



Investigating Policy Mechanisms for the Integration of Rapid Transit Stations with Affordable Housing

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EXECUTIVE SUMMARY

Introduction

The City of Vancouver wishes to achieve various community objectives pertaining to affordability, sustainability, and design. Integrating development with transit stations, called station-integrated development, presents opportunities to advance these objectives, but may also present conflicts that require certain trade-offs. The City of Vancouver does not currently have a dedicated policy mechanism or process that specifically contemplates appropriate development, addresses design requirements and expectations, and outlines the unique considerations required for station-integrated development.

The ongoing planning for the Millennium Line UBC Skytrain Extension may present opportunities for station-integrated development. Recent updates to British Columbia's Transportation Act, allowing the Province to acquire land for the purpose of transit-oriented development (TOD), as well as the recent creation of a real estate development division at TransLink, the regional transit agency, make this project even more timely.

The aim of this project is to address the financial and regulatory framework challenges that prevent urban integration of transit stations and development. Given the complexities of delivering affordable housing on high-value land, this project also seeks to examine how affordable housing can be provided at key transit nodes. This project contributes to the City of Vancouver's Climate Emergency Action Plan.

Methodology

To achieve the project goals, a case study review, economic testing of development scenarios, and findings analysis culminated in lessons learned, conclusions, and recommendations.

The project was completed in three phases:

- **Phase 1: Context and Background:** Review of background material and case study selection.
- **Phase 2: Analysis, Interviews, and Testing:** Interviews, case study research and analysis, and scenario testing.
- **Phase 3: Report Writing:** Findings synthesis from case studies and scenario testing recommendation development for the City of Vancouver.

Transit Integration

Integrating transit with land use is a planning approach that maximizes transit investments and advances social and environmental sustainability. Development intensity at nodes and corridors locates high-density mixed-use development near rapid transit stations to create complete communities.

This report examines commercial, residential, and mixed-use station-integrated development, considering three forms of development:

- **Full Integration and Overbuild:** Development that is built directly over top and physically

connected to a transit station.

- **Partial Integration:** Development that is physically connected to a transit station without being built directly above the station.
- **Adjacent to Transit:** Development that is located proximate or directly next to a standalone station without being structurally integrated with the station itself.

Integrating transit stations with development has many benefits, including:

- Unlocking airspace above stations that would otherwise remain under-utilized.
- Enabling access to transit and encouraging modal shift, which can increase transit ridership, reduce greenhouse gas emissions, and benefit people’s health.
- Supporting the creation of dense nodes composed of housing, jobs, services, and amenities, allowing more people to live in well-connected communities.

Station-integrated development can also pose many challenges, including:

- Can be complex from an architectural and engineering standpoint and can hinder optimized passenger flow in stations.
- Can be prohibitively expensive due to the structural and, in Vancouver, seismic complexities.
- Can be time consuming and introduce risk, requiring the coordination of and collaboration between many partners.

Providing affordable housing in developments integrated with transit is a means of addressing the transportation-housing cost burden for lower-income households, who tend to already rely on public transit. It can connect such households to valuable services and amenities that complete communities provide.

City of Vancouver Context

There are four major bodies who play a role in land use and transit in Vancouver:

	Governance	Responsibilities	Relevant Policy & Legislation
City of Vancouver (CoV)	Municipal government granted powers by BC.	<ul style="list-style-type: none"> • Regulates land use, density, height and other Zoning and Development regulations within the city, including approving new developments • Develops policies for housing affordability, preserving existing housing and new supply • Provides input on the planning and design of new transit stations. 	<ul style="list-style-type: none"> • Vancouver Plan • Broadway Plan • Housing Vancouver Strategy • Transportation 2040

Metro Vancouver	Creature of the Province composed of 21 municipalities, one Electoral Area, and one Treaty First Nation.	<ul style="list-style-type: none"> • Has regulatory responsibilities pertaining to planning and affordable housing. • Policy supports TransLink’s regional transportation strategy. 	<ul style="list-style-type: none"> • Metro 2050 • Metro Vancouver Housing 10-Year Plan • Regional Affordable Housing Strategy
TransLink	Transportation authority responsible for regional transportation in Metro Vancouver. Creature of the Province.	<ul style="list-style-type: none"> • Owns property surrounding transit lines. • Recently launched a for-profit TOD-oriented Real Estate Development Program. • Responsible for planning and managing the region’s transportation system. 	<ul style="list-style-type: none"> • Transport 2050 • 10-Year Priorities for TransLink • Transit-Oriented Communities Design Guidelines
Province of British Columbia (BC)	Provincial government with various ministries of relevance, including Ministry of Municipal Affairs and Ministry of Transportation and Infrastructure.	<ul style="list-style-type: none"> • Responsible for providing affordable housing, social assistance, and rent supplements. • Regulates landlord-tenant laws and strata properties. • Has authority to approve buildings on provincially-owned land and to override municipal approvals. • Recently gained authority to acquire lands near transit for housing and amenities. • Owns most of TransLink system. • Responsible for delivering major transit projects. 	<ul style="list-style-type: none"> • Homes for B.C. • <i>Residential Tenancy Act</i> • <i>Strata Property Act</i> • B.C. on the Move

Bringing together these four bodies, the Millennium Line UBC Extension (UBCx) is currently in the planning stage, having recently received endorsement by Vancouver City Council. The proposed SkyTrain line will run from Broadway and Arbutus to the University of British Columbia. Prior to land use planning being undertaken, TransLink will negotiate Supportive Policies Agreements (SPAs) with the project partners (City of Vancouver; Musqueam, Squamish, and Tsleil-Waututh Development Corporation; and Canada Lands Corporation) to guide land use policies around the stations and in the adjacent neighbourhoods. CoV staff have received direction to work with TransLink and the Province to plan for station-integrated development opportunities along UBCx.

Broadway Subway Project

A brief case study of the Broadway Subway Project (BSP) was reviewed to identify lessons learned in the local Vancouver context:

Context	
Background	Extension of the Millennium Skytrain Line, from VCC-Clark Station to Broadway and Arbutus.
Cost	Estimated \$2.83 billion.
Length and Stations	5.7 km. One existing station and six new underground stations.
Agreements, Plans, and Policies	
Supportive Policies Agreement (SPA)	<ul style="list-style-type: none"> • SPA between CoV and TransLink was finalized in June 2018. • Committed both parties to advance TransLink’s Transit-Oriented Communities Design Guidelines. • Required that CoV complete a planning program for the Broadway corridor, which recently culminated in the Broadway Plan. • Broadly included key areas for policy alignment between CoV and TransLink, but did not specifically address station-integrated development.
Broadway Plan	<ul style="list-style-type: none"> • Comprehensive 30-year area plan for Broadway between Clark Drive and Vine Street, and 1st Avenue to 16th Avenue that integrates land use planning with the BSP. • Will come into effect in September 2022. • Seeks to incentivize purpose-built market and below-market rental and social housing, as well as employment space of various kinds, in station areas through increased heights and densities. • First CoV document to include transit integration policy and design guidelines for station-integrated development occurring after transit project completion.
Development Contribution Expectations (DCE) Policy	<ul style="list-style-type: none"> • Policy to mitigate land speculation associated with the BSP. • Made it clear to developers that the City intended to achieve affordable housing and community benefits as part of an area plan. • Replaced by Community Amenity Contributions now that the Broadway Plan has been approved. • Has been fairly effective in tempering residential land speculation, and commercial land speculation to a lesser extent.

Station-Integrated Development

Overview	<ul style="list-style-type: none"> • Will occur to varying degrees along the BSP • Great Northern Way-Emily Carr Station is preparing for future integrated development. • South Granville Station has been designed and constructed as station-integrated development for opening day of BSP.
Great Northern Way-Emily Carr Station	<ul style="list-style-type: none"> • Existing property owner and local developer proposed an overbuild at the station, with integration consideration incorporated into the reference case design. • Development will be built after BSP is complete as the developer was waiting for approval of the Broadway Plan before applying for rezoning. • Land for the station was obtained through a Statutory Right of Way that was established as part of the False Creek Flats Structure Plan.
South Granville Station	<ul style="list-style-type: none"> • CoV facilitated discussion between developer interested in pursuing overbuild and Province, resulting in station-integrated development. • Received zoning approval before Broadway Plan was finalized through the Broadway Interim Rezoning Policy. • Will be the highest-density building in the area, incorporating market rental/ below-market rental housing and other mixed uses. • Construction began before receiving rezoning approval based on an approved development permit and building permit that complied with existing zoning. • Development is being built concurrently with the station, both to be completed around the same time.

Lessons Learned

- Station site selection determines whether station-integrated development will be possible.
- Aligning transit and land use planning processes increases the possibility of providing affordable housing near transit.
- Providing affordable housing hinges on enabling policy, supportive land use, and funding.
- Planning for station overbuild, even if it is not immediately delivered, maximizes station-integrated development opportunities.
- Partnerships between orders of government and with developers in business case development and delivery model can result in stronger project outcomes.
- The City is well-positioned to facilitate station-integrated development.
- Early communication tools, such as the DCE Policy, can temper land speculation.

Case Studies

Three case studies in Toronto (Ontario), Seattle (Washington), and Sydney (New South Wales) were selected from a list of national and international options. Interviews were conducted with staff from local governments, state governments, and transit agencies. Case studies were then analyzed as follows:

	Toronto, Ontario	Seattle, Washington	Sydney, New South Wales (NSW)
Project Name	Jefferson Site, Exhibition Station	North Site, Capitol Hill Station	Metro Quarter, Waterloo Station
Highlights	A transit hub station-integrated development planned in conjunction with a new subway line, advanced by the Province of Ontario and achieved with an accelerated City-review process.	An equity-focused station-adjacent development planned extensively with the community and achieving significant affordable housing through a City of Seattle-Sound Transit Development Agreement.	A State-led station-integrated overbuild development built simultaneously with a new rapid transit line and achieving high-quality community-relevant design outcomes.
Partners Involved	<ul style="list-style-type: none"> • Ontario Ministry of Transportation • Metrolinx • Infrastructure Ontario • City of Toronto • Toronto Transit Commission 	<ul style="list-style-type: none"> • Puget Sound Regional Council • City of Seattle • Seattle Office of housing • Community Roots Housing • Sound Transit 	<ul style="list-style-type: none"> • NSW Department of Planning and Environment • Land and Housing Corporation • Transport for NSW • Sydney Metro • Greater Cities Commission • City of Sydney
Development Details	<ul style="list-style-type: none"> • Floor Space Ratio (FSR) of 8.0. • Gross Floor Area (GFA) of 38,008 sq.m (21 storeys in one building). • Mixed residential, commercial retail, office, and transit uses. 	<ul style="list-style-type: none"> • FSR of 4.41. • GFA of 39,738 sq.m (6-8 storeys in four buildings). • Mixed residential and commercial with community amenities. 	<ul style="list-style-type: none"> • FSR of 6.0. • GFA of 68,750 sq.m (9-25 storeys in four buildings). • Mixed residential, commercial retail, office, and transit uses.

Integration Details	<ul style="list-style-type: none"> • Fully integrated with some station overbuild. • Development construction to begin after completion of transit project (anticipated 2029). 	<ul style="list-style-type: none"> • Adjacent to station. • Development construction began after completion of transit project. • Station completed in 2016, development in 2021. 	<ul style="list-style-type: none"> • Fully integrated with some station overbuild. • Station and development to be constructed at the same time. • Expected completion in 2024.
Land Ownership	<p>Privately owned. To be acquired by Metrolinx.</p>	<p>Station owned by Sound Transit. 99-year ground leases for three sites. Ownership by Community Roots Housing one site.</p>	<p>Land owned freehold by State. Air rights owned by developer.</p>
Delivery Model	<p>“Collect and compete” model, with confirmed use of Minister’s Zoning Order (MZO) and possible use of enhanced MZO (eMZO).</p>	<p>Development Agreement resulting in a competitive Request for Proposals process and joint development project.</p>	<p>State Significant Development with bundled station and development contract packaging evaluated via a competitive design-focused tender process.</p>
Affordable Housing Provision	<ul style="list-style-type: none"> • To be determined. • Possibly up to 8% of site value toward affordable housing (tenure unknown) and community amenities. 	<ul style="list-style-type: none"> • 178 below-market rental units out of total 428 units (42%). • Affordable between 12 and 50 years. • Targets households making 30-80% Area Median Income (AMI). 	<ul style="list-style-type: none"> • 24 affordable rental and 70 social units out of total 220 units, not including student housing (43%). • Affordable in perpetuity. • Targets <50%-120% AMI, rent-geared-to-income (30%).
Equity and Displacement Mitigation	<ul style="list-style-type: none"> • Targets families, possibly women and girls. • Displacement mitigation not applicable. 	<ul style="list-style-type: none"> • Targets low-income families and Lesbian, Gay, Bi, Trans, Queer+ (LGBTQ+) seniors at nearby site. • Displacement mitigation: affordable local business space. 	<ul style="list-style-type: none"> • Targets students (student housing). • Does not target local Aboriginal and Torres Strait Islander communities. • Displacement mitigation: tenant displacement payments, Aboriginal employment.

<p>Lessons Learned</p>	<ul style="list-style-type: none"> • Station-integrated affordable housing at transit hubs maximizes site potential. • Involvement of senior orders of government can enable station-integrated development. • Intergovernmental relationships are key to advancing major station-integrated developments. 	<ul style="list-style-type: none"> • Having an involved community engaged in TOD creation can lead to exciting outcomes. • Public lands and funds can be leveraged to provide more affordable housing. • Community amenities to support tenants living in affordable housing can be just as important as the housing itself. • Strong intergovernmental working relationships are key to advancing TOD projects. 	<ul style="list-style-type: none"> • Early land use planning for transit projects is crucial for maximizing investment outcomes. • Transit projects present opportunities to envision and invest in community-based place-making. • Mitigating risk through altered government processes and delivery model selection can ensure success. • Increased density can spur social benefits and maximize site values. • Ensuring apartment design quality can make high-density buildings more liveable. • Communicating design and planning expectations early on is key to TOD success.
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Scenario Testing

Achieving station-integrated development presents unique considerations and requires certain trade-offs between density, affordability, and funding. To determine the viability of integrating development with UBCx stations, scenario testing on five residential housing schemes was conducted on a hypothetical site in Vancouver. The scenario testing seeks to understand the trade-offs presented by station-integrated development within the context of Vancouver.

The primary question that the scenario testing poses is: What are the densities needed to make each housing scheme financially viable (i.e., the land value supported by the redevelopment scenario is equal or higher than the value of the property), while providing for a \$10 million land lift to cover station entrance costs? It analyzes the impact of land purchased at market rate and land contributed by a planning partner on redevelopment viability and station entrance cost provision.

The results are as follows:

		Scheme 1: 100% strata condo	Scheme 2: 20% inclusionary social housing/80% strata condo	Scheme 3: 100% market rental housing	Scheme 4: 20% below market rental housing/ 80% market rental housing	Scheme 5: 100% social housing
LAND PURCHASED AT MARKET RATE	Baseline redevelopment viability without offsetting station entrance cost	Viable as mid-rise	Viable as high-rise	Viable as mid-rise	Viable as high-rise	Not viable for redevelopment at 10.5 FSR.
	Equity gap	No	No	No	No	\$373,255 per door.
	Additional density required to offset station entrance cost	+27.3% (mid-rise)	+23.7% (high-rise)	+23.9% (high-rise)	+18.7% (high-rise)	Impossible. Scheme becomes less viable with additional density.
	DCLs compared to land lift generated to offset station entrance cost	35% of land lift	51% of land lift	24% of land lift	37% of land lift	DCLs greater than (negative) land lift, but only represent 2.3% of additional funding needed for project viability.

LAND CONTRIBUTED BY PLANNING PARTNER	Baseline redevelopment viability without offsetting station entrance cost	Density of FSR 0+. In cases where the scheme is profitable and there is no land value to overcome nor CAC to generate for station entrance, any minimum density will be viable.				Not viable for redevelopment at 10.5 FSR.
	Equity gap	No	No	No	No	\$269,474 per door.
	Density required to offset station entrance cost	Low-rise	Low-rise	Low-rise	Low-rise	Impossible. Scheme becomes less viable with additional density.
	DCLs compared to land lift generated to offset station entrance cost	1.6% of land lift	2% of land lift	2.7% of land lift	7.5% of land lift	DCLs greater than (negative) land lift, but only represent 3.2% of additional funding needed for project viability.

Lessons learned from the scenario testing include:

- 100% social housing is not possible without significant funding from senior orders of government.
- Schemes with a market component and land purchased at market value require increased density to offset the cost of a station entrance.
- Land contributions by partners allow for redevelopment viability at lower densities for schemes with a market component and a lower equity gap for 100% social housing.
- Strata condominium housing is the most profitable and can support a component of social housing in a mixed-income development.
- 100% market rental housing can be more viable than strata housing with a social housing component when land is purchased at market rate, at certain densities.
- DCLs have a low impact on development viability compared to station entrance cost, at certain densities.

Conclusion

The City of Vancouver does not currently have a dedicated policy mechanism or process that specifically contemplates appropriate development, addresses design requirements and expectations, and outlines the unique considerations required for station-integrated development.¹ The current housing crisis in Vancouver makes the provision of affordable housing near transit stations well-advised.

The recent re-engagement of the federal government in housing and the provincial government's focus on affordable rental housing, alongside the City's aggressive housing targets, make for a conducive political environment to advance this work. The ongoing planning for the Millennium Line UBC Skytrain Extension may present opportunities for integrating transit with development, which could be advanced by the City.

The findings of the report, particularly the recommendations in the section below, may be used to inform internal processes within the City of Vancouver as well as its engagement with other governing bodies.

Recommendations

1. Early Relationship-Building and Planning with Partners

- Initiate relationship-building and planning discussions with partners as soon as new transit projects are being considered to align with land use.
- Investigate tools to facilitate and maintain relationships, such as community charters and weekly working group meetings.
- Specifically address integration opportunities at transit stations in future Supportive Policies Agreements with TransLink.

2. Leaning on Strengths of Different Governing Bodies

- Engage the Province of British Columbia in planning for station-integrated social housing on provincially-acquired lands to narrow the equity gap for social housing.
- Discuss with TransLink how social and affordable housing could be provided on TransLink-acquired lands.
- Encourage TransLink to engage the City in design processes early on to plan for station integration and overbuild.

3. Advocating for Social Housing Funding

- Advocate for more affordable housing funding to the Province and the federal government, to close the equity gap for social housing and deliver deep affordability.

¹ The Broadway Plan came after the proposal for this report. While some station integration aspects are included in the Broadway Plan, it is not a dedicated policy or process mechanism to advance station integration in line with transit project timelines.

4. Mixed-Income Housing in Station-Integrated Development

- Engage with the public to determine whether mixed-income housing would be desirable at UBCx stations.
- Continue to encourage the provision of purpose-built rental housing at or near station sites in future planning programs.

5. Minimizing Risk Throughout the Planning Process

- Advocate for transit delivery models that minimize risk while also ensuring that design is appropriately considered.
- Investigate expediting development approvals for station-integrated development, with advanced land use planning at station areas.

6. Early Public Communication of Planning Directions

- Continue to rely on the DCE Policy for future planning programs to temper land speculation.

7. Establishing a Community-Oriented, Place-Based Vision for Station-Integrated Development

- Aim for a high level of engagement with local communities pertaining to new transit planning programs.
- Examine how the City can reflect the presence of local communities, meet the needs of residents, and achieve design excellence in station-integrated development.
- Publish documents pertaining to broad and site-specific transit integration design.

8. Affordable Housing Targeting Equity-Deserving Groups

- Consider how the City could target equity-deserving groups through station-integrated affordable housing projects, as a future area of study.

9. Encouraging Station-Integrated Community Amenities

- Continue to encourage the provision of community amenities in station-integrated development, such as community spaces, affordable business space, and childcare.

10. Generating Land Lift for Transit Station Entrances

- Locate the tallest buildings at or near station sites to generate land lift that can offset the cost of station entrances, in order to unlock the value of the airspace above and increases the City's tax base.

1. INTRODUCTION

PROJECT CONTEXT

Integrating development with transit stations is becoming increasingly common in cities around the world. While some jurisdictions, such as Hong Kong and London, UK,¹ have decades of experience with transit integration, other jurisdictions are more recently learning how to deliver integrated developments in their communities.

The City of Vancouver wishes to achieve various community objectives pertaining to affordability, sustainability, and design. Integrating development with transit stations, called station-integrated development, presents opportunities to advance these objectives, but may also present conflicts that require certain trade-offs. The City of Vancouver does not currently have a dedicated policy mechanism or process that adequately acknowledges the complexity, unique requirements, challenges and opportunities, and level of coordination required to deliver integrated development. Given the complexity in the planning, design and delivery of major transit infrastructure projects, it is challenging under the City's current policies and plans to integrate development with stations.

The ongoing planning for the Millennium Line UBC Skytrain Extension may present opportunities for station-integrated development, which the City hopes to advance. Recent updates to British Columbia's Transportation Act, allowing the Province to acquire land for the purpose of transit-oriented development (TOD), as well as the recent creation of a real estate development division at TransLink, the regional transit agency, make this project even more timely.

PROJECT GOALS

The aim of this project is to address the financial and regulatory framework challenges that prevent urban integration of transit stations and development. Given the complexities of delivering affordable housing on high-value land, this project also seeks to examine how affordable housing can be provided at key transit nodes.

This project contributes to the City of Vancouver's Climate Emergency Action Plan, which aims for two-thirds of trips in Vancouver to be by active transportation and transit by 2030, with 90% of people living within close proximity to their daily needs². The findings of this report, particularly the recommendations, may be used to inform internal processes within the City of Vancouver as well as its engagement with other government bodies.

REPORT OUTLINE

The report will have the following structure:

- **Section 2: Methodology:** Outlines methodology used throughout three project phases.
- **Section 3: Transit Integration:** Reviews background information on the concept, benefits, and challenges of transit integration, as well as its intersection with affordable housing.
- **Section 4: City of Vancouver Local Context:** Outlines the governance, responsibilities, and relevant policies of different actors in the city and explains the current context of the Millennium Line UBC Extension project.
- **Section 5: Broadway Subway Project:** Reviews the Broadway Subway Project, from which lessons in the local context are drawn.
- **Section 6: Case Studies:** Examines case studies in three jurisdictions (Toronto, Seattle, and Sydney), identifying the factors involved in delivering station-integrated development.
- **Section 7: Scenario Testing:** Presents the results from development scenario testing on two sites in the Vancouver, highlighting lessons learned.
- **Section 8: Conclusion:** Provides concluding thoughts pertaining to station-integrated development.
- **Section 9: Recommendations:** Proposes 10 recommendations pertaining to planning, relationship-building, funding, affordable housing, project delivery, communication, community involvement, and community amenities.

2. METHODOLOGY

To achieve the project goals, a case study review, economic testing of development scenarios, and findings analysis culminated in lessons learned, conclusions, and recommendations.

The project was completed in three phases: Context and Background; Analysis, Interviews, and Testing; and Report Writing.

Phase 1: Context and Background

Phase 1 was composed of a review of background material and case study selection.

Background material review

- Reviewed material pertaining to integration of transit with development, local policy context, and recent and upcoming transit projects in the City of Vancouver.

Case study selection

- Identified and defined 15 case study selection criteria (Appendix A: Case Study Selection).
- Reviewed policy documents pertaining to affordable housing and transit integration in 14 jurisdictions across Canada, the United States, Australia, and Finland.
- Selected three case studies based on applicability to the research topic, governance similarities, confirmed interview participant(s), and ease of access to material.

Phase 2: Analysis, Interviews, and Testing

Phase 2 involved interviews, case study research and analysis, and scenario testing.

Interviews

- Created standardized interview guide (Appendix B: Interview Guide).
- Interviewed¹ 10 participants in three case study jurisdictions and Metro Vancouver, by video call and email:
 - Toronto: City of Toronto (1)
 - Seattle: City of Seattle (1) and Sound Transit (1)
 - Sydney: Sydney Metro (4) and Landcom (1)
 - Vancouver: TransLink (2)

Case study research and analysis

- Conducted web-based policy research in case study jurisdictions.

1 Content from the interviews is included throughout the report, especially in Sections 4 through 6.

- Adapted case study selection criteria to analyze interview and web-based research.
- Identified lessons learned from case studies.

Scenario testing

- Tested five residential tenure schemes on a hypothetical Vancouver site.
- Analyzed scenarios to identify lessons learned.

Phase 3: Report Writing

- Wrote report, synthesizing findings from case studies and scenario testing.
- Developed recommendations for the City of Vancouver.

3. TRANSIT INTEGRATION

BACKGROUND

Integrating transit with land use is a planning approach that maximizes transit investments and advances social and environmental sustainability. Development intensity at nodes and corridors locates high-density mixed-use development near rapid transit stations to create complete communities.³ Many jurisdictions have Transit Oriented Development Overlay zones that implement development regulations in transit station buffer areas to support such localized development intensity,⁴ including in the Bay Area (California), Raleigh (North Carolina), and Denver (Colorado).

Transit improvements may increase land values by improving local access and mobility, making land surrounding transit stations more attractive to renters, buyers, and developers. Land value capture is a means of capturing public sector benefits (transit, affordable housing) from the value of land. In the context of transit, land value capture involves the public sector seizing some of the increased land value derived from transit improvements, which can then be reinvested in the transportation system, used to offset capital costs of transit infrastructure, or harnessed to fund other public benefits.

Physically integrating development with transit stations can be a form of land value capture when transit property owned by the public sector (usually an order of government or transit agency) is harnessed for development⁵. Station-integrated development can also occur on privately owned land. These two different approaches to integrating transit stations with development will be further explored in Section 5: Broadway Subway Project and Section 6: Case Studies.

“Complete communities are communities that are well designed to meet people’s needs for daily living throughout an entire lifetime by providing convenient access to an appropriate mix of jobs, local services, public service facilities, and a full range of housing to accommodate a range of incomes and household sizes.”⁷

The public sector looks to harness **land value capture** on the basis that increases in land value are almost always due to public sectors actions (development approvals, infrastructure investments). Thus, the public, rather than private landowners, should benefit from these actions.

There are many tools to enable land value capture, which can be divided into two categories:

- One-time approaches: capture land value at a specific event. Can include property transfer taxes, charges on new urban development, and public contributions obtained in exchange for increased density or rezoning approvals.
- Recurring approaches: involve taxes paid by a property owner on a recurring basis, usually annually. Most common approach is property tax, but can also include benefitting area tax and tax surcharge on particular property groups, usually based on value.⁶

This report examines commercial, residential, and mixed-use station-integrated development, considering three forms of development:

Full Integration and Overbuild:

Development that is built directly over top and physically connected to a transit station (Figure 1). Will often have a station entrance within the development.



Figure 1: Future South Granville Station Overbuild.⁸

Partial Integration: Development that is physically connected to a transit station without being built directly above the station (Figure 2). Will sometimes have a pedestrian pathway to the station or be built partially above the station headhouse. Station can be underground or elevated.



Figure 2: King Edward Station Fully Integrated Development.

Adjacent to Transit: Development that is located proximate or directly next to a standalone station without being structurally integrated with the station itself (Figure 3). Will often have a station entrance very close to the development, but not within the development.



Figure 3: Future Standalone Arbutus Station with Possibility for Development Adjacent to Transit.⁹

BENEFITS AND CHALLENGES

Integrating transit stations with development has many benefits:

- Building over transit limits the amount of new land needed for development, which can benefit land-scarce cities and unlock airspace above stations that would otherwise remain under-utilized.
- It enables access to transit and encourages modal shift, which can increase transit ridership, reduce greenhouse gas emissions, and benefit people's health.
- It supports the creation of dense nodes composed of housing, jobs, services, and amenities, allowing more people to live in well-connected communities.¹⁰
- It can reduce the combined housing and transportation cost burden¹¹.
- It can reduce car congestion on streets, making for more efficient and livable street environments.
- It can create retail or commercial destinations, benefiting the local economy.¹²
- Higher-density buildings and associated enhanced public realms can become landmarks, enabling place-making.¹³
- It is a one-time land value capture approach that can allow local or higher orders of government to harness public benefits with the introduction of new transit stations.¹⁴

While the benefits of station-integrated development are clear, it can also pose many challenges:

- It can be complex from an architectural and engineering standpoint (Figure 4) and can hinder optimized passenger flow in stations.
- It can be challenging from an economic and urban design perspective. For example, siting emergency exits, air ventilation shafts, and service access can be challenging on private property near pedestrian activity.¹⁵
- It can be prohibitively expensive due to the structural and seismic complexities.¹⁶
- If not initially planned as a station-integrated development, retrofitting transit facilities to allow for overbuild can be expensive and present design challenges.
- If constructed concurrently, it introduces complexity from a logistical and permitting perspective.

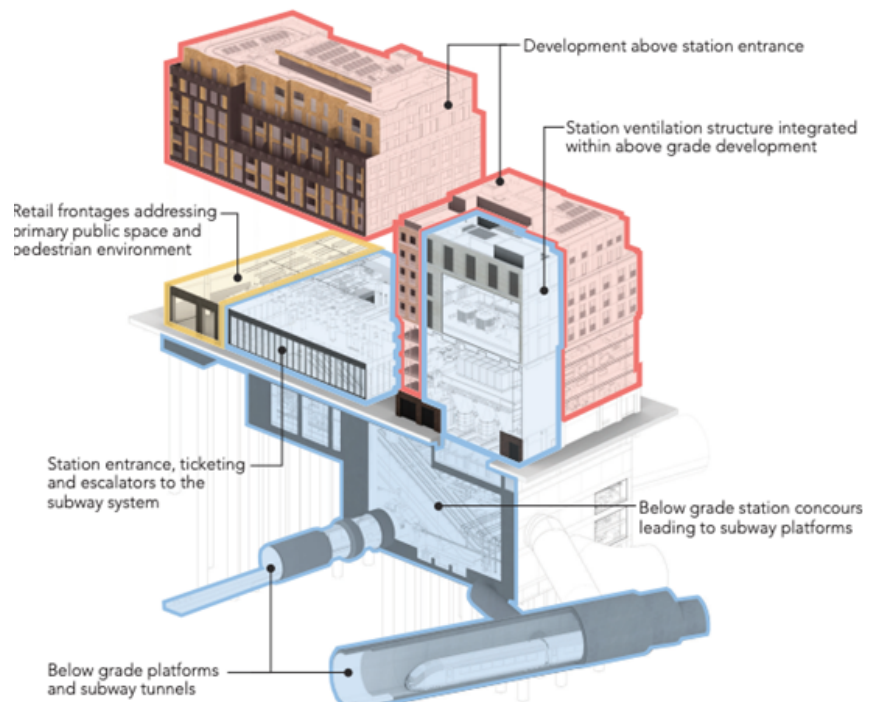


Figure 4: Engineering and Architectural Complexity of Integrating Transit with Development.²¹

- If not constructed concurrently, it can lead to longer-term construction windows.
- It can be time consuming and introduce risk, requiring the coordination of and collaboration between many partners.¹⁷
- It requires a sizable consolidation of land, in order to accommodate station entrance and development components, as well as provide a high-performing public realm.

INTEGRATION WITH AFFORDABLE HOUSING

In Metro Vancouver, very-low and low income renter households² face a disproportionate housing-transportation cost burden relative to other households. In 2015, 67% of those households' income went to housing and transportation combined.¹⁸

Given that station-integrated development can reduce the housing-transportation cost burden, one might think that it would automatically benefit lower-income renter households. Yet, research shows that development near transit can lead to displacement of lower-income households as the cost of housing in those developments tends to be higher,¹⁹ due to the desirability of living near transit and ensuing higher value of transit-proximate lands.²⁰ Thus, station-integrated development may reduce the cost burden to higher-income households, while further exacerbating affordability for lower-income households.

Providing affordable housing in developments integrated with transit is a means of addressing the cost burden for lower-income households, who tend to already rely on public transportation. It can connect such households to valuable services and amenities that complete communities provide. In a housing market such as Vancouver's, there is a great need for affordable housing, especially near transit. Although its provision can be challenging, this report investigates ways to enable station-integrated affordable housing.

In Vancouver, housing is deemed **affordable** if it comprises 30% or less of a household's gross income. **Social housing** refers to rental housing composed of at least 30% of households making less than BC Housing's housing income limits. It is owned by a non-profit or a government agency, and is secured by a housing agreement. **Supportive housing** is subsidized housing that provides additional supports to residents to maintain housing stability.²²

² In Metro Vancouver, very-low income households make 50% or less of the Area Median Income (AMI) and low income households may 50-80% AMI. In the City of Vancouver, low-income households are singles earning \$30,000/year or less and families earning \$50,000/year or less.

4. CITY OF VANCOUVER CONTEXT

GOVERNANCE, RESPONSIBILITIES, & POLICY

There are four major bodies who play a role in land use and transit in Vancouver: the City of Vancouver (CoV), Metro Vancouver, TransLink, and the Province of British Columbia (BC). Each player has policies that support transit-oriented development (TOD).

City of Vancouver

Governance	
<ul style="list-style-type: none"> • CoV is a municipal government granted powers by the Province of BC through the <i>Vancouver Charter</i> and the <i>Local Government Act</i>. • It is governed by a City Council composed of a Mayor and 10 Councillors.²³ 	
Responsibilities	
Land Use	<ul style="list-style-type: none"> • CoV regulates land use, density, height and other Zoning and Development regulations within the city, guided by bylaws, strategies, and plans.²⁴ • It has many tools to incentivize the development it wants to see, such as density bonusing, which allows developers greater density in exchange for amenities and/or affordable housing,²⁵ and the Secured Rental Policy, which provides incentives for 100% purpose-built rental developments secured for at least 60 years or life of the building, whichever is greater.²⁶ • When new developments are being approved, CoV can negotiate contributions, fees, and levies with developers, such as Community Amenity Contributions (CACs) and Development Cost Levies (DCLs). • CoV approves permits for new developments in the city, including those that are integrated with transit stations, and works with TransLink to coordinate land use planning with transit projects. • It develops policies for housing affordability, preserving existing housing and providing new supply.
Transit	<ul style="list-style-type: none"> • CoV provides input on the planning and design of new transit stations, including through the Design Advisory Process (a shadow permit review process), but has no decision-making authority. • CoV will sometimes contribute funds or in-kind contributions, such as land for a nominal fee, to new transit projects.
Relevant Policy	
Vancouver Plan²⁷	<ul style="list-style-type: none"> • Long-range plan that will guide land use and growth in Vancouver for 30 years to come. • Seeks to deliver purpose-built rental, social, and affordable housing in rapid transit areas, allowing greater density for station-integrated development.

<p>Broadway Plan²⁸</p>	<ul style="list-style-type: none"> • Comprehensive 30-year area plan. • Looks to enable greatest height and densities for mixed-use developments proximate to stations. • Aims for the provision of affordable housing and jobs along major transit routes. • See more in Section 5: Broadway Subway Project.
<p>Housing Vancouver Strategy²⁹</p>	<ul style="list-style-type: none"> • 10-year strategy to end homelessness and provide more affordable housing. • Targets 65% of new housing for renters, including a total of 20,000 market rental units; 12,000 new and renewed social units; and 50% of new homes serving households earning less than \$80,000. • Seeks to prioritize rental and social housing near transit.
<p>Transportation 2040³⁰</p>	<ul style="list-style-type: none"> • Long-term strategic plan that guides transportation and land use decisions in the city. • Strives to provide inexpensive transportation so that more household income can be spent on housing. • Supports compact community development, focusing high-density services, amenities, and housing near high-capacity transit.

Metro Vancouver

Governance

- Metro Vancouver Regional District (Metro Vancouver) is a creature of the Province composed of 21 municipalities, one Electoral Area, and one Treaty First Nation. CoV is a member jurisdiction of Metro Vancouver. It is granted powers through the *Local Government Act*.
- Metro Vancouver is governed by a Board of Directors comprising 40 councillors from 22 member jurisdictions and one elected member from the Electoral Area.³¹

Responsibilities

Land Use	<ul style="list-style-type: none"> • Metro Vancouver has regulatory responsibilities pertaining to planning and affordable housing.³² CoV is bound to conform to planning policy adopted by Metro Vancouver.³³ • Metro Vancouver Housing Corporation, one of the largest non-profit housing agencies in the province, provides affordable housing in the region.³⁴
Transit	<ul style="list-style-type: none"> • Metro Vancouver policy is required to support TransLink’s regional transportation strategy.³⁵

Relevant Policy

Metro 2050 ³⁶	<ul style="list-style-type: none"> • Regional growth strategy that, if approved, will guide future land use and housing development, and support the provision of transportation in the region. • Looks to creating complete, higher density communities with purpose-built rental housing concentrated in transit-oriented centres. • Guides TransLink to dispose of land in a way that supports Metro 2050 and includes the provision of affordable rental housing.
Metro Vancouver Housing 10-Year Plan ³⁷	<ul style="list-style-type: none"> • Strategy that guides how Metro Vancouver will provide, preserve, and expand affordable housing in the region. • Invests \$190 million in affordable housing over 10 years, targeting 1,350 new and redeveloped units. • Plans to partner with public sector bodies to develop affordable housing on publicly owned land.
Regional Affordable Housing Strategy ³⁸	<ul style="list-style-type: none"> • Strategy for addressing housing affordability in the region. • Seeks to expand the supply of rental housing, providing units that are affordable to very-low and low income households. • Plans for the provision of affordable and mixed-income rental housing in transit station areas.

Governance

- TransLink, a creature of the Province, is the transportation authority responsible for regional transportation in Metro Vancouver. It is granted powers through the *South Coast British Columbia Transportation Authority Act*.
- It is governed by the Mayors' Council, composed of the 21 mayors in Metro Vancouver, the Tsawwassen First Nation Chief, and an elected representative for Electoral Area A.
- It is also governed by a Board of Directors, made up of seven members appointed by the Mayors' Council and up to two members appointed by Province.³⁹

Responsibilities

<p>Land Use</p>	<ul style="list-style-type: none"> • TransLink owns some property surrounding transit lines, such as electrical substations, on which it has Statutory Rights of Way. • It has recently launched a for-profit Real Estate Development Program to purchase freehold land on which it will develop real estate as a long-term revenue source to fund transit operations.⁴⁰ • TransLink will initially focus on developing lands it owns that are free of transit infrastructure and will eventually look to acquiring new lands, focusing on TOD opportunities. • TransLink will be open to working with partners on station overbuilds in future transit projects. It will not focus on such development on TransLink-acquired sites, however, given the complexities of delivering station-integrated development and their desire to future-proof their transit system, which overbuild can sometimes limit. • Affordable housing would not be subsidized by TransLink, but it is looking toward partnerships to deliver affordable housing on TransLink-owned sites in the future.
<p>Transit</p>	<ul style="list-style-type: none"> • TransLink is responsible for planning and managing the region's transportation system. It plans new transit projects, determining optimal alignments, station locations, and station design.⁴¹ • TransLink's Mayors' Council serves as the collective voice for Metro Vancouver on transit and transportation. It approves plans pertaining to transit service, major projects, and regional funding and borrowing.⁴² • TransLink typically funds up to 20% of new transit projects, with the remaining funding coming from the provincial and federal governments. Project costs incurred by TransLink are sometimes offset by developer contributions.⁴³ • When planning new transit projects, TransLink negotiates Supportive Policies Agreements (SPAs) with local governments to coordinate land use and transportation policy. Through SPAs, TransLink advocates for high-density transit-oriented communities (TOCs) and the provision of affordable housing. • TransLink's policies are required to support Metro Vancouver's regional growth strategy.⁴⁴

Relevant Policy

<p>Transport 2050⁴⁵</p>	<ul style="list-style-type: none"> • Regional transportation strategy that will shape transportation in the region over the next 30 years. • Guides the quadrupling in size of the region’s rapid transit network, from 100 to 400 km, to support complete communities. • Aims to locate frequent transit within a short walk from most homes and jobs, targeting that no household will need to spend more than 45% of their household income on transportation and housing combined by 2050.
<p>10-Year Priorities for TransLink⁴⁶</p>	<ul style="list-style-type: none"> • Identifies 10-year priorities based on Transport 2050 policy directions. • Prioritizes Millennium Line UBC Extension (UBCx), among other bus and rapid transit lines.
<p>Transit-Oriented Communities Design Guidelines⁴⁷</p>	<ul style="list-style-type: none"> • Highlights community design attributes that support TOCs, termed the “Six D’s.” • Encourages concentrating growth in frequent transit centres and corridors with a transit frequency of at least 15 minutes. • Supports a diversity of land uses and housing types.

Province of British Columbia

Governance

- British Columbia is a provincial government that creates legislation allowing for the existence of local governments, such as CoV and Metro Vancouver, and transportation agencies, such as TransLink.
- There are various provincial ministries of relevance to land use and transit.
- Ministry of Municipal Affairs
 - Supports local governments in creating livable communities.
 - Oversees the University Endowment Lands adjacent to the University of British Columbia (UBC).
 - Responsible for legislation key to local governments, such as the *Vancouver Charter* and the *Local Government Act*.⁴⁸
- Ministry of Attorney General and Minister Responsible for Housing
 - In charge of providing access to affordable housing.⁴⁹
 - Oversees BC Housing, a government agency that develops, manages, and administers subsidized housing across the province.⁵⁰
- Ministry of Transportation and Infrastructure (MOTI)
 - Ministry responsible for planning transportation networks and infrastructure and developing transportation policies.
 - Oversees the BC Transportation Financing Authority (BCTFA), a Crown corporation that holds lands for transportation infrastructure throughout the province.
 - Responsible for the Transportation Investment Corporation (TI Corp), a subsidiary of BCTFA, which provides oversight, management, and delivery of major transportation projects, such as the Broadway Subway Project.
 - In charge of BC Transit, an agency that coordinates public transportation delivery across the Province, except in areas serviced by TransLink (Metro Vancouver).⁵¹
 - Contains branches that are specifically involved in rapid urban rail (e.g., Integrated Transportation Planning).⁵²
 - Responsible for the *Transportation Act*.⁵³

Responsibilities

Land Use

- Through BC Housing, the Province is responsible for providing affordable housing, in partnership with the public, private, and non-profit sectors,⁵⁴ as well as social assistance and rent supplements.
- It regulates landlord-tenant laws and strata properties.
- The Province has the authority to approve building permits on provincially-owned land, regardless of municipal bylaws. It has used this authority twice. It can also override municipal project approvals if they are not deemed beneficial to a community. The Province has never used this authority.⁵⁵
- The Province is considering introducing legislation that would remove building permit approval authority from local governments in order to speed up housing developments.⁵⁶
- Was previously only allowed to acquire lands necessary for transportation projects. With recent changes to the Transportation Act through Bill 16, the Province now has authority to acquire lands near transit for the purpose of building housing and community amenities.⁵⁷

Transit	<ul style="list-style-type: none"> • Most of TransLink’s system is owned by BCTFA. • MOTI is responsible for delivering major transit projects. It approves transit alignments, station locations, and station design, as proposed by TransLink. • The Province usually provides 40% of funding to major transit projects, complemented by federal funds (~40%) and local funds (~20%).
Relevant Policy & Legislation	
Homes for B.C. ⁵⁸	<ul style="list-style-type: none"> • 10-year affordable housing plan for the Province. • Invests \$6 billion over 10 years in affordable housing, targeting 114,000 new units. • Looks to empower local governments to address housing affordability in their communities. • Aims to work with TransLink and local governments on high-density TOCs delivering affordable housing. • Provides provincial property tax exemptions on new purpose-built rental, complementing similar municipal exemptions.
Residential Tenancy Act ⁵⁹	<ul style="list-style-type: none"> • Regulates rental housing in the Province. • Establishes rent increase allowances and termination criteria for tenancy agreements.
Strata Property Act ⁶⁰	<ul style="list-style-type: none"> • Regulates strata housing in the Province. • Determines property ownership, land acquisition and disposal, and taxation. • Establishes rental regulations in strata units.
B.C. on the Move ⁶¹	<ul style="list-style-type: none"> • 10-year transportation plan to enhance mobility and connectivity. • Commits to funding 1/3 of new rapid transit projects in Metro Vancouver. • Aims to work with the region to secure federal funding for rapid transit.

LOCAL CONTEXT: MILLENNIUM LINE UBC EXTENSION

Background	Proposed SkyTrain line that that would run along the Broadway corridor from Arbutus to UBC. Would be an extension of the Broadway Subway Project (BSP) that is currently under construction (see below). ⁶²
Cost	Projected to cost between \$3.3 billion and \$3.8 billion. ⁶³ Business case anticipated to cost \$30 million. ⁶⁴
Length	7 km.
Stations	Four new stations (Macdonald, Alma, Jericho, and University of British Columbia) spanning across three jurisdictions: CoV, University Endowment Lands (UEL), and University of British Columbia (UBC) (Figure 5). Connecting to BSP at Arbutus Station. Possible infill stations in the UEL or at UBC.



Figure 5: City of Vancouver-Endorsed UBCx Alignment.⁸⁶

The Millennium Line UBC Extension (UBCx) is currently in the planning stage, having recently received endorsement by Vancouver City Council.⁶⁵ TransLink is looking to fund UBCx using third-party and land lift contributions, which may determine whether the alignment will be above- or below-grade.⁶⁶

Vancouver City Council recently endorsed a station location that would pass through the Jericho Lands, a 36-hectare site owned by xwməθkwəy̓əm (Musqueam Indian Band), Skwxwú7mesh (Squamish Nation) and Səlílwətaʔ/Selilwitulh (Tsleil-Waututh Nation) (MST), and Canada Lands Corporation (CLC).⁶⁷ Jericho Lands are currently undergoing a planning program, led by CoV in partnership with MST and CLC, to guide future redevelopment of the site. Priorities of the planning program include creating a complete community with mixed-income housing in

proximity to transit, providing community services and amenities, and celebrating cultural heritage to advance reconciliation.⁶⁸

CoV, UBC, and the MST Development Corporation (MSTDC) signed a Memorandum of Understanding to jointly advocate for support and funding from the federal, provincial, and regional governments for UBCx.⁶⁹ The three organizations, along with Metro Vancouver and the Province, worked with TransLink to develop the UBC Extension Pre-Business Case Design Development Review. TransLink will soon negotiate SPAs with the project partners to guide land use policies around the station. It will also be developing the UBCx Business Case, which will include more in-depth station design reference concepts.

CoV staff have received direction to work with TransLink and the Province to plan for station-integrated development opportunities along the UBCx, which they hope will inform the UBCx Business Case.⁷⁰

What is now known as the City of Vancouver occupies the traditional, unceded territories of the xw-məθkwəyəm (Musqueam Indian Band), Skwxwú7mesh (Squamish Nation), and Səlílwətaʔ/Selilwítlh (Tsleil-Waututh Nation). xw-məθkwəyəm, Skwxwú7mesh, and Səlílwətaʔ/Selilwítlh have a long history of working together to benefit their people.

MST Development Corporation (MSTDC) is an organization that oversees the properties owned by the MST Partnership, composed of the three named Nations. MST Partnership owns or co-owns six properties throughout Metro Vancouver, worth over \$1 billion and totaling more than 160 acres of developable land.⁸⁷

5. BROADWAY SUBWAY PROJECT

PROJECT BACKGROUND

A brief case study of the Broadway Subway Project (BSP) was reviewed to identify lessons learned in the local Vancouver context.

Background	Extension of the Millennium Skytrain Line, from VCC-Clark Station to Broadway and Arbutus (Figure 6).
Cost	Estimated cost of \$2.83 billion. ⁷¹ Funding from the Province (\$1.83 billion), the federal government (\$896.9 million), and the City of Vancouver (\$99.8 million in-kind property contribution for station sites and laydown areas). ⁷²
Length	5.7 km. 700m will be elevated, but majority of the line will be underground.
Stations	<ul style="list-style-type: none"> • One existing station: VCC-Clark Station. • Six new underground stations: Great Northern Way-Emily Carr, Mount Pleasant, Broadway-City Hall (intermodal station connected to the Canada Line), Oak-VGH, South Granville, and Arbutus.

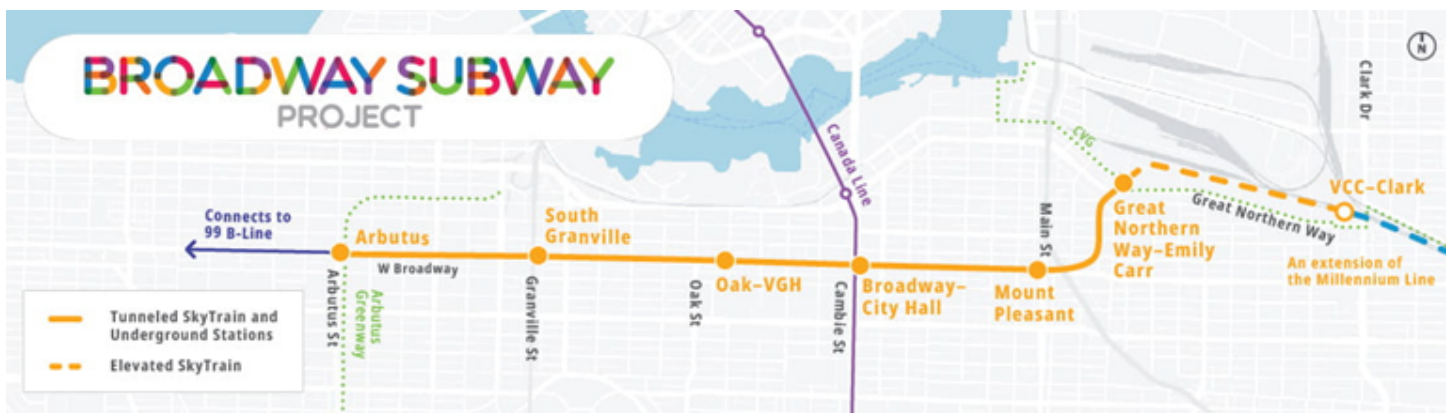


Figure 6: Broadway Subway Project Alignment.⁸⁸

The Province of BC is delivering the Broadway Subway Project (BSP) as a Design-Build Finance project, which awards design and construction under a single contract.⁷³ The Broadway Subway Project Corporation was selected to deliver the line, which they will partially finance.⁷⁴ The BSP will be operated and maintained by TransLink once completed (expected 2025).⁷⁵

SUPPORTIVE POLICIES AGREEMENT

A **Supportive Policies Agreement** between CoV and TransLink was finalized in June 2018. The SPA commits both CoV and TransLink to broadly advance the principles outlined in TransLink's Transit-Oriented Communities Design Guidelines, in order to address transit-supportive land use, affordable housing policies, complete communities, and urban design.

The SPA holds CoV to completing a planning program for the Broadway corridor, which recently culminated in the Broadway Plan. TransLink and CoV agreed to collaborate on BSP station design and areas within 400m of stations, to ensure alignment with City urban design policies.⁷⁶

While the SPA broadly included key areas for policy alignment between CoV and TransLink, there were limitations to what was included. The agreement did not specifically address station-integrated development, for instance.

BROADWAY PLAN

<p>Background</p>	<ul style="list-style-type: none"> • The Broadway Plan is as a comprehensive 30-year area plan for Broadway between Clark Drive and Vine Street, and 1st Avenue to 16th Avenue, that integrates land use planning with the BSP. • The planning process began in March 2019 and was approved in June 2022. • The Plan will come into effect in September 2022.⁷⁷
<p>Policy Directions</p>	<ul style="list-style-type: none"> • Emphasizes walkable, complete communities. • Seeks to incentivize purpose-built market and below-market rental and social housing, as well as employment space of various kinds, in station areas through increased heights and densities. • Aims to mitigate tenant displacement and includes new tenant protection policies. • First CoV document to include transit integration policy and design guidelines for station-integrated development occurring after transit project completion.
<p>Targets</p>	<p>Through to 2050, the Plan targets 30,000 new homes, including:</p> <ul style="list-style-type: none"> • 5,000 units of social housing; and • 3,000 units of below-market rental housing.⁷⁸

Recognizing that the BSP would incite land speculation, impacting the affordability of housing and employment space, Vancouver City Council approved the Development Contribution Expectations (DCE) Policy in June 2018. DCEs make it clear to developers that the City intends to achieve affordable housing and community benefits as part of an area plan, flagging the anticipated developer contributions. DCEs in the Broadway area reflected the City's priority of below-market rental housing. The Broadway Plan is the first planning process to include interim DCEs, which will be replaced by Community Amenity Contributions (CACs) now that the Plan has been approved.⁷⁹

The DCE Policy has been fairly effective in tempering land speculation to date. Residential and commercial property sales prices in the Broadway area have been largely consistent with or lower than city-wide averages. The exception are commercial property sales between early 2020 and late 2021, which may have been due to the COVID-19 pandemic.⁸⁰

STATION-INTEGRATED DEVELOPMENT

On opening day, BSP will achieve one development fully integrated with transit at South Granville Station. Great Northern Way-Emily Carr (see below) and Broadway-City Hall (BCH) are preparing for future integrated development;³ Mount Pleasant has been future-proofed for overbuild; and there is a landowner interested in station-integrated development at Oak-VGH. Arbutus Station is planned as a standalone station with limited development integration potential due to site constraints.

Great Northern Way-Emily Carr Station

PCI Developments (PCI), a local developer, proposed an overbuild at GNW-Emily Carr Station. As PCI was the property owner, the possibility for future transit overbuild was incorporated into the station's reference case design. Changes to the station design that will allow for future station-integrated development include placing air ventilation condensers within the station footprint instead of on the rooftop, providing service vehicle parking underground instead of at-grade, and planning for columns in the station to support overbuild (Figure 7).



Figure 7: Great Northern Way-Emily Carr Station with Allowance for Future Overbuild.⁸⁹

The station-integrated development at GNW-Emily Carr Station will only be built after BSP is complete, as PCI was waiting for approval of the Broadway Plan before applying for rezoning. As such, the building permitting process has not been expedited. CoV registered a Statutory Right of Way (SRW) on PCI's property to allow for transit use at the site, as part of the False Creek Flats Structure Plan.

³ CoV has made structural provisions at BCH to allow for future overbuild as part of the City's Office Accommodation Plan (OAP).

South Granville Station

South Granville Station was initially going to be a standalone station located mid-block at Granville and Broadway. PCI Developments expressed interest in pursuing station integration and overbuild at the site. CoV facilitated a discussion between PCI and the Province, resulting in a station-integrated overbuild moved to the northeast corner of Granville and Broadway. Moving the station to the corner had a number of benefits, including improved transit connections and wayfinding.

The 41-storey building received rezoning approval in April 2022, which received criticism as it occurred before the Broadway Plan was finalized.⁸¹ Under the Broadway Interim Rezoning Policy, rezonings were generally not considered in the planning area while the planning process was underway. The interim policy, however, made exceptions for proposals in support of BSP, involving 100% social and supportive housing or proposals reported to Vancouver City Council at the discretion of the Director of Planning.⁸² The PCI rezoning proposal was brought forward under those terms.

At 124m, the South Granville Station development will be the tallest building in the neighbourhood, with a Floor Space Ratio (FSR) of 12.3 (Figure 8). It will deliver 223 secured rental homes, 80% of which will be market-rental units and 45 that will be below-market rentals. It will also include 100,000 sq.ft of office space, a 22,000 sq.ft grocery store, and 7,000 sq.ft of retail and restaurant space (Figure 9). PCI is also providing \$5.3 million in public benefits (utilities development and public art).

Construction on the development began before receiving rezoning approval, based on an approved development permit and building permit that complied with existing zoning.⁸³ The development is being built concurrently with the station, which will allow both to be completed around the same time in 2025.



Figure 8: South Granville Future Development.⁹⁰

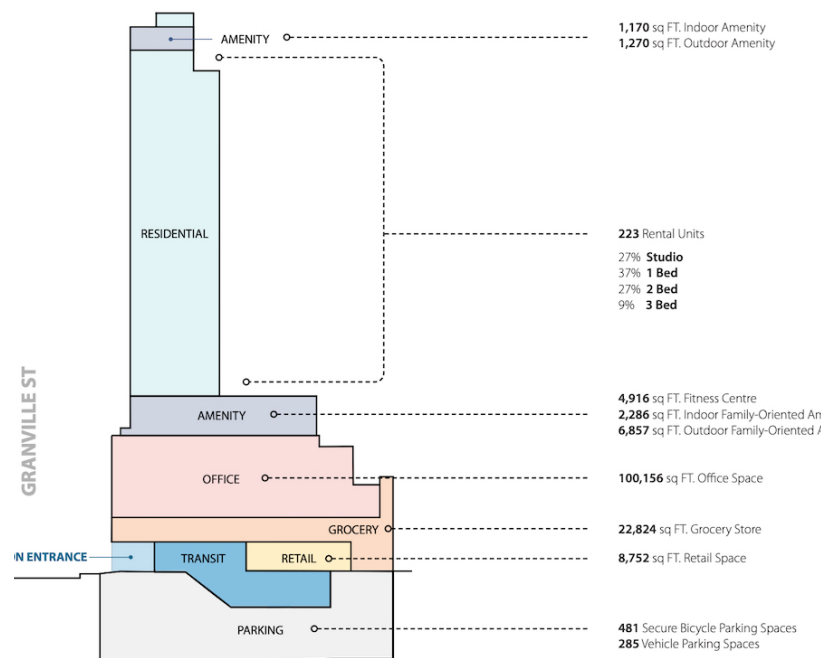


Figure 9: South Granville Development Details.⁹¹

LESSONS LEARNED

Station site selection determines whether station-integrated development will be possible.

- When the Province was acquiring land for the BSP, they were only authorized to expropriate land for transit uses. The smallest sites possible were selected for transit stations, with little consideration for overbuild, integration, and development potential.
- Early planning for station-integrated development can inform site selection if the potential for sites to accommodate development is considered. In the case of BSP, accounting for potential station-integrated development resulted in specific station configurations being modified from the reference case design to better facilitate integration and allow for viable development potential of the site.
- The Province's newly gained authority to acquire lands for TOD purposes presents an opportunity to consider development possibilities around transit stations.

Aligning transit and land use planning processes increases the possibility of providing affordable housing near transit.

- The SPA between TransLink and CoV ensured alignment between TransLink's transit planning and CoV's Broadway area planning.
- The SPA required CoV to develop an affordable housing strategy for the BSP corridor. The resulting Broadway Plan focuses purpose-built rental, social, and affordable housing in station areas.
- Although incentivizing developers to deliver affordable housing can be challenging, the alignment between BSP planning and the Broadway planning program maximizes the chance of providing affordable housing near transit stations.
- Had the SPA specifically addressed integration opportunities at transit stations, the BSP may have seen more station-integrated development on opening day or shortly thereafter.

Providing affordable housing hinges on enabling policy, supportive land use, and funding.

- The ability to provide affordable housing and the depth of its affordability hinges on a number of factors, including amount of density enabled and capital and/or financing contributions from senior orders of government.
- While station-integrated housing helps address the cost burden for those who end up living in it, building transit does not in and of itself reduce the cost of housing.
- Achieving affordability near transit requires more than simply building new transit lines. It requires enabling policy and supportive land use, as achieved through the SPA and the Broadway Plan, as well as funding from senior orders of government.

Planning for station overbuild, even if it is not immediately delivered, maximizes station-integrated development opportunities.

- The reference case designs presented in the business case were not highly context or site-specific, but rather followed a similar template for many of the BSP stations. CoV was meant to be able to modify the reference case designs, which was limited, however, due to constraints related to site

acquisition and cost. As such, most of the BSP stations, except for South Granville and GNW-Emily Carr, were initially designed as standalone stations without any provision for overbuild.⁴

- Timing station construction with development construction can be challenging but does not have to limit the possibility of future overbuild.
- To ensure that the greatest numbers of stations deliver integrated development, future development may be pre-determined in tandem with station design through reference case designs. With the involvement of CoV and other partners, design and engineering challenges can be resolved ahead of business case finalization.

Business case and delivery model inform the project outcomes.

- The Design Advisory Process, wherein CoV was to be given the opportunity to provide comments on station design, was non-binding, presenting limitations to its effectiveness. Because the reference case designs subsequently included in the business case proposed stations using the smallest land parcel possible within the allocated cost, there was no incentive for tendering proponents to deviate from them. In fact, acquiring additional lands, which would have allowed for alternate station configurations, would have penalized proponents by increasing their bid cost.
- The BSP contract delivery model was not conducive to high quality architectural design. As part of the Design-Build-Finance model, station design, integration, and overbuild potential were not evaluated in the tendering process, focusing instead on schedule and cost.
- Ensuring that all partners share the same project goals, such as delivering station-integrated development and advancing place-making at stations, is crucial for realizing the city-shaping potential of transit. Finding a balance between establishing project requirements and inviting design creativity in the tendering process is key.
- Selecting a delivery model that prioritizes station design can encourage the creation of station-integrated development, place-making, high quality public realm, and cultural recognition.

The City is well-positioned to facilitate station-integrated development.

- The South Granville station-integrated development was made possible due to the critical role CoV played in facilitating discussions between PCI Developments and the Province; providing design assistance; creating station and development fit tests; guiding concept and scenario development; and using policy (like the Interim Rezoning Policy) to enable development ahead of the final Broadway Plan.
- Although CoV does not play a leading role in transit planning or station design, it is the first point of contact for developers and is the decision-maker on land use planning. It can leverage its position and expertise to facilitate development that aligns with City policy guidelines.

Early communication tools, such as the Development Contribution Expectations (DCE) Policy, can temper land speculation.

- Early findings indicate that the DCEs had a positive effect on minimizing land speculation, particularly for residential properties.
- Tools that communicate City expectations may result in projects better aligned with City policy directions.

⁴ Broadway-City Hall and Mount Pleasant Stations now have provisions for overbuild, which were not included as part of the base concept but were added afterwards.

6. CASE STUDIES

Three case studies in Toronto, Seattle, and Sydney were selected from a list of 14 national and international options. They were chosen based on applicability to the research topic, depth of station-integrated development, governance similarities, confirmed interview participant(s), and ease of access to material.

Interviews were conducted with staff from local governments, state governments, and transit agencies (see Section 2: Methodology), content from which is incorporated throughout this section. Case studies were then analyzed based on 15 key criteria pertaining to affordable housing, transit integration, governance, and equity (see Appendix A: Case Study Selection), including:

- Governance framework
- Project delivery model
- Project land ownership
- Kind and depth of station integration
- Affordable housing incentivization mechanisms
- Equity considerations
- Displacement mitigation

Additional aspects were investigated, such as supportive legislation and policies, transit connectivity, development uses, and project status and cost. Based on analysis of these criteria, enabling and challenging factors were identified and lessons were garnered.

TORONTO, ONTARIO

Jefferson Site, Exhibition Station

A transit hub station-integrated development planned in conjunction with a new subway line, advanced by the Province of Ontario and achieved with an accelerated City-review process.

Jefferson site is a parcel of land adjacent to Exhibition Station,⁵ slated for development as part of the Province of Ontario’s Transit-Oriented Communities (TOC) Program.

Exhibition Station, an existing GO commuter rail transit station, will become the westernmost stop in the future Ontario Line (OL) subway project. The OL is a 15.6-kilometre, 15-stop subway line that will run from Exhibition Place, through downtown Toronto, to the Ontario Science Centre (Figure 10).⁸⁴ It is expected to be completed in 2027.



Figure 10: Ontario Line Alignment.⁹³

The Exhibition Station TOC⁶ consists of two sites: Jefferson (West site) and Atlantic (East site). While both sites will connect to Exhibition Station, the Jefferson site will be a more deeply integrated development (Figure 11).⁸⁵

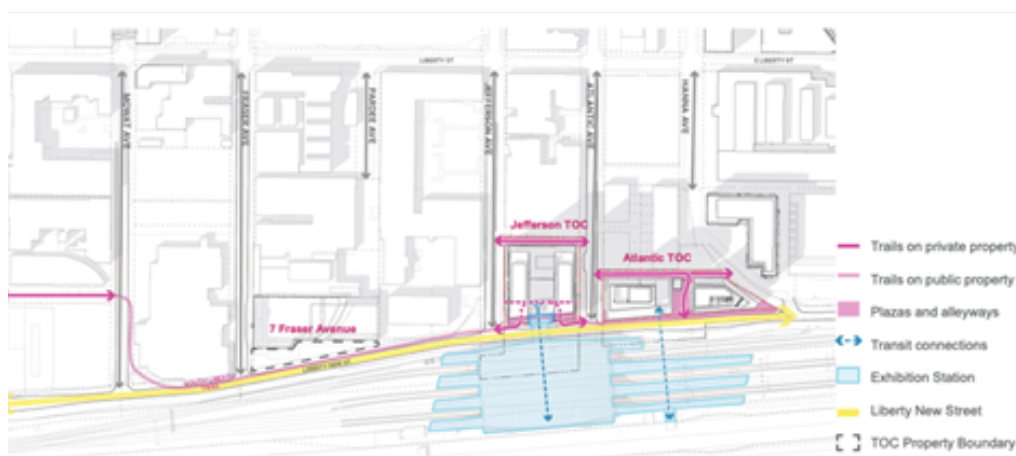
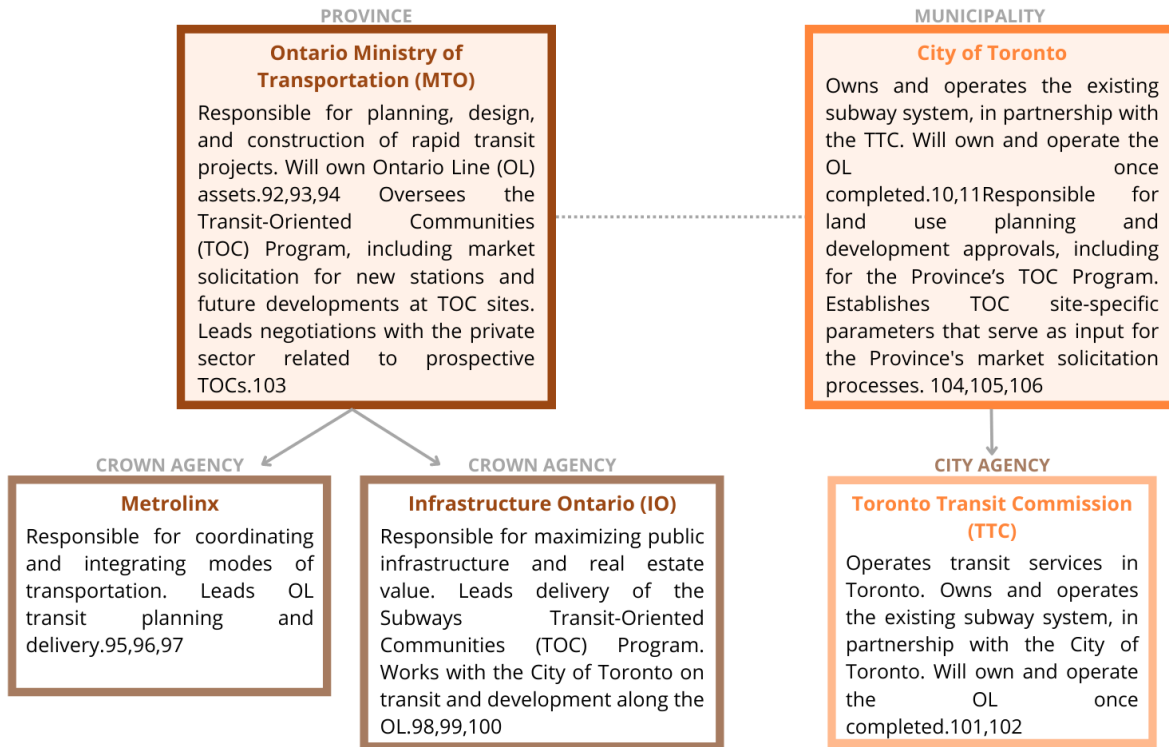


Figure 11: Exhibition Station TOC Proposal.⁹²

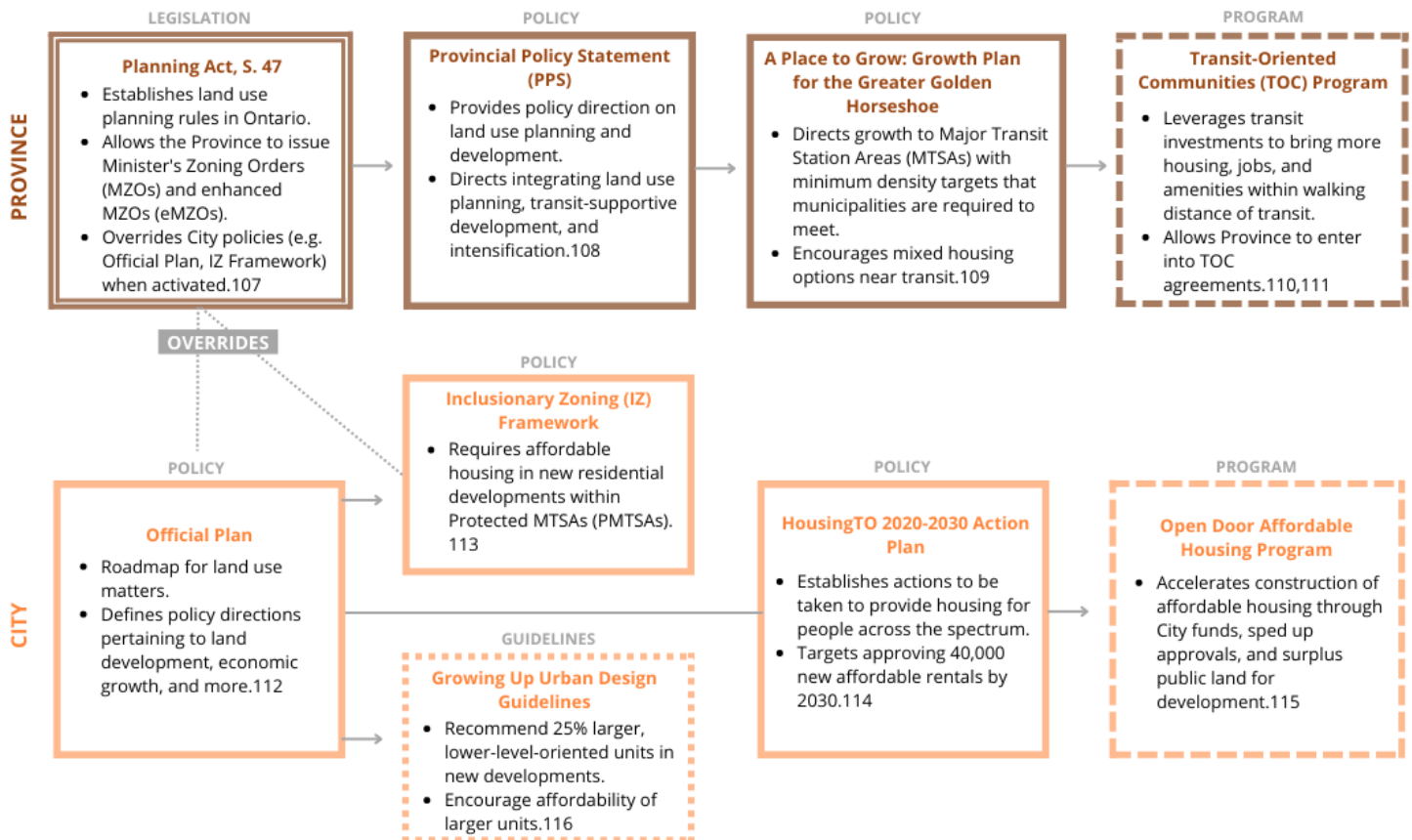
5 Exhibition Station is located on Dish with One Spoon and Treaty 13 territory. It is the traditional territory of many Nations, including the Anishinaabe, Haudenosaunee, Chippewa, Wendat, and Mississaugas of the Credit First Nation.

6 The Province of Ontario refers to station-integrated developments constructed with new transit projects as Transit-Oriented Communities (TOCs).

Governance Context



Supportive Legislation, Policies, Programs & Guidelines



Existing Site Context

Neighbourhood Context	Liberty Village: characterized by industrial-commercial uses and some mixed-used residential (Figure 12). ¹¹⁹ Located in Core Employment Area. ¹²⁰
Area Density	148 people and jobs per hectare (PPJ/Ha). ¹²¹
Transit Connectivity	Transit hub connecting to commuter rail, streetcar, and bus service, and the future OL subway. ¹²²
Site Area	7,941 sq.m (4,742 sq.m developable). ^{123, 124}

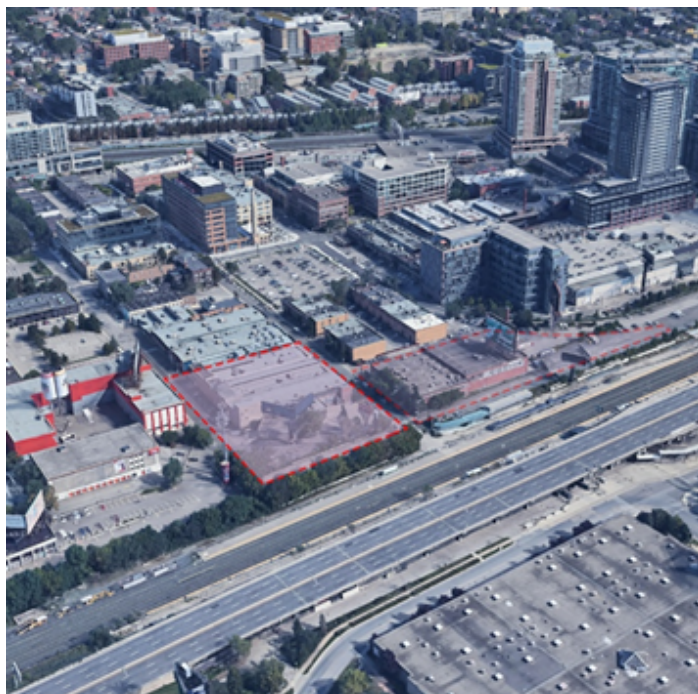


Figure 12: Current Exhibition Station TOD Area.

Proposed Development

Size of Development	Total Gross Floor Area (GFA) 38,008 sq.m. Building height of 21 storeys (72m). Floor Space Ratio (FSR) of 8.0. ¹²⁵
Development Uses	Mixed residential, commercial retail, office, and transit uses (Figures 13 and 14).
Development Details	<ul style="list-style-type: none"> • Liberty New Street planned for south of the development to improve east-west connections.¹²⁶ • Exceeds Growing Up Design Guidelines by 11%.¹²⁷ • Other amenities: 112 parking spaces, 482 bicycle spaces, and possibly a daycare.¹²⁸



Figure 13: Proposed Exhibition Station TOD (Jefferson Site).

Form of Integration: Fully integrated with some station overbuild

- The Jefferson TOC site will be fully integrated with Exhibition Station. The design proposes an at-grade station entrance and headhouse in the development, connected to the station via an above-grade pedestrian bridge (Figure 15).¹²⁹
- The City did not have any input into the building envelope assumptions for partial overbuild that are informing the transit planning.

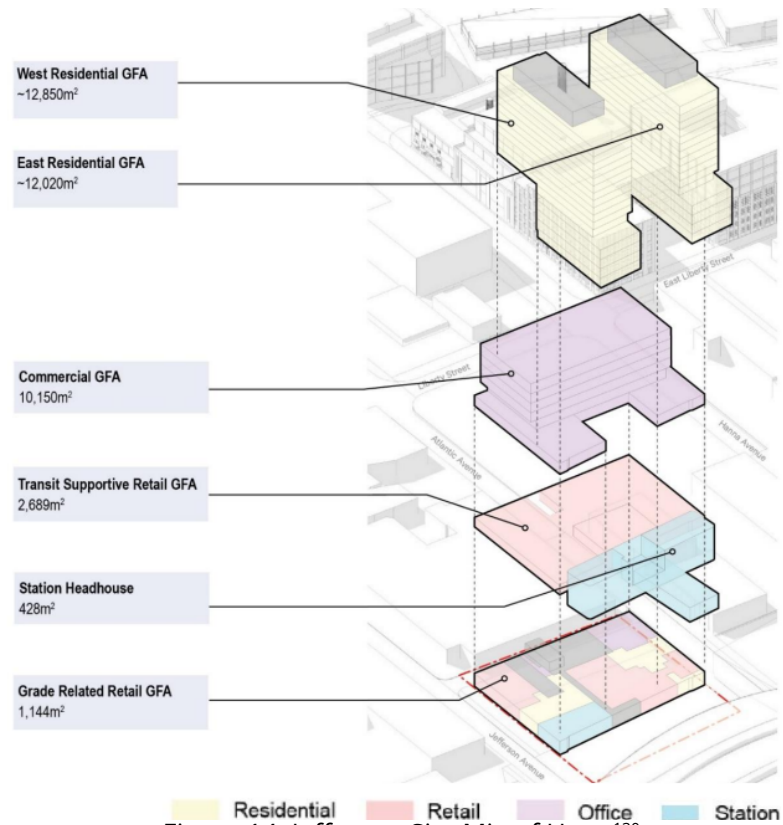


Figure 14: Jefferson Site Mix of Uses.¹³⁰

Concept	Definition	Exhibition Station
Major Transit Station Areas (MTSAs)	Areas within a 500-800m (10-minute walk) radius of a planned or existing transit station. ~180 MTSAs identified by the City of Toronto.	Exhibition Station MTSA
Existing density	Existing density tracked by the City at each MTSA.	148 people and jobs per hectare (PPJ/Ha)
Minimum density targets (Province)	Prescribed by the Province of Ontario for each MTSA.	150 PPJ/Ha
Minimum density targets (City)	Proposed by the City, based on the Province's minimum density target. ^{131, 132}	250 PPJ/Ha

Phasing of Integration: Development construction to begin after completion of the Ontario Line

- Once construction of Exhibition Station is complete, development construction will begin.¹³³

Project Status: Development construction anticipated to begin in 2029

- The Ontario Line is anticipated to be completed in 2027. The TOC development is expected to begin thereafter (Figure 16).^{134, 135}



Figure 16: Jefferson Site TOC Timeline.

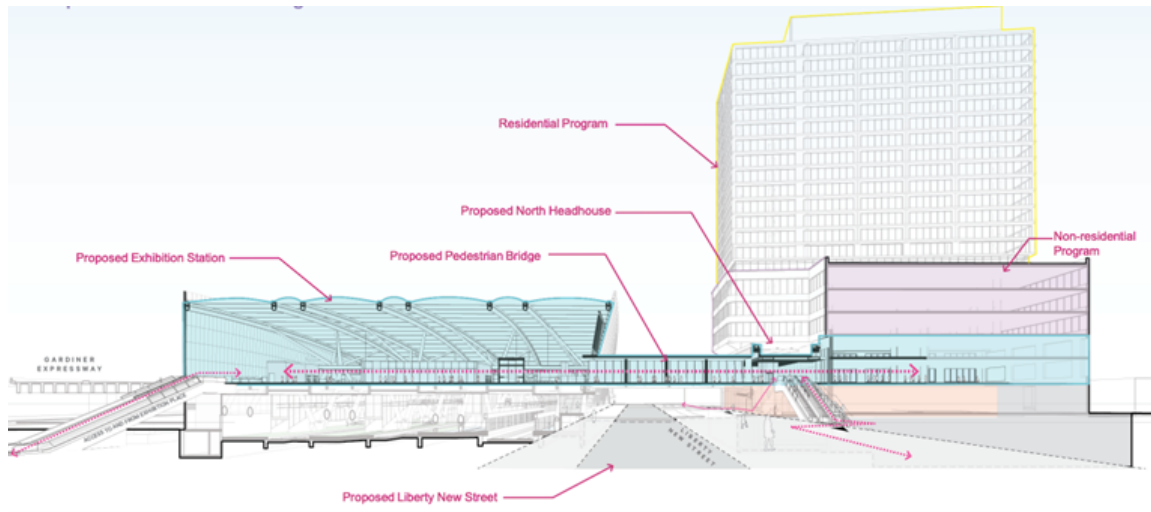


Figure 15: Jefferson Site Transit Integration.¹⁴⁰

Project Cost: Unknown

- The project is not yet far along enough to have cost estimates.

Land Ownership: Privately owned, to be acquired by Metrolinx

- The Jefferson Site is currently occupied by privately-owned industrial warehouse buildings. It will be acquired, through expropriation as needed, by Metrolinx for subway construction and operation activities.^{136, 137}
- Once the site is ready for the development construction, the Province will sell the TOC property to a private developer, retaining its infrastructure either through an easement or a strata title (to be confirmed).
- The Province only acquires land required for transit in the TOC Program.

The City of Toronto’s **Transit Design Guide** establishes guidelines to achieve high-quality design outcomes for transit infrastructure. The Guide first and foremost encourages integrating rapid transit infrastructure with the urban fabric. It suggests enhancing place-making and connectivity with the local area and encourages anticipating future structural integration of transit infrastructure with development.¹⁴¹

The Province of Ontario’s **Transit Oriented Communities Design Guidelines** provides strategic and technical guidance on integrating subway stations with development. They outline design concept considerations, serving as a framework for developers and other stakeholders.¹⁴²

Delivery Model: “Collect and compete” model, with confirmed use of MZO and possible use of eMZO

<p>“Collect and Compete” Model</p>	<ul style="list-style-type: none"> • IO works with private partners to advance TOC developments through the “collect and compete” model. • Tendering process searches for a partner for properties not currently owned by a viable developer.
<p>Minister’s Zoning Order (MZO)</p>	<ul style="list-style-type: none"> • To achieve zoning certainty, Province has issued a Minister’s Zoning Order (MZO) for the Exhibition Station TOC site. • Will assist IO in marketing properties to developers once subway construction is complete.¹³⁸ • Province required to obtain buildings permits for the project through an accelerated City review and approval process.
<p>Enhanced Minister’s Zoning Order (eMZO)</p>	<ul style="list-style-type: none"> • Province may issue an enhanced MZO (eMZO) to replace site plan process with a development agreement. • With a development agreement, it is not guaranteed that the City could charge development fees or require standard supporting documentation, as it would in the case of site plan agreements.¹³⁹

For **GO commuter rail TOC projects**, the Province seeks developers to build transit stations, to then be integrated with development. The goal is for developers to both pay for and build the stations on behalf of Metrolinx. By providing supportive infrastructure, developers can justify more density than they would have achieved without the station. On occasion, developers have used their connections with the Province to pressure the City into allowing additional height and density, suggesting that it is needed to pay for transit infrastructure.

Minister’s Zoning Orders (MZOs) override a municipality’s zoning by-laws and allow the Provincial Minister of Municipal Affairs and Housing to regulate land use, buildings, and structures on a specific site.¹⁴³ **Enhanced MZOs (eMZOs)** provide the Minister with additional authorities, including granting the Province with the power to replace site plan processes with development agreements.¹⁴⁴ The City’s site plan process concludes with a site plan agreement, which defines the conditions of development that are registered onto property. By contrast, eMZOs conclude with a development agreement negotiated by the Province between the developer and the City, which is usually a one-time agreement that is not registered onto the title of the property.

The **Value Allocation Framework (VAF)**, to be used if the Province issues an eMZO, will identify how some of the value created by the Province in TOC developments will feed into community benefits and public infrastructure enhancements. These allocations might take the form of community benefits, affordable housing, and in-kind developer contributions.¹⁴⁵ Where the City’s IZ requirements are met, the City’s Open Door Affordable Housing Program may provide an opportunity to increase the number of affordable units or depth of affordability at TOC sites.¹⁴⁶

Affordable Housing

Provision Amount	To be determined. <ul style="list-style-type: none"> • If the Province issues an eMZO, Exhibition Station will be exempt from the Inclusionary Zoning (IZ) Framework, to be replaced with a Value Allocation Framework (VAF) specific to the TOC Program. The VAF may be informed by the IZ Framework. • The Province is working with the City to determine the amount of affordable housing to be provided at each TOC site. It has confirmed that it will allocate up to 8% of the TOC value toward affordable housing and community services and facilities.
Depth of Affordability	To be determined.
Duration of Affordability	
Target Population	

Additional Equity Considerations: Families, possibly women and girls

- Beyond low-income households as defined in the IZ Framework, it is unclear whether the Exhibition Station TOC will look to target other equity-deserving groups.
- IO's intends to surpass the City's **Growing Up Urban Design Guidelines'** target of having 25% family-friendly units in new developments, meaning the TOC site will aim to address the needs of families.
- The HousingTO 2020-2030 Action Plan aims for 25% of new affordable rental homes to be dedicated to women and girls. This may inform development conditions.¹⁵¹

Displacement Mitigation: Not applicable

- Jefferson site does not currently have any existing rental housing.¹⁵²

Displacement mitigation measures will apply to other TOC sites with existing rental housing. Following the intent of the City's Official Plan policy 3.2.1.6., rental units removed through a subway project would be replaced through the TOC development following completion of the transit project. Given the longer development timelines for TOC projects, tenants would not have the right to return to the replacement rental units. It is anticipated that tenant assistance plans would include additional compensation or opportunities for securing alternative rental housing in the area to minimize the burden of displacement.¹⁵⁰

The **Inclusionary Zoning (IZ) Framework** initially requires that 5-10% of units in new developments be affordable rental or ownership housing, with a fully phased-in requirement of 8-22% by 2030. It applies to areas within Protected Major Transit Stations Areas (PMTSAs), subsets of MTSAs.¹⁴⁷

In the IZ Framework, affordable rental means that the total monthly shelter cost is at or below the lesser of one times the average City of Toronto rent or 30 percent of the monthly income of renter households in the City for the target population. The duration of affordability is 99 years from the date of the first residential occupancy of the unit.¹⁴⁸ The target populations in the IZ Framework are one-person households at or below the City's 50th to 60th percentile of income, and two- to three-person households at or below the 60th percentile of income.¹⁴⁹

Enabling Factors

MZOs and eMZOs

- MZOs provide greater certainty throughout the procurement process as they facilitate the selection of development partners and limit the risk of appeal. They allow TOC projects to advance even if they do not comply with City policies.
- When used in a collaborative manner including extensive consultation with the City, MZOs can expedite development approvals and allow for more efficient development integration with transit stations.
- The City of Toronto's Transit Design Guide is a tool to advocate for place-making outcomes the City wishes to see, despite their powers being overridden by the Province.
- The TOC VAF model, which stems from the eMZOs, creates more opportunities for affordable housing near transit, as not all future TOC sites will be located in IZ areas. If the TOC Program were beholden to the IZ Framework, some opportunities for affordable housing near transit could be missed.

A Place to Grow: Growth Plan for the Greater Golden Horseshoe

- A Place to Grow is what enables the City to implement density targets in MTSAs and PMTSAs. It provides guidance for station-integrated development, focusing on housing and affordable housing.

Transit-Oriented Communities (TOC) Program

- The TOC Program is crucial to enabling station-integrated development, as it provides the Province with the tools necessary to coordinate development with the City and with private partners before transit projects are completed.

Official Plan

- As part of their ongoing Official Plan Municipal Comprehensive Review Process, the City of Toronto is bringing forward the draft 180+ MTSAs to plan for transit-oriented communities and accommodate minimum densities at transit stations.¹⁵³
- Establishing a plan to meet these minimum densities will support the Province's TOC Program and create new opportunities for station-integrated development.

Inclusionary Zoning (IZ) Framework

- Although the Exhibition Station TOC is exempt from the IZ Framework, it establishes a baseline from which to negotiate affordable housing in development.
- The IZ Framework will spur new opportunities for station-integrated affordable housing in other developments that do not fall within the TOC Program.

HousingTO 2020-2030 Action Plan

- To achieve the target of 40,000 new affordable rentals by 2030, the Plan encourages the City to develop strong relationships with other orders of government, the private sector, and non-profit organizations, providing mechanisms to advance the TOC Program.

Growing Up Urban Design Guidelines

- Although the Guidelines are not binding, the City has Council direction to advance them in development approvals.
- The Guidelines advance equity goals by targeting families, encouraging large affordable units in high-density buildings more likely to occur in station-integrated developments.

Challenging Factors

Process Challenges

eMZOs as Risk to Developers

- While eMZOs can facilitate the development of more affordable housing near transit, they can also pose more risk to developers. The City of Toronto often does not have much influence on the development agreements that result from eMZOs. On occasion, the City will refuse to sign a development agreement without having been given the opportunity to review plans.
- If the Province bypasses the City's refusal and authorizes the development, the developer runs the risk that their building permit will not be approved by the City.

Modified City Processes

- MZOs do not allow the City to rely on their normal processes to review and approve development projects. This forces the City to modify its processes, which can be challenging when multiple Divisions are involved.
- Given that they override City policies, MZOs result in the City having less control in the form and use of development.

Priority and Timeline Misalignment

- There is a misalignment between new transit projects, which are catalysts for development, and the planning framework to review and approve developments.
- The City would ideally want to undertake corridor studies and/or plans as part of the environmental study process for new transit projects. This would allow the City to be prepared for developer interest following the announcement of transit projects.
- The Province has not funded corridor plans in the TOC Program and is not waiting for the City to undertake such studies.

Governance Challenges

Difficulty Securing Long-Term Commitments

- Because the Province can override the City on any matter, it is difficult for the City to secure commitments, particularly long-term. The City has been told that they cannot make any commitments that would fetter a future government. This is especially challenging given the timelines for transit and TOC projects, which involve more than one government.

Lessons Learned

Station-integrated affordable housing at transit hubs maximizes the potential of such sites.

- In North America, the majority of station-integrated development occurs at stations connecting to only one transit line.
- The Exhibition Station TOC is a transit hub that will connect to multiple transit lines. Although complicated, developing affordable housing at transit hubs is a promising way of connecting low- to moderate-income households to a much larger area, increasing employment opportunities and reducing the cost of living.
- It can be especially valuable to develop at high densities near transit hubs, to maximize the value of both the hub and the development.

Involvement of senior orders of government can enable station-integrated development.

- The Province of Ontario plays a central role in realizing TOCs as part of the OL. The provincial government may be less beholden to the public than local governments, which can result in unpopular decisions being more feasible when made by the Province.
- Having the ability to buy land specifically for TOCs and the decision-making authority over both transit and land use through MZOs are factors allowing for the creation of station-integrated development. It provides a higher level of certainty to developers, who know that they will receive rezoning or development approval earlier on than in typical approval processes.
- Despite the benefits that can be gained from provincial involvement in land use decisions, it can also have shortcomings from a design perspective when there are no design guidelines in place to provide direction. The City of Toronto's efforts at providing design guidance, through the Transit Design Guide, for instance, can offset the downsides to the Province overriding municipal authority.

Intergovernmental relationships are key to advancing major station-integrated developments.

- The TOC projects are challenging the status quo of how development is done in the City of Toronto. These challenges to the status quo, such as MZOs, can be seen as friendly when they emerge through collaboration or as antagonistic when they do not.
- To establish trust and build relationships around these risky, potentially fraught projects, staff from the City and the Province meet consistently, allowing relationships to evolve over time.
- Despite the unequal power relationship that exists, the City has been able to influence outcomes and secure some of its interests in the TOC projects through productive relationships.
- These relationships allow orders of government to learn from one another, hopefully improving processes in the future.

SEATTLE, WASHINGTON

North Site, Capitol Hill Station

An equity-focused station-adjacent development planned extensively with the community and achieving significant affordable housing through a City of Seattle-Sound Transit Development Agreement.

The Capitol Hill North Site is a Transit-Oriented Development (TOD)⁷ adjacent to the Capitol Hill Station.⁸ The station is part of the 3.1-mile University Link light rail extension, completed in 2016, that provides service between downtown Seattle, Capitol Hill and the University of Washington (Figure 17).¹⁵⁴

The Capitol Hill North Site is made up of four parcels of land: sites A, B-North, B-South, and C (Figure 18). Sites A, B-South, and C have been developed into residential buildings comprising primarily luxury rental units, with 21% affordable rental homes.¹⁵⁵ A residential building (Station House), composed of 100% affordable rental housing, is located on site B-North.¹⁵⁶



Figure 17: Link Light Rail Line 1.¹⁵⁷

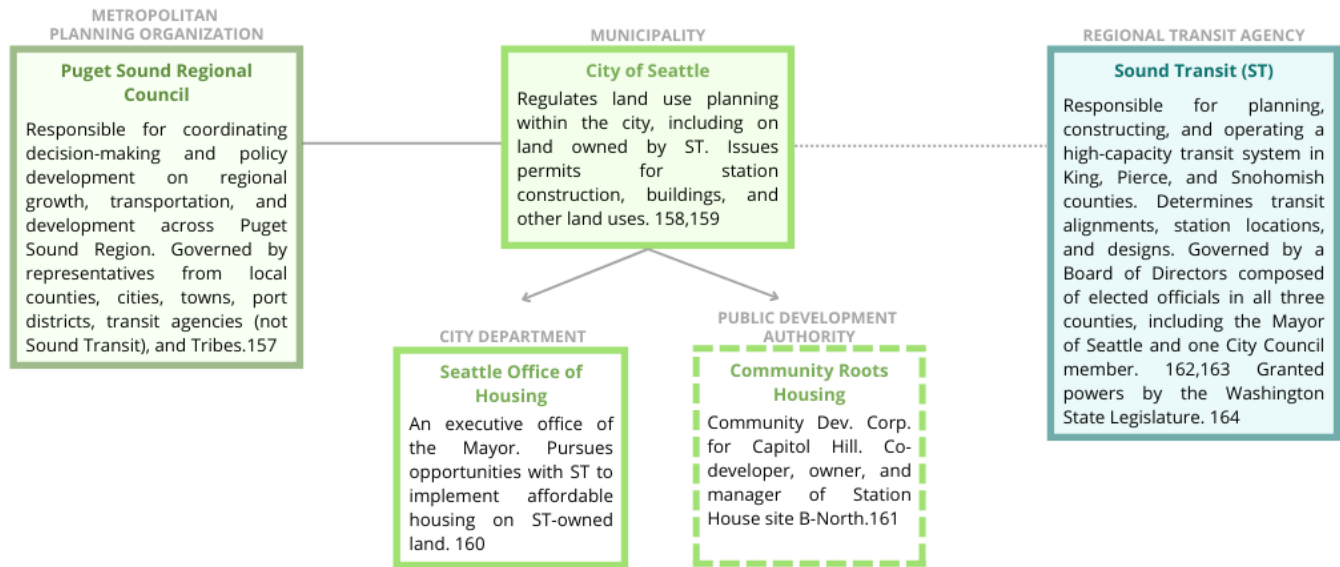


Figure 18: Capitol Hill North Site.¹⁵⁸

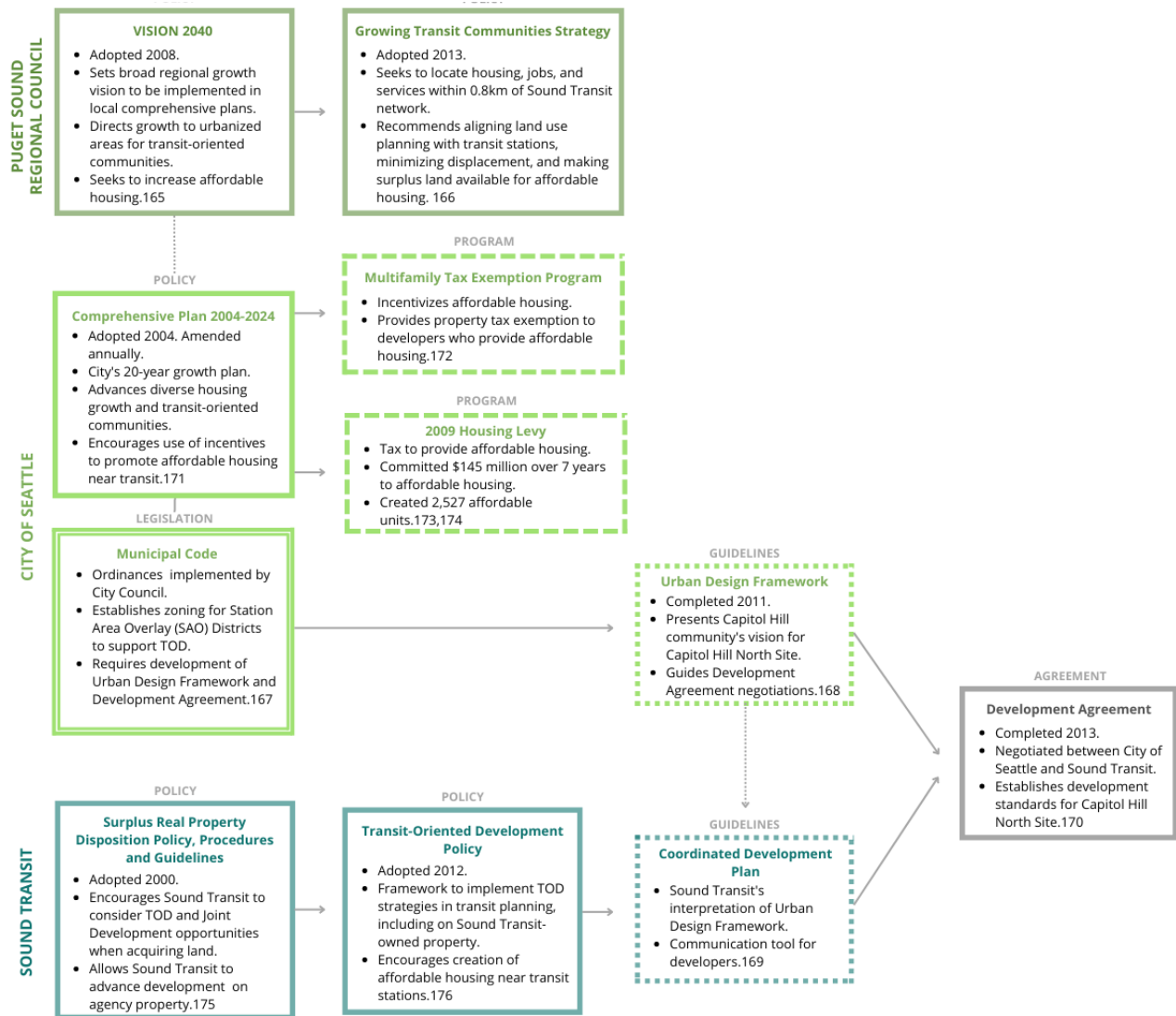
7 Sound Transit and the City of Seattle refer to station-integrated development as Transit-Oriented Development (TOD).

8 Seattle is located on the traditional, unceded lands of the Duwamish People.

Governance Context



Supportive Legislation, Policies, Programs & Guidelines



Existing Site Context

Neighbourhood Context	Capitol Hill neighbourhood: densely populated hub for Lesbian, Gay, Bi, Trans, Queer+ (LGBTQ+) population. ¹⁸⁴ Characterized by mid-rise residential/commercial buildings and single-family homes. High-density multi-family and mixed-use zoning (Figure 19). ¹⁸⁵
Area Density	79 households and 118 jobs per hectare existing density. ¹⁸⁶
Transit Connectivity	University Link north-south light rail Line 1. First Hill streetcar line. ¹⁸⁷
Site Area	Total 2.37 acres (A, B-South, and C: 2 acres; B-North: 0.37 acres). ¹⁸⁸



Figure 19: Capitol Hill North Site Pre-Development.

Proposed Development

Size of Development	428 residential units across four buildings. ¹⁷⁹ GFA of 39,738 sq.m. ¹⁸⁰ Building heights between 22.5m and 26m (6-8 storeys) (Figure 20). ¹⁸¹ FSR of 4.41.
Development Uses	Mixed residential and commercial with community amenities (Figure 21).
Development Details	<ul style="list-style-type: none"> • Retail and residential uses in sites A and C. Sites B-North and B-South exclusively rental residential. • 1/3 of the residential units suitable for families.¹⁸² • 210 underground parking spaces for all buildings. • Additional amenities: bike racks, community centre, daycare facility, public plaza, AIDS Memorial Pathway, farmers' market.¹⁸³



Figure 20: Capitol Hill North Site Development.

The City of Seattle's **2004-2024 Comprehensive Plan** identifies different neighbourhood character types to plan for future growth, which are further developed in the 2035 Comprehensive Plan.^{189, 190}

Type	Urban Center (Capitol Hill)
Characteristics	Located within 0.8 km of high-capacity transit. Densest neighbourhoods. Mixed-use zoning.
Density Targets	<ul style="list-style-type: none"> • 15,000 jobs within 0.8 km of transit. • 123.5 jobs and 37 households/hectare.

Form of Integration: Adjacent to station

- Developments not directly integrated with station.
- Some sites immediately adjacent to the station (Figure 22), but station entries all separate from developments with no cantilevering over the station.
- Integration limited due to station receiving permit before beginning Development Agreement negotiations. Permit changes to integrate development were not possible (see Challenging Factors below).¹⁹¹

Phasing of Integration: Development construction began after completion of the University Link light rail extension

- While ST aimed for all sites to be under construction by the time light rail services began,¹⁹² development of the North Site only commenced after the rail extension was completed. This was in part due to the timeline lag between station and development permit approval.

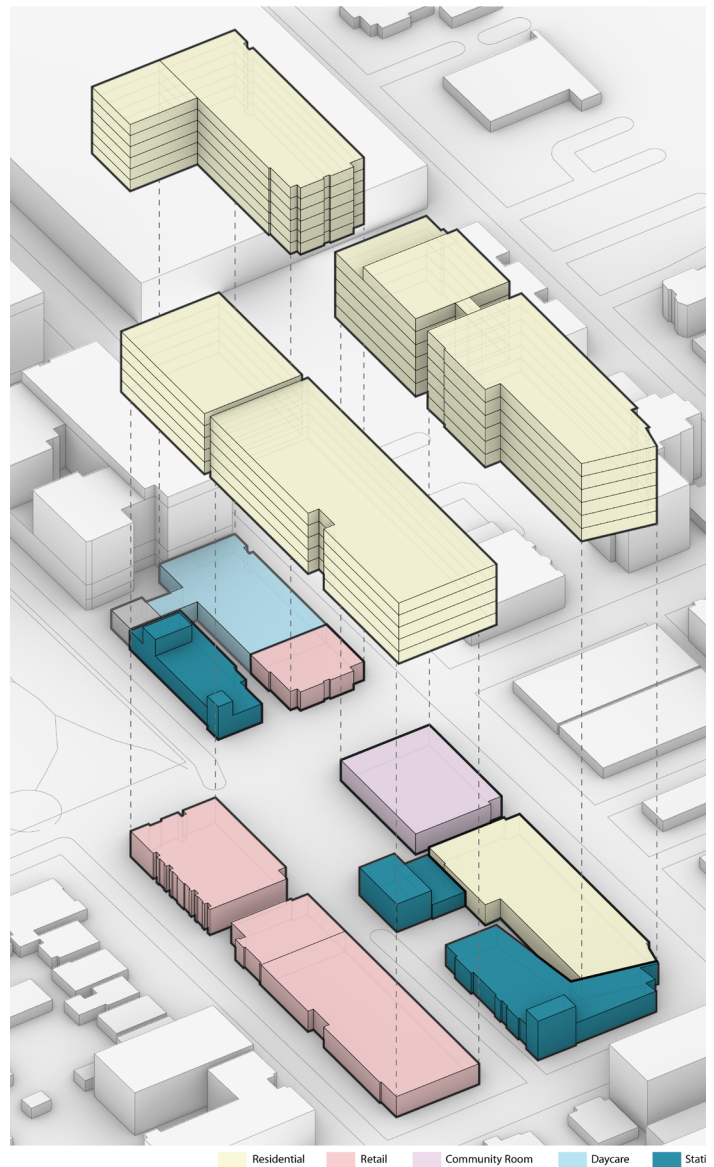


Figure 21: Mix of Uses of Capitol Hill North Site TOD.



Figure 22: Capitol Hill Site A shares a wall with the station but is not built or cantilevered above the station.¹⁹³

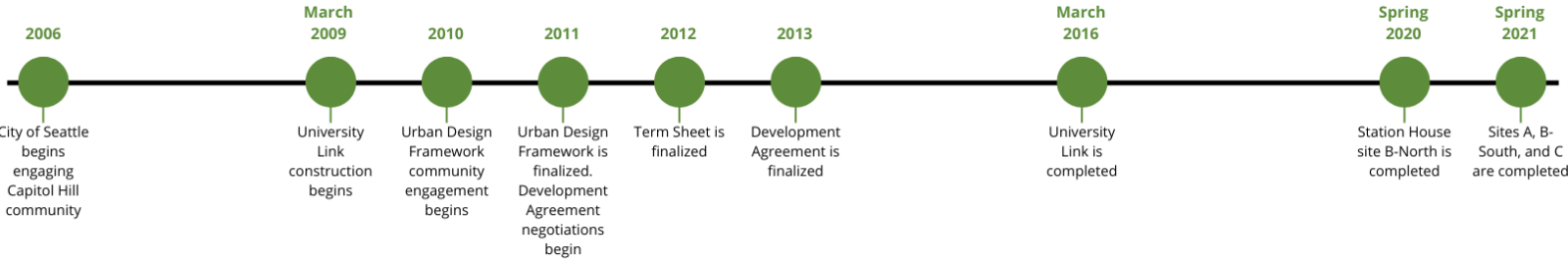


Figure 23: Capitol Hill North Site TOD Timeline.

Project Status: Station and developments completed

- The University Link light rail extension was completed in 2016.¹⁹⁴
- Station House site B-North was completed in Spring 2020, and sites A, B-South, and C were completed in Spring 2021 (Figure 23).¹⁹⁵

Project Cost: \$211 million, including land and development costs¹⁹⁶

- \$175 million for sites A, B-South, and C.
- \$36 million for Station House site B-North (\$2.65 million for land,¹⁹⁷ \$33.35 million for development).

Land Ownership: Station owned by ST. 99-year ground leases for sites A, B-South, and C. Ownership by Community Roots Housing for Station House site B-North

- The Capitol Hill station box and entrances are owned by ST.
- Edlen & Co., the Master Developer selected for all four sites, holds 99-year ground leases for sites A, B-South, and C, and ownership remains with ST.¹⁹⁸ ST holds a TOD/Transit Operations Covenant with Edlen & Co. on these sites, allowing the agency to have access to the public plaza and the station box below.¹⁹⁹
- Station House site B-North is owned by Community Roots Housing, Edlen & Co.’s co-developer for the site.

The **Urban Design Framework** is the Capitol Hill community’s vision for the North Site. The City began engaging the Capitol Hill community in 2006 pertaining to the North Site. Engagement to develop an Urban Design Framework for the ST-owned properties began in 2010 and the Framework was finalized in 2011. The City met regularly with a group of volunteer community members called the Capitol Hill Champion throughout the process. Recommendations from the Framework include:

<p>Retail, service, and community space</p>	<ul style="list-style-type: none"> • Diverse and active retail uses to accommodate retailers at a variety of rental and ownership costs. • Community gathering space for community meetings. Office spaces for non-profits. Services for the LGBTQ+ community.
<p>Housing</p>	<ul style="list-style-type: none"> • Housing to benefit, rather than displace, the community. • At least 50% of units should be affordable for at least 50 years to households at or below AMI 80%. • Units should target the needs of seniors, families, and artists.
<p>Bicycle and car parking</p>	<ul style="list-style-type: none"> • Bicycle parking to serve a variety of users (short-term and long-term parking). Provide 169 parking spaces by 2016 and 336 spaces by 2020. • Unbundle car parking costs from building rent costs. • Provide less than 0.7 car parking stalls/housing unit.²⁰⁰

Delivery Model: Development Agreement resulting in a competitive RFP process and joint development project

Station Area Overlay District (SAO)	<ul style="list-style-type: none"> • Capitol Hill North Site located in Station Area Overlay District zone. • SAO zoning permitted ST to enter into Development Agreement (DA) to develop property owned by ST for purpose of constructing light rail stations.²⁰¹ • ST required to sell surplus property at fair market value.²⁰²
Urban Design Framework & Coordinated Development Plan (CDP)	<ul style="list-style-type: none"> • SAO zoning required City to involve community in creating Urban Design Framework to inform DA negotiations. • Framework served as a tool for City to work with ST to achieve community's vision. Completed in 2011.²⁰³ • ST created Coordinated Development Plan (CDP) as interpretation of Urban Design Framework. • CDP encouraged developers to comply with Framework's vision, while building in flexibility to adapt to market conditions.²⁰⁴
Term Sheet & Development Agreement (DA)	<ul style="list-style-type: none"> • Term Sheet and Development Agreement guided by Urban Design Framework. • Term Sheet outlined items to be negotiated in good faith in DA, such as affordable housing, site density, and community amenities.²⁰⁵ Completed in 2012. • City and ST negotiated DA over two years. Finalized in 2013.
Competitive Joint Development Process	<ul style="list-style-type: none"> • ST put out competitive Request for Proposals (RFP) to dispose of site. City allowed to participate in RFP process in order to evaluate proposals and offer funding. • City expedited permit review process for North Site.²⁰⁶ • Site B-North disposed of in cooperation with City's Office of Housing (OH) to build 100% affordable housing. OH provided \$8.7 million in funding through 2009 Housing Levy. King County provided additional \$4.7 million.²⁰⁷ • ST received joint development approval from Federal Transit Administration (FTA) after developer selected. • ST purchased North Site using FTA funds. Joint development allowed agency to retain FTA interest in land and use land lease revenue to fund transit operations or capital expenses.²⁰⁸

The **Seattle Housing Levy** is a levy accumulated by taxing Seattle residents to provide affordable housing to low-income households. For each dollar contributed by the City in rental housing, an additional \$3 is leveraged from other public, private, and philanthropic sources. The 2009 Housing Levy committed \$145 million over 7 years to affordable housing, homelessness prevention, and affordable homeownership. The 2009 Housing Levy succeeded in creating 2,527 affordable rental units and was renewed for the 2016-2023 period.^{209, 210, 211}

Affordable Housing

<p>Provision Amount</p>	<ul style="list-style-type: none"> • 42% of units (178 apartments) below market-rate rentals.²¹² • Station House site B-North: 100% affordable housing (110 units). • Sites A, B-South, and C: 21% affordable rental housing (70 units). This was made possible by requiring in the DA that the developer participate in the Multifamily Tax Exemption (MFTE) Program.²¹³
<p>Depth of Affordability</p>	<ul style="list-style-type: none"> • Station House site B-North: Unclear. Possibly 35% less than Capitol Hill rental averages or 30% or below the Area Median Income (AMI).^{214, 215} • Sites A, B-South, and C: Unknown.
<p>Duration of Affordability</p>	<ul style="list-style-type: none"> • Station House site B-North: 50 years.²¹⁶ • Sites A, B-South, and C: 12 years.²¹⁷
<p>Target Population</p>	<ul style="list-style-type: none"> • Station House site B-North: Households making 30-60% AMI.²¹⁸ • Sites A, B-South, and C: Households making 65-85% AMI.²¹⁹

The **Development Agreement** (DA) established development standards for the Capitol Hill North Site. Some aspects that were negotiated and incorporated into the DA include:

- Maximum building heights and allowable density bonusing of 3m (1 storey) in height at site A and C, and 14m (4 storeys) at site B, in exchange for affordable housing. Maximum heights including density bonusing: 26m;
- Site B-North to be developed exclusively as affordable housing. Units to be constructed to the same quality as market-rate units;
- Publicly accessible plazas available for community events. This amenity was negotiated in exchange for not developing over top the station box on site A, to which ST wanted to preserve maintenance access; and
- Maximum car parking of 0.7 stalls per residential unit.²²⁰

The City of Seattle offers the **Multifamily Tax Exemption (MFTE) Program** to developers to incentivize affordable housing. It provides full property tax exemptions on multifamily housing for 8-20 years in exchange for 20-25% below market-rate housing for low- to middle-income households.^{221, 222, 223} Developers are still required to pay tax on the land and the commercial portion of their development, if applicable, under the MFTE Program.

In 2019, the City of Seattle implemented **Mandatory Housing Affordability** (MHA) zoning in all urban villages and multi-family and commercial zones. MHA requires new buildings to either include 5-11% of affordable housing for low-income households or to contribute \$5-\$32.75 per square foot to the Seattle Office of Housing fund to support affordable housing. This land use tool seeks to mitigate displacement of low-income people and communities of colour by increasing housing choices and jobs within a 5-minute walk of transit in areas at high risk of displacement.²²⁴

Additional Equity Considerations: Low-income families, LGBTQ+ seniors at nearby site

- The onsite daycare offers subsidized care targeting low-income families (30-60% AMI).²²⁵
- Capitol Hill South Site, a distinct TOD project close to the station and the North Site, targets low-income LGBTQ+ seniors in response to the existing neighbourhood community.

Displacement Mitigation: Affordable local business space

- Besides affordable housing, the Capitol Hill Champion group recommended incorporating affordable local business space⁹ into the North Site TOD to mitigate displacement.²²⁶ The recommendation resulted in making the plaza available to community organizations and the Farmers' Market.

ST considers TOD opportunities throughout all phases of its transit projects, from early system planning through to operations. The agency incorporates TOD feasibility and design criteria throughout its decision-making process, including considering how transit facilities can facilitate the creation of community-oriented public spaces. It engages with local communities in the planning and design of TOD station areas.

ST's **Equitable Transit-Oriented Development Program**, adopted in 2018, requires that at least of 80% of the agency's surplus property be offered for residential development, with 80% of units being affordable to those earning 80% of AMI. The program allows ST to discount land values to support the creation of affordable housing. Property titles under this program have covenants ensuring that units remain affordable for at least 50 years. The Capitol Hill North Site project predates this program.^{227, 228}

The Capitol Hill South Site is a second TOD project proximate to the station and to Seattle Central College. In 2018, ST entered into a property exchange agreement, exchanging the South Site for the College's Atlas site in order to advance an equitable transit-oriented development on the latter site.

Atlas site is located 600m from Capitol Hill Station. It will house Pride Place, an affordable housing development for LGBTQ+ seniors developed by Community Roots Housing (Figure 24). The development will include an onsite resource centre and 118 units targeting seniors making 30-60% AMI.²²⁹



Figure 24: Capitol Hill South Site.²³⁰

⁹ Affordable local business space refers to space available to retailers at a range of rental and ownership costs. The group also recommended prioritizing office space for non-profits.

Enabling Factors

Sound Transit Property and TOD Policies

- ST's Surplus Real Property Disposition Policy allowed the agency to consider TOD opportunities when acquiring property. Acquiring lands amenable to TOD near the future Capitol Hill Station allowed the community to engage early on about its vision for the site, and for the site to be developed into a TOD.
- ST's Transit-Oriented Development Policy encouraged the creation of affordable housing on sites near transit stations, including on ST-owned property. It may have informed ST's approach to DA negotiations.

FTA Joint Development Program

- The FTA's Joint Development Program provided ST with 41.7% of the funds necessary to purchase the North Site adjacent to Capitol Hill Station.²³¹ Without the funds, the North Site TOD may not have been realized.

Station Area Overlay (SAO) District Zoning

- SAO zoning permits the negotiation of Development Agreements for sites near transit stations owned by ST. This allows for a parallel process distinct from typical land use and development approval processes that acknowledges the unique considerations required to realize station-integrated development. In the case of Capitol Hill Station, SAO zoning was foundational to enabling a community-led TOD project.

Urban Design Framework

- The Urban Design Framework is an equity-based document, incorporating the visions of diverse members of the Capitol Hill community.
- The community was already very engaged with City processes and had the capacity to be heavily involved in the TOD development, which was an asset to the City.
- The Framework guided the City's negotiations with ST on the DA. It proposed ambi-

tious goals, such as achieving 50% affordable, which provided the City with leverage to require the use of the MFTE Program on sites A, B-South, and C.

- Without the Framework, the project might not have achieved such a high provision of affordable housing or displacement-mitigating affordable local business spaces.

Development Agreement (DA)

- The DA is a binding, public-facing document that alerted developers as to what was being expected on the North Site.²³²
- Allowing such a significant density bonus (112% original building height) on site B-North through the DA is what enabled the creation of a building developed exclusively as affordable housing.
- The DA provided developers with increased certainty and predictability as it ensured regulatory approvals on the sites, enabling development.

2009 Housing Levy and King County Funding

- The 2009 Housing Levy, as well as the additional funds contributed by King County, provided the financing necessary to create an entirely affordable rental development on high-value land adjacent to the Capitol Hill Station. Without the funds committed, the development of Station House site B-North likely would not have been possible.

Multifamily Tax Exemption (MFTE) Program

- While the City did not directly contribute funds to sites A, B-South, and C, the MFTE Program is an investment of sorts by the City as it provides a break in municipal property taxes to developers.
- Requiring the use of the MFTE Program allowed for the development of a greater number of affordable housing units, nearing the community's vision of 50%.

Challenging Factors

Process Challenges

Community Engagement

- While the Urban Design Framework was instrumental in achieving community-based TOD outcomes, the community engagement process was very lengthy and likely not replicable for future projects.
- Had the community had a seat at the table in negotiations with ST, be it through an ST-led engagement or an appointed community committee, the process may have been more efficient than having the City represent the voice of the community.

DA Negotiations

- The City had only negotiated a DA once before the Capitol Hill negotiations, while ST had some prior experience with other municipalities (e.g., the City of SeaTac) on such negotiations.
- In trying to achieve as much of the community's vision as possible, staff involved in the negotiations reflected that the DA might have become more detailed than necessary. Negotiating the agreement took longer than both agencies had expected.

Timeline Misalignment

- The depth of integration of the station with development was limited due to a timeline misalignment between the station and development permit approvals. Once the station permits had been received, ST was not keen on revisiting design work for the Capitol Hill station, which would have required re-applying for a permit.
- Had the timelines been more aligned, there would have been a smaller lag between completion of the transit project and the developments.
- To address timeline challenges, ST has created a new TOD team that will endeavour to align development and transit project completion. The team will attempt to ensure that funding is available once they have land ready to be developed.

Governance Challenges

Different Constituents

- While ST and the City have similar goals, their missions are ultimately different. ST's mission is to provide transit and serve their many jurisdictions, which include rural and urban communities. Meanwhile, the City's jurisdiction is much narrower, while their mission to reflect community visions is much broader.
- Although both agencies want to achieve transit and TOD, they are each responsible for advancing their respective missions and reflecting the wants of their constituents. This led to longer DA negotiations than anticipated as staff sometimes discovered misalignment on detailed items (e.g., formal requirements for specific funding contribution amounts), even though there was overarching alignment on broader goals for the Capitol Hill North Site (e.g., providing affordable housing).

Lessons Learned

Having a very involved community engaged in TOD creation can lead to exciting outcomes.

- Rather than simply being a box to check throughout TOD processes, community engagement can bring ambitious visions to life, such as imposing first-ever parking maximums, dedicating community spaces to equity-deserving groups, and targeting affordable housing to LGBTQ+ seniors in the case of the Capitol Hill South Site.
- The City had not yet developed their Incentive Zoning or MHA programs and thus did not have a standard affordable housing request.
- Had the community not asked for 50% affordable housing on the Capitol Hill North Site, the City might not have had the drive to demand the use of the MFTE Program for sites A, B-South, and C. The City received pushback from ST on this demand, which argued that as an incentive program, the MFTE should not be required. However, by having the community's vision clearly outlined, the City had the support necessary to push for the outcome they wanted to see.
- Communities can be the ones to make bold demands that may not seem possible, like asking for the provision of a large amount of affordable housing on valuable transit-adjacent land. These requests can come to fruition with the right leadership.

Public lands and funds can be leveraged to provide more affordable housing.

- Building affordable housing on publicly owned land has been shown to be an important tool for mitigating displacement of low-income communities.²³³
- Leveraging public lands, like those owned by ST, and capitalizing on the role and funds of higher orders of government may be key to achieving affordable housing

integrated with transit stations.

- In this case, King County contributed \$4.7 million, complementing the City of Seattle's contributions of \$8.7 million to provide affordable housing on site B-North.

Community amenities to support tenants living in affordable housing can be just as important as the housing itself.

- Having affordable local business space in the Capitol Hill North Site was a measure of creating job opportunities for residents, which has been shown to mitigate displacement.²³⁴ Additional amenities provided in the developments, such as public plazas and the community space, enable place-making, which may strengthen community bonds and identity, and increase quality of life.
- While it is crucial that station-integrated development achieve affordable housing outcomes, government agencies may also be encouraged to push for amenities supporting transit use and local community needs.

Strong intergovernmental working relationships are key to advancing TOD projects.

- Staff from the City and ST both highlighted the importance of the relationship between the agencies.
- Identifying agencies' common goals and each party's ultimate mission can be helpful in making processes more efficient and working relationships more effective. Developing a charter before beginning the DA negotiations, for instance, may have been a useful tool to which the parties could have returned when they were losing sight of their larger goals.

SYDNEY, NEW SOUTH WALES

Metro Quarter, Waterloo Station

A State-led station-integrated overbuild development built simultaneously with a new rapid transit line and achieving high-quality community-relevant design outcomes.

Metro Quarter is an over station development (OSD)¹⁰ that will be fully integrated with the future Waterloo Station, a stop on the Sydney Metro City & Southwest line.¹¹ The new 30-kilometre rapid transit metro line, expected to open in 2024, will run from Sydney's Northwest region, through the Central Business District (CBD), to the southwest (Figure 25).²³⁵ The Metro Quarter is one of five station overbuilds being developed as part of the Sydney Metro project.

Located in the Waterloo State Significant Precinct, the Metro Quarter is composed of three adjacent parcels of land, the Northern, Central, and Southern Precincts. The Northern Precinct will comprise retail and office uses; the Central Precinct will be composed of retail and residential uses, including affordable housing; and the Southern Precinct will have two residential buildings, one of which will be student housing and the other social housing (Figure 26).²³⁶ As a State Significant Development, the State of New South Wales (NSW) is the planning authority for the Waterloo Metro Quarter, overriding the City of Sydney's powers.²³⁷

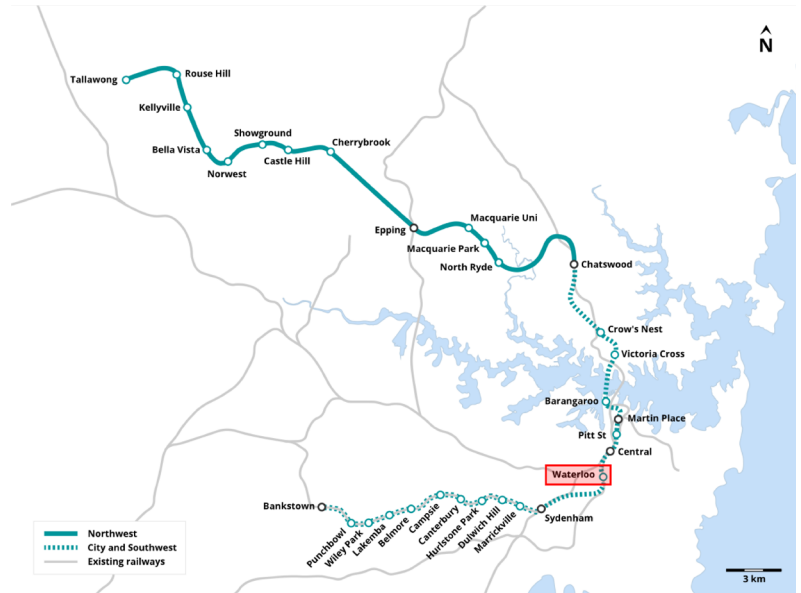


Figure 25: Sydney Metro City & Southwest Line.²³⁸

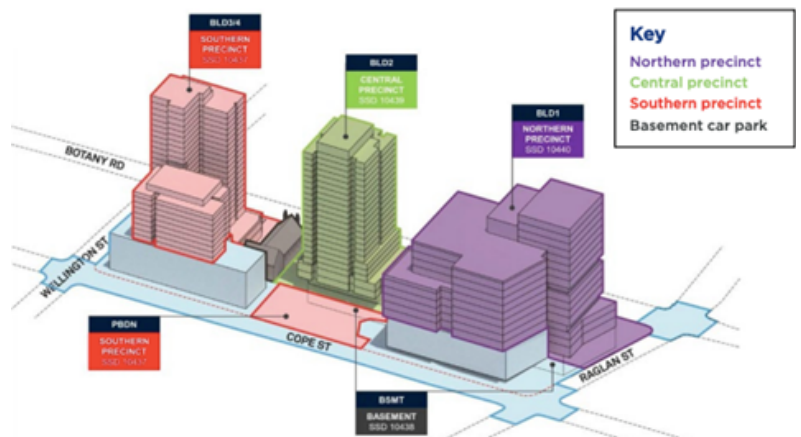
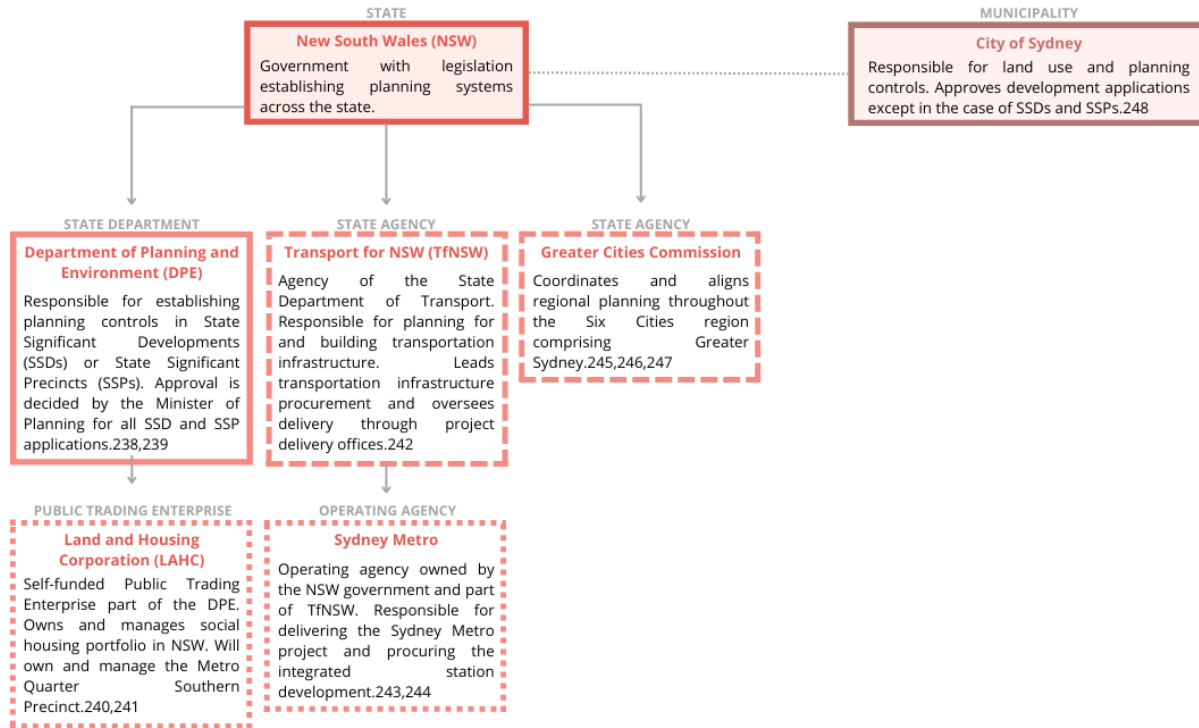


Figure 26: Metro Quarter Precincts.²³⁹

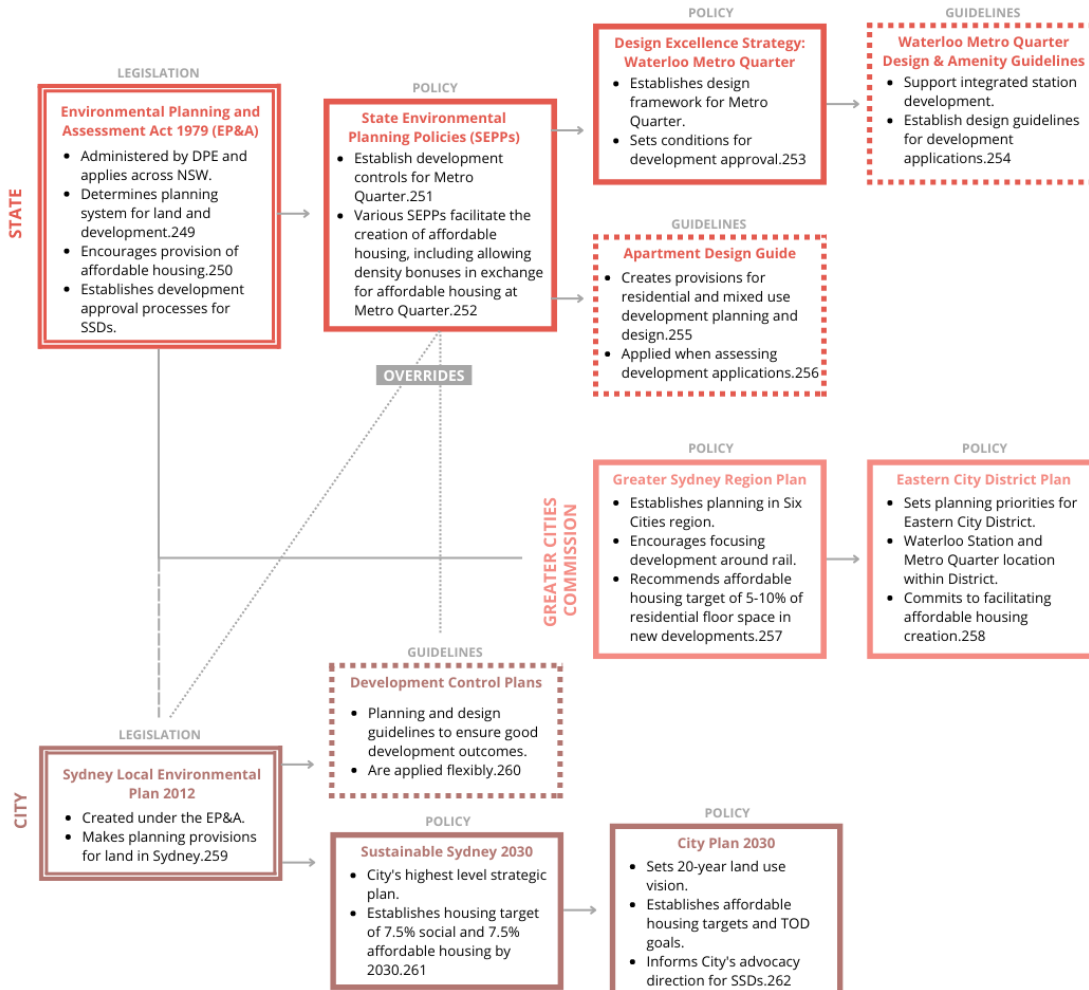
10 In New South Wales, station-integrated developments are called Integrated Station Developments (ISDs). Within ISDs, station overbuilds are called Over Station Developments (OSDs). The Waterloo Station project is an example of an ISD and the Waterloo Metro Quarter development is an OSD.

11 The Gadigal of the Eora Nation are the traditional custodians of the lands and waters on which Sydney is located.

Governance Context



Supportive Legislation, Policies, Programs & Guidelines



Existing Site Context

Neighbourhood Context	Redfern Street Village Area: characterized by historic residential buildings with some new high-rise residential and commercial buildings. ²⁷⁰ Mixed-use zoning (Figure 27). ²⁷¹ Composed of significant Aboriginal ¹² and Torres Strait Islander populations (6.2%). ²⁷²
Area Density	110 people per hectare. ²⁷³
Transit Connectivity	Connects to existing Sydney Trains urban-suburban rail system, bus lines, and the future Sydney Metro. ^{274, 275}
Site Area	19,100 sq.m (12,800 sq.m developable). ²⁷⁶



Figure 27: Waterloo Metro Quarter Pre-Development.²⁷⁷

Proposed Development

Size of Development	Total GFA of 68,750 sq.m. ²⁶⁵ Four buildings between 9 and 25 storeys (37m-104m). ^{266, 267} FSR of 6.0. ²⁶⁸
Development Uses	Mixed residential, commercial retail, office, and transit uses (Figures 28 and 29)
Development Details	<ul style="list-style-type: none"> • 4,765 sq.m retail, 30,000 sq.m office, and 30,000 sq.m residential (126 market ownership, 94 social and affordable units; additional student housing units). • Includes daycare, community hub and garden, gym, and multiple publicly accessible plazas. • Maximum 155 parking spots.²⁶⁹



Figure 28: Waterloo Metro Quarter Post-Development.²⁷⁸

12 The term “Indigenous” can be offensive to some First Peoples in Australia. The preferred terms “Aboriginal” and/or “Aboriginal and Torres Strait Islander” will be used in this case study.

Form of Integration: Fully integrated with some station overbuild

- Waterloo Station and the Metro Quarter are built as an integrated station development (ISD) and will share some infrastructure allowing for full integration with some overbuild (Figure 30).

Phasing of Integration: Waterloo Station and Metro Quarter to be constructed at the same time

- As an ISD, the metro station will be built underground as the Metro Quarter buildings are simultaneously built above.
- The station was designed to allow for such phasing, including building a transfer slab first to support the OSD and creating shared accessed between the OSD and station for loading area and service lift.^{279, 280, 281}

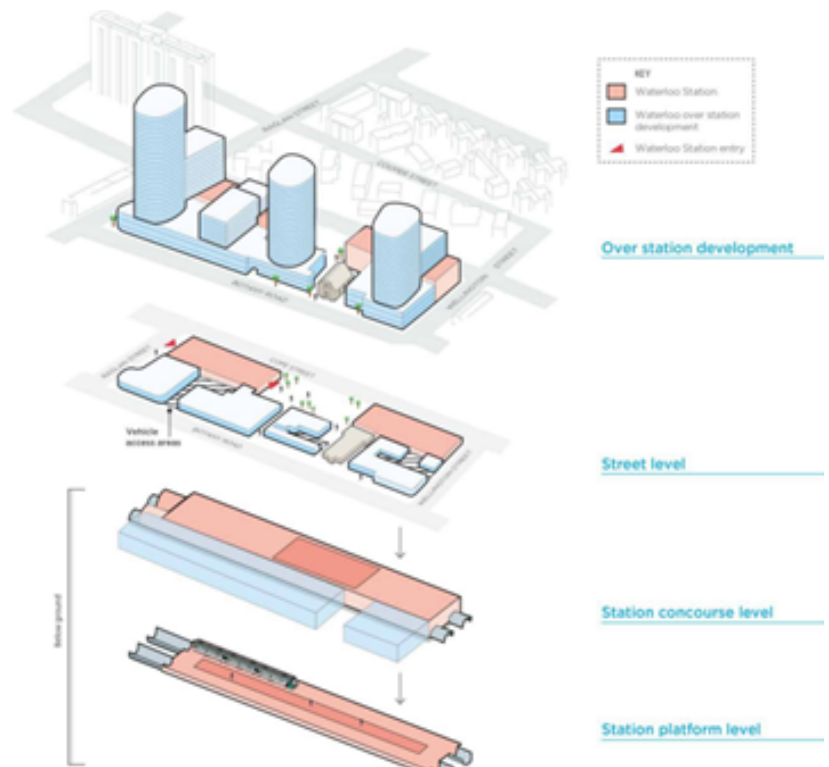


Figure 29: Interface Between Transit Station and Development.²⁸²

Project Status: Expected completion of station and developments by 2024

- Station construction began in October 2020 and Metro Quarter work began in late 2021.
- Metro Quarter buildings are expected to be completed close to when metro service starts in 2024 (Figure 31).²⁸⁴

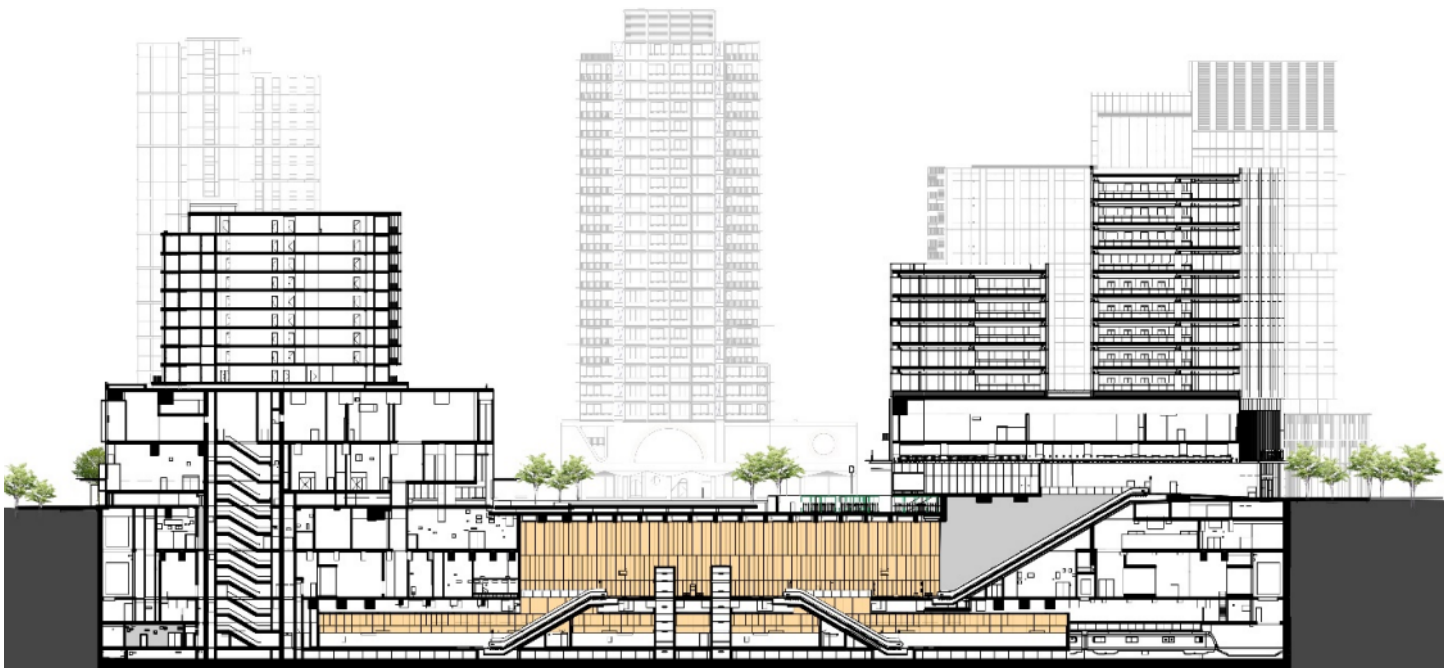


Figure 30: Longitudinal Cross-Section of the Waterloo Metro Station and Waterloo Metro Quarter.²⁸³



Figure 31: Waterloo Metro ISD Timeline.

Project Cost: \$18 billion for Sydney Metro, developments unknown

- Waterloo Station and Metro Quarter cost unknown.
- Sydney Metro net cost will be \$18 billion AUD, primarily funded by government grants and offset by development returns.
- End value of Metro Quarter developments will be close to \$1 billion AUD.²⁸⁵

Land Ownership: Land owned freehold by State, air rights owned by developer

- State purchased Metro Quarter lands as freehold to facilitate ISD construction.²⁸⁶
- Metro Quarter developer was given air rights to allow for development.
- Once the buildings are complete, Central Precinct affordable housing will be owned by a community housing operator. Southern Precinct social housing will be owned by the Land and Housing Corporation.²⁸⁷

In the past, the State's powers for purchasing property was limited to lands strictly required for building rail lines. When Sydney Metro was created as an Operating Agency, their focus expanded to place-based outcomes. Their powers now include buying additional property for development around rail lines. Although the State typically sells off lands not used for transit projects, they are looking into developing property themselves and retaining the assets.

The NSW [Apartment Design Guide](#) requires that the design quality of apartments remains high to ensure their liveability. The Guide sets minimum requirements pertaining to ventilation, sunlight, and size of rooms, among other aspects. In conjunction with the Guide, the [Waterloo Metro Quarter Design and Amenity Guidelines](#) guarantee that social and affordable housing is designed to the same standard as market units, so as to be visually indiscernible from one another.²⁸⁸

Delivery Model: State Significant Development with bundled station and development contract packaging evaluated via a competitive design-focused tender process

<p>State Significant Development (SSD)</p>	<ul style="list-style-type: none"> • As SSD, State established planning controls for Metro Quarter OSD, overriding City’s powers.²⁸⁹ • SSDs determined based on size, economic value, and potential impact.²⁹⁰
<p>Department of Planning and Environment Approvals</p>	<ul style="list-style-type: none"> • Sydney Metro required to acquire separate State approvals for station and OSD. • Station approval included provision for construction of below- and above-ground structures necessary for station and OSD delivery.²⁹¹ • Approval of OSD development concept established building envelopes and development parameters for Metro Quarter.²⁹² Approval for design concept occurred at later stage.
<p>Competitive Tender Process</p>	<ul style="list-style-type: none"> • Project contract packaging approach: one developer responsible for both station and OSD delivery. Delivery scope includes: <ul style="list-style-type: none"> • Excavation of remaining station shafts to extent not undertaken by Tunnel and Station Excavation works contractor; • Station and development structure; and • Station and development fit-out, including mechanical and electrical.²⁹³ • Developer selected via single tender process for entire ISD. • Other tender processes to choose contractors for Trains, Systems, Operations and Maintenance, Line-wide works, and Tunnel and Station Excavation works.²⁹⁴
<p>Design Evaluation</p>	<ul style="list-style-type: none"> • Independent Design Excellence Evaluation Panel (DEEP), including City staff, to evaluate design in tender process. Meant to emulate City design competition to ensure place-making opportunities. • Design reviews throughout contracting, development application, and planning approval.²⁹⁵
<p>Developer Selection</p>	<ul style="list-style-type: none"> • Development concept (building envelopes, uses, and amenities) established by Sydney Metro. • Design concept proposed by private developer, adhering to Sydney Metro development concept.²⁹⁶

Affordable Housing

Provision Amount	<ul style="list-style-type: none"> • 24 affordable rental housing units. • 70 social housing units.²⁹⁷ • Amount established and enforced by the State, in alignment with Eastern City District Plan.²⁹⁸
Depth of Affordability	<ul style="list-style-type: none"> • Costing less than 30% of gross household income.²⁹⁹
Duration of Affordability	<ul style="list-style-type: none"> • Affordable housing: in perpetuity.³⁰⁰ • Social housing: not in perpetuity. <ul style="list-style-type: none"> • Was debated between Urban Growth, Land and Housing Corporation, NSW Department of Planning and Environment, and City of Sydney. • Exact duration unknown
Target Population	<ul style="list-style-type: none"> • Very-low-income households: less than 50% AMI. • Low-income households: 50-80% AMI. • Moderate-income households: 80-120% AMI.³⁰¹

In NSW, **affordable housing** refers to housing for very low to moderate income households costing less than 30% of gross household income. It is built with state or federal funds and may be owned by private developers, local governments, charitable organizations, or housing providers.³⁰²

Social housing is a subset of affordable housing, available to a more limited range of household incomes. It may be owned by non-profit, non-governmental, or governmental organizations. Social housing includes public, Aboriginal, and community housing, and may include other wraparound services.³⁰³

Sustainable Sydney 2030, the City's strategic plan last updated in 2022, sets an ambitious target: by 2030, 7.5% of dwellings will be social housing and another 7.5% affordable housing.³⁰⁴

The City's **Affordable Housing Program**, adopted in 2020, applies to all new developments in the City of Sydney. It requires that new developments contribute 1-3% of floor area as affordable housing in perpetuity or pay an equivalent monetary contribution. Affordable rental housing is targeted toward very-low, low, and moderate income households making less than 50% up to 120% AMI, paying no more than 30% of their gross household income on rent.³⁰⁵

Additional Equity Considerations: Students

- Student housing in the Southern Precinct will serve approximately 474 students.³⁰⁶
- Despite the significant demographic representation of Aboriginal and Torres Strait Islanders in the neighbourhood, none of the affordable or social housing is targeted toward those communities.³⁰⁷

Displacement Mitigation: Tenant displacement payments, Aboriginal employment

- State required to provide equitable payment to tenants evicted as part of Sydney Metro's land acquisitions.
- Developers investing up to \$20 million AUD to work with Aboriginal-owned businesses.³⁰⁸ May include commissioning public art for the station representing Aboriginal innovation, Creation stories, and history.³⁰⁹

Enabling Factors

State Land Acquisition

- Having the power to purchase land near metro stations that is not required for station construction has allowed for Waterloo Station to be an ISD. Without such powers, there may not have been enough land available to allow for the Metro Quarter OSD and additional amenities, such as public plazas and community spaces.

Place-Based Vision

- From the onset, Sydney Metro had a vision of building not just stations, but places. By communicating their vision early on of requiring certain place-making amenities, developers were much more amenable to incorporating them into their designs.
- Sydney Metro chose to have an individual procurement process for each station on the City & Southwest line in order to have a different architect for each, in the pursuit of place-based outcomes.
- Sydney Metro is reflecting the Aboriginal presence at Waterloo Station, both historically and contemporarily, through public art and design details in partnership with local Aboriginal community members. However, they may have missed an opportunity to address the housing needs of Aboriginal and Torres Strait Islander people by not targeting affordable housing to these communities.

Design Excellence Strategy and Waterloo Metro Quarter Design & Amenity Guidelines

- The Design Excellence Strategy established the DEEP review process to limit risk that would come with a traditional competitive design process, while also ensuring design excellence.³¹⁰
- The Waterloo Metro Quarter Design & Amenity Guidelines set development criteria to enable the provision of social and affordable housing and community amenities. They served as an early communication tool for developers to prepare applications for Metro Quarter, allowing for the State's criteria to be realized.³¹¹

Government Process Flexibility

- Requiring different development approvals for the station and the OSD might have posed risk to the ISD.
- Despite the risk, both the station and the OSD will likely be completed around the same time. Having the state approve both the station and OSD, in acknowledgment of the unique considerations for station-integrated development, may have contributed to this positive outcome.
- Government bodies involved in the Waterloo ISD were able to realign their planning and construction time frames to align station and OSD timelines, allowing for the project's likely success.³¹² Station designs and land use were approved after the transit project received funding.³¹³
- The State changed their competitive design process to limit risk and reduce timelines in the procurement process.

Challenging Factors

Process Challenges

Duration of Process

- During the multi-year project cycle, departments have seen staff turnover, posing some challenges to knowledge retention and transfer.
- UrbanGrowth NSW Development Corporation, a NSW agency that had been involved in the OSD, was disintegrated and its work merged with a different department. This may have created challenges pertaining to record-keeping and knowledge transfer.
- The COVID-19 pandemic also caused delays to the Metro Quarter construction, which may push back its opening past 2024.³¹⁴

Stakeholder Management

- While Sydney Metro has overall been successful in managing community expectations, there has been some resistance pertaining to timelines and to increased density in the neighbourhood.

Governance Challenges

Limited City Involvement

- Given that the State has overridden the City as the planning authority on the Waterloo ISD, there can sometimes be a sense of disenfranchisement by City Council. Managing the relationship with the City has been an ongoing process.
- As local governments, cities often have the most place-based knowledge and place-making expertise. While Sydney Metro is taking extensive steps to ensure place-based outcomes, the results may not be as fulsome due to the City's limited involvement.

Affordable Housing Targets

- The State recognizes the opportunity to build affordable housing near transit stations, but they have not yet firmed up their targets for affordable and social housing. The City's targets for affordable housing tend to be higher than those of the State. An opportunity may have been missed to deliver even more affordable housing, given that the Metro Quarter lands are owned by the State.
- Sydney's City Plan 2036 recommends developing culturally appropriate affordable and social housing for Aboriginal and Torres Strait Islander peoples in the Redfern Street Village Area to prevent their displacement from the neighbourhood.³¹⁵ Limiting the City's involvement on this matter may result in less favourable outcomes for the community.

Lessons Learned

Early land use planning for transit projects is crucial for maximizing investment outcomes.

- Transit projects are huge investments that can fundamentally shape cities.
- As soon as a transit project is being considered, local and regional land use planning should automatically come into consideration as well.
- Sydney Metro received funding in advance of land use decisions, which can sometimes limit the possibility of planning for station-integrated development. However, they were able to achieve an ISD by following a separate parallel land use and development approval process, in recognition that station integration involves unique considerations.
- Extensive planning pertaining to transit and land use integration should occur well before transit projects begin.

Transit projects present opportunities to envision and invest in community-based place-making.

- Working with local communities, such as Aboriginal and Torres Strait Islanders in this case, is a way of honouring and celebrating culture and community. It can prevent displacement and gentrification by providing employment opportunities to community members.

Mitigating risk in ISDs can ensure their success.

- ISD projects tend to present a lot of risk.
- Having the State change their competitive design process to protect against risk ensured that the project would come to fruition. Having the City involved in the design evaluation, and having all parties consider design throughout the whole project process, allowed for the realization of an OSD.
- Selecting the right delivery model to allow construction timelines to align can be an important factor in risk mitigation.

Increased density can spur social benefits and maximize site values.

- Waterloo Metro Quarter developments will contribute significant density to the neighbourhood relative to existing density.
- Increased density can bring social benefits, such as decreasing the cost of living for some. It requires an enhanced design lens to ensure that it functions from a place-making perspective.
- Increased density can maximize site value, which may potentially provide a larger contribution to metro construction costs.³¹⁶ However, it should be noted that increased site value can have long-term ramifications on the cost of living, gentrification, and displacement of marginalized communities.

Ensuring apartment design quality can make high-density buildings more liveable.

- High-rise buildings are often criticized for their reduced livability compared to less dense housing typologies. Guaranteeing apartment design quality, such as through NSW's Apartment Design Guide, may allow for the creation of buildings near transit in which people are content to live.
- Design guidelines could improve community perception of high-rise buildings, making planning processes less contentious and stakeholder management easier.

Committing to design excellence and communicating planning expectations early on is key to TOD success.

- As long as developers and other stakeholders involved in TOD delivery are aware of expectations, they are more likely to accept them.
- Communication tools such as the Waterloo Metro Quarter Design & Amenity Guidelines and the Apartment Design Guide allow developers to consider expectations and plan early on.

7. SCENARIO TESTING

BACKGROUND

As has been explored in the sections above, achieving station-integrated development presents unique considerations and requires certain trade-offs between density, affordability, and funding. Achieving a high level of housing affordability in a station-integrated development, for instance, often requires greater density and may require additional funding.

To determine the viability of integrating development with UBCx stations, scenario testing was conducted on a hypothetical site in Vancouver.¹³ The scenario testing seeks to understand the trade-offs presented by station-integrated development within the context of Vancouver, examining different levels of housing affordability, the feasibility of generating enough land lift to pay for a station entrance integrated with development, and the impact of land contributed by partners for station-integrated development sites, such as the Province or through development (e.g., Statutory Right of Way).

The primary question that the scenario testing seeks to answer is: What are the densities needed to make each housing scheme financially viable (i.e., the land value supported by the redevelopment scenario is equal or higher than the value of the property), while providing for a \$10 million land lift to cover station entrance costs? It analyzes the impact of land purchased at market rate and land contributed by a planning partner on redevelopment viability and station entrance cost provision.

Testing Parameters

The scenario testing is defined by the following parameters:

- For the purposes of this exercise, a project is defined as viable if its capitalized value is equal to or exceeds the sum of that project's costs, including land acquisition and an acceptable level of development profit. The positive difference between the value and the costs can be considered the land lift (the increase to the value of the land as a result of the redevelopment). Land lift can be recaptured in the form of a Community Amenity Contribution or Density Bonus, which can be used to fund public benefits.
- The viability of a hypothetical redevelopment project was evaluated under a variety of residential tenures schemes and scenarios. The goal was to estimate the development densities required to viably deliver each of the residential tenure schemes as well as the transit station entrance.

¹³ Inputs for the scenario testing were based on current market conditions, which will vary over time. The scenario testing is a point-in-time examination of the relative viability of different housing schemes and the provision of additional amenity contributions toward the cost of a transit station entrance. It was out of scope for this project to conduct in-depth market analysis or testing to inform future land use.

¹⁴ 100% strata housing at transit stations does not meet the City of Vancouver's affordable housing or city planning objectives and would be the least desirable option at such sites. It was included in the model, however, as a point of comparison for the other scenarios.

- The five residential schemes, ranging from least affordable (condos) to most affordable (social housing), are as follows:
 - Schemes with a market component:
 - Scheme 1: 100% strata condominium housing¹⁴
 - Scheme 2: 20% inclusionary social housing/80% strata condominium housing
 - Scheme 3: 100% market rental housing
 - Scheme 4: 20% below market rental housing/80% market rental housing
 - Scheme without a market component:
 - Scheme 5: 100% social housing

Scheme 1: 100% strata condominium	<ul style="list-style-type: none"> • 100% of units sold as strata condominium homes. • Development Cost Levies (DCLs) and Development Cost Charges (DCCs) included.
Scheme 2: 20% inclusionary social housing/80% strata condominium	<ul style="list-style-type: none"> • 80% of units are sold as strata condominiums homes. • 20% of units are turned over to the City of Vancouver by the developer as social housing, free of charge. • DCLs and DCCs included.
Scheme 3: 100% market rental housing	<ul style="list-style-type: none"> • 100% of units rented at market rate. • DCLs partially waived, DCCs included.
Scheme 4: 20% below market rental housing/80% market rental housing	<ul style="list-style-type: none"> • 80% of units rented at market rate. • 20% of units rented at below market rate (20% discount to city-wide average CMHC rents by unit type). • DCLs partially waived, DCCs included.
Scheme 5: 100% social housing	<ul style="list-style-type: none"> • 100% of units are for households earning less than the Housing Income Limits (HILS), as defined by BC Housing. • HILS based on figures established by CMHC.³¹⁷ • DCLs waived, DCCs included.

Testing Assumptions

As this is a high-level hypothetical exercise, certain assumptions were made about the development site:

- The site was assumed to be situated on Vancouver’s west side along the UBCx SkyTrain route and large enough to accommodate the transit station envisioned. The site was assumed to be unencumbered bare land with an acquisition cost of \$1,100 per square foot of site, as per present market conditions for sites zoned C-2 (commercial mixed-use).
- For all five tenure schemes, densities required for viability were estimated under two scenarios: the first assumed that the project would acquire the land at market prices; the second assumed that the land would be provided by a planning partner and considered “free” from the project’s perspective.

- For all tenure schemes, except 100% social housing, densities required for viability were estimated for the two scenarios above, with the additional requirement of being able to support a \$10 million land lift that would fund a transit station. Although it is impossible to know exactly how much a station entrance would cost, given the economies of scale of a project as significant as a new transit line, \$10 million is roughly representative of costs within this particular time period.
- For the 100% social housing scheme, densities were assumed to be 10.5 FSR, based on the Broadway Plan Station Area land use policies.

Development Cost Levies (DCLs)³¹⁸	<ul style="list-style-type: none"> • Charged by the City of Vancouver. • Collected from development to help pay for facilities necessary to support growth, including parks, childcare facilities, replacement housing (social/non-profit), and engineering infrastructure. • Two kinds of DCLs: City-wide (levied for affordable housing, parks, transportation, and childcare projects) and Utilities (levied for utilities projects). • Charged based on gross floor area of development. Varies by use and by DCL area.
TransLink Development Cost Charges (DCCs)³¹⁹	<ul style="list-style-type: none"> • Charged by TransLink starting in 2020 throughout Metro Vancouver. • Collected by collection entities (municipalities, Metro Vancouver, or UBC) and remitted to TransLink semi-annually. • Incurred from development to help pay for regional transportation projects, including new rapid transit lines, among others. • Charged per residential unit or based on gross floor area for non-residential projects. Varies by use and by area.
Metro Vancouver DCCs³²⁰	<ul style="list-style-type: none"> • Charged by Metro Vancouver across the Greater Vancouver Sewerage and Drainage District. • Collected by municipalities and remitted to Metro Vancouver. • Incurred from development to pay for regional sewer works, including new trunk lines, pumping stations, and wastewater treatment plant expansion. • Charged per residential unit or based on gross floor area for non-residential projects. Varies by use and by area.
Community Amenity Contributions (CACs)³²¹	<ul style="list-style-type: none"> • Charged by the City of Vancouver as in-kind CAC (facility provided by applicant) or cash CAC (money provided by applicant in lieu of facility). • Contributions provided by developers when development rights are granted through rezoning. • Meant to support growth with new and expanded City facilities, including affordable housing, parks, childcare facilities, community facilities, transportation and public realm, and arts and culture spaces. • Achieved through a negotiated approach with the developer or fixed-rate CAC. • Negotiated CACs aim for 75% of land lift (increased value of land after a rezoning).³²² Fixed-rate CACs often amount to less than negotiated CACs.

RESULTS

Scenario 1: Land Purchased at Market Rate

	Scheme 1: 100% strata condominium	Scheme 2: 20% inclusionary social housing/80% strata condominium	Scheme 3: 100% market rental housing	Scheme 4: 20% below market rental housing/80% market rental housing	Scheme 5: 100% social housing
Baseline redevelopment viability without offsetting station entrance cost	Viable as mid-rise ¹⁵	Viable as high-rise	Viable as mid-rise	Viable as high-rise	Not viable for redevelopment at 10.5 FSR.
Equity gap for redevelopment viability	No	No	No	No	\$373,255 per door.
Additional density required to offset station entrance cost	+27.3% (mid-rise)	+23.7% (high-rise)	+23.9% (high-rise)	+18.7% (high-rise)	Impossible. Scheme becomes less viable with additional density due to disparity between project costs and revenue.
DCLs compared to land lift generated to offset station entrance cost	35% of land lift	51% of land lift	24% of land lift	37% of land lift	DCLs greater than (negative) land lift. However, DCLs only represent 2.3% of the total additional funding needed for project viability (without offsetting station cost).

¹⁵ For the purposes of this exercise, low-rise buildings are 4 storeys and under, mid-rise buildings are 5-12 storeys, and high-rise buildings are 13 storeys and above and separate from the City of Vancouver's definition of a tower.

Scenario 2: Land Contributed by Planning Partner

	Scheme 1: 100% strata condominium	Scheme 2: 20% inclusionary social housing/80% strata condominium	Scheme 3: 100% market rental housing	Scheme 4: 20% below market rental housing/80% market rental housing	Scheme 5: 100% social housing
Baseline redevelopment viability without offsetting station entrance cost	Density of FSR 0+. In cases where the scheme is profitable and there is no land value to overcome nor CAC to generate for station entrance, any minimum density will be viable.				Not viable for redevelopment at 10.5 FSR.
Equity gap for redevelopment viability	No	No	No	No	\$269,474 per door.
Density required to offset station entrance cost	Low-rise	Low-rise	Low-rise	Low-rise	Impossible. Scheme becomes less viable with additional density due to disparity between project costs and revenue.
DCLs compared to land lift generated to offset station entrance cost	1.6% of land lift	2% of land lift	2.7% of land lift	7.5% of land lift	DCLs greater than (negative) land lift. However, DCLs only represent 3.2% of the total additional funding needed for project viability (without offsetting station cost).

LESSONS LEARNED

100% social housing is not possible without significant funding from senior orders of government.

- When land is purchased at market rate, Scheme 5 has an equity gap of \$373,255 per door. The gap is reduced to \$269,474 per door when land is contributed by a partner.
- The cost of a station entrance (\$10 million in the scenario testing) is marginal compared to the additional funding required to make Scheme 5 a viable redevelopment.
- No scenario under Scheme 5 produces enough land lift to offset the cost of a station entrance. In fact, increased density only makes this scheme more unviable because the costs are so much greater than the revenue produced by such significantly below-market rents.
- Therefore, if a project goal is to enable the deepest type of affordable housing (social housing), additional funding is required. The amount required is likely greater than could be contributed by a local government and would thus require funding from a senior order of government.

Schemes with a market component and land purchased at market value require increased density to offset the cost of a station entrance.

- When only looking at baseline redevelopment viability without station entrance cost for schemes with a market component (Schemes 1-4), the most profitable scheme (100% strata housing) is viable at the lowest density (mid-rise building). The least profitable scheme (20% below market rental/80% market rental housing) is viable at a high-rise density.
- All schemes with a market component need between 19% and 27% of increased density from their baseline redevelopment densities to remain viable and offset of the cost of a station entrance. The most

profitable schemes need the greatest density increases as they required the least density initially to achieve baseline redevelopment viability; however, the most profitable schemes remain the least dense, even when factoring in the density increases.

- Therefore, if a project goal is to offset the cost of a station entrance, greater density must be permitted at station sites. Even greater density can generate additional CACs for other public amenities.

Land contributions by partners allow for redevelopment viability at lower densities for schemes with a market component and result in a lower equity gap for 100% social housing.

- Schemes 1-4 are viable at any density above 0 FSR, as profit is accounted for in the model and there is no land value or land lift for a station entrance to overcome.
- When accounting for the cost of a station entrance with a land contribution, all schemes with a market component remain viable as low-rise buildings. This includes schemes in which market components support below-market components (Schemes 2 and 4).
- The equity gap of Scheme 5 (100% social housing) is decreased by 38% when land is contributed. However, it still remains significantly unviable as a redevelopment.
- Therefore, land contributions by partners can support projects whose goal is to achieve the greatest depth of affordability in housing integrated with a station entrance. As mentioned above, funding is still required to achieve 100% social housing on station sites, even with a land contribution.

Strata condominium housing is the most profitable and can support a component of social housing in a mixed-income development.

- When land is purchased at market rate, Scheme 1 (100% strata housing) is viable at the lowest density, as a mid-rise building.

- Although requiring greater density than Scheme 1, Scheme 2 (20% social/80% strata housing) is viable as a high-rise when land is purchased at market rent. It can offset the cost of a station entrance, either as a high-rise when land is purchased at market rate or as a low-rise when land is contributed by a partner.
- Because strata housing is so unaffordable compared to other housing options, it produces enough revenue to offset the low revenue generated by social housing. Thus, Scheme 2 exists in stark contrast with Scheme 5 (100% social housing), which is unviable at any density without significant additional funding.
- Therefore, the inclusion of strata housing in a mixed-income development can offset the cost of social housing and generate enough land lift for a station entrance at certain higher densities.

100% market rental housing can be more viable than strata housing with a social housing component when land is purchased at market rate, at certain densities.

- When land is purchased at market rate without offsetting the cost of a station entrance, Scheme 3 (100% market rental housing) is viable for redevelopment as a mid-rise, compared to Scheme 2 (20% social/80% strata housing), which is viable as a high-rise. However, despite its lower density, Scheme 3 provides 350% more non-strata units than Scheme 2.
- Scheme 4 (20% below-market rental/80% market rental housing) requires more density than both Schemes 2 and 3, regardless of whether land is purchased or contributed. Yet, at its baseline redevelopment densities, Scheme 4 contributes a greater number of affordable housing units, including ones that are below-market rate, than the other two schemes.
- Therefore, if a project goal is to provide the greatest number of affordable housing units, market and below-market rental

schemes can provide more units than schemes involving strata and a component of social housing (20% social/80% strata housing), at certain densities.

DCLs and DCCs have a low impact on development viability compared to station entrance cost, at certain densities.

- When land is purchased at market rate, DCLs represent between 24% and 51% of land lift, depending on the housing scheme; combined with DCCs, they represent between 30% and 58% of land lift. While the DCLs may appear significant in Scheme 5 (100% social housing), given that the scheme is unviable without additional funds, they only represent 2.3% of the total negative land lift (3% when combined with DCCs).
- By contrast, when land is contributed by partners, DCLs only represent between 1.6% and 7.5% of land lift (2.3% to 9.5% when combined with DCCs), due to the smaller densities required for redevelopment viability. They represent 3.1% of the additional funding required to make Scheme 5 viable (4.1% when combined with DCCs), due to the decreasing costs compared to the scenario in which land is purchased.
- The cost of a station entrance would be offset at a lower density if DCLs and DCCs were waived. However, even when including DCLs and DCCs, all schemes with a market component can generate enough land lift to offset the cost of a station entrance. This is accounting for the partially waived DCLs in the market and below-market rental schemes (Schemes 3 and 4).
- Therefore, waiving DCLs and DCCs for development has a minor impact on development viability. Even though it could make 100% social housing schemes more viable, it would simply shift the burden of lessening the funding gap for social housing, as it would result in reducing the funds for one order of government (through reduced DCLs and DCCs) to save money for another order of government (through reduced social housing funding).

8. CONCLUSION

The City of Vancouver does not currently have a dedicated policy mechanism that specifically contemplates appropriate development, addresses design requirements and expectations, and outlines the unique considerations required for station-integrated development.¹⁶ Recent updates to British Columbia's Transportation Act allowing the Province of British Columbia to acquire land for the purpose of transit-oriented development, as well as the recent creation of a real estate development division at TransLink, make the examination of a station-integrated development policy mechanism timely.

The current housing crisis in Vancouver, which has 86,000 existing households in need,³²³ makes the provision of affordable housing near transit stations well-advised. The recent re-engagement of the federal government in housing through the [National Housing Strategy](#) and the provincial government's focus on affordable rental housing, alongside the City's aggressive housing targets, make for a conducive political environment to advance this work. The ongoing planning for the Millennium Line UBC Skytrain Extension, outlined in Section 4: City of Vancouver Local Context, may present opportunities for integrating transit with development, which could be advanced by the City.

The benefits of station-integrated development, highlighted in Section 3: Transit Integration, include advancing modal shift for reduced greenhouse gas emissions, creating more housing, reducing the cost of living, and spurring economic development. The financial and regulatory framework challenges addressed in Section 5: Broadway Subway Project and Section 6: Case Studies include architectural and engineering complexity, cost, duration of time and timeline misalignment, and challenging government processes. Given the complexities of delivering affordable housing on high-value land, this project examines how affordable housing can be provided at transit stations in Section 7: Scenario Testing.

Lessons drawn from the Broadway Subway Project, case studies, and scenario testing reveal that there are steps that the City of Vancouver can take to enhance the possibility of achieving station-integrated development. The lessons show that relationship-building, early planning, delivery model selection, and community engagement are all processes that can be harnessed to integrate transit with development.

This report contributes to the City of Vancouver's Climate Emergency Action Plan. The findings of the report, particularly the recommendations in the section below, may be used to inform internal processes within the City of Vancouver as well as its engagement with other governing bodies.

¹⁶ The Broadway Plan came after the proposal for this report. While some station integration aspects are included in the Broadway Plan, it is not a dedicated policy or process mechanism to advance station integration in line with transit project timelines.

9. RECOMMENDATIONS

1. Early Relationship-Building and Planning with Partners

- To facilitate station-integrated development with future transit projects, the City of Vancouver should contemplate initiating relationship-building and planning discussions with partners (MST, Metro Vancouver, TransLink, and the Province of BC) as soon as new transit projects are being considered to optimize their alignment with land use.
- The City of Vancouver should investigate tools to facilitate and maintain relationships, such as community charters and weekly working group meetings, to advance early identification and ongoing commitment to shared goals and objectives. They may wish to continue relying on Memoranda of Understanding and Supportive Policies Agreements with planning partners, or reach consensus on a new process to approach station-integrated development projects.
- In any future Supportive Policies Agreements with TransLink, such as for UBCx, the City should advocate to include language that specifically addresses integration opportunities at transit stations. Taking the actions outlined above could result in station-integrated developments delivered early on and/or future-proofed stations that could allow for such development.

2. Leaning on Strengths of Different Governing Bodies

- The involvement of many orders of government is crucial to enabling station-integrated development. The City of Vancouver is encouraged to embrace and lean on the strengths afforded by different governing bodies.
- Public lands may be best used for social housing, as land contributions have the greatest impact on development viability for such housing. In the scenario testing, land contributed by a partner reduced the equity gap by 38% in the 100% social housing scheme. The City of Vancouver should engage the Province of BC in how they can plan for station-integrated affordable or social housing on BCTFA-acquired land, which are costs to integration that must be built into project budgets. This could present an opportunity for the City to be involved in decision-making.
- The City should also discuss how social and affordable housing could be provided on TransLink-acquired lands as part of their real estate development portfolio. In preparation, the City could have further discussions with Sound Transit to learn more about their Transit-Oriented Development Policy.
- The City of Vancouver's strengths include place-making, architecture, and design, as well as its ability to provide Statutory Rights of Way for station use through development and rezonings. As such, the City must encourage TransLink to engage with them in station design processes early on in order to plan for station integration and overbuild.

3. Advocating for Social Housing Funding

- The equity gap for 100% social housing in the scenario testing was between \$373,255 and \$269,474 per door, depending on how land was acquired. Land lift from increased density can support some types of affordable housing, such as below-market rental, but achieving deep affordability such as is offered by social housing requires significant additional funds from senior orders of government.
- The City of Vancouver must advocate for more affordable housing funding to the Province and the federal government, without which it may be challenging to deliver high levels of affordability along UBCx and at other future transit stations.

4. Mixed-Income Housing in Station-Integrated Development

- Although providing strata housing at station sites does not align with City of Vancouver policy, strata housing is the most profitable and can offset the costs associated with social, market rental, and below-market rental housing.
- The City of Vancouver should consider engaging with the public to determine whether encouraging mixed-income housing (e.g., 20% social housing with 80% strata housing) would be desirable at UBCx stations. This could result in more social housing at transit stations than could be achieved in 100% social housing schemes, given the latter's significant funding requirements.
- The City of Vancouver should continue to encourage the provision of market and below-market rental housing at or near station sites, like directed in the Broadway Plan,³²⁴ in future planning programs. This would allow for the greatest number of affordable housing units near transit stations, as was illustrated in the scenario testing.

5. Minimizing Risk Throughout the Planning Process

- Minimizing risk is one determining factor of station-integrated development realization. The City of Vancouver should advocate for transit delivery models that minimize risk while also ensuring that design is appropriately considered. Further research could be done to identify ideal delivery models and evaluation criteria for which to advocate.
- The City should investigate expediting development approvals for station-integrated development, which would require advanced land use planning at station areas. It could have further discussions with the Cities of Toronto and Seattle to learn about their sped-up approval processes.

6. Early Public Communication of Planning Directions

- Developers and other stakeholders are more likely to comply with guidelines and expectations if they are openly communicated.
- Given early signs of the DCE Policy's effectiveness, the City of Vancouver could continue relying on it for future planning programs to temper land speculation, as it is currently doing in the UBCx area.

7. Establishing a Community-Oriented, Place-Based Vision for Station-Integrated Development

- Transit projects do not result in housing affordability and place-making outcomes without enabling policy and supportive land use. They require a holistic community-oriented vision to achieve positive results, without which they can spur the displacement of marginalized communities.
- The City of Vancouver must aim for a high level of engagement with local communities in planning programs pertaining to new transit. Engaged communities can make bold demands, which the City can bring forward in discussions with planning partners.
- The City of Vancouver should examine how it can reflect the presence of local communities, meet the needs of residents, and achieve design excellence in station-integrated development, be it through context-specific design, public art, housing unit size, or community services and amenities.
- The City should also consider publishing documents similar to the City of Toronto's Transit Design Guide and Sydney Metro's Waterloo Metro Quarter Design & Amenity Guidelines to encourage broad and site-specific transit integration design it wishes to see.

8. Affordable Housing Targeting Equity-Deserving Groups

- The City of Vancouver will continue its partnership with MST and TransLink to examine the feasibility of station-integrated development on Jericho Lands. Such a development could result in positive outcomes for MST and urban Indigenous communities, through housing and employment.
- The City must consider how it could similarly target equity-deserving groups through other station-integrated affordable housing projects. This could be a future area of study.

9. Encouraging Station-Integrated Community Amenities

- Community amenities can be as important as affordable housing for reducing the cost of living, providing employment opportunities, and increasing livability. Community Amenity Contributions generated in developments with a market component can be sufficient to provide significant community amenities in station-integrated developments at certain densities (mid- to high-rise, based on the scenario testing). Additional funding from senior orders of government may also be required to deliver social housing in the same developments.
- The City of Vancouver should continue to encourage the provision of community amenities in station-integrated developments, such as community spaces, affordable business space, and childcare.

10. Generating Land Lift for Station Entrances

- Land lift in strata and rental housing scenarios generates significant funds that can offset the cost of transit station entrances to allow for greater integration with development. Based on the scenario testing, schemes with a market component require between 19% and 27% of increased density from their baseline redevelopment densities to offset of the cost of a station entrance and remain viable.
- Though some might argue that the provision of station entrances should be the responsibility of the Province or TransLink, integrating stations with development unlocks the value of the airspace above, increases the City's tax base, and produces a slew of social, environmental, and economic benefits. Station entrances are relatively inexpensive and having the City engaged and contributing to enabling station integrated development has many benefits.
- The City of Vancouver should locate the tallest buildings at or near station sites that provide transit-supportive integration considerations, as directed in the Broadway Plan,³²⁵ to generate greater land lift and pay for station entrances. The City could have further discussions with Sydney Metro to learn more about how they fund their stations through increased density.

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APPENDICES

APPENDIX A: CASE STUDY SELECTION

Canada

Analysis Criteria	Toronto	Metrolinx (Toronto)	Montreal and CMM
Affordable Housing			
Density targets: Density objectives in a given area.	150-200 residents/jobs per hectare	TBD	60-150 units/ha around Metro/LRT
Incentivization: Mechanisms to incentivize the development of affordable housing (e.g. density bonuses, below-market land sales, etc.).	TBD	TBD	TBD
Type of provision: Service or amenity provided in exchange for development incentive (e.g. developing affordable housing, providing community services/ amenities, paying into affordable housing fund).	Including AH in dev	TBD	Including social/ AH in dev, building on another site, or contributing to fund
Performance requirement: Amount of affordable housing or contribution in-lieu required of developer in exchange for development incentive.	5-10%, up to 8-22% by 2030	TBD	40% of development in TOD zones (but not AH). 20% social housing, 20% AH in 50+ units
Target population: Population eligible for affordable housing. Selection criteria upper threshold: populations making 80% AMI or less.	Low- to moderate-income (\$32-92,000 annual)	TBD	TBD
Duration of affordability: Period of time during which housing must remain affordable to target population.	99 years	TBD	TBD
Depth of affordability: Criteria by which affordability is defined (e.g. 30% rent-gear income, real number rent target, etc.).	Total monthly shelter cost ≤ average City rent or 30% RGI	TBD	\$675-1,170/month
Transit Integration			
TOD buffer: Size of area near transit stations allocated greater density and in which development is prioritized.	500-800m radius of transit stations	5-10 min walk roughly	0.5-1 km radius, depending on transit type

Kind of integration: Kind of service or amenity integrated with transit station (e.g. commercial, housing, affordable housing).	Housing/AH, jobs, amenities	Housing, jobs, amenities	AH, housing
Depth of integration: Proximity of service or amenity to transit station (e.g. standalone station with no integration, development near or adjacent to station, station overbuild). Selection criteria upper threshold: 10-minute walk maximum.	Near stations (MTSAs). Possibly some hyper-proximate dev	At or near transit stations, seem to aim for hyper-proximate dev through phasing	Near stations
Land ownership: Owner and/or leaseholder of base land parcel and airspace on which development occurs.	TBD	TBD	TBD
Governance			
Governance framework: Decision-making authority on matters of land use (e.g. housing) and transit (e.g. station location and design).	Local gov, works in partnership with metro region transit agency – more info TBD	Metro region transit agency, works in partnership with local gov – more info TBD	CMM determines TOD regions, area densities, and land transportation planning; Mtl and the borough have a say on AH targets by area. Transit: Province establishes institutional/legislative/financial frameworks; CMM and/or municipalities determine transportation networks
Delivery model: Role of each party involved in delivery of station and development (e.g. land use, type of housing, location, etc.).	TBD	Public-public and public-private (Infrastructure Ontario main partner)	TBD
Equity			
Equity lens in process and outcomes: Mechanisms to ensure equitable community engagement and access to affordable housing through an intersectional lens.	TBD	TBD	Family-friendly units
Displacement mitigation: Mechanisms to prevent displacement of low-income equity-deserving groups caused by development.	TBD	TBD	TBD

Strengths and Weaknesses

<p>Strengths</p>	<ul style="list-style-type: none"> • Phasing to increase performance requirement. • Long duration of affordability. • Interesting metric for depth of affordability. • Possibly some hyper-proximate dev 	<ul style="list-style-type: none"> • Focused on hyper-proximate integration • Phasing of development 	<ul style="list-style-type: none"> • High AH performance requirements, both social and affordable
<p>Weaknesses</p>	<ul style="list-style-type: none"> • Depth of integration unclear • Equity lens unclear 	<ul style="list-style-type: none"> • Not focused on housing • No mention of AH • A lot of info missing 	<ul style="list-style-type: none"> • Governance structure more complex (Mtl and borough have a say in AH negotiations; Province and municipalities have say in transportation networks) • Nothing about transit integration

* AMI = Area median income; RGI = Rent geared to income; AH = Affordable housing

USA - Pacific Northwest

Analysis Criteria	Seattle	Sound Transit (Seattle Region)	Portland and TriMet
Affordable Housing			
Density targets	TBD	TBD	TBD
Incentivization	Proposed legislation to speed up permanent supportive housing approvals	TBD	TOD tax abatement (TBD if it still exists); Metro region sometimes acquires and sells land at reduced cost to private developers; Residential Infill Project (4-6 homes on any lot if at least ½ are available to low-income people)
Type of provision	Including AH3 in dev. or paying into fund	Land transfer for affordable housing, or dev partnerships	AH
Performance requirement	5-11% of total units or \$5-32.75/sq ft	80% of units in land transfer; less for dev partnerships	30% of units on land owned or controlled by TriMet
Target population	≤60% AMI1	<80% AMI in land transfer; TBD for dev partnerships	Low or very low income (≤60% AMI)
Duration of affordability	75 years	TBD	TBD
Depth of affordability	27-30% RGI2	TBD	TBD
Transit Integration			
TOD buffer	TBD	TBD	½ mile station areas
Kind of integration	AH	AH, amenities (parking)	AH, housing
Depth of integration	Near stations, but possibly more	Co-location and/or very near stations	Near stations, maybe hyper-proximate
Land ownership	TBD	TBD	AH on land owned/controlled by TriMet

Governance			
Governance framework	Municipality seems to have decision-making authority for housing – TBD	Similar to TransLink – governance based on appointment of elected officials from county/city govts. Difference: Board of Directors has transit decision-making authority	Transit: State establishes requirement for transportation plans/ performance; cities responsible for planning for transit; Metro government has final decision-making authority for transit/transportation. AH: Portland Dev Commission responsible
Delivery model	Public-public with Sound Transit	Public-public and public-private. Land exchanges	Public-public and -private
Equity			
Equity lens in process and outcomes	In process and outcomes (community engagement)	TBD	Yes – racial equity lens in planning efforts
Displacement mitigation	Displacement Risk Index (14 variables)	TBD	Yes. Partnerships with local orgs to minimize displacement
Strengths and Weaknesses			
Strengths	<ul style="list-style-type: none"> • Very equity and displacement focused • Targets low-income. • Interesting fund (vs. inclusion in dev.) option 	<ul style="list-style-type: none"> • Strengths and Weaknesses • Interesting land transfer set-up. • Aims for lots of AH in some dev scenarios 	<ul style="list-style-type: none"> • Displacement mitigation and equity lens • Maybe some hyper-proximate development • Other interesting incentives
Weaknesses	<ul style="list-style-type: none"> • Not as focused on transit integration 	<ul style="list-style-type: none"> • Depth of integration unclear. • Not the most affordable for land transfer scenario 	<ul style="list-style-type: none"> • Not necessarily hyper-proximate integration, though there might be some

USA - California (Bay Area)

Analysis Criteria	San Francisco	BART (San Francisco Region)	Metropolitan Transportation Commission (Bay Area)
Affordable Housing			
Density targets	Doesn't seem to exist	TBD	TBD
Incentivization	Zoning modifications and additional height depending on performance. Waiving Department of Building Inspection Fees for 100% AH devs	TBD	TOAH program to help affordable housing developers finance land acquisition in select locations near rail and bus lines throughout the Bay Area
Type of provision	AH and family-friendly housing	Including AH in dev. Some supportive housing	AH dev. and services/ amenities
Performance requirement	20-30% AH	20-35% of units depending on depth of affordability	20-40% of units depending on depth of affordability
Target population	Low, middle, and moderate-income families (55-110% AMI)	Very low (<50% AMI), low (51-80% AMI), transit-dependent pops	<50-60% AMI
Duration of affordability	TBD	Unclear – 55-75 years	TBD
Depth of affordability	TBD	TBD	TBD
Transit Integration			
TOD buffer	TBD	Within ½ mile of BART station	TBD
Kind of integration	TBD – see BART/MTC	AH	AH, services, amenities
Depth of integration	TBD – see BART/MTC	Near stations, possibly more	Near stations
Land ownership	Owned by developers	TBD	TBD
Governance			
Governance framework	Housing controlled by municipality	Unclear. Not sure how its authority intersects with MTC	Responsible for planning, financing, and coordinating transportation in the Bay Area. Governed by a Board of Directors (similar to TransLink)

Delivery model	Public-private	Public-private. Land discounts up to 60% based on depth of incomes served	Public-private (non-profit/for-profit developers)
Equity			
Equity lens in process and outcomes	Family-friendly units (40% of total units must have 2+ bedrooms)	TBD – very low-income pop focus	Unclear. Seems to be equity-focused – called equitable TOD (eTOD), some projects targeted at equity-deserving groups (LGTBQ+, seniors, etc.)
Displacement mitigation	TBD	TBD	TBD
Strengths and Weaknesses			
Strengths	<ul style="list-style-type: none"> • Interesting incentivization models • Many different mechanisms for encouraging AH • Needs to be analyzed in conjunction with BART/MTC 	<ul style="list-style-type: none"> • Focused on AH for very low/low-income people • Sliding scale for land discount. • Some supportive housing 	<ul style="list-style-type: none"> • Interesting fund • Very focused on collaboration and partnerships • Quite different from other case studies
Weaknesses	<ul style="list-style-type: none"> • Not focused on transit integration or TOD – that’s more so the purview of BART/MTC 	<ul style="list-style-type: none"> • Not focused on transit integration 	<ul style="list-style-type: none"> • Not very focused on transit integration • Depth of affordability unclear

USA - California (Bay Area + LA)

Analysis Criteria	VTA (Santa Clara Region)	Los Angeles
Affordable Housing		
Density targets	TBD	TBD
Incentivization	TBD	TBD
Type of provision	Including AH in dev. Some supportive housing	Including AH in dev. located near Major Transit Station
Performance requirement	35% of units	8-25% (depends on target population and proximity to type of Major Transit Station)
Target population	≤60% AMI (at least 20% of units for ≤60% AMI, at least 50% for ≤50% AMI)	15%-80% AMI
Duration of affordability	TBD	TBD
Depth of affordability	TBD	TBD
Transit Integration		
TOD buffer	TBD	½ mile radius of Major Transit Stop
Kind of integration	AH	AH, housing
Depth of integration	Near stations, possibly more	Near or immediately adjacent to stations
Land ownership	TBD	Leasing out land to developers
Governance		
Governance framework	Transit decision-making authority. Governed by Board of Directors	Metro: Serve as transportation planner and coordinator, designer, builder, and operator for the country's largest, most populous county; Board of Directors. Municipality: development permit approvals.
Delivery model	Public-public (local jurisdictions and county)	Public-private
Equity		
Equity lens in process and outcomes	TBD – very low-income pop focus	Yes – Metro Joint Development through community engagement
Displacement mitigation	TBD	Yes - using local income and rent data to set rents for income-restricted units.

Strengths and Weaknesses

Strengths	<ul style="list-style-type: none">• Some supportive housing• Targets quite low-income pop.	<ul style="list-style-type: none">• Big density bonuses (up to 80% increase in dwelling units and 55% increase in FSR).• Interesting incentives framework
Weaknesses	<ul style="list-style-type: none">• Not focused on transit integration.• Unclear depth/duration of affordability	<ul style="list-style-type: none">• Not very focused on transit integration

USA - Central/Eastern

Analysis Criteria	RTD (Denver)	Metropolitan Council (Twin Cities)	New York City
Affordable Housing			
Density targets	TBD	TBD	TBD
Incentivization	TBD	TBD	TBD
Type of provision	Including AH in dev. located on RTD parking lots	Including AH in dev.	Including AH in dev. ≥10 units or paying into fund
Performance requirement	35% of units (non-binding)	20% minimum	20-30% (range based on depth of affordability)
Target population	60% AMI	60-80% AMI	40%-80% AMI
Duration of affordability	TBD	15 years minimum	TBD
Depth of affordability	TBD	TBD	TBD
Transit Integration			
TOD buffer	TBD	½ mile radius prioritized	TBD – not clear it exists
Kind of integration	AH, housing	AH, housing	Dev density bonus in exchange for transit improvements
Depth of integration	Adjacent to stations (station parking lots)	Near stations (but not necessarily that near)	Hyper-proximate (“Special Transit Land Use District”)
Land ownership	TBD	TBD	TBD
Governance			
Governance framework	Metro region transit agency – more info TBD	Metro region – more info TBD	Municipality – more info TBD
Delivery model	Public-private	Public-public and public-private (non-profits)	TBD
Equity			
Equity lens in process and outcomes	Unclear. Seems to be equity-focused – called equitable TOD – but TBD	TBD	Targets people with physical disabilities and mobility limitations
Displacement mitigation	TBD	TBD	TBD

Strengths and Weaknesses

<p>Strengths</p>	<ul style="list-style-type: none"> • Strengths and Weaknesses • Don't have to replace parking that is being used up on RTD sites. • Quite integrated. • Possibly equity focused. • Different from other case studies 	<ul style="list-style-type: none"> • Unique in terms of partnerships 	<ul style="list-style-type: none"> • Interesting dev density bonusing for transit improvements. • Equity focus on disability/mobility limitations. • Interesting paying into fund for AH
<p>Weaknesses</p>	<ul style="list-style-type: none"> • Can't sell RTD land below market value. • Not hyper-proximate integration 	<ul style="list-style-type: none"> • Short duration of affordability. • Not focused on transit integration 	<ul style="list-style-type: none"> • Might be somewhat out of scope. • Different policies for dev integration and AH – unclear how they interface. • Seems like a limited geographic area

International - Overseas

Analysis Criteria	Sydney Metro, Australia	Melbourne, Australia	Helsinki, Finland
Affordable Housing			
Density targets	TBD	≥25 dwellings/ha (aspirational)	85% of population located in sustainable mobility zones
Incentivization	TBD	Streamlined approvals for social housing	TBD
Type of provision	Including social/AH in dev	Doesn't seem to exist	Including social housing and subsidized purchase in devs (owned by gov)
Performance requirement	5-10% (but variable at a single location)	Doesn't seem to exist	25% social housing in any new development
Target population	≤50-80% AMI	Doesn't seem to exist	No income ceiling
Duration of affordability	15 years	Doesn't seem to exist	TBD
Depth of affordability	TBD	Doesn't seem to exist	TBD
Transit Integration			
TOD buffer	TBD	800m (20 mins roundtrip)	TBD
Kind of integration	Residential, commercial, amenities (aims for AH, but not sure that will be achieved)	Doesn't seem to exist	TBD
Depth of integration	Hyper-proximate and near stations	Desire for dev near transit, but mechanism doesn't seem to be in place	TBD
Land ownership	TBD	TBD	TBD
Governance			
Governance framework	NSW Gov is decision-maker for transit integration	Victoria State government has decision-making authority for planning projects, including dev and transport (transit)	Housing controlled by municipality. Transport TBD

Delivery model	Public-private if developer successful, otherwise developed by NSW Gov (unsolicited proposal process)	TBD	TBD
Equity			
Equity lens in process and outcomes	TBD	TBD	TBD
Displacement mitigation	TBD	TBD	TBD
Strengths and Weaknesses			
Strengths	<ul style="list-style-type: none"> • Hyper-proximate station integration with affordable housing 	<ul style="list-style-type: none"> • Doesn't seem to have any mechanism for transit integration with AH. • Few mechanisms to incentivize dev of AH. 	<ul style="list-style-type: none"> • Very successful outcomes (1/7 Helsinki residents live in social housing)
Weaknesses	<ul style="list-style-type: none"> • Low AH targets • Not a lot of residential devs above stations. • Short duration of affordability 	<ul style="list-style-type: none"> • Example of streamlined approvals for social housing 	<ul style="list-style-type: none"> • Very little material in English

Selected Case Studies

Jurisdiction	Rationale
Sydney/NSW Government	<ul style="list-style-type: none"> • Overbuild station integration with housing • Affordable housing required in station residential developments • Similar transit governance framework • Possible interview contact
City of Toronto	<ul style="list-style-type: none"> • Involvement with Province's TOC program • Some evidence of station overbuild • Unique inclusionary zoning framework, with great duration of affordability and phased performance requirements • Similar governance framework • Established density targets • Confirmed interview contact
Seattle/Sound Transit	<ul style="list-style-type: none"> • Equity- and displacement-focused • Multiple mechanisms within the same geographic area, led by the municipality and Sound Transit • Interesting land ownership structure • AH dev requirements and/or paying into an AH fund • Proposal to speed up permanent supportive housing approvals • Possibly some overbuild integration • Somewhat similar governance frameworks • Geographic location (seismic zone) • A lot of material available online • Confirmed interview contact

APPENDIX B: INTERVIEW GUIDE

Jurisdiction Background

1. Does your jurisdiction have density targets at specific sites? Do you track existing density at sites where there are future targets? Why or why not?
2. What supportive land use policies, guidelines or regulations exist in your jurisdiction to enable development integration or overbuild with transit stations?
3. What mechanisms exist in your jurisdiction to incentivize affordable housing and overbuild of station sites?
4. How is your project funded? What are the funding %s from various levels of government? Is there specific funding included to address overbuild and integration requirements, and if so, how are they calculated?

Program/Project Specifics

1. Tell me about the program/project that you lead. What are the key elements that I need to know to understand it?
2. Is this program/project an example of fully integrated overbuild development? If yes, what factors enable that form of development? If no, what barriers limit that form of development?
3. Who owns the land and airspace on which development occurs in this program/project?
4. Can you describe how timing of the transit project and the planning process influences the program deliverables? Is there tension and what steps do you take to overcome differing milestones (funding, planning process, design decisions, partnerships)
5. How does your organisation (City/ Transit Agency/Province) work with other agencies (City/ Transit Agency/Province)? Describe the decision-making process and responsibilities.
6. Does private industry (developers) play in this program? If so, can you describe any challenges or opportunities they present to this program?
7. How do higher levels of government (provincial/state, federal) influence this program?
8. What kind of housing, services, or amenities are targeted through this program/project? Please define the terms you are using.
9. Which populations are targeted through this program/project? Please define the terms you are using.

10. Does this program/project consider equity indicators? Please define the terms you are using.
11. Are there mechanisms through this program/project to protect against tenant displacement? How?
12. What challenges (e.g. governance, technical, policy) have you faced in this program/project? Were there any unexpected hurdles?
13. What opportunities do you see stemming from this program/project?
14. How important is this program considered in your organisation, overall? Are there any internal pressures that influence its delivery?
15. What are the metrics of success used to monitor and evaluate this program/project?
16. If there were one detail not to be overlooked in this program/project, what would it be?

Concluding Questions

1. Are there any policy documents or design guidelines that you could share with me?
2. Are there any final comments or importantly lessons learned you would like to make?
3. Do you have any questions for me?