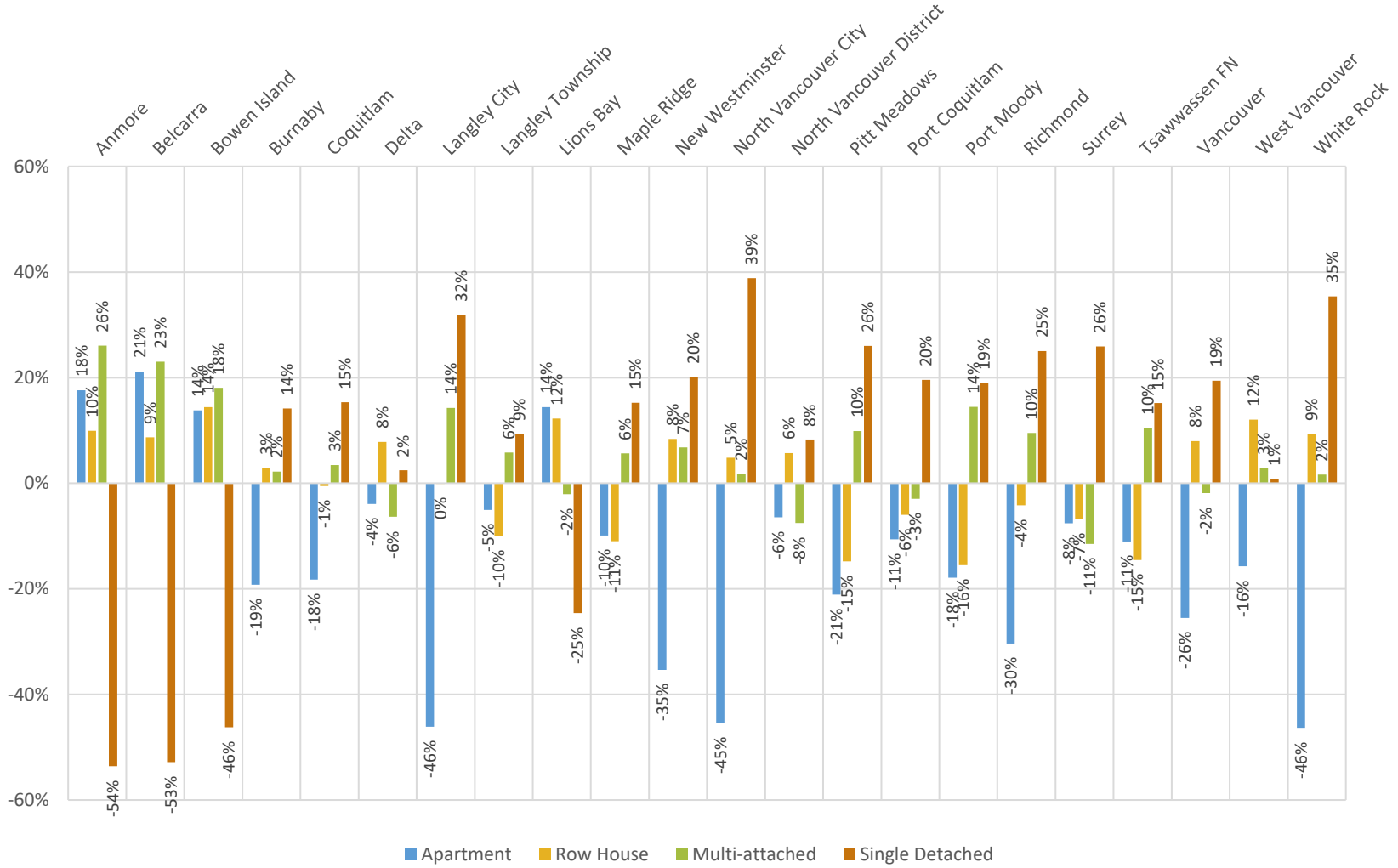


Figure 24. Difference between the proportion of units in 2020 (%) and predicted household maintainers' dwelling structure type preference (%), by jurisdiction. Positive values indicate a greater preference than existing units per given dwelling structure type, while negative values indicate a lower preference than existing units per given dwelling structure type. Notes: the difference between the proportion of units and preference per dwelling structure type does not account for the size of the unit and suitability per household, and; West Vancouver includes Horseshoe Bay.

POLICY IMPLICATIONS

Outcomes of the Metro Vancouver Residents’ Housing and Neighbourhood Preferences Model may be instructive for planners to create more targeted and efficient housing strategies, while considering factors such as transportation and hazard modelling. By aligning development with current dwelling structure type preferences, urban planning becomes more adaptive, relevant, and beneficial for the population it serves.

This project modelled *preferred* dwelling structure type; however, a household’s dwelling choice is often influenced by additional factors, including but not limited to income, rental and real estate prices, housing availability, proximity to work and/or transit, as well as specific household needs like additional bedrooms or improved accessibility. As a result of combining multiple housing needs and desires, as well as contextualizing these factors within current housing market conditions, Metro Vancouverites may be influenced to stay in their current living location, or relocate in search of meeting their needs and desires more affordably. Additionally, the new provincial housing legislation (i.e., Bills 44 and 47, 2023)^{81,82,83} has introduced new densification opportunities to address housing needs, which will likely influence housing and neighbourhood preferences across the region as well as future movement behaviour patterns. The long-term impacts associated with these changes is yet to be determined.

The following sub-sections discuss how this project’s results relate to the current state of housing, as well as implications related to *Metro 2050* goals⁸⁴ and the new provincial housing legislation.

Movement Behaviour Type

Stickers

The Metro Vancouver Residents’ Housing and Neighbourhood Preferences Model predicted that over 70 per cent of Metro Vancouver’s households (about 730,000 households) were considered stickers between 2000 and 2023. Stickers were the dominant movement behaviour type in all jurisdictions, however relatively greater proportions were identified in the North Shore (i.e., Bowen Island, City and District of North Vancouver, Lions Bay, and West Vancouver (including Horseshoe Bay)), Burrard Peninsula (i.e., Burnaby, New Westminister, and Vancouver), and South of Fraser – West (i.e., Delta, Richmond, and scəwáθən məsteyəxʷ (Tsawwassen First Nation)). Overall, an increased preference for single detached housing was observed as an individual “settled down” (i.e., progressively from “bouncer” to “mover” to “sticker”). Nearly half of stickers were predicted to prefer single detached housing (12 percentage points more than bouncers; 7 percentage points more than movers).

⁸¹ [Bill 44 – 2023: Housing Statutes \(Residential Development\) Amendment Act, 2023 \(gov.bc.ca\).](#)

⁸² [Bill 46 – 2023: Housing Statutes \(Development Financing\) Amendment Act, 2023 \(gov.bc.ca\).](#)

⁸³ [Bill 47 – 2023: Housing Statutes \(Transit-Oriented Areas\) Amendment Act, 2023 \(gov.bc.ca\).](#)

⁸⁴ [About Metro 2050: Regional Growth Strategy | Metro Vancouver.](#)

Stickers were more likely to have lower household cost to income ratios than household maintainers who relocated (i.e., movers and bouncers); nearly half of sticker households were likely to spend 30 per cent of their incomes on household costs. However, many of the remaining sticker households with predicted household cost to income ratios of 30 per cent or greater would likely experience housing affordability challenges.^{85,86} Therefore, it is possible that many Metro Vancouver stickers may have remained in the same living location due to financial limitations and the lack of alternative and suitable housing.

Movers

Between 2000 and 2023, 20 per cent of all Metro Vancouver households (207,900 households) were predicted as movers. Although movers were more likely to prefer single-detached housing (38 per cent), this preference is increasingly becoming less feasible due to the continuous increasing price of single detached homes⁸⁷ alongside a decline in supply as fewer single-detached homes have been built over the past five years.⁸⁸ Additionally, the policy framework of *Metro 2050* restricts the addition of new low density residential lots (for single detached housing) and encourages increased density in the urban containment boundary, and within Urban Centre and Frequent Transit Development Areas in particular. The discrepancy in movers' preference for single-detached housing and relatively low current supply is emphasized in member jurisdictions like the City of North Vancouver, White Rock, and Langley City, and to lesser extents in Pitt Meadows, Surrey, and Richmond. As a result, future movers may need to reconsider their preference for single detached to multi-attached housing (or other dwelling structure types). However, as multi-attached housing was a close second choice in preferred dwelling structure types among movers (i.e., 31 per cent), many movers will likely be happy to see the increased supply of multi-unit housing as a result of the new legislation.

As housing and living costs continue to rise across the region alongside the shrinking supply of low density, single detached housing, those seeking to move to affordable single detached housing may join the growing number of Metro Vancouverites migrating eastward, in search of more affordable housing options. Results of the Model found a disproportionate number of movers predicted in the eastern-most jurisdictions of Pitt Meadows and Maple Ridge (33 per cent each; 10 percentage points more than next leading jurisdictions) as well as a relatively high preference for single detached housing (62 per cent each; 10 percentage points more than the next leading jurisdictions). However, the supplementary analysis using 2020 land use data indicated that the preference for single detached housing was greater than the proportion of units in both Pitt Meadows (a difference of 26 percentage points) and Maple Ridge (a difference of 15 percentage points). Therefore, future movers may be pressured to relocate even further eastward, into the Fraser Valley, to find more affordable housing.

⁸⁵ [CMHC introduces the Housing Hardship Measure | CMHC \(cmhc-schl.gc.ca\)](https://cmhc.schl.gc.ca/).

⁸⁶ Lower incomes for those of the Boomer/War generation should be considered against pension rates and assets (e.g., property) for a better understanding of this group's financial state.

⁸⁷ Local real estate data; summarized in Part 3 – Ownership Housing in the [Housing Data Book | Metro Vancouver](#).

⁸⁸ [New housing supply: Urban sprawl and densification \(statcan.gc.ca\)](#).

Recent population modelling has found that the number of migrants moving from Metro Vancouver to other parts of the province has significantly increased since 2016.⁸⁹ Specifically, Vancouver, Surrey, and Langley Township consistently accounted for about half of migrants moving from the region to other parts of the province. About a quarter of Metro Vancouver migrants that have stayed in the province have settled in Abbotsford, Chilliwack, or Mission during the periods of 2011–2016 and 2016–2021. Those who settled in Abbotsford, Chilliwack, or Mission more recently (2016–2021) were more likely to be working-age (18–54 years old; 27 per cent) than older adults and seniors (aged 55 or over; 19 per cent). This project’s work agrees that intra-regional movers were more likely to include those of working-age (i.e., about 20 per cent for each age group of 35–44, 45–54, and 55–64). Migration trends from Metro Vancouver to the Fraser Valley may in part be associated with relatively lower housing costs in the Fraser Valley.^{90, 91} However, as housing costs continue to increase across the Lower Mainland, migrations may shift to towards other parts of British Columbia or Canada.^{92,93}

Bouncers

The remaining nine per cent of Metro Vancouver households (93,200 households) were classified as bouncers, who expressed a greater diversity of housing preferences than stickers and movers. Therefore, bouncers may prioritize other characteristics, such as housing affordability, above their dwelling structure type preference. This is highlighted by the Model’s results; although half of bouncer households were predicted to earn at least \$85,000, nearly four in every five were modelled to have relatively high household costs (i.e., a household cost to income ratio of 30 per cent or greater). Additionally, previous work found that surveyed long-term resident bouncers were more likely to make housing decisions based on household needs and financial limitations, and were more likely to be renters living in Metro Vancouver primarily due to its employment opportunities, and living in their current residence due to its close proximity to their place of work.⁹⁴

Similar to stickers although at lower proportions, bouncers were distributed relatively homogenously across the region. However, in contrast to stickers, greater proportions of bouncers were predicted in the region’s eastern jurisdictions which have historically been and continue to be more affordable.⁹⁵ For example, the average monthly rent of rental condominiums (all unit sizes) in the Fraser Valley⁹⁶ was \$700 below the regional average in 2022 and \$400 below the regional average in 2023.⁹⁷ For parts of the

⁸⁹ Statistics Canada, Census custom data tables, 5-year mobility status change of population in private households (2016 to 2021) for the Census Sub-divisions in Metro Vancouver and Fraser Valley.

⁹⁰ Monthly Market Reports published by the Greater Vancouver Real Estate Board. Available at <https://www.gvrealtors.ca/market-watch/monthly-market-report.html>.

⁹¹ Monthly Statistics published by the Fraser Valley Real Estate Board. Available at <https://www.fvreb.bc.ca/stats/>.
⁹² [The Daily — Canada's population estimates: Strong population growth in 2023 \(statcan.gc.ca\)](#).

⁹³ [Metro Elects: Exploring the Region's Top Issues and Opportunities | Mustel Group \(mustelgroup.com\)](#).

⁹⁴ Outlined in the Metro Vancouver Resident and Immigrant Behaviour Model project, available in the [MVRD Board Meeting Agenda Package \(Page 121\) - January 26, 2024 \(metrovancover.org\)](#).

⁹⁵ At least 10% of the population were bouncers in Anmore, Coquitlam, Langley Township, Port Coquitlam, Port Moody, Surrey, and White Rock.

⁹⁶ Includes Delta, Surrey, White Rock, Langley City and Township, Maple Ridge, and Pitt Meadows.

⁹⁷ [Rental Market Survey Data Tables | CMHC \(cmhc-schl.gc.ca\)](#).

Burrard Peninsula (specifically Central, Southeast and North Burnaby, and New Westminster), Richmond, and the Tri-Cities (i.e., Coquitlam, Port Coquitlam, and Port Moody), the average monthly rent of rental condominiums (all unit sizes) was \$300 below the regional average in 2022, and \$400 below the regional average in 2023.⁹⁸

In addition to greater housing affordability, bouncers may be inclined to choose their housing based on access to transit rather than preferred dwelling structure type. For example, Figure 15 shows higher concentrations of internal migrants (i.e., bouncers and movers, for the study period of 2011–2019) in several Frequent Transit Development Areas, including those along the Millennium rapid transit line extension.⁹⁹ Results from previous studies associated with Social and Community Data Land Use Project also showed higher concentrations of bouncers in Surrey City Centre and South Surrey (between 2000 and 2018),¹⁰⁰ which are connected via multiple rapid transit routes. This includes the fastest growing rapid bus route, the R1 King George, that connects several neighbourhoods to the SkyTrain system.¹⁰¹ 10-year transit priorities for the region include linking Surrey, Langley City and Langley Township with an extension to the Expo rapid transit line, and Langley City, Pitt Meadows, and Maple Ridge, as well as Surrey with White Rock, via new Bus Rapid Transit. Transit-oriented development is anticipated around the new rapid transit stations as per the province’s new transit-oriented provincial legislation (Bill 47, 2023),¹⁰² and in alignment with *Metro 2050* (Goal 1: “Create a Compact Urban Area”).¹⁰³ Given the results of the Model and previous work, an influx of bouncers can be expected in redevelopments surrounding the future planned frequent transit stations¹⁰⁴ which would also support the advancement of *Metro 2050*’s Urban Centre and Frequent Transit Development Area housing and employment growth concentration targets.

Preferred Dwelling Structure Type

Although single detached housing was the most common preferred dwelling structure type noted across Metro Vancouver, stickers were more likely to prefer single detached homes than movers or bouncers. However, stickers were also marginally more likely to prefer apartments than movers and bouncers (3 and 4 percentage point difference, respectively). A greater preference for apartments was associated with fewer bedrooms (i.e., one or two), recent retirees (i.e., those aged 65–74), low household cost to income ratios, and low to moderately-low incomes. Creating more incentives to downsize seniors out of single detached housing and into higher density dwelling structures, like transit-oriented apartments, would advance the shared goals and strategies of *Metro 2050* and work towards creating more affordable and equitable complete communities. However, as new condominium apartments have

⁹⁸ Referred to as “Suburban Vancouver” in source: [Rental Market Survey Data Tables | CMHC \(cmhc-schl.gc.ca\)](#).

⁹⁹ Previously called the Evergreen Line. Details at [Evergreen Line Rapid Transit Project - Infrastructure BC](#).

¹⁰⁰ [MVRD Board Meeting Agenda Package \(Page 121\) - January 26, 2024 \(metrovancover.org\)](#).

¹⁰¹ [Three new rapid transit corridors for Metro Vancouver | TransLink](#).

¹⁰² [Bill 47 – 2023: Housing Statutes \(Transit-Oriented Areas\) Amendment Act, 2023 \(gov.bc.ca\)](#).

¹⁰³ [About Metro 2050: Regional Growth Strategy | Metro Vancouver](#).

¹⁰⁴ Same as footnote 100.

become nearly 14 per cent smaller since those built in the 1990s,¹⁰⁵ it may be challenging for families or others that require additional living space to find suitable accommodations.

Internal migrants were more likely to prefer a greater variety of dwelling structure types – which are also higher density – than stickers. Separately, bouncers were more likely to prefer multi-attached and row houses compared to stickers (nine and six percentage point difference, respectively) and movers were more likely to prefer multi-attached housing than stickers (11 percentage point difference). However, when combined, the preference for medium/high density dwelling structure types reached 66 per cent for bouncers and 62 per cent for movers (64 per cent for internal migrants overall) – 24 to 33 percentage points more than the single detached housing preference.¹⁰⁶ These results are consistent with the input survey data, which found that long-term resident movers and bouncers were more likely to live in the region’s urban areas (i.e., city centres with a mixture of offices, apartments, and shops, or more residential urban neighbourhoods, away from downtown but with accessible amenities).¹⁰⁷

The greater preference for higher density dwelling structure types by movers and bouncers is consistent with and supports Goals 1 and 4 of *Metro 2050* (i.e., “Create a Compact Urban Area” and “Provide Diverse and Affordable Housing Choices”). The majority of internal migrants’ (and some stickers’) preferences for higher density dwelling structure types are also in alignment with recent provincial housing legislation, which encourages densification across the Urban Containment Boundary and in transit-oriented areas. However, despite internal migrants’ greater preference for medium/high density dwelling structure types than single detached housing, more relocations occurred to low density residential lands (i.e., primarily single detached housing) than to medium/high density residential lands between 2011–2019. This discrepancy, alongside results that associated higher income with a preference for single detached housing, emphasized existing financial limitations for those desiring to live in higher density housing. While the majority of surveyed long-term residents indicated a strong desire to own a home,¹⁰⁸ the highly competitive real estate market¹⁰⁹ (as well as substantive interest rate increases since March 2022)¹¹⁰ may continue to limit many from buying and relocating to a higher density home in the near future. Additionally, the current limited supply and high demand for rental units have pushed rents higher – keeping many, particularly those with lower incomes, in their current living locations.¹¹¹ The divergence between the relatively high preference for medium/high density dwelling structure types and the lower proportion of associated relocations (2011–2019) also highlights the limited availability of medium density housing (i.e., “missing middle”) across the region.^{112,113}

¹⁰⁵ [The Daily — Canadian Housing Statistics Program, 2021 \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm). Additional analysis: [New housing supply: Urban sprawl and densification \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm).

¹⁰⁶ In comparison, stickers only indicated a 55 per cent preference (7–11 per cent lower) towards medium/high density dwelling structure types (more details in the *Dwelling Preferences* subsection).

¹⁰⁷ [MVRD Board Meeting Agenda Package \(Page 121\) - January 26, 2024 \(metrovancouver.org\)](https://www.metrovancouver.org/files/media/metro/2024/01/26/MVRD-Board-Meeting-Agenda-Package-(Page-121)-January-26-2024.pdf).

¹⁰⁸ Same as footnote 107.

¹⁰⁹ [Housing Data Book | Metro Vancouver](https://www.metrovancouver.org/files/media/metro/2024/01/26/MVRD-Board-Meeting-Agenda-Package-(Page-121)-January-26-2024.pdf).

¹¹⁰ [Interest rates posted for selected products by the major chartered banks – Bank of Canada](https://www.bankofcanada.ca/interest-rates/).

¹¹¹ Same as footnote 109.

¹¹² Wegmann, J. (2020). Death to Single-Family Zoning...and New Life to the Missing Middle. *Journal of the American Planning Association*, 86:1, 113-119. <https://doi.org/10.1080/01944363.2019.1651217>.

¹¹³ [The Missing Middle Mystery - YouTube](https://www.youtube.com/watch?v=...).

STUDY LIMITATIONS

Results from the Metro Vancouver Residents' Housing and Neighbourhood Preferences Model should be considered under several study limitations, including the nature of predictive models, analysis conducted at the household versus individual level, available survey data, and variable time frames of data sources.

Predictive Models

The choice of attributes in the predictive models (i.e., random forest models) was limited to the demographic attributes captured in survey.¹¹⁴ The survey captured additional behavioural preferences and attitudes, however these variables were not recommended (by the study consultant, Leger Marketing Inc.) for use in the predictive model due to:

- no additional improvement in model accuracy scores, while making the model more computationally complex; and
- would result in increased complexity of the population synthesis model.

The survey included both current and preferred dwelling structure type; however, one aim of this study was to better understand population-level trends in dwelling preferences. As a result, the preferred dwelling structure type was chosen to be predicted at the household population level.

Long-term Resident Survey Data

Only survey responses from long-term residents were used for model training (i.e., random forest (predictive) models), but Census data controls included all regional households. Immigrant¹¹⁵ responses from the survey were not included in this study for several reasons:

- Proportions of long-term resident and immigrant survey respondents did not align with Census data.¹¹⁶
- The expansion (i.e., application of population synthesis model) was applied for all households due to the inability to breakdown the Census data by household for immigrants and long-term residents separately without the loss of additional data cross-tabulations (i.e., with age, total annual before-tax household income, and household size).

¹¹⁴ [MVRD Board Meeting Agenda Package \(Page 121\) – January 26, 2024 \(metrovancover.org\)](#).

¹¹⁵ "Immigrants" were defined as those who were not born in Canada and arrived in the year 2000 or after.

¹¹⁶ 34% of survey respondents were identified as immigrants (arrived in Canada in 2000 or later), while 21% of the 2021 census population are identified as immigrants (arrived in Canada between 2001 and 2021). Source: Statistics Canada. (2023). Census Profile. 2021 Census of Population [Table]. Statistics Canada Catalogue no. 98-316-X2021001. Ottawa. Released November 15, 2023.

<https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E> (accessed March 1, 2024).

- Using the tax-filer LAD data, differences in movement behaviour distributions between long-term residents and immigrants were between three percentage points (for movers) and 10 percentage points (for bouncers).¹¹⁷
- Using the survey data, differences in preferred dwelling structure type distributions between long-term residents and immigrants were greater; from a four percentage point difference (for row houses) and up to a difference of 20 percentage points (for single detached housing).¹¹⁸

Household Level Analysis

Survey respondents represent all people living in one dwelling unit; therefore, it was assumed that the survey respondent was the household maintainer. Additionally, because the survey data only had one response per household, some data (age and education level in particular) was only representative of the household maintainer (i.e., survey respondent).

Data Time Frames

A discrepancy was observed between survey and census data collections; the survey was conducted between March 14 and April 17, 2023, while the 2021 Census data was collected in 2021.

Recommendations for Future Work

To adequately monitor the changing needs and current preferences of the population, Leger Marketing Inc. recommends conducting the survey required for this study annually, with the following changes to overcome some shortcomings in the current work:

- Capture both household and personal responses. The population synthesis tool can then be used to generate both synthetic household and individual level data.
- Increase the sample size or conduct more stratified sampling to improve representation of smaller demographic breaks and regions. For example, consider better representation of some smaller jurisdictions within Metro Vancouver (i.e., Anmore, Belcarra, and Lions Bay).
- Use a minimum overall sample size of 4,700, and jurisdiction-level minimum sample sizes of 70 to account for demographic breaks (used as control attributes). The maximum sample size per jurisdiction could be capped at 800 to optimize costs. There may be practical challenges achieving these numbers for smaller jurisdictions like Belcarra, Anmore, and Lions Bay.

Leger Marketing Inc. recommended re-running the analysis when updated demographic information becomes available. For example, models and analysis should be updated whenever the latest Census data is available or when ad-hoc Statistics Canada research focusing on specific demographic attributes is conducted in between Censuses.

¹¹⁷ [MVRD Board Meeting Agenda Package \(Page 121\) – January 26, 2024 \(metrovancouver.org\)](#).

¹¹⁸ Same as footnote 117.

CONCLUSIONS

The Metro Vancouver Residents' Housing and Neighbourhood Preferences Model built on existing work that investigated the housing and lifestyle conditions, motivations, and preferences of Metro Vancouverites. Using a recent survey and Census data applied to population synthesis and random forest models, this project predicted the regional household movement behaviour and dwelling preferences of household maintainers. Additional, complimentary analyses provided context about how dwelling structure type preferences of internal migrants related to recent relocations (2011–2019) between residential land use types, as well as how dwelling structure type preferences of all household maintainers related to current proportional supplies per jurisdiction.

The analysis presented in this report focuses on the following questions, which guided the Metro Vancouver Residents' Housing and Neighbourhood Preferences Model work:

How many households in Metro Vancouver relocated or remained in their housing locations over the study period (2000–2023)?

Nearly 30 per cent of Metro Vancouver households relocated during the study period (2000–2023); 20 per cent (207,900 households) were movers and 9 per cent (93,200 households) were bouncers. Movers were more likely to live in Ridge Meadows, while bouncers were more likely to live in the Northeast.

Which dwelling structure(s) was more likely preferred in each jurisdiction?

Household maintainers living in South of Fraser – West and the North Shore were more likely to prefer single-detached housing, while those in the Northeast and Ridge Meadows were more likely to prefer either single detached and multi-attached housing. Similar to those who preferred single-detached housing, household maintainers who preferred row houses were more likely to live in South of Fraser – West and the North Shore. Apartment preference was greatest in the Burrard Peninsula.

What were the dwelling preferences of household maintainers who changed their housing locations?

Single detached housing was predicted as the most preferred dwelling structure type by all Metro Vancouver household maintainers, ranging between 31–62 per cent of household maintainers per jurisdiction. However, those who relocated (i.e., movers and bouncers) preferred a greater diversity of dwelling structure types than stickers, including greater preferences for multi-attached housing (+9–11 percentage points) and row houses (+5 percentage points). Stickers were marginally more likely to prefer apartments than movers and bouncers (+3 and +4 percentage points, respectively). When combined, regional household maintainers were 27 per cent more likely to prefer medium/high density dwelling structure types (i.e., row houses, multi-attached housing, and apartments) than single detached housing. However, despite the greater preference for higher density housing, more recent internal migrations (2011–2019) occurred to low density residential lands (primarily single detached housing) than to medium/high density residential lands. This discrepancy, alongside results that associated higher income with a preference for single detached housing, emphasized existing financial limitations for those who prefer higher density housing. The divergence between high preference for medium/high density dwelling structure types and the lower proportion of associated relocations (2011–2019) also highlights the limited availability of medium density housing (i.e., “missing middle”) across the region.

How did various demographic groups differ in their likelihood to relocate and dwelling preferences?

Bouncers were more likely to be Millennials or Gen Z (aged 25–44 or 35–44), have a university undergraduate degree, and report household costs to income ratios of 30–49 per cent. Movers were more likely to be older (aged 35–44, 45–54, or 55–64), have a partially completed college/trade degree or equivalent, and report lower household cost to income ratios than bouncers. In comparison, stickers included a larger proportion of those aged 65–74, and were more likely to report low household cost to income ratios. Household cost to income ratio was a more important predictor of movement behaviour and preferred dwelling structure type than household income (total annual before-tax) alone.

Household maintainers who preferred apartments were more likely to be older (aged 65 or over), have one or two bedrooms, and report low household cost to income ratios (and earn less than \$60,000). On the other hand, those who preferred multi-attached housing were more likely to be younger (aged 18–44), have a university graduate degree or only a high school diploma, have at least three bedrooms, and report high household cost to income ratios (and more likely to earn a high income, of at least \$85,000). A preference for single detached homes was associated with a high household income, relatively low household costs, and at least three bedrooms. Those who preferred row houses were more likely to be younger (aged 25–44), earn \$35,000–84,999, and have two bedrooms (or to a lesser extent, three bedrooms). Education levels were similar across all dwelling structure type preferences.

If household maintainers changed their housing location, where would they settle based on their dwelling preferences and constraints related to land use type and housing supply?

Anmore, Belcarra, Bowen Island, and to a lesser extent Lions Bay, had a greater proportion of existing single detached housing units (based on 2020 land use data) than the predicted preference. Instead, household maintainers (especially younger Millennials/Gen Z (18–34)) in these jurisdictions had greater preferences for multi-attached, row house, and apartments units than existing and historic supply (based on Census data). In contrast, Langley City, White Rock, City of North Vancouver, and Richmond, exhibited greater preferences for single detached housing than existing supply provided and despite a decreasing supply since 2001. Those who preferred single detached homes in these jurisdictions (as well as in Anmore, Belcarra, Bowen Island, and Lions Bay) were more likely to be middle-aged (45–64) and earning at least \$85,000 (at least \$60,000 for City of North Vancouver).

Lower preferences for apartments than existing and 20-year trends in supply were observed in Langley City, White Rock, City of North Vancouver, New Westminister, and to lesser extents Richmond and Vancouver. Those who preferred apartments were more likely to be older (65 or over) and earn less than \$35,000. For New Westminister and Vancouver, this also included those as young as age 35 and earning \$60,000–84,999. Similarly, Langley City and Port Moody exhibited greater preferences for multi-attached housing than current and 20-year trends in supply. Those who were middle-aged (35–54) and with incomes of at least \$60,000 were more likely to prefer multi-attached homes. As the region continues to generally shift towards transit-oriented and compact urban areas, the increasing supply of medium and higher density dwelling structures and declining supply of single detached housing may cause a mismatch in preferred and realized dwelling structure types for many.

APPENDIX A – GLOSSARY

Term	Definition
Boomer/War	Boomer or War generations include those born between 1927–1962 (aged 61 to 96 at the time of survey). Associated with ages 65 or over in census data.
Bouncer	An individual who has relocated at least twice (i.e., at least three different postal codes) during the study period, with at least one relocation during the last five years of the study period. Considered an “internal migrant” alongside “movers”.
Burrard Peninsula	Includes Burnaby, New Westminster, and Vancouver.
Gen X	Generation X includes those born between 1963–1980 (aged 43 to 60 at the time of the survey). Associated with ages 45–64 in census data.
Household	Household refers to a person or group of persons who occupy the same dwelling and do not have a usual place of residence elsewhere in Canada or abroad.
Household cost to income ratio	“Household cost to income ratio” refers to the proportion of a household’s total annual before-tax income that is reportedly used on household costs, including monthly rent or the mortgage payments, property taxes and condominium fees (for owners) and the costs of electricity, heat, hot water, sewer, etc.
Immigrant	Immigrants for this study are defined as those who were not born in Canada and arrived in the year 2000 or after.
Internal migrant	Includes both movers and bouncers.
Millennial/Gen Z	Millennial or Gen Z generations include those born between 1981–1998 (aged 18 to 42 at the time of survey). Associated with ages 15–44 in census data.
Mover	An individual who has relocated once (i.e., two different postal codes) during the study period. Considered an “internal migrant” alongside “bouncers”.
Northeast	Includes Anmore, Belcarra, Coquitlam, Port Coquitlam, and Port Moody.
North Shore	Includes Bowen Island, City and District of North Vancouver, Lions Bay, and West Vancouver (including Horseshoe Bay).
Resident	Residents (or long-term residents) for this study are defined as those who were born in Canada or arrived in Canada before the year 2000.
Ridge Meadows	Includes Maple Ridge and Pitt Meadows.
South of Fraser – East	Includes Langley City and Township, Surrey, and White Rock.
South of Fraser – West	Includes Delta, Richmond, and sc̓əw̓aθən məsteyəx ^w (Tsawwassen First Nation).
Sticker	An individual who has either: (i) remained in the same location (i.e., only one postal code) during the study period, or; (ii) has relocated at least twice (i.e., at least three different postal codes) prior to the last five years of the study period.
“The city”	“The city” refers to: (i) city centres or downtown cores, with a mixture of offices, apartments, and shops, or; (ii) more residential urban neighbourhoods, away from downtown but with accessible amenities.

APPENDIX B – SUPPLEMENTAL DATA

Table B1. Variable details, including data source, model application, and description. MBT refers to the Movement Behaviour Type random forest model, PDST refers the Preferred Dwelling Structure Type random forest model, and PS refers to the Population Synthesis model.

Variable	Data source(s)	Model(s)	Description
Household age	Survey, Census	MBT, PDST, PS	Age of survey respondent (assumed household maintainer). One of: <ul style="list-style-type: none"> - 18–24¹¹⁹ - 25–34 - 35–44 - 45–54 - 55–64 - 65–74 - Greater than or equal to 75
Household generation (derived from age groups)	Survey, Census	PS	Generation of survey respondent (assumed household maintainer). One of: <ul style="list-style-type: none"> - Millennial/Gen Z (age 18–42 in survey; age 15–44 in census) - Gen X (age 43–60 in survey; age 45–64 in census) - Boomer/War (age 61 or over in survey; 65 or over in census)
Household income (total annual before-tax)	Survey, Census	MBT, PDST, PS	One of: <ul style="list-style-type: none"> - Less than \$35,000¹²⁰ - \$35,000 to \$59,999¹²¹ - \$60,000 to \$84,999¹²² - \$85,000 or over¹²³

¹¹⁹ Some mismatch occurred between survey and census data. Age '18–24' in the survey were linked to the age '15–24' in the census data.

¹²⁰ Some mismatch occurred between survey and census data. 'Less than \$35,000' total annual before-tax income in the survey was linked to the following census-based total annual before-tax incomes: 'Under \$5,000', '\$5,000 to \$9,999', '\$10,000 to \$14,999', '\$15,000 to \$19,999', '\$20,000 to \$24,999', '\$25,000 to \$29,999', '\$30,000 to \$34,999'.

¹²¹ Some mismatch occurred between survey and census data. '\$35,000 to \$59,999' total annual before-tax income in the survey was linked to the following census-based total annual before-tax incomes: '\$35,000 to \$39,999', '\$40,000 to \$44,999', '\$45,000 to \$49,999', '\$50,000 to \$59,999'.

¹²² Some mismatch occurred between survey and census data. '\$60,000 to \$84,999' total annual before-tax income in the survey was linked to the following census-based total annual before-tax incomes: '\$60,000 to \$69,999', '\$70,000 to \$79,999', '\$80,000 to \$89,999'.

¹²³ Some mismatch occurred between survey and census data. '\$85,000 or over' total annual before-tax income in the survey was linked to the following census-based total annual before-tax incomes: '\$90,000 to \$99,999', '\$100,000 to \$124,999', '\$125,000 to \$149,999', '\$150,000 to \$199,999', '\$200,000 and over'.

Household size	Survey, Census	MBT, PDST, PS	Number of people in household
Household composition	Survey	MBT, PDST, PS	Number of children
Education level	Survey	MBT, PDST, PS	One of: <ul style="list-style-type: none"> - Some high school - Graduated high school - Some college/CEGEP¹²⁴/trade school - Graduated from college/CEGEP/trade school - Some university, but did not finish - University undergraduate degree - University graduate degree - Prefer not to answer
Commute time	Survey	MBT, PDST, PS	One of: <ul style="list-style-type: none"> - Less than 30 minutes - 30 to 59 minutes - 60 minutes or more - Don't know - Prefer not to answer - Missing
Number of bedrooms	Survey	MBT, PDST, PS	Number of bedrooms (currently)
Gender	Survey	MBT, PDST, PS	One of: <ul style="list-style-type: none"> - Male - Female - Prefer to self-identify
Ethnicity	Survey	MBT*, PDST*, PS	All that apply of: <ul style="list-style-type: none"> - Caucasian/White/European/UK - Indigenous/First Nations/Métis - Latin American (Mexican, Chilean, Costa Rican, etc.) - Arab - Black - South Asian (Indian, Bangladeshi, Pakistani, Sri Lankan, etc.) - Chinese - Korean - Japanese

¹²⁴ CEGEP is a publicly funded college exclusive to Quebec, providing technical, academic, vocational or a mix of programs.

			<ul style="list-style-type: none"> - Other southeast Asian (Filipino, Vietnamese, Cambodian, Malaysian, etc.) - West Asian (Iranian, Afghan, etc.) - Other - Prefer not to answer <p>* Only the following ethnic groups were applied for MBT and PDST due to sample size limitations:</p> <ul style="list-style-type: none"> - Caucasian/White/European/UK - Chinese - South Asian (Indian, Bangladeshi, Pakistani, Sri Lankan, etc.) - Latin American (Mexican, Chilean, Costa Rican, etc.)
Household cost to income ratio	Survey	MBT, PDST, PS	<p>One of:</p> <ul style="list-style-type: none"> - Less than 15% - 15% to 29% - 30% to 49% - 50% or more - Don't know - Prefer not to answer
Movement behaviour type	Survey	MBT, PDST, PS	<p>Included in survey and predicted via the 'Movement Behaviour Type' random forest model (i.e., dependent variable). One of:</p> <ul style="list-style-type: none"> - Sticker - Mover - Bouncer
Dwelling structure type	Survey	PDST, PS	<p>Included in survey and predicted via the 'Preferred Dwelling Structure Type' random forest model (i.e. dependent variable). Not included in the 'Movement Behaviour Type' random forest model. One of:</p> <ul style="list-style-type: none"> - Single detached house - Multi-attached house - Row house - Apartment
Jurisdiction	Survey, Census	PS	<p>One of:</p> <ul style="list-style-type: none"> - Anmore - Belcarra - Bowen Island - Burnaby - Coquitlam - Delta - Langley City - Langley Township - Lions Bay

			<ul style="list-style-type: none"> - Maple Ridge - New Westminster - North Vancouver – City - North Vancouver – District - Pitt Meadows - Port Coquitlam - Port Moody - Richmond - Surrey - scáwaθan másteyax^w (Tsawwassen First Nation) - Vancouver - West Vancouver (including Horseshoe Bay) - White Rock
Sub-region (derived from “jurisdiction”)	Survey, Census	MBT, PDST, PS	<p>Applied for the survey data age, household income (total annual before-tax), and household size demographic breaks to reach minimum sample size required for the PS model. One of:</p> <ul style="list-style-type: none"> - Burrard Peninsula (includes Burnaby, New Westminster, Vancouver – City) - Northeast (includes Anmore, Belcarra, Coquitlam, Port Coquitlam, Port Moody) - North Shore (includes Bowen Island, Lions Bay, North Vancouver – City, North Vancouver – District, West Vancouver (includes Horseshoe Bay)) - Ridge Meadows (includes Maple Ridge, Pitt Meadows) - South of Fraser – East (includes Langley City, Langley Township, Surrey, White Rock) - South of Fraser – West (includes Delta, Richmond, scáwaθan másteyax^w (Tsawwassen First Nation))

Table B2. Distribution of movement behaviour for household survey respondents (long-term residents) and the predicted household population.

Movement Behaviour	Household Survey		Predicted Household Population	
	Count	Per cent	Count	Per cent
Stickers	1,991	67%	730,811	71%
Movers	693	23%	207,932	20%
Bouncers	305	10%	93,197	9%
Total	2,989	100%	1,031,940	100%

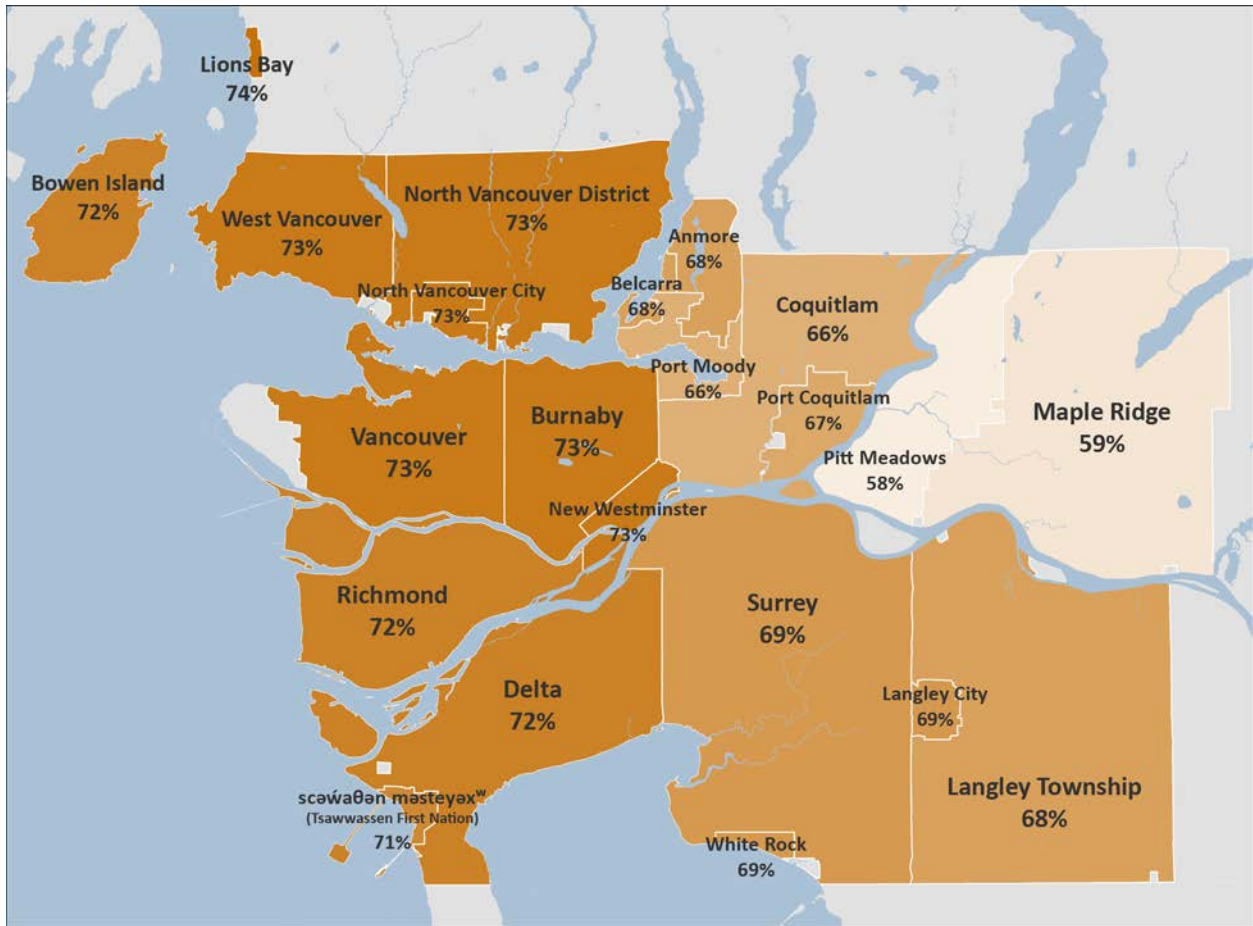


Figure B1. Percentage (%) of jurisdictions' predicted households classified as stickers. The graduated colour scheme corresponds with the minimum and maximum values of the data presented.

Table B3. Distribution of preferred dwelling structure type for the total predicted household population, per movement behaviour type.

Preferred Dwelling Structure Type	Sticker		Mover		Bouncer	
	Count	Per cent	Count	Per cent	Count	Per cent
Apartment	167,392	23%	41,435	20%	17,826	19%
Row house	87,015	12%	23,736	11%	16,973	18%
Multi-attached	146,950	20%	63,785	31%	27,185	29%
Single detached	329,454	45%	78,976	38%	31,213	33%
All preferred dwelling structure types	730,811	100%	207,932	100%	93,197	100%

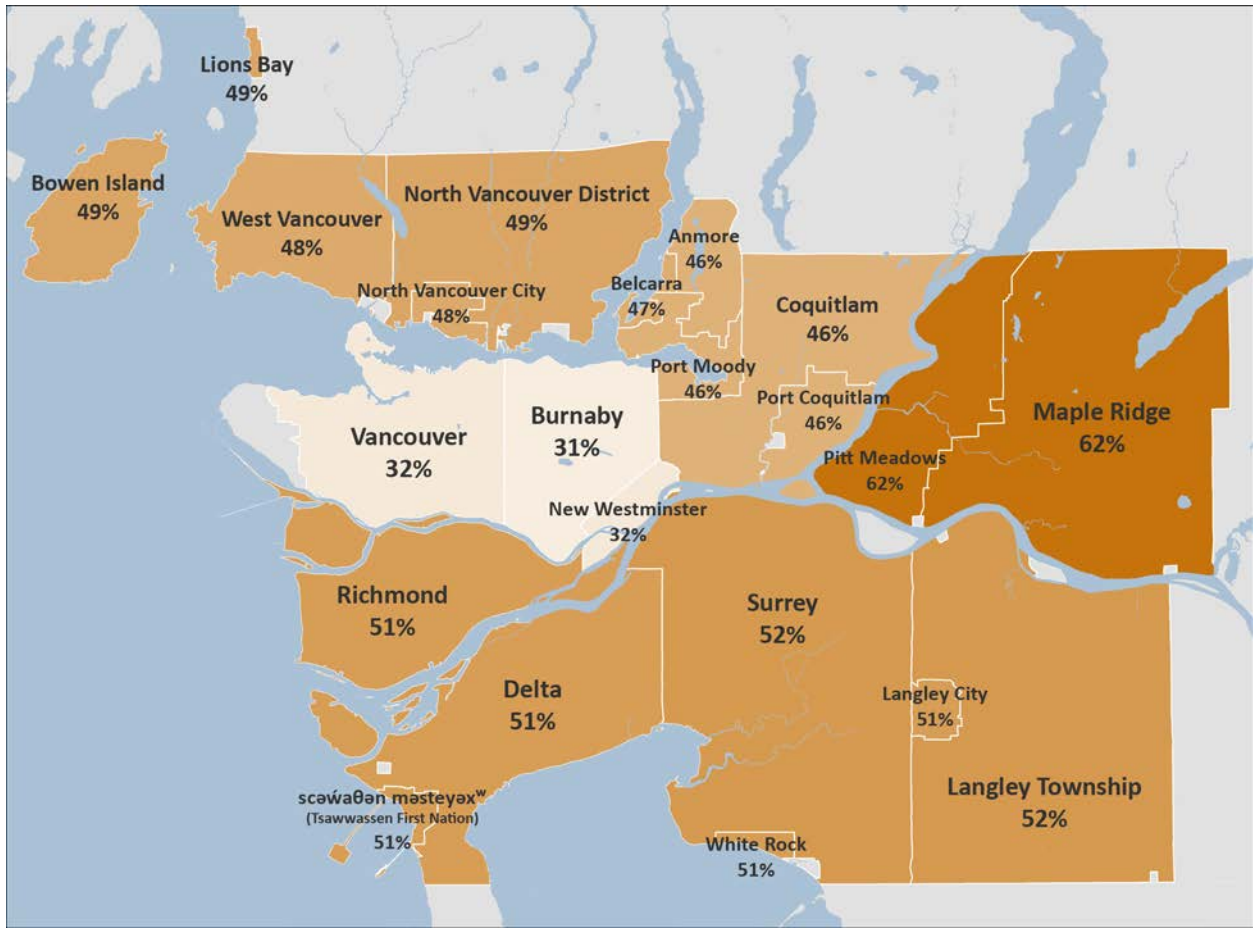


Figure B2. Percentage (%) of jurisdictions' predicted households with the preference for single detached housing. The graduated colour scheme corresponds with the minimum and maximum values of the data presented.

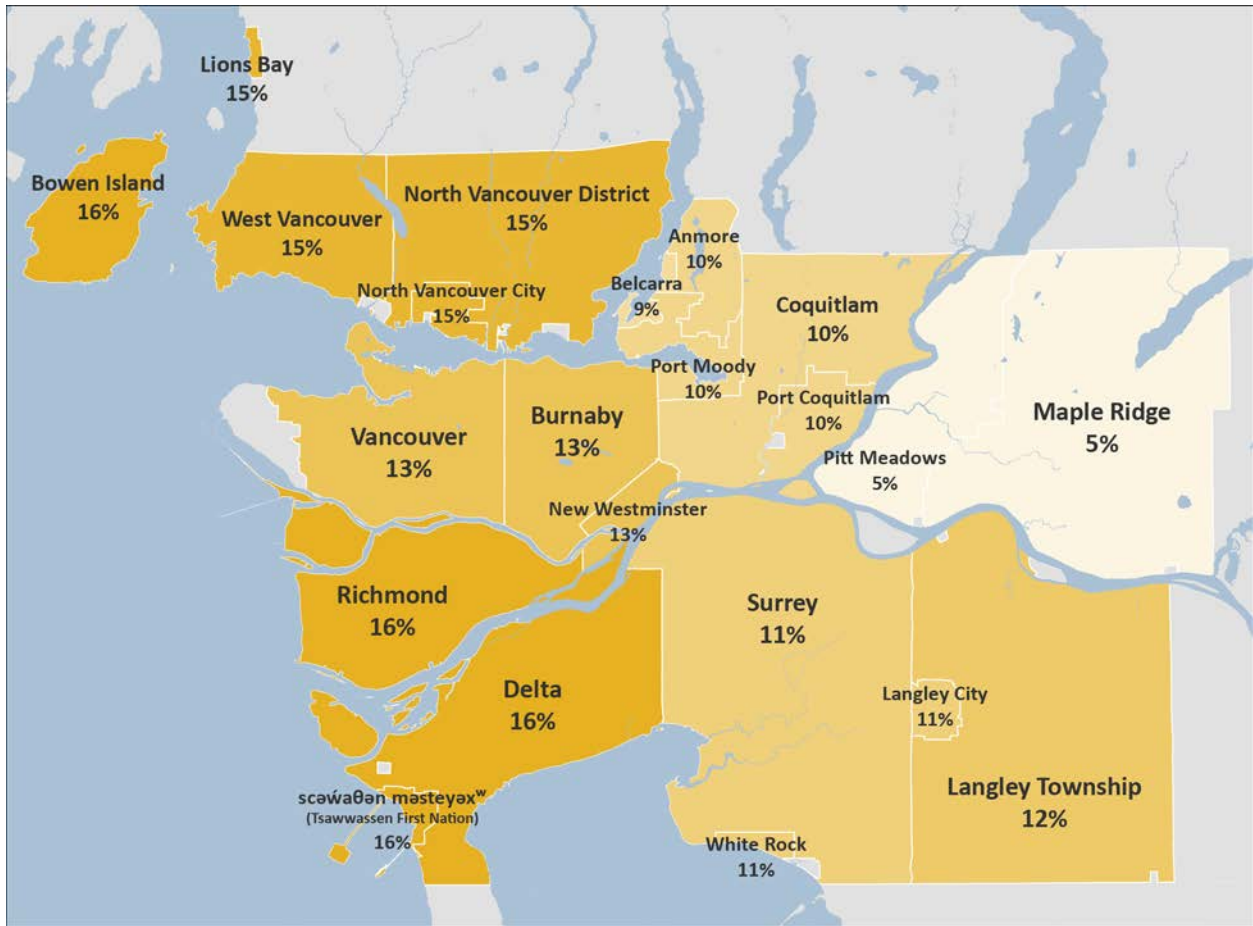


Figure B3. Percentage (%) of jurisdictions' predicted households with the preference for row housing. The graduated colour scheme corresponds with the minimum and maximum values of the data presented.

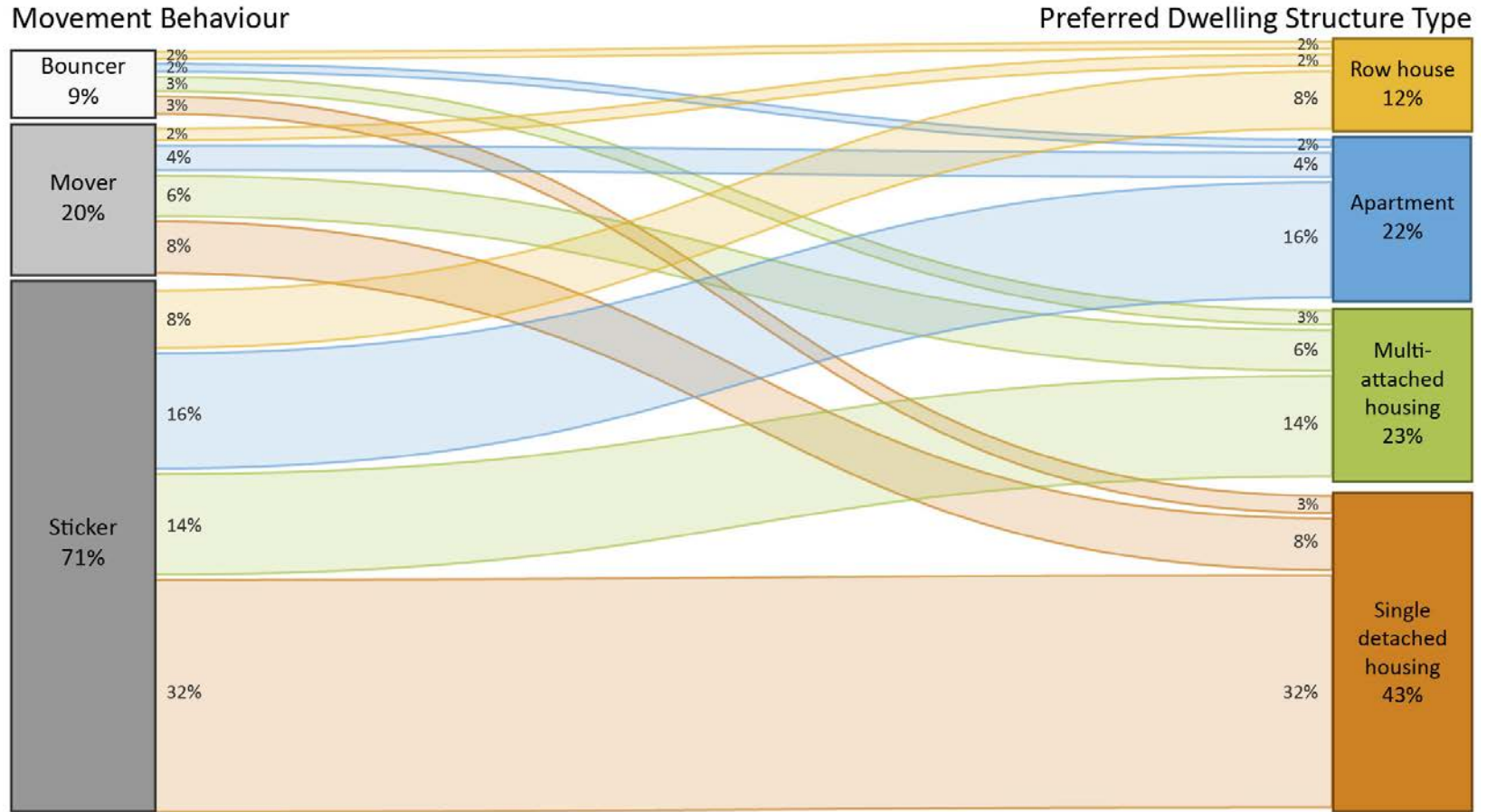


Figure B4. Overall proportions (%) of predicted household maintainers' movement behaviour and preferred dwelling structure types [boxes], and the overall distribution (%) of combined movement behaviour and preferred dwelling structure type groups [flow polygons].

Table B4. Distribution (%) of predicted preferred dwelling structure type, per movement behaviour type, for each jurisdiction. Rows sum to 100%.

Jurisdiction	Movement Behaviour	Dwelling Structure Type Preference			
		Single Detached	Multi-attached	Row House	Apartment
Bowen Island Municipality	All movement behaviours	49%	18%	16%	17%
	<i>Sticker</i>	52%	14%	13%	20%
	<i>Mover</i>	49%	15%	25%	11%
	<i>Bouncer</i>	20%	56%	23%	0%
City of Burnaby	All movement behaviours	31%	23%	13%	32%
	<i>Sticker</i>	32%	21%	12%	35%
	<i>Mover</i>	27%	32%	13%	27%
	<i>Bouncer</i>	36%	27%	17%	20%
City of Coquitlam	All movement behaviours	46%	26%	10%	18%
	<i>Sticker</i>	52%	20%	10%	18%
	<i>Mover</i>	41%	45%	4%	9%
	<i>Bouncer</i>	21%	30%	18%	31%
City of Delta	All movement behaviours	51%	19%	16%	15%
	<i>Sticker</i>	57%	16%	17%	10%
	<i>Mover</i>	39%	25%	10%	26%
	<i>Bouncer</i>	26%	35%	14%	25%
City of Langley	All movement behaviours	51%	24%	11%	13%
	<i>Sticker</i>	56%	22%	10%	12%
	<i>Mover</i>	43%	33%	10%	14%
	<i>Bouncer</i>	36%	22%	22%	20%
City of Maple Ridge	All movement behaviours	62%	24%	5%	9%
	<i>Sticker</i>	68%	23%	4%	5%
	<i>Mover</i>	51%	25%	6%	19%
	<i>Bouncer</i>	63%	31%	7%	0%

Jurisdiction	Movement Behaviour	Dwelling Structure Type Preference			
		Single Detached	Multi-attached	Row House	Apartment
City of New Westminster	All movement behaviours	32%	23%	13%	32%
	<i>Sticker</i>	32%	21%	13%	34%
	<i>Mover</i>	28%	31%	14%	27%
	<i>Bouncer</i>	34%	27%	19%	20%
City of North Vancouver	All movement behaviours	48%	19%	15%	17%
	<i>Sticker</i>	51%	16%	13%	20%
	<i>Mover</i>	49%	16%	22%	12%
	<i>Bouncer</i>	24%	54%	22%	0%
City of Pitt Meadows	All movement behaviours	62%	24%	5%	9%
	<i>Sticker</i>	69%	23%	3%	5%
	<i>Mover</i>	51%	25%	7%	18%
	<i>Bouncer</i>	63%	28%	8%	0%
City of Port Coquitlam	All movement behaviours	46%	26%	10%	17%
	<i>Sticker</i>	52%	20%	10%	18%
	<i>Mover</i>	42%	44%	4%	9%
	<i>Bouncer</i>	21%	30%	19%	30%
City of Port Moody	All movement behaviours	46%	26%	10%	18%
	<i>Sticker</i>	52%	20%	10%	18%
	<i>Mover</i>	42%	44%	4%	10%
	<i>Bouncer</i>	21%	29%	19%	30%
City of Richmond	All movement behaviours	51%	19%	16%	15%
	<i>Sticker</i>	56%	16%	17%	10%
	<i>Mover</i>	39%	25%	10%	26%
	<i>Bouncer</i>	25%	35%	13%	26%
City of Surrey	All movement behaviours	52%	24%	11%	13%
	<i>Sticker</i>	56%	22%	10%	12%
	<i>Mover</i>	45%	32%	10%	13%
	<i>Bouncer</i>	37%	23%	21%	19%

Jurisdiction	Movement Behaviour	Dwelling Structure Type Preference			
		Single Detached	Multi-attached	Row House	Apartment
City of Vancouver	All movement behaviours	32%	23%	13%	32%
	<i>Sticker</i>	32%	21%	12%	35%
	<i>Mover</i>	28%	31%	13%	27%
	<i>Bouncer</i>	36%	27%	17%	19%
City of White Rock	All movement behaviours	51%	25%	11%	13%
	<i>Sticker</i>	55%	22%	10%	12%
	<i>Mover</i>	44%	34%	10%	12%
	<i>Bouncer</i>	36%	23%	23%	19%
District of North Vancouver	All movement behaviours	49%	19%	15%	17%
	<i>Sticker</i>	51%	16%	13%	20%
	<i>Mover</i>	50%	16%	22%	12%
	<i>Bouncer</i>	24%	53%	23%	0%
District of West Vancouver	All movement behaviours	48%	19%	15%	17%
	<i>Sticker</i>	51%	16%	13%	20%
	<i>Mover</i>	49%	16%	22%	12%
	<i>Bouncer</i>	25%	53%	23%	0%
Township of Langley	All movement behaviours	52%	24%	12%	13%
	<i>Sticker</i>	56%	22%	10%	12%
	<i>Mover</i>	45%	32%	10%	13%
	<i>Bouncer</i>	36%	23%	22%	19%
scəwáθən məsteyəx™ (Tsawwassen First Nation)	All movement behaviours	51%	18%	16%	15%
	<i>Sticker</i>	57%	14%	19%	10%
	<i>Mover</i>	40%	26%	10%	24%
	<i>Bouncer</i>	30%	28%	13%	29%
Village of Anmore	All movement behaviours	46%	26%	10%	18%
	<i>Sticker</i>	50%	21%	11%	19%
	<i>Mover</i>	43%	43%	4%	9%
	<i>Bouncer</i>	28%	27%	16%	29%

Jurisdiction	Movement Behaviour	Dwelling Structure Type Preference			
		Single Detached	Multi-attached	Row House	Apartment
Village of Belcarra	All movement behaviours	47%	23%	9%	21%
	<i>Sticker</i>	54%	15%	9%	21%
	<i>Mover</i>	38%	48%	3%	11%
	<i>Bouncer</i>	20%	20%	16%	44%
Village of Lions Bay	All movement behaviours	49%	20%	15%	16%
	<i>Sticker</i>	53%	16%	12%	19%
	<i>Mover</i>	42%	14%	31%	13%
	<i>Bouncer</i>	25%	57%	19%	0%

Table B5. Distribution (%) of predicted movement behaviour types, by age (of household maintainer). Rows sum to 100%.

Movement Behaviour	Age						
	18–24	25–34	35–44	45–54	55–64	65–74	75+
Sticker	4%	11%	17%	18%	21%	19%	11%
Mover	5%	14%	22%	21%	21%	10%	7%
Bouncer	3%	31%	32%	13%	14%	4%	2%
All movement behaviour types	4%	13%	19%	18%	20%	16%	9%

Table B6. Distribution (%) of predicted preferred dwelling structure types, by age (of household maintainer). Rows sum to 100%.

Preferred Dwelling Structure	Age						
	18-24	25-34	35-44	45-54	55-64	65-74	75+
Single detached	3%	11%	18%	20%	22%	17%	9%
Multi-attached	6%	18%	24%	20%	21%	7%	4%
Row house	3%	18%	22%	20%	18%	12%	8%
Apartment	5%	9%	15%	10%	19%	25%	16%
All preferred dwelling structure types	4%	13%	19%	18%	20%	16%	9%

Table B7. Distribution (%) of predicted movement behaviour types, by ratio of household cost to income. Rows sum to 100%.

Movement Behaviour	Ratio of Household Cost to Income			
	Less than 15%	15-29%	30-49%	50% or more
Sticker	14%	32%	31%	22%
Mover	17%	27%	31%	25%
Bouncer	6%	16%	39%	39%
All movement behaviour types	14%	29%	32%	25%

Table B8. Distribution (%) of predicted preferred dwelling structure types, by ratio of household cost to income. Rows sum to 100%.

Preferred Dwelling Structure	Ratio of Household Cost to Income			
	Less than 15%	15–29%	30–49%	50% or more
Single detached	14%	33%	29%	24%
Multi-attached	11%	27%	35%	28%
Row house	12%	28%	35%	25%
Apartment	17%	26%	33%	23%
All preferred dwelling structure types	14%	29%	32%	25%

Table B9. Distribution (%) of predicted movement behaviour types, by total annual before-tax household income. Rows sum to 100%.

Movement Behaviour	Total Annual Before-tax Household Income			
	Less than \$35,000	\$35,000–59,999	\$60,000–84,999	\$85,000 or over
Sticker	16%	17%	19%	49%
Mover	13%	15%	17%	55%
Bouncer	17%	12%	20%	51%
All movement behaviour types	15%	16%	18%	50%

Table B10. Distribution (%) of predicted preferred dwelling structure types, by total annual before-tax household income. Rows sum to 100%.

Preferred Dwelling Structure	Total Annual Before-tax Household Income			
	Less than \$35,000	\$35,000–59,999	\$60,000–84,999	\$85,000 or over
Single detached	11%	13%	17%	59%
Multi-attached	11%	16%	17%	56%
Row house	14%	20%	25%	41%
Apartment	28%	21%	19%	32%
All preferred dwelling structure types	15%	16%	18%	50%

Table B11. Distribution (%) of predicted movement behaviour types, by education level (of household maintainer). Rows sum to 100%.

Movement Behaviour	Education Level						
	Some high school	Graduated high school	Some college/CEGEP/trade school	Graduated from college/CEGEP/trade school	Some university	University undergraduate degree	University graduate degree
Sticker	2%	11%	11%	20%	6%	33%	17%
Mover	2%	11%	10%	17%	9%	35%	16%
Bouncer	0%	12%	5%	16%	6%	43%	17%
All movement behaviour types	2%	11%	10%	19%	7%	34%	17%

Table B12. Distribution (%) of predicted preferred dwelling structure types, by education level (of household maintainer). Rows sum to 100%.

Preferred Dwelling Structure	Education Level						
	Some high school	Graduated high school	Some college/CEGEP/trade school	Graduated from college/CEGEP/trade school	Some university	University undergraduate degree	University graduate degree
Single detached	2%	10%	10%	20%	6%	34%	16%
Multi-attached	2%	12%	10%	16%	6%	35%	19%
Row house	0%	9%	11%	20%	7%	34%	17%
Apartment	2%	13%	9%	19%	7%	36%	15%
All preferred dwelling structure types	2%	11%	10%	19%	7%	34%	17%

Table B13. Distribution (%) of predicted movement behaviour types, by sub-region. Northeast includes Anmore, Belcarra, Coquitlam, Port Coquitlam, and Port Moody; South of Fraser – West includes Delta, Richmond, and scáwáðan məsteyax^w (Tsawwassen First Nation); North Shore includes Bowen Island, Lions Bay, and the City and District of North Vancouver; Burrard Peninsula includes Burnaby, New Westminster, and Vancouver; South of Fraser – East includes Langley City and Township, Surrey, and White Rock, and; Ridge Meadows includes Maple Ridge and Pitt Meadows. Rows sum to 100%.

Movement Behaviour	Sub-region					
	Northeast	South of Fraser - West	North Shore	Burrard Peninsula	South of Fraser - East	Ridge Meadows
Sticker	8%	12%	8%	44%	24%	3%
Mover	10%	12%	7%	38%	27%	6%
Bouncer	11%	9%	8%	42%	26%	3%
All movement behaviour types	9%	12%	8%	43%	25%	4%

Table B14. Distribution (%) of predicted preferred dwelling structure types, by sub-region. Northeast includes Anmore, Belcarra, Coquitlam, Port Coquitlam, and Port Moody; South of Fraser – West includes Delta, Richmond, and scáwáðan məsteyax^w (Tsawwassen First Nation); North Shore includes Bowen Island, Lions Bay, and the City and District of North Vancouver; Burrard Peninsula includes Burnaby, New Westminster, and Vancouver; South of Fraser – East includes Langley City and Township, Surrey, and White Rock, and; Ridge Meadows includes Maple Ridge and Pitt Meadows. Rows sum to 100%.

Preferred Dwelling Structure	Sub-region					
	Northeast	South of Fraser - West	North Shore	Burrard Peninsula	South of Fraser - East	Ridge Meadows
Single detached	10%	14%	9%	32%	30%	6%
Multi-attached	10%	10%	6%	43%	26%	4%
Row house	7%	15%	10%	44%	23%	2%
Apartment	7%	8%	6%	63%	14%	2%
All preferred dwelling structure types	9%	12%	8%	43%	25%	4%

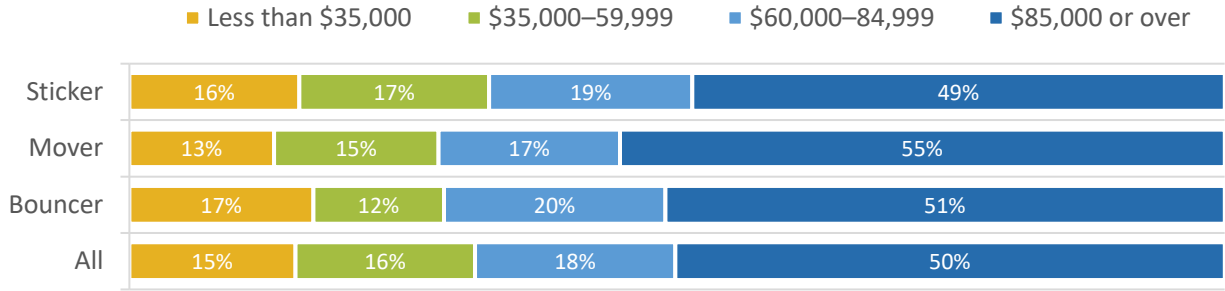


Figure B5. Distribution of household income (total annual before-tax) groups (%) for the predicted household population, per movement behaviour type.

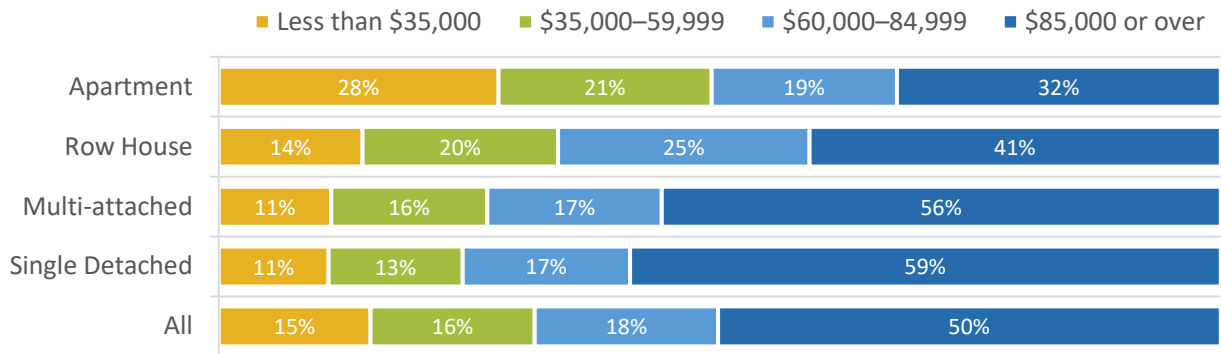


Figure B6. Distribution of household income (total annual before-tax) groups (%) for the predicted household population, per movement behaviour type.

Table B15. Proportion of units by dwelling structure type in 2020 and the predicted dwelling structure type preference, by jurisdiction. ‘A’ refers to apartments,¹²⁵ ‘MA’ refers to multi-attached housing,¹²⁶ ‘RH’ refers to row houses,¹²⁷ and ‘SD’ refers to single detached housing.¹²⁸ Note: the difference between the proportion of units and preference for a given structure type does not account for the size of the unit and suitability per household.

Jurisdiction	Units in 2020				Dwelling Structure Type Preference				Difference			
	SD	MA	RH	A	SD	MA	RH	A	SD	MA	RH	A
Bowen Island Municipality	95%	0%	2%	3%	49%	18%	16%	17%	-46%	18%	14%	14%
City of Burnaby	17%	21%	10%	52%	31%	23%	13%	32%	14%	2%	3%	-19%
City of Coquitlam	31%	23%	10%	36%	46%	26%	10%	18%	15%	3%	-1%	-18%
City of Delta	48%	25%	8%	18%	51%	19%	16%	15%	2%	-6%	8%	-4%
City of Langley	19%	10%	11%	59%	51%	24%	11%	13%	32%	14%	0%	-46%
City of Maple Ridge	47%	19%	16%	19%	62%	24%	5%	9%	15%	6%	-11%	-10%
City of New Westminister	11%	17%	5%	67%	32%	23%	13%	32%	20%	7%	8%	-35%
City of North Vancouver	9%	18%	10%	63%	48%	19%	15%	17%	39%	2%	5%	-45%
City of Pitt Meadows	36%	14%	20%	30%	62%	24%	5%	9%	26%	10%	-15%	-21%
City of Port Coquitlam	27%	29%	16%	28%	46%	26%	10%	17%	20%	-3%	-6%	-11%
City of Port Moody	27%	12%	25%	35%	46%	26%	10%	18%	19%	14%	-16%	-18%
City of Richmond	26%	10%	20%	45%	51%	19%	16%	15%	25%	10%	-4%	-30%
City of Surrey	26%	36%	18%	20%	52%	24%	11%	13%	26%	-11%	-7%	-8%
City of Vancouver	12%	25%	5%	58%	32%	23%	13%	32%	19%	-2%	8%	-26%
City of White Rock	16%	23%	2%	59%	51%	25%	11%	13%	35%	2%	9%	-46%

¹²⁵ Apartments include the following classes from the Metro Vancouver Land Use 2020 dataset: "Mixed Residential (Low-rise Apartment) Commercial", "Mixed Residential (Mid/High-Rise Apartment) Commercial", "Residential - Institutional Care/Non-Market Housing", "Residential - Low-rise Apartment", "Residential - Mid/High-rise Apartment".

¹²⁶ Multi-attached housing includes the following classes from the Metro Vancouver Land Use 2020 dataset: "Multi-Attached (Duplex or Single Detached with 2 or more units on lot)".

¹²⁷ Row houses include the following classes from the Metro Vancouver Land Use 2020 dataset: "Townhouse".

¹²⁸ Single detached includes the following classes from the Metro Vancouver Land Use 2020 dataset: "Residential – Single Detached", "Residential – Rural Large Lot", "Residential – Mobile Homes".

Jurisdiction	Units in 2020				Dwelling Structure Type Preference				Difference			
	SD	MA	RH	A	SD	MA	RH	A	SD	MA	RH	A
District of North Vancouver	40%	27%	10%	23%	49%	19%	15%	17%	8%	-8%	6%	-6%
District of West Vancouver	47%	16%	3%	33%	48%	19%	15%	17%	1%	3%	12%	-16%
Township of Langley	42%	18%	22%	18%	52%	24%	12%	13%	9%	6%	-10%	-5%
scəwáθən məsteyəx™ (Tsawwassen First Nation)	36%	8%	31%	26%	51%	18%	16%	15%	15%	10%	-15%	-11%
Village of Anmore	100%	0%	0%	0%	46%	26%	10%	18%	-54%	26%	10%	18%
Village of Belcarra	100%	0%	0%	0%	47%	23%	9%	21%	-53%	23%	9%	21%
Village of Lions Bay	73%	22%	3%	2%	49%	20%	15%	16%	-25%	-2%	12%	14%

Table B16. Predicted dwelling structure type preference per age group (18–24, 25–34, 35–44), by jurisdiction. Percentages indicate the proportion of the jurisdiction’s population per age group, with given preferred dwelling structure type. ‘A’ refers to apartments, ‘MA’ refers to multi-attached housing, ‘RH’ refers to row houses, and ‘SD’ refers to single detached housing.

Jurisdiction	Age 18–24				Age 25–34				Age 35–44			
	SD	MA	RH	A	SD	MA	RH	A	SD	MA	RH	A
Bowen Island Municipality	2%	2%	0%	0%	1%	2%	2%	1%	7%	3%	4%	3%
City of Burnaby	1%	1%	0%	1%	5%	5%	2%	3%	8%	6%	3%	6%
City of Coquitlam	0%	0%	1%	3%	3%	4%	2%	1%	9%	6%	0%	1%
City of Delta	0%	2%	0%	1%	3%	2%	3%	1%	7%	4%	3%	2%
City of Langley	1%	2%	0%	1%	6%	4%	1%	2%	8%	5%	2%	1%
City of Maple Ridge	0%	1%	0%	1%	7%	4%	1%	2%	10%	6%	0%	0%
City of New Westminister	1%	1%	0%	1%	5%	5%	2%	3%	8%	6%	4%	6%
City of North Vancouver	2%	2%	0%	0%	1%	2%	3%	1%	7%	3%	4%	3%
City of Pitt Meadows	0%	1%	0%	1%	7%	4%	1%	2%	10%	7%	0%	0%
City of Port Coquitlam	0%	0%	1%	3%	3%	4%	2%	1%	9%	6%	0%	1%
City of Port Moody	0%	0%	1%	3%	3%	4%	2%	1%	10%	6%	0%	1%
City of Richmond	1%	1%	1%	1%	4%	3%	3%	1%	7%	4%	3%	2%
City of Surrey	2%	2%	0%	1%	6%	5%	1%	2%	8%	5%	2%	1%
City of Vancouver	1%	1%	0%	1%	5%	5%	2%	3%	8%	6%	4%	6%
City of White Rock	2%	2%	0%	1%	6%	4%	1%	2%	8%	6%	2%	1%
District of North Vancouver	2%	2%	0%	0%	1%	2%	3%	1%	7%	3%	4%	3%
District of West Vancouver	2%	2%	0%	0%	1%	2%	3%	1%	7%	3%	4%	3%
Township of Langley	2%	2%	0%	1%	6%	5%	1%	2%	8%	5%	2%	1%
scəwáθən məsteyəx™ (Tsawwassen First Nation)	0%	2%	0%	1%	4%	2%	3%	1%	8%	4%	3%	2%
Village of Anmore	0%	0%	1%	3%	4%	4%	2%	1%	10%	5%	1%	1%
Village of Belcarra	1%	0%	1%	3%	4%	3%	2%	3%	9%	4%	0%	1%
Village of Lions Bay	3%	1%	0%	0%	1%	2%	2%	1%	7%	3%	5%	2%

Table B17. Predicted dwelling structure type preference per age group (45–54, 55–64, 65–74, 75+), by jurisdiction. Percentages indicate the proportion of the jurisdiction’s population per age group, with given preferred dwelling structure type. ‘A’ refers to apartments, ‘MA’ refers to multi-attached housing, ‘RH’ refers to row houses, and ‘SD’ refers to single detached housing.

Jurisdiction	Age 45–54				Age 55–64				Age 65–74				Age 75+			
	SD	MA	RH	A	SD	MA	RH	A	SD	MA	RH	A	SD	MA	RH	A
Bowen Island Municipality	7%	3%	5%	0%	14%	7%	2%	3%	8%	2%	3%	4%	10%	0%	0%	6%
City of Burnaby	6%	4%	3%	4%	5%	4%	2%	6%	5%	1%	1%	9%	2%	1%	1%	4%
City of Coquitlam	11%	6%	2%	1%	11%	6%	2%	4%	7%	4%	1%	2%	4%	1%	1%	3%
City of Delta	10%	4%	3%	3%	12%	5%	3%	1%	12%	1%	2%	3%	6%	1%	1%	4%
City of Langley	12%	5%	2%	1%	11%	5%	3%	2%	9%	1%	2%	4%	4%	1%	2%	2%
City of Maple Ridge	11%	4%	0%	0%	19%	6%	1%	2%	10%	2%	2%	0%	6%	1%	1%	5%
City of New Westminster	6%	4%	3%	4%	5%	4%	2%	6%	5%	1%	1%	8%	2%	1%	1%	4%
City of North Vancouver	7%	4%	4%	0%	14%	7%	2%	3%	7%	2%	2%	4%	10%	0%	0%	6%
City of Pitt Meadows	11%	4%	0%	0%	19%	6%	1%	2%	10%	2%	2%	0%	6%	1%	1%	5%
City of Port Coquitlam	11%	6%	2%	1%	11%	6%	2%	4%	7%	4%	1%	2%	4%	1%	1%	3%
City of Port Moody	11%	6%	1%	1%	11%	6%	2%	5%	7%	4%	1%	2%	4%	1%	1%	3%
City of Richmond	10%	4%	3%	3%	12%	5%	3%	1%	11%	1%	2%	3%	6%	1%	1%	4%
City of Surrey	13%	5%	2%	1%	11%	5%	2%	2%	9%	1%	2%	4%	4%	1%	2%	2%
City of Vancouver	6%	4%	3%	4%	6%	4%	2%	6%	5%	1%	1%	9%	2%	1%	1%	4%
City of White Rock	12%	5%	2%	1%	11%	5%	3%	2%	9%	1%	2%	4%	4%	1%	1%	2%
District of North Vancouver	7%	4%	4%	0%	14%	7%	2%	3%	7%	2%	2%	4%	10%	0%	0%	6%
District of West Vancouver	7%	4%	5%	0%	14%	7%	2%	3%	7%	2%	2%	4%	10%	0%	0%	6%
Township of Langley	13%	5%	2%	1%	10%	5%	3%	2%	9%	1%	2%	4%	4%	1%	2%	2%
sc̓áwaθan məsteyəx™ (Tsawwassen First Nation)	10%	4%	3%	3%	12%	4%	3%	1%	12%	1%	3%	3%	5%	1%	1%	4%
Village of Anmore	10%	5%	1%	1%	11%	7%	3%	5%	7%	5%	1%	3%	4%	1%	1%	3%
Village of Belcarra	10%	4%	2%	2%	12%	7%	3%	4%	6%	4%	1%	3%	4%	1%	0%	5%
Village of Lions Bay	8%	5%	3%	0%	13%	8%	2%	2%	8%	1%	3%	4%	9%	0%	1%	7%

Table B18. Predicted dwelling structure type preference per household income (total annual before-tax) group (less than \$35,000, \$35,000–59,999), by jurisdiction. Percentages indicate the proportion of the jurisdiction’s population per household income group, with given preferred dwelling structure type. ‘A’ refers to apartments, ‘MA’ refers to multi-attached housing, ‘RH’ refers to row houses, and ‘SD’ refers to single detached housing.

Jurisdiction	Less than \$35,000				\$35,000–59,999			
	SD	MA	RH	A	SD	MA	RH	A
Bowen Island Municipality	5%	1%	2%	4%	1%	2%	2%	1%
City of Burnaby	5%	2%	2%	9%	5%	5%	2%	3%
City of Coquitlam	4%	4%	1%	3%	3%	4%	2%	1%
City of Delta	4%	3%	4%	5%	3%	2%	3%	1%
City of Langley	5%	3%	1%	3%	6%	4%	1%	2%
City of Maple Ridge	3%	4%	0%	5%	7%	4%	1%	2%
City of New Westminister	5%	2%	2%	9%	5%	5%	2%	3%
City of North Vancouver	5%	1%	2%	5%	1%	2%	3%	1%
City of Pitt Meadows	3%	4%	0%	5%	7%	4%	1%	2%
City of Port Coquitlam	4%	4%	1%	3%	3%	4%	2%	1%
City of Port Moody	4%	4%	1%	3%	3%	4%	2%	1%
City of Richmond	4%	3%	4%	5%	4%	3%	3%	1%
City of Surrey	5%	3%	1%	3%	6%	5%	1%	2%
City of Vancouver	5%	2%	2%	9%	5%	5%	2%	3%
City of White Rock	5%	3%	1%	3%	6%	4%	1%	2%
District of North Vancouver	5%	1%	2%	5%	1%	2%	3%	1%
District of West Vancouver	5%	1%	2%	5%	1%	2%	3%	1%
Township of Langley	5%	3%	1%	3%	6%	5%	1%	2%
scəwáθən məsteyəx™ (Tsawwassen First Nation)	5%	2%	4%	5%	4%	2%	3%	1%
Village of Anmore	3%	4%	1%	3%	4%	4%	2%	1%
Village of Belcarra	4%	3%	1%	4%	4%	3%	2%	3%
Village of Lions Bay	5%	1%	3%	4%	1%	2%	2%	1%

Table B19. Predicted dwelling structure type preference per household income (total annual before-tax) group (\$60,000–84,999, \$85,000 or greater) by jurisdiction. Percentages indicate the proportion of the jurisdiction’s population per household income group, with given preferred dwelling structure type. ‘A’ refers to apartments, ‘MA’ refers to multi-attached housing, ‘RH’ refers to row houses, and ‘SD’ refers to single detached housing.

Jurisdiction	\$60,000–84,999				\$85,000 or greater			
	SD	MA	RH	A	SD	MA	RH	A
Bowen Island Municipality	7%	3%	4%	3%	7%	3%	5%	0%
City of Burnaby	8%	6%	3%	6%	6%	4%	3%	4%
City of Coquitlam	9%	6%	0%	1%	11%	6%	2%	1%
City of Delta	7%	4%	3%	2%	10%	4%	3%	3%
City of Langley	8%	5%	2%	1%	12%	5%	2%	1%
City of Maple Ridge	10%	6%	0%	0%	11%	4%	0%	0%
City of New Westminister	8%	6%	4%	6%	6%	4%	3%	4%
City of North Vancouver	7%	3%	4%	3%	7%	4%	4%	0%
City of Pitt Meadows	10%	7%	0%	0%	11%	4%	0%	0%
City of Port Coquitlam	9%	6%	0%	1%	11%	6%	2%	1%
City of Port Moody	10%	6%	0%	1%	11%	6%	1%	1%
City of Richmond	7%	4%	3%	2%	10%	4%	3%	3%
City of Surrey	8%	5%	2%	1%	13%	5%	2%	1%
City of Vancouver	8%	6%	4%	6%	6%	4%	3%	4%
City of White Rock	8%	6%	2%	1%	12%	5%	2%	1%
District of North Vancouver	7%	3%	4%	3%	7%	4%	4%	0%
District of West Vancouver	7%	3%	4%	3%	7%	4%	5%	0%
Township of Langley	8%	5%	2%	1%	13%	5%	2%	1%
scəwáθən məsteyəx™ (Tsawwassen First Nation)	8%	4%	3%	2%	10%	4%	3%	3%
Village of Anmore	10%	5%	1%	1%	10%	5%	1%	1%
Village of Belcarra	9%	4%	0%	1%	10%	4%	2%	2%
Village of Lions Bay	7%	3%	5%	2%	8%	5%	3%	0%

APPENDIX C – MODEL PERFORMANCE AND SPECIFICATIONS

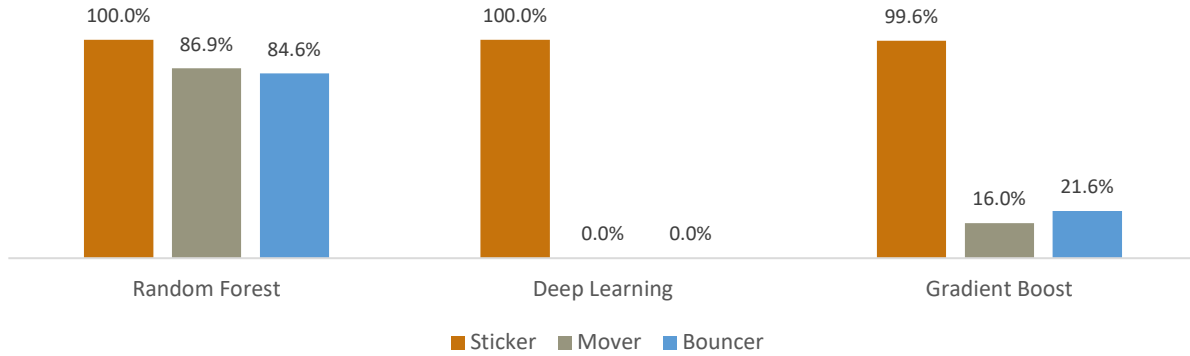


Figure C1. Random forest model training class accuracy scores for movement behaviour type.

Table C1. Random forest, deep learning, and gradient boost model specifications for options to predict movement behaviour type.

Specifications	Random Forest	Deep Learning	Gradient Boost
Overall accuracy	95.4%	66.6%	72.3%
Number of trees / epochs	500	10	100
Node size / hidden layers / learning rate	5	3	0.001

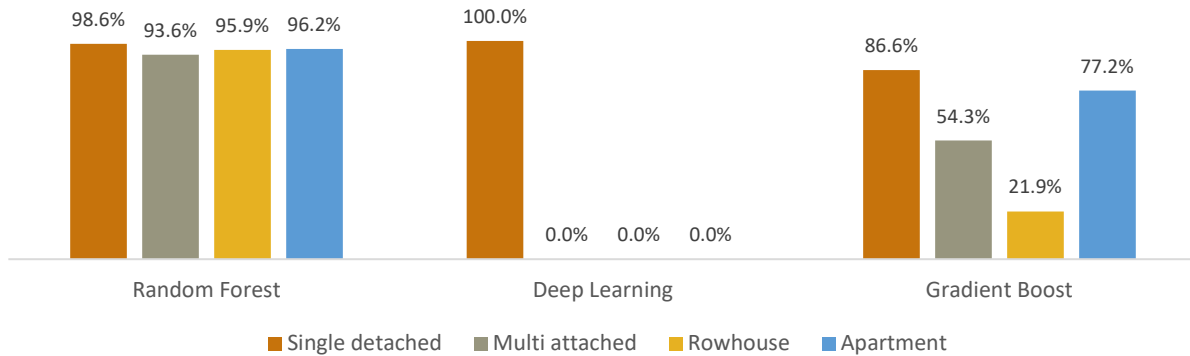


Figure C2. Random forest model training class accuracy scores for movement behaviour type.

Table C2. Random forest, deep learning, and gradient boost model specifications for options to predict preferred dwelling structure type.

Specifications	Random Forest	Deep Learning	Gradient Boost
Overall accuracy	96.6%	43.4%	68.3%
Number of trees / epochs	500	10	100
Node size / hidden layers / learning rate	5	3	0.001

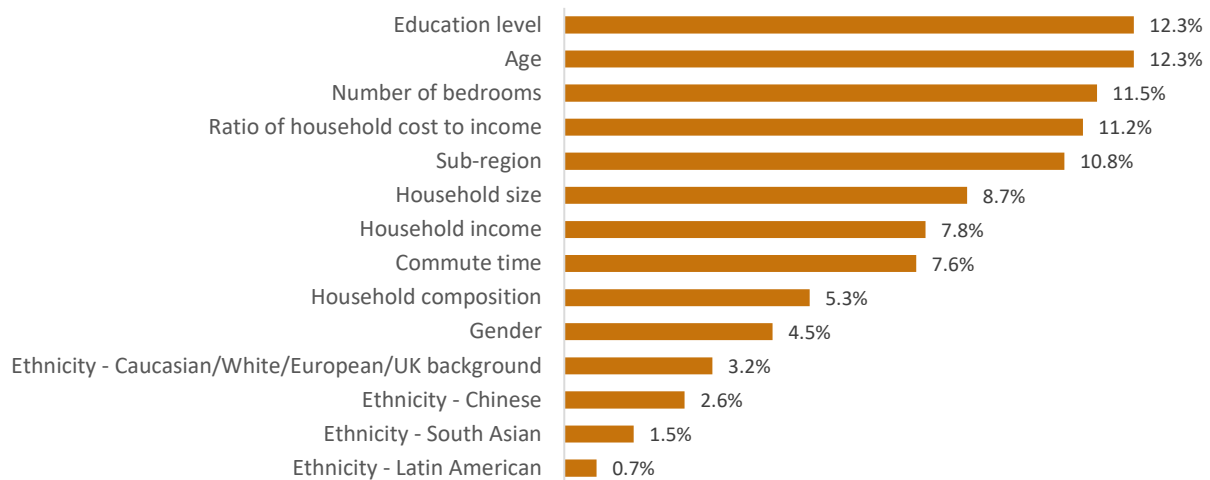


Figure C3. Variable importance scores for the movement behaviour type model (i.e., MBT).

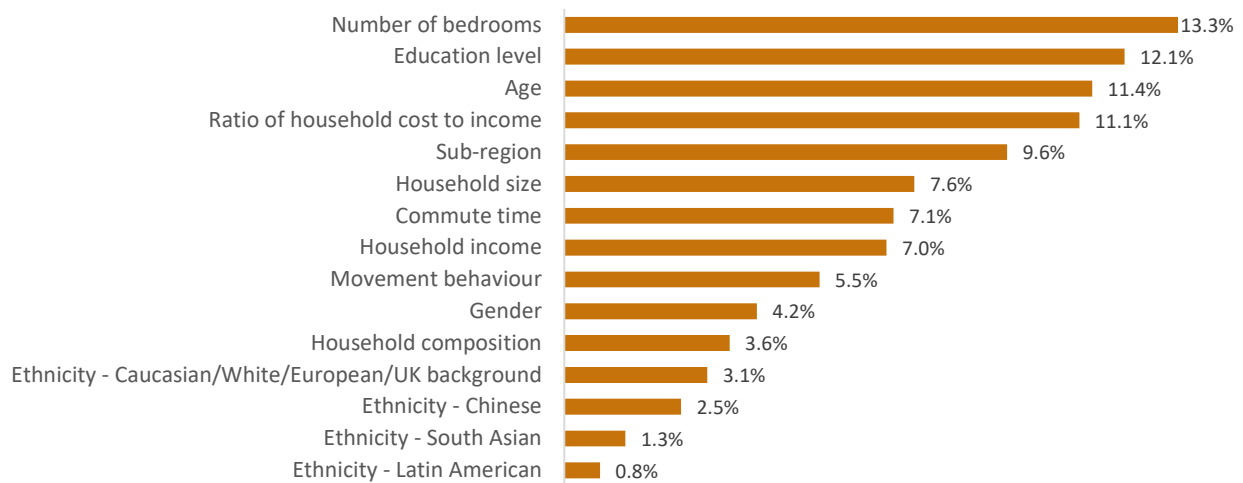


Figure C4. Variable importance scores for the preferred dwelling structure type model (i.e., PDST).





Metro Vancouver Residents' Housing and Neighbourhood Preferences Model

Member Jurisdiction Summary Report

August 19, 2024

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Appendix A – Glossary

EXECUTIVE SUMMARY

Summary of Jurisdiction Level Results

The Metro Vancouver Residents' Housing and Neighbourhood Preferences Model project showcases the distinct dwelling structure type preferences of household maintainers in 2021, modelled per member jurisdiction.¹ Sub-regional and demographic similarities in preferences were also identified. Table 1 summarizes the jurisdiction-level dwelling structure type preferences for overall household maintainer populations, as well as per generation and total annual before-tax household income groups. The proportion of each generation and household income group within each jurisdiction's household maintainer population is also included to provide context about the distribution of demographics.

Except for in Burnaby, New Westminister, and Vancouver, all member jurisdictions' household maintainers were predicted to prefer single detached housing over other dwelling structure types. This preference was greatest in Maple Ridge and Pitt Meadows – with two-thirds of household maintainers in each jurisdiction sharing this preference. Across member jurisdictions, single detached housing preference was more strongly associated with high household incomes (i.e., \$85,000 or over). Middle-aged and older household maintainers were also more likely to prefer single detached homes. Notably, greater single detached preference was predicted for Gen X household maintainers in Langley City and Township, Maple Ridge, Pitt Meadows, Surrey, and White Rock. In Delta, Richmond, and scəwáθən məsteyəx^w (Tsawwassen First Nation), single detached preference was greater among Boomer/War household maintainers. Household maintainers with three or more bedrooms across the region were also more likely to prefer single detached homes; this relationship was relatively weaker in Burnaby, New Westminister, and Vancouver due to a stronger, secondary preference for multi-attached housing.

Apart from Burnaby, New Westminister, and Vancouver, about half as many household maintainers per jurisdiction preferred multi-attached housing to single detached housing. Across the region, household maintainers with a high income were more likely to prefer multi-attached housing than other moderate/high density dwelling structures (i.e., apartments, row houses). This includes Burnaby, New Westminister, and Vancouver, where high income household maintainers were similarly likely to prefer single detached and multi-attached housing, as well as apartments. Most household maintainers with three or more bedrooms were also more likely to prefer multi-attached housing, following their top preference of single detached housing. However, relatively higher preferences for multi-attached housing were also observed by those with one bedroom in Maple Ridge and Pitt Meadows, as well as two bedrooms in Delta, Richmond, and scəwáθən məsteyəx^w (Tsawwassen First Nation).

The predicted preference for multi-attached housing was also particularly strong for Millennial/Gen Z household maintainers – especially in jurisdictions like Burnaby, Coquitlam, Delta, Langley City and Township, Maple Ridge, New Westminister, Pitt Meadows, Port Coquitlam, Port Moody, Surrey, Vancouver, and White Rock. For Burnaby, New Westminister, and Vancouver, the relatively higher proportions of Millennial/Gen Z household maintainers within their overall household maintainer population accentuates the preference for multi-attached homes.

¹ Input survey data used in the modelling process focused on long-term residents (i.e., those who were born in Canada or arrived in Canada before the year 2000). This work was limited to long-term residents and could not include the preferences and choices of immigrants (i.e., those not born in Canada and arrived in the year 2000 or after) due to data limitations. More details provided in the full technical report, *Metro Vancouver Residents' Housing and Neighbourhood Preferences Model*.

Apartment preferences was greatest in Burnaby, New Westminister, and Vancouver – tied with the preference for single detached housing. In particular, about twice as many Boomer/War household maintainers in Burnaby, New Westminister, and Vancouver preferred apartments compared to the proportion that preferred single detached homes. In these jurisdictions apartment preference was also associated with a low household income (i.e., less than \$35,000) – likely as a pension in most cases due to the preference co-occurrence with seniors. Across the region, household maintainers with one or two bedrooms were more likely to prefer apartments than those with more bedrooms. Apartment preference was particularly strong for household maintainers with one bedroom in Pitt Meadows and Maple Ridge, those with two bedrooms in Anmore, Belcarra, Coquitlam, Port Coquitlam, and Port Moody, and those with up to two bedrooms in Burnaby, New Westminister, and Vancouver.

Row houses were predicted to be the least preferred dwelling structure type across the region. However, household maintainers in Delta, Richmond, and scəwáθən məsteyəx^w (Tsawwassen First Nation) were more likely to prefer row houses than other member jurisdictions; these household maintainers were more likely to be Millennial/Gen Z, low income, and with a single bedroom.

Table 1. Predicted dwelling structure type preference (%) overall and per household maintainer generation and total annual before-tax household income groups, for each member jurisdiction. Cells are coloured based on preference proportions; lower values are red, greater values are blue. For each generation and household income groups, preferred dwelling structure type proportions sum 100% (i.e., ‘total’). ‘Proportion per overall pop.’ refers to the proportion of each generation and household income group within the overall household maintainer population.

Jurisdiction	Preferred Dwelling Structure Type	Overall	Generation			Household Income			
			Millennial/ Gen Z	Gen X	Boomer/ War	Less than \$35,000	\$35,000 –59,999	\$60,000 –84,999	\$85,000 or over
Anmore	Single detached	46%	44%	49%	45%	29%	44%	33%	55%
	Multi-attached	26%	28%	27%	22%	31%	14%	30%	27%
	Row house	10%	11%	10%	9%	10%	11%	16%	7%
	Apartment	18%	18%	14%	24%	29%	31%	21%	11%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
<i>Proportion per overall pop.</i>			33%	43%	24%	12%	15%	18%	55%
Belcarra	Single detached	47%	44%	51%	44%	33%	48%	35%	54%
	Multi-attached	23%	24%	25%	19%	24%	10%	23%	26%
	Row house	9%	11%	10%	3%	9%	13%	13%	6%
	Apartment	21%	22%	14%	33%	33%	30%	29%	13%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
<i>Proportion per overall pop.</i>			32%	44%	24%	12%	15%	18%	54%
Bowen Island	Single detached	49%	38%	51%	55%	41%	34%	33%	59%
	Multi-attached	18%	23%	24%	6%	8%	13%	7%	25%
	Row house	16%	24%	17%	9%	19%	21%	36%	9%
	Apartment	17%	15%	8%	30%	33%	31%	25%	7%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
<i>Proportion per overall pop.</i>			27%	41%	32%	13%	14%	16%	57%
Burnaby	Single detached	31%	32%	32%	29%	26%	25%	28%	37%
	Multi-attached	23%	29%	25%	10%	14%	23%	25%	27%
	Row house	13%	15%	14%	8%	10%	14%	16%	12%
	Apartment	32%	24%	29%	53%	50%	38%	30%	24%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
<i>Proportion per overall pop.</i>			43%	34%	23%	18%	18%	19%	45%
Coquitlam	Single detached	46%	40%	50%	48%	32%	47%	34%	53%
	Multi-attached	26%	31%	27%	20%	31%	14%	28%	28%
	Row house	10%	12%	9%	9%	9%	11%	17%	7%
	Apartment	18%	18%	14%	24%	27%	29%	21%	11%

Jurisdiction	Preferred Dwelling Structure Type	Overall	Generation			Household Income			
			Millennial/ Gen Z	Gen X	Boomer/ War	Less than \$35,000	\$35,000 –59,999	\$60,000 –84,999	\$85,000 or over
	<i>Total</i>	100%	100%	100%	100%	100%	100%	100%	100%
	<i>Proportion per overall pop.</i>		33%	44%	24%	12%	15%	18%	55%
Delta	Single detached	51%	38%	54%	58%	27%	32%	54%	64%
	Multi-attached	19%	28%	22%	7%	18%	27%	16%	18%
	Row house	16%	22%	15%	11%	22%	19%	17%	12%
	Apartment	15%	12%	9%	24%	33%	21%	13%	7%
	<i>Total</i>	100%	100%	100%	100%	100%	100%	100%	100%
	<i>Proportion per overall pop.</i>		30%	41%	30%	16%	17%	18%	49%
Langley City	Single detached	51%	45%	57%	51%	40%	52%	51%	54%
	Multi-attached	24%	33%	24%	11%	25%	17%	18%	28%
	Row house	11%	11%	11%	14%	9%	14%	16%	10%
	Apartment	13%	11%	8%	25%	25%	16%	15%	9%
	<i>Total</i>	100%	100%	100%	100%	100%	100%	100%	100%
	<i>Proportion per overall pop.</i>		34%	41%	25%	12%	15%	19%	54%
Langley Township	Single detached	52%	46%	57%	52%	42%	52%	51%	54%
	Multi-attached	24%	34%	24%	10%	23%	19%	19%	28%
	Row house	12%	10%	11%	14%	9%	14%	16%	10%
	Apartment	13%	10%	8%	24%	26%	15%	15%	9%
	<i>Total</i>	100%	100%	100%	100%	100%	100%	100%	100%
	<i>Proportion per overall pop.</i>		34%	41%	25%	15%	15%	19%	54%
Lions Bay	Single detached	49%	40%	51%	52%	38%	37%	30%	59%
	Multi-attached	20%	23%	31%	4%	11%	12%	6%	28%
	Row house	15%	26%	13%	10%	21%	23%	34%	7%
	Apartment	16%	12%	5%	33%	30%	27%	30%	6%
	<i>Total</i>	100%	100%	100%	100%	100%	100%	100%	100%
	<i>Proportion per overall pop.</i>		27%	41%	32%	13%	14%	16%	57%
Maple Ridge	Single detached	62%	52%	69%	62%	24%	29%	57%	79%
	Multi-attached	24%	38%	23%	9%	32%	43%	32%	16%
	Row house	5%	2%	4%	10%	0%	9%	3%	5%
	Apartment	9%	8%	4%	19%	44%	19%	9%	0%
	<i>Total</i>	100%	100%	100%	100%	100%	100%	100%	100%
	<i>Proportion per overall pop.</i>		31%	43%	26%	11%	14%	17%	58%
New Westminister	Single detached	32%	32%	32%	30%	27%	25%	28%	37%
	Multi-attached	23%	29%	25%	10%	13%	23%	25%	27%
	Row house	13%	15%	15%	8%	11%	15%	17%	12%
	Apartment	32%	23%	29%	52%	49%	36%	30%	24%
	<i>Total</i>	100%	100%	100%	100%	100%	100%	100%	100%
	<i>Proportion per overall pop.</i>		43%	34%	23%	18%	18%	19%	45%
City of North Vancouver	Single detached	48%	39%	51%	53%	40%	34%	34%	58%
	Multi-attached	19%	24%	26%	6%	7%	13%	6%	27%
	Row house	15%	24%	15%	8%	17%	23%	33%	8%
	Apartment	17%	13%	8%	32%	36%	30%	26%	7%
	<i>Total</i>	100%	100%	100%	100%	100%	100%	100%	100%
	<i>Proportion per overall pop.</i>		27%	41%	32%	13%	14%	16%	57%
District of North Vancouver	Single detached	49%	39%	51%	54%	40%	35%	35%	58%
	Multi-attached	19%	23%	26%	6%	7%	12%	7%	27%
	Row house	15%	24%	15%	8%	17%	23%	33%	8%
	Apartment	17%	13%	7%	32%	35%	30%	26%	7%
	<i>Total</i>	100%	100%	100%	100%	100%	100%	100%	100%
	<i>Proportion per overall pop.</i>		27%	41%	32%	13%	14%	16%	57%
Pitt Meadows	Single detached	62%	52%	70%	61%	24%	29%	58%	79%
	Multi-attached	24%	38%	23%	9%	32%	43%	32%	16%
	Row house	5%	2%	3%	11%	0%	10%	2%	6%

Jurisdiction	Preferred Dwelling Structure Type	Overall	Generation			Household Income			
			Millennial/ Gen Z	Gen X	Boomer/ War	Less than \$35,000	\$35,000 –59,999	\$60,000 –84,999	\$85,000 or over
	Apartment	9%	8%	4%	19%	44%	19%	9%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
	<i>Proportion per overall pop.</i>		31%	43%	26%	11%	14%	17%	58%
Port Coquitlam	Single detached	46%	40%	50%	48%	31%	47%	33%	54%
	Multi-attached	26%	30%	27%	20%	32%	14%	28%	28%
	Row house	10%	12%	9%	9%	10%	9%	18%	7%
	Apartment	17%	18%	13%	24%	27%	30%	21%	11%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
<i>Proportion per overall pop.</i>		33%	44%	24%	12%	15%	18%	55%	
Port Moody	Single detached	46%	40%	50%	48%	33%	47%	32%	54%
	Multi-attached	26%	30%	28%	19%	31%	13%	30%	28%
	Row house	10%	11%	9%	9%	10%	9%	17%	7%
	Apartment	18%	19%	13%	24%	26%	31%	21%	11%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
<i>Proportion per overall pop.</i>		33%	44%	24%	12%	15%	18%	55%	
Richmond	Single detached	51%	39%	53%	58%	27%	32%	54%	63%
	Multi-attached	19%	27%	22%	7%	17%	28%	16%	18%
	Row house	16%	22%	15%	11%	23%	18%	17%	12%
	Apartment	15%	12%	10%	24%	33%	21%	13%	7%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
<i>Proportion per overall pop.</i>		30%	41%	30%	16%	17%	18%	49%	
Surrey	Single detached	52%	46%	57%	51%	42%	52%	51%	54%
	Multi-attached	24%	33%	25%	10%	23%	19%	19%	28%
	Row house	11%	10%	11%	14%	9%	14%	16%	10%
	Apartment	13%	10%	8%	25%	26%	15%	14%	8%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
<i>Proportion per overall pop.</i>		34%	41%	25%	12%	15%	19%	54%	
scəwəθən məsteyəx* (Tsawwassen First Nation)	Single detached	51%	39%	53%	60%	32%	31%	58%	62%
	Multi-attached	18%	26%	21%	6%	14%	31%	14%	16%
	Row house	16%	23%	15%	12%	22%	19%	17%	13%
	Apartment	15%	12%	11%	22%	31%	19%	11%	9%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
<i>Proportion per overall pop.</i>		30%	41%	29%	16%	17%	18%	49%	
Vancouver	Single detached	32%	32%	33%	29%	27%	25%	28%	38%
	Multi-attached	23%	29%	25%	10%	13%	23%	25%	26%
	Row house	13%	15%	13%	8%	10%	14%	16%	12%
	Apartment	32%	24%	29%	53%	49%	37%	30%	24%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
<i>Proportion per overall pop.</i>		43%	34%	23%	18%	18%	19%	45%	
West Vancouver (including Horseshoe Bay)	Single detached	48%	39%	50%	53%	40%	34%	33%	58%
	Multi-attached	19%	24%	26%	7%	7%	13%	7%	27%
	Row house	15%	23%	16%	8%	16%	24%	34%	8%
	Apartment	17%	13%	8%	32%	37%	29%	26%	7%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
<i>Proportion per overall pop.</i>		27%	41%	32%	13%	14%	16%	57%	
White Rock	Single detached	51%	45%	57%	52%	40%	52%	51%	53%
	Multi-attached	25%	35%	25%	11%	24%	19%	20%	29%
	Row house	11%	10%	11%	12%	9%	13%	15%	10%
	Apartment	13%	10%	7%	24%	27%	16%	15%	8%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
<i>Proportion per overall pop.</i>		34%	41%	25%	12%	15%	19%	54%	

Dwelling Structure Type Preferences Compared to Current Supply by Jurisdiction

Predicted dwelling structure type preferences were compared to current housing supply for each jurisdiction to provide some context about supply and demand dynamics. Specifically, per dwelling structure type, the proportion of units was compared to the overall household maintainer's preference. Undersupply was identified as a greater preference than the proportion of existing units (i.e., positive values), while oversupply was identified as a lower preference than the proportion of existing units (i.e., negative values). This analysis provided insight about discrepancies in dwelling structure type availability and demand; however, information about unit size and suitability per household was limited but would be influential in a household's housing decision.

Most notably, an inverse relationship between the supply and preference of apartments and single detached housing was observed across most jurisdictions (Figure 1). Notably, most jurisdictions observed an oversupply of apartments – especially City of Langley, White Rock, City of North Vancouver, New Westminster, and Richmond (i.e., with supply-preference differences of -30 to -46 per cent). A relatively lower oversupply of apartments was also observed in Vancouver, Pitt Meadows, Burnaby, Coquitlam, Port Moody, West Vancouver, Port Coquitlam, scəwəθən məsteyəx^w (Tsawwassen First Nation), and Maple Ridge (i.e., with differences from -10 to -26 per cent). Meanwhile, a relative oversupply of single detached housing was identified in the City of North Vancouver, White Rock, City of Langley, and to lesser extents in Surrey, Pitt Meadows, Richmond, Port Coquitlam, New Westminster, Port Moody, Vancouver, Maple Ridge, scəwəθən məsteyəx^w (Tsawwassen First Nation), Coquitlam, and Burnaby.

A moderate undersupply (i.e., about 15 per cent difference between preference and supply) of apartments was found in smaller jurisdictions: Anmore, Belcarra, Bowen Island, Lions Bay. The same jurisdictions also had a relatively high oversupply of single detached housing (i.e., supply-preference differences of -25 to -54 per cent).

Relatively weaker relationships and smaller differences between the supply and preference of row houses and multi-attached housing was observed. A moderate oversupply housing (i.e., supply-preference differences of -10 to -15 per cent) of row houses was found in Port Moody, Pitt Meadows, scəwəθən məsteyəx^w (Tsawwassen First Nation), Maple Ridge, and the Township of Langley. On the other hand, a greater preference for row houses than the proportion of existing units was identified in Bowen Island, Lions Bay, West Vancouver, and Anmore. For multi-attached housing, a moderate undersupply was found in Anmore, Belcarra, Bowen Island, City of Langley, Port Moody, Pitt Meadows, Richmond, and scəwəθən məsteyəx^w (Tsawwassen First Nation). Surrey had a greater proportion of multi-attached housing units than its predicted preference; the District of North Vancouver District and Delta also observed an oversupply of multi-attached units, but to a lesser extent.

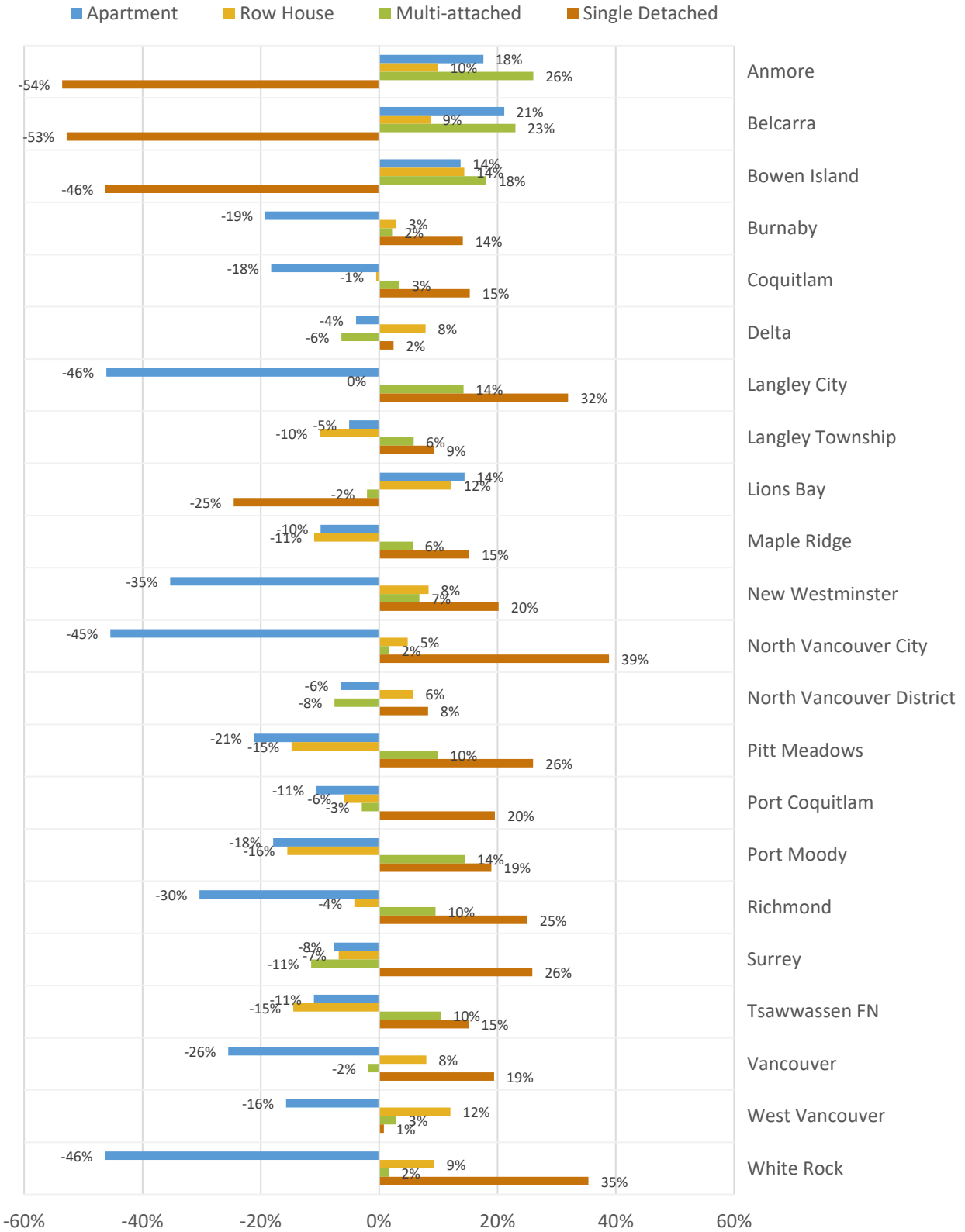


Figure 1. Difference between the proportion of units and household maintainer's preference (%), per dwelling structure type, by jurisdiction. Positive values indicate a greater preference than the proportion of existing units.

BACKGROUND

The Metro Vancouver Residents' Housing and Neighbourhood Preferences Model built on work that investigated the housing and lifestyle conditions, motivations, and preferences of household maintainers across the region.² The main objective of this project was to develop a model that predicts regional household movement behaviour and dwelling preferences. To predict household movement behaviour and housing preferences across Metro Vancouver, a multi-modelling approach was applied using random forest and population synthesis models with recent survey (conducted in 2023) and 2021 census data.³ The resulting dataset includes predicted household movement behaviour and dwelling preferences at the household population-level, as well as survey-based socio-demographic variables – for member jurisdictions across Metro Vancouver.

This report provides a jurisdiction-level summary of the Model results, including:

- An overview of age⁴ (of household maintainer) and household income⁵ (total annual before-tax) group distributions.
- The distribution of dwelling structure type preferences, overall and by age and household income groups.
- The distribution of the number of current bedrooms by preferred dwelling structure types, with links to age and household income.
- A comparison of preferred dwelling structure type preferences (of household maintainers) to the current housing supply (using the Metro Vancouver Land Use 2020 dataset).^{6,7}

A note about relevant data limitations

This analysis was based on survey data that was limited to long-term residents.⁸ Respondents represented all people living in one dwelling unit; therefore, it was assumed that a survey respondent represented the household (i.e., was the household maintainer). Subsequently, the overall study population included only household maintainers, and not all people living across the region.

Additionally, some jurisdiction-level results were limited due to relatively low sample sizes in the input survey data.⁹ Consequently, the results for the following jurisdictions should be considered with caution: Village of Anmore, Village of Belcarra, Bowen Island Municipality, Village of Lions Bay, City of Pitt Meadows, and scəwáθən məsteyəxʷ (Tsawwassen First Nation).

² [MVRD Board Meeting Agenda Package \(Page 121\) – January 26, 2024 \(metrovancover.org\)](#)

³ Modelling details and results are presented and discussed in the full technical report, *Metro Vancouver Residents' Housing and Neighbourhood Preferences Model*.

⁴ Age groups included: 18–24 (Millennial/Gen Z), 25–34 (Millennial/Gen Z), 35–44 (Millennial/Gen Z), 45–54 (Gen X), 55–64 (Gen X), 55–64 (Gen X), and 75+ (Boomer/War generation).

⁵ Household income groups included: less than \$35,000 (low income), \$35,000–59,999 (moderately-low income), \$60,000–84,999 (moderately-high income), and \$85,000 or greater (high income).

⁶ 2020 land use data is an update of the currently available dataset, *Landuse 2016*, available at: <https://open-data-portal-metrovancover.hub.arcgis.com/datasets/metrovancover::landuse-2016-code-description/about>.

⁷ This comparison did not account for unit size or suitability per household, and is limited to resident household maintainers in 2020 for a given jurisdiction.

⁸ "Residents" were defined as those who were born in Canada or arrived in Canada before the year 2000.

⁹ For generating a robust estimate of synthetic population, the population synthesis model requires a minimum sample of 20 to 50 for the demographic breaks used as population control.

VILLAGE OF ANMORE

The Model predicted that nearly a quarter of Anmore household maintainers were aged 55–64 (Gen X); the remainder were relatively evenly split between ages groups 25–34 (Millennial/Gen Z), 35–44 (Millennial/Gen Z), 45–54 (Gen X), and 65–74 (Boomer/War). Over half of Anmore households were predicted to earn a total annual before-tax income of at least \$85,000 (high income); the rest were split evenly between earning \$60,000–84,999 (moderately-high income), \$35,000–59,999 (moderately-low income), and less than \$35,000 (low income).¹⁰

Overall, almost half of Anmore household maintainers were predicted to prefer single detaching housing (Figure 2). This group was mainly of working-age (35–54) and to a lesser extent seniors (75+). High income, and to a lesser extent moderately-low income, household maintainers were also more likely to prefer single detached homes. In comparison, a quarter of Anmore household maintainers preferred multi-attached homes; these household maintainers were more likely to earn at least \$60,000, and to a lesser extent have a low household income. Although those who preferred multi-attached homes ranged from working-age (35–54) to retired (55–74), most were older Millennials (35–54). As housing becomes increasingly unaffordable for many young adults, dwelling structure preferences may continue to shift away from single detached homes and towards more financially accessible options like multi-attached housing.

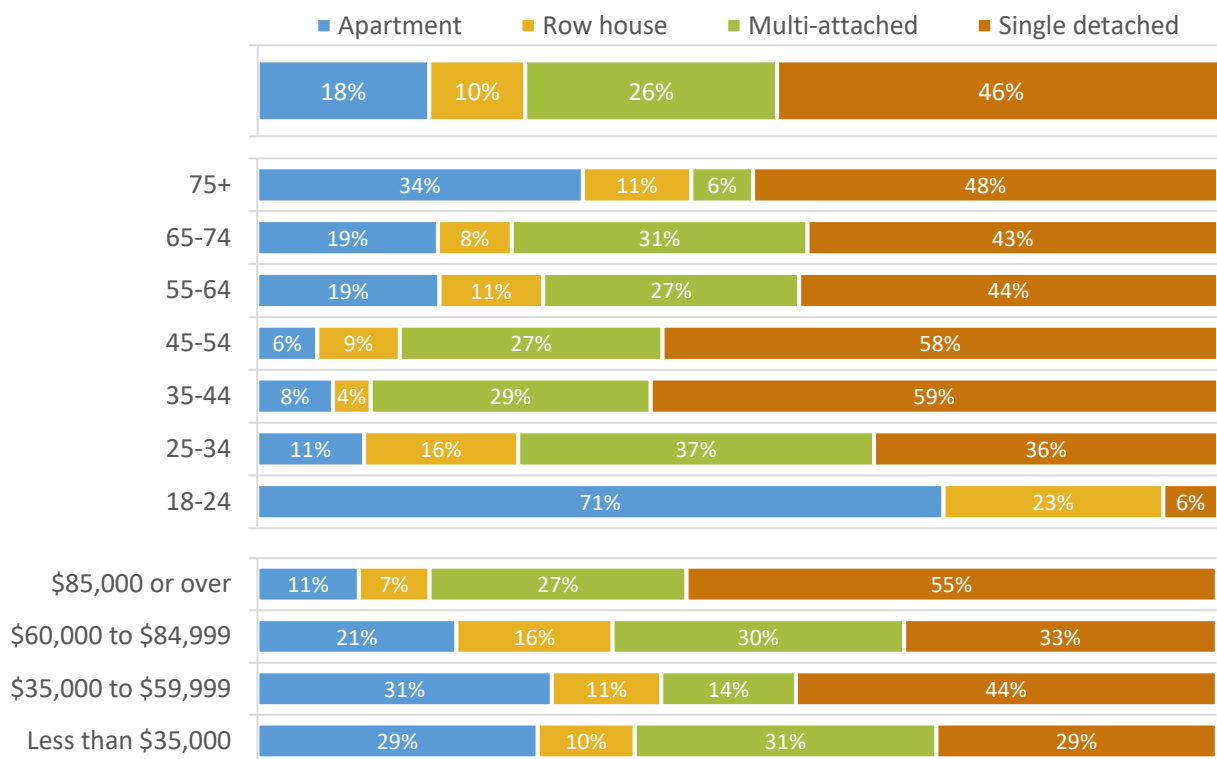


Figure 2. Distribution of preferred dwelling structure type (%), modelled overall Anmore household population as well as by age (of household maintainer) and total annual before-tax household income groups.

¹⁰ For reference: Anmore’s median age in 2021 was 45.6 and median total annual before-tax household income in 2020 was \$170,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

In contrast, younger adults (18–24) and those who earned less than \$60,000 were more likely to prefer apartments (Figure 2). Apartment preference also increased with age. Therefore, those with less financial flexibility – young professionals/families or seniors with a pension – could be happy to live in denser dwelling structures. Row houses were the least preferred dwelling structure type in Anmore.

Of the three-quarters of Anmore household maintainers that preferred single detached or multi-attached housing, the majority had three or more bedrooms (Figure 3). Most of these household maintainers were working-age (35–64) and high income earners. However, those with low incomes and four or more bedrooms were more likely to prefer single detached homes. Household maintainers with three bedrooms who preferred multi-attached homes were similarly likely to earn a low, moderately-high, or high household income. In comparison, those who preferred apartments predominantly had two bedrooms, and were more likely to be retired or close to retirement (55–74) and high income earners. This group may be willing to downsize, if they have not done so already. Household maintainers who preferred row houses mostly had two bedrooms; however, a substantial proportion also had one bedroom, followed by three bedrooms. Most household maintainers who preferred row houses were older (55–64) and earned at least \$85,000 (high income); however, those with two bedrooms were similarly likely to earn a moderately-low income, while those with three bedrooms were similarly likely to earn a moderately-high income.

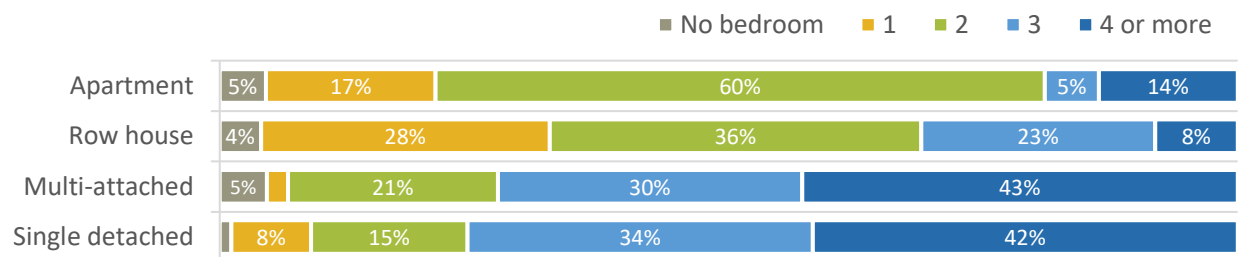


Figure 3. Distribution of current number of bedrooms (%), modelled Anmore household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 4). In Anmore, single detached housing was likely oversupplied while apartments, multi-attached, and row houses were likely undersupplied. As younger working-age (18–34) and those nearing or already retired (55+) were more likely to prefer apartments, row, and multi-attached housing, these households may relocate to another jurisdiction due to limited stock.

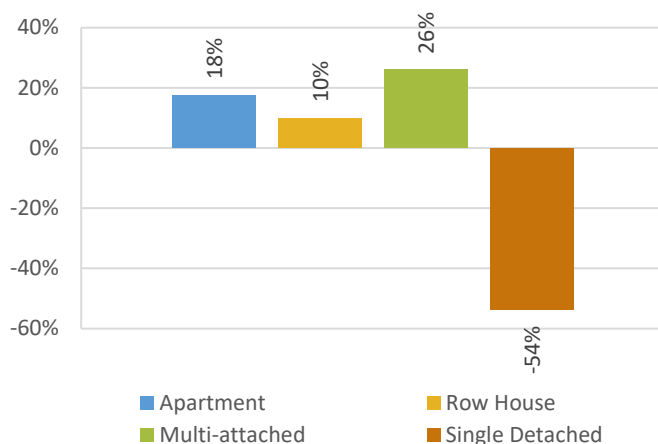


Figure 4. Difference between Anmore’s proportion of units and household maintainer’s preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

VILLAGE OF BELCARRA

The Model predicted that about a quarter of Belcarra household maintainers were aged 55–64 (Gen X), followed by nearly a fifth aged 45–54 (Gen X). Another half of Belcarra household maintainers were split relatively equally between ages 25–34 (Millennial/Gen Z), 35–44 (Millennial/Gen Z), 65–74 (Boomer/War), and 75 or over (Boomer/War). Over half of Belcarra households were predicted to earn a total annual before-tax income of at least \$85,000 (high income); another fifth earned \$60,000–\$84,999 (moderately-high income), and the remainder was evenly split between \$35,000–\$59,999 (moderately-low income) and less than \$35,000 (low income).¹¹

Overall, almost half of Belcarra household maintainers were predicted to prefer single detaching housing; another fifth preferred multi-attached housing (Figure 5). Those who were working-age to retirees (35–74) were more likely to prefer single detached or multi-attached housing than younger and older household maintainers. The preference for single detached housing was associated with higher incomes (\$85,000 or over), and to a lesser extent those making a moderately-low household income. In contrast, household maintainers who preferred multi-attached housing were similarly likely to earn a high, moderately-high, or low household income. Multi-attached housing appears to be a more affordable alternative to single detached housing – especially for lower resourced households.

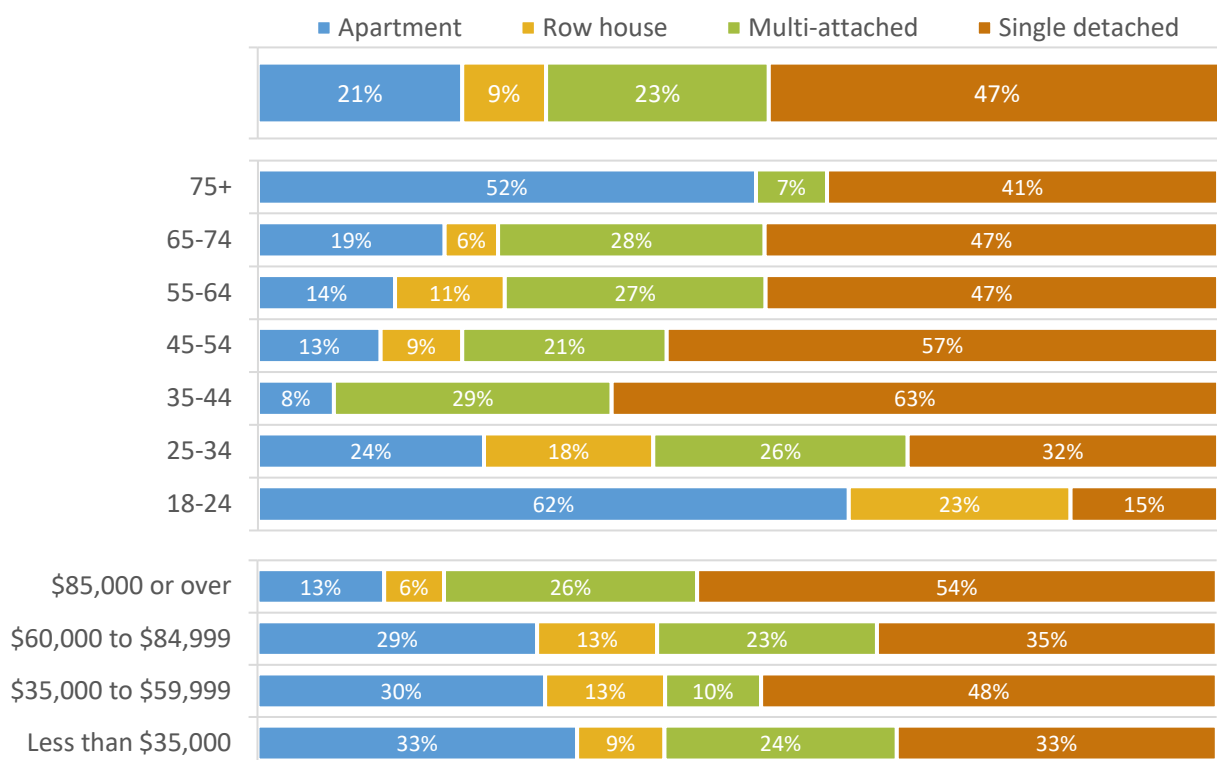


Figure 5. Distribution of preferred dwelling structure type (%), modelled overall Belcarra household population as well as by age (of household maintainer) and total annual before-tax household income groups.

¹¹ For reference: Belcarra’s median age in 2021 was 55.2 and median total annual before-tax household income in 2020 was \$168,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

One-fifth of Belcarra household maintainers preferred apartments (Figure 5); this preference was associated with low or moderate incomes. Gen Z (18–24) and older seniors (75+) were both at least twice as likely to prefer apartments than other (25–74) household maintainers. Additionally, 25–34-year-olds were similarly likely to prefer single detached and multi-attached housing, as well as apartments. Row houses were the least preferred dwelling structure type across all age groups, but with greater preference indicated by younger adults (18–34) and those with moderate incomes.

Of the majority of Belcarra household maintainers who preferred single detached or multi-attached housing, nearly four-fifths were predicted as having three or more bedrooms (Figure 6). Those who preferred single detached housing and were middle-aged (45–54) were more likely to have four or more bedrooms; older seniors (75+) were more likely to have three bedrooms. Similarly, household maintainers with four or more bedrooms who preferred multi-attached homes were more likely to be near retirement (55–64), while those with three bedrooms were more likely to be working-age (35–54) or older (65–74). Single detached or multi-attached housing preference was also associated with high income – although many with three bedrooms and a preference for single detached housing earned less than \$60,000. Half of Belcarra household maintainers who preferred apartments or row houses had two bedrooms; this group was more likely to be seniors (65+) or younger (18–24) household maintainers, as well as moderate income earners. Most household maintainers who preferred row houses had two bedrooms, and were more likely to be young professionals/families (25–34) or nearing retirement (55–64) and earn a high or moderately-low income.

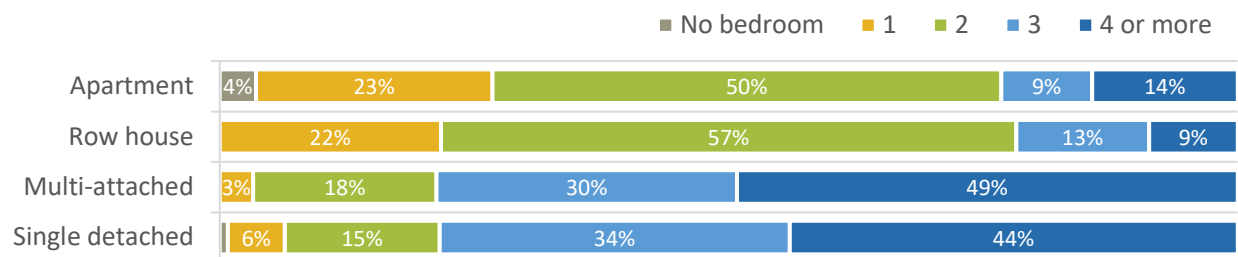


Figure 6. Distribution of current number of bedrooms (%), modelled Belcarra household population by preferred dwelling structure type.

This project showed a discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 7). In Belcarra, single detached housing was likely oversupplied while apartments, multi-attached, and row houses were likely undersupplied. Undersupplied preferred dwelling structure types were more likely to be preferred by younger working-age (18–34) and older (55+) household maintainers.

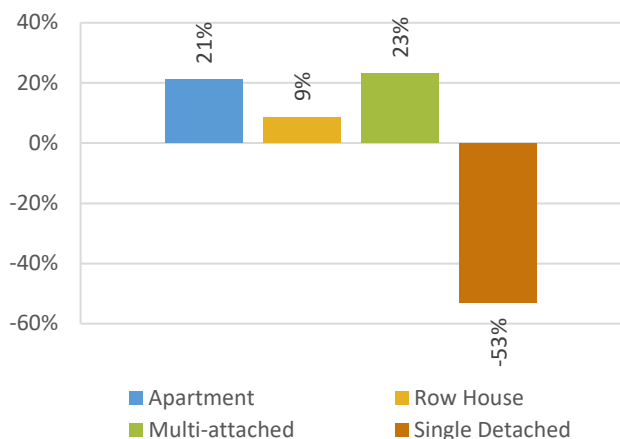


Figure 7. Difference between Belcarra’s proportion of units and household maintainer’s preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

BOWEN ISLAND MUNICIPALITY

The Model predicted that nearly a quarter of Bowen Island household maintainers were aged 55–64 (Gen X); the remainder were split relatively evenly between ages 35–44 (Millennial/Gen Z), 45–54 (Gen X), 65–74 (Boomer/War), and 75 or over (Boomer/War). Nearly three-fifths of Bowen Island households were predicted to earn a total annual before-tax income of at least \$85,000 (high income) followed by similar proportions of those earning \$60,000–84,999 (moderately-high income), \$35,000–59,999 (moderately-low income), and less than \$35,000 (low income).¹²

Overall, almost half of Bowen Island household maintainers were predicted to prefer single detaching housing, while the rest were split almost equally between preferring apartments, row houses, and multi-attached housing (Figure 8). Household maintainers that were Gen Z (18–24), close to retirement (55–64), or older seniors (75+) were more likely to prefer single detached homes than other age groups. Additionally, single detached preference was more strongly associated with high household incomes, and to a lesser extent those earning less than \$35,000. Younger (18–34) household maintainers were more likely to prefer multi-attached homes than those who were older; however, multi-attached housing preference was also associated with high incomes.

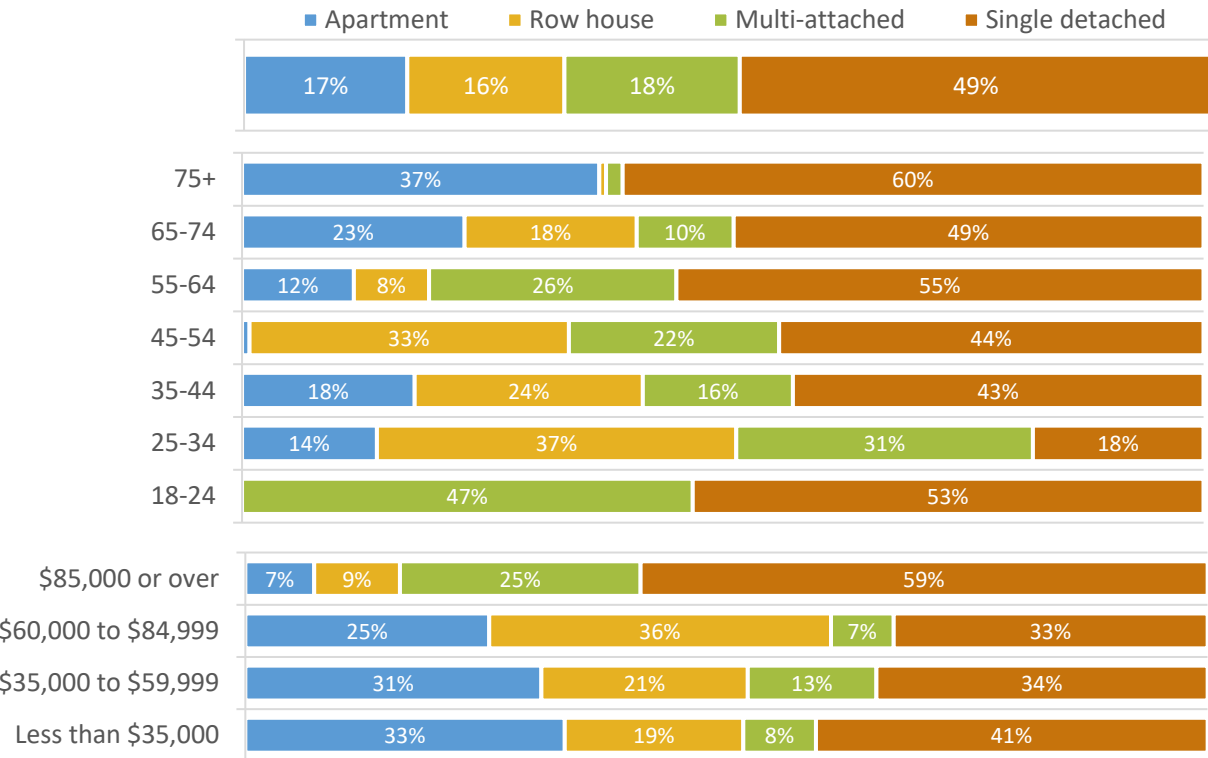


Figure 8. Distribution of preferred dwelling structure type (%), modelled overall Bowen Island household population as well as by age (of household maintainer) and total annual before-tax household income groups.

¹² For reference: Bowen Island’s median age in 2021 was 50.0 and median total annual before-tax household income in 2020 was \$111,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

Bowen Island’s household maintainers who earned moderate incomes (\$60,000–84,999) were similarly likely to prefer single detached housing, row houses, and apartments (Figure 8). However, working-age (25–54) household maintainers were twice as likely to prefer row houses than the overall household maintainer population, and seniors (65+) were at least twice as likely to prefer apartments. Preference for apartments was also greatest for those with low incomes – which likely includes many with pensions.

Of the half of Bowen Island household maintainers who preferred single detached homes, over three-quarters were predicted to have three or more bedrooms and two-thirds with four or more bedrooms (Figure 9). Single detached housing preference was associated with high incomes. However, those with four or more bedrooms were more likely to be working-age (35–54), while those with three bedrooms were mostly seniors (65+). Similarly, most who preferred multi-attached housing had three or more bedrooms and earned a high income. Those who preferred multi-attached homes and had four or more bedrooms were more likely to be working-age, while those with three bedrooms were mostly near retirement (55–64). In comparison, nearly two-thirds of apartment-preferring household maintainers had a single bedroom, and were more likely to be older seniors (75+) or to a lesser extent younger Millennials (25–34). Most earned a low household income (likely a pension for seniors), followed by a similar proportion who earned moderately-low and high incomes. Household maintainers who preferred row houses were similarly likely to have one or two bedrooms, and to a lesser extent three bedrooms. Those with a preference for row houses were similarly likely to have one, two, or three bedrooms. Preferring row houses and having three bedrooms was associated with a high household income and older Millennials, whereas those with two bedrooms were more likely to be high income and Gen X.

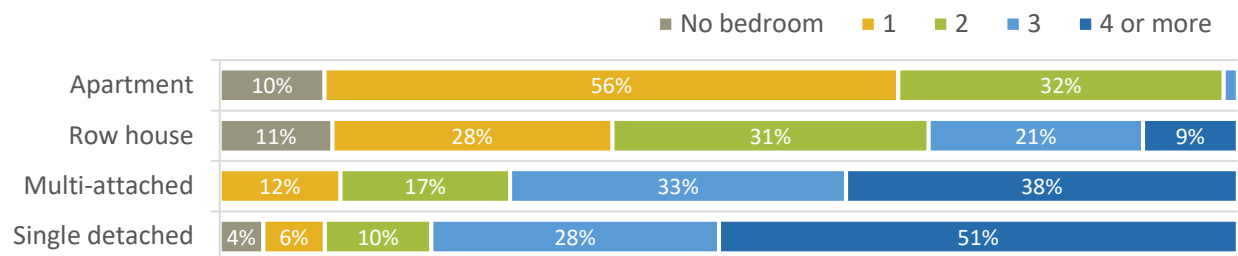


Figure 9. Distribution of current number of bedrooms (%), modelled Bowen Island household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 10). On Bowen Island, single detached housing was likely oversupplied while apartments, multi-attached, and row houses were likely undersupplied. As working-age (25–54) household maintainers were more likely to prefer apartments, row, and multi-attached housing, these households may relocate to another jurisdiction due to limited stock.

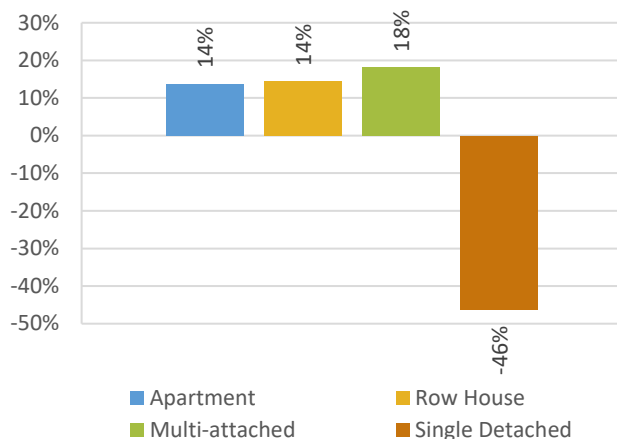


Figure 10. Difference between Bowen Island’s proportion of units and household maintainers’ preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF BURNABY

The Model predicted that about half of Burnaby household maintainers were aged 18–44 (Millennial/Gen Z), followed by a third aged 45–64 (Gen X) and one-fifth aged 65 or over (Boomer/War). Nearly half of Burnaby households were predicted to earn a total annual before-tax income of at least \$85,000 (high income), followed by about a fifth who earned \$60,000–84,999 (moderately-high income), \$35,000–59,999 (moderately-low income), and less than \$35,000 (low income), each.¹³

Overall, Burnaby household maintainers were predicted as equally preferring apartments and single detaching housing, and to a lesser extent preferred multi-attached housing (Figure 11). Seniors (65+) were most likely to prefer apartments; 1.5 times as many seniors preferred apartments compared to the overall household maintainer population. Gen X (18–24) as well as household maintainers nearing retirement (55–64) also indicated a strong preference for apartments. Additionally, apartment preference increased with a decrease in household incomes – with half of low income household maintainers preferring apartments. This pattern infers that many young and senior household maintainers likely preferred apartments while considering rising costs and affordability.

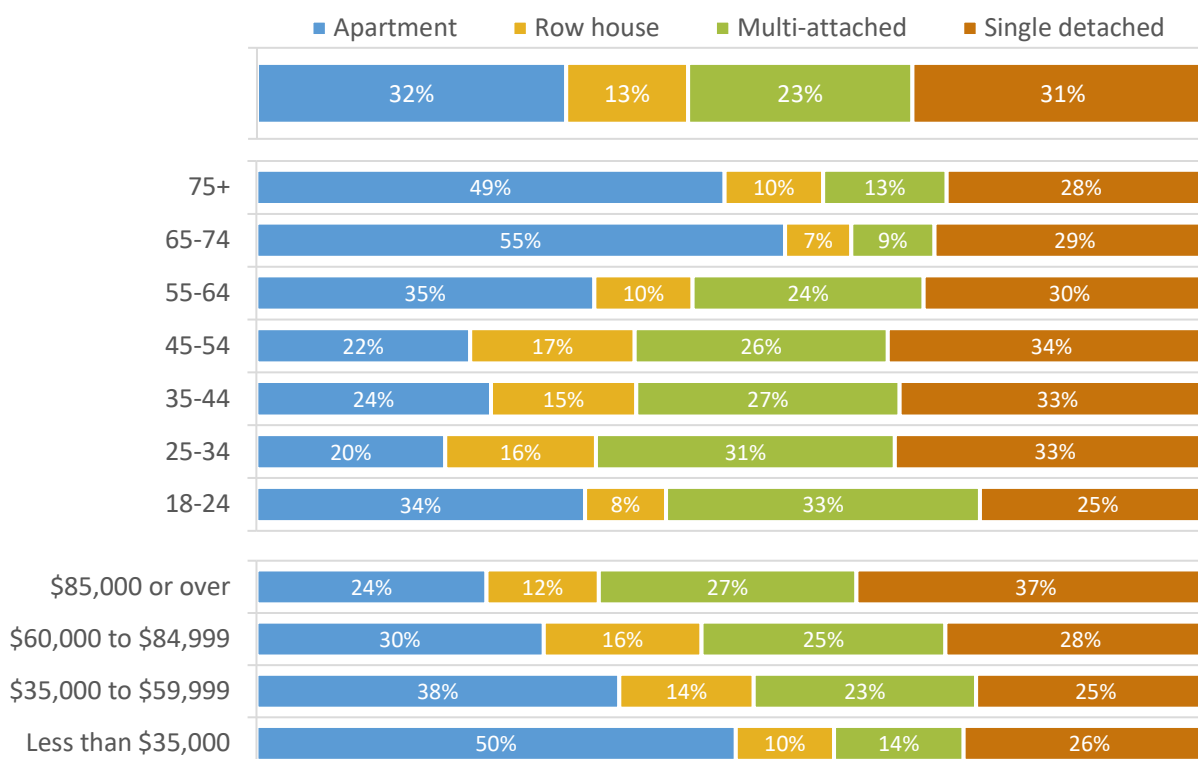


Figure 11. Distribution of preferred dwelling structure type (%), modelled overall Burnaby household population as well as by age (of household maintainer) and total annual before-tax household income groups.

Burnaby’s high income household maintainers were more likely to prefer single detached housing, followed by multi-attached houses (Figure 11). Single detached homes were preferred across all age

¹³ For reference: Burnaby’s median age in 2021 was 40.4 and median total annual before-tax household income in 2020 was \$104,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-62-0001/2021001/article/00001-eng.htm)

groups, while younger (18–34), followed by middle-aged (35–64), household maintainers were more likely to prefer multi-attached homes. Although row houses were least preferred, working-age (25–54) and moderate income earners were more likely to share this preference.

Nearly half of Burnaby household maintainers who preferred apartments had one bedroom (Figure 12) – which amounted to about a tenth of all modelled Burnaby household maintainers. This group was more likely to be recently retired (65–74) and have a low income. Over a third of apartment preferring household maintainers were had two bedrooms; this group included more near-to-recent retirees (55–74) and those earning at least \$85,000. Half of Burnaby household maintainers preferred single detached or multi-attached housing – of which half had three or more bedrooms. In particular, a third of household maintainers who preferred single detached or multi-attached housing had four or more bedrooms. Most household maintainers who preferred single detached or multi-attached housing were modelled as high income earners; those with one bedroom who preferred single detached housing were more likely to have a low income, while those who preferred multi-attached homes were similarly likely to have a low or high income. Additionally, household maintainers with two or more bedrooms and a preference for either single detached or multi-attached housing were more likely to be working-age (25–54). Two-fifths of those who preferred row houses had two bedrooms; this group was more likely to earn a high income and be working-age (25–54).

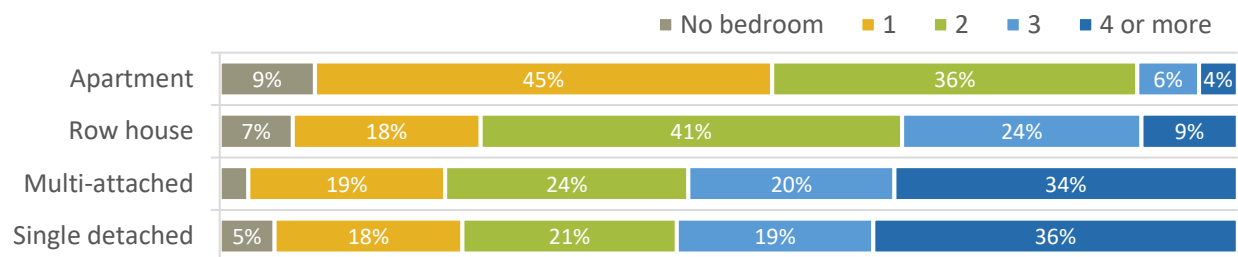


Figure 12. Distribution of current number of bedrooms (%), modelled Burnaby household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 13). In Burnaby, apartments were likely oversupplied while single detached housing were likely undersupplied. As high income earners were more likely to prefer single detached housing, these households may relocate to another jurisdiction due to limited stock.

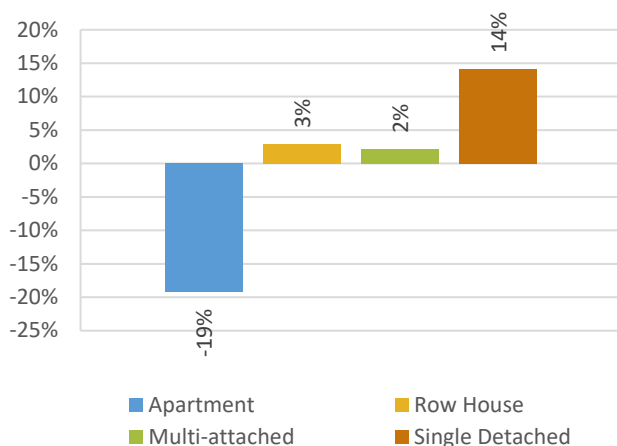


Figure 13. Difference between Burnaby's proportion of units and household maintainer's preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF COQUITLAM

The Model predicted that about a quarter of Coquitlam household maintainers were aged 55–64 (Gen X), followed by a fifth aged 45–54 (Gen X) and about a tenth each of 25–34 (Millennial/Gen Z), 35–44 (Millennial/Gen Z), 65–74 (Boomer/War), and 75 or over year olds (Boomer/War). Over half of Coquitlam households were predicted to earn a total annual before-tax income of at least \$85,000 (high income); followed by a fifth who earned \$60,000–84,999 (moderately-high income), and about a tenth each who earned \$35,000–59,999 (moderately-low income) and less than \$35,000 (low income).¹⁴

Overall, nearly half of Coquitlam household maintainers were predicted to prefer single detached housing, followed by a quarter who preferred multi-attached housing (Figure 14). Those who were working-age adults to early retirees (35–74), as well as high or moderately-low income earners, were more likely to prefer single detached homes. However, a slightly greater preference for multi-attached than single detached housing was observed by younger Millennials (25–34) and those with low, moderately-high, and high household incomes. These results indicate that younger household maintainers, who are early-career professionals and many of which are likely growing their families, value more affordable, moderate density dwelling structure type options like multi-attached housing.

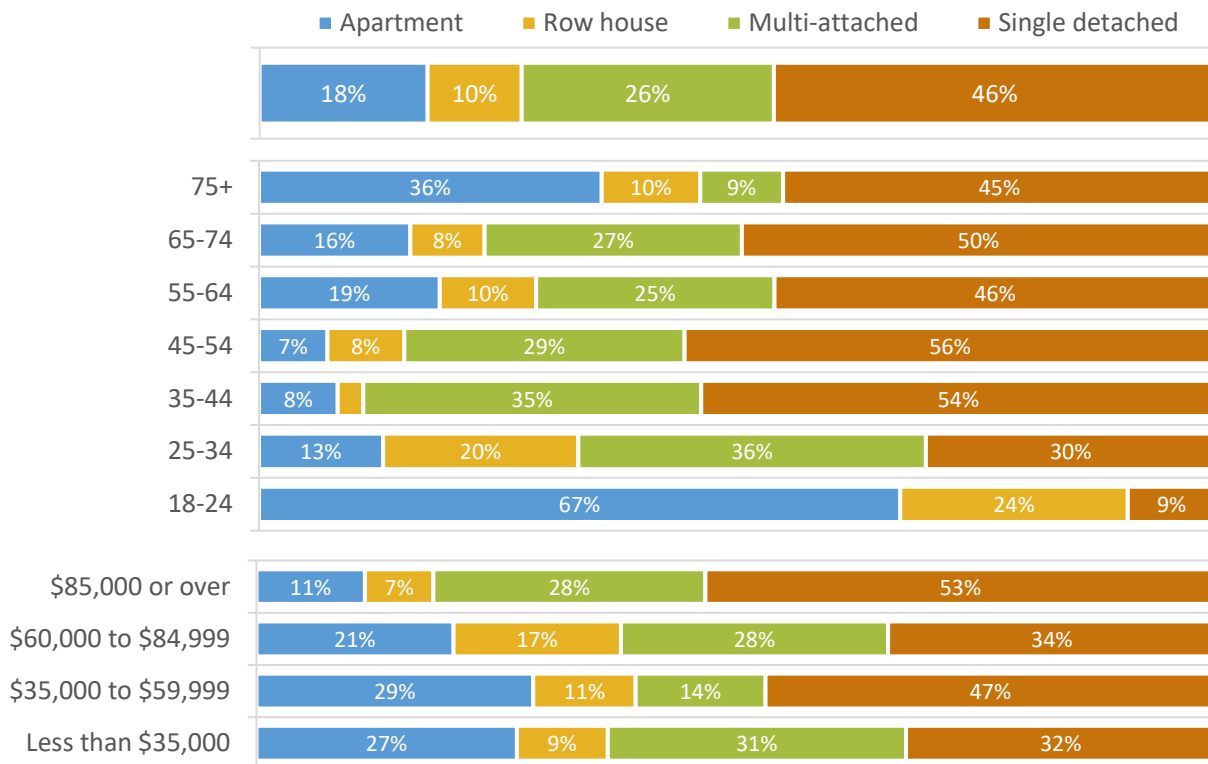


Figure 14. Distribution of preferred dwelling structure type (%), modelled overall Coquitlam household population as well as by age (of household maintainer) and total annual before-tax household income groups.

¹⁴ For reference: Coquitlam’s median age in 2021 was 41.6 and median total annual before-tax household income in 2020 was \$111,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

A fifth of Coquitlam household maintainers preferred apartments (Figure 14); this group was more likely to be Gen Z (18–24) or older seniors (75+). Apartment preference was also associated with low or moderately-low household incomes – indicating a likely influence of the current state of housing unaffordability. Row houses were the least preferred dwelling structure type overall; a tenth of household maintainers shared this preference, most of which were Millennial/Gen Z and moderately-high income.

Nearly half of Coquitlam household maintainers who preferred apartments had one bedroom – about a tenth of all modelled Coquitlam household maintainers (Figure 15). This group was more likely to be Gen Z (18–24) or seniors (65+), as well as earn less than \$60,000; those with two or three bedrooms were more likely to be near retirement (55–64) and earn at least \$60,000. In contrast, household maintainers who preferred single detached or multi-attached housing were more likely to have three or more bedrooms and earn a high household income. For single detached preference: those with three bedrooms were mostly working-age (35–64), while those with four or more bedrooms were more likely to be closer to retirement (55–64). Similarly, household maintainers with four or more bedrooms and a multi-attached preference were more likely to be aged 55–64. Those with three bedrooms were more likely to be working-age (25–54) or to a lesser extent recently retired (65–74); they were also similarly likely to have a high or low household income (or to a lesser extent a moderately-high income). Row house preferring household maintainers had a greater mix of current bedroom counts than household maintainers with other dwelling structure type preferences. Most household maintainers who preferred row houses had two bedrooms; this group was more likely to have a moderately-low or high household income, and be Gen X (45–64) or to a lesser extent younger Millennials (25–34).

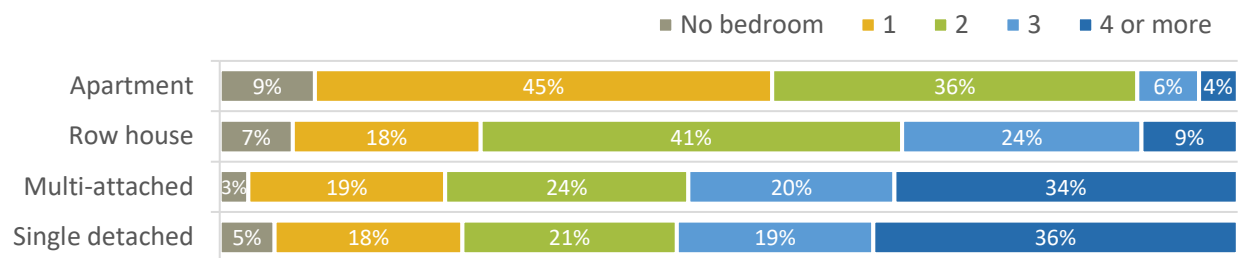


Figure 15. Distribution of current number of bedrooms (%), modelled Coquitlam household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 16). In Coquitlam, apartments were likely oversupplied; single detached, and to a lesser extent multi-attached, housing was likely undersupplied.

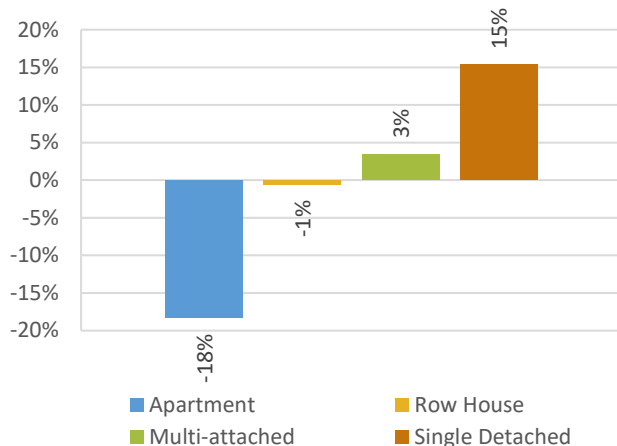


Figure 16. Difference between Coquitlam’s proportion of units and household maintainer’s preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF DELTA

The Model predicted that most Delta household maintainers were split evenly between ages 35–44 (Millennial/Gen Z), 45–54 (Gen X), 55–64 (Gen X), and 65–74 (Boomer/War). Nearly half of Delta households were predicted to earn a total annual before-tax income of at least \$85,000 (high income); about a fifth each earned \$60,000–84,999 (moderately-high income), \$35,000–59,999 (moderately-low income), and less than \$35,000 (low income).¹⁵

Overall, half of Delta household maintainers were predicted to prefer single detaching housing (Figure 17). The preference for single detached housing generally increased with age, with at least half of middle-aged or older (45+) household maintainers predicted to prefer single detached homes. Additionally, household maintainers with higher incomes were more likely to prefer single detached housing; two-thirds of high income earners and over half of moderately-high income earners preferred single detached houses. These results indicate that more established households were more likely to choose low density dwelling structure types, like single detached housing.

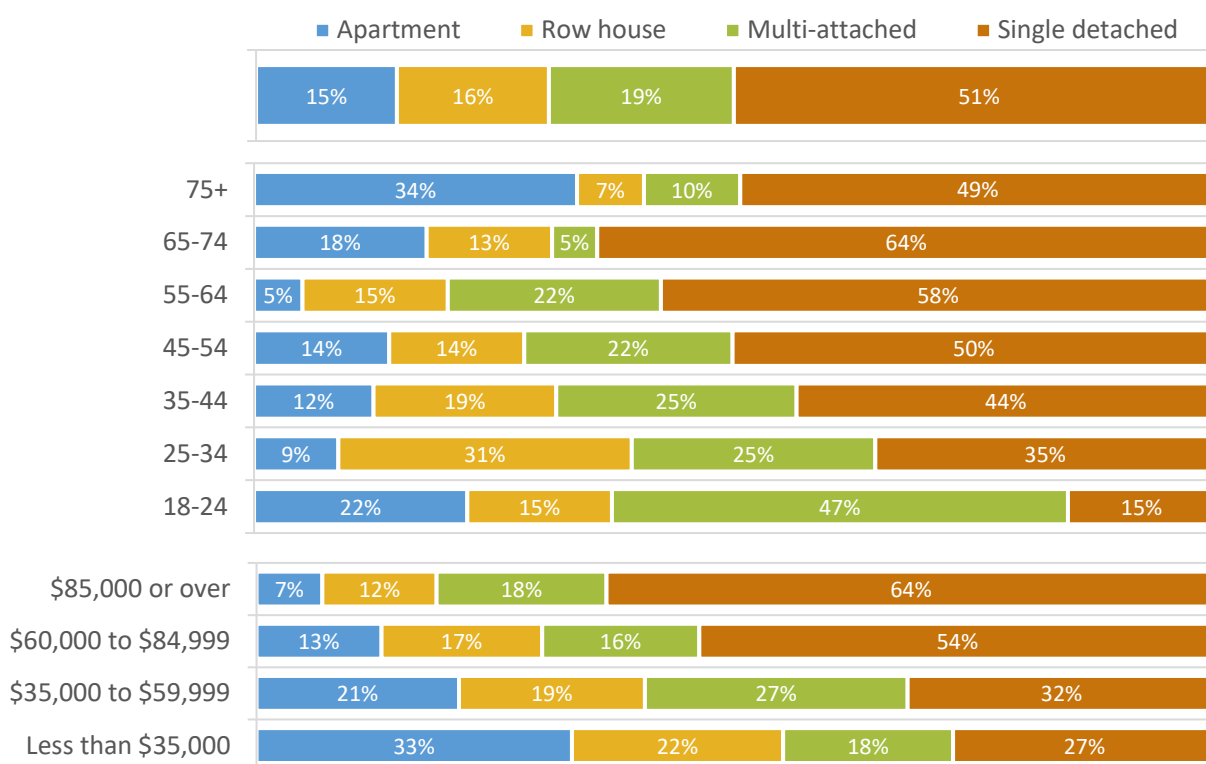


Figure 17. Distribution of preferred dwelling structure type (%), modelled overall Delta household population as well as by age (of household maintainer) and total annual before-tax household income groups.

Following the top preference for single detached housing, the remainder of modelled Delta household maintainers were relatively evenly split between preferring multi-attached housing, row houses, and apartments (Figure 17). Preference for multi-attached housing was greater with younger household

¹⁵ For reference: Delta’s median age in 2021 was 44.0 and median total annual before-tax household income in 2020 was \$108,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

maintainers; nearly half of Gen Z (18–24) and a quarter of Millennial (25–44) household maintainers preferred multi-attached homes. Millennial household maintainers were also similarly likely to prefer row houses as multi-attached houses. Moderately-high income earners were more likely to prefer multi-attached housing, while row houses were similarly preferred by all household income groups. In contrast, apartments were highly preferred by older seniors (75+) and those with lower incomes (likely as a pension). Senior living apartments could provide a suitable, moderate-to-high density dwelling structure option for Delta’s older inhabitants to age in place.

Two-fifths of household maintainers who preferred single detached homes had three bedrooms, and another two-fifths had four or more bedrooms (Figure 18). Both groups were more likely to earn at least \$85,000 and be middle-aged or early retirees (45–74); those with four or more bedrooms were more likely to be older and earn a higher income than those with three bedrooms. Household maintainers who preferred multi-attached homes included a more even mix of two, three, and four or more bedrooms. Most who shared this preference were near retirement (55–64); however, those with four or more bedrooms also included many younger, working-age (35–54) household maintainers. Similarly, most multi-attached preferring household maintainers had a high household income. However, this preference was also shared by many with two bedrooms and a moderately-low income, or with three bedrooms and a low income. In contrast, half of those who preferred row houses had three bedrooms, and half of those who preferred apartments had two bedrooms. Household maintainers who preferred row houses and had three bedrooms were more likely to be Millennials (25–44) and high income, while those who preferred apartments and had two bedrooms were more likely to be seniors (65+) and earn either a high or moderately-low household income.

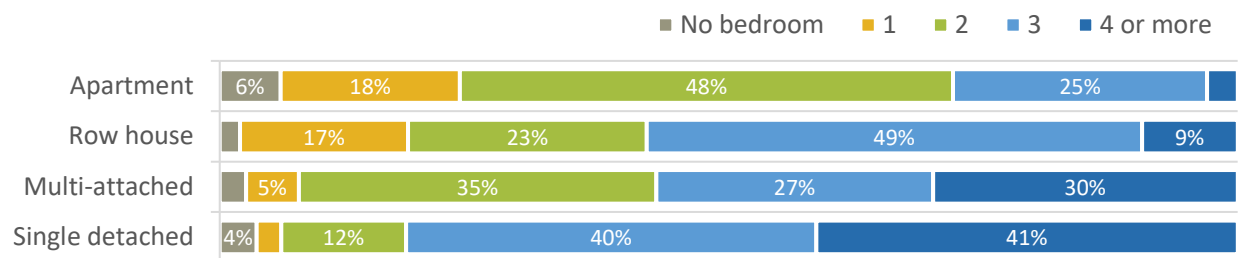


Figure 18. Distribution of current number of bedrooms (%), modelled Coquitlam household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 19). In Delta, the proportional supply of single detached, multi-attached, row, and apartment housing closely matched household maintainers’ associated preferences. However, multi-attached housing and apartments were relatively oversupplied, while row houses were relatively undersupplied.

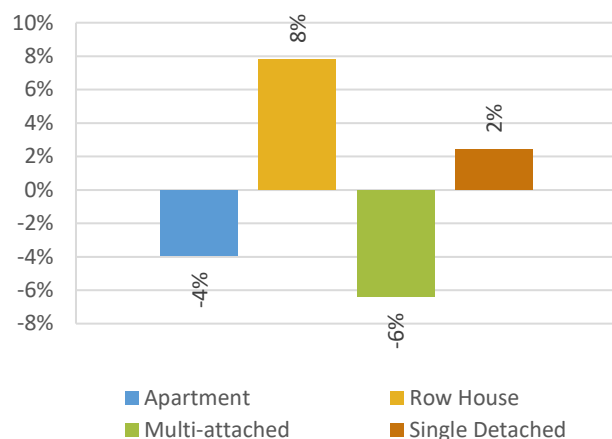


Figure 19. Difference between Delta’s proportion of units and household maintainer’s preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF LANGLEY

The Model predicted that two-fifths of Langley City household maintainers were Gen X (split evenly between ages 45–54 and 55–64). The remainder included a relatively even mix of ages 25–34 (Millennial/Gen Z), 35–44 (Millennial/Gen Z), and 65–74 (Boomer/War). Over half of Langley City households earned a total annual before-tax income of at least \$85,000 (high income), followed by about a fifth who earned \$60,000–84,999 (moderately-high income) and \$35,000–59,999 (moderately-low income), each.¹⁶

Overall, half of City of Langley household maintainers were predicted to prefer single detaching housing (Figure 20). Middle-aged (45–54) household maintainers were more likely to prefer single detached homes than other age groups. However, those earning a moderately-low, moderately-high, or a high income were similarly likely to share this preference. A quarter of all Langley City household maintainers were predicted to prefer multi-attached housing (Figure 20); this group was more likely to be Millennial/Gen Z (18–44) and earn either a low or high household income. These results emphasize the increasing preference for moderate density housing, like multi-attached homes, by younger generations.

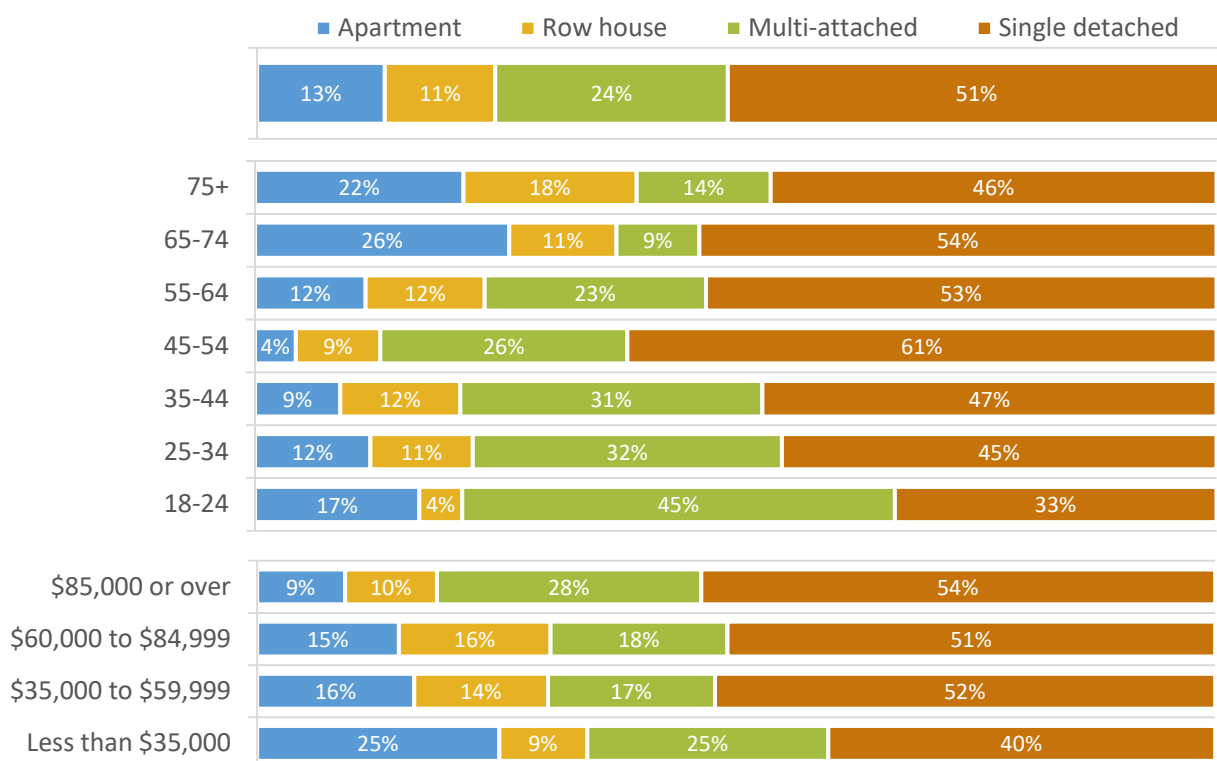


Figure 20. Distribution of preferred dwelling structure type (%), modelled overall Langley City household population as well as by age (of household maintainer) and total annual before-tax household income groups.

About a tenth of all Langley City household maintainers were predicted to prefer apartments and row houses, each (Figure 20). Seniors (65+) and those with a low income were more likely to be prefer

¹⁶ For reference: City of Langley’s median age in 2021 was 41.2 and median total annual before-tax household income in 2020 was \$77,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-62-0001/2021001/article/00001-eng.htm)

apartments. Meanwhile, row house preference was slightly greater among older seniors (75+) and those with moderate incomes (\$35,000–84,999). Senior-adapted apartments could provide a more affordable and higher density housing option for the aging population in Langley City, while multi-attached homes could be an alternative for young professionals and families.

About half of Langley (City) household maintainers who preferred either single detached and multi-attached housing had four or more bedrooms. For single detached preference: those with three or more bedrooms were more likely to near retirement (44–54) or early retirees (65–74), as well as earn at least \$85,000. A similar relationship was found for household maintainers who preferred multi-attached housing and had four or more bedrooms. However, those who preferred multi-attached homes and had two or three bedrooms were more likely to be younger, working-age (25–54) as well as high income. In contrast, two-fifths of household maintainers who preferred apartments had two bedrooms, followed by a quarter with a single bedroom. Apartment preferring household maintainers with two bedrooms were more likely to be recently retired (65–74) and high income, while those with a single bedroom also included mostly older seniors (65+) but were more likely to be low income. Nearly two-thirds of household maintainers who preferred row houses had two bedrooms, followed by over a quarter with three bedrooms. For row house preference: those with two bedrooms were more likely to be near retirement (55–64) and high income, while those with three bedrooms were more likely to be older Millennials (33–44) and earn at least \$60,000.

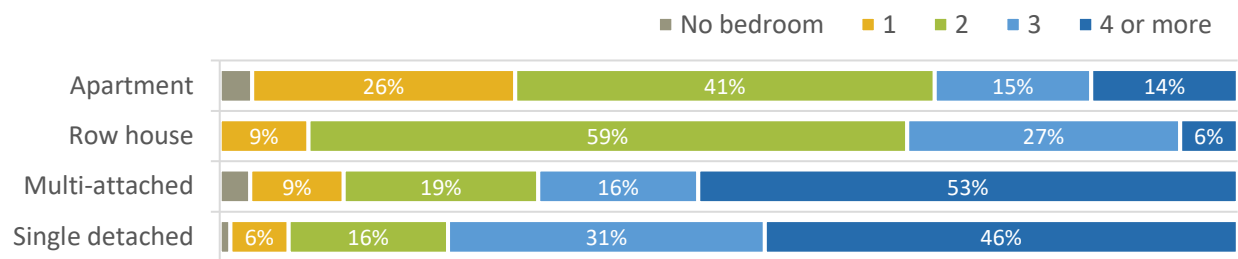


Figure 21. Distribution of current number of bedrooms (%), modelled Langley (City) household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 22). Apartments were likely oversupplied in the City of Langley, while single detached, and to a lesser extent multi-attached, housing was likely undersupplied.

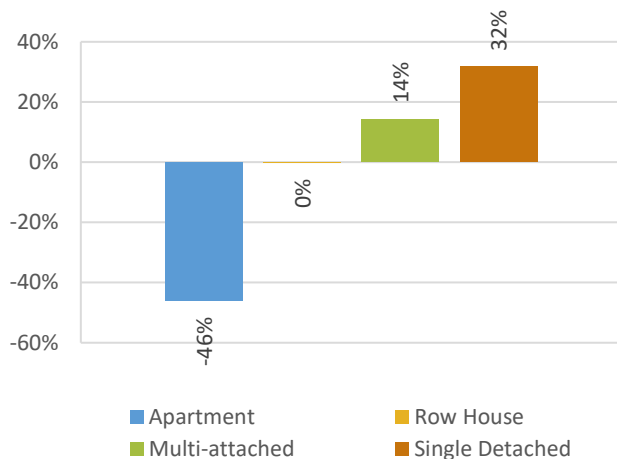


Figure 22. Difference between the City of Langley's proportion of units and household maintainers' preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

TOWNSHIP OF LANGLEY

The Model predicted that a fifth of Langley Township household maintainers were aged 45–54 (Gen X) and 55–64 (Gen X), each. The remainder were split relatively evenly between ages 25–34 (Millennial/Gen Z), 35–44 (Millennial/Gen Z), and 65–74 (Boomer/War). Over half of the Township of Langley households were predicted to earn a total annual before-tax income of at least \$85,000 (high income); about a fifth of households each earned \$60,000–84,999 (moderately-high income) and \$35,000–59,999 (moderately-low income), followed by a tenth who earned less than \$35,000 (low income).¹⁷

Overall, half of the Township of Langley household maintainers were predicted to prefer single detached housing (Figure 23). Single detached housing preference greatest for middle-aged (45–54) household maintainers, and gradually decreased for older and younger household maintainers. Additionally, household maintainers with a high household income were more likely to prefer single detached homes than those earning less than \$85,000. In contrast, those who preferred apartments were more likely to be seniors (65+) and earn less than \$35,000 (likely a pension in many cases).

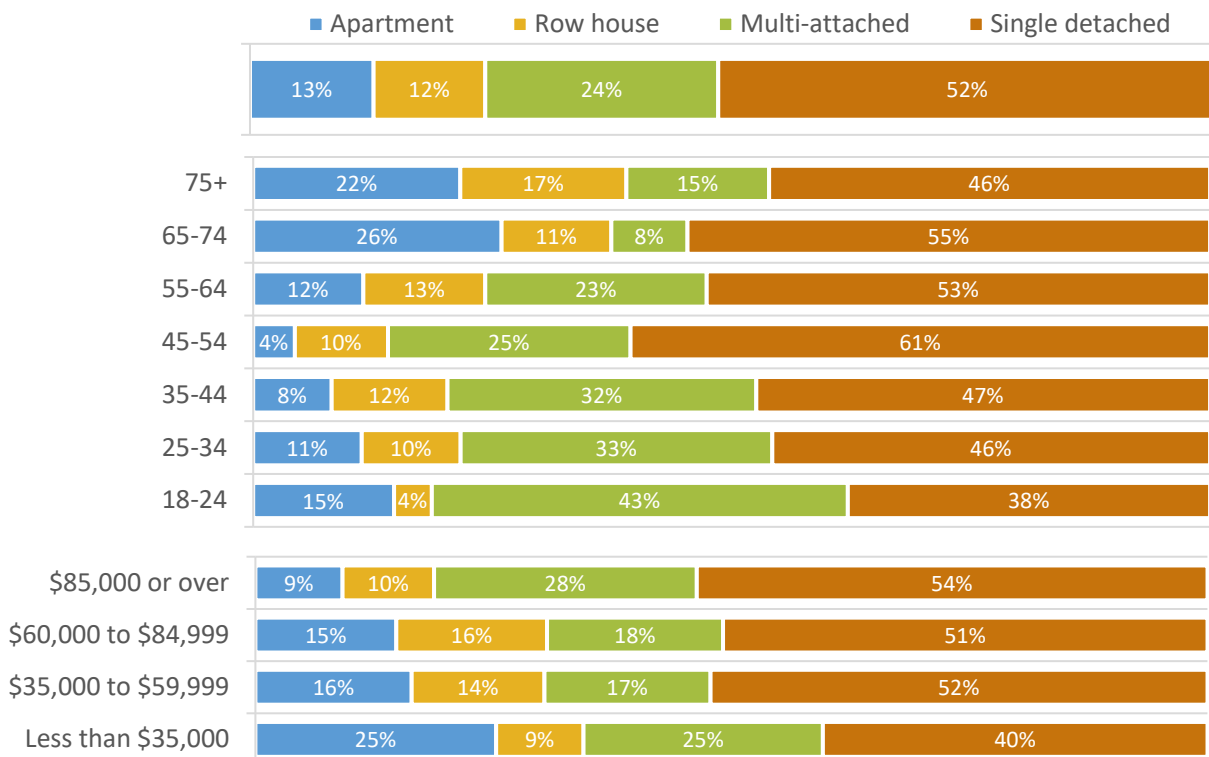


Figure 23. Distribution of preferred dwelling structure type (%), modelled overall Langley (Township) household population as well as by age (of household maintainer) and total annual before-tax household income groups.

A quarter of Langley (Township) household maintainer were predicted to prefer multi-attached housing, followed by about a tenth each who preferred apartments and row houses (Figure 23). Multi-attached

¹⁷ For reference: Township of Langley’s median age in 2021 was 40.8 and median total annual before-tax household income in 2020 was \$108,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

homes were especially preferred by Gen Z household maintainers (18–24), and decreased gradually with older household maintainers. In contrast, row housing was more greatly preferred by older household maintainers – but especially those 75 or over. Household maintainers with either a high or low household income were similarly likely to prefer multi-attached homes; the preference for multi-attached housing and row houses was similar for those earning between \$35,000 and \$85,000. Moderate to high density dwellings, like row and multi-attached houses as well as apartments, could provide additional housing options for young professionals/families as well as seniors.

About half of Langley (Township) household maintainers who preferred either single detached and multi-attached homes had four or more bedrooms (Figure 24); these household maintainers were more likely to earn a high household income and be middle-aged or near retirement (45–64). Those with a preference for either single detached or multi-attached housing but had fewer bedrooms (2–3) were also more likely to be high income earners; however, multi-attached housing preference was associated younger, Millennial (25–44) household maintainers than single detached housing preferences (44–74). Nearly two-thirds of household maintainers who preferred row houses had two bedrooms; this group was more likely to be nearly retired (55–64) and high income earners. Two-fifths of those who preferred apartments had two bedrooms and were more likely to be recently retired (65–74) and high income; a quarter had a single bedroom and were more likely to be seniors (65+) and low income.

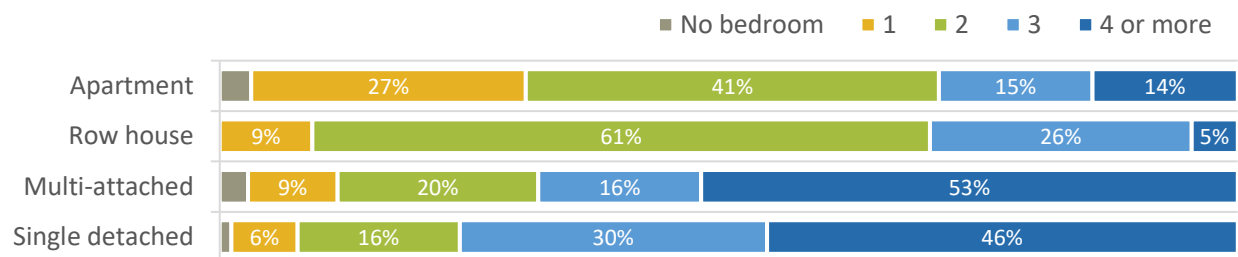


Figure 24. Distribution of current number of bedrooms (%), modelled Langley (Township) household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 25). In Langley (Township), the proportional supply of all dwelling structure types closely matched household maintainers’ associated preferences. Row houses and apartments were relatively oversupplied, while single detached and multi-attached housing was undersupplied.

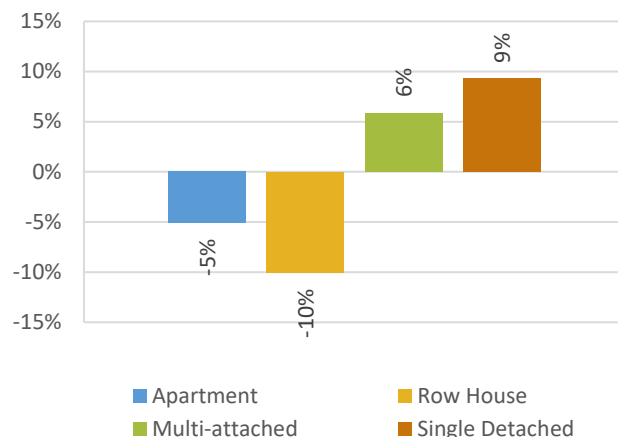


Figure 25. Difference between Township of Langley's proportion of units and household maintainer's preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

VILLAGE OF LIONS BAY

The Model predicted that a quarter of Lions Bay household maintainers were aged 55–64 (Gen X); the rest were split relatively evenly across ages 35–44 (Millennial/Gen Z), 45–54 (Gen X), 65–74 (Boomer/War), and 75 or over (Boomer/War). Nearly three-fifths of Lions Bay households were predicted to earn a total annual before-tax income of at least \$85,000 (high income), followed by about a tenth each who earned \$60,000–84,999 (moderately-high income), \$35,000–59,999 (moderately-low income), and less than \$35,000 (low income).¹⁸

Overall, half of Lions Bay household maintainers were predicted to prefer single detached housing (Figure 26). This was a top dwelling structure type preference for the majority of household maintainers aged 35 or over, as well as over two-thirds of Gen Z (18–24) household maintainers. Those who preferred single detached homes were more likely to earn at least \$85,000; about 20–40 per cent more high income earners preferred single detached homes than lower income household maintainers.

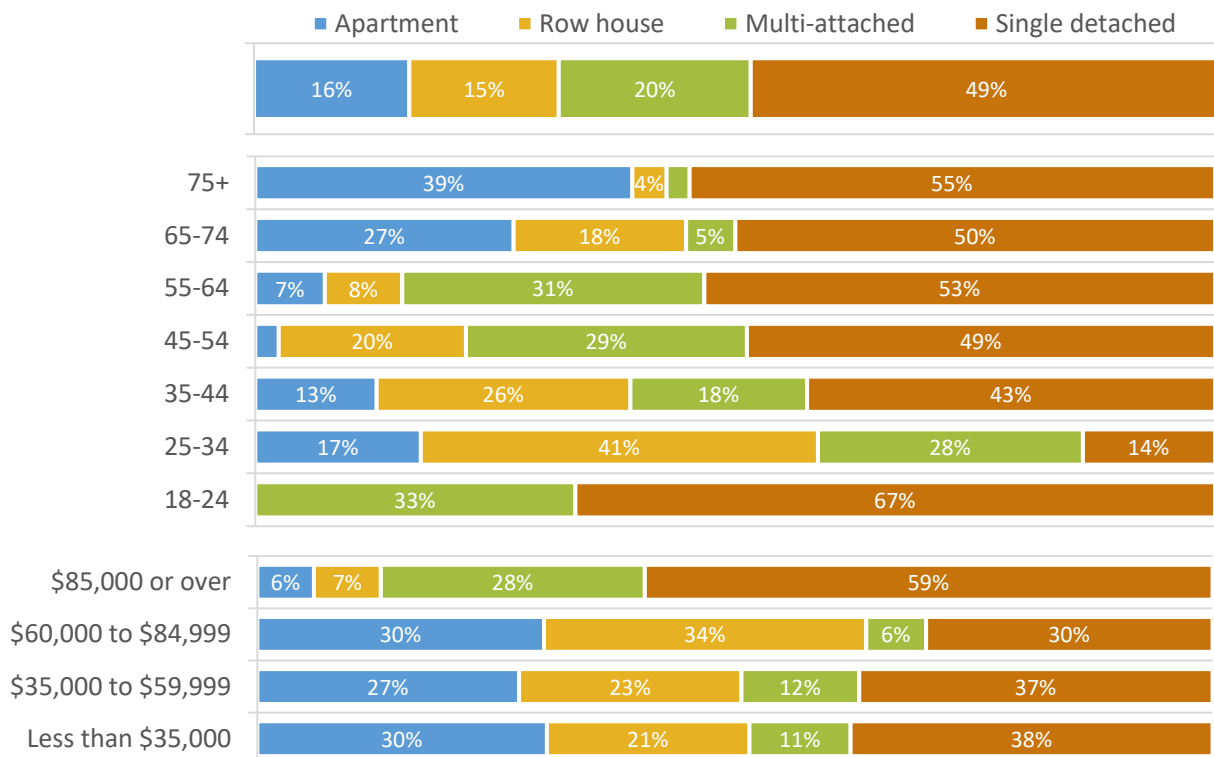


Figure 26. Distribution of preferred dwelling structure type (%), modelled overall Lions Bay household population as well as by age (of household maintainer) and total annual before-tax household income groups.

The rest of Lions Bay household maintainers were nearly equally split between preferring multi-attached housing, apartments, and row houses (Figure 26). Millennial/Gen Z (18–44) and Gen X (45–64) household maintainers were more likely to prefer multi-attached housing than seniors (65+). Following

¹⁸ For reference: Lions Bay’s median age in 2021 was 50.4 and median total annual before-tax household income in 2020 was \$140,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-628-x/2021001/article/00001-eng.htm)

their top preference of single detached housing, household maintainers who earned a high income were more likely to prefer multi-attached housing than apartments or row houses.

Nearly twice as many 25–34-year-old household maintainers were predicted to prefer row houses compared to the overall household maintainer preference (Figure 26). Meanwhile, senior household maintainers had a greater predicted preference for apartments than those who were younger; over twice the proportion of 75-or-older household maintainers preferred apartments than the overall household maintainer population. Household maintainers earning \$60,000 or less were more likely to prefer apartments and row houses than those with a high income. Providing more affordable moderate to high density dwelling structure type options, like apartments and row houses, could address the desires of many seniors and young professionals/families in Lions Bay.

About half of Lions Bay household maintainers who preferred single detached housing had four or more bedrooms, followed by a quarter with three bedrooms (Figure 27); both groups were predicted to be mostly high income. Those with four or more bedrooms were more likely to be working-age or early retirees (35–64), while those with three bedrooms were more likely to be older (55+). Similarly, of the household maintainers that preferred multi-attached homes (one-fifth overall), about four-fifths were split evenly between having three and four or more bedrooms. Both groups were more likely to be close to or retired (55–64) and earn \$85,000 or over. In contrast, household maintainers who preferred apartments were mostly split between having one and two bedroom(s), and to a lesser extent three bedrooms. Most 1-or-2-bedroom apartment preferring household maintainers were older seniors (75+); however, those with a single bedroom were more likely to be low income, while those with two bedrooms were more likely to earn at least \$35,000. Household maintainers who preferred row houses were similarly likely to currently have one, two, and three bedrooms.

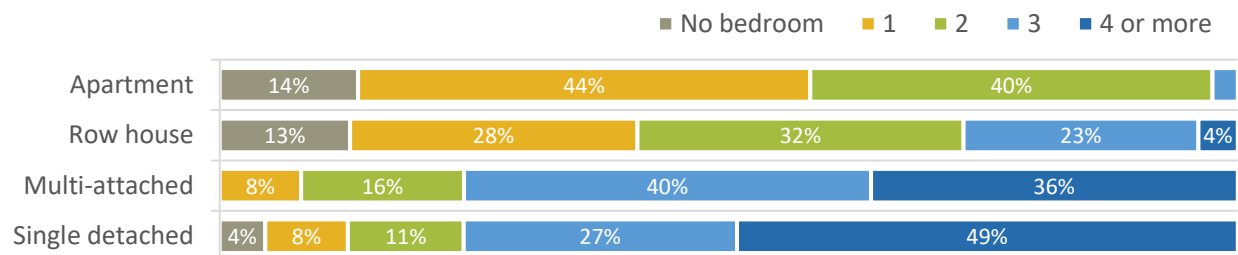
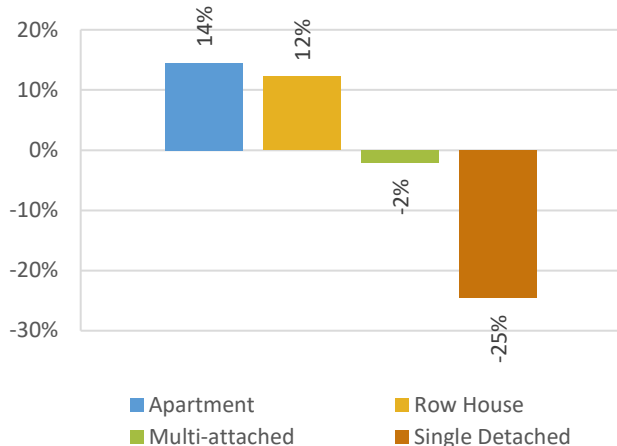


Figure 27. Distribution of current number of bedrooms (%), modelled Lions Bay household population by preferred dwelling structure type.



This project showed a potential discrepancy between the current housing supply and household maintainers' dwelling structure type preferences (Figure 28). In Lions Bay, single detached housing was likely oversupplied, while apartments and row houses were likely undersupplied.

Figure 28. Difference between Lions Bay's proportion of units and household maintainer's preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF MAPLE RIDGE

The Model predicted that about 30 per cent of Maple Ridge household maintainers were aged 55–64 (Gen X), followed by about a tenth for each of 25–34 (Millennial/Gen Z), 35–44 (Millennial/Gen Z), 45–54 (Gen X), 65–74 (Boomer/War), and 75 or over (Boomer/War). Nearly two-thirds of Maple Ridge households were predicted to earn a total annual before-tax income of at least \$85,000, followed by about a tenth each who earned \$60,000–84,999, \$35,000–59,999, and less than \$35,000.¹⁹

Overall, about two-thirds of Maple Ridge household maintainers were predicted to prefer single detached housing (Figure 29); this preference was greatest for those who were middle-aged up to younger seniors (45–74). Single detached preference decreased with older and younger age groups; only about half of those aged 75 or over as well as younger Millennials (25–34) preferred single detached homes. Single detached housing preference was also associated with higher incomes; nearly four-fifths of those earning a household income of \$85,000 preferred single detached homes, while only about a quarter each of those earning a moderately-low or low income shared the same preference.

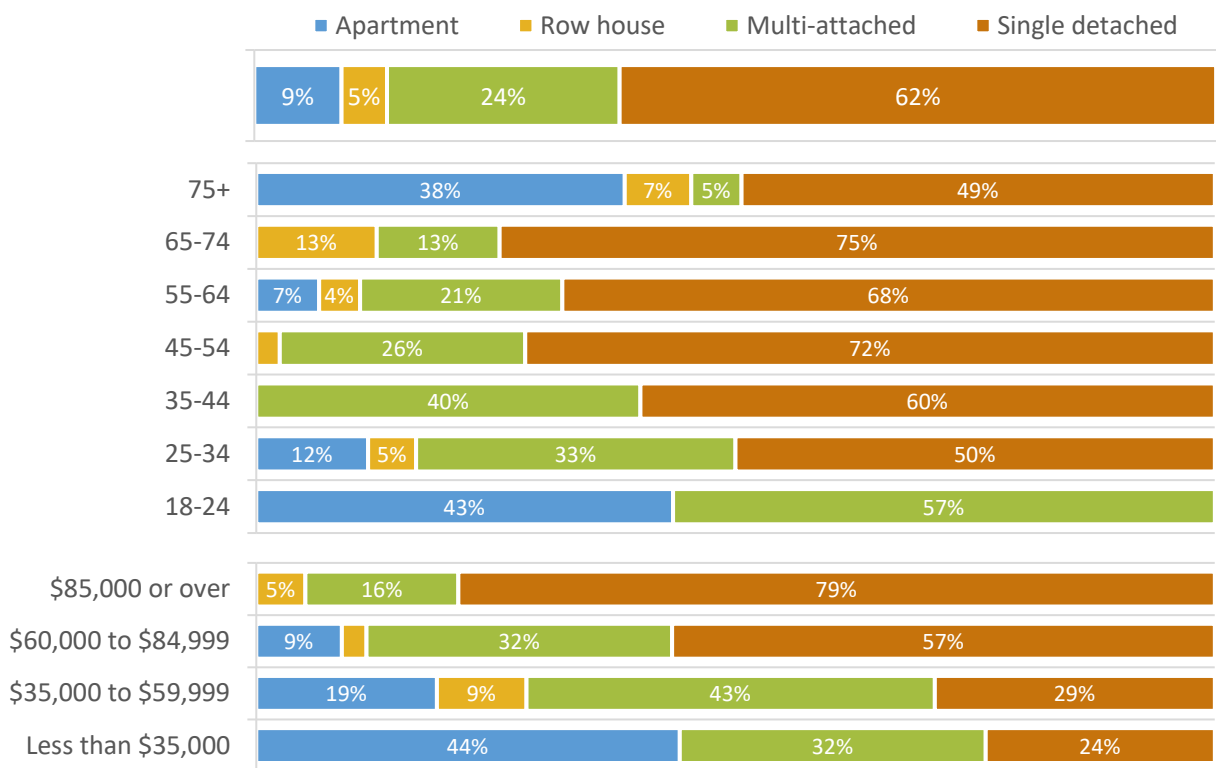


Figure 29. Distribution of preferred dwelling structure type (%), modelled overall Maple Ridge household population as well as by age (of household maintainer) and total annual before-tax household income groups.

A quarter of Maple Ridge household maintainers preferred multi-attached housing, and much fewer preferred apartments or row houses (Figure 29). The preference for multi-attached housing was driven by younger household maintainers; about half of Millennial/Gen Z household maintainers were

¹⁹ For reference: Maple Ridge’s median age in 2021 was 41.2 and median total annual before-tax household income in 2020 was \$123,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

predicted to prefer multi-attached homes. Apartments were more likely to be preferred by Gen Z (18–24) and older senior (75+) household maintainers; about four times as many per each group preferred apartments compared to the overall household maintainer population. Household maintainers earning less than \$35,000 were most likely to prefer apartments, while multi-attached housing preference was associated with total annual before-tax household incomes of up to \$60,000. Row houses were least preferred; however, early retirees (65–74) and those with a moderately-low income were more likely to have this preference. The development of more multi-attached housing in Maple Ridge could address the desire of many early-career professionals and/or growing families, while aligning with *Metro 2050*.

Over four-fifths of household maintainers who preferred single detached housing had at least three bedrooms (Figure 30). Those with three bedrooms were more likely to be nearing retirement (55–64), while those with four or more bedrooms were similarly likely to also include younger, working age household maintainers (44–64). Both groups were more likely to be high income. Half of household maintainers who preferred multi-attached housing had four or more bedrooms; these household maintainers were more likely to be Millennials (25–44) as well as high income. The quarter of household maintainers who had three bedrooms and preferred multi-attached homes were more likely to be working-age (35–64) and low income (or to a lesser extent high income). Nearly three-quarters of those who preferred apartments had two bedrooms; this group was more likely to be older seniors (75+) and earn up to \$60,000. For row house preference: most had three bedrooms and were more likely to be older seniors (75+) or younger Millennials (25–34), as well as moderately-low or high income earners. Those with more bedrooms were more likely to be older (55–74) and with a high household income.

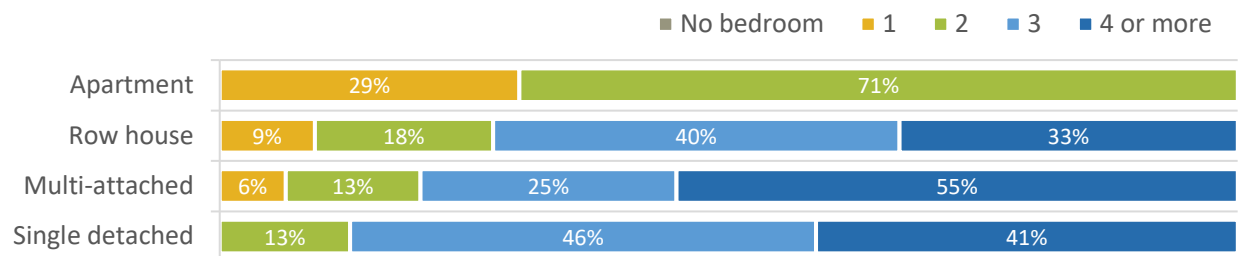


Figure 30. Distribution of current number of bedrooms (%), modelled Maple Ridge household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 31). In Maple Ridge, the proportional supply of each dwelling structure type closely matched household maintainers’ associated preferences. Row houses and apartments were relatively oversupplied, while single detached and multi-attached housing was undersupplied.

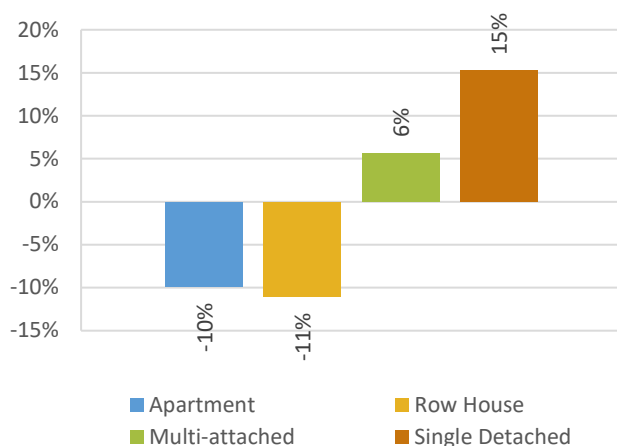


Figure 31. Difference between Maple Ridge’s proportion of units and household maintainer’s preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF NEW WESTMINSTER

The Model predicted that a quarter of New Westminster household maintainers were aged 35–44 (Millennial/Gen Z), followed by about a fifth each aged 25–34 (Millennial/Gen Z), 45–54 (Gen X), 55–64 (Gen X), and 65–74 (Boomer/War). Just under half of New Westminster households were predicted to earn a total annual before-tax income of at least \$85,000 (high income), followed by about a fifth each who earned \$60,000–84,999 (moderately-high income), \$35,000–59,999 (moderately-low income), and less than \$35,000 (low income).²⁰

Overall, most of New Westminster household maintainers were predicted to be split between preferring single detached housing and apartments – at about a third each (Figure 32). Preference for single detached homes was relatively similar across age groups; in contrast, apartments were more likely to be preferred by seniors (65+) or Gen Z (18–24) household maintainers. In particular, over half of recent retirees (65–74) preferred apartments – over 20 per cent more than the overall household maintainer population. Apartment preference also increased with lower household income, and nearly half of low income earners shared this preference. On the other hand, single detached housing preference was less distinct across household income groups; however, household maintainers who earned \$85,000 or over were relatively more likely to prefer single detached homes compared to those who earned less.

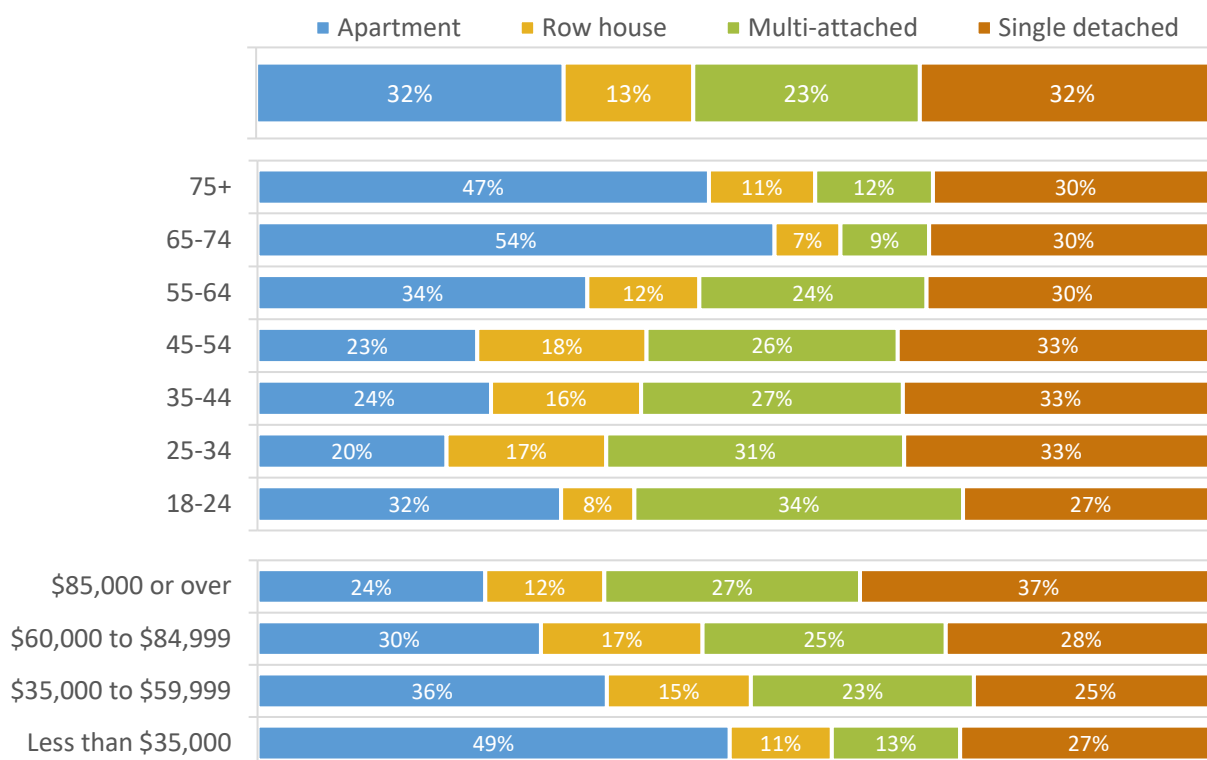


Figure 32. Distribution of preferred dwelling structure type (%), modelled overall New Westminster household population as well as by age (of household maintainer) and total annual before-tax household income groups.

²⁰ For reference: New Westminster’s median age in 2021 was 40.4 and median total annual before-tax household income in 2020 was \$82,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-62-0001/2021001/article/18161)

A quarter of New Westminster household maintainers were predicted to prefer multi-attached housing, followed by a tenth who preferred row houses (Figure 32). The preference for multi-attached housing decreased alongside age, with younger Millennial/Gen Z (18–35) household maintainers most likely to share this preference. Multi-attached housing preference also marginally increased with increased income; fewer low income household maintainers preferred multi-attached housing than those earning at least \$35,000. Meanwhile, the preference for row houses was greatest among those who were working-age (35–54), and marginally greater for those with moderate incomes.

Nearly half of New Westminster household maintainers who preferred apartments had one bedroom, followed by a third with two bedrooms (Figure 33). Those with two bedrooms were more likely to be near or recently retired (55–74) and high income, while those with a single bedroom were more likely to be recent retirees (65–74) and low income. In comparison, household maintainers who preferred single detached or multi-attached housing were more likely to have three or more bedrooms; for each preference, a third had four or more bedrooms. For either single detached and multi-attached housing preference, household maintainers with four or more bedrooms were more likely to be working-age or recently retired (35–64) and high income. Those with 2–3 bedrooms and a preference for single detached housing were similarly likely to be younger (35–74) and also high income earners. In contrast, household maintainers who preferred multi-attached housing and had 2–3 bedrooms were more likely to be Millennials (25–44) and include moderate income earners (at least \$60,000). Most who preferred row houses had two bedrooms, and were more likely to be working-age (25–54) and high income (and to a lesser extent moderate income).

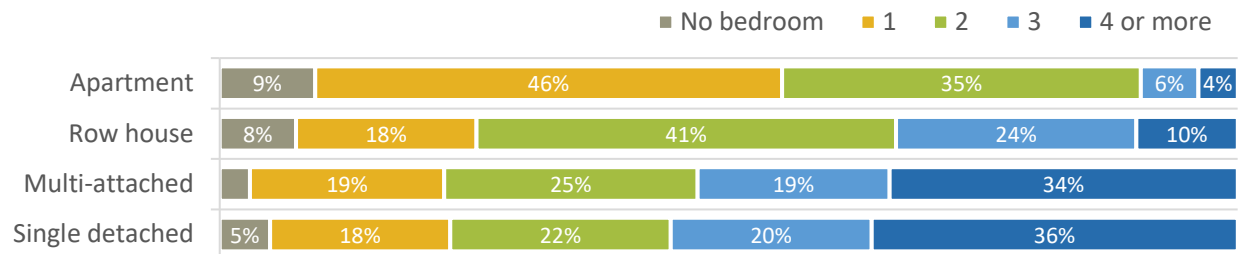


Figure 33. Distribution of current number of bedrooms (%), modelled New Westminster household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 34). In New Westminster, the proportional supply of single detached, multi-attached, row, and apartment housing closely matched household maintainers’ associated preferences. However, multi-attached housing and apartments were relatively oversupplied, while row houses and single detached housing were undersupplied.



Figure 34. Difference between New Westminster’s proportion of units and household maintainers’ preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF NORTH VANCOUVER

The Model predicted that a quarter of household maintainers in the City of North Vancouver were aged 55–64 (Gen X), followed by about a tenth each aged 35–44 (Millennial/Gen Z), 45–54 (Gen X), 65–74 (Boomer/War), and 75 or over (Boomer/War). Over half of North Vancouver (City) households were predicted to earn a total annual before-tax income of \$85,000 or over (high income), followed by similar proportions earning \$60,000–84,999 (moderately-high income), \$35,000–59,999 (moderately-low income), and less than \$35,000 (low income).²¹

Overall, nearly half of City of North Vancouver household maintainers were predicted to prefer single detaching housing, followed by a relatively even split between those preferring apartments, row houses, and multi-attached housing (Figure 35). Those who were more likely to prefer single detached housing included Gen Z (18–24), near retirement (55–64), and older senior (75+) household maintainers, as well as those earning \$85,000 or over.

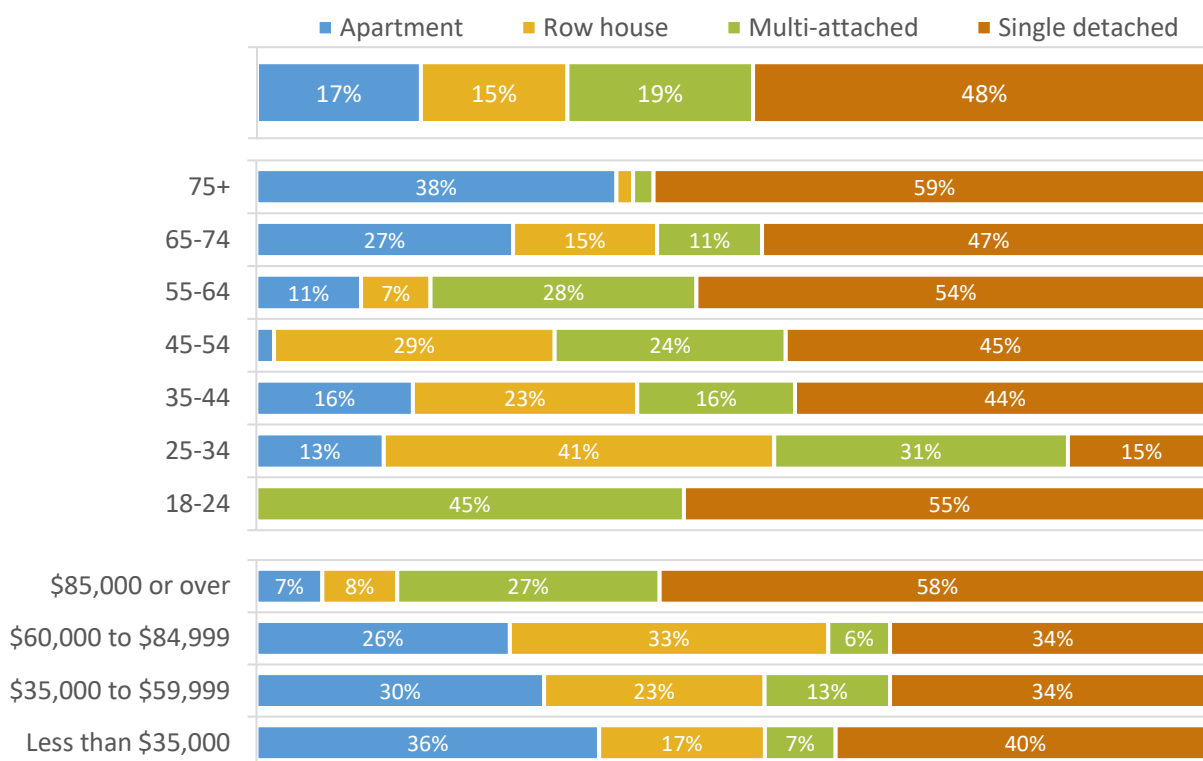


Figure 35. Distribution of preferred dwelling structure type (%), modelled overall North Vancouver (City) household population as well as by age (of household maintainer) and total annual before-tax household income groups.

In contrast, working-age (25–54) household maintainers were less likely to prefer single detached homes and more likely to prefer multi-attached or row houses (Figure 35). Younger Millennials (25–34) in particular were 2.5 times as likely to prefer row houses and 1.5 times as likely to prefer multi-attached housing than the overall household maintainer population. Those with high incomes were more likely to

²¹ For reference: City of North Vancouver’s median age in 2021 was 42.0 and median total annual before-tax household income in 2020 was \$86,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

prefer multi-attached homes, while moderately-high income earners were more likely to prefer row houses. On the other hand, senior (65+) household maintainers were more likely to prefer apartments, second to single detached housing. Preference for apartments was also associated with lower household incomes (and likely includes many with pensions).

Over half of the North Vancouver (City) household maintainers who preferred single detached homes had four or more bedrooms, followed by a quarter who had three bedrooms (Figure 36). Those with four or more bedrooms were more likely to be retirement-aged (55–64), while those with three bedrooms were even older (75+). Similarly, two-fifths of those who preferred multi-attached homes had four or more bedrooms; this group was also more likely to be nearly or already retired. However, a third of household maintainers who preferred multi-attach housing had three bedrooms – which included more middle-aged as well as retirement-aged (45–64) household maintainers. Those with three or more bedrooms, and a preference for either single detached or multi-attached housing, were more likely to have a high household income. In contrast, more than half of those who preferred apartments had a single bedroom, and were more likely to be older seniors and lower income. Another one-third of those who preferred apartments had two bedrooms; this group was more likely to also include younger seniors (65+) and a mix of moderate to high income. Household maintainers who preferred row houses included a more even distribution of one, two, and three bedrooms. For row house preference: one bedrooms were associated with a range of ages (35–44, 45–54, 65–74) and moderately-high income; two bedrooms were associated with middle-ages (45–54) and moderate income, and; three bedrooms were associated with older Millennials (35–44) and high income.

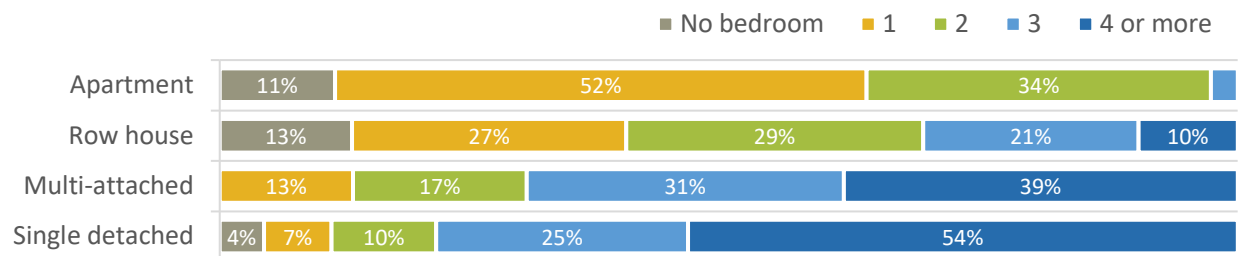


Figure 36. Distribution of current number of bedrooms (%), modelled North Vancouver (City) household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 37). In North Vancouver (City), apartments were likely oversupplied, while single detached houses were likely undersupplied.

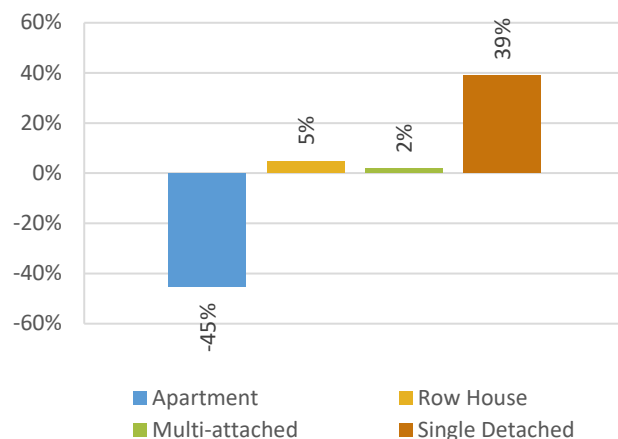


Figure 37. Difference between the City of North Vancouver’s proportion of units and household maintainer’s preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

DISTRICT OF NORTH VANCOUVER

The Model predicted that a quarter of household maintainers in the District of North Vancouver were aged 55–64 (Gen X), followed by about a tenth each aged 35–44 (Millennial/Gen Z), 45–54 (Gen X), 65–74 (Boomer/War), and 75 or over (Boomer/War). Over half of the District of North Vancouver households were predicted to earn a total annual before-tax income of at least \$85,000 (high income), followed by a relatively even split between those earning \$60,000–84,999 (moderately-high income), \$35,000–59,999 (moderately-low income), and less than \$35,000 (low income).²²

Almost half of District of North Vancouver household maintainers were predicted to prefer single detaching housing (Figure 38); this preference was greater for those near retirement (55–64) and older seniors (75+), as well as Gen Z (18–24) household maintainers. Those earning \$85,000 or over were also more likely to prefer single detached housing than those with lower household incomes.

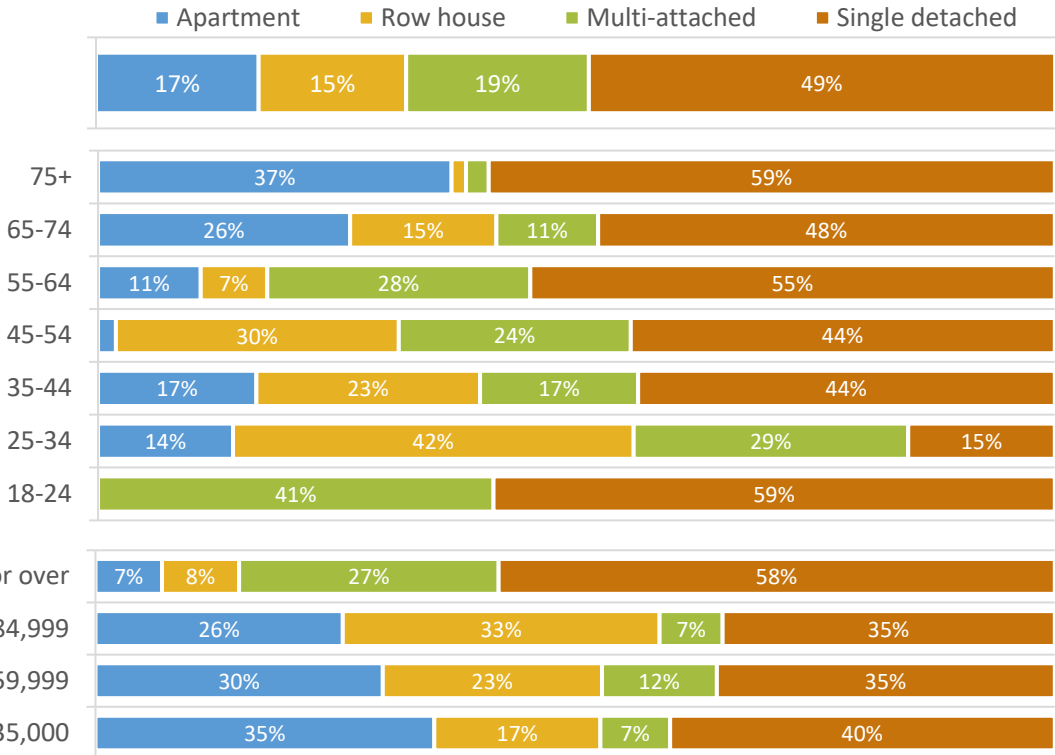


Figure 38. Distribution of preferred dwelling structure type (%), modelled overall North Vancouver (District) household population as well as by age (of household maintainer) and total annual before-tax household income groups.

A similar proportion of North Vancouver (District) household maintainers preferred apartments, row houses, and multi-attached housing (Figure 38). Apartments were more likely to be preferred by seniors (65+); over twice as many household maintainers aged 75 or over preferred apartments compared to the overall household maintainers population. Preference for apartments also increased with lower

²² For reference: District of North Vancouver’s median age in 2021 was 44.4 and median total annual before-tax household income in 2020 was \$123,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

household income (many of which were likely pensions). On the other hand, row houses and multi-attached housing was more likely to be preferred by young to middle-aged (18–64) household maintainers. In particular, at least twice as many young Millennials (25–34) and young Gen Xers (45–54) preferred row houses compared to the overall household maintainer population. These same age groups, as well as Gen Z (18–24) household maintainers, were also more likely to prefer multi-attached housing. Household maintainers with high incomes were more likely to prefer multi-attached housing than lower income groups; those with moderately-high, and to a lesser extent moderately-low, incomes indicated the greatest preferences for row houses. These results emphasize the increasing preference for moderate density housing, like multi-attached homes and row houses, by younger generations.

Over half of North Vancouver (District) household maintainers who preferred single detached housing had four or more bedrooms, followed by a quarter with three bedrooms. Those with four or more bedrooms were more likely to be near retirement (55–64), while those with three bedrooms were more likely to be older seniors (75+). Similarly, for multi-attached housing preference, two-fifths had four or more bedrooms followed by a third with three bedrooms; both groups were also more likely to be near retirement (55–64). High incomes were also associated with having three or more bedrooms and either a single detached or multi-attached preference. In contrast, more than half of apartment preferring household maintainers had a single bedroom (more likely to be 75+ and low income), followed by a third with two bedrooms (more likely to be 65+; mix of moderate to high income). Household maintainers who preferred row houses included a more even distribution of one, two, and three bedrooms; distributions by age (of household maintainer) and total annual before-tax household income groups matched those of the City of North Vancouver.

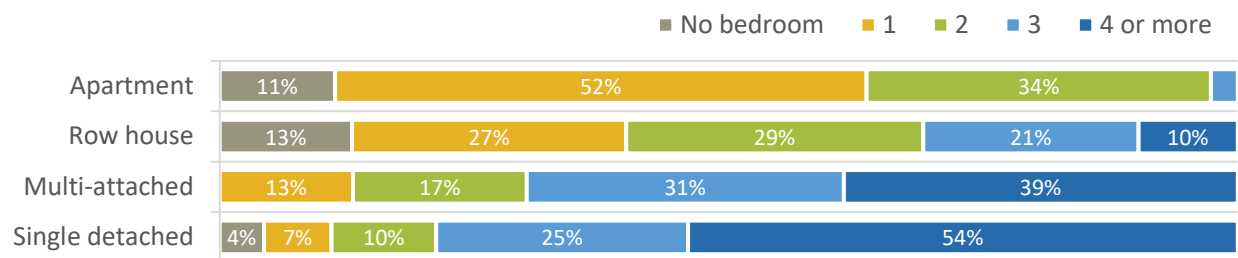


Figure 39. Distribution of current number of bedrooms (%), modelled North Vancouver (District) household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 40). In North Vancouver (District), the proportional supply of single detached, multi-attached, row, and apartment housing were relatively similar to relative preferences of household maintainers.

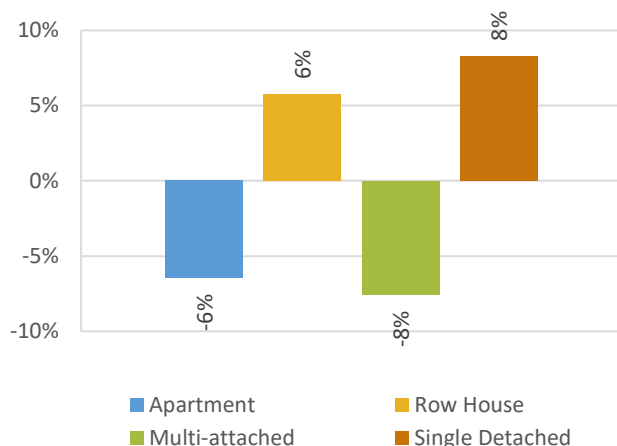


Figure 40. Difference between the District of North Vancouver’s proportion of units and household maintainer’s preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF PITT MEADOWS

The Model predicted that over a quarter of Pitt Meadows household maintainers were aged 55–64 (Gen X). The remainder were relatively evenly split between ages 25–34 (Millennial/Gen Z), 35–44 (Millennial/Gen Z), 45–54 (Gen X), 65–74 (Boomer/War), and 75 or over (Boomer/War). Nearly three-fifths of households were predicted to earn a total annual before-tax income of \$85,000 or over (high income), followed by about a tenth each who earned \$60,000–84,999 (moderately-high income), \$35,000–59,999 (moderately-low income), and less than \$35,000 (low income).²³

Overall, nearly two-thirds of Pitt Meadows household maintainers were predicted to prefer single detached housing (Figure 41); this preference was greatest for middle-aged and early retiree (45–64) household maintainers. Single detached housing preference also increased with total annual before-tax household income; four-fifths of high income earners shared this preference, compared to only a quarter of those with a low income.

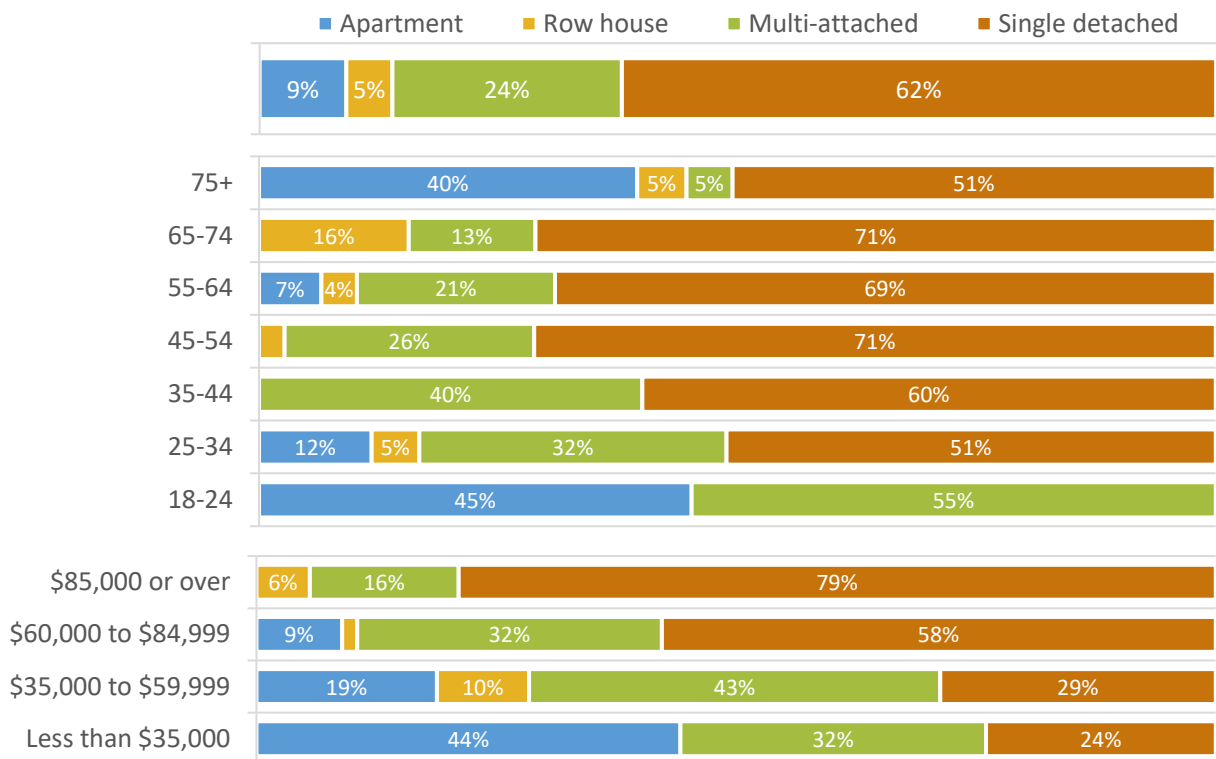


Figure 41. Distribution of preferred dwelling structure type (%), modelled overall Pitt Meadows household population as well as by age (of household maintainer) and total annual before-tax household income groups.

A quarter of Pitt Meadows household maintainers were predicted to prefer multi-attached housing, followed by even fewer who preferred apartments or row houses (Figure 41). Millennial/Gen Z (18–44), followed by Gen X (45–64), household maintainers exhibited greater preferences for multi-attached housing than Boomer/War (65+) household maintainers. For example, nearly two-fifths of

²³ For reference: Pitt Meadows’ median age in 2021 was 43.2 and median total annual before-tax household income in 2020 was \$104,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

Millennial/Gen Z (18–44) household maintainers preferred multi-attached homes. Both the youngest (18–24) and oldest (75+) household maintainer age groups indicated a greater preference for apartments; each age group was four times more likely to prefer apartments than the overall household maintainer population. Apartment-preferring household maintainers were more likely to be low income earners \$35,000, while those who preferred multi-attached housing were more likely to have a moderately-low income (followed equally by moderately-high and low incomes). Row houses were the least preferred dwelling structure type in Pitt Meadows overall; those who shared this preference were more likely to be younger seniors (65–74) and those with a moderately-low (followed by high) income.

Over two-thirds of Pitt Meadows’ apartment preferring household maintainers were predicted to have two bedrooms, followed by a third with a single bedroom (Figure 42). Both groups were more likely to be older seniors (75+). Apartment preference and having one bedroom was associated with low incomes, while two bedrooms were associated more strongly with moderately-low to low incomes. In contrast, a greater proportion of household maintainers who preferred row, multi-attached, or single detached houses were predicted to have three or more bedrooms. Those with three bedrooms who preferred single detached homes were more likely to be near retirement (55–64), while those with four or more bedrooms also included middle-aged household maintainers (45–64); both groups were more likely to have a high household income. For multi-attached housing preference: those with three bedrooms ranged in working-age (35–64) but were more likely to have a low income, while those with four or more bedrooms were more likely to be younger (35–44) and high income. For row house preference: those with three bedrooms were more likely to be younger Millennials (25–34) or older seniors (75+) as well as have a moderately-low income, while four or more bedrooms were associated with household maintainers who were either close to or recently retired (55–74) and high income.

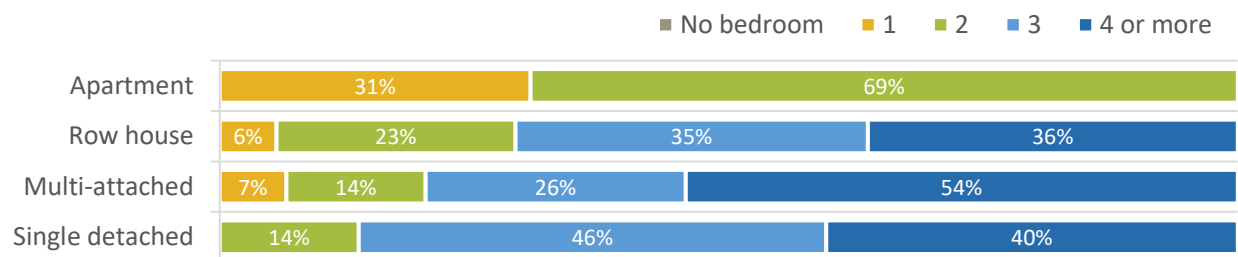
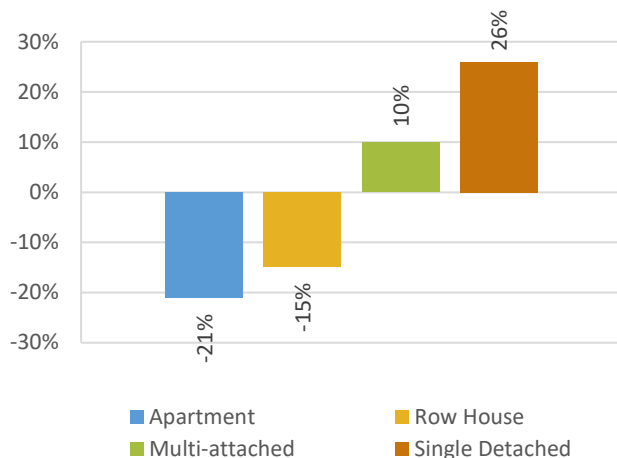


Figure 42. Distribution of current number of bedrooms (%), modelled Pitt Meadows household population by preferred dwelling structure type.



This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 43). In Pitt Meadows, apartments and to a lesser extent multi-attached housing, were more likely oversupplied. Meanwhile, single detached and to a lesser extent multi-attached housing was likely undersupplied.

Figure 43. Difference between Pitt Meadows’ proportion of units and household maintainers’ preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF PORT COQUITLAM

The Model predicted that a quarter of Port Coquitlam household maintainers were aged 55–64 (Gen X), followed by nearly 20 per cent each of 45–54 (Gen X), 35–44 (Millennial/Gen Z), and 65 or over (Boomer/War). Over half of Port Coquitlam household were predicted to earn a total annual before-tax income of at least \$85,000 (high income); about a fifth each earned \$60,000–84,999 (moderately-high income) and \$35,000–59,999 (moderately-low income), followed by a tenth who earned less than \$35,000 (low income).²⁴

Overall, half of Port Coquitlam household maintainers were predicted to prefer single detaching housing (Figure 44). Single-detached housing was the top preference across most age groups except for younger (18–34) household maintainers. Those earning \$85,000 or over, as well as but to a lesser extent those earning moderately-low household incomes, were more likely to prefer single detached homes.

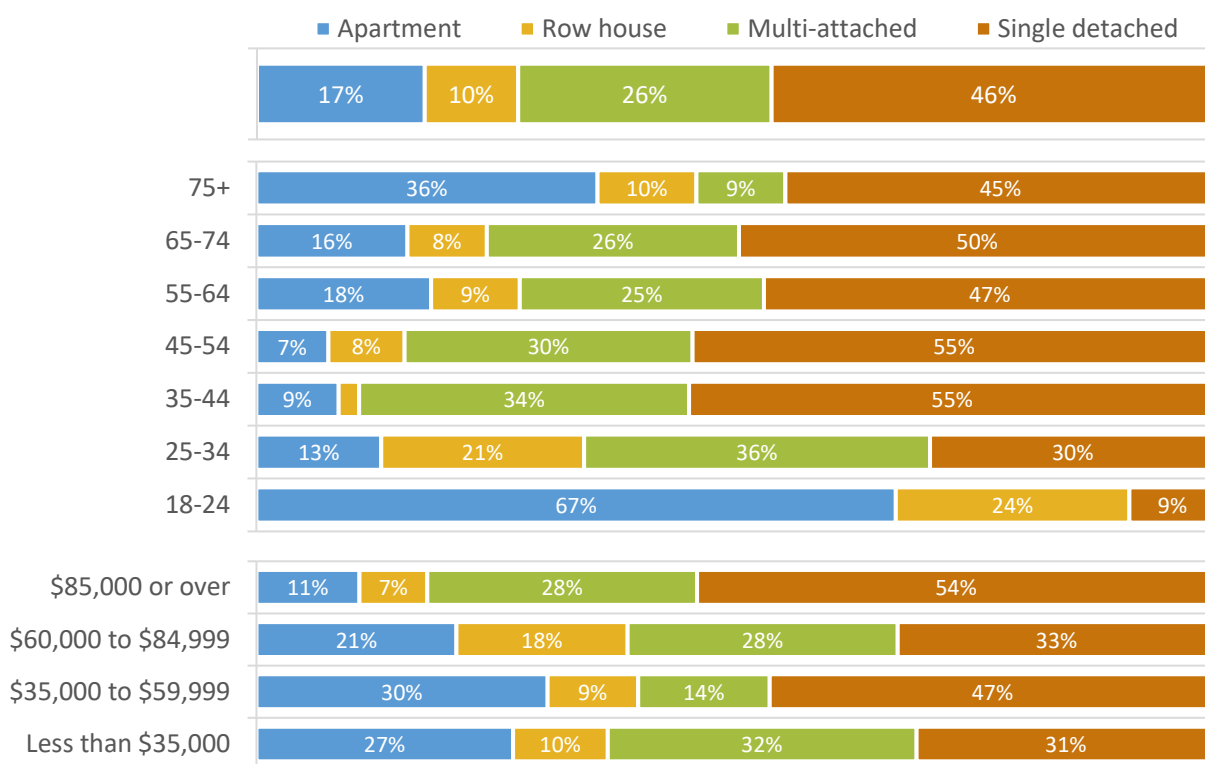


Figure 44. Distribution of preferred dwelling structure type (%), modelled overall Port Coquitlam household population as well as by age (of household maintainer) and total annual before-tax household income groups.

A quarter of Port Coquitlam household maintainers were predicted to prefer multi-attached homes, followed by a fifth who preferred apartments and even fewer who preferred row houses (Figure 44). Most age groups preferred multi-attached housing second to single detached houses. However, relatively more Millennial (25–44) household maintainers were more likely to share this preference, while relatively fewer older seniors (75+) and no Gen Z (18–24) household maintainers were predicted

²⁴ For reference: Port Coquitlam’s median age in 2021 was 41.6 and median total annual before-tax household income in 2020 was \$102,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

to prefer multi-attached homes. Low income earners, followed closely by those who earned at least \$60,000, were more also likely to prefer multi-attached homes. On the other hand, both older senior (75+) and Gen Z (18–24) household maintainers were more likely to prefer apartments, while row house preference was greatest with those who were younger Millennial/Gen Z (18–34). Those with moderately-high household incomes were more likely to prefer row houses, while household maintainers earning up to \$60,000 were more likely to prefer apartments. Providing a mixture of dwelling structure types, ranging in density and affordability, could address the varying preferences – particularly of many seniors and younger professionals and/or families in Port Coquitlam.

About three-quarters of Port Coquitlam household maintainers who preferred either single detached or multi-attached housing had three or more bedrooms (Figure 45). Those with either preference and three or more bedrooms were more likely to have a high household income; multi-attached-preferring household maintainers with three or fewer bedrooms were more likely to also include moderate and low incomes. Household maintainers who preferred single detached or multi-attached housing and had three or more bedrooms ranged in age (25–74); however, those with four or more bedrooms and a preference for multi-attached housing were more likely to be near retirement (55–64). In contrast, almost three-fifths of household maintainers who preferred apartments had two bedrooms; this group was more likely to be nearly or already retired (55+) and earn at least \$60,000. Household maintainers who preferred row houses were more split between having one, two, or three bedrooms. Those with a single bedroom were more likely to be near retirement (55–64) and high income; those with two bedrooms were more likely to be young Millennials (25–34) and earn at least \$35,000, and; those with three bedrooms were more likely to be recently retired (65–74) and earn at least \$60,000.

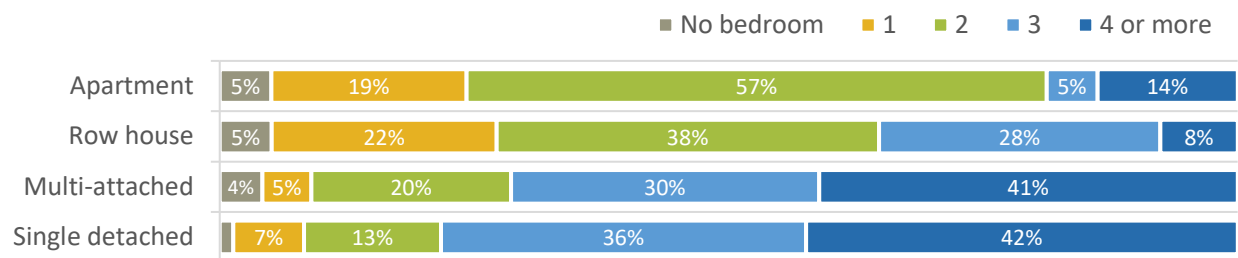


Figure 45. Distribution of current number of bedrooms (%), modelled Port Coquitlam household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 46). In Port Coquitlam, apartments, and to a lesser extent row houses and multi-attached housing, were likely oversupplied. Meanwhile, single detached homes were likely undersupplied.

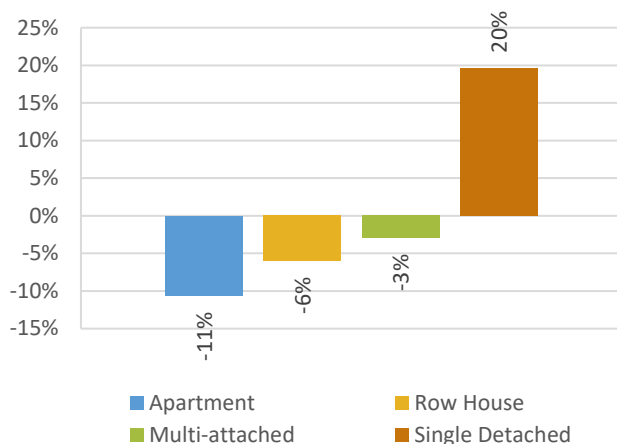


Figure 46. Difference between Port Coquitlam’s proportion of units and household maintainer’s preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF PORT MOODY

The Model predicted that a quarter of Port Moody household maintainers were aged 55–64 (Gen X), followed by about one-fifth each aged 35–44 (Millennial/Gen Z), 45–54 (Gen X), and 65–74 (Boomer/War). Over half of Port Moody households were predicted to earn a total annual before-tax household income of at least \$85,000 (high income); the remainder included a fifth each who earned \$60,000–84,999 (moderately-high income) and \$35,000–59,999 (moderately-low income), and a tenth who earned less than \$35,000 (low income).²⁵

Overall, almost half of Port Moody household maintainers were predicted to prefer single detaching housing (Figure 47). Those who preferred single detached homes were more likely to be older Millennials or younger Gen Xers (35–54); this preference sharply declined for those who were younger (18–34) and marginally decreased for those who were older (55+). Single detached housing preference was also more likely for those earning at least \$85,000, followed by moderately-low income earners.

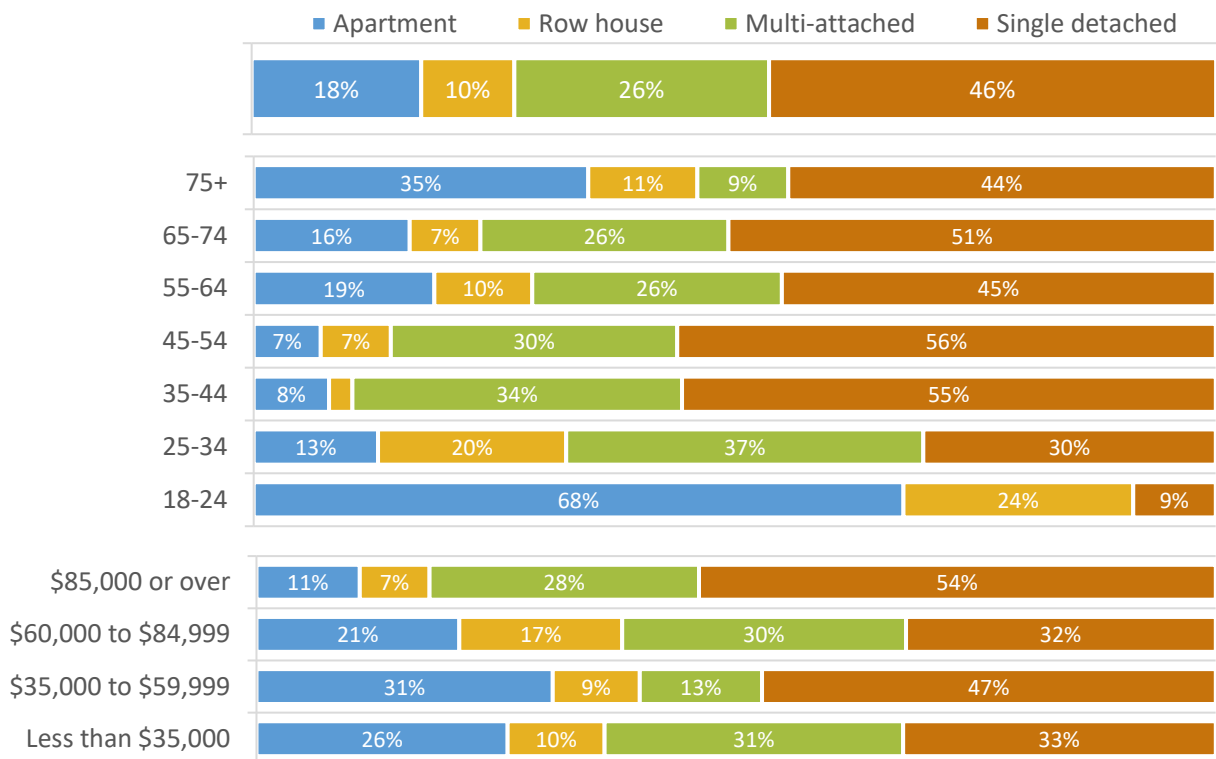


Figure 47. Distribution of preferred dwelling structure type (%), modelled overall Port Moody household population as well as by age (of household maintainer) and total annual before-tax household income groups.

A quarter of Port Moody household maintainers were predicted to prefer multi-attached housing, followed by a fifth who preferred apartments (Figure 47). Millennial (25–44) household maintainers were more likely to prefer multi-attached homes than other age groups. The preference for multi-attached housing gradually decreased with age, with three times fewer older senior (75+) household

²⁵ For reference: Port Moody’s median age in 2021 was 45.6 and median total annual before-tax household income in 2020 was \$115,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

maintainers sharing this preference. On the other hand, apartments were more likely to be preferred by older seniors (75+) and Gen Z household maintainers (18–24). Multi-attached housing preference was associated with high, moderately-high, and low incomes, while apartments were more likely to be preferred those with a moderately-low household income. Row houses were least preferred; however, younger Millennial/Gen Z (18–34) and moderately-high income household maintainers were more likely to have this dwelling structure type preference. Providing different types of moderate/high density dwellings, like row and multi-attached houses as well as apartments, could provide address the preferences of many young professionals/families as well as seniors.

Port Moody household maintainers who preferred multi-attached or single detached housing generally had more bedrooms; per each preference, about a third had three bedrooms and another two-fifths had four or more bedrooms (Figure 48). Most household maintainers who had three or more bedrooms and preferred either single detached or multi-attached were high income (and mixture of working-age and near/recent retirees (25–64)). However, those who preferred multi-attached housing and had three bedrooms were similarly likely to have a high, moderately-high, or low income. Having four or more bedrooms and a preference for multi-attached housing was also associated with younger seniors (65–74). In comparison, more than half of household maintainers who preferred apartments had two bedrooms; this group was more likely to be near or already retired (55+) and earn at least \$60,000. Row house preferring household maintainers were most likely to have two bedrooms, had a mix of household income levels, and were more likely to be younger Millennials (25–34) or near retirement (55–64). Household maintainers who preferred row houses and had one bedroom were also more likely to be near retirement (55–64) but high income, while those with three bedrooms were more likely to earn at least \$60,000 (and no distinct age group association).

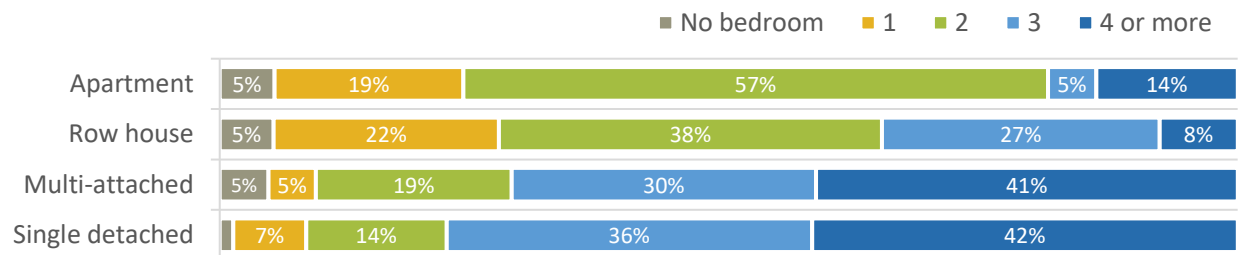
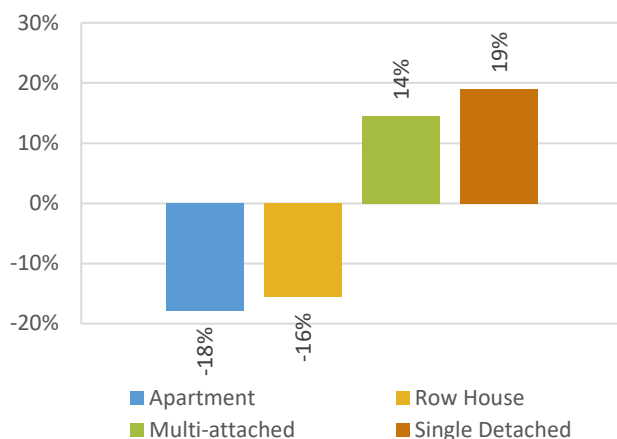


Figure 48. Distribution of current number of bedrooms (%), modelled Port Moody household population by preferred dwelling structure type.



This project showed a potential discrepancy between the current housing supply and household maintainers' dwelling structure type preferences (Figure 49). In Port Moody, apartments and row houses were likely oversupplied, while single detached and multi-attached housing was likely undersupplied.

Figure 49. Difference between Port Moody's proportion of units and household maintainers' preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF RICHMOND

The Model predicted that about a fifth of Burnaby household maintainers were aged 35–44 (Millennial/Gen Z), 45–54 (Gen X), 55–64 (Gen X), and 65–74 (Boomer/War), each. Nearly half of Richmond households were predicted to earn a total annual before-tax income of \$85,000 or over (high income), followed by a relatively even split between those earning \$60,000–84,999 (moderately-high income), \$35,000–59,999 (moderately-low income), and less than \$35,000 (low income).²⁶

About half of Richmond household maintainers were predicted to prefer single detached housing, followed by about a fifth each with multi-attached, row house, and apartment preferences (Figure 50). The preference for single detached housing increased with age and income; greatest preferences for single detached housing were observed with recent retirees (65–74) and high household incomes. In contrast, nearly half of Gen Z (18–24) household maintainers were predicted to prefer multi-attached housing; this preference decreased with increased age. Household maintainers with a moderately-low household income were also more likely to prefer multi-attached housing than other income groups.

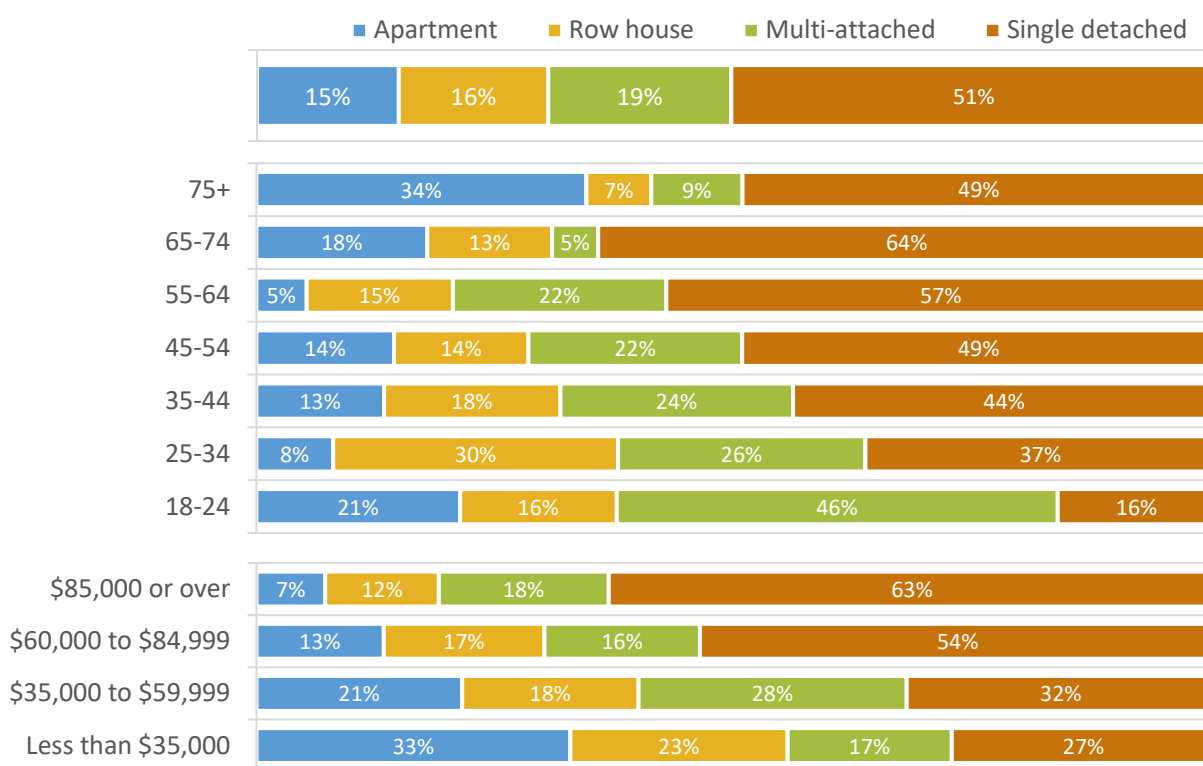


Figure 50. Distribution of preferred dwelling structure type (%), modelled overall Richmond household population as well as by age (of household maintainer) and total annual before-tax household income groups.

Younger Millennials (25–34) were more likely to prefer row houses than other age groups, while apartment preference was greatest with older seniors (75+) and to a lesser extent recent retirees (65–74) and Gen Z (18–24) household maintainers (Figure 50). Apartment preference was also associated

²⁶ For reference: Richmond’s median age in 2021 was 43.6 and median total annual before-tax household income in 2020 was \$79,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

with lower household income – with a third of low income household maintainers predicted to prefer apartments (twice the proportion of the overall household maintainer preference). Preference for row houses was associated with lower incomes as well, although to a lesser extent than was the case for apartment preference. The substantial shift in preference from single detached homes to multi-attached housing, row houses, and apartments by Millennial/Gen Z as well as older senior (75+) household maintainers, who tend to be more financially limited, indicates demand for a greater diversity of affordable moderate/high dwelling structure types in Richmond.

Most household maintainers who preferred single detached housing were evenly split between having three and four or more bedrooms (Figure 51); however, both were more likely to have a high household income. Those with three bedrooms were more likely to be working-age or retired (45–74), while those with four or more bedrooms included more Millennials and older household maintainers (35–74). Multi-attached preferring household maintainers were more evenly split between having two, three, and four or more bedrooms. Those with two or three bedrooms and a preference for multi-attached housing were more likely to be near retirement (55–64) and earn at least \$85,000 (or a moderately-low income for those with two bedrooms). Household maintainers with four or more bedrooms who preferred multi-attached housing were also more likely to have a high household income as well as be Millennials (35–54). In contrast, half of apartment-preferring household maintainers had two bedrooms; this group was more likely to be senior (65+) and either with a moderately-low or high household income. Those who preferred apartments and had three bedrooms were similarly likely to be high, moderately-high, or low income earners (and also 65+). Almost half of row house preferring household maintainers had three bedrooms (more likely to be working-age (25–54) and high income), followed by a quarter with two bedrooms (more likely to be middle-aged (45–64) and earn at least \$60,000).

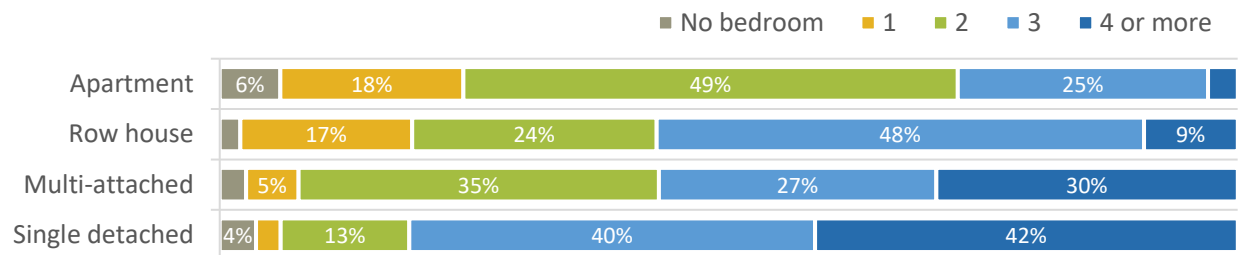
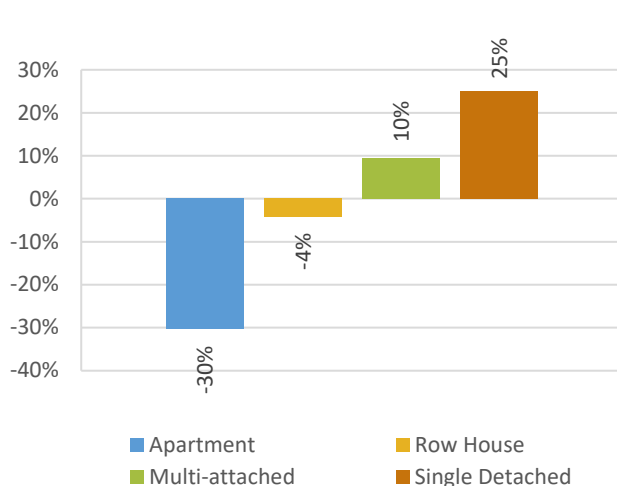


Figure 51. Distribution of current number of bedrooms (%), modelled Richmond household population by preferred dwelling structure type.



This project showed a potential discrepancy between the current housing supply and household maintainers' dwelling structure type preferences (Figure 52). In Richmond, apartments, and to a much lesser extent row houses, were likely oversupplied. In comparison, single detached housing, and to a lesser extent multi-attached housing, was likely undersupplied.

Figure 52. Difference between Richmond's proportion of units and household maintainer's preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF SURREY

The Model predicted that about a fifth of Surrey household maintainers were aged 45–54 (Gen X) and 55–64 (Gen X), each. The remainder were mostly split between ages 25–34 (Millennial/Gen Z), 35–44 (Millennial/Gen Z), and 65–74 (Boomer/War). Over half of Surrey households were predicted to earn a total annual before-tax income of \$85,000 or over (high income), followed by about a fifth who earned \$60,000–84,999 (moderately-high income), and a tenth each who earned \$35,000–59,999 (moderately-low income) and less than \$35,000 (low income).²⁷

Overall, half of Surrey household maintainers were predicted to prefer single detaching housing (Figure 53). The preference for single detached homes peaked with older Gen X (45–54) household maintainers and remained relatively high for those who were nearly or already retired (55–74). No clear pattern was identified between household income groups and single detached housing preferences; however, single detached preference was greater among those at least \$35,000.

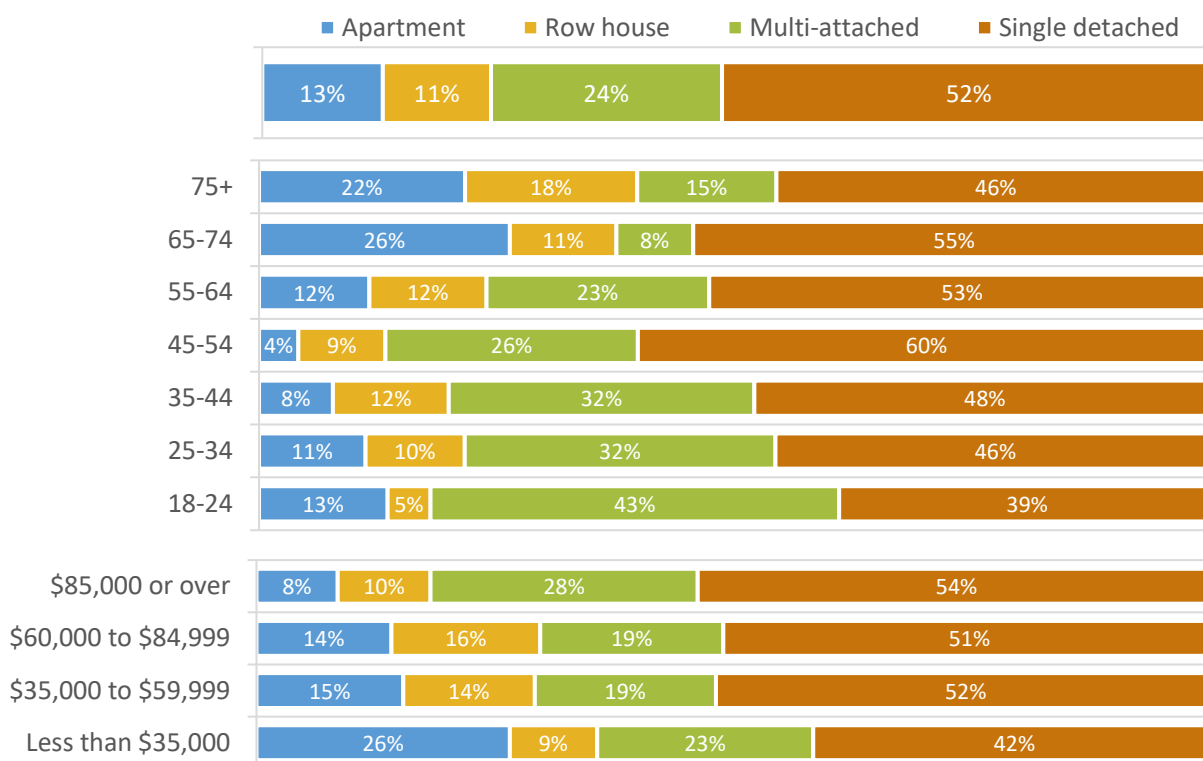


Figure 53. Distribution of preferred dwelling structure type (%), modelled overall Surrey household population as well as by age (of household maintainer) and total annual before-tax household income groups.

A quarter of Surrey household maintainers were predicted to prefer multi-attached housing, followed by a fifth each who preferred apartments and row houses (Figure 53). Those who preferred multi-attached housing were more likely to be younger; Millennial/Gen Z household maintainers were about 1.5 to 2.5 times more likely to prefer multi-attached housing than the overall household maintainer population.

²⁷ For reference: Surrey’s median age in 2021 was 38.4 and median total annual before-tax household income in 2020 was \$98,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-62-0001/2021001/article/00001-eng.htm)

In contrast, apartments were more likely to be preferred by seniors (65+) and row houses were more likely to be preferred by older seniors (75+). Preference for apartments also increased with lower household incomes (many likely as pensions); twice as many low income household maintainers preferred apartments compared to the proportion of overall household maintainers. Patterns between household income and preference for multi-attached or row houses were less distinct. However, those who preferred multi-attached homes were marginally more likely to be high (followed by low) income earners, while row house preference was more strongly associated with moderate incomes. Age-in-place apartments could be a more affordable and higher density housing option for the aging population in Surrey, while multi-attached homes could be suitable alternative for young professionals/families.

Nearly half of Surrey household maintainers who preferred single detached homes had four or more bedrooms, followed by almost a third who had three bedrooms (Figure 54). Also, nearly three-fifths of those who preferred multi-attached homes had four or more bedrooms. Those who preferred single detached homes and had at least two bedrooms, as well as those who preferred multi-attached housing and had four or more bedrooms, were more likely to be Gen X and high income. In contrast, the third of household maintainers who preferred multi-attached homes and had two or three bedrooms were more likely to be working-age (25–54) as well as high income. Almost half of the household maintainers who preferred row houses had three bedrooms; this group was most likely to be older Millennials (35–44) and earn at least \$60,000. On the other hand, the quarter of household maintainers who preferred row houses and had two bedrooms were more likely to be near retirement (55–64) and high income. Apartment preference was equally associated with one and two bedrooms. Apartment preferring household maintainers with one bedroom were more likely to be seniors (65+), while those with two bedrooms were more likely to be more recently retired (65–74). Apartment preference was associated with low income across all bedroom counts.

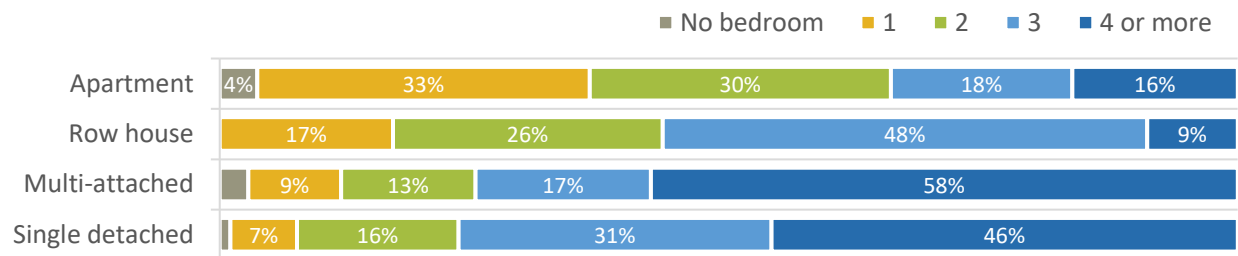
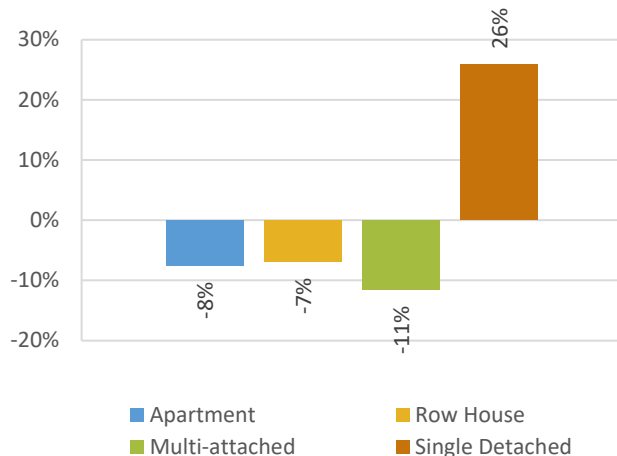


Figure 54. Distribution of current number of bedrooms (%), modelled Surrey household population by preferred dwelling structure type.



This project showed a potential discrepancy between the current housing supply and household maintainers' dwelling structure type preferences (Figure 55). In Surrey, single detached housing was likely undersupplied while apartments, multi-attached, and row houses were likely undersupplied (but to a lesser extent).

Figure 55. Difference between Surrey's proportion of units and household maintainers' preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

SCĀWĀΘĀN MĀSTEYĀX^W (TSAWWASSEN FIRST NATION)

The Model predicted that a fifth of scāwāθān māsteyāx^w (Tsawwassen First Nation) household maintainers were aged 45–54 (Gen X), 55–64 (Gen X), and 65–74 (Boomer/War), each. The remainder were relatively evenly split between younger (25–44; Millennial/Gen Z) and older (75+; Boomer/War) generations. Nearly half of scāwāθān māsteyāx^w households were predicted a total annual before-tax income of \$85,000 or over (high income), and a fifth each who earned \$60,000–84,999 (moderately-high income), \$35,000–59,999 (moderately-low income), and less than \$35,000 (low income).²⁸

Over half of scāwāθān māsteyāx^w household maintainers were predicted to prefer single detached housing (Figure 56). The preference for single detached homes increased with age, and was greatest among seniors (65+). In particular, 15 per cent more recently retired (65–74) household maintainers preferred single detached homes than the overall household maintainer population. Single detached preferring household maintainers were also more likely to earn at least \$60,000.

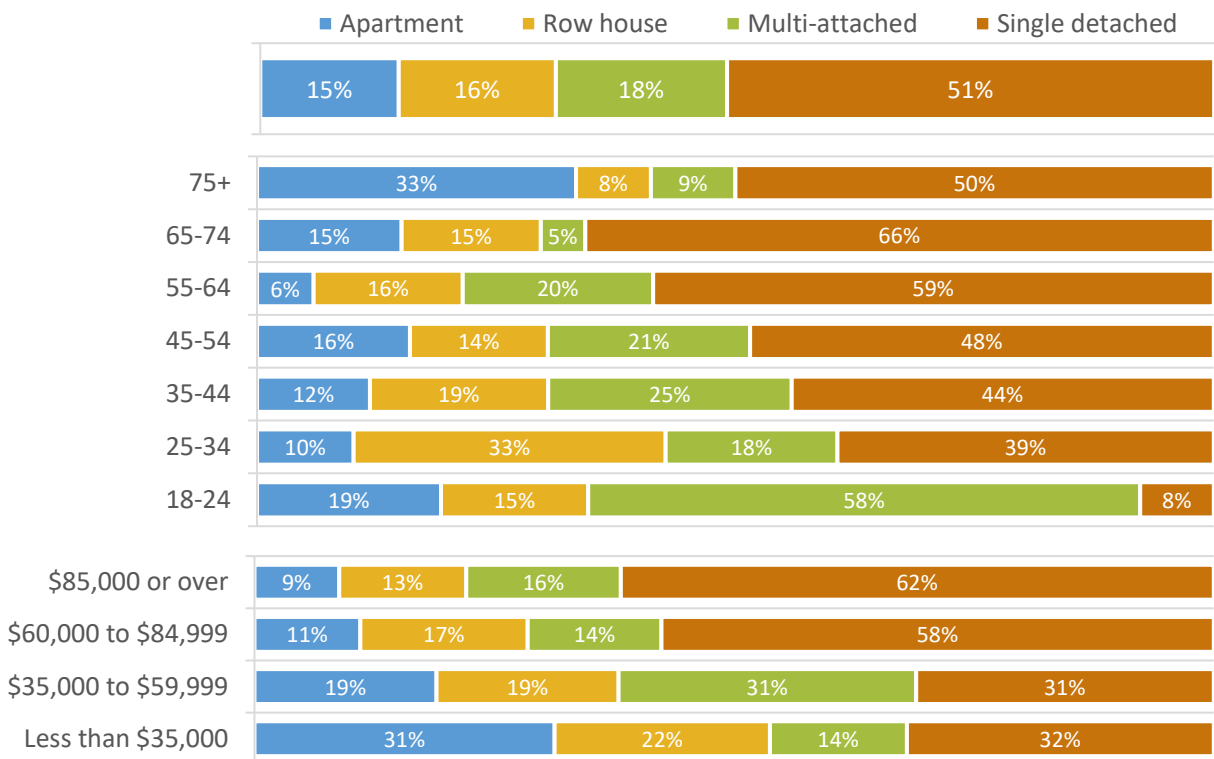


Figure 56. Distribution of preferred dwelling structure type (%), modelled overall scāwāθān māsteyāx^w (Tsawwassen First Nation) household population as well as by age (of household maintainer) and total annual before-tax household income groups.

The remainder of scāwāθān māsteyāx^w household maintainers were split between preferring multi-attached housing, row houses, and apartments (Figure 56). Instead of preferring single detached housing like senior household maintainers, those who were Gen Z (18–24), working-age (25–54), and

²⁸ For reference: scāwāθān māsteyāx^w (Tsawwassen First Nation) median age in 2021 was 42.8 and median total annual before-tax household income for the in 2020 was \$98,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](#)

near retirement (55–64) were more likely to prefer multi-attached housing. Additionally, those with moderately-low incomes (\$35,000–59,999) were more likely to prefer multi-attached homes household maintainers with higher or low incomes. Similarly, row house preference was greater with younger Millennials (25–34). Household income was not significantly associated with preference for row houses; however, marginally more household maintainers who earned \$35,000 or less shared this preference. Apartment preference increased for those with lower incomes; a third of low income household maintainers preferred apartments – equal to the proportion who preferred single detached housing. Older seniors (75+) and to a lesser extent Gen Z were more likely to prefer apartments – inferring that this preference is likely associated with financial limitations common to young professionals/families and seniors (many likely with a pension) as well as rising living and housing costs.

Over three-quarters of scáwáθan másteyáx^w household maintainers who were predicted to prefer single detached housing had three or more bedrooms (Figure 57); this group was more likely to earn a high household income compared those with fewer bedrooms. Those with four or more bedrooms were more likely to be near or already retired (55–74), while those with three bedrooms included a greater proportion of working-age household maintainers as well (45–74). In contrast, half of those who preferred apartments had a two bedrooms; these household maintainers were more likely to be seniors (65+) and earn a high, or to a lesser extent moderately-low, income. Two-fifths of row house preferring household maintainers had three bedrooms; this group was more likely to be Millennials (25–44) and earn either a low or high household income. Of those who preferred multi-attached homes, about a third each had two bedrooms (more likely to be near retirement (55–64), and moderately-low or high income) and three bedrooms (more likely to be working-age (35–64), and high income).

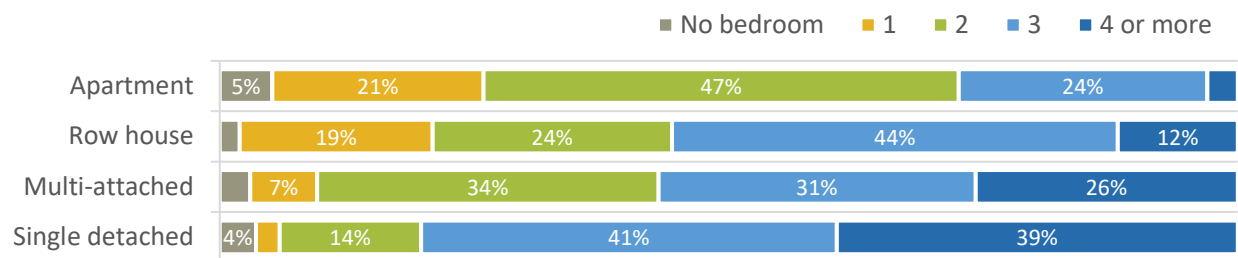


Figure 57. Distribution of current number of bedrooms (%), modelled scáwáθan másteyáx^w (Tsawwassen First Nation) household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 58). In scáwáθan másteyáx^w, apartments and row houses were likely oversupplied. Meanwhile, single detached housing, and to a lesser extent multi-attached housing, was likely undersupplied.

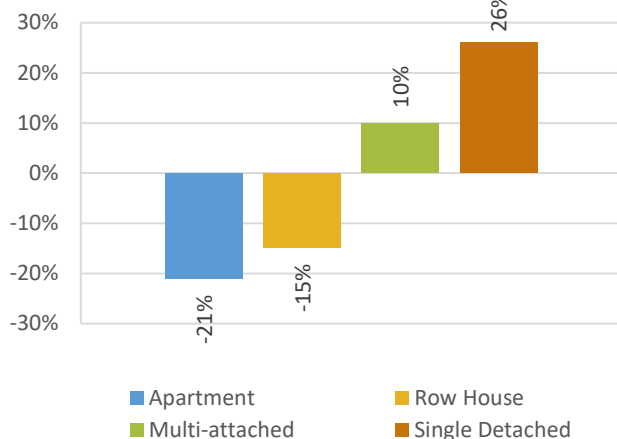


Figure 58. Difference between scáwáθan másteyáx^w (Tsawwassen First Nation) proportion of units and household maintainer’s preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF VANCOUVER

The Model predicted that about a quarter of Vancouver household maintainers were aged 35–44 (Millennial/Gen Z); a fifth were aged 55–64 (Gen X), and about a tenth each were aged 25–34 (Millennial/ Gen Z), 45–54 (Gen X), 65–74 (Boomer/War), and 75 or over (Boomer/War). Nearly half of Vancouver households were predicted to earn a total annual before-tax income of at least \$85,000, followed by about a fifth each who earned \$60,000–84,999, \$35,000–59,999, and less than \$35,000.²⁹

Overall, two-thirds of Vancouver household maintainers were predicted as split in preferring single detached homes and apartments (Figure 59). The preference for single detached housing was comparable across age groups (with marginally lower preference indicated by Gen Z (18–24)), while apartment preference varied more substantially across younger, middle-aged, and older generations. Specifically, Boomer/War (65+) household maintainers were about 1.5 times more likely to prefer apartments than the overall household maintainer population. Additionally, those earning less than \$35,000 (many likely as a pension) were twice as likely to prefer apartments as those with a high household income. In contrast, those who earned \$85,000 or over were more likely to prefer single detached housing than household maintainers who earned less.

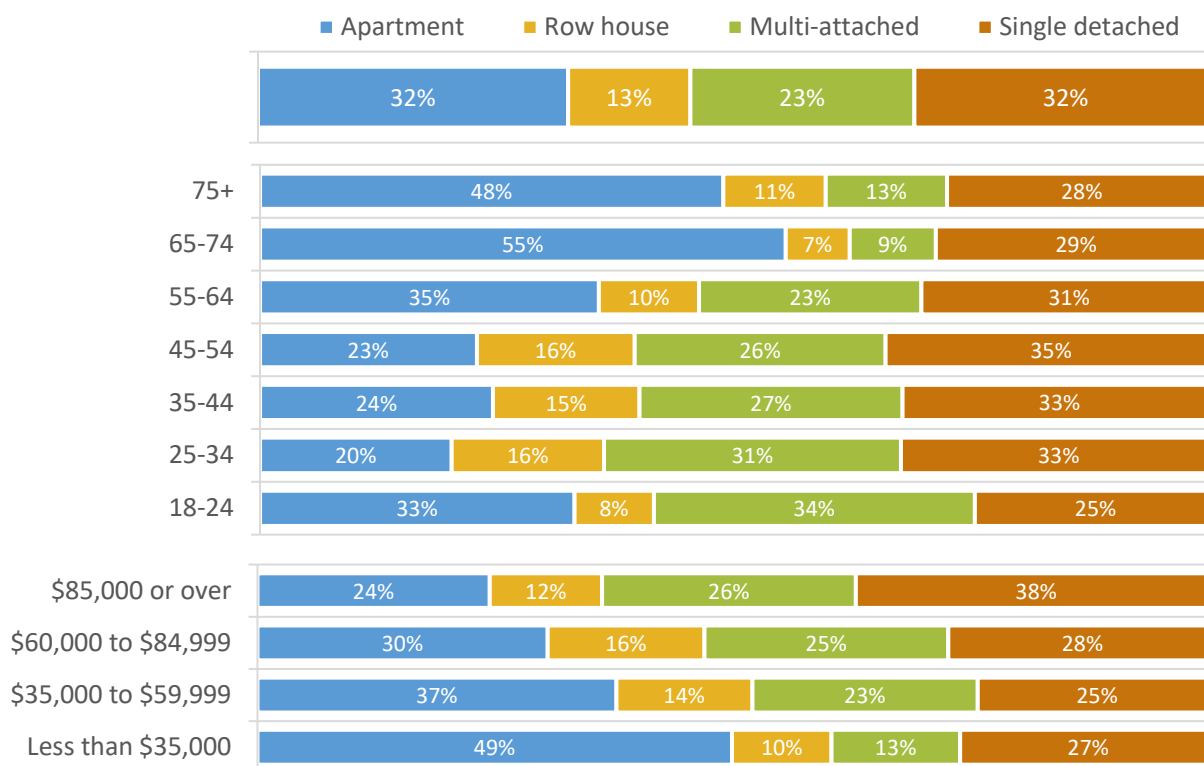


Figure 59. Distribution of preferred dwelling structure type (%), modelled overall Vancouver household population as well as by age (of household maintainer) and total annual before-tax household income groups.

²⁹ For reference: Vancouver’s median age in 2021 was 39.6 and median total annual before-tax household income in 2020 was \$113,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-62-0001/2021001/article/00001-eng.htm)

Only a quarter of Vancouver household maintainers were predicted to prefer multi-attached housing, followed by a tenth who preferred row houses (Figure 59). However, younger, working-age (18–54) household maintainers were more likely to prefer multi-attached housing and row houses than those who were older (55+). For example, a third of Millennial/Gen Z household maintainers preferred multi-attached homes – a similar proportion as those who preferred single detached houses (and to a lesser extent apartments) of the same generation group. Moderate to high income earners were more likely to prefer multi-attached homes than those with lower incomes, while row house preference was similar across household income groups. Age-in-place apartments could provide a more affordable and higher density housing option for the aging population in Vancouver, while multi-attached and row houses could be a suitable, more affordable alternative for many young professionals/families.

Nearly half of Vancouver household maintainers who were predicted to prefer apartments had a single bedroom, followed by a third with two bedrooms (Figure 60). Those with two bedrooms were more likely to be near or recently retired (55–74) and high income, while those with one bedroom were more likely to be seniors (65+) and low income. In contrast, for either single detached or multi-attached housing preference: a third had four or more bedrooms, followed by a relatively even split between having one, two, and three bedrooms. Again, for either single detached or multi-attached housing preference: those with four or more bedrooms were more likely to be high income and working-age or near retirement (35–64), while those who had three or fewer bedrooms were more likely to be skewed younger (25–54) and also high income (but included greater proportions of moderate to low incomes). Two-fifths of household maintainers who preferred row houses had two bedrooms; this group was more likely to be Millennials and earn at least \$85,000.

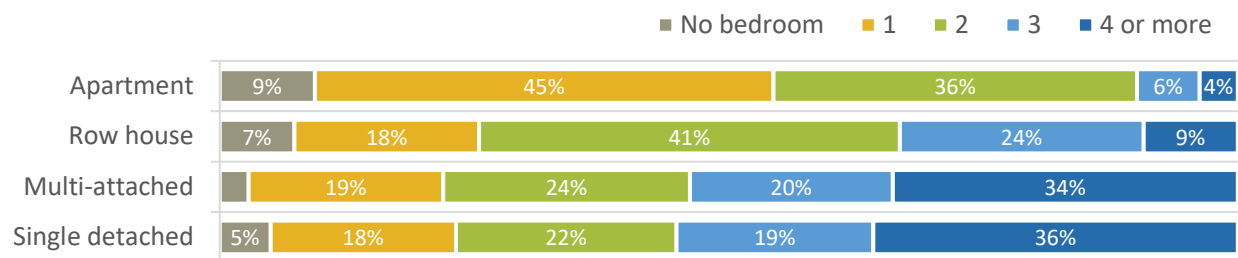
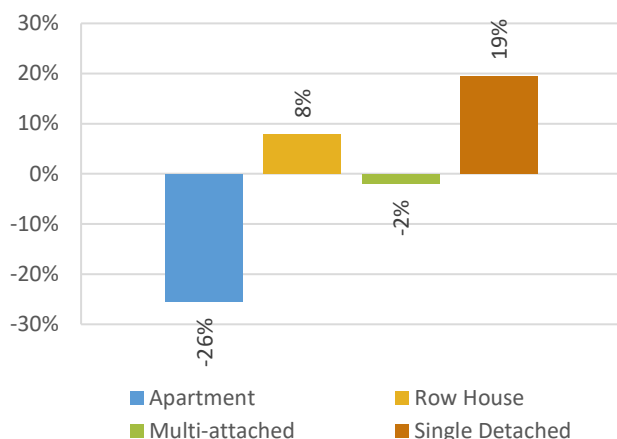


Figure 60. Distribution of current number of bedrooms (%), modelled Vancouver household population by preferred dwelling structure type.

This project showed a potential discrepancy between the current housing supply and household maintainers’ dwelling structure type preferences (Figure 61). In Vancouver, apartments were likely undersupplied while single detached housing, and to a lesser extent row houses, were likely undersupplied.



maintainers’ dwelling structure type preferences (Figure 61). In Vancouver, apartments were likely undersupplied while single detached housing, and to a lesser extent row houses, were likely undersupplied.

Figure 61. Difference between Vancouver’s proportion of units and household maintainer’s preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

DISTRICT OF WEST VANCOUVER

The Model predicted that a quarter of West Vancouver (including Horseshoe Bay) household maintainers were aged 55–64 (Gen X). The remainder was split relatively evenly between ages 35–44 (Millennial/Gen Z), 45–54 (Gen X), 65–74 (Boomer/War), and 75 or over (Boomer/War). Over half of West Vancouver households were predicted to earn a total annual before-tax income of \$85,000 or over (high income); the rest were split relatively evenly between earning \$60,000–84,999 (moderately-high income), \$35,000–59,999 (moderately-low income), and less than \$35,000 (low income).³⁰

Overall, nearly half of West Vancouver household maintainers were predicted to prefer single detached homes (Figure 62). The preference for single detached housing varied across age groups; Gen Z (18–24), older Gen X (55–64), or older Boomer/War (75+) household maintainers were more likely to prefer single detached houses than other age groups. Those with high household incomes were also more likely to prefer single detached housing than those who earned less.

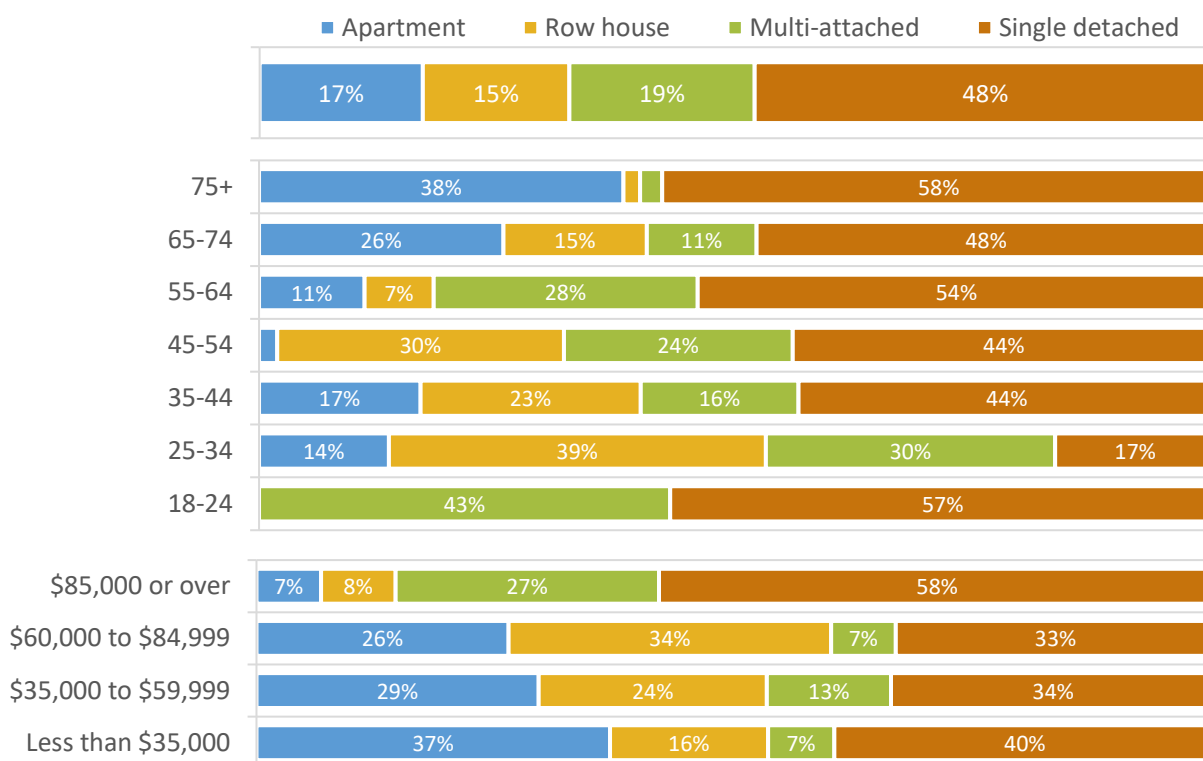


Figure 62. Distribution of preferred dwelling structure type (%), modelled overall West Vancouver household population as well as by age (of household maintainer) and total annual before-tax household income groups.

The remainder of West Vancouver household maintainers were predicted to be split relatively evenly between preferring apartments, row houses, and multi-attached housing (Figure 62). Those who preferred apartments were more likely to be older; about twice as many senior (65+) household maintainers preferred apartments than the overall household population. Additionally, apartment

³⁰ For reference: West Vancouver’s median age in 2021 was 50.8 and median total annual before-tax household income in 2020 was \$104,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-62-0001/2021001/article/00001-eng.htm)

preference was greater among those with lower household incomes (likely including many with pensions). Specifically, over five times as many low income household maintainers preferred apartments compared to those earning \$85,000 or over. In contrast, household maintainers who preferred row houses or multi-attached housing tended to be younger. Compared to the overall household maintainer population: almost twice as many young Millennial/Gen Z household maintainers preferred multi-attached homes, and about double as many working-age (25–64) household maintainers preferred row houses. Comparisons across household income groups identified associations between high income and multi-attached housing preference, as well as moderate incomes (\$35,000–84,999) and row houses.

Over half of the West Vancouver household maintainers who were predicted to prefer single detached housing had four or more bedrooms, followed by a quarter with three bedrooms (Figure 63). Similarly, most who preferred multi-attached homes had at least three bedrooms. Of those who preferred either single detached or multi-attached homes, most with three or more bedrooms were nearly or already retired (55–64) and high income. However, those with three bedrooms and a preference for single detached housing were more likely to be older seniors (75+). In contrast, over half of household maintainers who preferred apartments had single bedroom, followed by a third with two bedrooms. Apartment preferring household maintainers with two bedrooms were more likely to be moderate-to-high income and seniors (65+), while those with a single bedroom were more likely to be low income and older seniors (75+) or to a lesser extent working-age or retired (35–64). Those who preferred row houses were similarly likely to have one or two bedrooms, followed by a lesser extent with three bedrooms. Household maintainers who preferred row houses were similarly likely to have one, two, or three bedrooms. Those with two or three bedrooms were more likely to be older Millennials or young Gen Xers (35–54), while those with one bedroom were more likely to earn a moderately-high income.

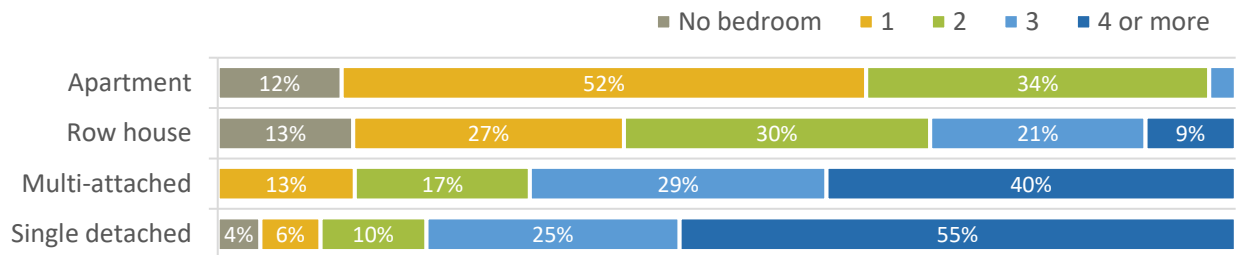
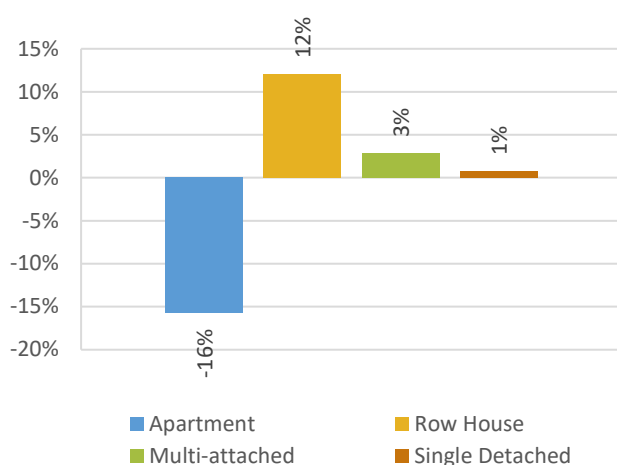


Figure 63. Distribution of current number of bedrooms (%), modelled West Vancouver household population by preferred dwelling structure type.



This project showed a potential discrepancy between the current housing supply and household maintainers' dwelling structure type preferences (Figure 64). In West Vancouver, apartments were likely oversupplied, while row houses were likely undersupplied.

Figure 64. Difference between West Vancouver's proportion of units and household maintainers' preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

CITY OF WHITE ROCK

The Model predicted that about a fifth of White Rock household maintainers were aged 45–54 and 55–64 (both Gen X), each. The remainder were relatively evenly split between ages 25–34 (Millennial/Gen Z), 35–44 (Millennial/Gen Z), and 65–74 (Boomer/War). Over half of White Rock households were predicted to earn a total annual before-tax income of \$85,000 or over (high income), followed by about a fifth who earned \$60,000–84,999 (moderately-high income), and about one-tenth each who earned \$35,000–59,999 (moderately-low income) and less than \$35,000 (low income).³¹

Overall, half of White Rock household maintainers were predicted to prefer single detaching homes (Figure 65). Middle-aged (45–54) household maintainers were more likely to prefer single detached housing than younger, and to a lesser extent older, household maintainers. Single detached homes were the top preference across all household income groups. However, low income earners were less likely to share this preference; about 10 per cent fewer low income household maintainers preferred single detached housing compared to those who earned \$35,000 or over.

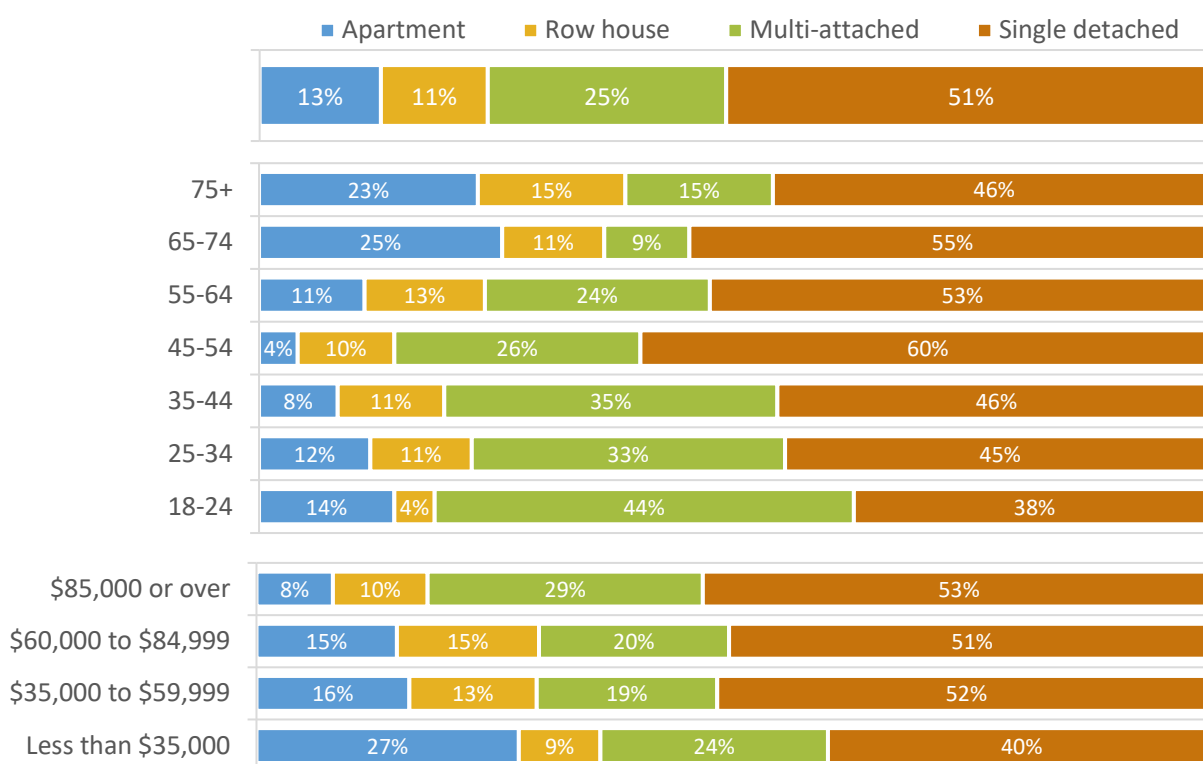


Figure 65. Distribution of preferred dwelling structure type (%), modelled overall White Rock household population as well as by age (of household maintainer) and total annual before-tax household income groups.

A quarter of White Rock household maintainers were predicted to prefer multi-attached housing, followed by about a tenth each who preferred apartments and row houses (Figure 65). Younger household maintainers were more likely to prefer multi-attached housing; specifically, 10 per cent more

³¹ For reference: White Rock’s median age in 2021 was 58.0 and median total annual before-tax household income in 2020 was \$73,000. Source: [Profile table, Census Profile, 2021 Census of Population \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm)

Millennial/Gen Z household maintainers preferred multi-attached housing than the overall household maintainer population. High income, and to a lesser extent low income, household maintainers were also more likely to prefer multi-attached housing. In contrast, apartment preference was greater among older household maintainers – with at least twice as many seniors (65+) sharing this preference than younger age groups. Additionally, those with lower incomes were more likely to prefer apartments; twice as many low income household maintainers preferred apartments compared to the overall household maintainer population. Row houses were similarly preferred across age and household income groups. However, relatively greater row house preferences were observed among senior (65+) and moderate income household maintainers.

Almost half of White Rock household maintainers who were predicted to prefer single detached housing had four or more bedrooms, followed by about a third who had three bedrooms (Figure 66). Similarly, over half of multi-attached preferring household maintainers had four or more bedrooms. For either single detached or multi-attached housing preference, those with two or more bedrooms were more likely to be middle-aged or recently retired (45–74). However, household maintainers with two or three bedrooms and preferred multi-attached homes were more likely to be younger, working-age (25–54). In contrast, two-thirds of household maintainers who preferred row houses had two bedrooms; this group was nearly or already retired (55–64) and high income. However, the quarter of household maintainers who preferred row houses and had three bedrooms were more likely to be even younger (35–44) and earn at least \$60,000. Most who preferred apartments had up to two bedrooms. Two-fifths of apartment preferring household maintainers had two bedrooms, and were more likely to be younger seniors (65–74) and high income (or to a lesser extent moderate income). Another quarter who preferred apartments had a single bedroom, and more likely to be older seniors (75+) and low income.

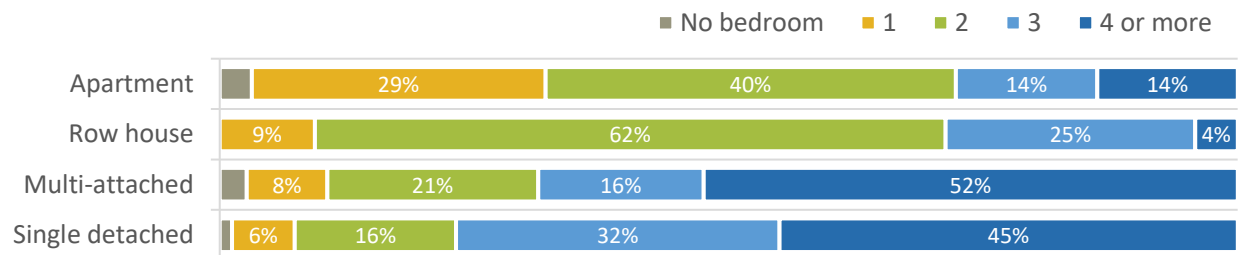
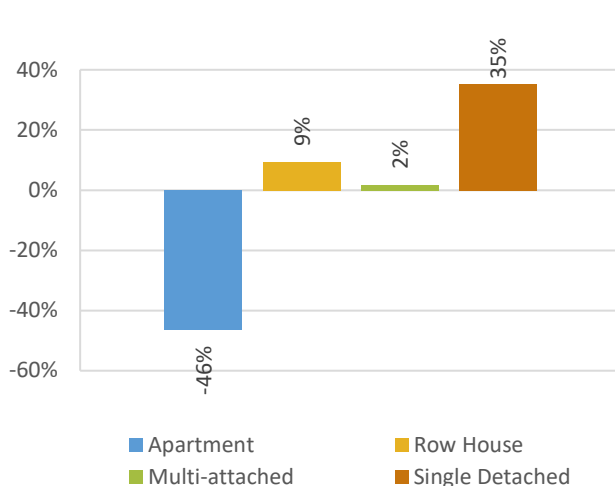


Figure 66. Distribution of current number of bedrooms (%), modelled White Rock household population by preferred dwelling structure type.



This project showed a potential discrepancy between the current housing supply and household maintainers' dwelling structure type preferences (Figure 67). In White Rock, apartments were likely oversupplied; meanwhile, single detached housing, and to a lesser extent row houses, were likely undersupplied.

Figure 67. Difference between White Rock's proportion of units and household maintainer's preference (%), per dwelling structure type. Positive values indicate a greater preference than the proportion of existing units.

APPENDIX A – GLOSSARY

Term	Definition
Boomer/War	Boomer or War generations include those born between 1927–1962 (aged 61 to 96 at the time of survey). Associated with ages 65 or over in census data.
Gen X	Generation X includes those born between 1963–1980 (aged 43 to 60 at the time of the survey). Associated with ages 45–64 in census data.
High income	High income earners includes those with a total annual before-tax household income of \$85,000 or greater.
Household	Household refers to a person or group of persons who occupy the same dwelling and do not have a usual place of residence elsewhere in Canada or abroad.
Low income	Low income earners includes those with a total annual before-tax household income of less than \$35,000.
Millennial/Gen Z	Millennial or Gen Z generations include those born between 1981–2005 (aged 18 to 42 at the time of survey). Associated with ages 15–44 in census data. Separately, Gen Z includes those born between 1998–2005 (aged 18 to 24 at the time of survey; 15–24 in census data) and Millennial includes those born between 1981–1999 (aged 25 to 42 at the time of survey; 25–44 in census data).
Moderately-high income	Moderately-high income earners includes those with a total annual before-tax household income of at least \$60,000 and up to (and including) \$84,999.
Moderately-low income	Moderately-low income earners includes those with a total annual before-tax household income of at least \$35,000 and up to (and including) \$59,999.
Resident	Residents (and long-term residents) for this study are defined as those who were born in Canada or arrived in Canada before the year 2000.
Senior	Senior includes those aged 65 or over. Older seniors were specified as aged 75 or over.
Working-age	Working-age generally refers to those aged 25–64. However, specific ranges were specified within the report.



To: Finance Committee

From: Harji Varn, General Manager, Financial Services
Chief Financial Officer

Date: October 31, 2024

Meeting Date: November 13, 2024

Subject: **Metro Vancouver's 2024 Financial Performance Report**

RECOMMENDATION

That the MVRD Board receive for information the report dated October 31, 2024 titled "Metro Vancouver's 2024 Financial Performance Report".

EXECUTIVE SUMMARY

The 2024 Financial Performance Report indicates a forecasted year-end net operating surplus to budget of \$8.0M (0.7% of the total \$1.2 billion operating budget). Surpluses are forecasted in Liquid Waste, \$3.6M, Housing, \$4.7M and Regional District, \$7.4M, primarily a result of staff vacancies, delays in projects, and lower debt service costs. Budget shortfalls are expected in Water, \$4.8M, due to lower than anticipated water sales, and Solid Waste, \$2.9M from increased contingency disposal costs.

Year-end capital expenditures are forecasted at approximately 70% of the annual cash flow target of \$1.4B. Significant work has progressed on several multi-year projects and the majority of the 30% underspend is related to the status of major projects, such as the Coquitlam Water Main, IWWTP and NSWWTP which have been accounted for in the 2025-2029 Financial Plan.

In 2024, \$350.0M has been borrowed versus \$482.0M targeted, resulting in lower debt servicing costs. Investment returns are currently averaging 4.59% and are expected to remain favorable for the remainder of the year. Year-to-date procurement activity includes 12 awards approved by the Board representing 84% of the total value of awarded contracts and across the organization there are over 120 continuous improvement initiatives underway.

PURPOSE

To present the Finance Committee and MVRD Board with the Metro Vancouver 2024 Financial Performance Report, including forecasts to the end of 2024, procurement activity, treasury and continuous improvement reporting.

BACKGROUND

As per the Terms of Reference, the Finance Committee is a standing committee of the Metro Vancouver Board that monitors Metro Vancouver's financial management, providing advice and recommendations on financial matters, as well as reviewing periodic and annual financial results and providing oversight on the annual audit. The Metro Vancouver 2024 Financial Performance Report is the second of three financial reports for 2024, and is intended to support the Finance Committee with their monitoring and oversight role and is focused on the annual forecast and overall financial health of the organization. The report highlights any major risks, opportunities, and

seeks to enhance the annual budget process. The third and final report for 2024 will be presented in April 2025 and will include the year-end audit findings report. Attachment 1 to this report provides more detailed information on Metro Vancouver's financial performance at September 30, 2024.

Operating Results

On a net surplus basis, it is expected that the year-end operating surplus to budget will be \$8.0 million or 0.7% of the total \$1.2 billion operating budget. The 2024 overall forecasted surpluses are in Liquid Waste Services of \$3.6 million, Metro Vancouver Housing of \$4.7 million and Regional District Services of \$7.4 million, primarily from staff vacancies, delays in projects, and lower debt service costs due to less borrowing. Budget shortfalls are forecasted in Water Services (\$4.8 million) due to lower than anticipated water sales, and Solid Waste Services of (\$2.9 million) from increased contingency disposal costs. In accordance with policy, any shortfalls will be funded from existing operating reserves at year-end.

Water Services

	2024 Budget	Year-end Forecast	Projected Variance
Revenues	\$ 378.9M	\$ 372.7M	\$ (6.2M)
Expenditures	378.9M	377.5M	1.4M
Surplus (Deficit)	\$ -	\$ (4.8M)	\$ (4.8M)

For Water Services, the 2024 year-end forecast indicates a \$6.2 million shortfall in revenues, which is largely attributed to the wetter-than-expected spring and summer, and \$1.4 million lower expenditures, primarily due to lower debt service costs, resulting in an overall projected year-end shortfall of \$4.8 million.

Liquid Waste Services

	2024 Budget	Year-end Forecast	Projected Variance
Revenues	\$ 487.9M	\$ 484.6M	\$ (3.3M)
Expenditures	487.9M	481.0M	6.9M
Surplus (Deficit)	\$ -	\$ 3.6M	\$ 3.6M

For Liquid Waste Services, the 2024 year-end surplus forecast is \$3.6 million. Revenues are expected to be lower than budget with a shortfall of \$3.3 million primarily due to approximately \$1.9 million less DCC usage due to the status in multi-year growth capital projects and \$1.4 million less in revenue from reserve applications due to projects taking longer than anticipated. Expenditures are forecasted to be underspent by \$6.9 million, primarily resulting from lower debt service costs related to less borrowing and underspends in operations and maintenance.

Solid Waste Services

	2024 Budget	Year-end Forecast	Projected Variance
Revenues	\$ 142.4M	\$164.7M	\$ 22.3M
Expenditures	142.4M	167.6M	(25.2M)
Surplus (Deficit)	\$ -	\$ (2.9M)	\$ (2.9M)

For Solid Waste Services the 2024 year-end shortfall forecast is (\$2.9 million) due to increased contingency disposal costs associated with higher waste tonnage. Higher tipping fee revenues and energy revenues will substantially mitigate the impact of this by year-end.

Metro Vancouver Housing

	2024 Budget	Year-end Forecast	Projected Variance
Revenues	\$ 60.3M	\$ 55.1M	\$ (5.2M)
Expenditures	52.2M	42.3M	9.9M
Surplus (Deficit)	\$ 8.1M	\$ 12.8M	\$ 4.7M

For Metro Vancouver Housing, the 2024 year-end surplus forecast is projected at \$4.7 million largely related to timing of capital replacement and maintenance expenditures which results in a lower than budgeted transfer from reserve funds into annual revenues. Metro Vancouver Housing is largely funded from tenant rentals with no impact to household tax requisitions.

Regional District Services

	2024 Budget	Year-end Forecast	Projected Variance
Revenues	\$ 146.5M	\$ 146.6M	\$ 0.1M
Expenditures	146.5M	138.9M	7.6M
Surplus (Deficit)	\$ -	\$ 7.7M	\$ 7.7M

For Regional District Services, the year-end surplus forecast for 2024 is \$7.7 million. There are slightly lower than forecasted revenues of \$0.1 million primarily due to less reserve usage from delays in reserve application projects and lower than expected permit fee revenues of \$0.2 million in the Air Quality and Climate Action Function. Expenditures are expected to be lower than budget by \$7.6 million, which is mostly attributed to staffing vacancies across the Regional District Services and SIF funded projects taking longer than anticipated.

Capital Expenditures Program

Capital expenditures for 2024 are forecasted at approximately 70% of the annual cash flow target of \$1.4 billion. Significant work has progressed on several multi-year projects and there is anticipated advancement in major projects as they move into the construction phase such as the Annacis Water Supply Tunnel, NSWWTP, Widgeon Marsh Park Development and Metro Vancouver Housing development projects. The majority of the 30% underspend is related to the status of major projects, such as the Coquitlam Water Main, NSWWTP and IWWTP which have been accounted for in the 2025-2029 Financial Plan.

Water Services

	2024 Capital Cash Flow	2024 Forecasted Expenditures	Projected Variance
Water Mains	\$ 312.6M	\$ 260.6M	\$ 52.0M
Pump Stations	46.5M	26.7M	19.8M
Reservoirs	23.9M	20.6M	3.3M
Treatment Plants	25.2M	14.6M	10.6M
Others	16.7M	5.3M	11.4M
Total	\$ 424.9M	\$ 327.7M	\$ 97.2M

Water Services is forecasted to spend \$327.7 million (77%) of the \$424.9 million projected capital cash flow as some of the major projects like the Stanley Park Water Supply advance into construction stages. In addition, construction activities are underway for other large projects such as the Central Park Main, Kennedy Newton Main, Douglas Road Main No2, and Fleetwood Reservoir.

Liquid Waste Services

	2024 Capital Cash Flow	2024 Forecasted Expenditures	Projected Variance
Collections	\$ 167.9M	\$ 142.4M	\$ 25.5M
Treatment Plants	613.3M	378.6M	234.7M
Total	\$ 781.2M	\$ 521.0M	\$ 260.2M

Liquid Waste Services is forecasted to spend \$521.0 million (67%) of the \$781.2 million capital cash flow as many projects advance into various stages of the project timelines, including Glenbrook Trunk Kingsway Section, Glenbrook Trunk CSO Gates, North Road Trunk Sewer, Gleneagles Pump Station improvements, AIWWTP Trickling Filter Rehabilitation, AIWWTP Surge Control, Annacis Outfall System, Gilbert Brighthouse Trunk Pressure Sewer Twinning, and Burnaby Lake North Interceptor. Construction progress on the NSWWT is taking longer than what was forecast and ground improvement works at NLWWTP and IWWTP are moving at a slower rate, however design work is progressing, as it is for Annacis WWTP (Stage 5 Expansion).

Solid Waste Services

	2024 Capital Cash Flow	2024 Forecasted Expenditures	Projected Variance
Landfills	\$ 3.9M	\$ 0.8M	\$ 3.1M
Recycling and Waste Centres	5.1M	4.0M	1.1M
Waste to Energy Facilities	45.1M	9.7M	35.4M
Total	\$ 54.1M	\$ 14.5M	\$ 39.6M

Solid Waste Services is forecasted to spend \$14.5 million (27%) of the \$54.1 million cash flow largely due to the complexity of the capital projects. Additional engagement steps in developing the project scope and time taken to develop municipal agreements and permitting impact the design to construction timelines. Despite these complexities, detailed design and procurement are underway for the Waste-to-Energy Facility District Energy system, and many other projects are moving to the next phase of the project timelines.

Metro Vancouver Housing

	2024 Capital Cash Flow	2024 Forecasted Expenditures	Projected Variance
Development Capital	\$ 108.2M	\$ 63.1M	\$ 45.1M
Building Rehabilitation	23.1M	16.9M	6.2M
Total	\$ 131.3M	\$ 80.1M	\$ 51.3M

Metro Vancouver Housing is forecasted to spend \$80.1 million (64%) of the \$131.3 million capital cash flow. Housing projects are well underway (Heather Place B, Kingston Gardens and Salal Landing), with several projects at the final stage of the permitting process with expenditures to ramp up following approvals (The Connection and The Steller). Through strategic partnerships, funding and financing programs, Metro Vancouver Housing is leveraging its available resources to build and renew homes with no additional impact to household tax requisitions.

Regional Parks

	2024 Capital Cash Flow	2024 Forecasted Expenditures	Projected Variance
Capital Development	\$ 12.0M	\$ 6.2M	\$ 5.8M
Parkland Acquisition	20.0M	13.7M	6.3M
Total	\$ 32.0M	\$ 19.9M	\$ 12.1M

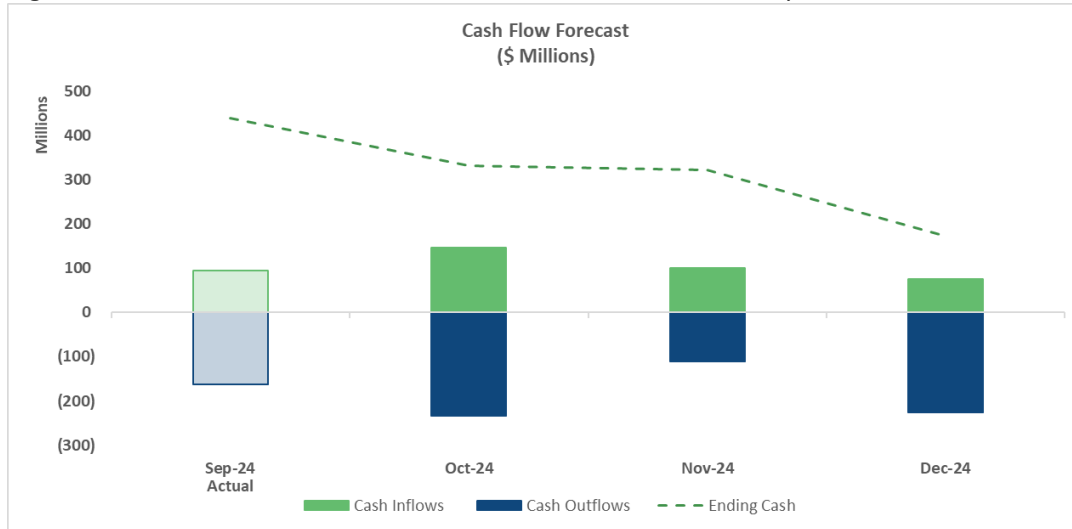
Regional Parks is forecasted to spend \$19.9 million (62%) of the \$32.0 million capital cash flow. Progress continues on major projects including Widgeon Marsh Phase 1, Campbell Valley Greenway extension and Grouse Mountain Park Development, however, the projects are taking longer than anticipated largely due to permitting (Boundary Bay Perimeter Trail) and some challenges in procurement due to market conditions (Belcarra South Redevelopment). Timing of expenditures with respect to land acquisition is dependent on availability and market conditions.

Treasury Results

As a result of lower capital spending, the total MFA borrowing for 2024 will be \$350 million, which is less than the budgeted \$482 million. Furthermore, the MFA long-term borrowing rate for the 2024 Spring borrowing was 4.40%, which is lower than the 2023 rate of 4.97% indicating a softening in long-term interest rates. The impact of the lower amount of borrowing and lower interest rates results in a lower than expected debt service ratio (interest and principal payments to revenue) from 19.9% to 18.7%.

Figure 1 below provides the September 2024 actual cash position and cash flow forecast from for the last quarter of the year. Treasury is continuously reviewing cash and reserve balances to ensure adequate liquidity to sustain operations and managing risk while also making efficient use of its cash.

Figure 1. Metro Vancouver Cash Position and Forecast from September to December 2024



The average investment returns as of September 2024 have increased since December 2023, to 5.35% for short-term and 4.27% for long-term. As interest rates are expected to decline, Metro Vancouver’s rate of return is expected to remain favourable as maturities from 2023 were reinvested with higher yielding longer term products or held in cash to take advantage of high-interest savings account rates. The total estimated weighted average annualized return at September 2024 was 4.59%, slightly higher than 4.51% reported in April 2024.

Procurement

The tables below provide the value of awards approved by the Metro Vancouver Board, as well as those approved by the Corporation in excess of \$500,000 that are not awarded by the Board in accordance with the existing Board-approved Procurement Policy. It is expected that procurement activity will increase with respect to the number of awards as well as the value due to the significant capital program.

Table 1. Number of Contracts Awarded

Award Type	Year-to-date September 2024	2023	2022	2021
MV Board Awarded	12	16	20	25
Corporate Awarded	64	51	53	51
Total	76	67	73	76

Table 2. Value of Contracts Awarded

Award Type	Year-to-date September 2024	2023	2022	2021
MV Board Awarded	\$ 531,220,955	\$465,895,019	\$434,664,449	\$798,139,628
Corporate Awarded	\$ 100,023,832	\$71,980,936	\$ 89,019,028	\$ 92,545,559
Total	\$ 631,244,787	\$537,875,955	\$523,683,477	\$890,685,187

Continuous Improvement

There are currently over 120 continuous improvement projects underway across the organization. Continuous improvement is a core value for the organization and is intended to enhance efficiencies and deliver better service internally and externally. The table below highlights completed

The table below is a list of completed continuous improvement projects.

Table 3. Select Completed Continuous Improvement Projects and Alignment with Board Strategic Plan

Highlighted Select Completed Continuous Improvement Projects			
Department/ Project Title	Board Priority	Description	Outcomes
Liquid Waste: LIWWTP Renewable Natural Gas	<ul style="list-style-type: none"> Financial Sustainability & Affordability Climate Action 	Process to upgrade digester gas to renewable natural gas for sale to Fortis BC	<ul style="list-style-type: none"> New GVS&DD revenue stream Renewable natural gas available for decarbonization for Fortis customers Estimated \$0.9M annual income; 2,200 tonnes of GHG reduction
Liquid Waste: LIWWTP Digestion Optimization- Phase 1 Testing	<ul style="list-style-type: none"> Financial Sustainability & Affordability Climate Action 	Platform for testing alternative sludge treatment approaches	<ul style="list-style-type: none"> Intensification tests indicate existing digesters can serve larger populations to defer costly capacity expansions. Future tests will evaluate ways to increase production of low-carbon biofuels.
Indigenous Relations: KPIs for training sessions	<ul style="list-style-type: none"> Reconciliation 	Compilation of all post-training survey data for Indigenous Relations training sessions	<ul style="list-style-type: none"> Truth and Reconciliation Commission Call to Action #57 on training for civil servants Will allow for improvements to be made to the delivery of courses related to First Nations and Indigenous Peoples
Invest Vancouver: Collaboration	<ul style="list-style-type: none"> Resilient Services & Infrastructure 	Partner collaboration	<ul style="list-style-type: none"> Identified synergies with partners to help promote the region and attract foreign direct investment
Liquid Waste: Flush Truck	<ul style="list-style-type: none"> Financial Sustainability & Affordability 	New recycling technology	<ul style="list-style-type: none"> Reduce water consumption, labour, fuel, and disposal costs resulting in estimated \$0.3M annual savings
IT/Solid Waste Services: Weigh Scale Software Implementation	<ul style="list-style-type: none"> Resilient Services and Infrastructure 	Replace existing software system	<ul style="list-style-type: none"> New software system modernizes weigh scale transactions for solid waste facilities' more than 1,000,000 customers per year. Improvements include automated license plate number reading, emailed transaction tickets and invoices, and detailed data transfers to customers

ALTERNATIVES

This report is provided for information; no alternatives are presented.

FINANCIAL IMPLICATIONS

The Metro Vancouver 2024 Financial Performance Report indicates that Metro Vancouver is anticipating a net operating surplus to budget of \$8.0 million for 2024 (0.7% of the total \$1.2 billion operating budget) and a capital spend of approximately 70% of the \$1.4 billion 2024 annual cash flow target. Staff continue to monitor the financial performance including reporting on treasury, procurement and continuous improvement on a monthly basis and will report the 2024 year-end results to the Finance Committee and Board in April 2025.

CONCLUSION

This report provides the second report for 2024 on the financial performance of Metro Vancouver. It is forecasted that Metro Vancouver will have a \$8.0 million net operating surplus to budget for 2024 (0.7% of the total \$1.2 billion operating budget) and capital expenditures are forecasted at approximately 70% of the annual cash flow target of \$1.4 billion. Staff continue to monitor the financial performance against the budgeted cash flow requirements, including reporting on treasury, procurement and continuous improvement on a monthly basis and will report to the Finance Committee and Board the 2024 year-end results in April 2025.

ATTACHMENTS

1. Metro Vancouver 2024 Financial Performance Report

69897255

METRO VANCOUVER 2024 FINANCIAL PERFORMANCE REPORT

At September 30, 2024, with

Estimated Financial Forecast to December 31, 2024








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INTRODUCTION

This report presents second of three financial performance reports for fiscal 2024. It combines the financial performance and annual forecast information of Metro Vancouver’s four legal entities: Greater Vancouver Water District, Greater Vancouver Sewerage and Drainage District, Metro Vancouver Housing Corporation, and Metro Vancouver Regional District. The final report for fiscal 2024 will include the 2024 year-end audit results.

FINANCIAL PERFORMANCE AT A GLANCE

	Trend	Commentary
Operating Results		For the nine months ended September 30, 2024, operating results indicate a surplus of \$22.5M. Operating expenditures are at 97% of the year-to-date (YTD) expected budget or 76% of the annual budget (\$916.2M out of \$1.2B). YTD revenues are lower than budget by \$1.0M (0.4% of YTD budget). It is forecasted that for 2024, the year-end net operating surplus to budget will be \$8.0M (0.7% of the \$1.2B operating budget). Overall forecasted surpluses are in Liquid Waste Services of \$3.6M, Metro Vancouver Housing of \$4.7M and Regional District Services of \$7.4M, primarily from staff vacancies, delays in project contracted services, and lower debt service costs due to less borrowing. Budget shortfalls, which will be funded from reserves, are anticipated in Solid Waste Services of (\$2.9M) from increased contingency disposal costs, and Water Services of (\$4.8M) due to lower than anticipated water consumption.
Capital Expenditures		Capital expenditures as of September 30, 2024 are \$566.6M or 40% of total planned spending of \$1.4B annual capital cash flow. Year-end, capital expenditures are forecasted at approximately 70% of the annual cash flow target of \$1.4B. Construction and related spending is expected for the major multi-year projects moving into construction phases, such as the Annacis Water Supply Tunnel, NSWWTP Widgeon Marsh Park Development and Metro Vancouver Housing development projects (The Connection, Heather Place B, Kingston Gardens, and Salal Landing). The majority of the 30% underspend is related to the status in major multi-year projects, such as the Coquitlam Water Main, NSWWTP and IWWTP which have been adjusted for in the 2025 budget.
Awarded Procurement		12 awards were approved by the Board with a value of \$531.2M, which is 84% of the total value of awarded contracts in the first nine months.
Cash Flow Scenarios		Projected annual cash balance remains positive. Although current cash balance remains positive, a decline in cash by year-end is forecasted as capital spend ramps up and we only borrow what we require.
Investments		The latest report on investments indicated an estimated weighted average annualized return of 4.59%.
Financial Indicators		The ratios indicate a sufficient position to pay off current liabilities and forecasted debt servicing is less than budgeted.
Continuous Improvement		There are currently over 120 continuous improvement initiatives underway that will continue to advance the Board’s Strategic Priorities.

OPERATING RESULTS

Overall Net Operating Surplus to Budget

As of September 30, 2024, Metro Vancouver’s year-to-date operating surplus to budget is at \$22.5M. By year-end, the forecasted year-end net operating surplus to budget is anticipated at \$8.0M (0.7% of the \$1.2B budget). The 2024 overall forecasted surpluses are in Liquid Waste Services of \$3.6M, Metro Vancouver Housing of \$4.7M and Regional District Services of \$7.4M, primarily from staff vacancies, delays in project contracted services, and lower debt service costs due to less borrowing. Budget shortfalls, which will be funded from reserves at year-end, are anticipated in Solid Waste Services of (\$2.9M) due to increased contingency disposal costs, and Water Services of (\$4.8M) due to than anticipated water consumption and therefore less sales.

	Annual Budget	Year-end Forecast	Projected Variance
Greater Vancouver Water District	\$ -	\$ (4,795,148)	\$ (4,795,148)
Greater Vancouver Sewerage			
Liquid Waste Services	-	3,586,968	3,586,968
Solid Waste Services	-	(2,866,632)	(2,866,632)
Metro Vancouver Housing Corporation	8,053,663	12,744,950	4,691,287
Metro Vancouver Regional District	-	7,414,782	7,414,782
	<u>\$ 8,053,663</u>	<u>\$ 16,084,920</u>	<u>\$ 8,031,257</u>

Key drivers related to the operating results are highlighted in the following schedules.

Operating Budget Summary

Metro Vancouver Operating Budget Summary Nine Months Ended September 30, 2024							
	Annual Budget	Year-end Forecast	Projected Variance	Year-to-date Budget	Year-to-date Actual	% Actuals to YTD Budget	Year-to-date Variance
REVENUES							
Key Service Revenues							
Water Sales	\$ 367,535,244	\$ 361,866,060	\$ (5,669,184)	\$ 305,369,053	\$ 299,940,414	98%	\$ (5,428,639)
Liquid Waste Services Levy	389,498,103	389,498,103	-	389,498,103	389,498,103	100%	-
Solid Waste Tipping Fees	132,115,288	154,370,573	22,255,285	99,086,436	110,140,328	111%	11,053,892
Metro Vancouver Regional District Requisitions	113,178,691	113,178,691	-	113,178,691	113,178,691	100%	-
Housing Rents	45,207,881	45,880,247	672,366	33,905,988	34,614,636	102%	708,648
	<u>1,047,535,207</u>	<u>1,064,793,674</u>	<u>17,258,467</u>	<u>941,038,271</u>	<u>947,372,172</u>	<u>101%</u>	<u>6,333,901</u>
Other Revenues	49,598,559	50,601,549	1,002,990	34,266,570	33,182,023	97%	(1,084,547)
Reserve Transfers	118,893,843	107,897,887	(10,995,956)	14,829,686	5,559,722	37%	(9,269,964)
TOTAL REVENUES	\$ 1,216,027,609	\$ 1,223,293,110	\$ 7,265,501	\$ 990,134,527	\$ 986,113,917	100%	\$ (4,020,610)
EXPENDITURES							
Greater Vancouver Water District	\$ 378,883,747	\$ 377,505,641	\$ 1,378,106	\$ 312,248,717	\$ 307,807,092	99%	\$ 4,441,625
Greater Vancouver Sewerage and Drainage District							
Liquid Waste Services	487,916,887	480,991,973	6,924,914	378,167,095	369,358,414	98%	8,808,681
Solid Waste Services	142,411,329	167,561,606	(25,150,277)	102,717,585	115,713,586	113%	(12,996,001)
Metro Vancouver Housing Corporation	52,266,690	42,344,951	9,921,739	39,666,384	28,172,252	71%	11,494,132
Metro Vancouver Regional District							
Regional Parks	86,077,581	84,077,581	2,000,000	65,750,952	59,308,518	90%	6,442,434
Air Quality	17,561,130	15,867,385	1,693,745	11,715,889	9,510,215	81%	2,205,674
Other Regional Services	42,856,582	38,859,053	3,997,529	32,484,523	26,332,571	81%	6,151,952
	<u>\$ 1,207,973,946</u>	<u>\$ 1,207,208,190</u>	<u>\$ 765,756</u>	<u>\$ 942,751,145</u>	<u>\$ 916,202,648</u>	<u>97%</u>	<u>\$ 26,548,497</u>
TOTAL EXPENDITURES	\$ 1,207,973,946	\$ 1,207,208,190	\$ 765,756	\$ 942,751,145	\$ 916,202,648	97%	\$ 26,548,497
SURPLUS (DEFICIT)	\$ 8,053,663	\$ 16,084,920	\$ 8,031,257	\$ 47,383,382	\$ 69,911,269		\$ 22,527,887

- Overall revenues at September 30, 2024 are lower than budget by \$4.0M (0.4% of YTD budget) due to lower water sales and energy revenues. The reduction is anticipated to be temporary and is offset by higher than anticipated Solid Waste system waste flows. Reserve transfers for funding Housing and Parks capital replacement and maintenance programs were \$9.3M lower than anticipated largely related to timing of capital replacement work as projects are taking longer than anticipated due to general market conditions. It is anticipated that the trend for lower reserve transfers and higher Solid Waste system waste flows will continue, resulting in overall year-end revenues expected to be \$7.3M higher than budget.
- Overall expenditures at September 30, 2024, are at 97% of the year-to-date expected budget or 76% of the annual budget (\$916.2M out of \$1.2B). Key factors contributing to lower expenditures than budget include staff vacancies, deferred operating projects, and the timing of capital replacement and maintenance expenditures. In the last quarter of the year, it is anticipated the trend for higher landfill costs and operations and maintenance costs in Solid Waste Services will be higher than budget. This variance is mitigated by lower than anticipated debt service costs and timing of capital replacement and maintenance projects in Housing. By year-end, overall expenditures are forecasted to be under budget by \$0.8M or 0.1% of annual budget.
- Based on current forecasts, the net year-end surplus to budget is forecasted to be \$8.0M (0.7% of the \$1.2B budget).

Operating Surplus Analysis by Entity

Nine Months Ended September 30, 2024

Water Services has a YTD surplus of \$0.01M with a forecasted shortfall of (\$4.8M) by year-end.

	Annual Budget	Year-end Forecast	Projected Variance	Year-to-date Budget	Year-to-date Actual	Year-to-date Variance
Greater Vancouver Water District						
Revenues	\$ 378,883,747	\$ 372,710,493	\$ (6,173,254)	\$ 307,634,340	303,278,754	\$ (4,355,586)
Expenditures	378,883,747	377,505,641	1,378,106	312,248,717	307,807,092	4,441,625
Surplus (Deficit)	\$ -	\$ (4,795,148)	\$ (4,795,148)	\$ (4,614,377)	(4,528,338)	\$ 86,039

- Year-to-date water revenues are currently \$4.4M lower than budget, largely due to \$5.4M lower water sales than anticipated from wetter-than-expected spring and summer. By year-end, water sales are projected to be \$5.7M lower than budget, largely contributing to the anticipated year-end revenue shortfall of \$6.2M. In addition, to lower water sales, it is expected by year-end that there will be a less reserve usage (\$500k) than planned due to in the timing of related project expenditures.
- Year-to-date expenditures are \$4.4M less than budget, primarily in policy and planning project work of \$2.3M, watershed projects of \$1.0M and several other year-to-date operating programs underspends of \$1.1M, including dam safety work delays of \$0.6M.
- Expenditure projections indicate close to \$1.4M under budget by year-end, largely driven by lower than expected debt service costs of \$1.2M.

Liquid Waste Services has a YTD surplus of \$10.0M with a forecasted surplus of \$3.6M by year-end.

	Annual Budget	Year-end Forecast	Projected Variance	Year-to-date Budget	Year-to-date Actual	Year-to-date Variance
Greater Vancouver Sewerage and Drainage District						
Liquid Waste Services						
Revenues	\$ 487,916,887	\$ 484,578,941	\$ (3,337,946)	\$ 401,611,762	402,812,894	\$ 1,201,132
Expenditures	487,916,887	480,991,973	6,924,914	378,167,095	369,358,414	8,808,681
Surplus (Deficit)	\$ -	\$ 3,586,968	\$ 3,586,968	\$ 23,444,667	33,454,480	\$ 10,009,813

- Year-to-date revenues are \$1.2M higher than budget primarily due to the advanced receipt of some user and permit fees and miscellaneous revenues. By year end, Revenues are expected to be lower than budget with a shortfall of \$3.3M primarily due to approximately \$1.9M less DCC usage due to the status in multi-year growth capital projects and \$1.4M less in revenue from reserve applications due to projects taking longer than anticipated.
- Year-to-date expenditures are \$8.8M lower than budget primarily related to deferred or delayed operating costs in a number of core operation programs, such as Operations and Maintenance programs of \$1.6M, Policy and Planning programs of \$1.7M, Environmental Management Quality Control of \$1.5M, minor capital work of \$2.2M, and other operating and allocated costs of \$1.8M.
- Overall expenditures by year-end are forecasted to be \$6.9M lower than budget primarily from lower debt service costs related to less borrowing (\$1.9M) and underspends in minor capital (\$1.2M), policy, planning and analysis project underspends (\$1.7M) and underspends for project delivery allocated services and other program areas (\$2.1M).

Solid Waste Services had a YTD net shortfall of \$6.3M, with a forecasted shortfall of (\$2.9M) by year-end.

	Annual Budget	Year-end Forecast	Projected Variance	Year-to-date Budget	Year-to-date Actual	Year-to-date Variance
Greater Vancouver Sewerage and Drainage District						
Solid Waste Services						
Revenues	\$ 142,411,329	\$ 164,694,974	\$ 22,283,645	\$ 106,808,463	113,495,425	\$ 6,686,962
Expenditures	142,411,329	167,561,606	(25,150,277)	102,717,585	115,713,586	(12,996,001)
Surplus (Deficit)	\$ -	\$ (2,866,632)	\$ (2,866,632)	\$ 4,090,878	(2,218,161)	\$ (6,309,039)

- Year-to-date revenues are \$6.7M higher than anticipated driven primarily by higher waste flows, offset by reduced energy sales from equipment failure at the Waste-to-Energy facility. It is anticipated that the claim from business interruption will be resolved by the end of the year. Expenditures were \$13.0M higher as a result of contingency disposal costs associated with higher waste flows.
- Economic recovery and regional growth following the pandemic continues to contribute to an expectation of increases in waste quantities in 2024. As a result, higher waste flows along with additional commercial organics and insurance recoveries are expected to drive tipping fee and energy revenues \$22.3M greater than budget by the end of year.
- Expenditures by year-end are forecasted to be higher by \$25.2M mainly due to increased contingency disposal costs associated with higher waste tonnage.

The **Metro Vancouver Housing Corporation** had a YTD surplus of \$5.6M with a forecasted surplus of \$4.7M by year-end.

	Annual Budget	Year-end Forecast	Projected Variance	Year-to-date Budget	Year-to-date Actual	Year-to-date Variance
Metro Vancouver Housing Corporation						
Revenues	\$ 60,320,353	\$ 55,089,901	\$ (5,230,452)	\$ 44,787,199	38,887,598	\$ (5,899,601)
Expenditures	52,266,690	42,344,951	9,921,739	39,666,384	28,172,252	11,494,132
Surplus (Deficit)	\$ 8,053,663	\$ 12,744,950	\$ 4,691,287	\$ 5,120,815	10,715,346	\$ 5,594,531

- For the first nine months, revenues were \$5.9M lower than anticipated largely related to the timing of capital replacement and maintenance expenditures which results in a lower than budgeted transfer from reserve funds into annual revenues. By year-end, it is anticipated that revenues will be \$5.2M lower than budget.
- Year-to-date expenditures were lower than anticipated by \$11.5M due to the timing of maintenance activities and capital replacement and maintenance projects. This has resulted in some work being postponed to 2025.
- The forecasted year-end net operating surplus to budget of \$4.7M is largely timing of capital replacement and maintenance expenditures budget and asset and maintenance purchases.
- Metro Vancouver Housing is largely funded from tenant rentals with no impact to household tax requisitions.

Metro Vancouver Regional District

	Annual Budget	Year-end Forecast	Projected Variance	Year-to-date Budget	Year-to-date Actual	Year-to-date Variance
Metro Vancouver Regional District						
Regional Parks						
Revenues	\$ 86,077,581	\$ 85,864,514	\$ (213,067)	\$ 80,518,366	78,076,703	\$ (2,441,663)
Expenditures	86,077,581	84,077,581	2,000,000	65,750,952	59,308,518	6,442,434
Surplus (Deficit)	\$ -	\$ 1,786,933	\$ 1,786,933	\$ 14,767,414	18,768,185	\$ 4,000,771

Regional Parks had a YTD surplus of \$4.0M with a forecasted surplus of \$1.8M by year-end.

- Year-to-date revenues were under budget by \$2.4M largely due to less reserve usage from delays in reserve funded projects in the capital maintenance program. These are anticipated to be largely on target by end of the year.
- Year-to-date expenditures for the Parks were \$6.4M lower than budget largely due to the timing of capital maintenance spend, which is expected to occur in the latter part of the year, and an underspend in centralized administration costs.
- By year end, overall expenditures are expected to be under budget by \$2.0M as a result of a deferred budget allotment for ongoing litigation with kwikwəłəm (Kwkwetlem First Nation).

	Annual Budget	Year-end Forecast	Projected Variance	Year-to-date Budget	Year-to-date Actual	Year-to-date Variance
Metro Vancouver Regional District						
Air Quality						
Revenues	\$ 17,561,130	\$ 17,962,705	\$ 401,575	\$ 12,842,905	13,475,361	\$ 632,456
Expenditures	17,561,130	15,867,385	1,693,745	11,715,889	9,510,215	2,205,674
Surplus (Deficit)	\$ -	\$ 2,095,320	\$ 2,095,320	\$ 1,127,016	3,965,146	\$ 2,838,130

Air Quality had a YTD surplus of \$2.8M with a forecasted surplus of \$2.1M by year-end.

- Year-to-date revenues are slightly higher than budget by \$0.4M, largely due to higher than expected permit revenues.
- Year-to-date expenditures were \$2.2M lower than budget primarily due to labour underspends from position vacancies and the timing of project contracted services. By year-end, expenditures are forecasted to be lower than budget by \$1.7M largely from labour underspends due to vacancies and delays in project contracted services and includes \$0.8M in unspent SIF budget, which will be deferred to 2025.

	Annual Budget	Year-end Forecast	Projected Variance	Year-to-date Budget	Year-to-date Actual	Year-to-date Variance
Metro Vancouver Regional District						
Other Regional Services						
Revenues	\$ 42,856,582	\$ 42,391,582	\$ (465,000)	\$ 35,931,492	36,087,182	\$ 155,690
Expenditures	42,856,582	38,859,053	3,997,529	32,484,523	26,332,571	6,151,952
Surplus (Deficit)	\$ -	\$ 3,532,529	\$ 3,532,529	\$ 3,446,969	9,754,611	\$ 6,307,642

Other Regional Services had a YTD surplus of \$6.3M with a forecasted surplus of \$3.5M by year-end.

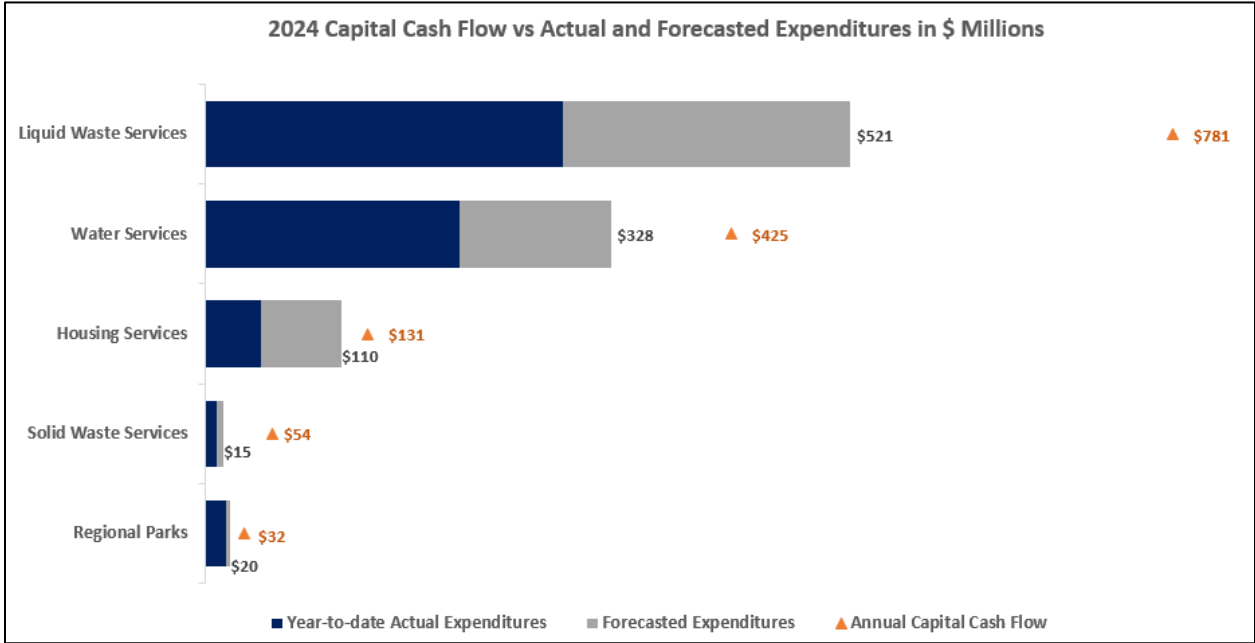
- Overall year-to-date expenditures for Regional Services were \$6.2M lower than budget largely due to lower salary costs from staff vacancies and in the timing of project contracted services.
- Expenditures are forecasted to be under budget by \$4.0M primarily due to position vacancies and lower project contracted services, resulting in a projected year-end surplus of \$3.5M.

CAPITAL PROGRAM

Overall Capital Expenditures

At end of September 2024, capital expenditures are \$566.6M, or 40% of the annual cash flows. Significant spending on multi-year projects is expected in Liquid Waste and Water Services. These areas account for nearly 85% of the total capital cash flows of \$1.4B. Year end, capital expenditures are forecasted at approximately 70% of the annual cash flow target of \$1.4B. This is a higher spend compared to previous years due to the anticipated construction advancement in major projects as they move into the construction phase. The majority of the 30% underspend is related to the status in major multi-year projects such as the Coquitlam Water Main, NSWWTP and IWWTP which have been adjusted for in the 2025 Budget.

Capital Expenditure at a Glance



Capital Expenditure Summary

Metro Vancouver						
2024 Capital Spending Summary						
For the 9 months ending September 30, 2024						
	Annual	Year-to-date	Forecasted	Forecasted	Forecasted	Forecasted
	Capital Cash Flow	Actual Expenditures	Expenditures	Expenditures of Annual Cash Flow (%)	Expenditures Variance from Annual Cash Flow (\$)	Expenditures Variance from Annual Cash Flow (%)
Housing Services						
Development Capital	\$ 108,200,000	\$ 37,705,289	\$ 63,122,933		\$ 45,077,067	42%
Building Rehabilitation	23,134,400	8,039,485	16,940,000		6,194,400	27%
	131,334,400	45,744,774	80,062,933	61%	51,271,467	39%
Liquid Waste Services						
Collections	167,942,000	99,895,032	142,434,733		25,507,267	15%
Treatment Plants	613,292,000	188,868,247	378,547,723		234,744,277	38%
	781,234,000	288,763,280	520,982,456	67%	260,251,544	33%
Regional Parks						
Capital Development	11,970,000	3,633,993	6,175,000		5,795,000	48%
Parkland Acquisition Fund Projects	20,000,000	13,489,876	13,750,000		6,250,000	31%
	31,970,000	17,123,869	19,925,000	62%	12,045,000	38%
Solid Waste Services						
Landfills	3,850,000	221,122	832,355		3,017,645	78%
Recycling and Waste Centres	5,100,000	3,068,751	4,011,247		1,088,753	21%
Waste To Energy Facilities	45,150,000	5,764,507	9,688,288		35,461,712	79%
	54,100,000	9,054,379	14,531,890	27%	39,568,110	73%
Water Services						
Water Mains	312,615,000	159,089,038	260,586,495		52,028,505	17%
Pump Stations	46,500,000	19,498,525	26,740,000		19,760,000	42%
Reservoirs	23,890,000	14,558,172	20,555,000		3,335,000	14%
Treatment Plants	25,150,000	10,509,044	14,533,000		10,617,000	42%
Others	16,700,000	2,298,447	5,253,655		11,446,345	69%
	424,855,000	205,953,227	327,668,150	77%	97,186,850	23%
Total	\$ 1,423,493,400	\$ 566,639,528	\$ 963,170,429	68%	\$ 460,322,971	32%

Metro Vancouver Housing (MVHC)

Year-to-date capital expenditures are \$45.7M (35%) and are forecasted at \$80.1M (61%) by year-end.

- Housing projects are well underway (Heather Place B, Kingston Gardens and Salal Landing), with several projects at the final stage of the permitting process with expenditures to ramp up following approvals (The Connection and The Steller). Through strategic partnerships, funding and financing programs, Metro Vancouver Housing is leveraging its available resources to build and renew homes with no additional impact to household tax requisitions.

Liquid Waste Services

Year-to-date capital expenditures are \$288.8M (37%) with a forecasted spend of \$521.0M (67%) by year-end.

- Many projects are advancing into various stages of the project timelines, like Glenbrook Trunk Kingsway Section, Glenbrook Trunk CSO Gates, North Road Trunk Sewer, Gleneagles Pump Station improvements, AIWWTP Trickling Filter Rehabilitation, AIWWTP Surge Control, Annacis Outfall System, Gilbert Brighthouse Trunk Pressure Sewer Twinning, and Burnaby Lake North Interceptor. Ground improvement works at NLWWTP and IWWTP are moving at a slower rate, however design work is progressing, as it is for Annacis WWTP (Stage 5 Expansion).

Regional Parks

Year-to-date capital expenditures are \$17.1M (54%) and are forecasted at \$19.9M (62%) by year end.

- Progress continues on major projects including Widgeon Marsh Phase 1, Campbell Valley Greenway extension and Grouse Mountain Park Development, however, the projects are taking longer than anticipated largely due to permitting (Boundary Bay Perimeter Trail) and some challenges in procurement due to market conditions (Belcarra South Redevelopment). Timing of expenditures with respect to land acquisition is dependent on availability and market conditions.

Solid Waste Services

Year-to-date capital expenditures are \$9.1M (17%) and are forecasted at \$14.5M (27%) by year-end.

- The forecasted spend is lower than initially projected as a result of longer than expected timelines to initiate construction on various capital projects. Contributing factors include additional engagement steps in the development of project scopes, longer than expected timelines to develop municipal agreements for infrastructure projects, and additional permitting steps not initially anticipated. Despite these complexities, detailed design and procurement are underway for the Waste-to-Energy Facility District Energy system and many other projects are moving to the next phase of the project timelines.

Water Services

Year-to-date capital expenditures \$206.0M (48%) and forecasted at \$327.7M (77%) by year-end.

- The ramp up of expected spending is a result of major projects advancing to the construction stage like Stanley Park Water Supply and Second Narrows Water Supply Tunnel. In addition, construction activities are underway for Central Park Main, Kennedy Newton Main, Douglas Road Main No2, and Fleetwood Reservoir.

The following schedules provide detailed information on the capital expenditures by project against annual capital cash flow *as of September 30, 2024*.

Metro Vancouver

2024 Capital Spending Summary
For the 9 months ending September 30, 2024

Housing Services	Annual Capital Cash Flow	Year-to-date Actual Expenditures
Housing Development - Heather Place - Building B	\$ 19,000,000	\$ 14,301,656
Housing Development - Heather Place - Building C	970,500	13,551
Housing Development - Heron's Nest	25,000,000	468,065
Housing Development - Kingston Gardens - Phase 1	14,000,000	8,292,453
Housing Development - Malaspina	2,000,000	829,788
Housing Development - Projects in Planning	787,010	-
Housing Development - Riverside Drive	742,490	66,177
Housing Development - Salal Landing	15,700,000	8,752,200
Housing Development - The Connection	20,000,000	3,812,484
Housing Development - The Steller	10,000,000	1,168,917
Development Capital	108,200,000	37,705,289
Housing Development - Crown Manor	350,000	36,683
Housing Development - Le Chateau Place	846,400	7,408
Housing Development - Manor House	11,000,000	6,882,200
Housing Development - Minato West	5,888,000	454,061
Housing Development - Somerset Gardens	50,000	-
Housing Development - Strathearn Court	5,000,000	659,132
Building Rehabilitation	23,134,400	8,039,485
	\$ 131,334,400	\$ 45,744,774

Liquid Waste Services	Annual Capital Cash Flow	Year-to-date Actual Expenditures
Albert Street Trunk Sewer	\$ 450,000	\$ 11,557
Burnaby Lake North Interceptor Cariboo Section	50,000	-
Burnaby Lake North Interceptor Winston Section	23,890,000	17,747,088
Burnaby South Slope Interceptor West Branch Extension	200,000	-
Cloverdale Pump Station Capacity Upgrade	370,000	283,608
Cloverdale Trunk Sewer Capacity Upgrade	450,000	125,375
Combined Sewer Overflow Sampling Station Enhancements	400,000	169,937
Drainage - Port Moody Storm Drain Rehabilitation	400,000	66,662
Drainage - Still Creek Culvert Rehabilitation (Gilmore section)	100,000	-
EMQC-Chemistry Laboratory	400,000	47,002
Fraser Sewerage Area Integrated Resource Recovery (IRR) Study	250,000	37,154
Front Street Pressure Sewer Access Hatches Reinforcement	1,700,000	1,300,609
FSA Flow Metering Program	620,000	183,080
FSA River Crossing Scour Protection Program - Phase 1	450,000	18,222
FSA Sewer Relocations and Protections	500,000	-
FSA Statutory Right of Way Acquisitions Phase 1	5,350,000	3,295,951
Gilbert/Brighthouse Trunk Pressure Sewer Twinning Phase 2	1,541,000	6,297,065
Gilbert/Brighthouse Trunk Pressure Sewer Twinning Phase 3	18,000,000	22,775,808
Gilbert/Brighthouse Trunk Pressure Sewer Twinning Phase 4	18,550,000	10,012,238
Glenbrook Combined Trunk Kingsway Sanitary Section	5,200,000	759,500
Glenbrook CSO Gate Replacement	3,780,000	3,683,496
Gleneagles Forcemain Replacement Phase 2	2,130,000	192,185
Gleneagles Pump Stations Improvements	6,400,000	7,484,135
Harbour Pump Station Discharge Header Repair and Valve Replacements	4,273,000	144,714
Harbour Pump Station Power Distribution Equipment Replacement	2,107,000	227,581
Harbour Sewerage Pump Station (HRB) - Suction Piping Replacement	200,000	1,693
Highbury Interceptor Diversion Junction Chamber Wall Rehabilitation	350,000	60,554
Jervis Pump Station 25kV Voltage Conversion	990,000	123,727
Jervis Sewerage Pump Station (JRV) - Suction Piping Replacement and Wet Well Modifications	200,000	-
Kent Pump Station High Voltage Switchgear Replacement	1,030,000	190,892
LSA Flow Metering Program	50,000	(10,831)
Marshend Pump Station Capacity Upgrade	700,000	224,838
New West Interceptor - Annacis Section 2	1,320,000	469,653
New West Interceptor Grit Chamber	400,000	-
New Westminster Interceptor Annacis Channel Crossing Scour Protection	500,000	-
New Westminster Interceptor Repair Columbia St. Section	200,000	146,015
New Westminster Interceptor West Branch and Columbia Extension Rehabilitation	1,135,000	547,559
North Road Trunk Sewer	1,280,000	69,709
North Road Trunk Sewer Phase 2	4,100,000	4,087,908
North Surrey Interceptor - Port Mann Section - Odour Control	750,000	29,098
North Surrey Interceptor Manson, Roebuck Road and Port Mann Sections	500,000	15,296
North Surrey Interceptor River Crossings	1,450,000	33,638
North Surrey Interceptor Roebuck Section Replacement	2,500,000	409,700
NSA Flow Metering Program	55,000	153,891
NSA Scour Protection Upgrades	200,000	163,155
NSI Flow Management	3,250,000	1,444,179
NSI Rehab or Replacement	1,270,000	1,047,501
NWP Dip Replacement	1,000,000	-
Ocean Park Trunk Manholes Lining	50,000	-
Ocean Park Trunk Sewer - Air Management Facility	1,340,000	34,804
Other - Sewer Heat Projects	2,400,000	-
Port Coquitlam Pump Station Refurbishment	500,000	668,514
Port Moody Pump Station Capacity Upgrade	230,000	5,751

Liquid Waste Services	Annual Capital Cash Flow	Year-to-date Actual Expenditures
Port Moody South Interceptor Capacity Upgrade	50,000	-
Production Way Facility Access and Parking Improvements	4,600,000	730
Production Way Operation Centre	2,300,000	277,328
Royal Ave PS Rehabilitation	1,430,000	2,776,969
Sapperton Pump Station	520,000	597,317
Sapperton Pump Station Emergency Backup Power	1,725,000	67,304
Sewer Heat Projects - Surrey	1,400,000	-
South Surrey Interceptor Delta Section (SSD) Rehabilitation	1,400,000	172,957
South Surrey Interceptor Johnston Section	1,180,000	4,667,547
South Surrey Interceptor Rehabilitation-Scott Road Section	500,000	-
SSI Influent Control Chamber Repair and Replace Gates	60,000	12,666
SSI Sulfide Odour and Corrosion Control	5,700,000	731,385
Stoney Creek Sanitary Trunk	682,000	544,145
Surrey Corrosion Control Facility Replacement	125,000	126,713
VSA Emergency Backup Power	3,850,000	1,630,771
VSA Flow Metering Program	530,000	192,954
VSA Grit Chamber Access Improvements Spanish Banks	100,000	-
VSA Sewer Relocations and Protections	200,000	14,259
VSA Statutory Right of Way Acquisitions 2024-2026	8,500,000	-
Westridge FM Replacement	5,099,000	242,184
Westridge Pump Stations 1 & 2 Refurbishment	1,380,000	558,888
White Rock Forcemain Rehabilitation	1,100,000	210,096
Other Projects	-	2,290,608
Collections	167,942,000	99,895,032
AIWWTP Ammonia Removal – Sidestream	200,000	197,829
AIWWTP Centrifuge Schwing HPU replacement	170,000	439,316
AIWWTP Chemical Lab UPS System Replacement	150,000	271,709
AIWWTP Cogeneration Backup Power	400,000	216,897
AIWWTP Cogeneration Backup Power 69 kV Substation Modifications	100,000	33,766
AIWWTP Digester No. 5	500,000	108,570
AIWWTP Electrical Distribution System Protection Control and Monitoring	200,000	304,518
AIWWTP Hydrothermal Processing Pilot	8,550,000	3,032,064
AIWWTP ICS Replacement Program	1,400,000	254,786
AIWWTP Influent System Remediation	250,000	23,034,745
AIWWTP IPS Gates Replacements	75,000	-
AIWWTP IPS Pump Building Roof Replacement Phase 2	100,000	26,392
AIWWTP Lubrication Storage Facility Conversion	500,000	17,740
AIWWTP O&M Building Refurbishment	100,000	-
AIWWTP PWD line refurbishment/replacement	250,000	-
AIWWTP Replacement of Protective Relays	50,000	51,667
AIWWTP Scheduled 64kV Potential & Current Transformer Replacements	50,000	-
AIWWTP SCL Flow Balancing	50,000	6,346
AIWWTP SCL Flow Control	700,000	115,271
AIWWTP SCL Flow Leveling Phase 2	700,000	161,096
AIWWTP Scum Pump Replacement	200,000	-
AIWWTP Sludge Control Building Electrical Room HVAC upgrade	425,000	115,233
AIWWTP Stage 5 Expansion Phase 2	1,000,000	87,714
AIWWTP Stage 5 Expansion Phase 2 - PDE	40,780,000	8,414,335
AIWWTP Stage 5 Expansion Phase 2b	21,000,000	11,238,453
AIWWTP Station Battery Replacement - PHASE 2	50,000	32,172

Liquid Waste Services	Annual Capital Cash Flow	Year-to-date Actual Expenditures
AIWWTP Trickling Filter Media & Distributor Arms & Ducting Replacement	5,485,000	7,361,751
AIWWTP UPS Condition Monitoring System	50,000	-
All WWTPs Power Quality Monitoring & Outage Alarming Network	50,000	2,783
Annacis Influent System Surge Control Refurbishment	2,100,000	1,756,514
Annacis MCC 80 051, 80 070, 80 071 Replacement	50,000	10,683
Annacis Outfall System	11,500,000	9,389,559
Biosolids Dryer	500,000	215,198
Golden Ears Forcemain and River Crossing	160,000	5,783,006
Golden Ears Pump Station	123,000	675,885
IWWTP - Biogas Lines Relocation	50,000	51,343
IWWTP Biosolids Dewatering Facility	1,150,000	320,355
IWWTP CEPT Polymer Line Replacement	1,750,000	1,577,050
IWWTP CEPT Winterization	1,100,000	1,017,345
IWWTP Digester 4 Roof Replacement & Mixing Replacement	50,000	243,994
IWWTP ICS IPS Control Replacement	700,000	113,688
IWWTP ICS Replacement Program	300,000	147,879
IWWTP Influent Gate Refurbishment	100,000	-
IWWTP IPS Drive Remediation	125,000	151,852
IWWTP MCC/Power Distribution Assess/Replace - Phase 2	50,000	1,119
IWWTP Non-Domestic Trucked Liquid Waste Alternative	50,000	-
IWWTP Outfall Refurbishment	2,000,000	1,194,784
IWWTP PA Tanks Improvement	1,500,000	13,335
IWWTP PA-Sed Tank & Gallery Wall Refurbishment	100,000	36,967
IWWTP Replacement of CoGen Control System	100,000	37,840
IWWTP Siphon Chamber Refurbishment	200,000	25,226
IWWTP Solids Handling Refurbishment	50,000	-
IWWTP Standby Diesel Generators	100,000	-
IWWTP Surge Mitigation	25,000	-
Iona Island Control & Instrumentation Replacement 2011	50,000	12,012
Iona Island Wastewater Treatment Plant	109,220,000	27,269,434
LIWWTP Admin Dewatering Building Roof Repair	50,000	42,139
LIWWTP Biogas Clean-up Project	50,000	237,723
LIWWTP Effluent Heat Recovery Project	500,000	607,441
LIWWTP Gravity Thickener Redundancy	475,000	58,524
LIWWTP Ground Fault Detection System Replacement	200,000	58,363
LIWWTP High Efficiency Boiler	400,000	-
LIWWTP ICS Electrical Distribution System Migration Program	500,000	-
LIWWTP ICS Replacement Program	2,250,000	340,824
LIWWTP PA-Sed Tank Refurbishment	300,000	332,628
LIWWTP Pilot Digestion Optimization Facility	500,000	105,644
LIWWTP Power Reliability	2,380,000	416,142
LIWWTP SCL Refurbishment	300,000	77,889
LIWWTP Trickling Filter Refurbishment	400,000	375,275
NLWWTP 25 kV Substation Replacement	50,000	43,335
NLWWTP Ground Improvements	43,311,000	1,937,665
NLWWTP Outfall	2,483,000	417,893
NLWWTP Stage 1	32,693,000	17,459,950
NLWWTP Standby Diesel Generator	700,000	387,689
North Shore WWTP Secondary Upgrade, Conveyance and Decommissioning	308,812,000	59,204,817
WWTPs Electrical System Studies & Upgrades	200,000	26,471
Other Projects	-	1,167,612
Treatment Plants	613,292,000	188,868,247
	\$ 781,234,000	\$ 288,763,280

Regional Parks	Annual Capital Cash Flow	Year-to-date Actual Expenditures
Capital Development - Boundary Bay - Perimeter Trail	\$ 1,500,000	\$ 7,810
Capital Development - Bowen Island - Park Development	400,000	-
Capital Development - Burnaby Lake - Glencarin Greenway Connection	1,500,000	-
Capital Development - Burns Bog Delta Nature Reserve Development	500,000	138,968
Capital Development - Campbell Valley - Perimeter Greenway Trail	500,000	987,236
Capital Development - Campbell Valley - Replacement of Little River Loop Boardwalk	100,000	87,724
Capital Development - Crippen - Davies Orchard Cabins	50,000	110,949
Capital Development - Lynn Headwaters - Park Entry Bridge & Day Use Area	150,000	-
Capital Development - Tynehead - Perimeter Trail Phase 2	975,000	-
Capital Development- Feasibility Studies	500,000	-
Capital Replacement and Development - Belcarra - South Picnic Area and Cabins	750,000	265,185
Capital Replacement and Development - Capilano New Service Yard	500,000	23,962
Capital Replacement and Development - Grouse BCMC Realignment & Improvement	1,275,000	872,040
Capital Replacement and Development - Small Capital Replacement and Development Projects	2,270,000	456,685
Capital Replacement and Development - Widgeon Marsh New Park Development	1,000,000	376,292
Other Projects	-	307,144
Capital Development	11,970,000	3,633,993
Regional Land Acquisition	20,000,000	13,489,876
Parkland Acquisition Fund Projects	20,000,000	13,489,876
	\$ 31,970,000	\$ 17,123,869

Solid Waste Services	Annual Capital Cash Flow	Year-to-date Actual Expenditures
Coquitlam Landfill East Closure	\$ 1,100,000	\$ -
Coquitlam Landfill Gas Collection Upgrades Phase II	1,500,000	37,095
Coquitlam Landfill Maintenance Leachate Collection System Grade Realignment	50,000	-
Coquitlam Landfill Maintenance Lot 3 Development	200,000	86,974
Coquitlam Landfill Maintenance Pump Station Upgrade	1,000,000	97,052
Landfills	3,850,000	221,122
Langley Recycling Depot Development	1,000,000	134,405
Maple Ridge Recycling and Waste Centre Upgrades	500,000	-
North Surrey Recycling and Waste Centre Compactor Replacement	100,000	2,796,365
North Surrey Recycling Depot Development	1,000,000	134,405
Weigh Scale Replacement	2,500,000	-
Other Projects	-	3,577
Recycling and Waste Centres	5,100,000	3,068,751
Acid Gas Reduction	850,000	-
Air System Piping Replacement	150,000	-
Biosolids Processing	8,000,000	695,110
Bottom Ash Processing	50,000	46,737
Generation Bank Replacement	5,900,000	10,265
Primary Economizer Replacement	500,000	252,026
Refuse Crane	5,650,000	108,522
Secondary Economizers Replacement	1,750,000	4,053
WTE Facility Boiler and APC Roof Replacement	100,000	-
WTE Facility Bottom Ash Crane Replacement	500,000	54,855
WTE Facility Compressed Air System Replacement	900,000	71,916
WTE Facility District Heating	12,500,000	1,349,471
WTE Facility District Heating Opportunities	50,000	210,527
WTE Facility Electrical Transformers Replacement	2,500,000	129,997
WTE Facility Fabric Filter Hopper and Pulse Header Refurbishment	1,000,000	773,058
WTE Facility Feed Hopper/Chute	100,000	-
WTE Facility Feedwater Pump Replacement	50,000	17,988
WTE Facility Fire Suppression System	500,000	-
WTE Facility Fly Ash Silo Refurbishment	400,000	2,039,983
WTE Facility Primary Superheaters Replacement	2,000,000	-
WTE Facility Programmable Logic Controllers Replacement	500,000	-
WTE Facility Pug Mill Enclosure Ventilation System Replacement	500,000	-
WTE Facility Refuse Pit Bunker Door Replacement	300,000	-
WTE Facility Soot Blower Piping Replacement	150,000	-
WTE Facility Stack Refurbishment	250,000	-
Waste To Energy Facilities	45,150,000	5,764,507
	\$ 54,100,000	\$ 9,054,379

Water Services	Annual Capital Cash Flow	Year-to-date Actual Expenditures
Angus Drive Main	\$ 50,000	\$ 3,438
Annacis Main No. 2 - Queensborough Crossover Improvement	50,000	-
Annacis Main No. 2 and Barnston Island Main Online Chlorine and pH Analyzers	700,000	54,826
Annacis Main No. 3 BHP Potash Facility Pipe Protection	50,000	-
Annacis Main No. 5 (North)	1,500,000	682,585
Annacis Main No. 5 (South)	5,100,000	226,482
Annacis Water Supply Tunnel	76,000,000	46,329,147
Burnaby Mountain Main No. 2	600,000	-
Cambie-Richmond Water Supply Tunnel	6,100,000	92,520
Central Park Main No. 2 (10th Ave to Westburnco)	1,500,000	3,511,482
Central Park Main No. 2 (Patterson to 10th Ave)	10,350,000	8,470,981
Clayton Langley Main No. 2	500,000	175,563
Coquitlam Main No. 4 (Cape Horn)	2,700,000	1,784,865
Coquitlam Main No. 4 (Central Section)	14,500,000	2,830,852
Coquitlam Main No. 4 (South Section)	78,000,000	43,075,450
Douglas Road Main No. 2 (Flow Meter 169) Replacement	500,000	38,778
Douglas Road Main No. 2 (Vancouver Heights Section)	450,000	12,944
Douglas Road Main No. 2 Still Creek	11,050,000	12,783,115
Douglas Road Main Protection	550,000	-
Haney Main No. 4 (West Section)	750,000	144,249
Haney Water Supply Tunnel	1,750,000	487,078
Improvements to Capilano Mains No. 4 and 5	250,000	-
Kennedy Newton Main	17,100,000	11,336,285
Lulu Island - Delta Main - Scour Protection Phase 2	50,000	-
Lulu-Delta Water Supply Tunnel	1,250,000	1,050
Lynn Valley Road Main, Seymour Main No. 3 & Seymour Main No. 4 Aerial Crossings Rehabilitation	2,270,000	264,375
Maple Ridge Main West Lining Repairs	50,000	76,634
Newton Reservoir Connection	450,000	-
Palisade Outlet Works Rehabilitation	900,000	636,012
Port Mann Main No. 2 (South)	50,000	180,100
Port Mann Main No. 2 (South) Whalley Reservoir Feeder Main	3,000,000	-
Port Mann No. 1 South Section Decommissioning	350,000	2,675
Port Moody Main No. 1 Christmas Way Relocation	100,000	-
Port Moody Main No. 3 Scott Creek Section	2,000,000	573,701
Queensborough Main Royal Avenue Relocation	100,000	-
Rehabilitation of AN2 on Queensborough Bridge	470,000	33,318
Relocation and Protection for MOTI Expansion Project Broadway	100,000	-
Relocation and Protection for MOTI George Massey Crossing Replacement	100,000	-
Relocation and Protection for Translink Expansion Project Surrey Langley SkyTrain	100,000	21,054
Sapperton Main No. 1 New Line Valve and Chamber	50,000	26,163
Sapperton Main No. 2 North Road Relocation and Protection	6,400,000	131,789
Scour Protection Assessments and Construction General	150,000	1,054,439
Second Narrows Water Supply Tunnel	25,000,000	14,065,474
Seymour Main No. 2 Joint Improvements	100,000	26,322
Seymour Main No. 5 III (North)	2,100,000	483,393
South Delta Main No. 1 - Ferry Road Check Valve Replacement	100,000	56,017
South Fraser Storage Yard	250,000	197,455
South Surrey Main No. 1 Nickomekl Dam Relocation	3,600,000	-
South Surrey Main No. 2	800,000	323,371
South Surrey Main No. 2 Nickomekl Dam Prebuild	1,000,000	-
South Surrey Supply Main (Serpentine River) Bridge Support Modification	50,000	1,027,461

Water Services	Annual Capital Cash Flow	Year-to-date Actual Expenditures
Stanley Park Water Supply Tunnel	26,075,000	3,891,833
Tilbury Junction Chamber Valves Replacement with Actuators	200,000	4,622
Tilbury Main North Fraser Way Valve Addition	1,500,000	39,578
Water Chamber Improvements and Repairs	250,000	2,620
Water Meter Upgrades	2,000,000	2,447,361
Water Optimization - Instrumentation	1,150,000	476,032
Water Optimization Automation & Instrumentation Phase 1	50,000	599,031
Whalley Kennedy Main No. 2	300,000	338,255
Whalley Main	50,000	38,622
Other Projects	-	29,642
Water Mains	312,615,000	159,089,038
Barnston/Maple Ridge Pump Station - Back-up Power	2,100,000	-
Burnaby Mountain Pump Station No. 2	400,000	130,379
Cape Horn Pump Station No. 3	2,500,000	2,631,640
Capilano Raw Water Pump Station - Back-up Power	21,000,000	13,598,502
Capilano Raw Water Pump Station Bypass PRV Upgrades	1,950,000	136,924
Central Park WPS Starters Replacement	5,000,000	57,013
Grandview Pump Station Improvements	1,500,000	178,893
Newton Pump Station No. 2	9,450,000	2,625,979
Westburnco Pump Station - Back-up Power	1,500,000	108,749
Westburnco Pump Station No. 2 VFD Replacements	1,100,000	13,483
Other Projects	-	16,964
Pump Stations	46,500,000	19,498,525
Burnaby Mountain Tank No. 2	990,000	113,896
Cape Horn Reservoir Condition Assessment and Structural Repair	250,000	725
Capilano Energy Recovery Facility Operational Upgrades	750,000	84,028
Clayton Reservoir	50,000	251,989
Dechlorination for Reservoir Overflow and Underdrain Discharges	1,000,000	22,399
Fleetwood Reservoir	16,500,000	11,249,213
Hellings Tank No. 2	400,000	81,472
Kersland Reservoir No. 1 Structural Improvements	500,000	4,927
Pebble Hill Reservoir No. 3 Seismic Upgrade	50,000	-
Pebble Hill Reservoir Seismic Upgrade	500,000	1,342,722
Reservoir Isolation Valve Automation	550,000	65,860
Reservoir Preliminary Structural Assessments (Annual Inspection 2023 to 2025)	1,200,000	779,159
Reservoir Sampling Kiosks - Multi Location	350,000	39,178
Sasamat Reservoir Refurbishment	250,000	39,433
Sunnyside Reservoir Units 1 and 2 Seismic Upgrade	100,000	228,991
Vancouver Heights System Resiliency Improvements	450,000	218,073
Other Projects	-	36,107
Reservoirs	23,890,000	14,558,172
CLD and SFD Lead Paint Removal, Surface Crack Injection and General Corrosion Mitigation	500,000	459,855
Coquitlam Intake Tower Seismic Upgrade	100,000	8,236
Coquitlam Lake Water Supply - Intake No. 2 & Tunnel	9,000,000	3,223,326
Coquitlam Lake Water Supply - Water Treatment	5,000,000	2,245,419
CWTP CO2 System Improvements	500,000	42
CWTP Mobile Disinfection System	500,000	88,637
CWTP Ozone Generation Upgrades for Units 2 & 3	1,000,000	792,030
CWTP Ozone Sidestream Pipe Heat Trace and Insulation	150,000	119,095
CWTP Ozone Sidestream Pump VFD Replacement	500,000	83,674
Loch Lomond Outlet Works Rehabilitation	250,000	67,252

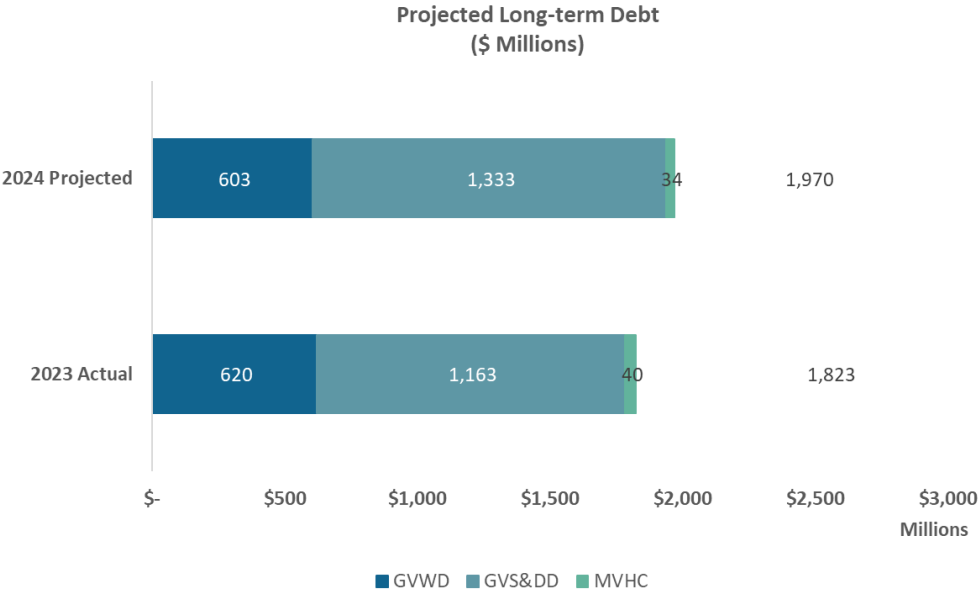
Water Services	Annual Capital Cash Flow	Year-to-date Actual Expenditures
Microbiology Laboratory Expansion	250,000	-
Online Chlorine and pH Analyzers Phase 1	1,400,000	45,977
SCFP Centralized Compressed Air System	1,350,000	11,607
SCFP Clearwell Baffle Replacement Pilot	250,000	80,276
SCFP Clearwell Membrane Replacement	600,000	140,264
SCFP Floc Tank Baffle Replacement and Ladder Installation to Improve Accessibility	500,000	28,813
SCFP OMC Building Expansion	500,000	100,041
SCFP Polymer System Upgrade	1,000,000	607,947
SCFP SCADA/ICS Controller Replacement	1,200,000	2,381,824
Water Utilities SLC Control System Upgrades	600,000	22,779
Other Projects	-	1,950
Treatment Plants	25,150,000	10,509,044
Capilano Raw Water Pump Station VFD Upgrades	300,000	-
Capilano Reservoir and Seymour Reservoir Dam Safety Boom Replacement	500,000	66,530
Capilano Watershed Security Gatehouse	1,800,000	253,075
CLD & SFD Fasteners Replacement & Coating Repairs	50,000	-
Cleveland Dam - Lower Outlet HBV Rehabilitation	250,000	58,362
Cleveland Dam Drumgate Seal Replacement	500,000	8,403
Cleveland Dam Power Resiliency Improvements	700,000	4,243
Cleveland Dam Public Warning System and Enhancements	1,750,000	624,908
Cleveland Dam Seismic Stability Evaluation	400,000	70,391
Facilities O&M Documentation Development - Phase 1	1,000,000	17,271
Lake City HVAC Upgrade	400,000	-
Lower Seymour Conservation Reserve Learning Lodge Replacement	50,000	457,547
Rechlorination Station SHS Storage Tank Replacement	100,000	106,138
Rechlorination Station Upgrades	2,000,000	133,953
Rice Lake Dams Rehabilitation	900,000	130,416
SCADA Moscad Server & ICS Historian Expansion & Partitioning	1,500,000	-
Seymour Falls Dam Public Warning System	1,250,000	9,570
Seymour Falls Dam Seismic Stability Assessment	750,000	-
South Fraser Works Yard	2,500,000	(16,638)
Other Projects	-	374,277
Others	16,700,000	2,298,447
	\$ 424,855,000	\$ 205,953,227

TREASURY RESULTS

Long-term debt

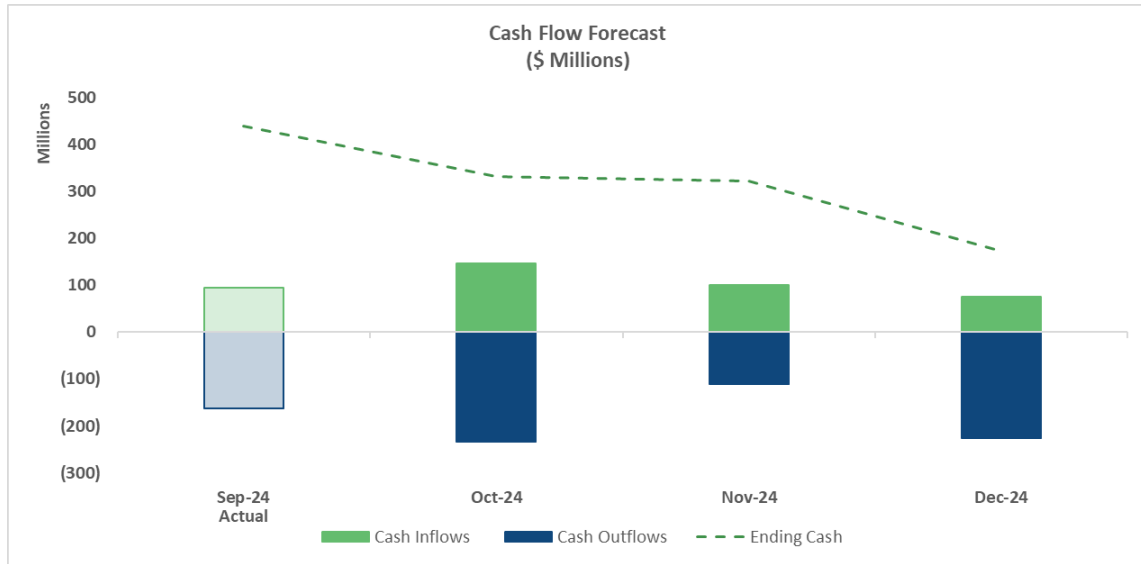
As a result of capital projects progressing to completion and or ramping up in 2024, the total borrowing for 2024 is \$350M, below the budget at \$482M. Furthermore, the MFA long-term borrowing rate for the 2024 Spring borrowing of \$350M was 4.40%, which is lower than the Fall 2023 rate of 4.97% indicating a softening in long-term interest rates. The impact of the lower amount of borrowing and lower interest rates results in a lower than expected debt service ratio (interest and principal payments to revenue) from 19.9% to 18.7%.

By the end of 2024, long-term debt is expected to increase by \$200M to \$1,970B compared to \$1,823B at the end of 2023. The increase is largely from the \$350M new debenture debt issued in the spring (\$274M GVSⅅ \$76M GVWD), offset by \$143M in annual debenture payments.

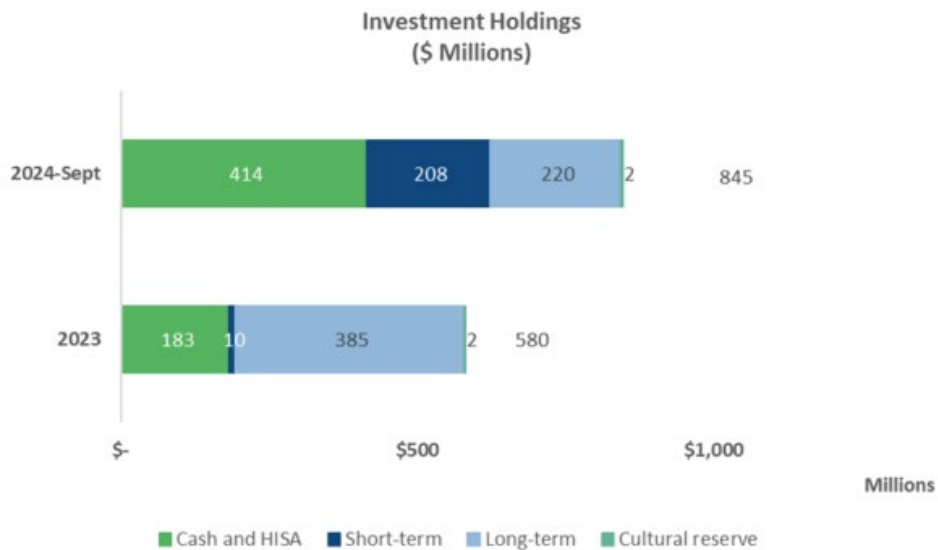


Cash and Investments

The chart below provides the September 2024 actual cash position and the cash flow forecast for Metro Vancouver from October 2024 to December 2024. Treasury is continuously reviewing cash and reserve balances to ensure adequate liquidity to sustain operations and managing risk while also making efficient use of its cash.



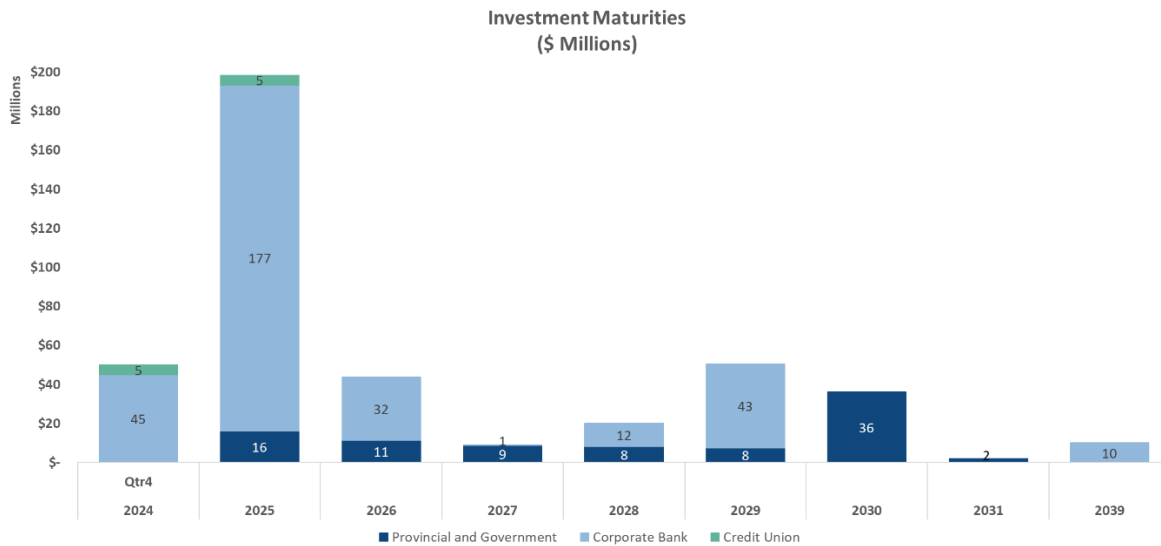
The charts below provide summaries of the cash and investment holdings as of September 30, 2024 compared to December 31, 2023, as well as the investment maturities for the portfolio. Cash and investments has increased as of September 30, 2024 from \$580.2M at December 31, 2023 to \$845.4M. This is largely due to seasonality in cash flows, where cash was received from tax levy revenue in the third quarter. The cash balance will decrease by the end of 2024 as the tax levy received in the third quarter is utilized to fund 2024 budgeted expenses. Finance is continuously monitoring the cash and reserve balances with a strategy to utilize cash instead of locking in borrowing at high market rates as it is anticipated that interest rates will continue to decrease in 2024.



<i>(in thousands of dollars)</i>	2024-September	2023
High-interest saving accounts	\$ 414,174	\$ 182,895
Short-term investments *	208,350	10,000
Long-term investments **	220,481	385,101
Cultural reserve investments ***	2,365	2,231
Total Cash & Investment Holdings	\$ 845,370	\$ 580,227

- * Short-term investments have terms of less than one year and include bankers' acceptances, Canadian bank bonds and credit union term deposits.
- ** Long-term investments have terms of greater than one year and include Canadian bank bonds, guaranteed investment certificates, credit union term deposits and MFA pooled funds.
- *** Cultural reserve investments are reserve for contribution to cultural activities.

Investments are held to 2039, however the majority of the portfolio will mature within two years. Remaining investment maturities in 2024 are expected to be \$50.0M. Treasury will strategically reinvest funds or convert to cash if cash resources are required.



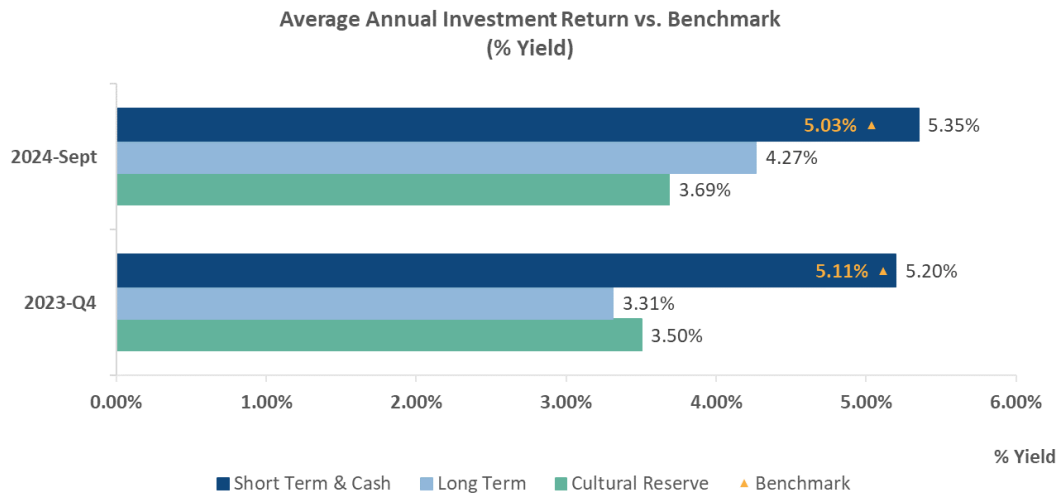
Investment Returns

The average investment returns as of September 2024 have increased since December 2023, to 5.35% for short-term and 4.27% for long-term. In comparison to April 2024, short-term returns declined from 5.53% due to the decrease in banking prime rate, driven by the Bank of Canada policy decisions. Long-term returns increased from 4.17% due to locked in investment rates. As interest rates are expected to decline, Metro Vancouver's rate of return is expected to remain favourable as maturing investments are reinvested with higher yielding longer term products or held in cash to take advantage of high-interest savings account rates.

Currently, the total estimated weighted average annualized return is 4.59%, slightly higher than 4.51% reported in April 2024.

The chart below summarizes the investment returns by investment category against benchmark rates.

The chart indicates the return on short-term investments of 5.35% has surpassed the MFA benchmark of 5.03%:



Financial Position Indicators

Illustrated below is additional insight into Metro Vancouver’s financial position. These ratios measure Metro Vancouver’s current performance compared to budget and prior year.

	2024-Sept	2024-Budget	2024-Forecast	2023-Dec
Current Ratio	4.4	-	-	2.5
Debt Servicing	-	19.9%	18.7%	18.8%
Interest Burden	-	7.6%	6.5%	6.7%
Interest Revenue	\$ 21.1M	\$ 17.7M	\$ 24.8M	\$ 29.3M

Current ratio is calculated as current assets divided by current liabilities. The current ratio indicates cash exceeds our current obligations by 4.4 times. The organizations’ financial assets are more than sufficient at the end of September to offset the amount of short-term obligations.

Debt servicing costs is a calculation of long-term debt principal and interest payments divided by revenue. Interest burden is a component of the debt servicing costs, interest payments divided by revenue. The forecasted (18.7%) ratio is less than budgeted due to the Spring 2024 borrowing being less than anticipated (\$350M borrowed vs \$482M budgeted) from lower than anticipated capital spending and interest rates

Investment interest revenue as of September 30, 2024 indicates a positive trend, as revenue has met and exceeded the annual budgeted goal of \$17.7M.



PROCUREMENT

Awarded Procurement

- The tables below provide:
 - The number and value of awards approved by the Metro Vancouver Board, as well as those approved by the Corporation in excess of \$500,000 that are not awarded by the Board in accordance with the existing Board-approved Procurement Policy. The figures only include awards with contracts that have been fully executed as of September 30, 2024.
 - Twelve awards were approved by the Board in the first three quarters of 2024, accounting for 15% of the total number of awards and approximately 84% of the total dollar value awarded.

Award Type	Year-to-date Sept 2024	2023	2022	2021
Board Awarded	12	16	20	25
Corporate Awarded	64	51	53	51
Total	76	67	73	76

Award Type	Year-to-date Sept 2024	2023	2022	2021
Board Awarded	\$ 531,220,955	\$465,895,019	\$434,664,449	\$798,139,628
Corporate Awarded	\$ 100,023,832	\$71,980,936	\$ 89,019,028	\$ 92,545,559
Total	\$ 631,244,787	\$537,875,955	\$523,683,477	\$890,685,187

Awarded Bids – January to September 2024

The following contracts over \$500,000 have been awarded by Metro Vancouver. Contracts have been entered into with the vendors offering the best value to the Corporation determined in accordance with the evaluation criteria, factors or methods previously disclosed in the public solicitation documents.

RESULTS OF OPEN PUBLIC COMPETITIVE PROCUREMENTS - AWARDS IN 2024 JANUARY – SEPTEMBER

Competition #	Competition Type	Competition Description	Awarded Date	Vendor Name	Awarded Amount	Awarded	
23-085	RFP	South Surrey Supply Main Bridge Support Modifications	3-Jan-24	Acuren Group Inc.	\$ 979,231	Yes	
23-369	SS/NOIC	Enhanced Hydrodynamic Modelling, Scenario Analysis and Screening Level Risk Assessment Consulting	4-Jan-24	Tetra Tech Canada Inc.	\$ 510,979	Yes	
23-260	ITT	Lulu Island WWTP C1 and C2 Piping Replacement Project	9-Jan-24	Tritech Group Ltd.	\$ 766,834	Yes	
23-004	ITT	Supply and Installation of Glenbrook Combined Trunk Sewer Replacement – Kingsway Section	10-Jan-24	NorLand Ltd.	\$ 4,021,642	Yes	
24-034	ITT	Manor House - Deep Energy Retrofit Exterior Walls	26-Jan-24	Master Stucco Ltd.	\$ 769,980	Yes	
24-037	ITT	Manor House - Deep Energy Retrofit Roofing & PMMA	26-Jan-24	Renewal Constructions Inc.	\$ 977,100	Yes	
24-039	ITT	Manor House - Deep Energy Mechanical & Electrical	26-Jan-24	Slopeside Mechanical Systems Ltd.	\$ 3,517,569	Yes	
23-229	SS/NOIC	Small Load Waste Alternative Fuel Processing Trial	7-Feb-24	Geocycle Canada Inc.	\$ 1,290,000	Yes	
23-355	RFP	Supply & Installation of Scour Protection for Annacis Main No. 2	8-Feb-24	Fraser River Pile & Dredge (GP) Inc.	\$ 992,910	Yes	
23-375	SS/NOIC	Disposal Services for Iona WWTP Legacy Grit	9-Feb-24	Wastech Services Inc.	\$ 1,005,000	Yes	
23-072	RFP	Cathodic Protection Maintenance Services	20-Feb-24	Corrosion Service Company Ltd.	\$ 903,000	Yes	
22-505	RFP	Construction - IJWWTP CEPT Winterization	21-Feb-24	Bennett Mechanical Installations (2001) Ltd.	\$ 3,449,700	Yes	
23-134	RFP	Solid Waste Compaction System at North Surrey Recycling and Waste Centre	21-Feb-24	SSI Shredding Systems, Inc.	\$ 3,315,123	Yes	
23-184	RFP	Iona WWTP Long-Term Lagoon Cleaning	11-Mar-24	American Process Group Ltd.	\$ 29,913,644	Yes	
23-378	ITT	Royal Avenue Pump Station Rehabilitation	21-Mar-24	Kenaidan Contracting Ltd.	\$ 6,845,655	Yes	
23-314	SS/NOIC	NS4 - Surrey 168 St Connection Leak Repair	3-Apr-24	West Shore Constructors Ltd.	\$ 1,347,462	Yes	
23-011	SRFEOI	Biosolids Management at Multiple Forage Crop Site	5-Apr-24	SYLVIS Environmental Services Inc.	\$ 5,607,000	Yes	
23-011	SRFEOI	Biosolids Management at Ingerbelle Composting Facility	5-Apr-24	Arrow Transportation Systems Inc.	\$ 29,768,000	Yes	
23-156	RFP	Construction Management Services for the Installation of Central Park Main No.2 - Phase 2A – Macpherson Avenue to Griffiths Avenue	5-Apr-24	RAM Engineering Ltd.	\$ 1,058,925	Yes	
23-319	RFP	Supply and Delivery of Large Wheel Loader	11-Apr-24	SMS Equipment Inc.	\$ 782,643	Yes	
23-088	RFP	Supply and Delivery of Utility Tractors and Attachments	15-Apr-24	Avenue Machinery Corporation	\$ 2,540,000	Yes	
23-402	SS/NOIC	Supply and Delivery of Material for the North Shore Wastewater Treatment Plant	24-Apr-24	Araner Global DMCC	\$ 6,416,839	Yes	
23-411	ITT	Strathearn Court – Building Envelope Rehabilitation	9-May-24	Signia Construction Ltd.	\$ 8,160,895	Yes	
24-007	RFP	Nuisance Mosquito Control Program for Metro Vancouver and Participating Municipalities	15-May-24	Morrow BioScience Ltd.	\$ 685,864	Yes	
23-291	RFP	Electrical and Mechanical Services For C3 To Grit Separators	16-May-24	enCompass Solutions Group	\$ 1,672,253	Yes	
24-130	SS/NOIC	Supply and Delivery of Dewatering Polymer to Iona WWTP	23-May-24	SNF Canada Ltd.	\$ 1,230,000	Yes	
22-426	RFP	Construction of the Grandview Pump Station Improvements Project	29-May-24	Industra Construction Corp.	\$ 1,576,525	Yes	
23-128	ITT	Construction Services for Concrete Manhole Lids on Front Street	29-May-24	Oscar Renda Contracting of Canada	\$ 1,667,143	Yes	
24-017	ITT	Construction of South Uplands Entrance Area	29-May-24	Capital Green Landscapes Ltd.	\$ 777,110	Yes	
22-508	RFP	Project Controls Support Services	3-Jun-24	Turner and Townsend Canada Inc.	\$ 1,239,957	Yes	
22-508	RFP	Project Controls Support Services	5-Jun-24	Rider Hunt International (Alberta) Inc.	\$ 2,346,745	Yes	
22-508	RFP	Project Controls Support Services	3-Jul-24	PTAG Inc.	\$ 1,013,298	Yes	
23-407	ITT	Annacis Island Wastewater Treatment Plant (AIWWTP) Emergency Sanitary Sewer and Maintenance Holes Rehabilitation	3-Jun-24	Michels Canada Co.	\$ 884,431	Yes	
23-415	RFP	Kennedy Newton Main - Contract 3A - Kennedy Newton Reservoir to 88th Avenue and 120th Street	3-Jun-24	Matcon Civil Constructors Inc.	\$ 26,140,200	Yes	
24-146	SS/NOIC	Project Support Financial Services for the North Shore Wastewater Treatment Plant	7-Jun-24	Deloitte LLP	\$ 2,281,268	Yes	
23-067	RFP-MA	Electrical, Instrumentation and Control (EIC) Consulting Engineering Services for Liquid Waste Services Collection Systems	12-Jun-24	Ausenco Engineering Canada Inc.	\$ 4,750,000	Yes	
23-067	RFP-MA	Electrical, Instrumentation and Control (EIC) Consulting Engineering Services for Liquid Waste Services Collection Systems	12-Jun-24	MTS Engineering Inc.		Yes	
23-067	RFP-MA	Electrical, Instrumentation and Control (EIC) Consulting Engineering Services for Liquid Waste Services Collection Systems	12-Jun-24	Tetra Tech Canada Inc.		Yes	
23-067	RFP-MA	Electrical, Instrumentation and Control (EIC) Consulting Engineering Services for Liquid Waste Services Collection Systems	12-Jun-24	WSP Canada Inc.		Yes	
23-435	ITT	Construction Services for Minato West Building Envelope Rehabilitation	21-Jun-24	Signia Construction Ltd.	\$ 6,762,920	Yes	
24-046	Co-Operative Procurement	Supply and Delivery of Motor Grader for the Watershed and Environmental Management Division	24-Jun-24	Finning International Inc.	\$ 587,200	Yes	
24-046	Co-Operative Procurement	Supply and Delivery of Canoe Services - Adobe Acrobat Subscription	18-Sep-24	CDW Canada Corporation	\$ 577,346	Yes	
22-452	RFP	Construction of Header Replacement for Harbour Pump Station	24-Jun-24	Mitchell Installations Ltd.	\$ 2,458,739	Yes	
23-061	RFP	Supply and Delivery of Cellular Devices	24-Jun-24	Rogers Communications Canada Inc.	\$ 2,217,497	Yes	
24-162	RFP	Construction of the Phase 2 Perimeter Trail Expansion in Campbell Valley Regional Park	3-Jul-24	Skylark Management Corp.	\$ 848,131	Yes	
23-354	RFP	Annacis Main No. 2 Pipe Joints Inspection and Repairs Under Queensborough Bridge	8-Jul-24	Acuren Group Inc.	\$ 1,356,613	Yes	
23-076	SS/NOIC	Consulting Engineering Services Support for Additional Enhanced Tests in the Pilot Testing Program at the Lulu Island Pilot Digestion Optimization Facility	17-Jul-24	Brown & Caldwell	\$ 513,698	Yes	
24-296	SS/NOIC	Detailed Design Deposit for Construction Power	22-Jul-24	BC Hydro	\$ 821,000	Yes	
24-416	SS/NOIC	Genset Rental at Sapperton Pump Station	24-Jul-24	United Rental of Canada, Inc.	\$ 1,869,005	Yes	
23-258	RFP-MA	Traffic Engineering Consulting Services	26-Jul-24	AECOM Canada Ltd.	\$ 750,000	Yes	
23-258	RFP-MA	Traffic Engineering Consulting Services	26-Jul-24	AtkinsRéalis Canada Inc.		Yes	
23-258	RFP-MA	Traffic Engineering Consulting Services	26-Jul-24	Parsons Inc.		Yes	
23-258	RFP-MA	Traffic Engineering Consulting Services	26-Jul-24	R.F. Binnie & Associates Ltd.		Yes	
23-258	RFP-MA	Traffic Engineering Consulting Services	26-Jul-24	Stantec Consulting Ltd.		Yes	
23-258	RFP-MA	Traffic Engineering Consulting Services	26-Jul-24	McElhanney Ltd.		Yes	
23-432	RFP-MA	Civil Construction Inspection Services	2-Aug-24	Maven Consulting Ltd.		Yes	
23-432	RFP-MA	Civil Construction Inspection Services	2-Aug-24	RAM Engineering Ltd.		Yes	
23-432	RFP-MA	Civil Construction Inspection Services	2-Aug-24	WSP Canada Inc.		\$ 4,500,000.00	Yes
23-432	RFP-MA	Civil Construction Inspection Services	2-Aug-24	Stantec Consulting Ltd.		Yes	
23-432	RFP-MA	Civil Construction Inspection Services	2-Aug-24	R.F. Binnie & Associates Ltd.	Yes		
23-268	ITT	Site Preparation, Installation, Tie-in Connections and Commissioning for the IJWWTP Pilot Plant Contract	12-Aug-24	Graham Infrastructure LP	\$ 4,962,200	Yes	
24-204	ITT	Culvert and Headwall Improvements at Widgeon Marsh Regional Park	15-Aug-24	Skylark Management Corp.	\$ 528,223	Yes	
18-023	RFP	Consulting Engineering Services for Capilano Main No. 5 Stanley Park Water Supply Tunnel	16-Aug-24	Mott MacDonald Canada Ltd.	\$ 24,129,946	Yes	
20-097	RFP	Construction Management Services for Capilano Main No. 5 (South Shaft to Chilco) – Stanley Park Water Supply Tunnel	16-Aug-24	Delve Underground Canada Corp. ULC	\$ 13,942,932	Yes	
24-124	RFP	Water Supply Plan Using Adaptive Pathways	16-Aug-24	GHD Ltd.	\$ 594,012	Yes	
24-161	SS/NOIC	Supply and delivery of Materials for The North Shore WWTP	16-Aug-24	MLM Conveying Systems Inc.	\$ 2,456,604	Yes	
24-079	RFP	Consulting Engineering Services for Lulu Island Wastewater Treatment Plant (LIWWTP) Gravity Thickener Redundancy	26-Aug-24	AECOM Canada Ltd.	\$ 863,409	Yes	
23-116	RFP	Consulting Engineering Services for the Cambie-Richmond Water Supply Tunnel - Fraser River Crossing	28-Aug-24	Mott MacDonald Canada Ltd.	\$ 5,958,075	Yes	
24-020	RFP	Supply and Delivery Valves - Stanley Park Water Supply Tunnel Bypass Piping	4-Sep-24	CB Process Instrumentation & Controls	\$ 706,400	Yes	
23-308	ITT	Supply and Installation for Auto-sampler Kiosks at Clark Drive & Heather Combined Sewer Overflow (CS) Monitoring Site	4-Sep-24	J A Electric Inc.	\$ 629,500	Yes	
23-041	RFP	Consulting Engineering Services for the Iona Island Wastewater Treatment Plant	5-Sep-24	Fraser Delta Group	\$ 60,574,702.00	Yes	
24-395	SS/NOIC	Supply and Delivery of Repair Materials to Coquitlam Main No. 4 Central Section	9-Sep-24	Thompson Pipe Group Pressure	\$ 727,900	Yes	
23-341	RFP	Stanley Park Water Supply Tunnel Project – South Shaft and Bypass Piping Fabrication and Supply	16-Sep-24	Northwest Pipe Company	\$ 5,765,599	Yes	
23-439	SS/NOIC	Supply and Delivery of Material for The North Shore Wastewater Treatment Plant	18-Sep-24	Hoisting Ltd.	\$ 5,563,150	Yes	
24-188	RFP	External Audit Services	19-Sep-24	KPMG LLP	\$ 1,188,800	Yes	
23-346	RFP	Stanley Park Water Supply Tunnel	26-Sep-24	Burrard-Chilco Partnership	\$ 318,186,261	Yes	
Total					\$ 631,244,787		

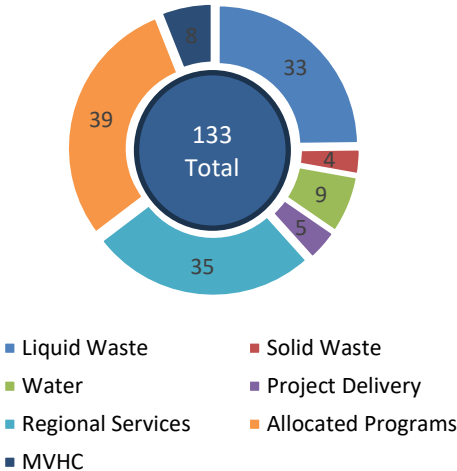
CONTINUOUS IMPROVEMENT PROJECTS

In October 2023, the Metro Vancouver Boards approved the 2024-2028 Financial Plan which included departmental planned continuous improvement projects. There is a foundational target outcome of fostering a commitment to continuous improvement in Metro Vancouver’s core culture. The role of continuous improvement is to further the Board priorities, including:

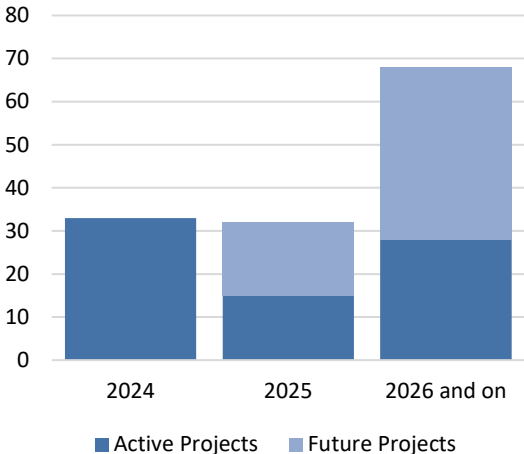
- Financial Sustainability and Regional Affordability
- Climate Action
- Resilient Services and Infrastructure
- Reconciliation
- Housing

This report is part of Financial Services’ work plan to provide regular reporting on Metro Vancouver Continuous Improvement (CI) projects and highlight select completed project’s contributions to service levels and affordability for regional rate payers.

Total Active CI Projects by Service Area¹



CI Projects by Completion Date²



¹Total CI Projects by Service Area illustrates the total number of projects identified and by service area. The number of CI projects within an area may not reflect the significance or potential cost savings of the initiatives.
²CI Projects by Completion Date displays the number of active and future projects by expected year of completion.

Below is a summary of key completed Continuous Improvement Projects so far. Continuous Improvement reporting will continue to highlight completed projects. These projects vary from one-year to multi-year timelines depending on complexity and stakeholders.

Highlighted Select Completed Continuous Improvement Projects			
Department/ Project Title	Board Priority	Description	Outcomes
Liquid Waste: LIWWTP Renewable Natural Gas	<ul style="list-style-type: none"> Financial Sustainability & Affordability Climate Action 	Process to upgrade digester gas to renewable natural gas for sale to Fortis BC	<ul style="list-style-type: none"> New GVS&DD revenue stream Renewable natural gas available for decarbonization for Fortis customers Estimated \$0.9M annual income; 2,200 tonnes of GHG reduction
Liquid Waste: LIWWTP Digestion Optimization- Phase 1 Testing	<ul style="list-style-type: none"> Financial Sustainability & Affordability Climate Action 	Platform for testing alternative sludge treatment approaches	<ul style="list-style-type: none"> Intensification tests indicate existing digesters can serve larger populations to defer costly capacity expansions. Future tests will evaluate ways to increase production of low-carbon biofuels.
Indigenous Relations: KPIs for training sessions	<ul style="list-style-type: none"> Reconciliation 	Compilation of all post-training survey data for Indigenous Relations training sessions	<ul style="list-style-type: none"> Truth and Reconciliation Commission Call to Action #57 on training for civil servants Will allow for improvements to be made to the delivery of courses related to First Nations and Indigenous Peoples
Invest Vancouver: Collaboration	<ul style="list-style-type: none"> Resilient Services & Infrastructure 	Partner collaboration	<ul style="list-style-type: none"> Identified synergies with partners to help promote the region and attract foreign direct investment
Liquid Waste: Flush Truck	<ul style="list-style-type: none"> Financial Sustainability & Affordability 	New recycling technology	<ul style="list-style-type: none"> Reduce water consumption, labour, fuel, and disposal costs resulting in estimated \$0.3M annual savings
IT/Solid Waste Services: Weigh Scale Software Implementation	<ul style="list-style-type: none"> Resilient Services and Infrastructure 	Replace existing software system	<ul style="list-style-type: none"> New software system modernizes weigh scale transactions for solid waste facilities' more than 1,000,000 customers per year. Improvements include automated license plate number reading, emailed transaction tickets and invoices, and detailed data transfers to customers

On February 15, 2024, Continuous Improvement Project Highlights and Updates were addressed at the Finance Committee. The below table outlines key updates to highlighted continuous improvement projects.

Board Strategic Priority	Primary CI Projects	Progress
Financial Sustainability	LIW/WTP create Effluent Heat Recovery System	5%
	Contingency Disposal Requirements	100%
	Proactive formal valve exercising program	5%
	Installation and operation of equipment to upgrade digester gas to Renewable natural gas quality and sell this to FortisBC.	10%
Climate Action	Biorock: Innovative Building Material for Shoreline Protection, Carbon Sequestration, and Habitat Creation	15%
	GHG emission reduction initiatives in the building and transportation sectors	30%
	Reduction of gas powered vehicles and equipment and convert to battery powered	25%
	Waste-to-Energy carbon capture study and analysis	30%
Resilient Services and Infrastructure	EAM system reconfiguration to improve Corporate Asset Management	5%
	Lean Six Sigma process improvement for safety incidents in Water Services	10%
	Improve lifecycle process for Digital Workflows for Engineering Drawing	100%
Reconciliation	Improved Indigenous Relations' team capacity	80%
	Diversity Equity Inclusion strategy with emphasis on Reconciliation	50%
	Develop KPIs for Indigenous Relations training sessions	100%
Housing	Innovate and expand partnerships to develop more affordable units	20%
	Alternative rental housing approaches	30%
	Transfer of GVS&DD excess property acquired for construction of Poplar Landing CSO Storage Tank to Metro Vancouver Housing for affordable housing	2%

To: MVRD Board of Directors

From: Flood Resiliency Committee

Date: November 20, 2024

Meeting Date: November 29, 2024

Subject: **Atmospheric River Event – Flooding & Operational Impacts**

FLOOD RESILIENCY COMMITTEE RECOMMENDATION

That the MVRD Board receive for information the presentation dated November 20, 2024, titled “Atmospheric River Event: Flooding & Operational Impacts”.

At its November 20, 2024 meeting, the Flood Resiliency Committee considered the attached presentation titled “Atmospheric River Event: Flooding & Operational Impacts”, dated November 20, 2024. The Committee subsequently passed the recommendation as presented above in underline style.

This matter is now before the Board for its consideration.

ATTACHMENTS

1. Presentation “Atmospheric River Event: Flooding & Operational Impacts”, dated November 20, 2024

72264073



Atmospheric River Event

FLOODING & OPERATIONAL IMPACTS

Brant Arnold-Smith

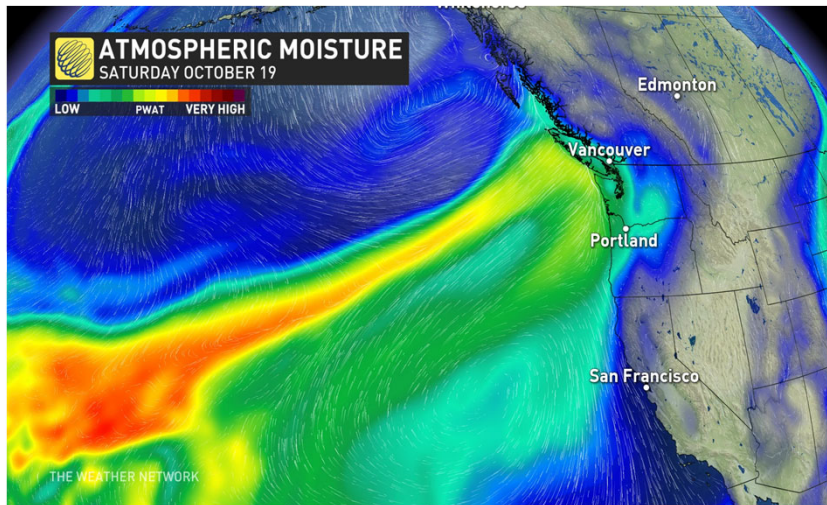
Division Manager-Protective Services & Emergency Management

Metro Vancouver Flood Resiliency Committee November 20, 2024
Orbit 71955885

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AGENDA

1. What is an Atmospheric River
2. Atmospheric River Forecasting
3. Atmospheric River Actual Rainfall Amounts
4. Organizational Response

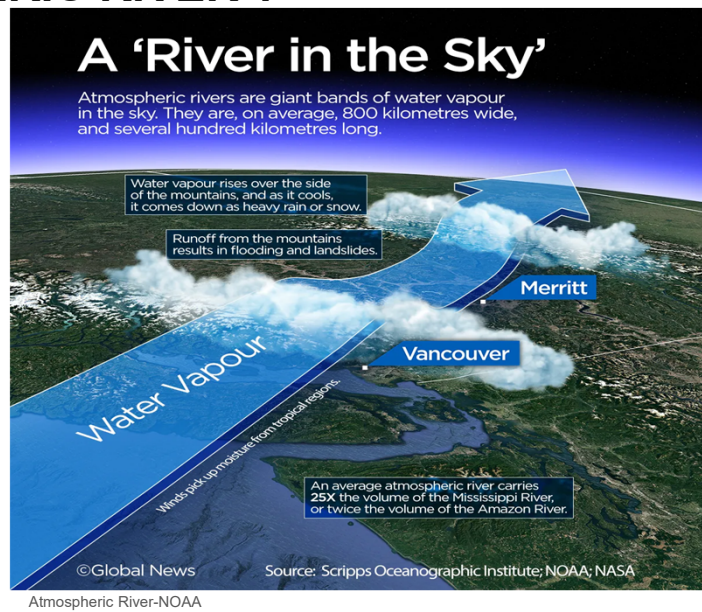


Weather Network Radar Image

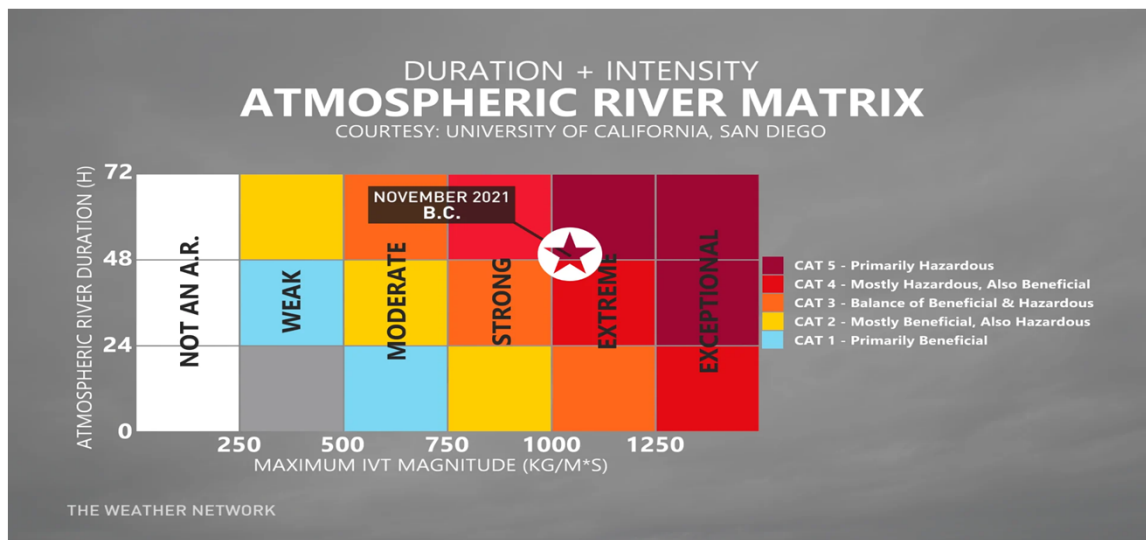
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WHAT IS AN ATMOSPHERIC RIVER ?

- Atmospheric rivers are, for the most part, what you might imagine from the name — rivers in the sky.
- They're long, narrow bands in the atmosphere that carry large amounts of water vapour, usually from the tropics where water and atmospheric moisture are abundant.
- These rivers in the sky can occur anywhere in the world, but they often impact the West Coast of North America, such as British Columbia.

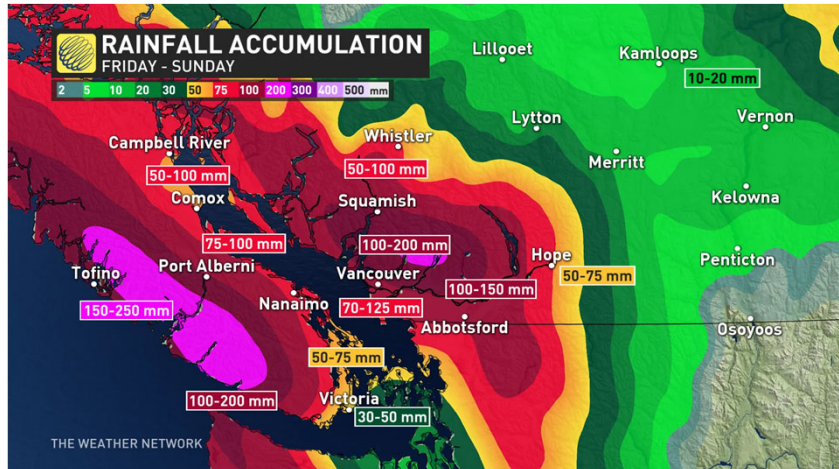


WHAT IS AN ATMOSPHERIC RIVER ?



ATMOSPHERIC RIVER FORECASTING

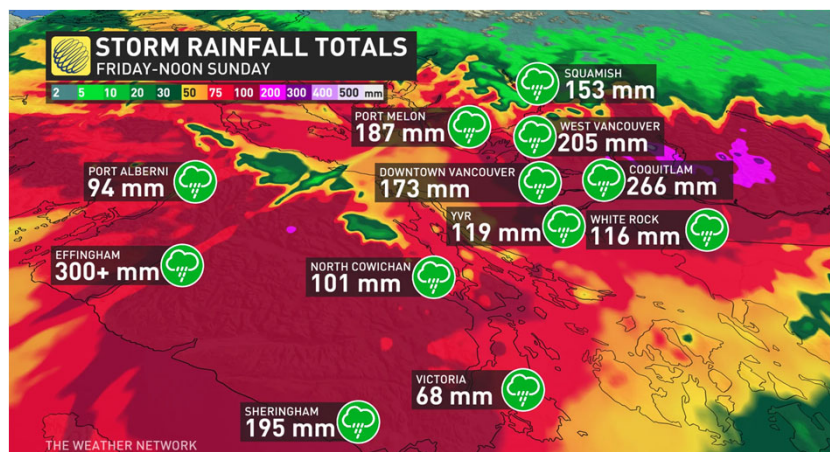
- Original Forecast for the Atmospheric River Event (AR - CAT 3)
- 100-200mm on the North Shore & MV Watersheds
- 70-150 mm in other areas of Metro Vancouver



Weather Network - Rainfall Accumulation Forecast

ATMOSPHERIC RIVER ACTUAL RAINFALL ACCUMILATIONS

- Coquitlam (Burke Mountain): 266 mm
- Coquitlam Dam 355mm
- West Vancouver: 205 mm
- Port Melon (Howe Sound): 187 mm
- Vancouver Harbour: 173 mm
- Squamish: 153 mm
- White Rock: 116 mm
- Vancouver International Airport (YVR): 119 mm



Weather Network-Actual Rainfall Accumulation

ATMOSPHERIC RIVER ACTUAL RAINFALL ACCUMILATIONS



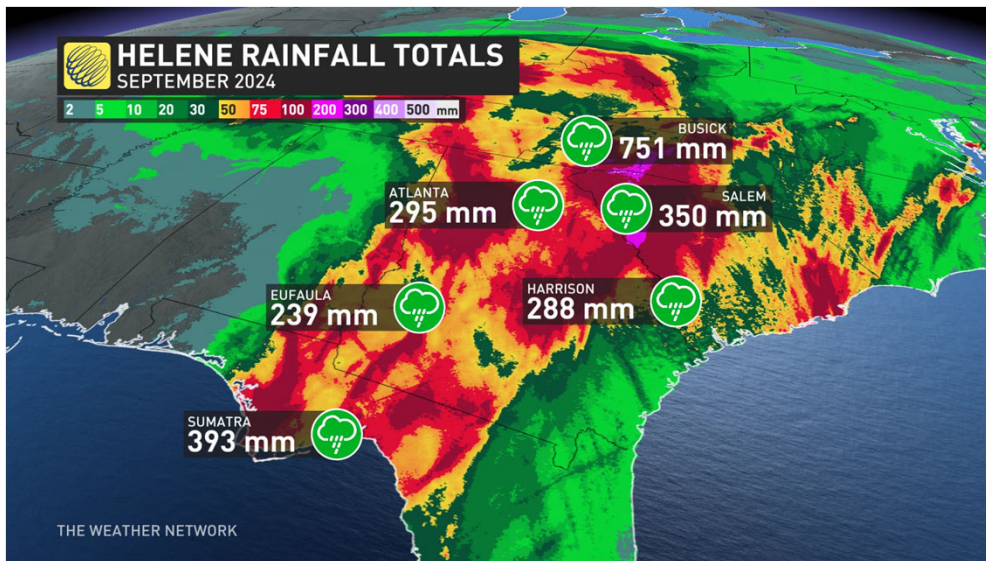
Precipitation Amounts					
Capilano Watershed		Seymour Watershed		Coquitlam Watershed	
Lower Capilano	322 mm	Lower Seymour	307 mm	Coquitlam FW	245 mm
Capilano FW	247 mm	Seymour FW	189 mm	Coquitlam Dam	353 mm
Hesketh	278 mm	Seymour Crossing	194 mm	Upper Coquitlam	272 mm
Palisade Lake	305 mm	Orchid Lake	238 mm	Disappointment Lake	258 mm
Average	288 mm	Average	232 mm	Average	282 mm

Forecasted Precipitation: The Oct. 18 watershed weather forecast called for 250-360 mm of rain during this storm event.

Actual Observed: 190-355 mm (267 average)

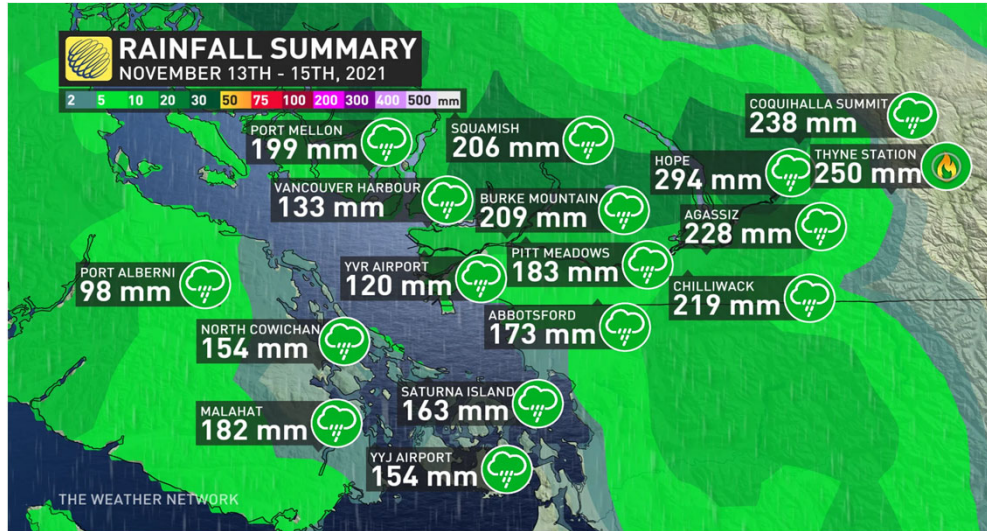
Comments: Rainfall was very heavy throughout the region, but heaviest on the front-side of the watersheds, and in North and West Vancouver. There were several hours of ~20 mm/hr on Saturday. The Lower Capilano FW station saw its highest one-day rainfall on Oct. 19 with 217 mm (2002-present), and highest event total precipitation (322 mm). Hourly rainfall at the Capilano Lakehead gauge is shown in the plot below.

ATMOSPHERIC RIVER RAINFALL VS HURRICANE HELENE



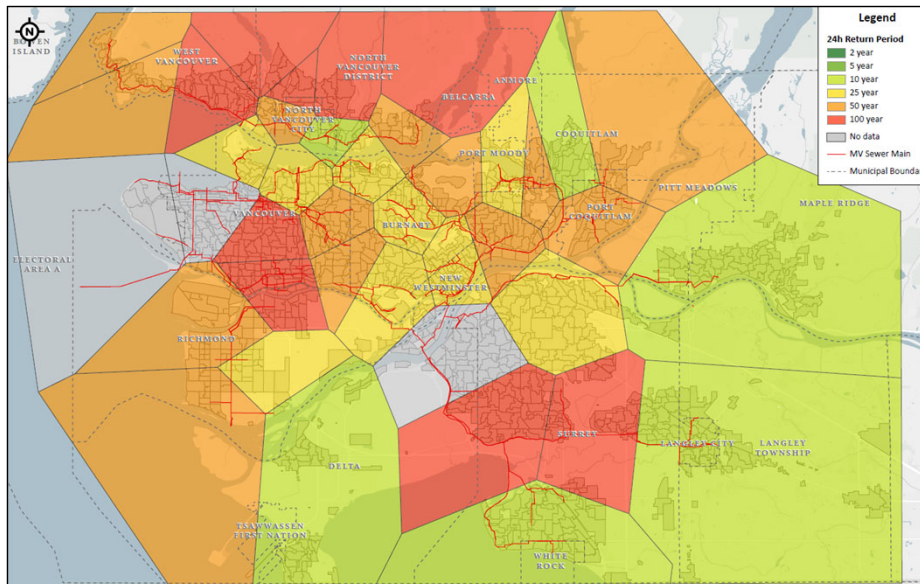
Weather Network- Hurricane Helene Rainfall Accumulation

OCTOBER 2024 AR VS NOVEMBER 2021 AR



Weather Network 2021 AR Rainfall Actual Accumulation

ATMOSPHERIC RIVER – RAINFALL ACTUALS



METRO VANCOUVER COMMUNICATIONS

MV Board Update, Website, Social Media



Station in Stanley Park. we are working closely with Vancouver @ParkBoard to minimize impacts to residents and the park. We will continue to provide updates as we respond to issues caused by this weekend's atmospheric river.

Metro Vancouver @MetroV... · 2024-10-20 ...
Heavy rainfall has impacted a number of regional parks. Some parks, roads & trails are closed. If you're going to a regional park, use extra caution. Expect flooding on trails, down...



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METRO VANCOUVER COMMUNICATIONS

MV Board Update, Website, Social Media



Metro Vancouver @MetroVa... · 2024-10-18 ...
Grouse Mountain Regional Park is closed due to heavy rainfall effective 4:30 pm Friday, October 18 and will remain closed until Monday, October 21, when park staff will assess and d...

Dear Metro Vancouver Board Directors,

Update on Impacts of Atmospheric River on Metro Vancouver Operations

Metro Vancouver is currently responding to the impacts of this weekend's atmospheric river. Throughout the past week, staff have prepared for the weather event by increasing coverage and readying crews for deployment throughout the region.

Liquid Waste Services

Liquid waste operations and maintenance teams procured emergency supplies such as sandbags, pumping systems, and tiger dams, and prepared the collection system and treatment plants for increased wet weather flows. Crews are at impacted sites, and will remain deployed around the clock until operational issues are resolved. We are working closely with member jurisdiction staff to minimize impacts to residents and the environment.

Currently, significant events include:

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REGIONAL PARKS



Capilano River Regional Park



Kanaka Creek Regional Park

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REGIONAL PARKS



Campbell Valley Regional Park



Delta South Surrey Greenway

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14

REGIONAL PARKS



Capilano River Regional Park



Tynehead Regional Park

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15

REGIONAL PARKS



Kanaka Creek Regional Park



Minnehada Regional Park

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16

REGIONAL PARKS



Pacific Spirit Regional Park

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17

REGIONAL PARKS



Delta Nature Reserve

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REGIONAL PARKS



Lynn Headwaters Regional Park

REGIONAL PARKS



Pacific Spirit Regional Park



Widgeon Marsh Regional Park

LIQUID WASTE SERVICES

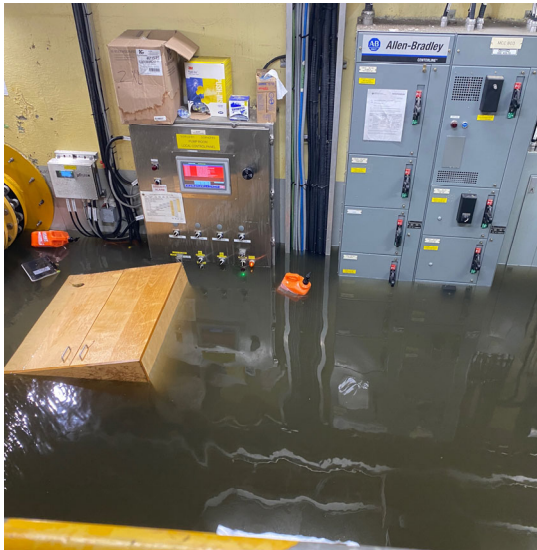


Chilco Pump Station, Stanley Park

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LIQUID WASTE SERVICES



Chilco Pump Station, Stanley Park

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LIQUID WASTE SERVICES



Chilco Pump Station, Stanley Park

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LIQUID WASTE SERVICES



Blundell Sewer, Richmond

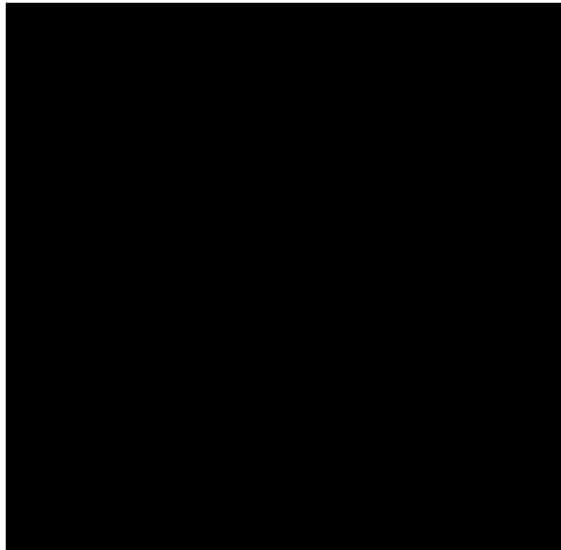
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LIQUID WASTE SERVICES



Sewer Break, North Surrey



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WATER SERVICES



Beaver Creek Washout



Pipeline Rd Washout

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WATER SERVICES



HollyBurn Slide



Coquitlam Reservoir - Turbidity

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Grouse Mountain Regional Park

Questions?

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To: Invest Vancouver Management Board

From: Katie Fitzmaurice, Executive Vice President, Invest Vancouver

Date: November 8, 2024 Meeting Date: November 21, 2024

Subject: **Strategic Initiatives Update**

RECOMMENDATION

That the MVRD Board receive for information the report dated November 8, 2024, titled “Strategic Initiatives Update”.

EXECUTIVE SUMMARY

In 2024, Invest Vancouver focused on implementing and exploring strategic initiatives that would increase global profile and support transformational economic development opportunities. These efforts aimed to attract foreign direct investment and facilitate the creation of high-quality jobs for Metro Vancouver residents.

Invest Vancouver’s strategic initiatives include:

- working with partners on Web Summit Vancouver 2025 and the 2026 FIFA Men’s World Cup for global investment opportunities and to draw international attention to the region’s thriving tech sector and key industries;
- promoting innovation through cleantech initiatives at renowned events such as Globe Forum 2024 and hy-fcell Canada to support the green economy; and
- exploring opportunities for a maritime green shipping corridor and zero-emissions aviation innovation hub for sustainable growth and de-carbonization.

PURPOSE

To provide an update on the activities related to strategic initiatives that increase the region’s global profile and economic development opportunities.

BACKGROUND

This report is advanced in alignment with the endorsed Invest Vancouver Management Board 2024 Work Plan, which identifies the following items to report back to the committee:

- report on the ongoing efforts to increase global profile and impact on strategic investments; and
- Report on collaboration projects and strategic initiatives for transformational economic development.

In 2024, Invest Vancouver engaged in activities related to strategic initiatives to increase global profile for the region. Invest Vancouver also explored opportunities for transformational economic development for sustainable growth and de-carbonization.

INCREASE GLOBAL PROFILE FOR THE REGION

Invest Vancouver is working with key partners to ensure a regional presence at international events that are taking place in the Metro Vancouver region. International events provide a unique opportunity to globally profile the region as an international investment destination and to draw attention to the region's thriving key industries. Two such events, Web Summit Vancouver 2025 and the 2026 FIFA Men's World Cup, will attract thousands of visitors and international recognition to the region, creating optimal circumstances for increasing the region's global profile to global leaders and executives.

Web Summit Vancouver 2025

Earlier this year, Web Summit announced that it will be moving its North American tech conference to the Metro Vancouver region for three consecutive years starting in 2025, rebranded as Web Summit Vancouver. The organization currently hosts some of the largest tech conferences in the world in cities like Lisbon and Doha. Invest Vancouver is actively participating in the Executive Steering Committee for Web Summit Vancouver along with PacifiCan, the Province of BC, Innovate BC, and Destination Vancouver. This consortium is working together to leverage the event as a platform to attract FDI, as these strategic investments can create high-quality tech jobs for the province and the region.

The tech sector is critical to our region's economic growth: employment in the sector grew by 75 per cent from 2009 to 2021, outpacing the growth of the broader regional economy. The Metro Vancouver region is home to a thriving tech-hub and has the top qualities international tech firms look for when expanding their global footprint, however the Metro Vancouver region is not always top of mind for multinational companies. Web Summit Vancouver provides a unique opportunity to introduce and market the region to investors as more than 15,000 participants are anticipated to attend the premier tech conference.

2026 FIFA Men's World Cup

Invest Vancouver is collaborating with the Greater Vancouver Board of Trade to develop a business delegation and hosting strategy to attract strategic investment during the seven Men's World Cup matches hosted in the City of Vancouver. Executives from a range of multinational companies are expected to visit the Metro Vancouver region during the games schedule. These games present an opportunity to market the Metro Vancouver region to a select group of business leaders with influence over global expansion from key markets and sectors.

COLLABORATION PROJECTS FOR TRANSFORMATIONAL ECONOMIC DEVELOPMENT

Transformational economic development opportunities aim to create sustainable growth, with the goal of improving the overall quality of life for residents. An important area of opportunity in the Metro Vancouver region is to support and grow the region's cleantech cluster and green economy. The Metro Vancouver region has the largest cleantech cluster in Canada and has been a leader in the green economy for decades. This industry provides future-forward, well-paying jobs for residents.

To support and strengthen this key industry, Invest Vancouver collaborated on several key events in the Metro Vancouver region in 2024. Some of those events include Globe Forum 2024, hy-fcell

Canada International Expo and Conference, and Burnaby Board of Trade's Clean Energy Summit. The following are summarized as per involvement and outcomes:

- **Leading Change at Globe Forum:** Globe Forum is North America's premier event for leaders and change-makers advancing a regenerative and equitable economy. The event attracted 2,500 attendees and incorporated four themes to generate actions for a more resilient, regenerative, and net-zero future. The forum provided Invest Vancouver with the opportunity to market the region to investors and meet local and global leaders. Invest Vancouver hosted a business-to-business networking session with Leading Change, an organization focused on accelerating actions to achieve a sustainable, prosperous, and resilient future. The session brought together established and emerging sector experts and innovators to promote the initiatives that would support the next generation of sustainable leaders.
- **Hy-fcell Canada International Expo and Conference:** Invest Vancouver supported the hy-fcell Canada International Expo and Conference to attract investment to the region's cleantech industry. The event convened more 1,100 attendees from 22 countries, as well as renowned leaders sharing solutions in clean energy through hydrogen and fuel cell applications. Invest Vancouver led a regional familiarization tour, providing an opportunity to meet with prospective international investors.
- **Clean Energy Summit:** The Burnaby Board of Trade's Clean Energy Summit was an opportunity to collaborate and spotlight ways to achieve a swift transition to a clean, low-carbon economy. The event explored diverse topics crucial for sustainability, from energy production to transportation. The event brought together industry pioneers, government officials, academics, and non-governmental organizations to share insights, investments, and innovations driving clean energy adoption.

STRATEGIC INITIATIVES FOR TRANSFORMATIONAL ECONOMIC DEVELOPMENT

Invest Vancouver has also been meeting with select organizations who are pioneers and leaders in low-carbon initiatives in the transportation and logistics industry. Two topics of discussion were a maritime shipping corridor and a zero-emissions aviation innovation hub. Through these topic discussions, Invest Vancouver explored opportunities for sustainable growth and de-carbonization efforts for the regional economy.

Maritime Green Shipping Corridor

The Metro Vancouver region is home to one of the largest and busiest ports in North America, which poses an opportunity to be a world-leading port for innovation in transportation & logistics. Invest Vancouver engaged with C40 cities to discuss the climate emergency and ways to reduce the sector's carbon footprint. To drive innovation in the region, it is important to learn from other parts of the world as well, who have successfully implemented innovation in the green economy. Staff met with the Maritime & Port Authority of Singapore (MPA) to discuss their region's innovation journey to become a world leader in green shipping. MPA operates one of the world's largest ports and are leaders in low-carbon innovation. Topics of discussion at these meetings included actions to

increase sustainability at ports, priority trade industries, and opportunities to continue engagement between Canada and Asia.

Aerospace Initiatives

British Columbia's aerospace industry is the third largest in the country. Aerospace is an opportunity for the Metro Vancouver region to leverage engineering and cleantech expertise to attract additional global investment. This year, Invest Vancouver met with the Canadian Advanced Air Mobility (CAAM), a national not-for-profit consortium and national catalyst for the Advanced Air Mobility (AAM) industry in Canada. The meeting was set to gain a deeper understanding of cleantech solutions in aerospace, specifically relating to the electrification of aviation for small aircraft. Further discussions occurred around opportunities for regional airports and a zero-emissions aviation innovation hub. Additionally, Invest Vancouver will be hosting a delegation from France that is interested in the region's aerospace industry and its advancements in technology. Invest Vancouver will continue to support the innovation and research and development of this sector, and the initiatives to electrify aircraft for economic development.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

All activities associated with strategic initiatives are expended through the MVRD Board approved Invest Vancouver 2024 budget.

As detailed in the September 13, 2024 Invest Vancouver Management Board report titled "Global Promotion at Web Summit Vancouver 2025," Invest Vancouver repurposed \$150,000 from Invest Vancouver's approved 2024 budget and has requested \$150,000 for 2025 in order to ensure a strong regional presence at the event.

Additionally, Invest Vancouver manages a sponsorship program to support investment promotion attraction. The application of these funds enabled collaborations and a strong presence at the Globe Forum 2024, hy-fcell Canada International Expo and Conference, and Burnaby Board of Trade's Clean Energy Summit. Total expenditure by Invest Vancouver in 2024 related to these events was \$18,350.

CONCLUSION

In 2024, Invest Vancouver made significant strides in increasing the region's global profile and advancing transformational economic development. Through international events like Web Summit Vancouver 2025 and the 2026 FIFA Men's World Cup, along with collaborative opportunities to promote innovation through cleantech initiatives at renowned events such as Globe Forum 2024 and hy-fcell Canada, the region is well-positioned to attract strategic investment. These efforts, including strategic initiatives for a maritime green shipping corridor and zero-emissions aviation innovation hub, will support sustainable growth, enhance the region's reputation, and drive long-term economic transformation for the Metro Vancouver region.

To: Invest Vancouver Management Board

From: Katie Fitzmaurice, Executive Vice President, Invest Vancouver

Date: November 1, 2024 Meeting Date: November 21, 2024

Subject: **Investment Attraction Update – Q3 2024**

RECOMMENDATION

That the MVRD Board receive for information the report dated November 1, 2024 titled “Investment Attraction Update – Q3 2024”.

EXECUTIVE SUMMARY

The Metro Vancouver region continues to attract sustained interest from international companies looking to expand their operations to the Metro Vancouver region. Invest Vancouver added 15 new leads to the investor pipeline in Q3, contributing an additional \$270 million in potential direct investment and 370 local jobs. As of September 30, 2024, staff were working with a total of 90 prospective leads. The prospective leads represent \$2.6 billion in potential direct investment and 1,825 jobs in the Metro Vancouver region.

Two Digital Media and Entertainment companies, Peliplat and Code Wizards, decided to expand their operations to the region. Additionally, Samsung Research Canada (SRCA) and Akcelo – well established companies in the region – have expanded their operations in the last three months. Collectively, these four companies represent 55 jobs and \$16 million in direct investment. Invest Vancouver also welcomed three inbound delegations from key markets including Germany, Hong Kong and Mexico, fostering international connections and promoting investment opportunities in these jurisdictions.

PURPOSE

To provide the Invest Vancouver Management Board and MVRD Board with a summary of investment attraction activities resulting from Q3 of 2024.

BACKGROUND

This report is advanced in alignment and coordination with the approved Invest Vancouver Management Board 2024 Work Plan and the endorsed Invest Vancouver 2024 Annual Plan.

REVIEW OF Q3 2024 ACTIVITY

Despite global recessionary pressures and a decline in investment across Canada, Invest Vancouver has seen sustained interest from international businesses considering expanding to the Metro Vancouver region. This report provides a detailed review of the strategic investment attraction activities in Q3 and includes leads carried over from 2023 and new ones generated in 2024.

Active Prospective Companies (Leads)

An investment lead or opportunity is defined as a company that has expressed an interest in investing in the region or expanding current investments beyond what is already in the region. The number of investment leads or opportunities in the pipeline is currently 90, which is a net decrease of nine since the end of Q2 in 2024. The 90 prospective leads represent \$2.6 billion in potential direct investment and 1,825 local jobs. The high-tech sector accounts for 41% of all leads in the pipeline, followed by the green economy at 20%, with 12% coming from other sectors outside our seven primary focus areas, such as consulting services or hospitality.

In Q3, Invest Vancouver added 15 new companies to the investor pipeline representing \$270 million in potential direct investment and 370 local jobs. The following tables show the breakdown of current leads.

Table 1. Current Leads in the Investment Attraction Pipeline (Q3)

Stage	# Prospects (leads)	Potential Jobs	Potential Investment
Attraction			
Interested	35	484	\$237M
Exploring	26	582	\$1.893B
Facilitating	17	536	\$300M
Sub-Total:	78	1,602 Jobs	\$2.430B
Expansion			
Interested	3	55	\$17M
Exploring	3	48	\$19.8M
Facilitating	5	100	\$107M
Sub-Total:	11	203 Jobs	\$143.8M
Retention			
Interested	1	20	\$35M
Sub-Total:	1	20	\$35M
Total:	90	1,825 Jobs	\$2.608B

Table 2. Breakdown of Leads by Sector and Geography (Q3)

Key Sector Representation			Geographic Representation		
High-tech	37	41%	Europe	31	34%
Green Economy	18	20%	Asia	23	26%
Other	11	12%	United States	15	17%
Digital Media & Ent.	9	10%	Canada	13	14%
Life Sciences	5	6%	Australia	5	6%
Apparel	5	6%	Other	3	3%
Trade & Transportation	3	3%	Total:	90	100%
Agritech	2	2%			
Total:	90	100%			

Table 3. Breakdown of Leads by Source (Q3)

Lead Source	# Leads	Ratio
Event-based Business Dev.	35	39%
Gov't Partners (IIC, GAC/TCS, JEDI/TIR)	35	39%
Direct Inbound Enquiries	12	13%
Other Referrals (non-government)	3	3%
Other	5	6%
Total:	90	100%

Landed and Expanded Companies

In Q3, two new companies established a presence in our region, while two existing companies expanded their business operations. The following provides a summary of their business and their decision to expand to the Metro Vancouver region:

Peliplat, a Singapore-based company that operates an online platform for cinema lovers, has chosen the City of Vancouver for its first Canadian office. The company has already hired eight employees and plans to expand to 20 employees by the end of 2024 and up to 50 employees by the end of 2025. Peliplat has established strong relationships with local educational institutions, such as the Vancouver Film School and BCIT. Access to top talent was a key factor in their decision to establish a presence in the Metro Vancouver region.

Code Wizards, a UK-based digital media and entertainment company, provides gametech services and support for games and esports, specializing in multiplayer game server integration and migration. The company chose the Metro Vancouver region (specific location TBD) to expand its global operations due to the strong video game production ecosystem and its proximity to West Coast clients. Code Wizards began its Canadian operations with two employees and plans to find a permanent office and grow in the coming year.

Samsung Research Canada, a R&D institute, has leveraged the region's highly skilled talent pool and added 15 new employees to its digital health engineering team.

Akcelo, an Australian brand experience agency that established a City of Vancouver office in 2021, has grown its local team to over 30 skilled professionals. The Vancouver office spearheads projects for clients in North America, supported by Akcelo's global network of 200 brand experience experts, bringing a wealth of diverse skills and perspectives to the region.

These four opportunities represent 55 jobs and \$16M in direct investment (Table 4 and Table 5).

Table 4. Closed Opportunities - Landed (Q3)

Company Name	# New Jobs	Total Investment	Member Jurisdiction
Peliplat	8	\$2M	City of Vancouver
Code Wizards	2	\$0.7M	TBD
YTD Total	10	\$2.7M	

Expanded (Aftercare) Companies*Table 5. Closed Opportunities - Expanded (Q3)*

Company Name	# New Jobs	Total Investment	Member Jurisdiction
Samsung (SRCA)	15	\$8M	City of Vancouver
Akcelo	30	\$5M	City of Vancouver
YTD Total	45 Jobs	\$13M	

Closed Opportunities - Lost

In Q3, staff determined 21 opportunities as no longer viable or active leads. Fourteen of these companies were unresponsive and therefore reclassified to 'abandoned' opportunities. Four companies decided not to proceed with an international expansion due to various reasons such as the cost of running operations in the region, international contraction of the game industry, or need for provincial funding. Three companies chose to locate in competing jurisdictions such as Atlantic Canada, Montreal, and Alberta (Table 6).

Table 6. Closed Opportunities - Lost (Q3)

Reason for Loss	# Leads	Ratio
Abandoned	14	67%
Decision Not to Proceed	4	19%
Lost to a Competitor	3	14%
Total:	21	100%

Event-based Business Development

In Q3, Invest Vancouver staff did not engage in any outbound missions due to slower global activity in the summer months and the need to focus on existing leads and inbound delegations.

Inbound Delegations and Executive Familiarization Tours

Staff welcomed five executive familiarization tours (Table 7) and supported three inbound delegations (Table 8) from Germany, Hong Kong, and Mexico in Q3.

Table 7. Executive Familiarization Tour Breakdown (Q3)

Country	# Visit	Sector
United Kingdom	2	Digital Media
Mexico	1	High-tech
Sweden	1	High-tech
Pakistan	1	Trade and Logistics
Total:	5	

Table 8. Executive Inbound Delegation Breakdown (Q3)

Country	Sector
Germany	A mix of sectors (Green Economy, High-tech, Life Sciences, Other)
Hong Kong	Agri-tech
Mexico	High-tech
Total:	3

ALTERNATIVES

This is an information report. No alternatives are provided.

FINANCIAL IMPLICATIONS

All activities associated with investment attraction efforts are expended through the MVRD Board approved Invest Vancouver 2024 budget. In Q3, 39% of leads were a result of in-market engagements (i.e., event-based business development).

CONCLUSION

Invest Vancouver continues to draw international investment and high-quality job opportunities to the Metro Vancouver region, adding 15 new leads to its investor pipeline in Q3. This brings a total of prospective 90 leads to the pipeline that carries a potential \$2.6 billion in foreign direct investment and 1,825 local jobs.

The recent landing of two Digital Media & Entertainment companies, along with the expansion of two well established firms, further solidifies the region's position as a hub for innovation and quality talent. Invest Vancouver remains focused on promoting the region's strengths, attracting strategic investments, and supporting high-quality employment to fuel economic growth.

63983703

To: MVRD Board of Directors

From: Invest Vancouver Management Board

Date: November 21, 2024 Meeting Date: November 29, 2024

Subject: **Coordinated Approach to Address Issues Related to Recent Changes to Immigration Policy**

INVEST VANCOUVER MANAGEMENT BOARD RECOMMENDATION

That the MVRD Board send a letter to the Premier of British Columbia regarding the need for a coordinated approach to address issues arising from recent changes in federal immigration policy, including coordinated data and addressing the impacts on post-secondary institutions and economic productivity.

At its November 21, 2024 meeting, the Invest Vancouver Management Board passed the following resolution:

Whereas the Invest Vancouver Management Board discussed the recent changes to immigration policy and the impacts on the economy, and whereas the Greater Vancouver Board of Trade will coordinate an industry-led letter;

Therefore be it resolved that the Invest Vancouver Management Board recommend that the MVRD board send a letter to the Premier of British Columbia regarding the need for a coordinated approach to address issues arising from the recent changes in federal immigration policy, including coordinated data and addressing the impacts on post-secondary institutions and economic productivity.

The Invest Vancouver Management Board round table discussion included a conversation about the impacts of recent changes to immigration policy on the regional economy, on post-secondary institutions, and on the ability to develop and retain skilled labour. Committee members discussed the need for a coordinated approach to the issue including the need for improved and coordinated data, consideration of proposed policy changes to ensure that much needed talent is retained in the region in order to continue to attract investment.

This matter is now before the Board for its consideration.

72283790

To: MVRD Board of Directors

From: Heather McNell, Deputy Chief Administrative Officer, Policy and Planning

Date: November 7, 2024 Meeting Date: November 29, 2024

Subject: **Proposed Updates to Metro Vancouver’s Ambient Air Quality Objectives**

RECOMMENDATION

That the MVRD Board endorse updates to Metro Vancouver’s ambient air quality objectives for nitrogen dioxide, ground-level ozone, and sulphur dioxide, as outlined in the report dated October 23, 2024, titled “Proposed Updates to Metro Vancouver’s Ambient Air Quality Objectives”.

Due to recent membership changes at the MVRD Board, at its November 7, 2024 meeting, the Climate Action Committee did not meet the requirements of Section 57 (1)(d) of the *Metro Vancouver Regional District Procedure Bylaw No. 1368, 2023* which requires 50% of the committee members to be Directors. The formal meeting was adjourned with the following members present:

Chair, Director Lisa Dominato	Director Jen McCutcheon
Vice Chair, Mayor Patrick Johnstone	Director Bill McNulty
Councillor Mike Bose	Councillor Catherine Pope
Councillor Adriane Carr	Director Jamie Ross
Director Meghan Lahti	Director Dan Ruimy
Councillor Dennis Marsden	Councillor Rosemary Wallace

The individuals present, joined by Councillor Gu at 9:08 am, discussed the agenda items to provide their comments to the board.

Members of the Climate Action Committee have had the opportunity to review the report titled “Proposed Updates to Metro Vancouver’s Ambient Air Quality Objectives”, dated October 23, 2024 and have affirmed their general agreement with the contents of the report and the recommendation presented by staff.

This matter is now before the Board for its consideration.

ATTACHMENTS

1. “Proposed Updates to Metro Vancouver’s Ambient Air Quality Objectives”, dated October 23, 2024

71833658

To: Climate Action Committee

From: John Lindner, Air Quality Planner, Air Quality and Climate Action Services
Derek Jennejohn, Lead Senior Engineer, Air Quality and Climate Action Services

Date: October 23, 2024 Meeting Date: November 7, 2024

Subject: **Proposed Updates to Metro Vancouver’s Ambient Air Quality Objectives**

RECOMMENDATION

That the MVRD Board endorse updates to Metro Vancouver’s ambient air quality objectives for nitrogen dioxide, ground-level ozone, and sulphur dioxide, as outlined in the report dated October 23, 2024, titled “Proposed Updates to Metro Vancouver’s Ambient Air Quality Objectives”.

EXECUTIVE SUMMARY

Health research shows that degraded air quality harms people and the environment. Metro Vancouver uses ambient air quality objectives to help manage air quality in the region. The Canadian Ambient Air Quality Standards (CAAQS) are national objectives adopted by the Canadian Council of Ministers of the Environment (CCME) that are used by air quality agencies across Canada to protect human health and the environment. The CCME is increasing the stringency of the CAAQS for ground-level ozone, nitrogen dioxide, and sulphur dioxide in 2025.

Consistent with past MVRD Board direction and practice, Metro Vancouver staff are seeking the Board’s endorsement to update four regional ambient air quality objectives to align with the national objectives. This alignment will ensure continuous improvement in regional air quality, maintaining Metro Vancouver’s leadership in North America for air quality management. Staff notified interest holders of the intended update by email in early October. To achieve the updated objectives, Metro Vancouver would continue to work with member jurisdictions and other partners to implement actions in the Board-adopted *Clean Air Plan* that reduce emissions of air contaminants that degrade regional air quality. If the proposed updates are not endorsed, the regional air quality management framework would be inconsistent with national objectives and the principles of the *Clean Air Plan*, which could cause confusion for interest holders.

PURPOSE

This report seeks MVRD Board endorsement of updates to Metro Vancouver’s ambient air quality objectives for nitrogen dioxide, ground-level ozone, and sulphur dioxide, to ensure alignment with updated national objectives.

BACKGROUND

For more than 50 years, Metro Vancouver has provided the service of air pollution control and air quality management in the region, as outlined in the BC *Environmental Management Act*. In accordance with that role, the Board-adopted *Clean Air Plan* includes an action to continue to “develop and update ambient air quality objectives, establishing acceptable thresholds for concentration of air contaminants”. The plan’s 2030 regional target – “ambient air quality meets or

is better than the ambient air quality objectives that are regularly updated by Metro Vancouver” – aims to minimize harm to human health and the environment.

The MVRD Board endorsed updates to regional ambient air quality objectives in November 2017 and November 2019, including for ground-level ozone (ozone), nitrogen dioxide (NO₂), and sulphur dioxide (SO₂). Consistent with the principle of continuous improvement, the federal government has again updated the national objectives for these three air contaminants. These updated objectives come into effect in 2025. As a result, Metro Vancouver's regional objectives for these air contaminants need to be updated to ensure continued alignment.

IMPACTS OF AIR CONTAMINANTS ON HEALTH

Exposure to certain air contaminants is linked to increased heart and breathing problems, more frequent hospitalization and premature death, even at the relatively low levels experienced by residents in the region. Health Canada estimates that air pollution from human sources and wildfires contributes to 1,900 premature deaths per year in British Columbia (Reference 1). Fine particulate matter, ozone, and NO₂ have the most impact on public health, followed by SO₂, volatile organic compounds, and carbon monoxide. Children, the elderly, and people with underlying health conditions are most at risk from these air contaminants. These air contaminants also harm the environment (e.g., ozone can damage food crops and other plants).

Regional Trends for Ground-level Ozone, Nitrogen Dioxide, and Sulphur Dioxide

Today, people in the region generally experience good air quality, due to efforts by Metro Vancouver and others in recent decades. Regional levels of SO₂ are expected to remain well below objectives in the future, due to the widespread use of low-sulphur fuels. The ongoing retirement of older, dirtier engines and equipment is expected to lead to further reductions in NO₂ levels over time in the region. Ozone levels are generally better now than in previous decades. However, due to a warming climate, the region is expected to experience hotter summers, which will likely lead to higher ozone levels. Governments and others need to maintain existing policies and explore additional policies to further reduce levels of ozone, NO₂, and SO₂ in the region. Attachment 1 provides more information on the sources of and trends for ozone, NO₂, and SO₂ in the region.

AMBIENT AIR QUALITY OBJECTIVES

Like many other jurisdictions, Metro Vancouver uses ambient air quality objectives as thresholds to support the regional provision of air quality management in the following ways:

- Supporting development of requirements in emission regulations adopted by the Metro Vancouver Board;
- Providing input to air quality permitting decisions made by the District Director;
- Issuing air quality advisories;
- Guiding regional air quality planning; and
- Reporting on current air quality and historical trends.

The Canadian Ambient Air Quality Standards (CAAQS) are national objectives adopted by the Canadian Council of Ministers of the Environment (CCME) to protect human health and the environment. The CCME is increasing the stringency of the CAAQS for ozone, NO₂, and SO₂ in 2025.

As a result, staff propose to update Metro Vancouver’s air quality objectives to align with the updated national objectives. Table 1 summarizes the proposed changes to four of Metro Vancouver’s objectives.

As shown in the table, ambient air quality objectives are described using three components:

- Averaging period: the time period over which an objective applies;
- Numerical value: the threshold concentration that a calculated value is compared against to determine if an objective is achieved or exceeded; and
- Statistical form: the calculation method used to convert ambient concentrations into the single calculated number for a particular averaging period.

Table 1 – Proposed Updates to Regional Ambient Air Quality Objectives.

Air contaminant	Averaging period	Numerical value (ppb*)		Statistical form
		Current	Proposed	
Ground-level ozone	8-hour	62	60	3-year average of annual 4 th highest daily maximum 8-hour average concentration
Nitrogen dioxide	1-hour	60	42	3-year average of annual 98 th percentile of the daily maximum 1-hour average concentration
	Annual	17	12	Annual average
Sulphur dioxide	Annual	5	4	Annual average

*ppb denotes “parts per billion”, a standard measure of ambient concentration for air contaminants.

At this time, staff propose keeping the existing regional 1-hour objective for SO₂ of 70 ppb because it currently provides better public health projection than the equivalent 2025 CAAQS. Staff also propose keeping the existing regional 1-hour objective for ozone of 82 ppb, since it is an effective trigger for issuing air quality advisories and there is no equivalent 1-hour CAAQS for ozone.

Metro Vancouver’s air quality objectives are designed to be at least as stringent as provincial and national objectives to guide best practice in air quality management. Alignment with the updated national objectives will ensure continuous improvement in regional air quality and maintain Metro Vancouver’s leadership in North America for air quality management. If the proposed updates are not endorsed, the updated CAAQS would still come into effect at a national level in 2025, and the regional air quality management framework would be inconsistent with national objectives and the principles of the *Clean Air Plan*, which could cause confusion for interest holders in the region.

Informing Interest Holders of Intention to Update Ambient Air Quality Objectives

On October 3, 2024, Metro Vancouver staff informed interest holders by email of Metro Vancouver’s intention to update the regional air quality objectives to align with national ones. At the time of writing, Metro Vancouver had not received any replies to the email. Interest holders included member jurisdictions, health authorities, businesses that operate under Metro Vancouver

air quality permits or regulations, and people (including members of the public) on a Metro Vancouver mailing list about ambient air quality objectives.

Impact of Updated Regional Ambient Air Quality Objectives

If endorsed, the updated objectives will help drive continuous improvement in regional air quality, providing additional protection for public health. To achieve the updated objectives, Metro Vancouver would continue to work with partners, including member jurisdictions and the Government of BC, to implement actions in the *Clean Air Plan* that reduce emissions of air contaminants such as those described in this report. Metro Vancouver will consider and apply the new objectives in its various functions, including regulatory development, permit decisions, air quality advisories, and air quality planning/reporting. Staff will report back to the Committee and Board as needed, on any proposed regulatory amendments or other changes to its functions based on the updated objectives. Attachment 1 includes more information about how the updates would impact how Metro Vancouver uses ambient air quality objectives.

ALTERNATIVES

1. That the MVRD Board endorse updates to Metro Vancouver's ambient air quality objectives for nitrogen dioxide, ground-level ozone, and sulphur dioxide, as outlined in the report dated October 23, 2024, titled "Proposed Updates to Metro Vancouver's Ambient Air Quality Objectives".
2. That the MVRD Board receive for information the report dated October 23, 2024, titled "Proposed Updates to Metro Vancouver's Ambient Air Quality Objectives".

FINANCIAL IMPLICATIONS

Resources required for ongoing review, development, and implementation of regional ambient air quality objectives are accommodated within existing program budgets. By managing air quality and controlling air contaminant emissions, Metro Vancouver, together with its partners, delivers significant financial benefits to the region by protecting human health and the environment.

CONCLUSION

National ambient air quality objectives are becoming more stringent in 2025. Metro Vancouver staff recommend Alternative 1, to align regional air quality objectives with national objectives, to ensure continuous improvement in regional air quality management. Updated air quality objectives will continue to be considered and applied in regulatory development, permitting decisions, air quality advisories, and air quality reporting. Staff notified relevant interest holders of the intended updates in early October 2024.

ATTACHMENTS

1. "Ground-Level Ozone, Nitrogen Dioxide, and Sulphur Dioxide: Regional Impacts, Sources, Trends, and Implications of Aligning Regional Objectives with National Objectives", dated October 23, 2024.
2. Presentation re: "Proposed Updates to Regional Air Quality Objectives", dated November 7, 2024.

REFERENCE

1. [Health Canada 2021 report: Health Impacts of Air Pollution in Canada](#)

68615589

Ground-Level Ozone, Nitrogen Dioxide, and Sulphur Dioxide: Regional Impacts, Sources, Trends, and Implications of Aligning Regional Objectives with National Objectives

October 23, 2024

Metro Vancouver establishes ambient air quality objectives to protect public health and the environment, including for ground-level ozone (ozone), nitrogen dioxide (NO₂), and sulphur dioxide (SO₂). Metro Vancouver periodically updates its objectives to align with provincial and national objectives. This attachment provides information on the health impacts and regional sources for ozone, NO₂, and SO₂ (see Table 1 below), as well as regional trends and the implications of updating the regional objectives to align with upcoming changes to national objectives.

Table 1 – Health Impacts and Major Regional Sources of Ground-Level Ozone, Nitrogen Dioxide, and Sulphur Dioxide

Air Contaminant	Health Impacts	Major Regional Sources
Ground-level ozone	<p>At ground-level, ozone causes respiratory problems and contributes to early death, even at low ambient levels. Scientific evidence indicates that there is no known safe level for ozone. In addition, ozone contributes to climate change.</p> <p>Ground-level ozone forms when nitrogen oxides (NO_x) and volatile organic compounds (VOC) react in the air during hot, sunny weather. In the upper atmosphere, ozone is beneficial and blocks out most of the sun’s harmful ultraviolet rays.</p>	<p>The major human-caused sources of VOC are chemical products such as paints and household products, passenger vehicles, non-road engines and equipment, and fuel distribution facilities. The major sources of NO_x are noted below, under nitrogen dioxide.</p>
Nitrogen dioxide (NO ₂)	<p>NO₂ causes respiratory problems and contributes to early death at ambient concentrations commonly found in Canada. Health research indicates that there is no known safe ambient level for NO₂.</p> <p>NO₂ is one of a group of gases known as NO_x that are produced when fuels are burned at high temperatures. NO_x also contributes to the formation of ground-level ozone and fine particulate matter (PM_{2.5}), the two air contaminants with the greatest health impacts in the region.</p>	<p>Marine vessels, passenger vehicles, non-road engines and equipment, industrial facilities, buildings.</p>
Sulphur Dioxide (SO ₂)	<p>SO₂ causes respiratory effects and contributes to early death at ambient levels commonly found in Canada.</p> <p>SO₂ is one of a group of gases known as sulphur oxides (SO_x) that are emitted when fuels containing sulphur are burned. SO_x can also react with other air contaminants to form PM_{2.5}.</p>	<p>Petroleum refining, marine vessels, cement production, aircraft.</p>

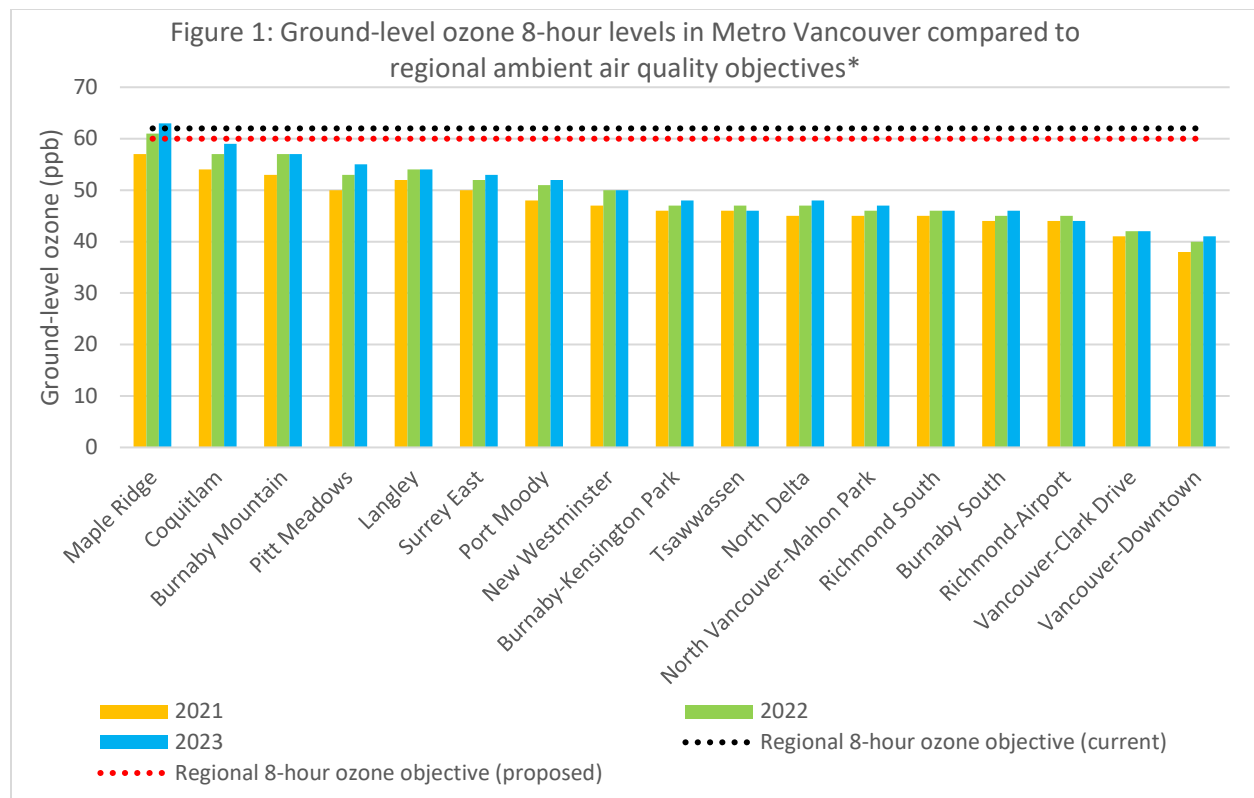
Regional Trends for Ground-level Ozone, Nitrogen Dioxide, and Sulphur Dioxide

Ground-Level Ozone: Measured ozone levels are generally better now than in previous decades. However, due to a warming climate, it is expected that the region will experience hotter summers and more smoke from wildfires, which will likely lead to higher ozone levels. Implementing policies to further reduce emissions of NO_x and VOC could help reduce ozone levels, according to research included in the Board-adopted *Regional Ground-Level Ozone Strategy*.

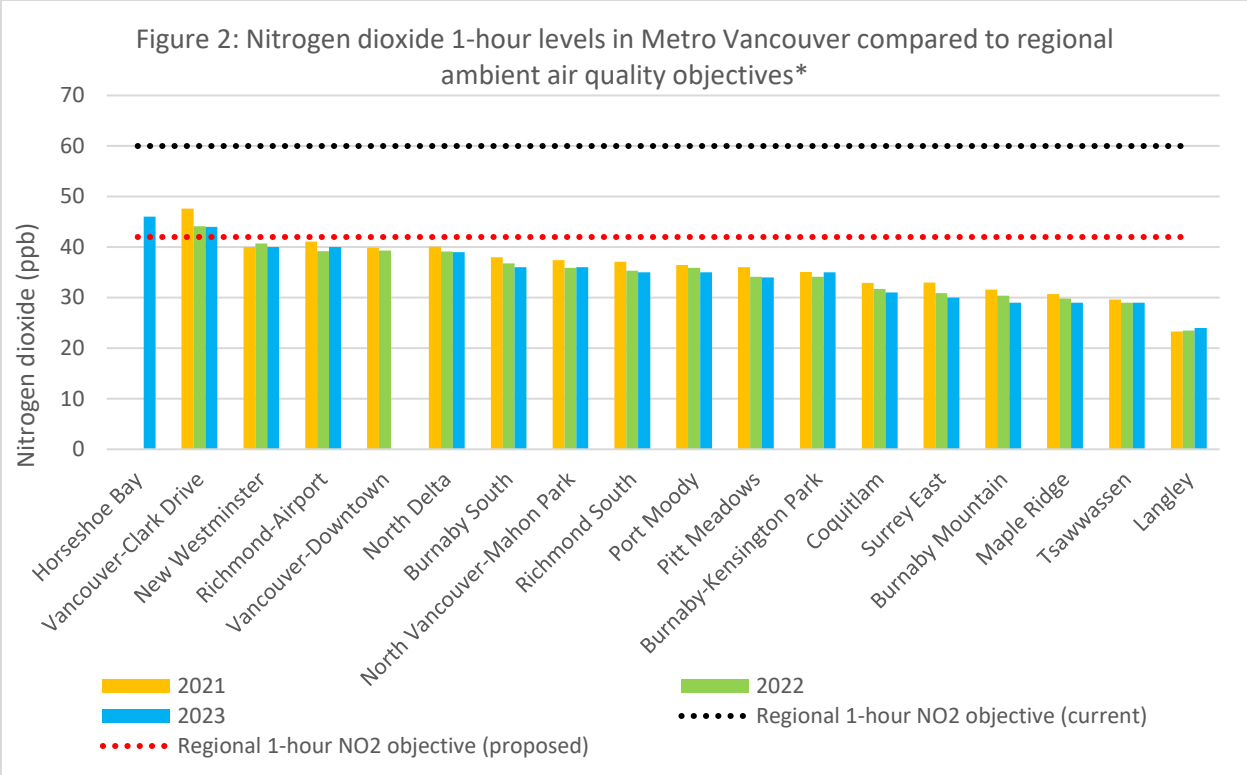
Nitrogen Dioxide: Measured NO₂ levels have declined at Metro Vancouver air quality monitoring stations since the mid-1990s, mostly due to the retirement of older, dirtier engines and equipment. However, levels of NO₂ have not really declined in the region since 2019. As such, governments need to continue to adopt policies that encourage the adoption of cleaner and zero-emission engines and heating equipment, which would further reduce NO₂ levels in the region.

Sulphur Dioxide: Measured SO₂ levels have declined significantly at Metro Vancouver air quality monitoring stations in the last twelve years. In particular, SO₂ levels dropped by approximately 65% between 2012 and 2016 after federal regulations required marine vessels to use fuels with a maximum sulphur content of 0.1%, instead of the previous maximum of 3.5%.

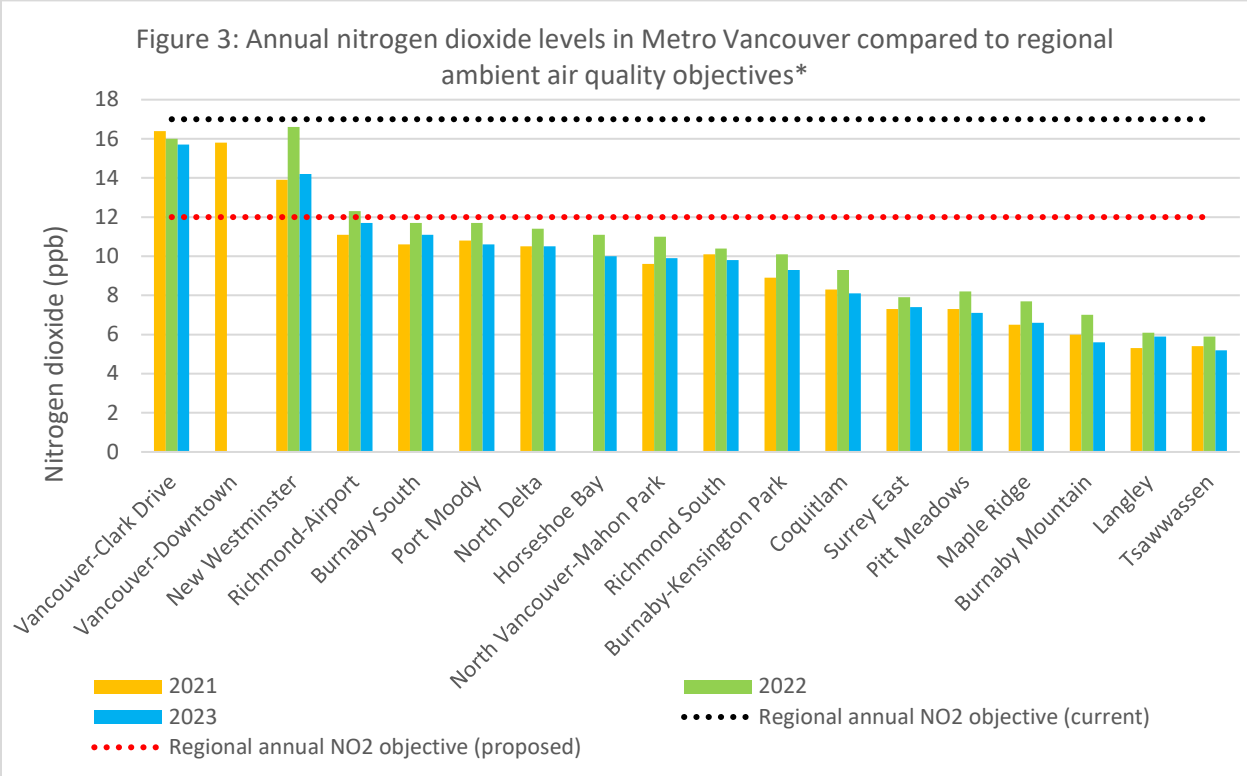
Figures 1 to 4 show the levels of ozone, NO₂, and SO₂ in the region for the three most recent reporting years – 2021, 2022 and 2023 – compared against the current and proposed updated objectives. Figures 2, 3 and 4 include a few data gaps for several monitoring stations, because there was insufficient data to calculate the levels in those years.



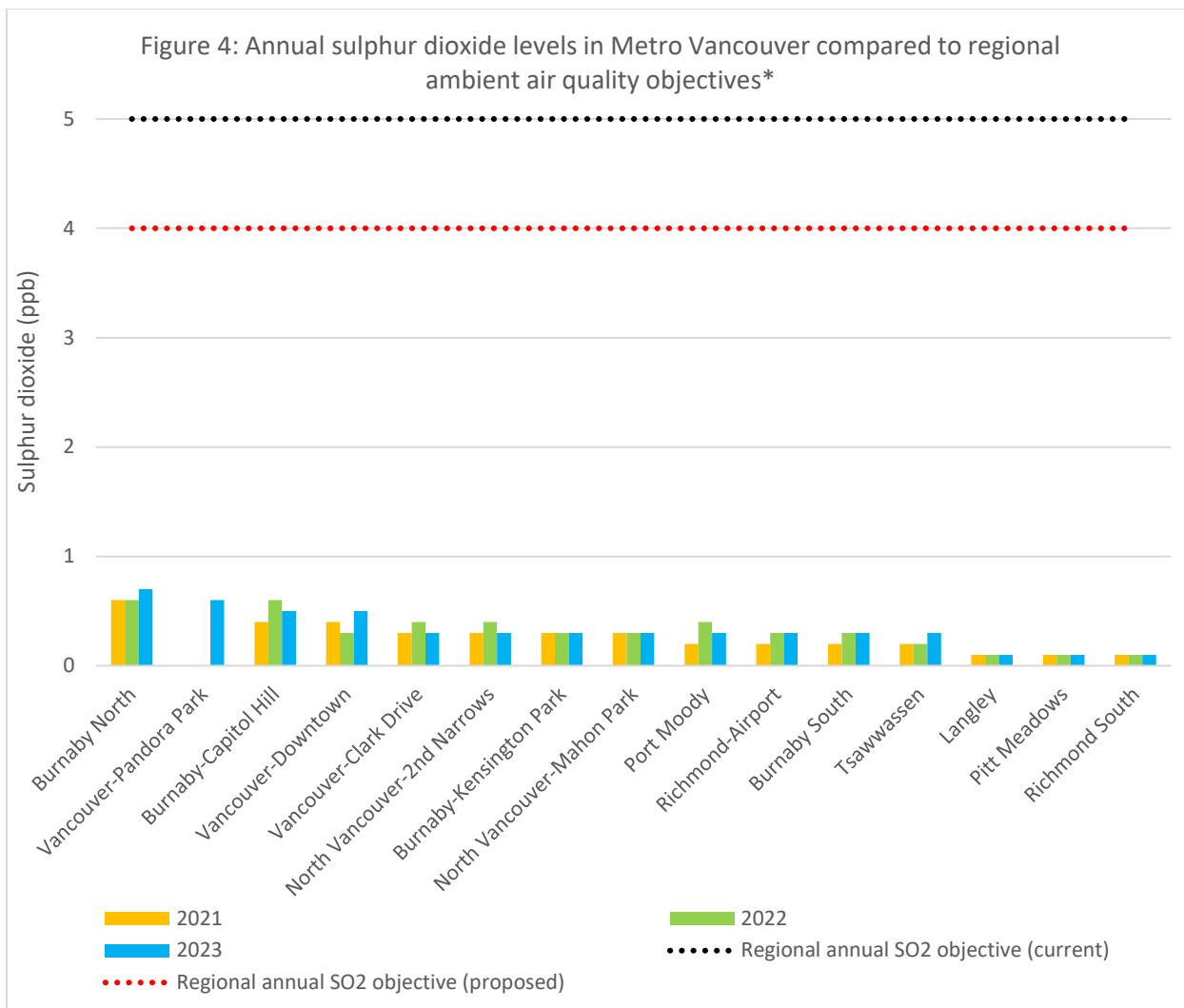
* Levels for each reporting year were calculated using the statistical form for Metro Vancouver’s 8-hour ozone objective: 3-year average of the annual 4th highest daily maximum 8-hour average concentration.



* Levels for each reporting year were calculated using the statistical form for Metro Vancouver’s 1-hour NO₂ objective: 3-year average of annual 98th percentile of the daily maximum 1-hour average concentration.



* Levels shown for each reporting year were calculated using an annual average, the statistical form for Metro Vancouver’s annual NO₂ objective.



* Levels shown for each reporting year were calculated using an annual average, the statistical form for Metro Vancouver’s annual SO₂ objective.

Table 2 shows the number of stations that exceed the current and proposed objectives for ozone, NO₂, and SO₂. The numbers shown are from the same reporting years of 2021, 2022 and 2023.

Table 2 – Exceedances of Objectives for Ground-level Ozone, Nitrogen Dioxide and Sulphur Dioxide, for the Three Reporting Years of 2021, 2022 and 2023

Air contaminant	Averaging period	Air quality monitoring stations exceeding:					
		Current objective			Proposed objective		
		2021	2022	2023	2021	2022	2023
Ground-level ozone	8-hour	0	0	1	0	1	1
Nitrogen dioxide	1-hour	0	0	0	1	1	2
	Annual	0	0	0	3	3	2
Sulphur dioxide	Annual	0	0	0	0	0	0

Implications of Updating Regional Ambient Air Quality Objectives to Align with 2025 Canadian Ambient Air Quality Standards

Regulatory development: In a future report to the Climate Action Committee, staff will propose amendments to the *Boilers and Process Heaters Emission Regulation Bylaw No. 1087, 2008 (Bylaw 1087)*, including more stringent NO_x emission limits for boilers and process heaters, to contribute to the region achieving the updated objectives. In the future, staff will evaluate whether the requirements in other Metro Vancouver regulations are sufficiently protective of human health.

Input to making air quality management permitting decisions: The decision-making process for air quality permits would not change if the proposed updates are endorsed by the Board. The updated objectives would be considered when determining requirements that are advisable for the protection of human health and the environment for new permits or permit amendments. Aligning with national objectives simplifies the regulatory context for large facilities, helps regional industries remain competitive inter-provincially while encouraging continuous improvement and emission reductions.

Issuing air quality advisories: The regional air quality objectives inform the thresholds used in Metro Vancouver's air quality advisory program. An updated 8-hour ozone objective would likely result in more frequent ozone advisories, covering larger geographic areas (particularly during heat waves).

Guiding regional air quality planning efforts: The *Regional Ground-Level Ozone Strategy* is being updated to account for recent trends in NO_x and VOC emissions (the air contaminants that react to form ozone), as well as new research, including the proposed updates to the regional air quality objectives and their supporting evidence, and the increasing incidence of heat waves and wildfires that can lead to elevated ozone levels.

Air quality reporting: No changes are expected to reporting of current air quality or historical trends.



Central Surrey

Proposed Updates to Regional Air Quality Objectives

John Lindner

Air Quality Planner, Air Quality and Climate Action Services

Derek Jennejohn

Lead Senior Engineer, Air Quality and Climate Action Services

Climate Action Committee - November 7, 2024
71235029

metrovancouver

HEALTH IMPACTS OF AIR CONTAMINANTS

- Exposure to ground-level ozone, nitrogen dioxide, sulphur dioxide and other air contaminants is linked to heart and breathing problems, increased hospitalization, and early death
- Air contaminants contribute to 1,900 early deaths in BC every year
- At risk populations include: children, the elderly, and people with underlying health conditions

PROPOSED CHANGES TO OBJECTIVES

Air contaminant	Averaging period	Numerical value (ppb)	
		Current	Proposed
Ground-level ozone	8-hour	62	60
Nitrogen dioxide	Annual	17	12
	1-hour	60	42
Sulphur dioxide	Annual	5	4

INFORMING INTEREST HOLDERS

Staff informed interest holders of intended changes:

- Member jurisdictions
- Health authorities
- Businesses operating under Metro Vancouver air quality permits or regulations



New Brighton Park, Vancouver

IMPACTS OF UPDATING REGIONAL OBJECTIVES

- Metro Vancouver will continue to use objectives as **thresholds** to manage regional air quality:
 - Support development of emission regulations
 - Provide input to air quality permitting decisions
 - Issue air quality advisories
 - Guide regional air quality planning
 - Report on current air quality and trends
- Staff will continue to work with partners on *Clean Air Plan* actions to achieve objectives and protect human health



To: MVRD Board of Directors

From: Heather McNell, Deputy Chief Administrative Officer, Policy and Planning

Date: November 7, 2024 Meeting Date: November 29, 2024

Subject: **Air Quality Advisories During the Summer of 2024**

RECOMMENDATION

That the MVRD Board receive for information the report dated October 16, 2024, titled “Air Quality Advisories During the Summer of 2024”.

Due to recent membership changes at the MVRD Board, at its November 7, 2024 meeting, the Climate Action Committee did not meet the requirements of Section 57 (1)(d) of the *Metro Vancouver Regional District Procedure Bylaw No. 1368, 2023* which requires 50% of the committee members to be Directors. The formal meeting was adjourned with the following members present:

Chair, Director Lisa Dominato	Director Jen McCutcheon
Vice Chair, Mayor Patrick Johnstone	Director Bill McNulty
Councillor Mike Bose	Councillor Catherine Pope
Councillor Adriane Carr	Director Jamie Ross
Director Meghan Lahti	Director Dan Ruimy
Councillor Dennis Marsden	Councillor Rosemary Wallace

The individuals present, joined by Councillor Gu at 9:08 am, discussed the agenda items to provide their comments to the board.

Members of the Climate Action Committee have had the opportunity to review the report titled “Air Quality Advisories During the Summer of 2024”, dated October 16, 2024 and have affirmed their general agreement with the contents of the report and the recommendation presented by staff.

This matter is now before the Board for its consideration.

ATTACHMENTS

1. “Air Quality Advisories During the Summer of 2024”, dated October 16, 2024

71833659

To: Climate Action Committee

From: Geoff Doerksen, Air Quality Planner, Air Quality and Climate Action Services
Ken Reid, Superintendent Environmental Sampling and Monitoring, Air Quality and Climate Action Services

Date: October 16, 2024 Meeting Date: November 7, 2024

Subject: **Air Quality Advisories During the Summer of 2024**

RECOMMENDATION

That the MVRD Board receive for information the report dated October 16, 2024, titled “Air Quality Advisories During the Summer of 2024”.

EXECUTIVE SUMMARY

Another active wildfire season was experienced in BC in 2024, with more than twice the 10-year average area burned. Wildfire smoke covered much of the province for long periods, while the Lower Fraser Valley was largely unaffected, mainly due to its coastal location and prevailing winds. Elevated levels of ground-level ozone (smog) were experienced in the region for only a few days during the summer of 2024.

Metro Vancouver issued the only advisory of 2024 on July 8, a three-day smog advisory for eastern parts of Metro Vancouver and the Fraser Valley, due to a combination of emission sources in the region and hot, sunny weather. Metro Vancouver issues air quality advisories and bulletins for the Lower Fraser Valley airshed, including Metro Vancouver and the Fraser Valley Regional District, to help protect residents’ health during periods of degraded air quality.

PURPOSE

To provide the Climate Action Committee and the MVRD Board with information about air quality advisories issued by Metro Vancouver during the summer of 2024, historical trends, and implications for future air quality.

BACKGROUND

Metro Vancouver’s air quality advisory program began in 1993 and is operated through Metro Vancouver’s authority to manage air quality in the Metro Vancouver region, and through a shared service agreement for the Fraser Valley Regional District (FVRD). The Climate Action Committee 2024 Work Plan includes an item to provide a report on the 2024 air quality advisory season.

METRO VANCOUVER ADVISORY PROGRAM IN 2024

Metro Vancouver operates one of the most comprehensive air quality advisory programs in Canada. Air quality advisories are issued by Metro Vancouver for the entire Lower Fraser Valley airshed, including Metro Vancouver and the FVRD, when air quality is degraded or expected to degrade. The program is delivered in collaboration with Environment and Climate Change Canada (ECCC), the BC

Ministry of Environment and Climate Change Strategy (BC ENV), FVRD, Vancouver Coastal Health, Fraser Health Authority, First Nations Health Authority, and the BC Centre for Disease Control (BC CDC).

Data from Metro Vancouver’s network of air quality monitoring stations is available in real time on Metro Vancouver’s Air Map (Reference 1) and informs the air quality advisory program. Contaminants of primary concern for Metro Vancouver’s air quality advisory program are those with greatest potential to reach levels in the region that may be harmful to human health: smog (ground-level ozone produced by a chemical reaction between nitrogen oxides and volatile organic compounds on hot and sunny days) and fine particulate matter (from sources including wildfire smoke, residential wood smoke, vehicle exhaust, industrial processes, and chemical reactions). These contaminants are measured against Metro Vancouver’s ambient air quality objectives, which are thresholds for acceptable air quality (refer to the report titled “Proposed Updates to Metro Vancouver’s Ambient Air Quality Objectives” in this agenda package).

Air quality bulletins are also used to inform the public of air quality conditions. Bulletins are issued when air quality degrades in localized areas, whereas air quality advisories are issued for regional conditions. Historically, air quality bulletins have been issued due to the buildup of air contaminants associated with residential wood burning in the fall or winter, and more recently they have been used during emergency incidents such as large structural fires that produce significant smoke.

SUMMER 2024 ADVISORIES AND BULLETINS

One air quality advisory was issued during the summer of 2024, for a total of three days. On July 8, a three-day smog advisory was issued for eastern parts of Metro Vancouver and the Fraser Valley. Elevated smog was caused by local emissions in combination with hot and sunny weather.

Metro Vancouver maintains a subscription list of media outlets, key stakeholders, and members of the public who have subscribed to receive information about air quality advisories. Table 1 shows the number of advisory subscribers, air quality advisory emails sent, media interviews conducted, and social media posts issued to support the air quality advisory program in the summer of 2024.

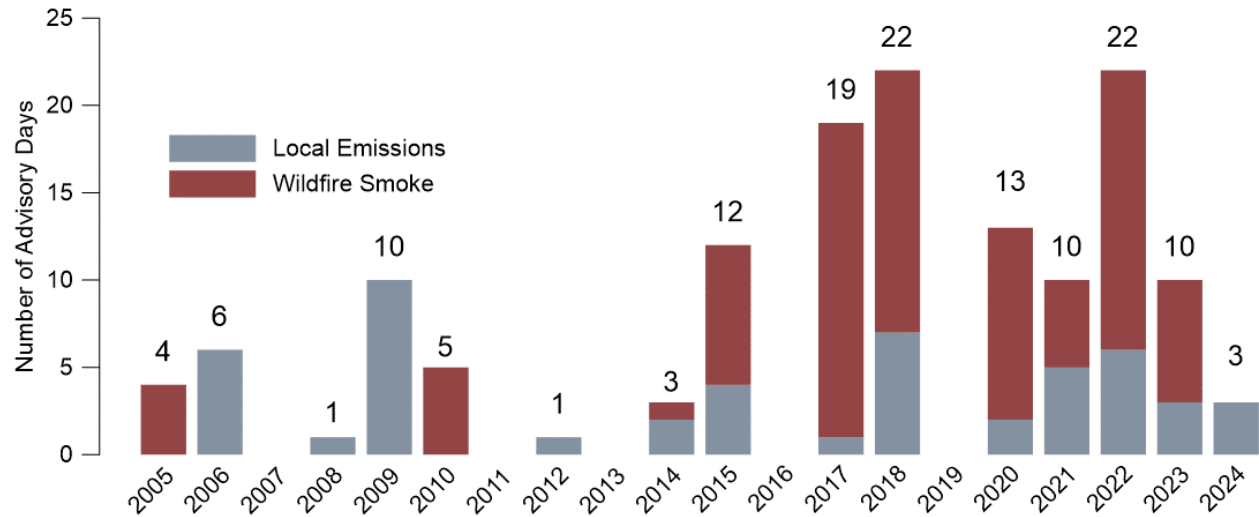
Table 1: Air quality advisory outreach statistics for summer 2024

Air quality status updates	25
Air quality status update subscribers	1,287
Air quality status update emails sent	32,175
Media advisory subscribers	242
Public advisory subscribers	4,751
Advisory media releases issued	4
Advisory emails sent	19,972
Media interviews conducted by advisory team	3
Social media posts	69

In the last twenty years, the number of days on which air quality advisories were in place has ranged from zero to twenty-two days annually. Figure 1 shows the historical trend of the number of days the Lower Fraser Valley was under an advisory. The legend indicates the reason for the

advisory being issued, whether is due to wildfire smoke or local emissions (ground-level ozone or secondary fine particulate matter). Metro Vancouver has a performance indicator that aims for zero advisory days due to local emissions (sources located within the airshed). In the last 5 years there have been on average 3.8 days with such advisories each year. Actions to reduce local emissions that contribute to smog are outlined in the *Regional Ground-Level Ozone Strategy* which is currently undergoing an update.

Figure 1: Number of days of air quality advisories in the Lower Fraser Valley



Note: Trigger levels for advisories have changed over the years; care must be taken when interpreting advisory trends.

An air quality bulletin was issued on June 20, 2024 in response to smoke from a fire that engulfed an unused wooden train trestle spanning the Fraser River between Richmond and Vancouver. The bulletin was ended the following day when air quality improved.

2024 WILDFIRE SEASON

Leading into wildfire season, the BC Wildfire Service reported that conditions included deep and persistent drought through the northeast and central Interior, extremely low snowpacks, and numerous holdover fires from the previous year. Low snowpacks can limit drought recovery heading into the summer. Holdover wildfires, which smolder under snow or the ground during the winter, are common in BC and can resurface in the spring when vegetation dries out.

While northern BC experienced warmer and dryer than normal conditions in the spring, major fire activity was delayed due to cool and showery conditions in June. In July, a prolonged heat spell dried out forests and fuels, with fire activity and intensity steadily increasing through the month. Severe drought continued in many parts of BC, including the northeast, where the majority of wildfires were concentrated. Nearly 75% of area burned in BC occurred in the northeast in the Prince George Regional Fire Centre.

Meanwhile, southwest BC received more rainfall than normal throughout the summer, mitigating drought conditions and fire activity. Less than 1% of area burned in BC occurred in southwest BC,

the Coastal Regional Fire Centre. As of the end of September, over 1,074,100 hectares have burned in 2024, more than twice the 10-year average.

In 2024, no air quality advisories were issued in Metro Vancouver or the Fraser Valley due to wildfire smoke. There were a few days with hazy conditions but air quality remained better than air quality advisory thresholds at all monitoring stations.

IMPLICATIONS FOR FUTURE AIR QUALITY

Research on BC wildfire seasons indicates that human-induced climate change contributes greatly to the extreme warm temperatures, high wildfire risk, and large burned areas (Reference 2). Climate projections indicate the region will experience hotter, drier summers and warmer, wetter winters. A warming climate is expected to increase the frequency, severity and duration of wildfires and associated smoke impacts, while also increasing in-region smog formation through the intensity and duration of summer heat waves.

Public awareness of air quality and health has also grown with smog and wildfire smoke impacts. Metro Vancouver continues to work with local health authorities, BC Centre for Disease Control, Health Canada, BC ENV, FVRD and experts from outside BC to develop communication resources for residents on smog and wildfire smoke health impacts and how they can protect themselves. Metro Vancouver is also exploring opportunities to collaborate with member jurisdictions and other partners on programs and policies to help protect residents from the impacts of extreme heat and smoke.

Metro Vancouver's *Climate 2050* strategy has identified actions to help residents adapt to climate-related impacts on regional air quality, such as accelerating the use of electric heat pumps to cool homes during extreme heat events while also reducing greenhouse gas emissions. The *Clean Air Plan* outlines strategies for continuous improvement in regional air quality, as well as actions to: provide better protection against wildfire smoke (such as public clean air spaces), develop resources to help residents and businesses manage indoor air quality, and provide high quality information to the public during air quality advisories.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

Staff time for the air quality advisory program is included in annual operating budgets, including overtime for evening and weekend work. Increased resource levels may be needed as wildfire activity continues to increase in the future and have been considered in long term financial planning.

CONCLUSION

Metro Vancouver staff work closely with health authorities and other partners to continuously improve the air quality advisory program to protect public health. Northeast BC experienced an active wildfire season in 2024, while our region was spared the impacts of wildfire smoke. Local emissions combined with hot and sunny weather in July resulted in a smog advisory for three days.

As Metro Vancouver experiences increasing climate impacts it is essential that we continue to accelerate actions to reduce greenhouse gas emissions, adapt to a changing climate, and improve regional air quality.

REFERENCES

1. [Metro Vancouver Air Map](#)
2. [Attribution of the Influence of Human-Induced Climate Change on an Extreme Fire Season, National Institutes of Health, dated January 7, 2019](#)

63890433

To: MVRD Board of Directors

From: Heather McNell, Deputy Chief Administrative Officer, Policy and Planning

Date: November 7, 2024 Meeting Date: November 29, 2024

Subject: **Climate 2050 Progress Report 2023/2024**

RECOMMENDATION

That the MVRD Board receive for information the report dated October 24, 2024, titled “Climate 2050 Progress Report 2023/2024”.

Due to recent membership changes at the MVRD Board, at its November 7, 2024 meeting, the Climate Action Committee did not meet the requirements of Section 57 (1)(d) of the *Metro Vancouver Regional District Procedure Bylaw No. 1368, 2023* which requires 50% of the committee members to be Directors. The formal meeting was adjourned with the following members present:

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The individuals present, joined by Councillor Gu at 9:08 am, discussed the agenda items to provide their comments to the board.

Members of the Climate Action Committee have had the opportunity to review the report titled “Climate 2050 Progress Report 2023/2024”, dated October 24, 2024 and have affirmed their general agreement with the contents of the report and the recommendation presented by staff.

This matter is now before the Board for its consideration.

ATTACHMENTS

1. “Climate 2050 Progress Report 2023/2024”, dated October 24, 2024

71841844

To: Climate Action Committee

From: Johann Zerbe, Senior Policy and Planning Analyst, Air Quality and Climate Action Services
Jason Emmert, Program Manager Regional Climate Action Policy, Air Quality and Climate Action Services

Date: October 24, 2024 Meeting Date: November 7, 2024

Subject: **Climate 2050 Progress Report 2023/2024**

RECOMMENDATION

That the MVRD Board receive for information the report dated October 24, 2024, titled “Climate 2050 Progress Report 2023/2024”.

EXECUTIVE SUMMARY

The Climate 2050 Progress Report 2023/2024 provides a status update on progress towards *Climate 2050* and its roadmap actions. Between 2010 and 2022, Metro Vancouver’s population increased by 22 percent, and regional GHG emissions increased by 9 percent, reaching 17.2 million tonnes per year of CO₂e in 2022. This increase was driven by growth in emissions from buildings, industrial facilities, and non-road engines (including construction and other equipment). For example, emissions from construction, manufacturing, and other commercial equipment (e.g., backhoes, generators, and forklifts) was responsible for about half of the growth in total regional emissions.

At the same time, effective climate policies and solutions are starting to have positive impacts. For example, since 2010, GHG emissions per person dropped 10% from 6.7 tonnes to 6.0 tonnes annually, and emissions in some sectors such as on-road transportation have reduced. Clean energy technologies are becoming more available and affordable, such as heat pumps, solar panels, electric vehicles, and batteries for energy storage. For example, in 2023, electric vehicles made up 27% of new vehicle sales in the region and more residential heat pumps than natural gas furnaces were imported into BC. Local governments are building protected and connected walking and cycling networks, and micro-mobility (including e-bikes and e-scooters) is growing in popularity, collectively displacing motor vehicle trips.

Total regional emissions are expected to be reduced in future years, provided that *Climate 2050* and policies from other orders of government continue to be supported, resourced, and implemented, alongside continued development and roll-out of clean technology. Expanded and accelerated climate action in the region is needed to achieve GHG reduction and resilience to climate impacts, to align with global efforts needed to avoid the worst impacts of climate change.

PURPOSE

To inform the Climate Action Committee and MVRD Board about work completed in 2023 and 2024 year-to-date in implementing *Climate 2050*, and to summarize the major trends and achievements in climate action in the Metro Vancouver region.

BACKGROUND

The Climate 2050 Progress Report 2023/2024 meets Metro Vancouver's commitment to report publicly on progress towards the *Climate 2050* goals. This report is intended to inform elected officials, residents, partners, and stakeholders on *Climate 2050* implementation, highlighting both regional and corporate progress. The report complements other climate communications in Metro Vancouver's Climate 2050 Engagement and Public Education Strategy, as well as the Local Government Climate Action Program (LGCAP) survey (Reference 1), which is a requirement for receiving provincial funding under the program.

INSIDE THE CLIMATE 2050 PROGRESS REPORT

This year's Climate 2050 Progress Report includes an updated summary of regional GHG emissions. The report covers:

- Implementation status of *Climate 2050* actions in Board-endorsed Roadmaps;
- Examples of work by Metro Vancouver's partners to support regional climate action;
- Highlights of key Metro Vancouver projects supporting both corporate and regional emissions reduction and climate resilience;
- Updated GHG emissions data by sector for 2019-2022, and discussion of emissions trends since 2010 (baseline year); and
- Corporate and regional key performance indicators, where data is available.

A detailed report on Metro Vancouver's regional emissions inventory will be shared with the Climate Action Committee and Board at a future meeting.

PROGRESS TOWARDS CLIMATE GOALS AND TARGETS

GHG emissions are starting to decrease in some sectors in our region, but total emissions are still rising. Increased and more coordinated efforts are needed at all orders of government, in collaboration with partners including public sector organizations, businesses, non-profits, and residents in our region.

We are seeing some positive trends and leading indicators that show progress and potential for reducing regional GHG emissions, including:

- Per capita GHG emissions have dropped by 10% since 2010.
- Clean energy technologies such as heat pumps, solar panels, electric vehicles, and batteries for energy storage are becoming more available and affordable. For example, in 2023:
 - electric vehicles made up 27% of new vehicle sales in the region; and
 - more residential heat pumps than natural gas furnaces were imported into BC.
- Local governments are building protected and connected walking and cycling networks, and micro-mobility (including e-bikes and e-scooters) is growing in popularity, collectively displacing motor vehicle trips.

However, challenges continue to impede climate action in our region, resulting in overall emissions continuing to rise. These challenges include:

- Predominance of concerns about affordability, housing, and other socioeconomic factors;
- The challenge of scaling up and right-sizing infrastructure to supply clean energy;

- The need for significant and sustainable funding for public transit in the Metro Vancouver region;
- Continued growth and lock-in of some fossil fuel technologies; and
- The ongoing spread of misinformation about climate solutions, which requires evolving approaches to communication and engagement in order to maintain public support for climate policies.

REGIONAL EMISSIONS CONTINUE TO RISE

The Climate 2050 Progress Report 2023/2024 includes a summary of the recently updated regional GHG emissions inventory, and provides a breakdown of these emissions by sector. Between 2010 and 2022, Metro Vancouver's population increased by 22 percent, and regional GHG emissions increased by 9 percent, reaching 17.2 million tonnes per year of CO₂e in 2022. This increase was driven by growth in emissions from buildings, industrial facilities, and non-road engines (including construction and other equipment). GHG emissions from on-road transportation and solid waste reduced over this period. During this period, GHG emissions per person dropped slightly, from 6.7 tonnes to 6 tonnes per year.

Total regional GHG emissions are expected to be reduced in future years, provided that *Climate 2050* and policies from other orders of government continue to be supported, resourced, and implemented, alongside continued development and roll-out of clean technology. Expanded and accelerated climate action in the region is needed to achieve GHG reductions and resilience to climate impacts to align with global efforts needed to avoid the worst impacts of climate change

METRO VANCOUVER'S CORPORATE CLIMATE LEADERSHIP

Metro Vancouver is taking action to reduce its own emissions from operations and services, in the following ways:

- production and provision of renewable energy to the region;
- transitioning the corporate fleet to zero emissions vehicles;
- switching to lower-carbon fuel sources in our operations and contracted services, including renewable natural gas and renewable diesel; and
- undertaking deep retrofits of buildings owned by Metro Vancouver Housing that improve energy efficiency, reduce costs to tenants, and protect residents from extreme heat.

Staff are developing a new Corporate Climate & Energy Management System, which aims to accelerate actions to mitigate and adapt to climate change while increasing process efficiency to achieve 2030 and 2050 corporate targets that align with the regional *Climate 2050* targets.

The Climate 2050 Progress Report 2023/2024 includes highlights of corporate climate actions, and GHG emissions reporting for some Metro Vancouver service areas. Corporate GHG emissions, energy trends, and corporate climate action projects are reported in more detail in the technical report "Managing Metro Vancouver's Corporate Energy and Emissions" (Reference 2), posted on Metro Vancouver's website.

CLIMATE 2050 ROADMAP ACTION STATUS

Each *Climate 2050* Roadmap includes a timeline for implementation. The Climate 2050 Progress Report 2023/2024 provides an update (as of June 2024) of actions from the six Roadmaps endorsed by the Board to date, denoting whether they are complete, in-progress, not started (i.e., delayed), planned for future years, or not proceeding.

Climate 2050 Action Status as of June 2024:

- Complete: 10
- In-progress: 124
- Not started (i.e., planned start is delayed): 16
- Planned for Future (i.e., expected to start in 2024 or later): 102
- Not Proceeding: 1

The action marked as “not proceeding” reflects the Board’s direction to staff to not proceed with engagement on a potential approach to benchmark and / or limit emissions from existing large buildings.

METRO VANCOUVER CLIMATE ACTION HIGHLIGHTS

The Climate 2050 Progress Report 2024/2024 highlights a number of projects that address multiple actions in the *Climate 2050* Roadmaps, including Big Moves, which have the potential to significantly reduce regional emissions and/or improve resilience to climate impacts. These include:

- **BC Retrofit Accelerator:** In 2024, the Zero Emissions Innovation Centre launched the BC Retrofit Accelerator (BCRA). This “one-stop” resource hub helps building owners in the region plan and carry out building upgrades that reduce energy use and costs, protect occupants from extreme heat, and reduce GHG emissions. The BCRA offers coaching and advisory services including technical expertise, access to financing and grants, and other services. Metro Vancouver was instrumental in establishing the BCRA by providing seed funding through the Sustainability Innovation Fund that helped ZEIC leverage to raise more than \$14 million.
- **Advocating for Fair Energy Rates and Accelerating Climate Action:** In 2023, Metro Vancouver collaborated with other local governments as an intervener in three British Columbia Utilities Commission (BCUC) proceedings. The focus was on advocating for fair energy rates and strategic long-term planning, and ensuring alignment with climate targets and regional priorities. The BCUC decisions were generally aligned with the positions of the local government interveners.
- **Charging Ahead: Transitioning to a Zero-Emission Fleet:** MetroFleet, Metro Vancouver’s corporate on-road vehicle fleet, will transition over 300 fleet vehicles to EVs over the next six years. In 2023, Metro Vancouver added 25 new EVs to its light-duty fleet and added over 20 new EV chargers for corporate, staff, and public use.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The resources to develop and communicate the Climate 2050 Progress Report are approved within current program budgets. Implementing *Climate 2050* to meet the targets with the urgency demanded by the climate crisis is likely to require additional investments, while also conferring long-term economic benefits for residents and businesses, necessitating innovative approaches and partnerships. Through collaboration with its partners, Metro Vancouver is able to leverage significant financial resources to drive climate action and deliver cost-effective value to the residents of the region. As specific proposals are developed, their costs, benefits, and partnerships will be clarified and Board approval will be sought as per current financial practices.

CONCLUSION

The Climate 2050 Progress Report 2023/2024 provides an overview of *Climate 2050* Roadmap development and implementation in 2023 and 2024 year-to-date, including updates on key actions and projects that support progress towards the *Climate 2050* objective of a carbon neutral, resilient region. The Climate 2050 Progress Report 2023/2024 shows that while we are beginning to see positive trends towards our climate goals, significant challenges remain to achieving them. Expanded and accelerated action on the part of Metro Vancouver, in collaboration with other orders of government and partners is needed to meet targets for 2030 and 2050. Staff will continue to seek direction from the Climate Action Committee and the Board to advance projects and initiatives supporting Big Moves and other key Roadmap actions.

ATTACHMENTS

1. Metro Vancouver Climate 2050 Progress Report 2023/2024, dated October 2024.
2. Presentation re: "Metro Vancouver Climate 2050 Progress Report 2023/2024", dated November 7, 2024.

REFERENCES

1. [Metro Vancouver 2024 Local Government Climate Action Program \(LGCAP\) Submission, dated July 30, 2024](#)
2. [Metro Vancouver Annual Corporate Energy and Greenhouse Gas Emissions Management Report 2019 to 2023, dated October 2024](#)



Climate 2050 PROGRESS REPORT

2023/2024

Indigenous Territorial Acknowledgement

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: q̓íçáý (Katzie), q̓ʷɑ:ńłáń (Kwantlen), k̓ʷíkʷəłəm (Kwikwetlem), máthxwi (Matsqui), x̓ʷməθk̓ʷəýəm (Musqueam), q̓íqéyt (Qayqayt), Semiahmoo, S̓k̓w̓x̓w̓ú7mesh Úxwumixw (Squamish), scəwáθəθ məsteyəx̓ʷ (Tsawwassen) and səlilwətał (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.

About Metro Vancouver

Metro Vancouver is a diverse organization that plans for and delivers regional utility services, including drinking water, sewers and wastewater treatment, and solid waste management. It also regulates air quality, plans for urban growth, manages a regional parks system, provides affordable housing, and serves as a regional federation. The organization is a federation of 21 municipalities, one electoral area, and one treaty First Nation located in the region of the same name. The organization is governed by a Board of Directors of elected officials from each member jurisdiction.

4515 Central Boulevard, Burnaby, BC, V5H 0C6

metrovancover.org

October 2024

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About *Climate 2050*

Climate change is driven by excess greenhouse gases (GHGs) from human activities and is affecting residents in our region today. Warming of the atmosphere, oceans, and land is leading to more frequent and severe weather events, and widespread disturbances and damage to natural and human systems. In the future, our region can expect even hotter, drier summers, warmer, wetter winters, and more extreme weather (see Metro Vancouver’s [Climate Projections Report](#)). Scientists emphasize we can still stop the worst effects of climate change if we work together to dramatically reduce our emissions over the next few years and coming decades.

Climate 2050 is the strategy adopted by Metro Vancouver in 2018 that commits to:

- Achieve a carbon-neutral region by 2050
- Ensure the region’s infrastructure, ecosystems, and communities are resilient to the impacts of climate change
- Reduce greenhouse gas (GHG) emissions by 45% from 2010 levels by 2030

Carbon Neutral Region

A carbon neutral region is achieved when the annual GHG emissions are equal to the amount of carbon removed from the atmosphere and stored annually by the natural ecosystems (e.g. forests and wetlands).

In our region, these ecosystems remove about 1 million tonnes of carbon from the atmosphere every year. Currently, regional GHG emissions are around 17 million tonnes per year. This means that we must reduce these emissions as much as possible, while ecosystems can help to offset a very small amount of remaining emissions to get to net zero.

In this context “Net Zero” can be used interchangeably with carbon neutral.

According to the International Panel on Climate Change (IPCC) the world must achieve “net zero” emissions by 2050 to avoid catastrophic climate change.



Progress Toward Climate Goals and Targets

We are beginning to see emissions decrease in key sectors in our region, but total emissions are still rising. Increased and more coordinated efforts will be needed at all levels of government, in collaboration with partner organizations including public sector organizations, businesses, non-profits, and residents in our region.

Positive Trends on Reducing Emissions

- Clean energy technologies are becoming more available and affordable, such as heat pumps, solar panels, electric vehicles, and batteries.
- In 2023, electric vehicles made up 27% of new vehicle sales in the region.
- In 2022 and 2023, more residential heat pumps than natural gas furnaces were imported into BC.
- Governments are investing in connected walking and active transportation networks, and use of micro-mobility (including e-bikes and e-scooters) is growing in popularity.

Regional Emissions are Rising

In 2022, the Metro Vancouver region's total annual regional GHG emissions were 17.2 million tonnes CO₂e (carbon dioxide equivalent), up 9% from 2010 (15.8 million tonnes CO₂e). These increases were driven by growth in emissions from industrial facilities,

non-road engines (including construction and other equipment), and buildings. GHG emissions from on-road transportation and solid waste decreased during this period.

Per Capita Emissions are Decreasing

Metro Vancouver's population grew by 22% during this period, with GHG emissions per person decreasing from 6.7 tonnes to 6 tonnes.

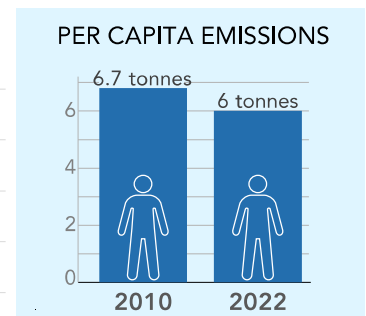
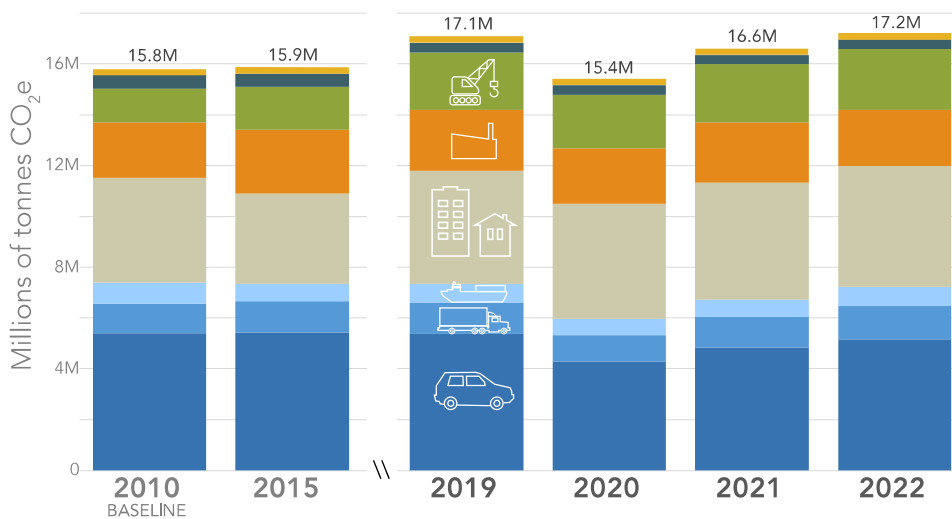
Total regional emissions are expected to decrease in future years, as actions in the Climate 2050 roadmaps, and policies from other orders of government are implemented and as technology and market shifts continue to take effect.

Challenges to Climate Action

Conversely, challenges to climate action include:

- Compounding societal crises and challenges
- The challenge of scaling up the infrastructure needed to supply clean energy
- Continued growth and lock-in of fossil fuel technology
- Securing sustainable funding for transit
- Maintaining public support for climate action with spread of misinformation

METRO VANCOUVER REGION-WIDE GREENHOUSE GAS EMISSIONS BY SECTOR 2010 – 2022



- Agriculture
- Waste
- Non-road Engines & Equipment
- Industrial Facilities
- Buildings
- Air, Marine, Rail
- Heavy Duty Vehicles
- Light Duty Vehicles

Implementing Climate 2050

This *Climate 2050* Progress Report includes updates on work in 2023 and 2024 (to the end of June) to implement the actions in each *Climate 2050 roadmap*. For *Climate 2050* roadmaps that are still under development, this report includes updates about relevant actions and projects that are underway or completed.

This report provides an update on which actions are complete, in-progress, not started, planned for future years, or not proceeding.

See Appendix 1 (page 28) for a list of Climate 2050 actions that were complete or in-progress as of June 2024, and see the Climate 2050 roadmaps for a full list of actions in board-endorsed roadmaps.

Climate 2050 Action Implementation (from Board-endorsed roadmaps, as of June 2024)

	BIG MOVES	TOTAL ACTIONS
Complete	7	10
In Progress	31	124
Not Started	3	16
Planned for Future Years	14	102
Not Proceeding ¹	1	1

The icons below indicate the types of actions you will find throughout this report:



Actions that have the most potential to significantly reduce emissions or enhance resilience and adaptation to climate impacts



Actions that reduce greenhouse gas (GHG) emissions



Actions that support adaptation and resilience to climate impacts



Actions by Metro Vancouver in its corporate operations that demonstrate leadership and support regional action



Buildings

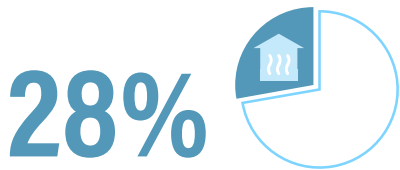
Creating climate-ready buildings that protect human health, save lives, and stand strong against extreme weather.

GHG emissions from buildings in Metro Vancouver have increased by 15% since 2010. Energy-efficient and zero-emissions buildings have lower annual energy costs, better resilience to extreme heat events, and healthier air quality. Without strong policies, emissions from buildings will continue to rise and building owners will miss opportunities to reduce energy costs and improve resilience.

THE CHALLENGE



4.7 million tonnes CO₂e
from burning natural gas for heating and hot water in buildings



28%
of regional GHG emissions are from burning natural gas for heating and hot water in buildings

PERFORMANCE

↑15% increase in buildings emissions in the region since 2010 (2022)

2,885 new residential heat pumps installed in region through the CleanBC Better Homes Program (2023) replacing natural gas systems, compared to **1,957 in 2022**

10 Metro Vancouver municipalities and local First Nations adopting the **Zero Carbon Step Code**

↓17% decrease in **GHG emissions** from Metro Vancouver Housing buildings since 2010

Accelerating Zero Emissions New Construction

New homes with all-electric heating can be just as affordable to build, and cheaper to operate, compared to gas-heated buildings². As of the time of this report's publication, ten municipalities and First Nations in the Metro Vancouver region have adopted the BC Zero Carbon Step Code for new construction³, ensuring that new homes and buildings have lower emissions, ahead of BC-wide requirements that will come into effect in 2030.

Reducing Emissions from Existing Buildings

The Government of BC's CleanBC Better Homes and Better Buildings programs provide rebates and incentives for building owners to implement zero-emissions retrofits. In 2024, the Government of BC and BC Hydro announced the [Multi-Unit Residential Building Retrofit Program](#), which extends substantial rebates for equipment upgrades in these buildings, providing rebates for building owners to implement advanced technologies that significantly reduce energy consumption. Member jurisdictions are also working to ensure building owners have the resources and supports to incorporate emissions reduction and cooling into the renovations plans for their buildings:

- The City of Vancouver has launched Energize Vancouver to support owners and managers of commercial buildings to meet new requirements for emissions reporting and future emissions limits. In 2023, the Rental Apartment Retrofit Accelerator (RARA) was launched, which provides grant funding to owners of market rental buildings to undertake critical energy retrofit upgrades, reducing emissions and improving climate resilience of these buildings.
- The City of Richmond is exploring its own reporting and benchmarking policies for large buildings.



Metro Vancouver Project Highlights



BC Retrofit Accelerator

The [Zero Emissions Innovation Centre \(ZEIC\)](#) used seed funding from Metro Vancouver’s Sustainability Innovation Fund to raise more than \$14 million to establish a buildings “Retrofit Accelerator”.

This is a “one-stop” resource hub for building owners in the region to help plan and carry out building upgrades that reduce emissions. The accelerator will offer coaching and advisory services including technical expertise, access to financing and grants, and other services.



Green Upgrades: Transforming Metro Vancouver Housing



Metro Vancouver Housing Corporation is upgrading buildings across the region to significantly reduce their emissions and energy costs, including at Somerset Gardens and Minato West, where retrofits were initiated in 2023. These projects include major improvements to insulation and windows, replacing inefficient heating systems and switching them from gas to electric alternatives, and providing efficient cooling with heat pumps that protect residents from extreme heat events.

This work is supported by the Reframed Initiative, a collaboration between Metro Vancouver Housing, the Pembina Institute, the BC Non-Profit Housing Association, BC Housing, and the City of Vancouver.





Transportation

Cutting emissions while improving how we move people and goods across the region.

Transportation is the largest source of GHG emissions in the region. Emissions from cars, light trucks, and SUVs have decreased by 4% since 2010, while emissions from heavy-duty vehicles such as freight trucks have increased by 13%. However, zero-emissions vehicles are becoming more affordable and available, opening up greater opportunity to reduce these emissions.

THE CHALLENGE



6.5 million tonnes CO₂e
total annual regional GHG emissions from on-road vehicles (2022), making up 38% of regional GHG emissions



23 billion km

annual total vehicle distance traveled in region (up 25% from 2010)

PERFORMANCE

↓ 4% decrease in light duty vehicle emissions from 2010-2022

↑ 13% increase in heavy-duty vehicle emissions from 2010-2022

27% of new passenger vehicles sold in region were electric (2023)³

6% of passenger vehicles in region are EVs (2023)⁴

↓ 28% decrease in GHG emissions from MV Fleet vehicles from 2016 baseline year

Accelerating the Shift to Electric Vehicles

In 2023, EVs comprised over 27% of new vehicles sold in the region. This rising demand is driven in part by effective policies such as provincial and federal zero-emissions vehicle sales mandates⁴.

The BC government has revised the Strata Property Act to make it easier for apartment owners to install EV charging stations. At the same time, additional efforts are needed to ensure the EV charger network is rapidly expanded.

Investing in Public and Active Transportation

While the rise in EVs is promising, we must also prioritize walking, cycling, and transit. These modes cut GHG emissions, improve health, ease traffic, and create more livable neighbourhoods. TransLink, with funding from the federal and BC governments, is building two major SkyTrain expansion projects; the Broadway Subway Line and the Surrey-Langley SkyTrain extension.

Member jurisdictions are also building infrastructure to make walking and cycling safer, and piloting or expanding programs for bike-share, e-bikes, and e-scooters. Together, these investments can reduce vehicle trips and associated congestion and improve health. In addition to investments in infrastructure such as protected bike lanes and sidewalks, programs like the [City of Coquitlam's Shared Micromobility Pilot](#), and the [North Shore E-bike share program](#), are providing residents with low-carbon, affordable, and convenient travel options. Upon launching in June 2023, the BC E-Bike Rebate Program was fully subscribed within a few hours, demonstrating the demand for e-bikes and other forms of electric micro-mobility.



Metro Vancouver Project Highlights



Electric Vehicle Charging Analysis and Guidance

In partnership with BC Hydro and TransLink, in 2023 Metro Vancouver completed [Keeping it Current: Guidance for Collaborative Deployment of EV Charging in Metro Vancouver](#), a resource to guide and align deployment of public and multifamily residential building EV charging in the region. The analysis found a need for:

- Rapid and widespread expansion of the EV charging network
- 2,200 to 2,900 public direct current fast charging (DCFC) ports and 32,000 to 47,000 public Level 2 ports needed by 2035 to keep pace with the expected rapid uptake of EVs

The report also provides recommendations for local governments and others to accelerate deployment of these chargers.



Zero Emission Hauling: Leading the Way to Clean Heavy-Duty Transportation

In 2023, Metro Vancouver worked with member jurisdictions and hauling companies to assess the business case for using zero-emission vehicles (ZEVs) for transporting solid waste, drinking water treatment residuals, biosolids, and curbside waste collection. Metro Vancouver uses hauling contractors to transport waste within the region, as well as over long-distances (for example, biosolids are recovered from advanced wastewater treatment and used for soil remediation at agricultural and industrial sites in the interior of BC). Metro Vancouver also engaged with hauling contractors as part of a ZEV pilot project to use battery electric and hydrogen fuel cell trucks to reduce emissions from hauling services.

Charging Ahead: Transitioning to a Zero-Emission Fleet



Metro Vancouver's Green Fleet Plan will support a goal of transitioning Metro Vancouver's corporate on-road vehicle fleet to zero-emissions vehicles by 2050. As part of the strategy, Metro Vancouver will transition over 300 fleet vehicles to EVs over the next six years. In 2023, Metro Vancouver added 25 new EVs to its light-duty fleet and added over 20 new EV chargers for corporate, staff, and public use.





Energy

Powering our region sustainably with clean, renewable energy.

THE CHALLENGE

75% 

of energy used in the region comes from burning fossil fuels (including fossil natural gas, gasoline, diesel, and coal), accounting for 90% of all regional GHG emissions

PERFORMANCE

384,930 GJ

of electricity generated at Waste-to-Energy Facility in 2023, enough to power **more than 14,000 homes** for a year



403,673 GJ

of biogas produced by Metro Vancouver for use in its operations in 2023



\$ 900,000

revenue from Renewable Natural Gas sold to FortisBC, **reducing** emissions in the region **by over 2,100 tonnes**

Increasing Clean Energy Supply

The Metro Vancouver region is in the midst of transitioning to clean, renewable energy sources. Electricity use in Metro Vancouver and BC is expected to grow by 15% by 2030. In 2024, BC Hydro issued a call for power to acquire 3,000 gigawatt hours per year of new electricity throughout the province, enough to power 270,000 homes. The call for power received strong response with proposals received for over three times more energy than was targeted, with 90% of proposals being wind or solar projects.

Supporting the Region's Energy Transition

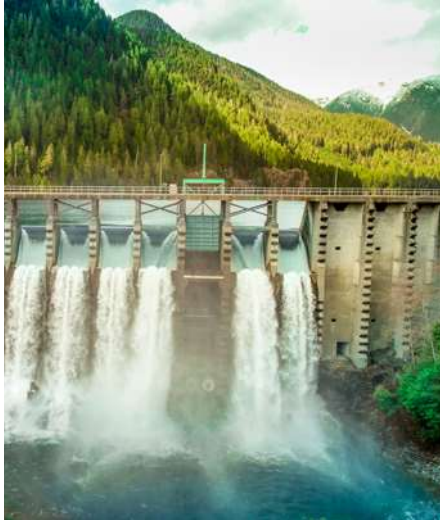
Metro Vancouver is harnessing wasted energy from our region's sewage and solid waste systems to power communities, and creating renewable fuels for use in industry and transportation.

Influencing Energy Planning

Local governments are working together to advocate to the Province of BC and the BC Utilities Commission for fair and affordable energy rates and strategic long-term energy planning aligned with provincial and regional climate goals. Communities in the region are increasingly requiring new buildings to be energy-efficient and low-emissions, through setting requirements such as those in the Zero Carbon Step Code.



Metro Vancouver Project Highlights



Advocating for Fair Energy Rates and Accelerating Climate Action

In 2023, Metro Vancouver collaborated with other local governments as an intervener in three British Columbia Utilities Commission (BCUC) proceedings. The focus was on advocating for fair energy rates and strategic long-term planning, and ensuring alignment with regional priorities.

The interveners aimed to ensure that rigorous standards be met for renewable gases in BC's energy plan:

- They must be verifiably zero-emission
- They must be safely deployed affordable, consistently available
- They must be utilized in the most efficient and effective ways possible

Metro Vancouver as a Clean, Renewable Energy Provider



Metro Vancouver's Waste-to-Energy Facility already provides renewable electricity to the region, but also generates steam through its regular operations that is not currently being put to use. Metro Vancouver is developing a district energy system which will use this excess heat to supply space and hot water heating for to up to 50,000 homes in Vancouver, Burnaby, and potentially New Westminster, and has the potential to reduce emissions by up to 70,000 tonnes. Construction of Phase 1 is expected to take place from 2025 to 2027.



Turning Wastewater into Renewable Natural Gas



Metro Vancouver is turning wastewater into renewable natural gas at its wastewater treatment plants, helping to displace fossil fuels and reducing greenhouse gas emissions in the region.

At facilities like Annacis Island and Iona Wastewater Treatment Plants, biogas is used to generate heat and electricity. At Lulu Island Wastewater Treatment Plant, biogas fulfills all the plant's heating needs while excess gas is sold to FortisBC. Metro Vancouver is also exploring using biogas at other facilities like Northwest Langley and Iona Island. An additional pilot project aims to enhance biogas production by optimizing bacteria in treatment plant digesters.

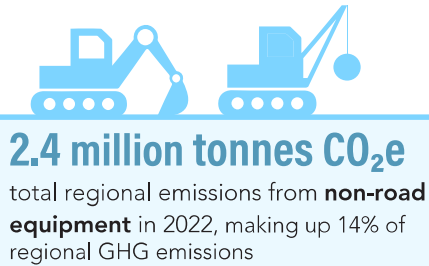
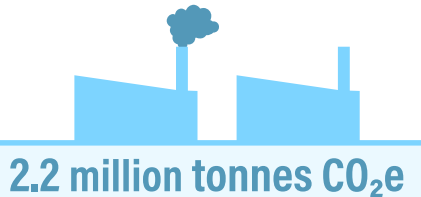


Industry & Business

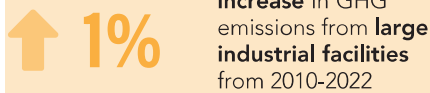
Driving economic growth and prosperity through a thriving local clean energy economy.

The majority of industrial sector emissions in the region come from just 23 large industrial facilities such as cement and petroleum manufacturing facilities, and have remained stable since 2010. Emissions from gas and diesel-powered equipment, such as construction and manufacturing, have nearly doubled since 2010, corresponding to rapid urban development in the region, and now make up 14% of total regional emissions⁵.

THE CHALLENGE



PERFORMANCE



Clean Industry Policy

The Province of BC has introduced new emissions requirements for large GHG emitters through the Output-Based Pricing System (OBPS), which prices industrial emissions using a performance-based approach and ensures industry competitiveness.

The CleanBC Clean Industry Fund is supporting industrial emissions reduction projects in the region, including supporting a project in 2023 at Richmond’s Lafarge Cement Plant to upgrade the facility to use alternative fuels in order to reduce the need for fossil fuels.

The BC Low Carbon Fuel Standard continues to require fuel producers to reduce their emissions and innovate to produce renewable fuels.

Clean Technology Leadership

British Columbia is home to 492 companies focused on products and services that reduce environmental impacts such as GHG emissions—more than 70% of these companies are headquartered in Metro Vancouver⁶. Investments, programs, and policies at all levels of government are supporting industry and business in the region to develop and commercialize these innovative solutions.



Metro Vancouver Project Highlights



Assessment of Carbon Capture Technology in the Metro Vancouver Region

Carbon capture, utilization, and storage (CCUS) systems remove CO₂ industrial process emissions and either use or store the CO₂, preventing its release into the atmosphere. With support from the Government of BC and the UBC Clean Energy Research Center, Metro Vancouver launched a project in 2021 to evaluate carbon capture technology for stacks or chimneys at large industrial facilities, such as those from:

- Cement manufacturing
- Petroleum refining and chemical production
- Food and wood products manufacturing
- Metro Vancouver’s Waste-to-Energy Facility

The initial assessment concluded that deploying carbon capture, CO₂ transportation, and local CO₂ storage in an integrated network is technically feasible for the major

industrial facilities, but will require significant investment, long-term planning, and extensive engagement with industry and the community.



Reducing Emissions from Small Gas-Powered Equipment

Small gas-powered landscaping equipment in the region, like leaf blowers and lawn mowers produce the same amount of health-harming emissions as 750,000 light-duty vehicles, (half of all cars, trucks and SUVs in the region).

Discussions with industry associations, equipment manufacturers, member jurisdictions, and the provincial government indicate there is growing interest in transitioning to zero-emissions equipment. Metro Vancouver is engaging on developing a strategy to accelerate the transition to zero emissions equipment.



Lights, Camera, Climate Action! Supporting Clean Energy Use in Film Production

Portable diesel generators are used extensively in BC’s film industry and as a result of this reliance on fossil fuels, film production in Metro Vancouver has higher emissions from fuel consumption compared to other regions. In 2023, Metro Vancouver completed [Lights, Camera, Climate Action](#), a report on clean power alternatives for the film industry, which identified a number of solutions to reduce emissions from film production, including programs to support use of mobile battery power or electrical tie-ins at filming locations.

Since 2022, Metro Vancouver has offered a discount on clean energy-powered portable generators used by film crews. Metro Vancouver is now pursuing a pilot to install upgraded electrical connections at a regional park location to enable zero emissions film production.



Nature & Ecosystems

Protecting and leveraging green spaces to enhance climate resilience and biodiversity.

Metro Vancouver member jurisdictions and local First Nations are leaders in protecting, restoring, and enhancing ecosystems, which help to sequester and store carbon, and bolster the region's resilience to climate change impacts such as extreme heat and flooding.

THE CHALLENGE

31% proportion of Urban Containment Boundary with **tree canopy cover** (2020)



54% proportion of the Urban Containment Boundary covered by **impervious surface** (2020)

PERFORMANCE



1% loss of tree canopy cover in Urban Containment Boundary between 2014-2020 (down from 32%).
Metro Vancouver target = 40%

↑ 4%

increase in proportion of the Urban Containment Boundary covered by impervious surface between 2014-2020 (up from 50%)

32 restoration projects
across 17 regional parks

completed in 2023

Restoring Ecosystems

- In 2023, Tsleil-Waututh Nation completed a project to restore coastal eelgrass ecosystems in Burrard Inlet.
- The Living Dyke project is being implemented through a partnership between the City of Surrey, City of Delta, and Semiahmoo First Nation.
- Member jurisdictions such as Vancouver and New Westminister are using nature-based solutions such as rain gardens and bio-retention ponds to soak up increased rainfall and filter out pollutants before they enter natural waterways.

Expanding Connectivity of Ecosystems

Metro Vancouver is also working with partners to implement region-wide initiatives to support nature and ecosystems. These include the Regional Green Infrastructure Network and the Regional Greenway Network (RGN), a network of connected recreational paths for cycling and walking. Between 2020 and 2023, the total Regional Greenway Network length grew by 13 km, and approximately 39 km of its segments were completed and are now operational.



Metro Vancouver Project Highlights



Develop a Regional Green Infrastructure Network

To support the implementation of *Metro 2050*, Metro Vancouver is collaborating with member jurisdictions, local First Nations, and other agencies to plan a regional green infrastructure network. This project seeks to protect, enhance, restore, and connect a network of habitat patches and corridors that support the movement of wildlife across the landscape, while maximizing resilience, biodiversity, and human health benefits. Key work streams for this project include First Nations engagement, collaborative network mapping, research and design, and the development of *Metro 2050* guidelines to support network implementation.



Restoring Regional Parks for Future Generations



In 2023, Metro Vancouver completed 32 restoration projects across 17 regional parks, significantly enhancing natural habitats and promoting biodiversity. These projects included:

- Tree planting at Pacific Spirit and Lynn Headwaters regional parks
- Riparian area enhancement at Derby Reach Regional Park
- Seedling removal from a wildfire site at Burns Bog Ecological Conservancy Area to maintain bog ecosystem properties

In total, 10,734 native trees and plants were planted, revitalizing green spaces and supporting local ecosystems. These restoration efforts beautify parks and prevent soil erosion and soak up rainfall, which makes the parks and the areas around them more climate-resilient. Investing in nature and ecosystems ensures that these natural habitats and our communities thrive for generations to come.

Restoring Burns Bog: Conservation of a Carbon Sink



Over the past 20 years, Metro Vancouver, in partnership with the City of Delta, has been restoring the Burns Bog, which is a significant carbon “sink” for the region, meaning that the carbon it removes from the atmosphere accumulates over time. To promote carbon sequestration and support healthy bog function, Metro Vancouver and Delta are working to raise the water table by blocking drainage ditches, constructing peat berms, removing trees and seedlings, and monitoring water levels and quality. Since 2008, these restoration efforts have prevented over 120,000 tonnes of GHG emissions, mostly methane, a highly potent GHG.

As of 2024, Metro Vancouver and the UBC Micrometeorology group are working together to analyze potential climate change impacts, such as warmer, drier summers and wetter winters, on Burns Bog, and to develop new ecological restoration strategies to maintain the health of the bog.





Agriculture

Protecting farmland to ensure a local, resilient food supply.

Metro Vancouver’s agricultural sector plays a crucial role in reducing greenhouse gas emissions and providing ecosystem services that make the region more resilient to climate change⁷. Because agriculture is highly sensitive to weather and climate, it is particularly impacted by climate change. To achieve our target of a net-zero and resilient agricultural sector, farmers in the region are using regenerative agricultural practices to help rebuild healthy soil, reduce emissions, and make farmland more resilient to climate change.

THE CHALLENGE



0.2 million tonnes CO₂e

total regional emissions from the agricultural sector in 2022⁷

PERFORMANCE

↑ 11%

increase total agricultural emissions from 2010-2022

Planning for Climate-Resilient Agriculture

Metro Vancouver and member jurisdictions are collaborating with the agricultural sector to identify opportunities to shift away from fossil fuels, build up soil health, promote local food, and embrace new technologies and nature-based solutions. These include:

- Delta recently completed an [Agricultural Plan](#)
- Pitt Meadows has begun implementing its newly adopted [Agricultural Viability Strategy](#) by initiating an agricultural irrigation and drainage water assessment and feasibility study
- Richmond continues to support the transition toward a circular food system through implementation of its [Circular City Strategy](#).



Metro Vancouver Project Highlights



Regional Food System Strategy Update Project

Metro Vancouver plays a key role in protecting agricultural lands and supporting a sustainable, resilient food system. The Regional Food System Strategy (RFSS), completed in 2011, aims to transition the region's food system into a fully resilient, circular model. While many actions remain relevant, the 2011 RFSS is in the process of being updated to address climate change, food security, Indigenous food sovereignty, and a circular food system.



Payment for Ecosystem Services Program on Agricultural Land

Ecosystem services are benefits humans derive from natural ecosystems, including providing materials like food and water, regulating process such as climate and air quality, supporting processes

like nutrient cycling, and cultural benefits such as recreation and spiritual values.

Metro Vancouver is researching existing ecosystem payment and funding programs in BC, and is now exploring a potential payment program for ecosystem services on the region's agricultural lands.

Preliminary research reviewed existing ecosystem payment and funding programs in the province. Metro Vancouver is now engaged in a multi-year work plan to explore the parameters of a potential payment for an ecosystem services program.



Agricultural Industry Efforts Showcase

Many stakeholders and participants in the agriculture sector are engaged in direct action that helps to reduce GHG emissions from agriculture, increase resilience, and ensure new and future generations of farmers incorporate sustainable practices.



Agricultural Climate Solutions – BC Living Lab

This research project focuses on climate change mitigation practices that benefit the environment and meet farmers' needs. Priorities include increasing soil carbon, reducing GHG emissions, understanding social and economic implications, and sharing research findings. BC's Living Lab supports perennial row crops, dairy, field vegetables, and forage and cattle.



Greenhouse Growers

A joint project by the BC Greenhouse Growers' Association, United Flower Growers, and the BC Landscape Nursery Association explored technological options for reducing GHG emissions in the BC greenhouse industry.



Water & Wastewater Infrastructure

Building climate resilience in our water systems to ensure high quality drinking water and low-carbon, resilient wastewater services for all residents.

THE CHALLENGE

8,594 tonnes CO₂e

total **corporate energy-related** GHG emissions from **Liquid Waste Services** in 2023

1,946 tonnes CO₂e

Total **corporate energy-related** GHG emissions from **Water Services** in 2023

PERFORMANCE

↑13%

increase in total **corporate energy-related** GHG emissions from **Liquid Waste Services** from 2014 corporate baseline (up from 7,591 tonnes CO₂e)

↓28%

decrease in total **corporate energy-related** GHG emissions from **Water Services** from 2014 corporate baseline (down from 2,698 tonnes CO₂e)

403,673 GJ

of **biogas produced** by **Metro Vancouver** for use in its operations in 2023



\$ 900,000

revenue from Renewable Natural Gas sold to FortisBC, **reducing** emissions in the region **by over 2,100 tonnes**

Metro Vancouver provides high quality drinking water and manages wastewater for the region's 2.8 million residents. These systems also help to protect watershed health, conserve water resources, generate low-carbon energy at wastewater facilities, and are designed and upgraded to improve resilience to climate change.

Protecting the Region's Drinking Water

Using the region's drinking water efficiently will become increasingly important as climate change makes our summers hotter and drier. Several member jurisdictions are pursuing residential water metering as a step towards conserving drinking water for when it is needed most.

Creating Climate-Ready Stormwater Systems

Increased rainfall and sea level rise is putting more pressure on stormwater systems. To adapt, Metro Vancouver's member jurisdictions are upgrading these systems.

Member jurisdictions are using nature-based solutions such as raingardens that retain runoff and allow it to drain into the ground while removing contaminants, protecting the health of fish-bearing streams.

For example, raingardens are part of New Westminister's West End Combined Sewer Separation Program, and Vancouver's Hastings-Sunrise Sewer Renewal Project.

Burnaby, New Westminister, and Vancouver are diverting rainfall runoff from sanitary sewers in separate pipe networks to reduce the burden on Metro Vancouver's wastewater treatment facilities and prevent sewage from being released into marine areas.



Metro Vancouver Project Highlights



Wastewater Heat Recovery Powers Sustainable Communities



There is enough excess heat in Metro Vancouver’s wastewater systems to heat about 700 high-rise buildings. Metro Vancouver is partnering with member jurisdictions, First Nations, and utilities to extract this heat from warm wastewater in sewers to provide renewable, low-carbon heat to residents and businesses. Using energy centres next to large sewers with special heat exchangers, heated hot water is then distributed in a pipe network to nearby buildings for space heating and hot water. Progress over the past year includes:

- Construction is underway to recover waste heat from Metro Vancouver’s Jervis Forcemain sewer to heat the Señákw development in Vancouver
- In Richmond, Metro Vancouver is collaborating with Lulu Island Energy Company on a project to recover heat for use by residents and businesses in the Richmond City Centre area
- Metro Vancouver is funding a project with the City of New Westminster to recover heat for the Royal Columbian Hospital and the Sapperton District

- The new North Shore Wastewater Treatment Plant, currently under construction, will recover 5 megawatts (MWs) of heat and sell it to Lonsdale Energy Corporation, owned by the City of North Vancouver
- In Surrey, a sewer heat recovery system will provide heat for residents and businesses in the Surrey City Centre area



Turning Wastewater into Renewable Natural Gas



Metro Vancouver’s wastewater treatment plants produce biogas as part of their treatment processes. Biogas is a valuable resource that can be used instead of conventional natural gas, reducing greenhouse gas emissions. Biogas is currently used at our wastewater treatment plants in a range of ways:

- At the Lulu Island Wastewater Treatment plant, the biogas is used to generate all plant heating needs. An RNG facility was installed at the Lulu Island Wastewater Treatment Plant in 2021 to clean up excess biogas and sell the resulting renewable natural gas (RNG) to FortisBC. In 2023, the facility produced nearly

43,000 GJ of RNG, reducing GHG emissions in the region by over 2,100 tonnes, and generating nearly \$900,000 in revenue for Metro Vancouver. Plans are underway to expand the facility to make additional gas available.

- At the Annacis Island and Iona Island Wastewater Treatment Plants, the biogas is used to produce both heat and electricity (“co-generation”) that is used at the plants. The new North Shore Wastewater Treatment Plant will do this as well.
- Metro Vancouver is assessing how best to use the biogas at its other facilities, including the upgraded Northwest Langley and Iona Island Wastewater Treatment Plants.



Providing High Quality Drinking Water in a Changing Climate



In 2023, Metro Vancouver evaluated ways to save water for both residential and industrial users, such as plumbing fixture replacements, water audits, and using non-drinkable water where possible. Further research is being conducted to estimate how changes in agricultural water demand will impact the region’s water supply.



Waste

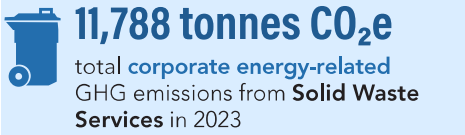
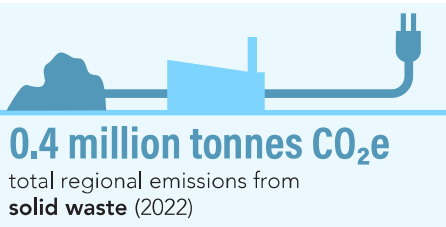
Shaping a low-carbon future through waste prevention and the promotion of a circular economy.

Approximately 3 million tonnes of solid waste is generated in the Metro Vancouver region each year, contributing to 2% of the region’s greenhouse gas emissions. Regional solid waste emissions have been reduced by almost half since 2010, largely as a result of provincial requirements for landfills to capture and manage 75% of landfill gases.

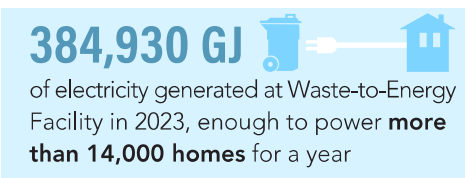
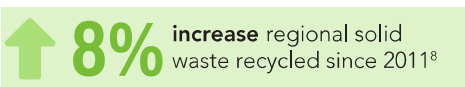
Reducing Waste to Reduce Emissions

To further reduce GHG emissions, Metro Vancouver and its members are focused on eliminating waste, and recycling as much remaining waste as possible⁸. Metro Vancouver is supporting member jurisdictions to expand organics diversion programs to include multi-unit residential buildings and commercial/institutional sectors. Each year, municipal programs collect approximately 400,000 of the 600,000 tonnes of organic material, reducing waste, cutting about 160,000 tonnes of GHG emissions, and creating valuable products such as compost and biogas. Local governments and other partners are also implementing construction and demolition waste reduction requirements.

THE CHALLENGE



PERFORMANCE





Metro Vancouver Project Highlights



Regional Initiatives to Support Waste Reduction and a Circular Economy

Metro Vancouver is leading a number of initiatives to reduce waste from food, construction, and single-use items, by finding ways to reduce, reuse and recycle these materials.

- Metro Vancouver and member jurisdictions advocated for provincial-level regulations to reduce confusion for residents and to increase efficiency for business in reducing single use items. In June 2023, the Government of BC announced the new [Single Use and Plastic Waste Prevention Regulation](#). As a result of collaboration across all levels of government, Metro Vancouver is seeing a downward trend of plastic single-use items such as shopping bags, which are banned under the regulation.

- Metro Vancouver hired FoodMesh to develop a regional food recovery network. In the first two years of the contract—September 2021 to August 2023—the program diverted 7,200 tonnes of food that would otherwise have been wasted, providing the equivalent of over 13 million meals for people, 600 tonnes of food to animals, and avoiding about 20,000 tonnes of GHG emissions.
- Metro Vancouver is hosting Reuse Days at its recycling and waste centres, and supporting member jurisdictions to host repair café events, which offer residents a way to play an active part in a circular economy. In 2023, seven co-funded repair cafés were held in the region serving 442 residents and successfully repairing 301 items.

Waste-to-Energy District Energy System

Metro Vancouver’s Waste-to-Energy Facility manages approximately a quarter of the region’s solid waste, turning waste into energy to create electricity for communities in the region, and recovering around 5,000 tonnes of metals annually to keep materials in use. Metro Vancouver is also developing a district energy system that will use excess heat from the Waste-to-Energy Facility to supply heat and hot water for up to 50,000 homes in Vancouver, Burnaby, and

potentially New Westminister. This project has the potential to reduce GHG emissions by up to 70,000 tonnes.

As of 2024, Metro Vancouver has initiated procurement on the construction of the first phase of this project, which is expected to take place from 2025 to 2027. Phase 1 includes construction of an energy centre adjacent to the Waste-to-Energy Facility and installing an approximately 6-kilometre-long hot water piping system to the River District community in Vancouver. The second phase of this project will extend the pipe network to the Metrotown and Edmonds areas where the City of Burnaby is developing a district energy utility.





Human Health & Well-Being

Safeguarding health and well-being as we adapt to the changing climate.

Metro Vancouver is collaborating with governments, First Nations, health authorities, and other partners to identify and respond to climate risks and vulnerabilities and support communities to maintain and protect human health in the face of climate change.

Protecting Quality of Life

Local governments in the region are supporting the shift to public and active transportation, improving air quality and providing human health benefits. TransLink, with funding from the federal and BC governments, is investing in major public transportation projects to better connect our region. Investments from member jurisdictions in active transportation infrastructure and programs such as the BC E-Bike Rebate are supporting residents to shift to using active transportation.

Recognizing the importance of natural ecosystems to human health and well-being, Metro Vancouver and our partners are working to expand natural areas, improve access to them, and plant more trees, which provide wildlife habitat, cooling, and reduce urban flood impacts.

Protecting People in Extreme Heat Events

Metro Vancouver's partners are responding to near-term climate risks by supporting the addition of equipment to provide cooling and safe air quality in buildings. In 2024, the BC Government expanded the Free Portable Air Conditioner program, which is expected to provide more than 28,000 free air conditioners to low-income and vulnerable residents across the province.

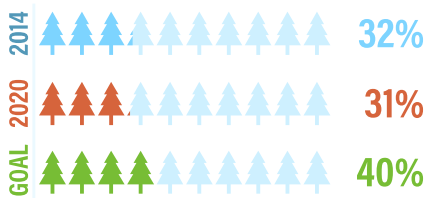
THE CHALLENGE

3 AIR QUALITY ADVISORY DAYS in the Metro Vancouver and Fraser Valley Airshed from sources within the airshed (2023)

PERFORMANCE



3 Air Quality Advisory Days in the Metro Vancouver and Fraser Valley Airshed in 2023 from sources located within the airshed, compared to 5-year average of 4 days (2018-2022)



1% loss of tree canopy cover in Urban Containment Boundary between 2014-2020 (down from 32%).
Metro Vancouver target = 40%



Metro Vancouver Project Highlights



Protecting Human Health by Enhancing Tree Canopy Cover

Tree canopy cover plays a vital role in reducing outdoor and indoor temperatures during extreme heat events. It also provides further benefits including improving air quality and reducing flood risks.

Tree canopy cover declined between 2014–2020 from 32% to 31% within the Urban Containment Boundary (UCB), largely as a result of new urban development. Metro Vancouver has a goal to achieve a regional target of 40% tree canopy cover within the UCB.

Our efforts to enhance urban greenery focus on equitable distribution across communities. Actions include:

- Expanding tree canopy on Metro Vancouver-owned lands
- Measuring and reporting on regional canopy cover trends
- Advocating to the federal and BC governments to provide funding for tree planting in urban areas



Neighborhood Level Air Quality Monitoring

The Hyperlocal Air Quality Monitoring Project uses many small sensors to improve air quality data collected by Metro Vancouver. By placing many sensors in a single neighbourhood, we can see how air quality changes over short distances. This helps us identify neighbourhood-level air quality impacts from emissions sources such as road and rail traffic, industrial facilities, and wildfire smoke.

In 2023, Metro Vancouver identified a pilot site for the project. This project will help Metro Vancouver to better understand how air quality affects local health, and assess the effectiveness of our emissions reduction programs to ensure communities in Metro Vancouver have access to clean air.





Land Use & Urban Form

Planning healthy and complete communities resilient to climate impacts.

Supported by *Metro 2050*, Metro Vancouver's Regional Growth Strategy, member jurisdictions are including climate change goals in official community plans, and implementing policies to reduce emissions. Examples include zoning changes to improve densification in rapid transit corridors, removal of minimum parking requirements in new developments, and policies and programs to increase resiliency of the urban environment.

Complete, Compact Communities are a Climate Solution

Focusing density in transit-oriented areas can accelerate the development of complete communities that encourage low-carbon mobility options like walking, rolling, and transit. In 2023, the Province of BC introduced new legislation designed to increase housing supply with increased density in transit-oriented areas and by allowing multi-plex housing in neighborhoods previously restricted to single-detached homes. Metro Vancouver and its member jurisdictions are analyzing the impact of provincial legislation on municipal and regional housing, and climate goals and targets.

THE CHALLENGE

31% proportion of Urban Containment Boundary with **tree canopy cover** (2020)



54% proportion of the Urban Containment Boundary covered by **impervious surface** (2020)

PERFORMANCE

99%

of the region's dwelling unit growth within the **Urban Containment Boundary** (2016 to 2021)

41%

of the region's dwelling unit growth in **Urban Centres** (2016-2021)



Metro Vancouver Project Highlights



Regional Multi-Hazard Mapping Project

In 2023, Metro Vancouver completed the Regional Multi-Hazard Mapping Project, which includes regional-scale single-hazard maps, data quality rating maps, and multi-hazard maps for four hazard types: coastal flooding, riverine flooding, earthquake, and wildfire. Understanding the region's hazardous areas is critical to making informed land use decisions. The results will allow Metro Vancouver and member jurisdictions to consider and integrate regional-scale hazard information for several hazard types into planning analysis, projects, and models.



Regional Parking Strategy – Update



Metro Vancouver is collaborating with TransLink and member jurisdictions to jointly develop a regional parking strategy to right-size the supply of parking and improve efficiency in land use. All of these objectives have greenhouse gas benefits, from the construction stage (using less concrete for underground parking) through to enabling residents to use active transportation, transit, and other alternative modes instead of personal vehicles. The strategy will provide guidance to inform municipal parking bylaws and on-street parking management. The Regional Parking Strategy is identified as an action in the Transportation Roadmap.



APPENDIX 1 — Climate 2050 Action Implementation 2023/2024

Buildings







2023/2024 IMPLEMENTATION: 4 COMPLETE, 27 IN PROGRESS, 2 NOT STARTED, 4 PLANNED FOR FUTURE YEARS , 1 NOT PROCEEDING













IN-PROGRESS & COMPLETE ACTIONS		STATUS
 	New Buildings are Highly Efficient and Electric	Complete
 	Building Electrification Mandate for BC Hydro	Complete
	Building Decarbonization Coalition	Complete
	Regional Working Group to Reduce Embodied Emissions in Buildings	Complete
 	GHG Requirements for Existing Large Buildings	Not proceeding
	High Performance Heating and Cooling Equipment Import and Sale Standards	In progress
 	GHG Performance Requirements for Existing Houses and Townhomes	In progress
 	Require Greenhouse Gas Reductions During Renovations	In progress
	Energy Labels for Homes and Buildings	In progress
	Manage Indoor Air Quality in Building Codes	In progress
	Significantly Reduce Refrigerant Leaks in Building Equipment	In progress
	Expand Low Carbon Upgrade Incentives	In progress
	Online Decision Support Tools for Low Carbon Upgrades in Buildings	In progress
	New Financing Tools for Low Carbon Upgrades	In progress
	Energy Advisor Services for Homes and Large Buildings	In progress
	Make Electricity Upgrades Faster and Cheaper	In progress
 	Increase Public Awareness of the Benefits of Zero Emissions and Resilient Buildings	In progress
	Training and Education in Zero Emissions and Resilient Buildings	In progress

	Share Lessons from Transitioning Metro Vancouver Corporate Buildings to Zero Emissions	In progress
	Test New Zero Emission Building Technologies	In progress
	Low Carbon District Energy Policies	In progress
	Use Building Materials with Low Embodied Emissions	In progress
	Strengthen Metro Vancouver's Corporate Sustainable Design Requirements	In progress
	Broaden Applications of Non-Potable Water Use in Buildings	In progress
	Support Capacity Building of Non-Potable Water Use Applications on Building Sites	In progress
	Incorporate Embodied Emissions into the BC Building Code	In progress
	Require Cooling Measures in New Buildings and Major Retrofits	In progress
	Expand the Network of Public Buildings that can serve as Cool, Clean Air Centres	In progress
	Understand Climate Risk and Resilience for Public Buildings Across the Region	In progress
	Integrate Resiliency into Low Carbon Upgrade Solutions	In progress
	Provide Education on Retrofit Options that can Increase Resilience to Heatwaves and Wildfires	In progress
	Update Climate Projections to Future-Proof Buildings	In progress

Transportation

2023/2024 IMPLEMENTATION: 2 COMPLETE, 24 IN PROGRESS, 11 NOT STARTED, 15 PLANNED FOR FUTURE YEARS

	IN-PROGRESS & COMPLETE ACTIONS	STATUS
	Accelerate Sales Targets for New Electric Passenger Vehicles	Complete
	Regional Electric Vehicle Charging Strategy	Complete
	Electric Vehicle Outreach Programs	In progress
	Enhance and Improve Regional Transit	In progress
	Support Low Emissions Commuting by Staff	In progress
	Use Pricing to Reduce Driving and Emissions	In progress
	Expand Active Transportation Networks	In progress

	More Stable Infrastructure Funding for Regional Active Transportation Networks	In progress
	More Stable Funding for Regional Transit	In progress
	Regional Parking Strategy to Reduce Driving	In progress
	Support Residents and Businesses in Active Transportation	In progress
	Communicate the Benefits of Walking, Cycling and Public Transit	In progress
 BIG Move	Develop Regional Emission Requirements for Passenger Vehicles	In progress
 BIG Move	Make Electric Vehicles More Affordable	In progress
	Make New Passenger Vehicles Cleaner	In progress
	Expand Electric Vehicle Charging in Buildings	In progress
 Corporate LEADERSHIP	Transition the Corporate Fleet to Zero Emissions	In progress
 BIG Move	Regulate Existing Medium and Heavy Trucks	In progress
	Reduce Refuse Trucks Emissions	In progress
	Support Innovation in Zero Emission Technology for Medium and Heavy Trucks	In progress
 BIG Move	Require Zero Emission Sales Targets for New Medium and Heavy Trucks	In progress
	Long-term Emissions Strategy for Medium and Heavy Trucks	In progress
	Regulate Fuel Economy and Emissions for Medium and Heavy Trucks	In progress
	Support Emission Reduction Actions at Vancouver Fraser Port Authority	In progress
	Support Innovation in Low and Zero Emission Marine and Rail Technologies	In progress
	Identify Regional Climate Hazards, Risks, and Vulnerabilities Impacting Transportation Networks	In progress


Energy

2023/2024 IMPLEMENTATION: 0 COMPLETE, 23 IN PROGRESS, 0 NOT STARTED, 13 PLANNED FOR FUTURE YEARS

IN-PROGRESS & COMPLETE ACTIONS		STATUS
  	Align British Columbia's Energy Objectives with Strong Climate Action	In progress
	Strong Climate Mandate for Energy Utilities	In progress
 	Revise Utility Regulation to Align with Strong Climate Action	In progress
	Long-term Planning Scenarios for the Transition to 100% Clean, Renewable Energy	In progress
	Regional Climate Action in Energy Utility Regulatory Processes	In progress
	Implement Tracking, Verification, and Reporting Requirements for Renewable Natural Gas Supply	In progress
 	Transition Corporate Energy Use to 100% Clean, Renewable Energy	In progress
	Electrification Rates	In progress
  	Time-of-Use Rates, Demand Response Programs, & EV Peak Reduction Programs	In progress
 	Modernizing the Electrical Grid	In progress
	Regional Grid Constraints	In progress
	High Performance Heating and Cooling Equipment Import and Sale Standards	In progress
	More Stringent Low Carbon Fuel Standards	In progress
	Implement Renewable Gas Content Requirements	In progress
	Regional Hydrogen Hub	In progress
	Regional Sources of Liquid Biofuels	In progress
  	Metro Vancouver as a Regional Clean, Renewable Energy Provider	In progress
 	Innovative Research on Optimizing Energy Recovery from Waste Streams	In progress
	Account for the Full Climate Impact of Fossil Fuel Production and Export Projects	In progress
	Eliminate Subsidies and Public Financing for Fossil Fuels	In progress
	Just Transition Plan for Workers and Communities Engaged in the Fossil Fuel Industry	In progress
 	Comprehensive Climate Risk and Vulnerability Assessment	In progress
 	Pilot Innovative Renewable Energy + Storage Systems to Improve Resiliency	In progress

Industry & Business

2023/2024 IMPLEMENTATION: 2 COMPLETE, 14 IN PROGRESS, 2 NOT STARTED, 9 PLANNED FOR FUTURE YEARS

IN-PROGRESS & COMPLETE ACTIONS		STATUS
 	More Stringent Greenhouse Gas Requirements for Large Industrial Emitters	Complete
 	Tighten Emissions Regulation for Non-Road Diesel Engines	Complete
 	Integrate Greenhouse Gases into Emission Regulations and Permits	In progress
	Industrial Emission Reduction Incentives	In progress
	Develop Sector-Specific Regulations	In progress
	Carbon Tariffs	In progress
	Phase out High Global Warming Refrigerants	In progress
	Emission Standards for New Non-Road Equipment	In progress
	Funding for Cleaner Non-Road Equipment	In progress
	Identify Infrastructure Needs for Zero Emission Non-Road Equipment	In progress
	Encourage Cleaner Non-Road Equipment through Municipal Approvals	In progress
	Awareness Program on Zero Emission Non-Road Equipment	In progress
 	Transition Metro Vancouver's Corporate Non-Road Fleet to Zero Emissions	In progress
	Carbon Capture in Metro Vancouver Region	In progress
 	Low Carbon Metro Vancouver Corporate Procurement	In progress
	Assess Regional Climate Risks and Vulnerability to Support Business Decision-making	In progress

Nature & Ecosystems
















2023/2024 IMPLEMENTATION: 0 COMPLETE, 27 IN PROGRESS, 0 NOT STARTED, 4 PLANNED FOR FUTURE YEARS

IN-PROGRESS & COMPLETE ACTIONS		STATUS
 	Protect an Additional 10% of the Region for Nature	In progress
 	Protect, Restore, and Enhance Natural Areas at the Regional Scale	In progress
	Protect, Restore, and Enhance Nature at the Local Scale	In progress
	Prioritize the Conservation of Ecosystem Health and Biodiversity in BC Forest Management	In progress
	Support Ecosystem Protection, Enhancement, and Restoration	In progress
	Reverse the Loss of the Region's Ecosystems	In progress
 	Manage invasive species	In progress
 	Develop a Regional Green Infrastructure Network	In progress
	Green Urban Areas	In progress
 	Green the Regional Greenways Network	In progress
	Minimize Ecosystem Fragmentation	In progress
	Develop Data and Resources to Support Ecosystem Connectivity	In progress
 	Incorporate Natural Assets into Asset Management and Financial Planning	In progress
 	Integrate Ecosystems and their Services into the Design of Major Infrastructure	In progress
	Consider Ecosystems and their Services in Major Development Decisions	In progress
	Support Natural Asset Management at the Local Level	In progress
 	Achieve 40% Tree Canopy Cover Within the Region's Urban Areas	In progress
	Provide Data and Resources to Support Urban Forest Management	In progress

	Improve Local Regulations and Management Practices	In progress
	Convene Partners on Urban Forestry Issues	In progress
	Consider Equity and Human Health in Urban Forestry Planning	In progress
 	Explore Innovative Funding and Incentive Programs	In progress
	Include Nature-Based Solutions in Climate Action Plans	In progress
 	Support the Implementation of Nature-based Solutions	In progress
 	Manage Forests in the Context of a Changing Climate	In progress
	Advance Nature-Based Solutions to Address Flood Hazards	In progress
	Partner with Others to Address Climate Change Issues in Coastal and Marine Ecosystems	In progress

Agriculture

2023/2024 Implementation: 2 Complete, 8 in Progress, 0 Not Started, 58 Planned for Future Years

IN-PROGRESS & COMPLETE ACTIONS		STATUS
 	Reduce Emissions from Greenhouses	Complete
 	Increase Capacity to integrate climate change into business operations	Complete
 	Determine appropriate agricultural-focused uses on land with limited potential for soil-based agriculture	In progress
	Review how regional policy can recognize and support Indigenous Food Sovereignty	In progress
 	Encourage and Prioritize Local Agriculture	In progress
	Determine how Agriculture can Benefit from Restoration and Protection of Ecosystems	In progress
	Estimate financial value of ecosystem service on agricultural lands	In progress
	Explore and build a long-term funding mechanism to support payment for ecosystem services	In progress
	Align with the Regional Green Infrastructure Project	In progress
 	Undertake a review of the Regional Food System Strategy	In progress

Endnotes

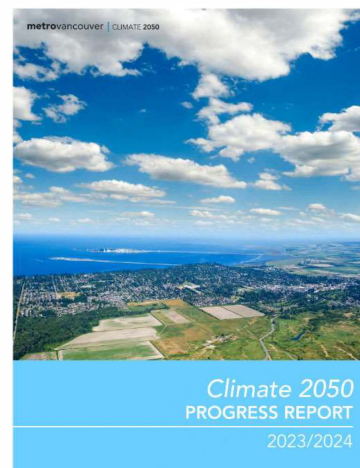
- 1 In January 2024, the Metro Vancouver Board directed staff to not proceed with engagement on a potential regulatory approach that proposed to establish GHG emission limits and GHG reporting requirements for existing large buildings. The board expressed concerns about whether Metro Vancouver was the appropriate jurisdiction to effectively implement regulations for large buildings and about affordability as it related to potential program fees.
- 2 [BC Housing Case Study: Does High Performance Construction Cost More?](#); Metro Vancouver Analysis
- 3 As of time of publishing. Total includes Burnaby, City of North Vancouver, District of North Vancouver, District of West Vancouver, New Westminster, Port Moody, Richmond, Township of Langley, Vancouver, Tsleil-Waututh Nation.
- 4 S&P Global Mobility Canadian Automotive Insights. Figure uses average of quarterly EV sales data for 2023 for Metro Vancouver CMA.
- 5 Includes industrial emissions from facilities in Metro Vancouver region of more than 10,000 tonnes CO₂e.
- 6 Cleantech Sector in British Columbia- December 2023 ([britishcolumbia.ca](https://www.britishcolumbia.ca))
- 7 Total for agriculture does not include GHG emissions from greenhouses, which are included in Buildings sector emissions.
- 8 Metro Vancouver ISWRMP 2022 Biennial Report (metrovancover.org)
- 9 Total energy-related GHG emissions for Solid Waste Services in 2023 was 11,788 tonnes CO₂e, up 56% from 2014. These increases in energy use and GHG emissions are driven by increased fossil natural gas use at the Waste-to-Energy Facility starting in 2018, which are the result of regulatory changes requiring larger natural gas burners. Other factors contributing to the increase include higher contracted fuel use for road and rail hauling of solid waste to remote landfills.





INSIDE THE CLIMATE 2050 PROGRESS REPORT

- Status update for Climate 2050 actions from six Board-endorsed roadmaps:
 - Agriculture
 - Buildings
 - Energy
 - Industry and Business
 - Nature and Ecosystems
 - Transportation
- Highlights of climate action work by Metro Vancouver and partners
- Updated GHG emissions data for 2019-2022
- Corporate and regional key performance indicators



PROGRESS TOWARDS CLIMATE GOALS AND TARGETS

Positive trends and opportunities:

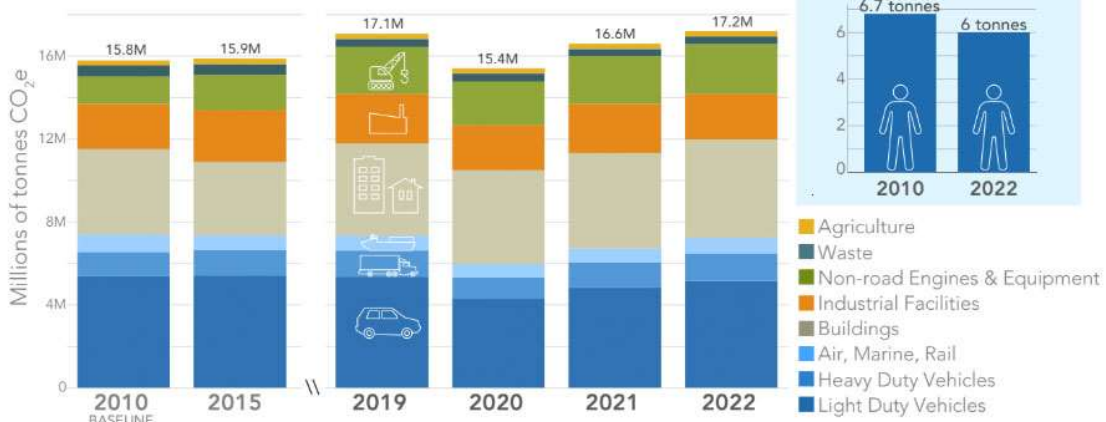
- Per capita GHG emissions have decreased by 10% since 2010
- Electric vehicles make up 27% of new vehicle sales
- More residential heat pumps than natural gas furnaces imported into BC
- Expansion of connected active transportation networks, and use of micro-mobility is growing in popularity.

Challenges:

- Predominance of concerns about affordability, housing, and other societal factors
- The challenge of scaling up and right-sizing infrastructure to supply clean energy
- Continued growth and lock-in of certain fossil fuel technologies
- Securing sustainable funding for public transit
- Communicating about climate solutions in context of misinformation

REGIONAL EMISSIONS ARE RISING

METRO VANCOUVER REGION-WIDE GREENHOUSE GAS EMISSIONS BY SECTOR 2010 – 2022



CLIMATE 2050 ACTION IMPLEMENTATION

Progress at a Glance for Board-Endorsed Roadmaps

	BIG MOVES	TOTAL ACTIONS
Complete	7	10
In Progress	31	124
Not Started	3	16
Planned for Future Years	14	102
Not Proceeding	1	1

METRO VANCOUVER PROJECT HIGHLIGHTS

- **BC Retrofit Accelerator** – supported establishment of the “one stop” resource hub for building owners
- **Advocating for Fair Energy Rates and Accelerating Clean Energy Policy** – collaboration with other local government interveners in BCUC proceedings to ensure energy utilities are supporting climate goals and targets
- **Transitioning to a Zero-Emission Fleet** – transitioning over 300 fleet vehicles to EVs over the next six years
- **Supplying Renewable Energy to the region** – recover heat from waste systems to heat more than 50,000 homes and reduce more than 70,000 tonnes of emissions



MEMBER JURISDICTIONS: SUCCESS STORIES

- **Zero emissions buildings policies:** 10 municipalities and local First Nations have adopted the Zero Carbon Step Code; municipalities are supporting emissions reporting through programs such as *Energize Vancouver*
- **Nature-based climate solutions** are being implemented across the region, including projects such as the Living Dyke (Surrey, Delta, Semiahmoo)
- **Active Transportation infrastructure investments** and programs across the region, including Coquitlam's Shared Micromobility Pilot, and North Shore E-bike share program



ADVANCING CLIMATE ACTION TOGETHER

- We are beginning to see the positive impacts of climate policy in the region
- Expanded and accelerated climate action in the region is needed in collaboration with partners
- Staff will continue to seek direction from the CAC and Board in implementing *Big Moves* and other key Climate 2050 actions





Thank you! Questions?

metrovancouver

To: MVRD Board of Directors

From: Heather McNell, Deputy Chief Administrative Officer, Policy and Planning

Date: November 7, 2024 Meeting Date: November 29, 2024

Subject: **BC Hydro's 2024 Call for Power**

RECOMMENDATION

That the MVRD Board receive for information the report dated October 22, 2024, titled "BC Hydro's 2024 Call for Power".

Due to recent membership changes at the MVRD Board, at its November 7, 2024 meeting, the Climate Action Committee did not meet the requirements of Section 57 (1)(d) of the *Metro Vancouver Regional District Procedure Bylaw No. 1368, 2023* which requires 50% of the committee members to be Directors. The formal meeting was adjourned with the following members present:

Chair, Director Lisa Dominato	Director Jen McCutcheon
Vice Chair, Mayor Patrick Johnstone	Director Bill McNulty
Councillor Mike Bose	Councillor Catherine Pope
Councillor Adriane Carr	Director Jamie Ross
Director Meghan Lahti	Director Dan Ruimy
Councillor Dennis Marsden	Councillor Rosemary Wallace

The individuals present, joined by Councillor Gu at 9:08 am, discussed the agenda items to provide their comments to the board.

Members of the Climate Action Committee have had the opportunity to review the report titled "BC Hydro's 2024 Call for Power", dated October 22, 2024 and have affirmed their general agreement with the contents of the report and the recommendation presented by staff.

This matter is now before the Board for its consideration.

ATTACHMENTS

1. "BC Hydro's 2024 Call for Power", dated October 22, 2024

71833677

To: Climate Action Committee

From: Margaryta Pustova, Senior Policy and Planning Analyst, Air Quality and Climate Action Services
Sara Muir, Air Quality Planner, Air Quality and Climate Action Services

Date: October 22, 2024 Meeting Date: November 7, 2024

Subject: **BC Hydro's 2024 Call for Power**

RECOMMENDATION

That the MVRD Board receive for information the report dated October 22, 2024, titled "BC Hydro's 2024 Call for Power".

EXECUTIVE SUMMARY

In April 2024, BC Hydro launched a competitive Call for Power to acquire approximately 3,000 GWh/y of clean electricity from independent power producers, adding 5% to the current supply. This supply is needed to support growing electricity demand driven by population growth, technology change, and GHG reduction efforts. The call yielded proposals totaling over 9,000 GWh/y, three times the target. The substantial interest from proponents signals opportunities to further expand and diversify the province's energy supply and enhance grid resilience.

The 2024 Call for Power aligns with BC Hydro's long-term plans and commitments to enhance energy efficiency, streamline connections, and introduce optional rates. These initiatives are essential to promote affordability, housing development, job creation, and climate action. BC Hydro projects new clean-energy projects from this call to generate \$2.3–3.6 billion in private investment, create 800–1,500 jobs annually, and benefit Indigenous communities. The call is one component of energy management planning, systems and investments needed to support an efficient and affordable energy transition in BC and Metro Vancouver.

PURPOSE

To inform the Climate Action Committee and MVRD Board about the outcomes of BC Hydro's 2024 Call for Power, how it fits in the context of meeting increasing demand for electricity, and how it aligns with Metro Vancouver's approved plans for air quality and climate action.

BACKGROUND

The 2024 Call for Power (References 1 and 2) is part of BC Hydro's *2021 Integrated Resource Plan* to ensure sufficient electricity supply to meet growing demand (Reference 3). After two decades of relatively stable demand, BC Hydro anticipates that demand for electricity will increase by 15 per cent or more by 2030, and continue to increase significantly through the coming decades. The projected increase in demand is driven by factors including population growth, industrial development, and housing construction, combined with more homes, businesses and industries switching from fossil fuels to clean electricity for heating and cooling. Electricity will therefore play an increasingly important role in the province's energy supply and efficient and cost-effective

deployment and delivery of new supply is critical to support Metro Vancouver's board-adopted *Clean Air Plan* and Climate 2050 Roadmaps for Buildings, Transportation, Industry & Business, and Energy.

BC HYDRO'S 2024 CALL FOR POWER

To advance its plans to acquire new clean and renewable power, in April 2024 BC Hydro launched a competitive Call for Power for approximately 3,000 gigawatt hours per year (GWh/y) of clean electricity, which will add 5% to current supply by 2028 (Reference 2). (For comparison, the Site C dam, which is expected to be fully operational in 2025, will add about 5,100 GWh/y or 8% to the current supply.) The call yielded proposals for over 9,000 GWh/y from independent power producers, which is three times more energy than originally targeted.

Of the 21 valid proposals received, the majority were wind projects (70%), followed by solar (20%), and biomass and hydro (10%), and represent almost every region in the province. The successful proponents will be announced by December 2024. These projects have the potential to diversify BC Hydro's clean energy mix, currently consisting of 91% hydroelectric generation. BC Hydro projects that new clean-energy projects from this call will generate \$2.3–3.6 billion in private investment, create 800–1,500 jobs annually, and significantly benefit Indigenous communities.

The 2024 call for power on its own will not be sufficient to ensure a robust and resilient electricity supply for BC in the context of rapid change. Other factors include proactive and responsive long-term planning, additional calls for power to further diversify the energy mix and managing an interconnected grid through electricity imports and exports.

2024 Call for Power Supports BC Hydro's Long-Term Plans

BC Hydro's 2021 *Integrated Resource Plan* (IRP) outlines actions to meet growing electricity demand over the next 20 years (Reference 3), including:

- Expanding demand-side management by investing in energy efficiency and peak demand strategies that enhance customer energy savings;
- Offering optional rates, such as the new voluntary time-of-use rate, to optimize system capacity, including for home charging of electric vehicles;
- Renewing electricity purchase agreements with existing clean or renewable independent power producers on a cost-effective basis;
- Upgrading transmission and distribution infrastructure to increase system capacity; and,
- Integrating utility-scale batteries for energy storage.

The IRP was updated in 2023 in response to updated load growth and supply projections that indicated an earlier-than-anticipated need for future energy resources. Among other actions to address these changes and meet the Government of BC's legislated GHG emissions targets, BC Hydro stated its plan to acquire approximately 3,000 GWh of new clean or renewable energy in this update, which subsequently took the form of the 2024 Call for Power.

Additionally, earlier this year BC Hydro released a 10-Year Capital Plan committing \$36 billion for community and regional infrastructure across the province between 2025 and 2034. Planned

investments include replacing and upgrading existing infrastructure and streamlining new customer connections in high growth communities.

Past and Future Calls for Power

BC Hydro has acquired power from independent power producers since the 1980s to supplement its electricity supply. A Standing Offer Program provided long-term purchase agreements from 2008 to 2018 for small energy projects at a fixed price. In addition to this program, BC Hydro has awarded several calls, including:

- 2003 – 2006: Green Power Generation Call and Open Call for Power;
- 2008: Clean Power Call, which was expected to effectively address a forecasted 2,300 GWh/y gap by 2017;
- 2009 – 2011: Bioenergy Phase 1 and 2 calls.

Although these earlier procurement efforts were successful, they faced criticism for generating surplus power at above-market prices. In 2023, the BC Government stated an intention to issue smaller, more frequent competitive calls aligned with demand and discourage power generation during periods of low demand and market prices, such as the spring freshet.

BC Hydro has committed to issue calls for power every two years. The exact volume (energy and/or capacity) of future calls and the timing of acquisitions will continue to be determined through BC Hydro's long-term planning, under the oversight of the British Columbia Utilities Commission (BCUC), which can be impacted by market conditions and local and provincial government policies.

An Interconnected and Greening Grid Supports Reliability

BC Hydro also balances supply and demand by trading power through its subsidiary, Powerex, via interconnections with the grids in Alberta and 14 western US states. Powerex imports energy from clean and renewable sources, which represent the majority of recent imports, as well as from the wholesale market, consisting of a mix including fossil fuel energy. The GHG intensity of electricity used by BC customers varies because of this trade, but overall remains low since over 98% of BC Hydro's power is renewable. Additionally, BC's energy exports help reduce emissions in fossil-fuel-dependent regions like Alberta, while other jurisdictions such as California, Washington, Idaho, Nevada and Oregon are expanding their renewable energy capacity.

Under the Clean Energy Act, BC Hydro must maintain electricity self-sufficiency based on historical average stream flows (i.e., typical water conditions). However, BC's real-time hydropower output fluctuates with weather patterns, resulting in surplus (net exports) during wet weather years and deficits (net imports) during dry ones. Over the past 15 years, BC was a net importer in seven years and a net exporter in eight. From 2019 to 2023, BC Hydro exported slightly more than it imported, but recent droughts increased imports. In 2023/24 BC imported 14,200 GWh (24% of domestic needs), but in 2021/22 BC Hydro generated a significant surplus.

BC's participation in regional electricity markets ensures stable supply, cost-efficiency, and reliable service by importing low-cost power and exporting surplus during peak demand, making temporary net imports part of prudent energy management. This helps to keep rates lower for BC customers and generates revenue; in the past five years Powerex generated \$2.5 billion in trade income.

Alignment with Metro Vancouver's Initiatives

BC Hydro's 2024 Call for Power, together with its *Integrated Resource Plan*, 10-Year Capital Plan, and import and export regime, collectively support meeting growing electricity demand and GHG emissions reduction efforts. BC Hydro's plans align with and support Metro Vancouver's *Clean Air Plan*, and Climate 2050 Roadmaps for Buildings, Transportation, Industry & Business, and Energy, which outline strategies and actions for electrifying buildings and vehicles, as well as adopting zero-emissions technologies for other transportation modes and industrial activities, including transitioning to electricity where feasible.

Furthermore, Metro Vancouver is undertaking actions that can help reduce the burden on the electrical grid associated with electrification, including:

- **Supporting policies, programs, and incentives that advance efficient use of electricity resources.** Several actions in the Climate 2050 Buildings, Energy, and Industry & Business Roadmaps support improvements to energy efficiency through advocacy to the federal and provincial governments. Furthermore, Metro Vancouver supported the development of the BC Retrofit Accelerator program, which will drive energy efficiency improvements along with decarbonization in buildings in the region.
- **Leveraging waste to produce renewable energy.** Metro Vancouver generates heat, renewable natural gas, and electricity from its solid and liquid waste systems, which is helping to diversify renewable energy sources in the region. Metro Vancouver is also exploring opportunities to support expanded use of thermal energy networks through partnerships with member jurisdictions and utilities.
- **Participating as an intervener in the BCUC proceedings for BC Hydro's application for "2024 Rate Design" and "Distribution Extension Policy".** In September 2024, the MVRD Board directed staff to participate as an intervener in the BCUC proceedings for these BC Hydro applications, which aim to improve fairness of rates, enable more timely and cost-effective connections for new and upgraded service, reduce barriers to electrifications, and introduce rates for individual and community systems generating their own electricity.

ALTERNATIVES

This is an information report, no alternatives are presented.

FINANCIAL IMPLICATIONS

There are no financial implications associated with this report.

CONCLUSION

In April 2024, BC Hydro launched a competitive Call for Power to acquire approximately 3,000 gigawatt hours per year (GWh/y) of clean electricity from independent power producers, which would add 5% to the current supply. The call yielded proposals for over 9,000 GWh/y, three times the target. The proposed projects have the potential to diversify BC Hydro's clean energy mix and enhance grid resilience. They are also expected to attract between \$2.3 billion and \$3.6 billion in private capital investment and create between 800 to 1,500 jobs annually across the province. The strong response to the call signals the potential for expanded and more diverse renewable energy supply within BC, supporting the transition to cleaner energy and enhanced resilience. The call is

one component of long-term energy planning, electricity imports and exports, and infrastructure investments needed to support an efficient and affordable energy transition in BC and Metro Vancouver, and aligns with Metro Vancouver's *Clean Air Plan*, and Climate 2050 Roadmaps for Buildings, Transportation, Energy, and Industry & Business.


ATTACHMENTS

1. Presentation re: "BC Hydro's 2024 Call for Power", dated November 7, 2024

REFERENCES

1. [Press Release by the Ministry of Energy, Mines, and Low Carbon Innovation - BC Hydro receives strong response to call for clean electricity to power economy, dated September 18, 2024](#)
2. [2024 Call for Power - BC Hydro](#)
3. [BC Hydro and Power Authority 2021 Integrated Resource Plan, 2023 Update](#)

71338747



North Vancouver Transmission Station

BC Hydro's 2024 Call for Power

SUPPORTING CLIMATE 2050 ACTIONS

Jason Emmert
Program Manager, Regional Climate Action Policy,
Air Quality and Climate Action Services

Sara Muir
Air Quality Planner, Air Quality and Climate Action Services

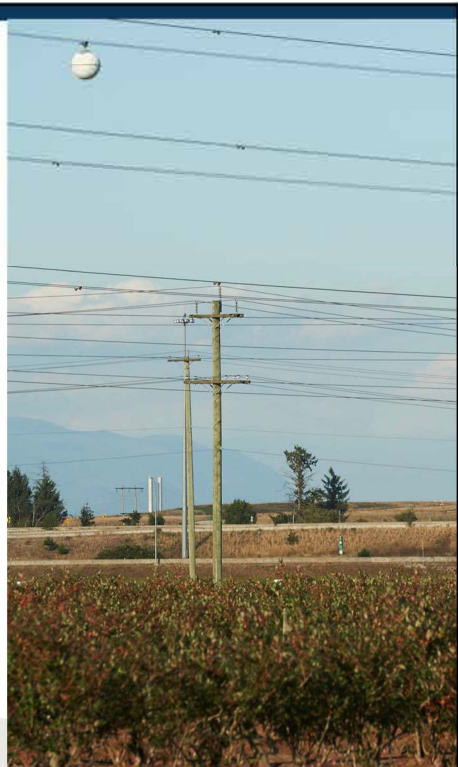
Climate Action Committee - November 7, 2024
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BC HYDRO'S CALL FOR POWER

Meeting BC's Clean Energy Needs

- April 2024 BC Hydro launches "Call for Power" to acquire 3,000 GWh/y of clean electricity
- Add 5% to current supply to meet growing demand
- Aligns with long-term plan to improve energy efficiency, streamline electrical connections, and offer optional rates



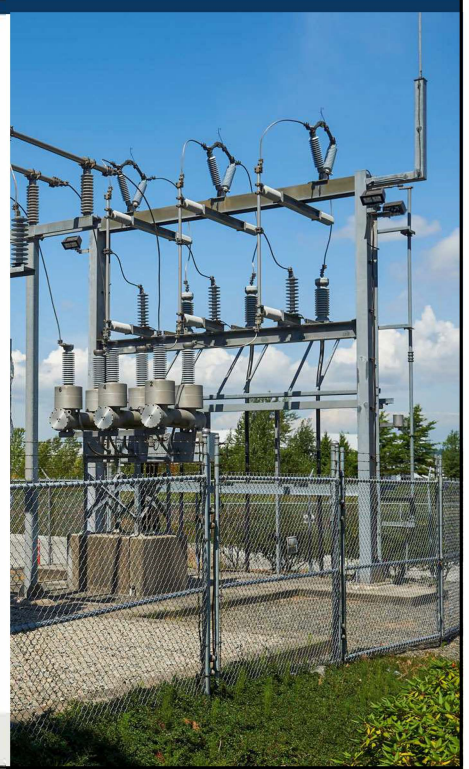
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PRIOR CALLS FOR POWER

History and Lessons Learned

- BC Hydro has been acquiring power from independent power producer since 1980s
- While successful, earlier procurement efforts faced criticism for generating surplus power at above-market prices
- Learning from earlier experience, BC Government intends to issue smaller, more frequent competitive Calls aligned with electricity demand

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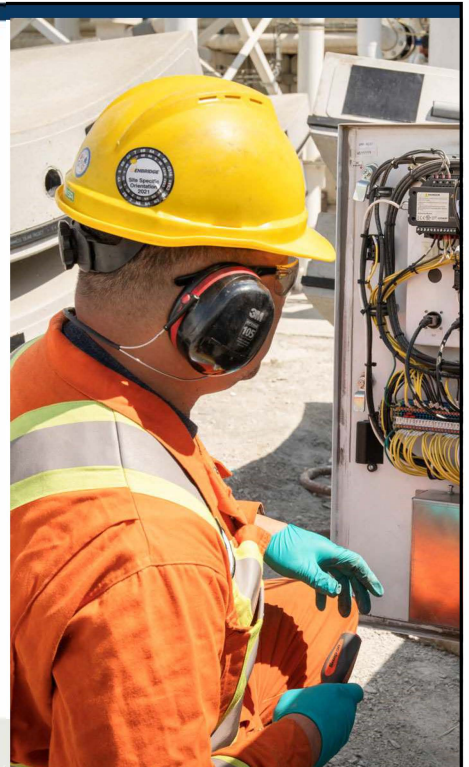


RESPONSE TO CALL FOR POWER

Results and Projected Impact

- Call for Power yielded over 9,000 GWh/y—three times projected target
- Majority are wind (70%), followed by solar (20%), then biomass and hydro (10%) to supplement and diversify the grid
- Generate \$2.3 to \$3.6 billion in private investment and 800 to 1500 jobs annually

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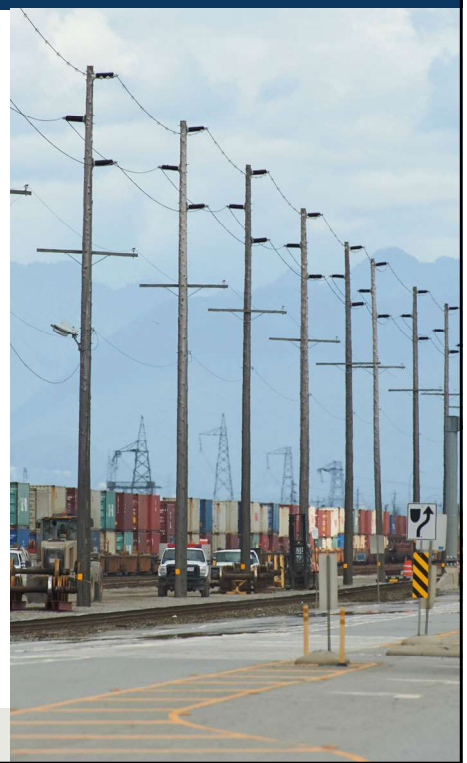


INTERCONNECTED GRID

Ensuring a Clean, Reliable Power Supply

- BC Hydro trades power through its subsidiary, Powerex, with Alberta and 14 US States
- Power trading ensures stable supply, cost-efficiency, and reliable service
- Over the past 15 years, BC was a net exporter in eight years
- In the past 5 years, Powerex generated \$2.5 billion in trade income

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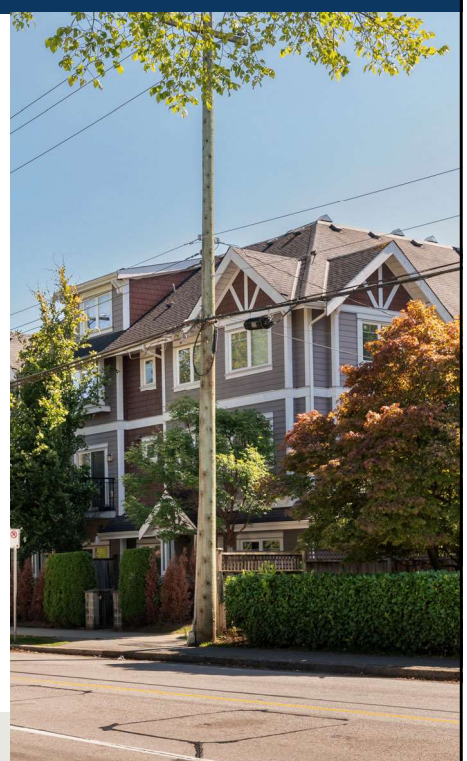
EXPANDED ELECTRICITY SUPPLY

Supporting Climate 2050

Expands and diversifies BC's clean energy supply which support *Climate 2050* actions by:

- Making more clean electricity available to electrify transportation, buildings, and industry and reduce emissions
- Enhancing grid resilience to climate impacts such as drought

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Looking South from the North Shore towards Vancouver

Thank you

metrovancouver

To: Regional Parks Committee

From: David Leavers, Division Manager, Visitor and Operations Services, Regional Parks

Date: October 29, 2024 Meeting Date: November 6, 2024

Subject: **MVRD Regional Parks Regulation Amendment Bylaw No. 1400, 2024 – Amends Bylaw No. 1177, 2012**

RECOMMENDATION

That the MVRD Board:

- a) give first, second, and third reading to *Metro Vancouver Regional District Regional Parks Regulation Amendment Bylaw No. 1400, 2024*; and
 - b) adopt *Metro Vancouver Regional District Regional Parks Regulation Amendment Bylaw No. 1400, 2024*.
-

EXECUTIVE SUMMARY

This report summarizes proposed amendments to the Regional Parks Regulation Bylaw – Schedule A – Fees and Charges.

The annual update of the bylaw ensures that fees and charges are appropriate and based upon current market conditions. Fee changes brought forward as part of the bylaw amendment are for implementation in the coming calendar year. While most fee increases are inflationary including parking permit rates, camping fees, and indoor facility rental rates, a number of additional changes are proposed that will affect administration of the schedule and the fees charged for public services provided by Regional Parks. Proposed changes are expected to generate a net increase of approximately \$100,000 in revenues to offset increasing operational costs. Proposed changes to Schedule A – Fees and Charges are included in the amendment bylaw and are to take effect January 1, 2025.

PURPOSE

To consider amendments to the *Metro Vancouver Regional District Regional Parks Regulation Amendment Bylaw No. 1177, 2012* that primarily propose changes to Regional Parks' fees and charges for 2025.

BACKGROUND

The Regional Parks Regulation Bylaw sets out prohibitions and a system for permitted use designed to regulate park visitor behaviour and activities. The bylaw is typically amended annually in the fall to bring forward any recommended regulatory changes and to amend existing or establish new fees and charges. In some years, no regulatory amendments are proposed. However, there is usually a need to propose changes to Regional Parks' fees and charges to help ensure the appropriateness of the fees based on current market conditions.

REGIONAL PARKS' FEES AND CHARGES

The MVRD Board-approved *Regional Parks Plan* (2022) includes Strategy 2 that requires Regional Parks to “update existing financial tools and investigate additional financial mechanisms to support service provision, land acquisition, and operation and maintenance of new parkland.” This includes Action 2.4 that states that Regional Parks will “conduct an annual review of fees and charges established through the Regional Parks Regulation Bylaw.”

Regional Parks' fees and charges are established to recover costs of services, and are set with reference to similar fees established in municipal park systems across Metro Vancouver, the private sector and other government and non-profit agencies. The fee schedule is adjusted annually based on Regional Parks' approach to remain in the mid-range market of comparable fees, and avoid overly large, less frequent adjustments. Fees and charges help recover, or partially offset, increases in operating and maintenance costs. Proposed regional park fees and charges are listed in Schedule A. The annual update of the bylaw ensures that fees and charges are appropriate and based upon current market conditions. Fee changes brought forward as part of the amending bylaw for MVRD Board approval are for implementation in the coming calendar year. Proposed fee changes in this amending bylaw are to take effect January 1, 2025.

PROPOSED FEES AND CHARGES AMENDMENTS (TO TAKE EFFECT JANUARY 1, 2025)

Changes to Schedule A:

1. Staff Assistance Fees (Section 1.1)

It is proposed to raise the staff time fee from \$85/hour to \$95/hour. The fee was last increased in 2018. This is to reflect staff wage increases over the years. In addition, it is proposed that the staff overtime fee be increased from \$170/hour to \$190/hour to be consistent with this rate being double the staff time fee.

2. Parking Permits/Reservation Fees (Section 1.2)

The fee for seasonal pay parking at both Lynn Headwaters Regional Park and t̄amt̄amíx^wt̄ən/Belcarra Regional Park, is proposed to increase from \$3.00 per hour to \$3.25 per hour, with the per day fee increasing from \$17.50 per day to \$18.50 per day.

The parking fee increase at Pacific Spirit Regional Park (Fraser Lot) is proposed to increase from \$3.00 per hour to \$3.50 per hour, with the per day fee increasing from \$15.00 per day to \$17.50 per day. This will bring the daily weekday rate closer to neighbouring University of British Columbia parking lots that currently charge \$4.00 per hour and \$20 per day, and will hopefully dissuade members of the university community from using the Fraser Lot as a commuter parking lot.

Increased fees will strengthen the disincentive for visitors to use personal vehicles to travel to these parks, while providing increased parking revenues used to manage traffic and visitation. Staff will continue to promote the use of public transit, active transportation and alternative forms of transportation to park visitors at these three busy park locations. Parking rates increases are expected to generate an additional \$75,000 in revenues. Parking rates are advertised inclusive of both the GST (5%) and the Translink Parking Tax (24%).

3. Commercial Use Permit Application and Annual Fees (Section 2.1)

The purpose of issuing commercial use permits is to monitor and manage how specific activities impact park and public use. The fees associated with commercial use permits help offset administrative and operating costs of accommodating commercial activity on public lands.

It is proposed to increase the annual commercial dog walking fee for up to 4 dogs from \$470 per year to \$500 per year, and to increase the annual commercial dog walking fee for 5-6 dogs from \$780 per year to \$800 per year. These fees have not been increased since 2021.

It is proposed to increase the annual commercial use permit fee for equestrian usage from \$2,000 to \$2,100. This fee has not increased since the introduction of this fee in 2021.

4. Commercial Use Permit Specialized Fees (Section 2.2)

It is proposed to include an inflationary increase in the Wreck Beach locker storage fees. This service allows vendors to lock items up on the beach overnight. The small bin is proposed to increase to \$105, the medium bin is proposed to increase to \$210 and the large bin is proposed to increase to \$315 for the season.

It is proposed to increase the daily and annual parking permit for commercial tour operators that use buses and other motor vehicles to enter a regional park in connection with a commercial use as follows:

- 11 or fewer seats has a proposed fee increase from \$20 per vehicle per day to \$21 per vehicle per day, and from \$700 per year to \$775 per year.
- 12 to 24 seats has a proposed fee increase from \$31 per vehicle per day to \$32 per vehicle per day, and from \$1,000 per year to \$1,100 per year.
- 25 seats or more has a proposed fee increase from \$51 per vehicle per day to \$53.50 per vehicle per day, and from \$1,450 annually to \$1,600 annually.

5. Outdoor Facilities:

Picnic Shelters (Section 3.1)

It is proposed to increase the picnic shelter fee on weekends and holidays from \$157 per day to \$160 per day, and to increase the picnic shelter fee on weekdays from \$77 per day to \$79 per day. This fee is proposed to be raised by Consumer Price Index (CPI) of 2.2 per cent.

Outdoor Facilities – Miscellaneous (Section 3.3)

It is proposed to raise the Campbell Downs Equestrian Riding Rings fee by CPI of 2.2 per cent from \$157 per day to \$160 per day.

It is proposed to raise the fee for use of McLean Pond by CPI of 2.2 per cent from \$42 per day to \$43 per day.

It is proposed to increase the Private Group rate for the three outdoor spaces at Pacific Spirit Regional Park – Lily, Heron and Salish – from \$98 to \$100. It is also proposed to increase the fee for the same three sites for commercial use permit holders, and for

primary, middle or secondary school Institutions from \$5 to \$10. This is to offset the staff time it takes to manage these bookings.

Outdoor Facilities – Camping (Section 3.4)

It is proposed to raise all Group Camp fees by CPI of 2.2 per cent. Rounded, this will bring the fee per night from \$235 to \$240 for adults, and from \$117 to \$120 per night for youth. This would bring the fee more in alignment with similar campground fees in other jurisdictions, and offset increasing expenses required for servicing the campgrounds.

6. Indoor Facilities (Section 3.5)

For Camp Capilano, it is proposed to increase the fees for adults by CPI of 2.2 per cent. This would increase the fee per night from \$1,170 to \$1,200 per night for adult groups. For youth groups (the majority of groups that utilize the camp), the fee is proposed to increase from \$489 per night to \$520 per night. This fee is still below market rates for comparable facilities in the region. Day use only rates are proposed to increase from \$585 per day to \$600 per day for adults, and for youth the fee is proposed to increase from \$257 to \$260 per day. The fee for lifeguarding service is proposed to increase from \$40 to \$45 per hour to reflect increases over the past few years for the hiring of certified lifeguards.

At Cammidge House at Boundary Bay Regional Park, it is proposed to increase the fee from \$88/hr to \$100/hr. This fee is in line with comparable facilities in the region. Cammidge House has been under renovation for two years and is currently unavailable for rental use. It is proposed that the facility will re-open with this new rate in 2025.

For Inverholme Schoolhouse at Deas Island Regional Park, it is proposed to increase the fee from \$66/hr to \$80/hr. The facility has been closed for several years, damaged by a tree that fell on the roof in 2018, and has not re-opened since. When it re-opens in 2025, this new rate will bring the rental rate in line with comparable facilities in the region.

For Minnehada Lodge, there is a two tier pricing for renting the lodge on weekdays and weekends for this popular facility. It is proposed to increase the rate from \$150/hr to \$175/hr for Monday through Thursday, and from \$200/hr to \$225/hr for Friday through Sunday.

7. Special Use and Special Event Permit Fees (Section 4.0)

The framework used to set core fees for special events was reviewed in detail against market rates and best practices. The associated fees are based on expected attendance numbers. Fees collected are to help recover expenditures in support of each privately organized event including staff time, security, clean up, use of specialized equipment and infrastructure.

While special use permits are always free of charge, it is proposed to increase special event fees across all tiers by CPI of 2.2 per cent and rounded to the nearest \$5. The proposed new rates are:

- For events of up to 100 persons, it is proposed to raise the fee per day for Private Groups from \$250 to \$260, and for Non-Profit Groups, it is proposed to raise the fee per day from \$125 to \$130.
- For events with 101 to 500 persons, it is proposed to raise the fee per day for Private Groups from \$435 to \$450, and for Non-Profit Groups, it is proposed to raise the fee per day from \$215 to \$225.
- For events with 501 to 1500 persons, it is proposed to raise the fee per day from \$650 to \$670, and for Non-Profit Groups, it is proposed to raise the fee per day from \$325 to \$335.
- For events with over 1,500 persons, it is proposed to raise the fee per day for Private Groups from \$1,000 to \$1,020, and for Non-Profit Groups, it is proposed to raise the fee per day from \$500 to \$510.

8. Cancellation Fees (Section 5.0)

It is proposed to remove the row for Private Group. This category pertains to Special Events and Facilities, and these two categories are already covered in the cancellation policy in the rows above.

9. Filming Fees (Section 6.0)

It is proposed to increase the MVRD staff time fee from \$85 to \$95 to match the fees for staff time in Section 1.1 in Schedule A.

It is proposed to change the definition of a minor shoot from “crews of 10 people or less to “crews of 25 people or fewer.” This would allow smaller productions and projects to qualify for the lower rate. Metro Vancouver is able to maximize revenue from large productions, while staying competitive for small productions.

All other filming fees are proposed to remain the same as Metro Vancouver fees are in alignment with similar filming fees in member jurisdictions for a still recovering film industry.

METRO VANCOUVER REGIONAL DISTRICT FEES AND CHARGES BYLAW

In the coming months, staff will be proposing the enactment of a new MVRD Fees and Charges Bylaw that will move all MVRD fees and charges into a new single bylaw. Should the new MVRD bylaw be enacted, staff will bring forward a recommendation to remove Schedule A - Fees and Charges from the Regional Parks Regulation Bylaw, and move the schedule into the newly created MVRD bylaw, where Regional Parks fees and charges can be managed under the same bylaw as other MVRD fees and charges. Having all fees in a single bylaw can ensure that all fees are regularly reviewed and adjusted. It is anticipated this proposed action will occur in early 2025.

ALTERNATIVES

1. That the MVRD Board:
 - a) give first, second, and third reading to *Metro Vancouver Regional District Regional Parks Regulation Amendment Bylaw No. 1400, 2024*; and
 - b) adopt *Metro Vancouver Regional District Regional Parks Regulation Amendment Bylaw No. 1400, 2024*.

2. That the MVRD Board receive for information the report dated October 29, 2024, titled “Metro Vancouver Regional District Regional Parks Regulation Amendment Bylaw No. 1400, 2024 – Amends Bylaw No. 1177, 2012” and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

Regional Parks’ current approach is to review fees and charges annually to reflect current market rates and adjust as required to remain in the mid-range of comparable fee schedules and to avoid overly large, less frequent adjustments. Market research is completed on comparable rentals and permits in municipal park systems in Metro Vancouver. A median rate is targeted for Metro Vancouver’s Regional Parks’ fees to generally stay in line with comparable market rates and to not subsidize private rentals with tax revenues.

Based on the 2024 level of rentals and permits, increases in proposed fees and charges are expected to result in an overall increase in Regional Parks revenues of \$100,000, with \$75,000 coming from increased parking revenues and \$25,000 coming from all other types of fees and charges.

CONCLUSION

This report summarizes proposed amendments to the Regional Parks Regulation Bylaw including its’ Schedule A – Fees and Charges. The annual update of the bylaw ensures that fees and charges are appropriate and based upon current market conditions. While most fee increases being proposed are inflationary including parking permit rates, camping fees, and facility rental rates, a number of additional changes are proposed that will affect administration of the bylaw and the fees charged for public services provided by Regional Parks. Proposed changes to Schedule A – Fees and Charges are to take effect January 1, 2025.

ATTACHMENTS

1. *Metro Vancouver Regional District Regional Parks Regulation Amendment Bylaw No. 1400, 2024*

70832228

METRO VANCOUVER REGIONAL DISTRICT
BYLAW NO. 1400, 2024
A bylaw to amend “Metro Vancouver Regional District Regional Parks Regulation
Bylaw No. 1177, 2012”

WHEREAS:

- A. the Metro Vancouver Regional District Board (the “Board”) has adopted “Metro Vancouver Regional District Regional Parks Regulation Bylaw No. 1177, 2012”, a bylaw to establish rules and regulations for the management, maintenance, operations, enforcement, control, and use of regional parks and property in regional parks; and
- B. the Board wishes to amend “Metro Vancouver Regional District Regional Parks Regulation Bylaw No. 1177, 2012”.

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 Parks Regulation Amendment Bylaw No. 1400, 2024”.

Effective Date

2. This bylaw will come into effect on January 1, 2025.

Schedule(s)

3. The following Schedules are attached to and form part of the bylaw:
 - Schedule “A”, Fees and Charges.

Amendment of Bylaw

4. “Metro Vancouver Regional District Regional Parks Regulation Bylaw No. 1177, 2012” is amended as follows:
 - (a) Effective January 1, 2025, Schedule “A” of the Bylaw is deleted and replaced with Schedule “A”, Fees and Charges, which is attached to and forms part of this bylaw.

Read a first, second, and third time this _____ day of _____, _____.

Adopted this _____ day of _____, _____.

Mike Hurley, Chair

Dorothy Shermer, Corporate Officer

Schedule A

Fees and Charges (Effective January 1, 2025)

Section 1.0 GENERAL FEES					
1.1 Staff Assistance Fees					
	Staff Time				
	Staff time – Regular Hours				\$95/hour
	Staff time – Overtime				\$190/hour
	Pre-event Site Visit				\$100/visit
1.2 Parking Permits/Reservation Fees					
	Regional Park	Date	Fee, per hour	Fee, per day	
	Pacific Spirit (Fraser Lot)	Year Round	\$3.50	\$17.50	
	təmtəmix ^w tən/Belcarra	April 1 – September 30 only	\$3.25	\$18.50	
	Lynn Headwaters	April 1 – September 30 only	\$3.25	\$18.50	
Section 2.0 COMMERCIAL USE PERMIT FEES					
2.1 Commercial Use Permit Fees				Fee	
	Commercial use permit application fee (one time)			\$200	
	Annual Commercial use permit application fee for non-profit organization			\$100	
	Annual Commercial use permit fee for general commercial activities			\$200	
	Annual Commercial use permit fee for general commercial activities of a non-profit organization			\$100	
	Annual Commercial use permit fee for commercial photography			\$200	
	Daily Commercial use permit fee for commercial photography			\$75	
	Annual Commercial use permit fee for dog walking, up to 4 dogs			\$500	
	Annual Commercial use permit fee for dog walking, more than 4 dogs			\$800	
	Annual Commercial use permit fee for equestrian usage			\$2,100	

Section 2.0 COMMERCIAL USE PERMIT FEES (Continued)

2.2 Commercial Use Permit Specialized Fees		Fees
Locker storage of commercial-use related equipment at Wreck Beach, where the maximum rental period permitted is April 1 to September 30 of each year		\$105 per small bin per rental period (non- refundable)
		\$210 per medium bin per rental period (non- refundable)
		\$315 per large bin per rental period (non- refundable)
	Replacement key for locker storage at Wreck Beach	\$15 per replacement
	Vest	\$50 per vest
Equestrian ID cards	\$35 per ID card	
Daily or Annual Parking Permit for buses and other motor vehicles that enter a regional park in connection with a commercial use	11 or fewer seats:	\$21 per vehicle per day or \$775 annually per vehicle
	12 to 24 seats:	\$32 per vehicle per day or \$1,100 annually per vehicle
	25 seats or more:	\$53.50 per vehicle per day or \$1,600 annually per vehicle

Section 3.0 REGIONAL PARK FACILITY PERMIT FEES

3.1 Outdoor Facilities – Picnic Shelters

Regional Park	Facility	Fee on weekends and holidays (per day)	Fee on weekdays (per day)
Aldergrove	Blacktail Picnic Shelter	\$160	\$79
təmtəmiş ^w tən/Belcarra	Belcarra 1 Picnic Shelter	\$160	\$79
təmtəmiş ^w tən/Belcarra	Belcarra 2 Picnic Shelter	\$160	\$79
Boundary Bay	Cattail Picnic Shelter	\$160	\$79
Boundary Bay	Sandpiper Picnic Shelter	\$160	\$79
Campbell Valley	Old Orchard Picnic Shelter	\$160	\$79
Crippen	Crippen 1 Picnic Shelter	\$160	\$79
Crippen	Crippen 2 Picnic Shelter	\$160	\$79
Crippen	Crippen 3 Picnic Shelter	\$160	\$79
Deas Island	Deas Picnic Shelter	\$160	\$79
Deas Island	Muskrat Meadows Picnic Shelter	\$160	\$79
Derby Reach	Marpole Picnic Shelter	\$160	\$79
Surrey Bend	Hawk Picnic Shelter	\$160	\$79
Surrey Bend	Warbler Picnic Shelter	\$160	\$79
Surrey Bend	Wren Picnic Shelter	\$160	\$79

Section 3.0 REGIONAL PARK FACILITY PERMIT FEES (Continued)

3.2 Outdoor Facilities – Fields

	Regional Park	Facility	Fee per day
	All	Small Field	\$100
	All	Large Field	\$300

3.3 Outdoor Facilities – Miscellaneous

	All	Parking Lot (that is not a pay parking lot)	\$100
	Campbell Valley	Campbell Downs Equestrian Riding Rings	\$160
	Campbell Valley	McLean Pond	\$43
	Pacific Spirit	Lily Site – Private Group	\$100
	Pacific Spirit	Lily Site – Commercial Use Permit Holder or Primary, Middle, or Secondary Educational Institution (Monday to Friday only)	\$10
	Pacific Spirit	Heron Site – Private Group	\$100
	Pacific Spirit	Heron Site – Commercial Use Permit Holder or Primary, Middle, or Secondary Educational Institution (Monday to Friday only)	\$10
	Pacific Spirit	Salish Site – Private Group	\$100
	Pacific Spirit	Salish Site – Commercial Use Permit Holder or Primary, Middle, or Secondary Educational Institution (Monday to Friday only)	\$10

3.4 Outdoor Facilities – Camping

		Fee, per night	Youth group fee, per night
	Campbell Valley	Camp Coyote Group Camp	\$240 \$120
	Deas Island	Muskrat Meadows Group Camp	\$240 \$120
	Tynehead	Raven's Nest Group Camp	\$240 \$120
	Camping outside of designated campsites	\$6 per person	\$6 per person \$6 per person
		Fee, per night	Seniors/Persons with disabilities fee, per night
	Derby Reach	Edgewater Bar Campground Site	\$30 \$27
		Reservation Fee (via phone)	\$5 \$5
		Additional Vehicle	\$12 \$11

Section 3.0 REGIONAL PARK FACILITY PERMIT FEES (Continued)

3.5 Indoor Facilities

			Fee	Youth Group Fee	
Capilano River	Camp Capilano	Overnight Rental	\$1,200 per night	\$520 per night	
		Day use, from 9am to 5pm	\$600 per day	\$260 per day	
		Late Checkout	\$200 per hour	\$200 per hour	
		Lifeguarding Service	\$45 per hour	\$45 per hour	
		Security Deposit (0-2 nights) – Youth			\$250
		Security Deposit (0-2 nights) – Adult			\$500
		Security Deposit (3-6 nights)			\$500
Boundary Bay	Cambridge House	Facility rental (Limit 50 persons)	\$100 per hour	N/A	
		Late checkout	\$200 per hour	N/A	
		Security Deposit		\$500	
Deas Island	Inverholme Schoolhouse	Facility rental	\$80 per hour	N/A	
		Security Deposit		\$500	
Minnekhada	Minnekhada Lodge	Facility rental (Monday – Thursday)	\$175 per hour	N/A	
		Facility rental (Friday – Sunday)	\$225 per hour	N/A	
		Late checkout	\$200 per hour	N/A	
		Security Deposit		\$500	

Section 4.0 SPECIAL USE AND SPECIAL EVENT PERMIT FEES

Type of Permit	Fee per day – Private Group	Fee per day – Non-Profit Organization
Special Use Permit	NIL	NIL
Special Event Permit	Fee per day – Private Group	Fee per day – Non-Profit Organization
Up to 100 persons	\$260	\$130
101 to 500 persons	\$450	\$225
501 to 1500 persons	\$670	\$335
Over 1500 persons	\$1,020	\$510
Prep and Wrap Days	\$100	\$50
Security Deposit	\$250	\$250
Date Change Fee	\$25	\$25

Section 5.0 CANCELLATION FEES		
Park Permit	Cancellation Notification Period	Fee
Outdoor Facilities, See Schedule A, Section 3.1	More than 2 months prior to the rental date	\$25
	2 months or less prior to the rental date	100% of fee paid
Indoor Facilities, See Schedule A, Section 3.2	More than 3 months prior to the rental date	50% of security deposit
	3 months or less prior to the rental date	100% of security deposit
Special Events, See Schedule A, Section 4.0	More than 2 months prior to the event date	\$25
	2 months or less prior to the event date	100% of security deposit
Edgewater Bar Camping, See Schedule A, Section 3.1	At any time	\$6
	Fewer than 7 days prior to the arrival date	\$6 + 1 night of camping fees
	During stay (after arrival)	100% of fee paid
Note: If Metro Vancouver initiates the cancellation of any facility rental or event, a full refund will be given.		

Section 6.0 FILMING FEES	
Location	Fee
Application Fee	\$250
MVRD Staff: Regular /Management	\$95/hr
Parkland – Reserves & Greenways – Film Day	\$1,000
Parkland – Reserves & Greenways – Film Day – Clean Energy discounted rate (2 days maximum)	\$500
Parkland – Reserves & Greenways – Still Shoot Day	\$500
Parkland – Reserves & Greenways – Prep/Wrap/Hold Day	\$500
Parkland – Reserves & Greenways – Crew/Circus Staging Area Day	\$420
Parkland – Reserves & Greenways – Crew/Circus Staging Area Day – Clean Energy discounted rate (2 days maximum)	\$210
Parkland – Reserves & Greenways – Minor Shoot Day (crews of 25 people or fewer)	\$500
Parkland – Reserves & Greenways – Minor Shoot Day (crews of 25 people or fewer) Clean Energy discounted rate (2 days maximum)	\$250
BC Mills House Houston House/Karr Mercer Barn Inverholme Schoolhouse	\$1,100/film day
Clean Energy discounted rate (2 days maximum): BC Mills House Houston House/Karr Mercer Barn Inverholme Schoolhouse	\$610/film day
BC Mills House Houston House Inverholme School House	\$610/film day prep/wrap/hold day
Burvilla Cammidge House Camp Capilano Delta Heritage Airpark Kanaka Creek Stewardship Centre Louck’s House Minnekhada Lodge	\$1,875/film day

Section 6.0 FILMING FEES (Continued)	
Clean Energy discounted rate (2 days maximum): Burvilla Cammidge House Camp Capilano Delta Heritage Airpark Kanaka Creek Stewardship Centre Louck's House Minnekhada Lodge	\$1,375/film day
Burvilla Cammidge House Camp Capilano Delta Heritage Airpark Kanaka Creek Stewardship Centre Louck's House Minnekhada Lodge	\$1,125/film day prep/wrap/hold day
Administration Fee – Electrical Supply/Tie In Agreement	\$25 [<i>cost of electrical supply is in addition to Administration Fee</i>]
Security Deposit (Certified Cheque) Note: Security Deposits can be amended subject to impact, risk of the facilities and Regional Parks.	\$12,500

To: MVRD Board

From: Ravi Chhina, Deputy Chief Administrative Officer, Operations, Human Resources, and Corporate Services

Date: November 15, 2024 Meeting Date: November 29, 2024

Subject: **Sasamat Volunteer Fire Department Service Conversion Bylaw No. 1402, 2024**

RECOMMENDATION

That the MVRD Board:

- a) give first, second, and third readings to *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024*;
 - b) direct staff to seek participating area approval from the Village of Anmore and the Village of Belcarra for *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024* per section 342(2)(c) of the *Local Government Act*; and
 - c) direct staff to, once participating area approval has been obtained, submit *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024* to the Inspector of Municipalities for approval.
-

EXECUTIVE SUMMARY

On June 19, 2024, the Village of Belcarra initiated a Service Review of the Sasamat Volunteer Fire Department (SVFD) Service under the *Local Government Act* (the *Act*), with the goal of updating the capital cost apportionment and recovery structures of the SVFD Service. The Sasamat Volunteer Fire Department Service is operating as a continued service authorized by Supplementary Letters Patent (SLPs). Before any changes can be made to a continued service, a service conversion bylaw must be adopted. At the preliminary meeting for the Service Review held on September 27, 2024, all participants of the Service Review agreed that a service conversion bylaw should be drafted as soon as possible based on the existing terms set out in the SLPs. The draft bylaw is now being presented for consideration of three readings, referral to participating areas for approval, and subsequent referral to the Inspector of Municipalities for approval.

PURPOSE

To present *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024* for consideration of three readings and referral for participating areas approval and the Inspector of Municipalities for approval.

BACKGROUND

On June 19, 2024, the Village of Belcarra initiated a Service Review of the Sasamat Volunteer Fire Department (SVFD) Service under section 357 of the *Act*, with the goal of updating the capital cost apportionment and recovery structures of the SVFD Service.

The authority for the MVRD to operate the SVFD comes from a series of Supplementary Letters Patent (SLP) granted between 1980 and 1989. In 2000, all SLP service authorities were extinguished by legislation; however, continued services were specifically authorized by section 341(2) of the *Act*. The SVFD is such a continued service. In order to make changes to a continued service, a board must first adopt a service conversion bylaw.

A preliminary meeting was held on September 27, 2024 to discuss the scope of the Sasamat Volunteer Fire Department Service Review. The MVRD was represented by Board Chair Mike Hurley; the Village of Anmore was presented by Mayor John McEwen; and the Village of Belcarra was represented by Mayor Jamie Ross. All parties agreed that a service conversion bylaw should be drafted based on the existing terms set out in the SLP, and presented to the Board for consideration of adoption as soon as possible. *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024* is presented in Attachment 1 for consideration.

Service Conversion Bylaw

Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024 transposes the existing terms of the Supplementary Letters Patent to a service establishment bylaw format. Legislative references were updated and anachronisms removed. No significant alterations were made with the exception of the addition of a clause regarding maximum requisition, which is required content for establishing bylaws per section 339(1)(e) of the *Act*.

The proposed maximum requisition is \$1.25 per \$1,000. This proposed maximum requisition amount is based on accommodating the highest expected capital cost for the replacement of the fire halls, and increased operating and other capital or financing costs, over the next 20 years. As the SVFD budget and the associated requisition must be annually approved by Anmore and Belcarra representatives on the Board, the participating areas retain control of annual requisition amounts, which must fall below the maximum requisition set out in the bylaw.

Next Steps

Before *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024* can be adopted, it must receive approval from two-thirds of participating areas and from the Inspector of Municipalities. As the only two participating areas, the Village of Anmore and the Village of Belcarra must both provide approval. The council of each municipality may provide consent on behalf of the electors. Once both councils have notified the MVRD of their consent, the bylaw can be forwarded to the Inspector of Municipalities for approval. Once the Inspector of Municipalities approves the bylaw, it can be adopted by the Board.

ALTERNATIVES

1. That the MVRD Board:
 - a) give first, second, and third readings to *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024*;
 - b) direct staff to seek participating area approval from the Village of Anmore and the Village of Belcarra for *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024* per section 342(2)(c) of the Local Government Act; and
 - c) direct staff to, once participating area approval has been obtained, submit *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024* to the Inspector of Municipalities for approval.

2. That the Board received the report dated November 15, 2024 titled “Sasamat Volunteer Fire Department Service Conversion Bylaw No. 1402, 2024” for information.

FINANCIAL IMPLICATIONS

There is no financial implication associated with the adoption of the *Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024*.

CONCLUSION

The Sasamat Volunteer Fire Department (SVFD) Service is operating as a continued service authorized by Supplementary Letters Patent (SLPs). The SVFD Service is currently undergoing a Service Review with the goal of considering updating the capital cost apportionment and recovery structures of the SVFD Service. Before any changes can be made to a continued service, a service conversion bylaw must be adopted. A service conversion bylaw has now been drafted, and is being presented for consideration of three readings, referral to participating areas for approval, and subsequent referral to the Inspector of Municipalities for approval. Alternative 1 is recommended.

ATTACHMENTS

1. Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024.

71801112

**METRO VANCOUVER REGIONAL DISTRICT
BYLAW NO. 1402
A bylaw to convert the continued Sasamat Fire Service**

WHEREAS:

- A. By Division X Supplementary Letters Patent approved and ordered August 2, 1979 (the “**1979 SLP**”), the Metro Vancouver Regional District (formerly the Greater Vancouver Regional District, the “**MVRD**”) was authorized to undertake the function of Fire Regulation with Electoral Areas B and C as participating member municipalities;
- B. Pursuant to Letters Patent approved and ordered August 22, 1979, the municipality of “Village of Belcarra”, formerly part of Electoral Area B of the MVRD, was incorporated;
- C. By Division XI Supplementary Letters Patent approved and ordered January 10, 1980 (the “**1980 SLP**”):
- (1) the MVRD was authorized to undertake the function of Fire Protection within the Village of Belcarra and that portion of Electoral Area B defined in the 1980 SLP as participating member municipalities; and
 - (2) the 1979 SLP was amended to exclude from the Division X – Fire Protection function of the MVRD those parts of Electoral Areas B and C participating in the Division XI – Fire Protection function of the MVRD;
- D. Pursuant to Letters Patent approved and ordered November 19, 1987, the municipality of “Village of Anmore”, formerly part of Electoral Area B of the MVRD, was incorporated;
- E. By Supplementary Letters Patent approved and ordered March 10, 1989:
- (1) the 1979 SLP was amended to exclude the Village of Anmore from the Division X – Fire Protection function of the MVRD; and
 - (2) the function of Division XI Fire Protection granted by the 1980 SLP was renamed Division XX Fire Protection (the “**Service**”) and revised to, among other things, include only the member municipalities of the Village of Anmore and the Village of Belcarra as participants;
- F. The Service is a continued service and may, by bylaw adopted by the MVRD Board, be converted to a service exercised under the authority of an establishing bylaw pursuant to section 341 of the *Local Government Act*;
- G. The Village of Belcarra and the Village of Anmore, being the only two participating members of the Service, have requested that the Service be converted to one exercised under the authority of an establishing bylaw, as contemplated by this Bylaw; and
- H. Participating area approval of this Bylaw has been obtained in accordance with section 342(2)(c) of the *Local Government Act*.

NOW THEREFORE the Board of the Metro Vancouver Regionals District enacts as follows:

Citation

1. This Bylaw may be cited as the “Metro Vancouver Regional District Sasamat Fire Service Conversion Bylaw No. 1402, 2024”.

Conversion of Service

2. The Service is hereby converted to and established as a fire suppression, fire prevention and emergency response service exercised under the authority of an establishing bylaw as the “**Sasamat Fire Service**”.

Participating Areas

3. The participating areas for the Sasamat Fire Service are the Village of Anmore and the Village of Belcarra (the “**Participating Areas**”).

Service Area

4. The service area for the Sasamat Fire Service is all land within the municipal boundaries of the Participating Areas.

Cost Recovery

5. The annual costs for the Sasamat Fire Service may be recovered by one or more of the following:
 - (a) property value taxes imposed in accordance with Part 11, Division 3 [*Requisition and Tax Collection*] of the *Local Government Act*;
 - (b) parcel taxes imposed in accordance with Part 11, Division 3 [*Requisition and Tax Collection*] of the *Local Government Act*;
 - (c) fees and charges imposed by bylaw under section 397 [*imposition of fees and charges*] of the *Local Government Act*;
 - (d) revenues raised by other means authorized under the *Local Government Act* or another Act; and
 - (e) revenues received by way of agreement, enterprise, gift, grant or otherwise.

Cost Apportionment

6. The costs of the Sasamat Fire Service after deducting the revenues (if any) received under subsections 4(d) and (e) above and except as set out in section 7 below, shall be apportioned between the Participating Areas by the method established by section 380(2)(a) of the *Local Government Act*.
7. The annual cost of contributions to any capital reserve fund pertaining to the Sasamat Fire Service and the servicing of outstanding debt shall be shared equally (50:50) by the Participating Areas.

Maximum Requisition

8. Pursuant to section 339(1)(e) of the *Local Government Act*, the maximum amount that may be requisitioned for the Sasamat Fire Service is the amount yielded by applying the rate of \$1.25 per each \$1,000 of the net taxable value of land and improvements in the service area.

Board of Trustees

- 9. The Board of the MVRD has by *Greater Vancouver Regional District Sasamat Volunteer Fire Department Administration and Regulation Bylaw No. 1204, 2014* established, and shall continue by bylaw provide for, a board of trustees for the administration and operation of the Sasamat Fire Service and associated appointments and voting rules.

Services outside Service Area Permitted by Agreement

- 10. Notwithstanding section 3 of this Bylaw, the Sasamat Fire Service may provide fire suppression, fire prevention and / or emergency response services outside of the service area where the MVRD has entered into an agreement for such purpose, consistent with section 332 of the *Local Government Act*.

Read a first, second, and third time this ____ day of _____, _____.

Approved by the Inspector of Municipalities this ____ day of _____, _____.

Adopted this ____ day of _____, _____.

Mike Hurley, Chair

Dorothy Shermer, Corporate Officer

To: MVRD Board of Directors

From: Dorothy Shermer, Corporate Officer, Director, Board and Information Services

Date: November 19, 2024 Meeting Date: November 29, 2024

Subject: **Adoption of MVRD Electoral Area A Zoning Amendment Bylaw 1399, 2024**

RECOMMENDATION

That the MVRD Board adopt *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* as recommended in the report dated November 19, 2024 titled “Adoption of MVRD Electoral Area A Zoning Amendment Bylaw 1399, 2024”.

EXECUTIVE SUMMARY

Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024—a bylaw to amend *Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011* to align with the current provincial housing policy guidance—was given three readings at the MVRD Board meeting held on November 1, 2024. *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* was subsequently forwarded to the Ministry of Transportation and Infrastructure for approval. Approval was received on November 18, 2024. *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* is now presented to the MVRD Board for consideration of adoption.

PURPOSE

To present *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* for consideration of adoption.

BACKGROUND

At the MVRD Board meeting held on November 1, 2024, the MVRD Board considered a report dated October 21, 2024, titled “MVRD Electoral Area A Zoning Amendment Bylaw 1399, 2024” (Attachment 1) and passed the following resolution:

That the MVRD Board:

- a) give first, second, third readings to *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024*; and
- b) direct staff to forward the bylaw to the Ministry of Transportation and Infrastructure for approval.

The Ministry of Transportation and Infrastructure approved *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* on November 18, 2024 (Attachment 2). *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* (Attachment 3) may now be adopted.

ALTERNATIVES

1. That the MVRD Board adopt *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* as recommended in the report dated November 19, 2024 titled "Adoption of MVRD Electoral Area A Zoning Amendment Bylaw 1399, 2024".
2. That the MVRD Board receive for information the report dated November 19, 2024, titled "Adoption of MVRD Electoral Area A Zoning Amendment Bylaw 1399, 2024".

FINANCIAL IMPLICATIONS

There are no financial implications associated with the adoption of *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024*.

CONCLUSION

Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024 has received three readings and approval from the Ministry of Transportation and Infrastructure; it may now be adopted. Staff recommend Alternative 1.

ATTACHMENTS

1. Report dated October 21, 2024, titled "MVRD Electoral Area A Zoning Amendment Bylaw 1399, 2024".
2. Approval of *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* from the Ministry of Transportation and Infrastructure.
3. *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024*

72218060

To: MVRD Board of Directors

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

Date: October 21, 2024 Meeting Date: November 1, 2024

Subject: **MVRD Electoral Area A Zoning Amendment Bylaw 1399, 2024**

RECOMMENDATION

That the MVRD Board:

- a) give first, second, third readings to *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024*; and
 - b) direct staff to forward the bylaw to the Ministry of Transportation and Infrastructure for approval.
-

EXECUTIVE SUMMARY

This report brings before the MVRD Board the *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* at the conclusion of a public hearing not held process. Bylaw 1399, 2024 brings the *Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011* into alignment with the current provincial housing policy guidance. The report recommends that the Board give Bylaw 1399, 2024 three readings and direct staff to forward it to the Ministry of Transportation and Infrastructure for approval.

PURPOSE

To recommend, at the conclusion of a public hearing not held process, that the MVRD Board give first, second, and third reading to *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* and forward it to the Ministry of Transportation and Infrastructure for approval.

BACKGROUND

Metro Vancouver has local land use planning jurisdiction for the rural and remote areas of Electoral Area A, where the *Electoral Area A Zoning Bylaw* applies. Following the passage of provincial housing legislation in November 2023, staff identified amendments that would improve alignment with new provincial housing policy guidance. These amendments were presented to the MVRD Board in May 2024 (Attachment 1), and the MVRD Board passed the following resolution:

That the MVRD Board direct staff to prepare a bylaw as described in the report titled “Electoral Area A Zoning Bylaw Amendment – Provincial Housing Legislation”, dated April 30, 2024, and give notice that a public hearing will not be held in accordance with section 464(2) of the Local Government Act.

Staff have completed preparing the bylaw, which is attached to this report (Attachment 2), and have given notice of a public hearing not held.

Information about the proposed amendments was sent to residents in the summer Electoral Area A Director's Update, and was posted for public comment on the MVRD website. No questions or comments were received. The Electoral Area A Director and staff also met with Strachan Point residents on September 3, 2024 to discuss proposed amendments that affect their community (Attachment 3), and the consensus from that meeting is reflected in the attached amendment bylaw.

Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024 is consistent with the *Electoral Area A OCP* as contemplated in section 464(2) of the *Local Government Act*. Metro Vancouver is therefore not holding a public hearing and is following the public hearing not held notice provisions of section 467 of the *Local Government Act*.

A public hearing not held notice (Attachment 4) was published on October 22, 2024 and October 29, 2024 in the Vancouver Sun per legislative requirements.

If the MVRD Board gives three readings to the bylaw, it will be forwarded to the Ministry of Transportation and Infrastructure for approval before being brought back for consideration of adoption. Approval from the Ministry of Transportation and Infrastructure is required because the proposed zoning bylaw amendment covers areas within 800 m of controlled access highways, per Section 52 of the *Transportation Act*.

ALTERNATIVES

1. That the MVRD Board:
 - a) give first, second, third readings to *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024*; and
 - b) direct staff to forward the bylaw to the Ministry of Transportation and Infrastructure for approval.
2. That the MVRD Board receive for information the report dated October 21, 2024 titled "MVRD Electoral Area A Zoning Amendment Bylaw 1399, 2024".

FINANCIAL IMPLICATIONS

There are no financial implications in this report.

CONCLUSION

Staff recommend Alternative 1 as it brings the *Electoral Area A Zoning Bylaw* in line with the current provincial housing policy guidance. If the MVRD Board selects alternative 2, the *Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011* will not be amended.

ATTACHMENTS

1. May 31, 2024 MVRD Board staff report titled “Electoral Area A Zoning Bylaw Amendment – Provincial Housing Legislation”, dated April 30, 2024.
2. *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024.*
3. Summary notes of meeting with Strachan Point residents on September 3, 2024, included in the September 3, 2024 Electoral Area A Committee Meeting Manager’s Report.
4. Public Hearing Not Held Notice.

71246872

To: Electoral Area Committee

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

Date: April 30, 2024 Meeting Date: May 22, 2024

Subject: **Electoral Area A Zoning Bylaw Amendment – Provincial Housing Legislation**

RECOMMENDATION

That the MVRD Board direct staff to prepare a bylaw as described in the report titled “Electoral Area A Zoning Bylaw Amendment – Provincial Housing Legislation”, dated April 30, 2024, and give notice that a public hearing will not be held in accordance with section 464(2) of the *Local Government Act*.

EXECUTIVE SUMMARY

In November 2023, the Province passed legislation to stimulate the infill and intensification of housing in single-detached neighbourhoods and transit-oriented areas throughout BC.

For the rural and remote areas of Electoral Area A where Metro Vancouver has local land use planning jurisdiction (i.e. zoning and official community plan bylaws), the *Housing Statutes (Residential Development) Amendment Act, 2023* requires all single-family and duplex residential zones to allow for secondary suites and/or accessory dwelling units. The Electoral Area A Zoning Bylaw already allows this, and therefore complies with the new housing legislation.

However, staff have identified revisions to related regulations in the zoning bylaw that would improve alignment with provincial policy guidance for zoning bylaw regulation best practices, and therefore propose the minor amendments summarized in this report. Because no public hearing will be held for this bylaw, Metro Vancouver is required to give notice and allow for the public to submit comments prior to consideration of first reading. If supported, the report recommendation would enable staff to publish the required notices and then bring forward the bylaw to the MVRD Board for consideration of readings.

PURPOSE

To provide the Electoral Area Committee and MVRD Board the opportunity to consider amendments to the Electoral Area A Zoning Bylaw based on recent provincial housing legislation.

BACKGROUND

Following the enactment of provincial legislation in support of small-scale, multi-unit housing in late 2023, local governments across BC are required to amend their local land use bylaws. In early 2024, the Province released additional guidance, including a provincial policy manual & site standard (Reference 1), to help local governments understand and implement the legislation. Metro Vancouver staff have reviewed the legislation and have prepared the zoning bylaw amendments

presented in this report based on this policy guidance as well as previous consultation with Electoral Area A residents related to the zoning bylaw. These amendments are now ready for consideration.

ELECTORAL AREA A ZONING BYLAW (REFERENCE 2)

Metro Vancouver has local planning responsibilities (i.e. zoning and official community plan bylaws) for Electoral Area A, excluding UBC, the University Endowment Land (UEL), Bowyer Island, and Passage Island. The communities in the areas covered by the Electoral Area A Zoning Bylaw and Official Community Plan (OCP) are almost entirely single-family, located in rural and remote settings, and generally have been stable (no major redevelopment).

The Electoral Area A Zoning Bylaw has several community-specific and stand-alone single-family/duplex residential zones that allow for accessory suites (i.e. secondary suites that are located within the principal dwelling) and/or accessory residential dwellings (i.e. accessory dwelling units that are detached from the principal dwelling), as summarized in the table below.

Residential Zone	Accessory Suites Allowed?	Accessory Residential Dwellings Allowed?
Small Holding Rural (A-1)	Yes	Yes
Extensive Rural and Recreation (A-2)	Yes	Yes
Cottage Residential (RS-1)	Yes	No
Ocean Point Residential (RS-2)	Yes	No
Strachan Point Residential (RS-3)	Yes	No
Montizambert Residential (RS-4)	Yes	No
Barnston Island (BI-1)	Yes	No

SMALL-SCALE, MULTI-UNIT HOUSING LEGISLATION REQUIREMENTS

The *Housing Statutes (Residential Development) Amendment Act* (Bill 44) is one of three pieces of recent housing-related legislation that, among other things, sets out requirements related to small-scale, multi-unit housing that local governments must adopt in their land use bylaws by June 30, 2024. (See Reference 3 for additional information related to the provincial housing legislation.)

For the lands covered by the Electoral Area A Zoning Bylaw, the only requirement that must be met under the new legislation is the allowance for secondary suites and/or accessory dwelling units in all single-family and duplex residential zones. As noted in the table above, the Electoral Area A Zoning Bylaw already complies with this requirement.

Notice That A Public Hearing Will Not Be Held

The primary purpose of the proposed bylaw amendment is to align the Electoral Area A Zoning Bylaw with the policy guidance that the Province has issued to comply with the new housing legislation. The Electoral Area A OCP applies to the area of the proposed bylaw amendments, and they are consistent with the OCP. The proposed amendments are minor because they are not intended or expected to meaningfully impact the pace or type of development in the rural and remote communities of Electoral Area A, which is generally gradual (i.e. handful of building permits per year on average) and small-scale (i.e. construction or re-construction of single-family homes and accessory buildings).

In 2019, staff consulted with residents on future potential revisions to the Electoral Area A Zoning Bylaw, including revisions to lot line setbacks and height. That work and consultation was considered alongside the policy manual when proposing these minor amendments.

For these reasons, staff recommend not holding a public hearing, as contemplated in section 464(2) of the *Local Government Act*, and instead relying on the public notification process contemplated in section 467 of the *Local Government Act*. This process requires public notification before first reading of the bylaw, giving the public the opportunity to review the proposed bylaw and submit comments that will be considered when the bylaw is brought to the MVRD Board for consideration. The MVRD Board will have the opportunity to make amendments to the bylaw based on the comments as warranted.

When a public hearing will not be held, local governments must give notice to that effect, in accordance with the *Local Government Act*. As part of the public notice process, Metro Vancouver will be soliciting written feedback only from residents of Electoral Area A. This public consultation will mean that delegations to the Committee and Board will not be accepted under section 52(8)(d) of the *Metro Vancouver Regional District Procedure Bylaw No. 1368, 2023*.

PROPOSED ELECTORAL AREA A ZONING BYLAW AMENDMENTS

While the Electoral Area A Zoning Bylaw complies with the recent housing legislation, staff have reviewed the Bylaw relative to the provincial policy manual & site standards for small-scale, multi-unit housing that was released to support the implementation of the legislation and have identified a number of minor amendments that would bring the Bylaw into greater alignment with provincial policy and site standards. The proposed minor amendments are summarized in the table below.

LOT LINE SETBACKS	
Proposed Changes	Rationale/Comments
Reduce setbacks for zones that rural zones and zones that primarily apply to water access only. See table below for proposed setback reductions	The provincial policy manual recommends reducing lot line setbacks to allow more developable space on lots. Given many Electoral Area A properties are located on challenging terrain, minor reductions in setbacks can meaningfully create more space and flexibility for siting buildings.
Remove specific agricultural building setbacks from the Barnston Island Zone (BI-1).	Based on previous consultation with Barnston Island residents, there was support to reduce the setbacks and simplify the zoning regulations around setbacks for agricultural buildings given that all privately held parcels on Barnston Island are in the Agricultural Land Reserve and subject to those rules.

Revise the definition of front lot line setback.	The definition of “lot line, front” currently only contemplate access from a ‘highway’ as defined in the bylaw, but does not capture lots in Electoral Area A that are water access only or that may be accessed by rights of way. The definition would be revised to recognize the different ways that lots are accessed in Electoral Area A.
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<i>Residential Zone</i>	<i>Principal Building Setbacks</i>		<i>Accessory Buildings and Structures</i>	
	<i>Current</i>	<i>Proposed</i>	<i>Current</i>	<i>Proposed</i>
Small Holding Rural (A-1)				
• Front Lot Line Setback	7.5 m	4.5 m	7.5 m	4.5 m
• Rear Lot Line Setback	7.5 m	3.0 m	3.0 m	3.0 m
• Exterior Lot Line Setback	3.0 m	3.0 m	3.0 m	3.0 m
• Interior Lot Line Setback	1.5 m	1.5 m	3.0 m	1.5 m
Extensive Rural and Recreation (A-2)				
• Front Lot Line Setback	7.5 m	4.5 m	7.5 m	5.0 m
• Rear Lot Line Setback	7.5 m	3.0 m	3.0 m	3.0 m
• Exterior Lot Line Setback	3.0 m	3.0 m	3.0 m	3.0 m
• Interior Lot Line Setback	1.5 m	1.5 m	3.0 m	1.5 m
Cottage Residential (RS-1)				
• Front Lot Line Setback	7.5 m	1.5 m	3.0 m	1.5 m
• Rear Lot Line Setback	7.5 m	1.5 m	3.0 m	1.5 m
• Exterior Lot Line Setback	3.0 m	1.5 m	3.0 m	1.5 m
• Interior Lot Line Setback	1.5 m	1.5 m	1.5 m	1.5 m
Ocean Point Residential (RS-2)				
• Front Lot Line Setback	5.0	4.5	5.0	4.5
• Rear Lot Line Setback	4.5	4.5	4.5	4.5
• Exterior Lot Line Setback	3.0	3.0	3.0	3.0
• Interior Lot Line Setback	1.5	1.5	1.5	1.5
Strachan Point Residential (RS-3)				
<ul style="list-style-type: none"> • Front and Rear Lot Line Setbacks: <ul style="list-style-type: none"> ○ 4.5 metres from the westerly boundary of the BC Rail right-of-way (no change) ○ Proposed: 1.5 m from any road easements (currently either 1.5 m or 7.5 m) 				
• Exterior Lot Line Setback	3.0	3.0	3.0	3.0
• Interior Lot Line Setback	1.5	1.5	1.5	1.5
Montizambert Residential (RS-4)				
<ul style="list-style-type: none"> • Front and Rear Lot Line Setbacks: <ul style="list-style-type: none"> ○ Proposed: 1.5 m from any road easements (currently either 1.5 m or 7.5 m) 				
• Exterior Lot Line Setback	3.0	3.0	3.0	3.0
• Interior Lot Line Setback	1.5	1.5	1.5	1.5

Barnston Island (BI-1) ¹				
• Front Lot Line Setback	6 m	4.5 m	7.5 m	4.5 m
• Rear Lot Line Setback	6 m	3.0 m	3.0 m	3.0 m
• Exterior Lot Line Setback	6 m	3.0 m	3.0 m	3.0 m
• Interior Lot Line Setback	6 m	1.5 m	3.0 m	1.5 m

¹Principal buildings include *single residential dwelling - principal* and *- accessory* in the Barnston Island Zone.

HEIGHT	
Proposed Changes	Rationale/Comments
<p>Increase the maximum height of principal buildings to 11 m. (The current zones allow between 7.5 m – 10 m maximum height.)</p> <p>See table below.</p>	<p>The provincial policy manual recommends increasing permitted building heights to 11 m to help maintain open or permeable space on the lot and accommodate the units within the required distances from property lines and/or between buildings for compliance with the <i>BC Building Code</i>.</p>

<i>Residential Zone</i>	<i>Current Principal Building Maximum Height</i>	<i>Proposed Principal Building Maximum Height</i>
Small Holding Rural (A-1)	8.5 m	11 m
Extensive Rural and Recreation (A-2)	8.5 m	11 m
Cottage Residential (RS-1)	7.5 m	11 m
Ocean Point Residential (RS-2)	10 m	11 m
Strachan Point Residential (RS-3)	10 m	11 m
Montizambert Residential (RS-4)	10 m	11 m
Barnston Island (BI-1) ¹	10 m	11 m

¹Only for residential buildings; the allowable maximum height of agricultural buildings (15 m) would not change.

PARKING REQUIREMENTS	
Proposed Changes	Rationale/Comments
<p>Clarify that parking requirements for residential buildings and uses only apply to road access only properties.</p> <p>Eliminate parking requirements for water-access-only buildings and uses.</p> <p>See table below.</p>	<p>The provincial policy manual recommends minimizing parking requirements, and in some cases removing parking requirements for residential zones altogether. In addition to minimizing requirements, the current Electoral Area A Zoning Bylaw does not differentiate between road-access and water-access-only lots where parking requirements are not applicable.</p>

<i>Residential Buildings and Uses</i>	<i>Current Parking Space Requirements</i>	<i>Proposed Parking Space Requirements</i>
Single Residential Dwelling	2 spaces per dwelling unit	2 spaces per dwelling unit for road-access properties
Duplex Residential Dwelling	2 spaces per dwelling unit	2 spaces per dwelling unit for road-access properties
Apartment	2 spaces per dwelling unit, plus 0.5 spaces per apartment dwelling unit for Visitor Parking that shall be clearly marked “Visitor Parking Only” within the parking space	Road-access properties, 2 spaces per dwelling unit, plus 0.5 spaces per apartment dwelling unit for Visitor Parking that shall be clearly marked “Visitor Parking Only” within the parking space
Cottage Residential	1 space per dwelling unit	1 space per dwelling unit for road-access properties
Accessory Home Occupation	1 space per non-residential employee	1 space per non-residential employee for road-access properties
Bed and Breakfast	1 space for each bedroom used for bed and breakfast over and above the requirements for the dwelling unit	1 space for each bedroom used for bed and breakfast over and above the requirements for the dwelling unit for road-access properties
Accessory Residential Dwelling	1 space per dwelling unit	1 space per dwelling unit for road-access properties
Accessory boarding	1 space per sleeping unit	N/A – delete

FIX MISSING ROWS	
Proposed Changes	Rationale/Comments
The Strachan Point Residential (RS-3) zone is missing two rows in a table related to accessory suites and accessory uses.	This would fix the inadvertent deletion of two rows from a table in the Strachan Point Residential (RS-3) zone during a bylaw amendment in 2016. Reinstating these rows would clarify that accessory suites and accessory uses, which are referred to in the same zone in other places, are among the permitted uses.

No Electoral Area A OCP amendments are required or proposed as part of this bylaw review.

NEXT STEPS

If the recommendation is supported, Metro Vancouver staff will advertise the required notices that a public hearing will not be held in accordance with the *Local Government Act*. After the notice period, the bylaw would be brought to the MVRD Board for consideration of first, second, and third readings. Because the proposed zoning bylaw amendment covers areas within 800 m of controlled access highways, the bylaw will be sent to the Minister of Transportation for approval after third reading. After this approval, the bylaw will be brought back to the MVRD Board for consideration of adoption.

Local governments must update their bylaws by June 30, 2024 to accommodate small-scale, multi-unit housing requirements. Because Metro Vancouver is already in compliance, staff would notify the Minister of Housing that Metro Vancouver complies with the Province’s small-scale, multi-unit housing legislation for the portions of Electoral Area A where it has local land use planning jurisdiction before this deadline.

ALTERNATIVES

1. That the MVRD Board direct staff to prepare a bylaw as described in the report titled “Electoral Area A Zoning Bylaw Amendment – Provincial Housing Legislation”, dated April 30, 2024, and give notice that a public hearing will not be held in accordance with section 464(2) of the *Local Government Act*.
2. That the Electoral Area A Committee receive for information the report titled “Electoral Area A Zoning Bylaw Amendment – Provincial Housing Legislation”, dated April 30, 2024, and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

Costs associated with these bylaw amendments are expected to be limited to giving notice that a public hearing will not be held, which will require advertising in one or more newspapers that can reasonably be expected to give notice to the residents of the various communities to which the Electoral Area A Zoning Bylaw applies. Such costs are estimated to be between \$10,000 – \$30,000. The Province has provided local governments, including Metro Vancouver, with grant funding to cover such costs, and therefore, no budget or tax impacts are expected.

CONCLUSION

Staff have used the Province’s recent housing legislation as an opportunity to review and update relevant regulations in the Electoral Area A Zoning Bylaw. The proposed minor amendments to some of the zoning bylaw regulations are consistent with the OCP and are not expected to drive (re)development in Electoral Area A communities, but will provide greater flexibility for property owners to make use of their often challenging lots and bring the regulations more in line with provincial policy and site standards. Staff recommend Alternative 1.

REFERENCES

1. [Provincial policy manual & site standards for small-scale, multi-unit housing](#)
2. [Electoral Area A Zoning Bylaw](#)
3. [Provincial housing legislation – resources for local governments](#)

METRO VANCOUVER REGIONAL DISTRICT
BYLAW NO. 1399, 2024
A bylaw to amend Greater Vancouver Regional District
Electoral Area A Zoning Bylaw No. 1144, 2011

WHEREAS:

- A. The Board of Directors of the Metro Vancouver Regional District has adopted “Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011”, a bylaw with respect to zoning and certain other related developmental matters within parts of Electoral Area A; and
- B. The Board of Directors of the Metro Vancouver Regional District wishes to amend "Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011".

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 Electoral Area A Zoning Amendment Bylaw No. 1399, 2024”.

Amendment of Bylaw

2. “Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011” is amended as follows:

(a) Section 310(2) is deleted and replaced with the following:

- (2) The table below outlines the maximum number and maximum height for *buildings* and *structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Building</i>	1 ^{(a) (b)}	11 m ^(c)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

- (a) Where a *building* is used as a *single residential dwelling* use or a *duplex residential dwelling*, there shall not be more than 1 *single residential dwelling* or 1 *duplex residential dwelling* on a *lot*, except where the *lot* is greater than 2.4 hectares in which case a maximum of 2 *single residential dwellings* shall be permitted.
- (b) Where the use on a *lot* is *agricultural*, there are no restrictions on the number of *principal buildings* used for farm use.
- (c) Provided that the highest point of any roof shall not exceed a *height* of 12.5 metres.

(b) Section 310(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks* in this zone:

Minimum Building Setbacks	Front Lot Line Setback	Rear Lot Line Setback	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i> ^(a)	4.5 m	3.0 m	3.0 m	1.5 m
<i>Accessory Buildings and Structures</i>	4.5 m	3.0 m	3.0 m	1.5 m

(a) Where there are 2 *principal buildings* located on the same *lot*, they shall be separated by not less than 5 metres.

(c) Section 311(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number and maximum height for *buildings and structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Building</i>	1 ^{(a)(b)}	11 m ^(c)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

(a) Where a *building* is used as a *single residential dwelling* or a *duplex residential dwelling*, there shall not be more than 1 *single residential dwelling* or 1 *duplex residential dwelling* on a *lot*, except where the *lot* is greater than 2.4 hectares in which case a maximum of 2 *single residential dwellings* is permitted.

(b) Where the use on a *lot* is *agricultural*, there are no restrictions on the number of *principal buildings* used for agricultural purposes.

(c) The highest point of any roof shall not exceed a *height* of 12.5 metres.

(d) Section 311(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks* in this zone:

Minimum Building Setbacks	Front Lot Line Setback	Rear Lot Line Setback	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i> ^(a)	4.5 m	3.0 m	3.0 m	1.5 m
<i>Accessory Buildings and Structures</i>	4.5 m	3.0 m	3.0 m	1.5 m

(a) Where there are 2 *principal buildings* located on the same *lot*, they must be separated by not less than 5 metres.

(e) Section 312(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number and maximum height for *buildings and structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Buildings</i>	1 ^(a)	11 m ^(b)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

(a) Except where the *lot* is greater than 0.8 hectares in which case a maximum of 2 *single residential dwellings* or *cottage residential dwellings* shall be permitted.

(b) The highest point of any roof shall not exceed a *height* of 12.5 metres.

(f) Section 312(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks*:

Minimum Building Setbacks	Front Lot Line Setback	Rear Lot Line Setback	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building^(a)</i>	1.5 m	1.5 m	1.5 m	1.5 m
<i>Accessory Buildings and Structures</i>	1.5 m	1.5 m	1.5 m	1.5 m

(a) Where there are 2 *principal buildings* located on the same lot, they must be separated by not less than 5 metres.

(g) Section 313(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number and maximum *height* for *buildings and structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Buildings</i>	1	11 m ^(a)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

(a) The highest point of any roof shall not exceed a *height* of 12.5 metres.

(h) Section 313(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks*:

Minimum Building Setbacks	Front Lot Line Setback	Rear Lot Line Setback	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i>	4.5 m	4.5 m	3.0 m	1.5 m
<i>Accessory Buildings and Structures</i>	4.5 m	4.5 m	3.0 m	1.5 m

(i) Section 314(1) is deleted and replaced with the following:

(1) The table below outlines permitted land uses, minimum *lot size* and minimum *lot width* for the Strachan Point Residential Zone - RS-3:

Permitted Land Uses	Minimum Lot Size	Minimum Lot Width
<i>Single Residential Dwelling</i>	0.1 ha	30 m
<i>Accessory Home Occupation^(a)</i>	n/a	n/a
<i>Accessory Boarding</i>	n/a	n/a
<i>Accessory Bed and Breakfast^(b)</i>	n/a	n/a
<i>Accessory Suite^(c)</i>	n/a	n/a
<i>Accessory Uses</i>	n/a	n/a

(a) An *Accessory Home Occupation* use must comply with Section 207.

(b) An *Accessory Bed and Breakfast* use must comply with Section 208.

(c) An *Accessory Suite* use must comply with Section 210.

(j) Section 314(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number and maximum *height* for *buildings and structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Buildings</i>	1	11.5 m ^(a)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

(a) Provided that the highest point of any roof shall not exceed a *height* of 13 metres.

(k) Section 314(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks*:

Minimum Building Setbacks^(a)	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i>	3.0 m	1.5 m
<i>Accessory Buildings and Structures</i>	3.0 m	1.5 m

(a) 1.5 metres from every boundary of the private access right of way shown on Reference Plans: VAP10413RX, VAP10850RX, VAP10973RX, VAP18022RX, and BCP49241, at all times that these Reference Plans correspond to a grant of a private access right of way that is in effect.

(l) Section 315(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number and maximum height for *buildings and structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Buildings</i>	1 ^(a)	11 m ^(b)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

(a) Where the lot is greater than 0.8 hectares in which case a maximum of 2 single residential dwellings is permitted.

(b) Provided that the highest point of any roof shall not exceed a *height* of 12.5 metres.

(m) Section 315(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks*:

Minimum Building Setbacks ^(a)	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i>	3.0 m	1.5 m
Accessory Buildings and Structures	3.0 m	1.5 m

- (a) 1.5 metres from the westerly boundary of the private access right of way shown on Explanatory Plan VAP8610RX, at all times that this Explanatory Plan corresponds to a grant of a private access right of way that is in effect.

(n) Section 321(2) is deleted and replaced with the following:

- (2) The table below outlines the maximum number, maximum size, and maximum height for buildings and structures in this zone:

Buildings and Structures	Maximum Number	Maximum Size	Maximum Height
<i>Principal Building</i>	1 ^{(a)(b)}	500 m ² (c)	11 m ^{(d)(e)}
<i>Accessory Buildings and Structures</i>	n/a	n/a	4.5 m

- (a) Where the lot is 8 hectares or more and is used for a farm operation, an additional *single residential dwelling* is permitted, provided the *single residential dwelling* is used for the accommodation of those involved in the *farming use* on that lot.
- (b) In the case of an *agricultural use*, there are no restrictions on the number of *principal buildings* used for agricultural purposes.
- (c) In the case of a *single residential dwelling use*, the maximum *gross floor area* must not exceed 500 square metres.
- (d) In the case of a *single residential dwelling use*, the highest point of any roof must not exceed a *height* of 12.5 metres.
- (e) In the case of a *building* or *structure* containing a *farming use*, maximum height must not exceed 15 metres, except a silo, which must not exceed a maximum height of 34 metres.

(o) Section 321(3) is deleted and replaced with the following:

- (3) The table below outlines minimum *building setbacks*:

Minimum Building Setbacks	Front Lot Line Setback	Rear Lot Line Setback	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i>	4.5 m	3.0 m	3.0 m	1.5 m
<i>Accessory Buildings and Structures</i>	4.5 m	3.0 m	3.0 m	1.5 m

(p) Section 321(5) is deleted in its entirety.

(q) Section 501(1)(a) is amended by deleting the following row:

Accessory boarding 1 space per sleeping unit used for

(r) Section 507 is deleted and replaced with the following:

Exemption from Parking Requirements

507 For properties that are water access only and have no vehicle access to highways or private roads, the provision of *off-street parking* is not required. This exemption does not apply to Barnston Island.

First public notification given this _____ day of _____, _____.

Second public notification given this _____ day of _____, _____.

Read a first, second, and third time this _____ day of _____, _____.

Per s.52 (3)(a) of the Transportation Act, approved by the Ministry of Transportation and Infrastructure this _____ day of _____, _____.

Adopted this _____ day of _____, _____.

Mike Hurley, Chair

Dorothy Shermer, Corporate Officer

To: Electoral Area Committee

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

Date: September 3, 2024 Meeting Date: October 9, 2024

Subject: **Manager's Report**

RECOMMENDATION

That the Electoral Area Committee receive for information the report dated September 3, 2024, titled "Manager's Report".

ELECTORAL AREA COMMITTEE 2024 WORK PLAN

The Electoral Area Committee's Work Plan for 2024 is attached to this report (Attachment 1). The status of work program elements is indicated as pending, in progress, ongoing or complete. The listing is updated as needed to include new issues that arise, items requested by the committee, and changes to the schedule.

2024 SUMMARY OF ELECTORAL AREA A EMERGENCY PREPAREDNESS ACTIVITIES

Metro Vancouver is the local government for Electoral Area A and is responsible for emergency management for the entire area. Metro Vancouver works with agencies (e.g. University of British Columbia (UBC)/University Endowment Lands (UEL)) to coordinate emergency planning efforts and works directly with residents to help them be prepared in the event of an emergency.

In 2024, Metro Vancouver conducted a number of emergency management and preparedness activities that relate to Electoral Area A including:

- Hosted a hands-on FireSmart workshop with the Sasamat Fire Department at t̄amt̄amix̄wt̄an/Belcarra Regional Park designed for water access property owners and residents of Indian Arm and Pitt Lake;
- Completed the yearly review of the Electoral Area A Emergency Response Plan and Barnston Island Flood Plan;
- Monitored Freshet (mild this year) and the Chilcotin Landslide Debris on the Lower Fraser River, which had the potential to impact Barnston Island;
- Responded to small brush fires in Pacific Spirt Park/UBC area and a cabin fire in Indian Arm;
- Provided links and hard copies of BC FireSmart resources to help residents be better prepared in the event of wildfire as part of Summer 2024 Director's Update (Reference 1);
- Upgraded the Metro Vancouver Mobile Incident Command Post and Emergency Operations Centre (EOC) Capabilities;
- Implemented the Metro Vancouver Wildfire Incident Management Team;
- Hosted the third Annual Regional Wildfire Workshop to prepare the region for the wildfire season;
- Liaised with First Nations, provincial, and local authorities on emergency management initiatives/responses; and
- Facilitated Emergency Response exercises related to wildfire.

Brant Arnold-Smith, Division Manager, Protective Services & Emergency Management, will provide an overview presentation for the Committee on the activities listed above (see Attachment 3).

UEL COMMUNITY WORKS FUND PROJECT – COMPLETED

In March 2024, the MVRD Board approved the use of up to \$157,000 from the Electoral Area A Community Works Fund for the University Endowment Lands (UEL) Chancellor Blvd. Sidewalk Project (Reference 2). The project entailed replacement of the current substandard walkway with a 2m wide finished concrete sidewalk. The UEL completed the project in August 2024 at a total cost of \$129,073.23, which will be reimbursed from the Community Works Fund.

INDIAN ARM BARGE CLEAN-UP EVENT

Metro Vancouver barge clean-up events rotate every two years through one of the three water access areas in Electoral Area A: Howe Sound, Indian Arm, and Pitt Lake. This means each community sees a barge cleanup event every six years. Typical items collected at these events include old furniture and appliances, construction waste (wood and metal), marine debris (e.g. Styrofoam and Styrofoam-filled tires), marine batteries, empty propane tanks, and mattresses. Staff from Metro Vancouver’s Solid Waste Services Department facilitate proper sorting and disposal of the items collected.

This year was the second time a clean-up event was held for Indian Arm Electoral Area A water-access only communities, and it took place over three days (August 24-25 weekend, plus Wednesday, August 28 to pick up extra items), with services provided by Trident Navigation Ltd. A few pictures of the event are provided in Attachment 2.

Metro Vancouver also coordinated with BC Parks to clean up two sites that were identified as priorities by the Tsleil-Waututh Nation. Where possible, Metro Vancouver looks for opportunities to coordinate with others to make the most of these clean-up events. Residents of Indian Arm expressed their appreciation for the event given the challenges of dealing with large waste items and marine debris in water-access only communities.

MEETING WITH STRACHAN POINT RESIDENTS ON ZONING BYLAW AMENDMENTS

On September 3, 2024, the Electoral Area A Director and Metro Vancouver staff met with Strachan Point residents to discuss the proposed Electoral Area A Bylaw amendments that would improve alignment with provincial policy guidance related to the housing legislation passed in late 2023 (see Reference 3).

At the meeting, staff presented the proposed amendments that would apply to the Strachan Point community, and residents asked questions and provided feedback on proposed changes. Key takeaways from the meeting included:

Setbacks

- Consensus to remove the 4.5m setback from the westerly boundary of the BC Rail right-of-way, in effect making it a 0m setback.
- Consensus to keep the 1.5m setback from the private easements that are used for road access.

Height

- Consensus to increase the current maximum height for principal buildings by 1.5m, from 10m to 11.5m, with the highest point of any roof height going from 11.5m to 13m.
- Consensus to keep the existing maximum height for accessory buildings/structures at 4.5m.

Short-term Rentals (e.g. Airbnb)

- Consensus that short-term rentals should not be permitted in Strachan Point.
- Request for greater enforcement to stop existing short-term rentals in the community.

Based on Board direction from May 2024, staff are moving forward with the preparation of the zoning bylaw amendment for the MVRD Board's consideration.

ATTACHMENTS

1. Electoral Area Committee 2024 Work Plan
2. Pictures from the 2024 Indian Arm Barge Cleanup Event
3. Electoral Area A – 2024 Emergency Management Initiatives Presentation

REFERENCES

1. [Summer 2024 Electoral Area A Director's Update](#)
2. March 2024 Electoral Area Committee [staff report](#) titled "Electoral Area A Community Works Fund – University Endowment Lands Project", dated February 8, 2024.
3. May 2024 Electoral Area Committee [staff report](#) titled "Electoral Area A Zoning Bylaw Amendment – Provincial Housing Legislation", dated April 30, 2024.

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Electoral Area Committee 2024 Work Plan

Report Date: September 3, 2024

Priorities

1st Quarter	Status
2024 Electoral Area Committee Work Plan	Complete
Community Works Fund Projects – Consideration	Complete
Barnston Island Dike Improvement Project – Update	Complete
Emergency Response Reimbursement – Update	Complete
Liquor and retail cannabis licences, development variance permits, and rezoning applications, as applicable	Complete
2nd Quarter	Status
Electoral Area A Community Wildfire Resilience Plan – Report Out	Complete
Electoral Area A Zoning Bylaw – Provincial Housing Legislation Amendments	In Progress
Liquor and retail cannabis licences, development variance permits, and rezoning applications, as applicable	Complete
3rd Quarter	Status
Indian Arm Barge Clean-up Event – Report Out	In Progress
Barnston Island Dike Improvement Project – Update	In Progress
Liquor and retail cannabis licences, development variance permits, and rezoning applications, as applicable	Complete
4th Quarter	Status
2025-2029 Electoral Area Services Financial Plan	In Progress
Emergency Preparedness Activities – Report Out	In Progress
Liquor and retail cannabis licences, development variance permits, and rezoning applications, as applicable	In Progress

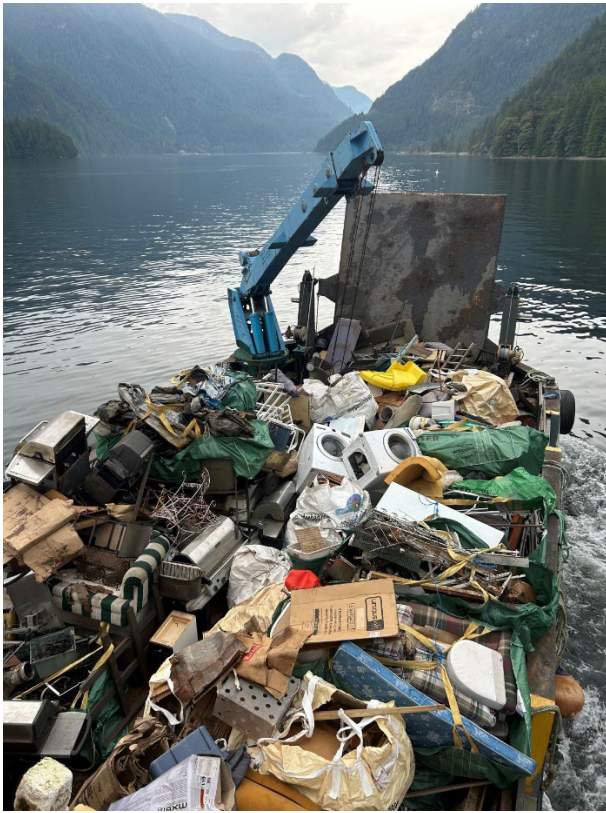
Pictures from the 2024 Indian Arm Barge Cleanup Event



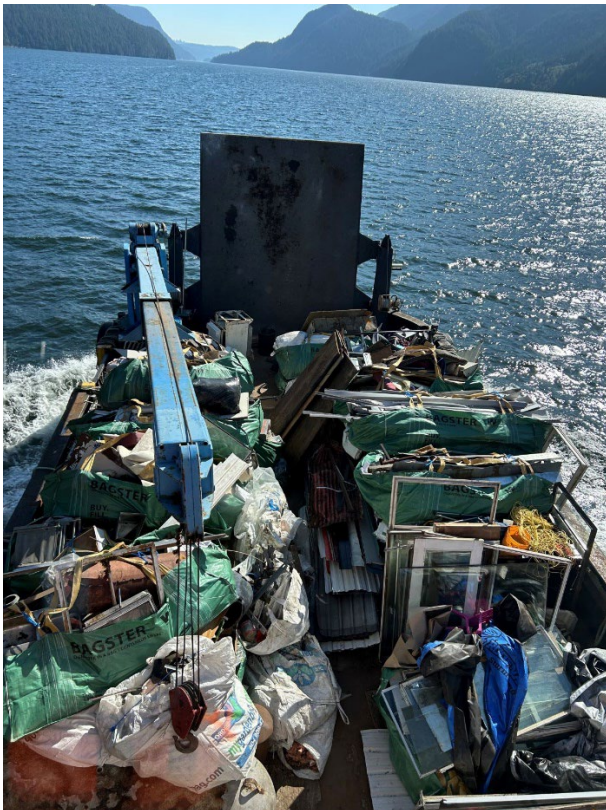
Docks with items for pickup in Indian Arm



Full barge at the end of the first clean-up day



Full barge at the end of the second clean-up day



Full barge at the end of the third clean-up day

Attachment 3



Fraser River

Electoral Area A – 2024 Emergency Management Initiatives

Brant Arnold-Smith

Division Manager, Protective Services & Emergency Management

October 9, 2024

70995658



OUTLINE

2024 Emergency Management initiatives in Electoral Area A:

- 2024 Freshet
- Fire Smart Training
- Alertable Update
- Wildfire Preparedness
- Electoral Area A Responses



Barnston Island Ferry Dock

2024 FRESHET

- Lower than normal snowpack this year
- Electoral Area A Emergency Plan & Barnston Island Flood Plan updates:
- Partnerships
- Evacuation/Communications
- Multi-modal transportation strategies
- Action Thresholds
- EMCR support
- BC River Forecast Centre
- Environment & Climate Change Canada



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ELECTORAL AREA A FIRE SMART TRAINING

Metro Vancouver Emergency Management staff and the Sasamat Volunteer Fire Department led hands-on training for residents of Indian Arm.

Training focused on:

- Roles/responsibilities
- Fire Smart principles
- Hands-on training with fire pumps and extinguishers



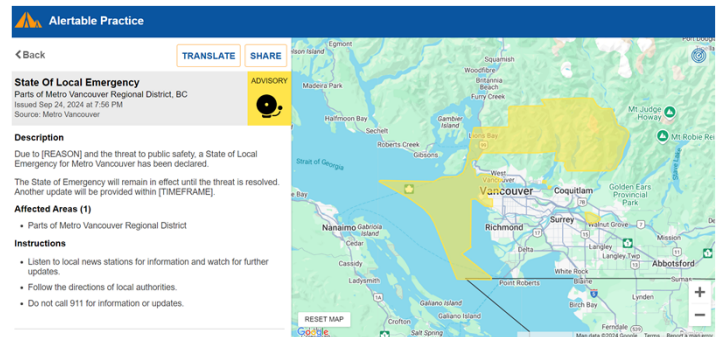
Electoral Area A Fire Smart Training

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ALERTABLE

- Alertable is a mass notification public alerting system that allows Metro Vancouver to distribute critical information during emergencies
- Alertable went live for Electoral Area A on Aug 2, 2023
- A tool to rapidly notify the public of impending emergencies and provide safety instructions
- 57,000 subscribers



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WILDFIRE PREPAREDNESS

- Implemented the Metro Vancouver Wildfire Incident Management Team
- Facilitated Emergency Response Exercises
- Hosted the 3rd Annual Regional Wildfire Workshop
- MV Fire Conditions Task Group
- Upgraded the Metro Vancouver Mobile Incident Command Post and EOC Capabilities



Watershed Protection & Parks Crews

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ELECTORAL AREA A RESPONSES

- Small fires in Pacific Spirit Park
- Causes ranged from discarded cigarettes to ignition sources found in encampments
- Metro Vancouver crews responded with Vancouver Fire Rescue
- Fires extinguished



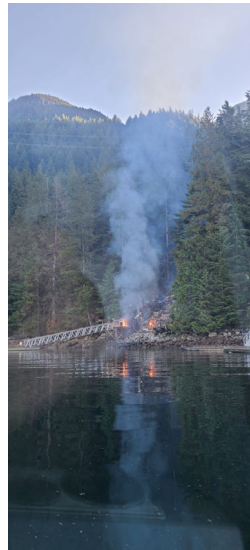
Fire-Pacific Spirit Park

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ELECTORAL AREA A RESPONSES

- Cabin Fire (Johnson Bay)
- 2 storey cabin under construction
- Metro Vancouver crews responded via boat to the scene
- Watershed protection crews responded due to the possibility of the fire spreading to the forested area
- MV Emergency Management completed the fire investigation



Cabin Fire – Johnson Bay

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CHILCOTIN RIVER LANDSLIDE

- Large Landslide blocked the Chilcotin River on July 31st, 2024
- Dynamic incident with potential impacts for downstream communities
- Rapid dam failure/collapse
- Peak water flows/debris
- Water breached the blockage on August 5th, 2024
- MV Emergency Management monitored the incident/worked with provincial partners



Aerial Assessment of Fraser River Debris (Lower Fraser River)

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RICHMOND TRAIN TRESTLE FIRE / AIR QUALITY EVENT

- Canadian Pacific Kansas City train trestle fire on June 20th, 2024 (Marpole Rail Bridge)
- Metro Vancouver crews responded and collaborated with Richmond Fire Rescue
- Air Quality Bulletin was issued for the region



CPKC Train Trestle Fire (Richmond)

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Fraser River – Barnston Island

Thank You

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Together we make our region strong

NOTICE RESPECTING ZONING AMENDMENT BYLAW

Under sections 464(2) and 467 of the Local Government Act

FRIDAY, November 1, 2024 at 9:00 am

**Meeting held in 28th Floor Boardroom,
4515 Central Boulevard, Burnaby, British Columbia**

**Metro Vancouver Regional District Electoral Area A
Zoning Amendment Bylaw No. 1399, 2024**

Metro Vancouver Regional District (“Metro Vancouver”) proposes to amend *Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011* to align it with provincial policy guidance on zoning bylaw regulation best practices. To do this, Metro Vancouver is proposing minor amendments that would:

- Reduce setbacks in some zones;
- Remove specific agricultural building setbacks from the Barnston Island Zone (BI-1);
- Clarify that parking requirements for residential buildings and use only apply to road access properties, with the exception of Barnston Island; and
- Increase the building height maximums in some zones.

The area to which the bylaw applies is land within Electoral Area A, excluding UBC, the University Endowment Lands (UEL), Bowyer Island, and Passage Island.

The rezoning application is consistent with the *Electoral Area A Official Community Plan*. As per section 464(2) of the *Local Government Act*, a Public Hearing is not required for *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024*. Notice is provided per section 467 of the *Local Government Act*.

HOW DO I GET MORE INFORMATION?

From October 22, 2024 to November 1, 2024, the proposed bylaw and related materials are available for inspection at Metro Vancouver’s Information Centre, located on the 29th floor, 4515 Central Blvd, Burnaby, between the hours of 8:00 am and 4:30 pm, and online at: <https://metrovancover.org/media-room/public-notice>.

The Metro Vancouver Board will consider giving first, second, and third readings to *Metro Vancouver Regional District Electoral Area A Zoning Amendment Bylaw No. 1399, 2024* at its meeting on Friday, November 1, 2024. The meeting will be open to public attendance and broadcast live on the Metro Vancouver website. It can be viewed online by going to <https://metrovancover.org/boards/board-live-webcast>.

Dorothy Shermer,
Corporate Officer

METRO VANCOUVER REGIONAL DISTRICT
BYLAW NO. 1399, 2024
A bylaw to amend Greater Vancouver Regional District
Electoral Area A Zoning Bylaw No. 1144, 2011

WHEREAS:

- A. The Board of Directors of the Metro Vancouver Regional District has adopted "Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011", a bylaw with respect to zoning and certain other related developmental matters within parts of Electoral Area A; and
- B. The Board of Directors of the Metro Vancouver Regional District wishes to amend "Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011".

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 Electoral Area A Zoning Amendment Bylaw No. 1399, 2024".

Amendment of Bylaw

- 2. "Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011" is amended as follows:

(a) Section 310(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number and maximum height for *buildings and structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Building</i>	1 ^(a) ^(b)	11 m ^(c)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

- (a) Where a *building* is used as a *single residential dwelling* use or a *duplex residential dwelling*, there shall not be more than 1 *single residential dwelling* or 1 *duplex residential dwelling* on a *lot*, except where the *lot* is greater than 2.4 hectares in which case a maximum of 2 *single residential dwellings* shall be permitted.
- (b) Where the use on a *lot* is *agricultural*, there are no restrictions on the number of *principal buildings* used for farm use.
- (c) Provided that the highest point of any roof shall not exceed a *height* of 12.5 metres.

(b) Section 310(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks* in this zone:

Minimum Building Setbacks	Front Lot Line Setback	Rear Lot Line Setback	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i> ^(a)	4.5 m	3.0 m	3.0 m	1.5 m
<i>Accessory Buildings and Structures</i>	4.5 m	3.0 m	3.0 m	1.5 m

(a) Where there are 2 *principal buildings* located on the same *lot*, they shall be separated by not less than 5 metres.

(c) Section 311(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number and maximum height for *buildings and structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Building</i>	1 ^{(a)(b)}	11 m ^(c)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

(a) Where a *building* is used as a *single residential dwelling* or a *duplex residential dwelling*, there shall not be more than 1 *single residential dwelling* or 1 *duplex residential dwelling* on a *lot*, except where the *lot* is greater than 2.4 hectares in which case a maximum of 2 *single residential dwellings* is permitted.

(b) Where the use on a *lot* is *agricultural*, there are no restrictions on the number of *principal buildings* used for agricultural purposes.

(c) The highest point of any roof shall not exceed a *height* of 12.5 metres.

(d) Section 311(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks* in this zone:

Minimum Building Setbacks	Front Lot Line Setback	Rear Lot Line Setback	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i> ^(a)	4.5 m	3.0 m	3.0 m	1.5 m
<i>Accessory Buildings and Structures</i>	4.5 m	3.0 m	3.0 m	1.5 m

(a) Where there are 2 *principal buildings* located on the same *lot*, they must be separated by not less than 5 metres.

(e) Section 312(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number and maximum height for *buildings and structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Buildings</i>	1 ^(a)	11 m ^(b)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

(a) Except where the *lot* is greater than 0.8 hectares in which case a maximum of 2 *single residential dwellings* or *cottage residential dwellings* shall be permitted.

(b) The highest point of any roof shall not exceed a *height* of 12.5 metres.

(f) Section 312(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks*:

Minimum Building Setbacks	Front Lot Line Setback	Rear Lot Line Setback	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building^(a)</i>	1.5 m	1.5 m	1.5 m	1.5 m
<i>Accessory Buildings and Structures</i>	1.5 m	1.5 m	1.5 m	1.5 m

(a) Where there are 2 *principal buildings* located on the same *lot*, they must be separated by not less than 5 metres.

(g) Section 313(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number and maximum *height* for *buildings and structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Buildings</i>	1	11 m ^(a)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

(a) The highest point of any roof shall not exceed a *height* of 12.5 metres.

(h) Section 313(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks*:

Minimum Building Setbacks	Front Lot Line Setback	Rear Lot Line Setback	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i>	4.5 m	4.5 m	3.0 m	1.5 m
<i>Accessory Buildings and Structures</i>	4.5 m	4.5 m	3.0 m	1.5 m

(i) Section 314(1) is deleted and replaced with the following:

(1) The table below outlines permitted land uses, minimum *lot size* and minimum *lot width* for the Strachan Point Residential Zone - RS-3:

Permitted Land Uses	Minimum Lot Size	Minimum Lot Width
<i>Single Residential Dwelling</i>	0.1 ha	30 m
<i>Accessory Home Occupation^(a)</i>	n/a	n/a
<i>Accessory Boarding</i>	n/a	n/a
<i>Accessory Bed and Breakfast^(b)</i>	n/a	n/a
<i>Accessory Suite^(c)</i>	n/a	n/a
<i>Accessory Uses</i>	n/a	n/a

(a) An *Accessory Home Occupation* use must comply with Section 207.

(b) An *Accessory Bed and Breakfast* use must comply with Section 208.

(c) An *Accessory Suite* use must comply with Section 210.

(j) Section 314(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number and maximum *height* for *buildings and structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Buildings</i>	1	11.5 m ^(a)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

(a) Provided that the highest point of any roof shall not exceed a *height* of 13 metres.

(k) Section 314(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks*:

Minimum Building Setbacks ^(a)	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i>	3.0 m	1.5 m
<i>Accessory Buildings and Structures</i>	3.0 m	1.5 m

(a) 1.5 metres from every boundary of the private access right of way shown on Reference Plans: VAP10413RX, VAP10850RX, VAP10973RX, VAP18022RX, and BCP49241, at all times that these Reference Plans correspond to a grant of a private access right of way that is in effect.

(l) Section 315(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number and maximum height for *buildings and structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Buildings</i>	1 ^(a)	11 m ^(b)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

(a) Where the lot is greater than 0.8 hectares in which case a maximum of 2 single residential dwellings is permitted.

(b) Provided that the highest point of any roof shall not exceed a *height* of 12.5 metres.

(m) Section 315(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks*:

Minimum Building Setbacks ^(a)	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i>	3.0 m	1.5 m
Accessory Buildings and Structures	3.0 m	1.5 m

(a) 1.5 metres from the westerly boundary of the private access right of way shown on Explanatory Plan VAP8610RX, at all times that this Explanatory Plan corresponds to a grant of a private access right of way that is in effect.

(n) Section 321(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number, maximum size, and maximum height for buildings and structures in this zone:

Buildings and Structures	Maximum Number	Maximum Size	Maximum Height
<i>Principal Building</i>	1 ^{(a)(b)}	500 m ² ^(c)	11 m ^{(d)(e)}
<i>Accessory Buildings and Structures</i>	n/a	n/a	4.5 m

(a) Where the lot is 8 hectares or more and is used for a farm operation, an additional *single residential dwelling* is permitted, provided the *single residential dwelling* is used for the accommodation of those involved in the *farming use* on that lot.

(b) In the case of an *agricultural use*, there are no restrictions on the number of *principal buildings* used for agricultural purposes.

(c) In the case of a *single residential dwelling use*, the maximum *gross floor area* must not exceed 500 square metres.

(d) In the case of a *single residential dwelling use*, the highest point of any roof must not exceed a *height* of 12.5 metres.

(e) In the case of a *building or structure* containing a *farming use*, maximum height must not exceed 15 metres, except a silo, which must not exceed a maximum height of 34 metres.

(o) Section 321(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks*:

Minimum Building Setbacks	Front Lot Line Setback	Rear Lot Line Setback	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i>	4.5 m	3.0 m	3.0 m	1.5 m
<i>Accessory Buildings and Structures</i>	4.5 m	3.0 m	3.0 m	1.5 m

(p) Section 321(5) is deleted in its entirety.

(q) Section 501(1)(a) is amended by deleting the following row:

Accessory boarding 1 space per sleeping unit used for

(r) Section 507 is deleted and replaced with the following:

Exemption from Parking Requirements

507 For properties that are water access only and have no vehicle access to highways or private roads, the provision of *off-street parking* is not required. This exemption does not apply to Barnston Island.

First public notification given this 22 day of October, 2024.


Second public notification given this 29 day of October, 2024.

Read a first, second, and third time this 1 day of November, 2024.

Per s.52 (3)(a) of the Transportation Act, approved by the Ministry of Transportation and Infrastructure this ____ day of _____, _____.

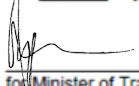
Adopted this ____ day of _____, _____.

I hereby certify that the foregoing is a true and correct copy.

for 
Dorothy Shermer, Corporate Officer
Jacque Killawee,
Deputy Corporate Officer
Acting

Mike Hurley, Chair

Dorothy Shermer, Corporate Officer

Approved pursuant to section 52(3)(a) of the *Transportation Act*
this 18th day of November, 2024

Tyler Gaudry
Sr. Development Officer
for Minister of Transportation & Infrastructure

**METRO VANCOUVER REGIONAL DISTRICT
 BYLAW NO. 1399, 2024
 A bylaw to amend Greater Vancouver Regional District
 Electoral Area A Zoning Bylaw No. 1144, 2011**

WHEREAS:

- A. The Board of Directors of the Metro Vancouver Regional District has adopted “Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011”, a bylaw with respect to zoning and certain other related developmental matters within parts of Electoral Area A; and
- B. The Board of Directors of the Metro Vancouver Regional District wishes to amend "Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011".

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 Electoral Area A Zoning Amendment Bylaw No. 1399, 2024”.

Amendment of Bylaw

- 2. “Greater Vancouver Regional District Electoral Area A Zoning Bylaw No. 1144, 2011” is amended as follows:

(a) Section 310(2) is deleted and replaced with the following:

- (2) The table below outlines the maximum number and maximum height for *buildings* and *structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Building</i>	1 ^(a) ^(b)	11 m ^(c)
<i>Accessory Buildings and Structures</i>	n/a	4.5 m

(a) Where a *building* is used as a *single residential dwelling* use or a *duplex residential dwelling*, there shall not be more than 1 *single residential dwelling* or 1 *duplex residential dwelling* on a *lot*, except where the *lot* is greater than 2.4 hectares in which case a maximum of 2 *single residential dwellings* shall be permitted.

(b) Where the use on a *lot is agricultural*, there are no restrictions on the number of *principal buildings* used for farm use.

(c) Provided that the highest point of any roof shall not exceed a *height* of 12.5 metres.

(b) Section 310(3) is deleted and replaced with the following:

(3) The table below outlines minimum *building setbacks* in this zone:

Minimum Building Setbacks	Front Lot Line Setback	Rear Lot Line Setback	Exterior Lot Line Setback	Interior Lot Line Setback
<i>Principal Building</i> ^(a)	4.5 m	3.0 m	3.0 m	1.5 m
<i>Accessory Buildings and Structures</i>	4.5 m	3.0 m	3.0 m	1.5 m

(a) Where there are 2 *principal buildings* located on the same *lot*, they shall be separated by not less than 5 metres.

(c) Section 311(2) is deleted and replaced with the following:

(2) The table below outlines the maximum number and maximum height for *buildings and structures* in this zone:

Buildings and Structures	Maximum Number	Maximum Height
<i>Principal Building</i>	1 ^{(a)(b)}	11 m ^(c)
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(a) Except where the *lot* is greater than 0.8 hectares in which case a maximum of 2 *single residential dwellings* or *cottage residential dwellings* shall be permitted.

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(f) Section 312(3) is deleted and replaced with the following:

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(1) The table below outlines permitted land uses, minimum *lot size* and minimum *lot width* for the Strachan Point Residential Zone - RS-3:

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<i>Accessory Boarding</i>	n/a	n/a
<i>Accessory Bed and Breakfast^(b)</i>	n/a	n/a
<i>Accessory Suite^(c)</i>	n/a	n/a
<i>Accessory Uses</i>	n/a	n/a

(a) An *Accessory Home Occupation* use must comply with Section 207.

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- (b) In the case of an *agricultural use*, there are no restrictions on the number of *principal buildings* used for agricultural purposes.
- (c) In the case of a *single residential dwelling use*, the maximum *gross floor area* must not exceed 500 square metres.
- (d) In the case of a *single residential dwelling use*, the highest point of any roof must not exceed a *height* of 12.5 metres.
- (e) In the case of a *building* or *structure* containing a *farming use*, maximum height must not exceed 15 metres, except a silo, which must not exceed a maximum height of 34 metres.

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First public notification given this 22 day of October, 2024.

Second public notification given this 29 day of October, 2024.

Read a first, second, and third time this 1 day of November, 2024.

Per s.52 (3)(a) of the Transportation Act, approved by the Ministry of Transportation and Infrastructure this 18 day of November, 2024.

Adopted this _____ day of _____, _____.

Mike Hurley, Chair

Dorothy Shermer, Corporate Officer

COMMITTEE INFORMATION ITEMS AND DELEGATION SUMMARIES

Metro Vancouver Regional District

Board Meeting Date – Friday, November 29, 2024

This information item, listing recent information received by committee, is provided for the MVRD Board's information. Please access a complete PDF package [here](#).

Regional Parks Committee> – November 6, 2024

Delegations:

No delegations presented

Information Items:

E2 Regional Parks Public Programming Strategy Implementation Update

E3 Manager's Report – Regional Parks

Regional Planning Committee – November 8, 2024

Delegation Summaries:

No delegations presented

Information Items:

E6 Scott Road Supply and Demand Study

Finance Committee – November 13, 2024

Delegation Summaries:

No delegations presented

Information Items:

E1 MVRD Audit Plan from KPMG LLP

Flood Resiliency Committee – November 20, 2024

Delegation Summaries:

No delegations presented

Information Items:

E2 Committee Discussion of Impacts of the October 2024 Atmospheric River on Member Jurisdictions

Invest Vancouver Management Board – November 21, 2024

Delegation Summaries:

No delegations presented

Information Items:

E1 Streamlining Rental Housing through Standardized Designs and Regulations: Project Update