

Getting to DASH

Practical recommendations for BC municipalities to enable offsite construction and accelerate housing delivery.

Cover Image: Vienna House

Vienna House is a partnership between BC Housing, the City of Vancouver through its Vancouver Affordable Housing Endowment Fund, and the More Than a Roof Housing Society.

Vienna House showcases innovative materials and processes designed to deliver high energy performance with low greenhouse gas emissions. This includes prefabricated off-site manufacturing of building components and anticipated Passive House performance. The mechanical design addresses temperature extremes and ensures ready access to fresh air, improving resident comfort while minimizing noise impacts from the adjacent SkyTrain line and Victoria Drive.

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1. Summary

British Columbia's housing challenge increasingly relies upon not just how much we build, but how we build—faster and more affordably without sacrificing quality. Offsite, panelized construction offers one of the most promising solutions. By shifting much of the construction process into a controlled factory environment, offsite construction can compress schedules, improve quality and energy performance, and deliver housing at scale. This promise is already reflected in local policy with some Official Community Plans across Metro Vancouver jurisdictions containing a range of provisions that encourage or enable offsite and prefabricated construction.

Municipalities, as the Authorities Having Jurisdiction (AHJs) over land use, design, and construction, are well-positioned to help realize this potential. The policies and regulations they establish—how growth is zoned, how design is reviewed, and how permits are sequenced—shape whether builders and manufacturers can secure the predictable pipeline of work that factory-based production depends on. This report assesses opportunities within that regulatory and policy environment to further support offsite-construction methods across the Lower Mainland and BC, drawing on specific examples of what is already working, where frictions still exist, and offer practical, broadly applicable actions for municipalities to consider.

More specifically, this report examines three Metro Vancouver municipalities as case studies in how local regulatory environments shape the viability of offsite, panelized construction in those jurisdictions. While each municipality presents a distinct physical context, staff capacity, and level of familiarity with offsite methods, the analysis reveals a similar set of barriers and opportunities across all three that provide useful information for other municipalities.

The summary that follows organizes the opportunities emerging from the case studies around the obstacles facing offsite construction and are intended to be relevant to any BC jurisdiction preparing to support this form of housing delivery.

Align Policy Vision and Regulatory Implementation to Drive Efficiencies of Scale

- Official Community/Development Plans reflect a community's vision of growth. However, a substantial amount of apartment development still requires site-specific rezoning to achieve conformity with OCP designations, a process that adds months of carrying costs, introduces approval risk, and prevents offsite manufacturers from committing to factory schedules.
- Implementing the OCP through comprehensive pre-zoning or creating standardized district schedules moves the form of housing from being envisioned to being allowed. It de-risks the development process by clearly setting the expectations for development in a zoning bylaw.
- In a supportive market environment, this allows owners to confidently invest in new projects. Policy within the OCPs of case-study municipalities encouraged some form of pre-zoning as explicit tools to promote affordability and implement growth visions.

Prepare Design Guidelines That Work with Structural Simplicity

Project volume alone is not sufficient to support scalable offsite production. The efficiency gains that make panelized construction viable are achieved through standardization and repetition. Design guidelines can therefore influence not only whether projects proceed, but also whether they can be delivered using offsite methods that are cost-competitive to site-built.

- Design guidelines that introduce complicated structural elements makes the repetition required to scale factory production more difficult to achieve.
- Per-unit balcony requirements, upper-storey stepbacks and façade articulation are examples of design guidelines that can impose structural constraints on a project and that require customization to achieve.
- Delivering a structurally simple building ought not come at the cost of great design. Contributing to a vibrant public realm and outdoor amenities can be achieved without compromising livability, for example, through material selection, use of colour, ground floor and entrance treatment, landscape design and shared amenities areas.

Structure Approvals Processes to Deliver Clarity and Certainty

Even where design policy frameworks support higher housing volumes, design uncertainty during the approval process can undermine the scheduling advantages that offsite construction relies upon. Because manufacturing activities must be coordinated well before site construction begins, developers and manufacturers require certainty earlier in the design process.

- Pre-application meetings should include building officials alongside development planning staff so that the considerations for offsite construction (dimensional tolerances, CSA A277 compliance, inspection schedules, transportation and crane logistics) are flagged early.
- Acknowledging the dimensional tolerances by establishing clear parameters for what is and is not subject to alteration during the design review process, and creating staff-delegated review pathways for projects that meet objective, OCP-aligned thresholds, reduces risk without compromising the quality of design.

Phase Building Permitting to Align With Manufacturing Processes

Clarity during development review must be continued during permitting. While planning approvals establish whether a project can proceed, permitting processes ultimately determine whether the schedule efficiencies of offsite construction can be realized.

- Phased building permits allows the site preparation to proceed while prefabricated components are being manufactured and transported, compressing the gap between approvals and construction that maximizes the benefits that offsite construction can deliver.

Build Familiarity and Amplify Outreach Efforts by Governments and Industry

- Though regulations may technically permit prefabricated systems, uncertainty among applicants, reviewers, building officials, and the public can introduce additional scrutiny, delays, and risk.
- Jurisdictions can play an important role in building confidence and shared understanding across the development process. For example, sharing materials with Advisory Design Panel members and the public to address public concerns with the design quality of prefabricated buildings and developing informational materials to guide applicants on how to navigate the permitting process via support with document requirements, inspection sequences and transportation requirements.

Facilitate Building Official Training on CSA A277

- CSA A277 is the Canadian standard for factory certification of prefabricated components. A building official who understands what it covers is far better positioned to determine what can be accepted on the strength of factory inspection and what requires additional review.
- Formally accepting A277 documentation in lieu of travel inspections and investing in staff orientation training are foundational steps toward an approvals environment equipped to process offsite projects efficiently.

This report, through the case studies, demonstrates that the most impactful interventions are often not new regulations, but rather the alignment of existing policy objectives, approvals processes, and permitting practices with the parameters of factory-based construction. By supporting project pipeline certainty, encouraging structurally efficient design, creating clear approval pathways, and building familiarity among staff and stakeholders, local governments can help remove or reduce barriers that currently limit the adoption of offsite construction. Taken together, these measures create an environment in which manufacturers, builders, and housing providers can invest with greater confidence, ultimately supporting the delivery of housing more quickly, at a lower cost, and greater scale.



Naikoon Contracting's mobile factory producing wall panels for a 50-unit housing project in partnership with Tsleil Waututh Nation. Image source: Naikoon Contracting



Onsite installation of TAG panels at Vienna House in Vancouver, BC. Image source: Kindred Construction

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2. Introduction

Section Overview

About DASH

This section introduces the DASH components and the purpose of this report.

Accelerating the Delivery of Housing

This section situates DASH within the broader shift toward faster, more efficient approaches to housing delivery, including changes in how homes are planned, designed, and built.

Getting to DASH-ready Planning, Approvals and Permitting

This section defines panelized construction—the form of offsite construction envisioned by DASH—and explains how it requires a different interface with conventional planning instruments and approval processes.

Where We Could Go

This section paints a picture of streamlined planning parameters and digital permitting that could dramatically reduce the time and complexity involved in delivering housing at scale.

Introduction

2.1 About DASH

DASH (Digitally Accelerated Standardized Housing) is an initiative of BC Housing, with Metro Vancouver as a key partner, supporting engagement with member jurisdictions and demonstration DASH projects designed to accelerate the delivery of wood-frame, multi-family apartment rental housing through standardization and offsite construction.

DASH Components

DASH provides a set of ready-to-use digital building tools and permit-friendly designs to help architects, designers, and housing providers build multi-family homes faster and more cost-effectively using offsite construction.

The program works across several interconnected workstreams:

- A digital blueprint library of pre-designed unit layouts conforming to the BC Building Code;
- A site assessment tool that aims to enable rapid massing and feasibility analysis;
- A prefabrication configurator that adapts designs for factory production using made-in-Canada standardized building products; and,
- A prefabrication marketplace connecting suppliers with architects and engineers.

Underpinning all of these tools is the use of Building Information Modelling (BIM), which enables the coordination and consistency that offsite construction demands. The program is now in its demonstration stage with design teams being procured to lead projects across BC. These projects are opportunities to test the digital tools and prefabrication supply chain under real project conditions.

While the DASH digital building tools address the design and construction phase of project delivery, they do not delve into the municipal approval processes that also play a key role in how quickly housing can be built. OCP policy, zoning bylaws and development permit guidelines common in most BC municipalities today were not written with prefabricated, offsite construction in mind. For that reason, these traditional approaches to land approvals may work against the standardization that make DASH viable. The *Local Government Regulatory Guidelines*, published on the DASH website: acceleratedhousing.ca, offer initial guidance to Metro Vancouver municipalities to help local governments move towards policies that can enable prefabricated housing projects. This report builds on that work.

DASH and the Purpose of This Report

This report builds directly on the DASH resources released to-date to address processes at the municipal level, and seeks to answer questions such as: What steps can individual municipalities take to be ready for DASH? And, how can cities enable prefabrication and off-site construction to expedite housing in their communities?

To help translate the findings in this report into action, the next section presents a practical implementation guide for Authorities Having Jurisdiction (AHJs). Organized into short-, medium-, and long-term actions, the guide identifies opportunities to build familiarity with offsite construction, and create regulatory conditions that better support it.

The case studies that informed these recommendations are presented in a later section and provide additional context, examples, and observations from each jurisdiction's official community plan policies, zoning bylaws, development permit area guidelines, and the development approvals and building permitting processes. The case studies highlight both the strong foundations and targeted opportunities for action that may serve as examples for other jurisdictions.

While informed by the experiences of three Metro Vancouver municipalities set to receive a DASH demonstration projects. The recommendations are intended to be broadly applicable across British Columbia. AHJs can use the guide to identify actions that align with their current capacity, policy priorities, and level of readiness for modern construction methods.

Project Stage	Traditional Construction Process	Offsite Construction Process	Planning and Permitting Considerations at Each Project Stage
Pre-Design		Involves the assessment of a site's suitability for prefabricated components. Factors such as access for delivery trucks, space for cranes or equipment, overhead power line clearance and component staging must be considered. DASH provides guidance for site selection at acceleratedhousing.ca	• Are there local design requirements (zoning parameters or design guidelines) that could prohibit or limit the ability to use offsite construction effectively? • What is the length and degree of certainty of the approvals and permitting process? Delays in permitting may neutralize any speed of offsite construction benefits vs. traditional construction.
Design and Pre-construction	Meets the needs of individual, bespoke projects with limited reuse of design data. Offers more flexibility for design changes. Adjustments can be made during the construction process.	Works best when components can be standardized. Early design coordination with the manufacturer is required. Building Information Modeling (BIM) is more commonly used to address design coordination than traditional construction. Design must "freeze" prior to production.	• What is the AHJ's level of familiarity with varying forms of offsite construction? Do they understand standards associated with offsite construction (e.g., CSA A277)? • Has the AHJ outlined their documentation requirements and approvals process for offsite construction methods?
Construction	Construction occurs sequentially onsite. Quality control is managed onsite and is subject to weather, labour resource, and site conditions.	Activities are split between the factory and the site and require coordination. Quality control is managed in a factory-controlled environment and often subject to third-party standards.	• Can Building Permits be issued in phases so that a production slot can be secured in a factory while design and permitting continue for the site-built scope? • Is the AHJ open to modified inspection protocols and willing to accept alternative documentation, such as professional field reviews or factory-issued field reviews?

Summary of differentiating factors between a traditional construction process and offsite construction process for wood-frame apartment housing, organized by project stage with associated planning and permitting factors relevant to offsite construction at each stage. Adapted from FPInnovations' *Offsite Wood Construction Handbook*, Chapter 2, Design Logistics. (Mitchell et al., 2025)

2.2 Accelerating the Delivery of Housing

British Columbia's housing crisis is itself evidence that conventional construction methods, delivered through conventional regulatory frameworks, are not equipped to meet the scale and pace of the housing supply needed today. The number of homes needed, the pace at which they must be delivered, and the workforce available to build them have moved beyond what incremental improvements can adequately manage. Meeting the moment requires innovation on two fronts simultaneously: how homes are built, and how municipal approval processes and regulations enable these new construction methods.

The case for DASH therefore rests on two foundations. The first is the labour and productivity challenge facing the construction industry, and the role offsite construction can play in addressing it. The second is a transformation of the policy and regulatory environments that would allow offsite construction to function not only as a project-by-project pilot, but as a scalable and competitive option for boosting the number of homes built.

Finding Efficiencies in the Way We Design and Build to Deliver More Homes

Enabling Offsite Construction to Fill Gaps in an Evolving Labour Force

Canada faces a significant housing supply gap. While the number may vary by source, economists and housing experts agree that millions of homes need to be built over the next decade to restore and maintain affordability. According to the Canada Mortgage and Housing Corporation (CMHC), the country needs to build up to 4.8 million new homes over the next decade—approximately 430,000 to 480,000 units each year—to restore affordability to 2019 levels (Canada ConstructConnect, 2025). At the same time, the construction industry is grappling with a shortage of skilled workers. A recent survey found that 78 percent of Canadian construction firms report difficulties finding qualified labour, and roughly one in five workers in residential construction is expected to retire within the next ten years (KPMG in Canada, 2025). Compounding this labour challenge is the decline in productivity. Since the pandemic, the construction sector's output per hour worked has fallen by 2.6 percent annually, placing it at the bottom of the goods-producing sectors and dragging down overall productivity growth in the economy (Caranci & Marple, 2024).

Shifting the construction of housing components into controlled factory environments helps reduce dependence on a shrinking pool of on-site tradespeople. Global research on the construction sector suggests this shift can move between 30 and 60 percent of project activity offsite, with the potential to achieve productivity gains of five to ten times over traditional methods (Barbosa et al., 2017, as cited in Fariha 2025).

While these figures draw from international data, evidence of comparable gains is beginning to emerge in Canada. Trinity Western University's Jacobson Hall in British Columbia was completed in just nine months and the University of British Columbia's 18-storey Brock Commons Tallwood House achieved a build-schedule reduction of more than ten percent, with the primary structure assembled in under 70 days once prefabricated panels arrived on site (Fariha 2025).

These examples are illustrative rather than conclusive, and the variation in outcomes across projects reflects differences in regulatory context, factory capacity, and on-site integration. More Canadian-specific research is needed to quantify net productivity and cost outcomes reliably. Nevertheless, the direction of evidence is consistent: offsite methods, when well-integrated, deliver meaningful time savings relative to conventional construction.

Beyond schedule performance, offsite building technologies offer a broader set of operational advantages. Compared to traditional site-based construction, these approaches are associated with lower project failure rates, shorter timelines, improved defect detection, and better worker safety outcomes (Patel and Kaushal 2024, as cited in Fariha 2025). The shift from a transient, weather-exposed worksite to a stable, climate-controlled factory environment also supports greater worker satisfaction and productivity, an important consideration as the industry competes for a shrinking labour pool (Hořínková 2021, as cited in Fariha 2025).

In this context, off-site construction offers a practical solution by increasing production efficiency, improving labour conditions and accelerating the delivery of much-needed homes

Evolving Land Use Regulation to Deliver More Homes

The speed and cost of housing delivery are shaped by many factors including municipal approvals & processes. Zoning parameters, design guidelines, and development approvals processes determine how long it takes to move a project from concept to construction. In a region where approval timelines and financing costs place significant pressure on project viability, that timeline has a direct impact on housing affordability and delivery.

Jurisdictions are increasingly turning to land use regulation as a powerful tool for meeting growing housing supply need and finding new opportunities to evolve these systems to work more efficiently, enabling faster, more predictable housing production without compromising the standards communities value.

Modernizing regulatory processes can help municipalities address housing demand, reduce housing costs, and position local governments as leaders in housing innovation. Thoughtful updates to land use frameworks allow communities to preserve neighbourhood identity while meaningfully expanding access to affordable, well-designed homes.

Municipal Approvals Can Occupy Over 50% of Total Project Delivery Time



Generalized timeline of a project start to completion. Adapted from source: Metro Vancouver's *Streamlining the Delivery of Rental Housing Through Pre-Approved Plans and Off-Site Construction* Workshop Presentation delivered February 2024

Innovation in land use regulation typically advances one or more of the following objectives:

- Aligning the OCP vision for growth with implementation tools
- Improving certainty and predictability
- Reducing approval and processing times

The following outlines strategies being implemented in other jurisdictions to achieve those objectives.

Pre-zoning: Returning to a Proven Approach

> Purpose: Pre-zoning removes a lengthy and often unpredictable step in the approval process and provides applicants with the certainty they need to proceed with a project.
>
> Examples of where it's happening: City of Vancouver, City of Surrey, City of Edmonton, City of Minneapolis, City of Portland

As-of-right zoning for multifamily housing is more of a return to a proven approach than it is a novel innovation. For example, during the 1960s, Vancouver proactively expanded its multifamily zoning districts to accommodate anticipated growth, a wave that brought forth many of the apartment neighbourhoods that are beloved today. This forward-looking practice was discontinued in the 1970s, when the City shifted toward site-specific rezoning as the preferred method for enabling new multifamily housing.

This shift was not uncommon; many jurisdictions use the rezoning process to implement land use visions articulated in their Official Community Plan (OCP). The reliance on a site-by-site negotiated process has created points of leverage to test heights, densities and community amenities. However, that process is cumbersome, lengthy and introduces a significant degree of risk to the developers and disruption for the neighbourhood.

On the other hand, strategic pre-zoning in conformance with the OCP offers a clear path toward greater predictability and efficiency, bringing planning and implementation into closer alignment with housing goals.

Delegated Authority: Empowering Staff to Deliver on Policy Goals

> Purpose: Delegating approvals to staff eliminates a lengthy step in the approval process and shortens overall permitting times.
>
> Examples of where it's happening: This is common practice to varying degrees across BC

Municipal staff are entrusted with implementing the vision established in OCPs and Local Area Plans, and have the professional expertise to interpret and apply these policies consistently. Municipalities can improve predictability and reduce processing times by delegating the review and approval of permit applications to staff as well. Some municipalities, such as the City of Victoria, have done this via clear parameters for approval within key application types, building forms, and sub-areas of the City. Staff have also been delegated to approve variances to zoning through the Development Variance Permit tool within a Council-defined range for things like height, setbacks and parking ratios in key areas of the City. This approach offers applicants a shorter approval timeline while confirming that proposed projects firmly align with the municipality's planning objectives and policy intent.

Electronic Permitting: Building Efficiency Through Digital Review

> Purpose: Automating routine compliance reviews can reduce processing times and redeploy staff capacity to higher-complexity files.
>
> Examples of where it's happening: City of Kelowna, City of Surrey, City of Richmond, City of Burnaby

Electronic permitting leverages digital permitting systems to assess applications against standardized, objective design criteria. This approach is already being implemented across several BC municipalities, including Kelowna, Surrey, Richmond and Burnaby, for low-density housing forms. By automating routine compliance checks, staff time is freed to focus on more complex proposals that benefit most from professional judgment.

E-compliance also lays the groundwork for expanding digital review to additional housing types, including low-rise apartments and other low- to medium-density forms. Staff expertise remains central to the process, with electronic checking directing their attention to where it adds the greatest value.

Fast-Track Approvals: Accelerating Delivery Through Pre-Approved Designs

> Purpose: Pre-approved designs eliminate redundant review cycles and give the development community a publicly-accepted, reliable, low-risk pathway to housing delivery.
>
> Examples of where it's happening: City of Kelowna, City of Burnaby, New South Wales

Fast-track approval processes are designed to accelerate development approvals for housing by linking pre-approved designs to shortened permitting timelines, reducing approvals from months to weeks. While this approach is typically applied to multiplex-scale housing in Canada, the model is well-suited for adaptation to higher-density, purpose-built apartment development. New South Wales, through their pattern book for medium-density projects, demonstrates the possibility to scale fast-track processes to meet a wider swathe of housing demand.

DASH Connects Innovation in Construction with Regulatory Modernization

DASH brings innovations in design and construction and land use regulatory modernization together. It layers a kit of standardized, prefabricated parts, reference designs and recommendations for a standard zoning bylaw and form and character design guidelines, which together lay the groundwork for e-compliance checking. The success of the DASH design tools is dependent on the planning, approvals, and permitting systems currently in place harmonizing with DASH tools and methods.

The DASH System: A Primer

Pages 9 and 10 are authored by BC Housing. Learn more: https://www.acceleratedhousing.ca/

Housing Supply

Purpose-built rental housing is not keeping up with demand across Metro Vancouver. In 2023, B.C. recorded 50,490 housing starts; however, this number must rise to 65,000 annually to keep pace.

Labour and Productivity

Using prefabricated systems for construction presents an opportunity to accelerate housing delivery and grow the green economy while supporting local employment, local manufacturing and B.C.'s forest industry.

Beyond Housing, Community Development

In B.C., the Social Return on Investment (SROI) from non-market housing exceeds the economic stimulus of construction alone. Adding roughly 20–30% in value when it delivers affordable housing, and up to 92% when it serves and supports marginalized populations[1]. DASH frees up design time to focus on high-value creative aspects and features, resulting in a variety of housing to meet the needs of a wider population.

1. BC Housing, (2016) Social Return on Investment of Affordable Housing Development



330 Goldstream Ave
Photo courtesy James Jones in media publications & @jamesjonesphotos on Instagram

The open-source platform provides "blueprint" designs that are adaptable while adhering to the BC Building Code and municipal guidelines. It makes it easy to configure sites for standard suite layouts and mixes, and to verify site suitability for the project. Designers can focus resources on high-value design activities and customization to better meet the needs of future residents.

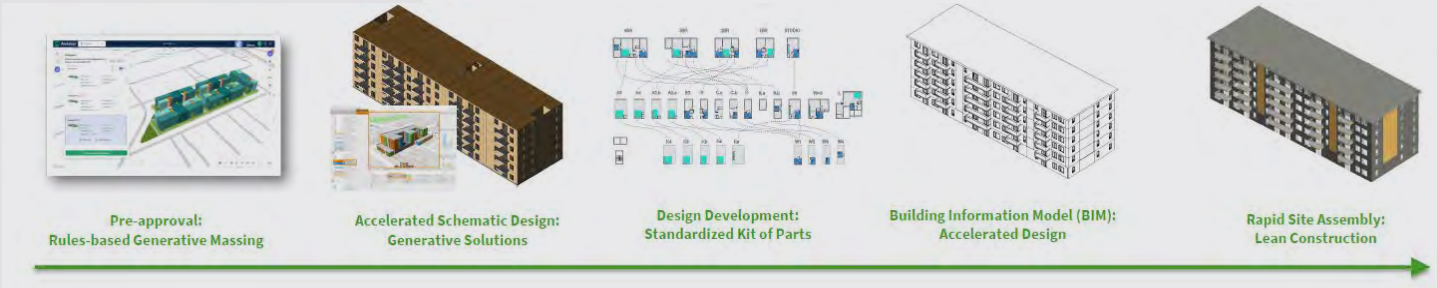
DASH features include:

- All-in-one platform to rapidly assess sites and optimize design.
- Suggests sites that would better suit a project, limited to select municipalities.
- Non-proprietary, permit-friendly, BIM enabled DFMA-based suite of "blueprint" designs for prefabricated mid-rise multifamily housing.
- Adaptable design components that meet the BC Building Code 2024, construction standards and municipal requirements, to streamline approvals.
- Design flexibility. Prefabricated panels can be combined in different configurations (layout and unit mix) to optimize design for lot dimensions, conditions and location.
- Permit-friendly DASH "kit-of-parts" optimized for prefabrication and rapid assembly using locally manufactured products.
- A virtual marketplace for prefabrication suppliers to connect with architects and engineers.

Viable Standardized Designs

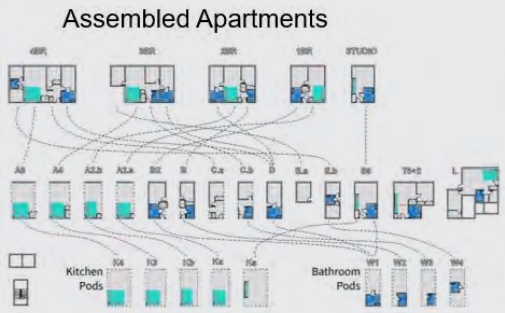
DASH represents a fundamental evolution in how we create buildings. It lends itself to simple elegant architectural forms that support standardization.

DASH Addresses the Whole Design Process

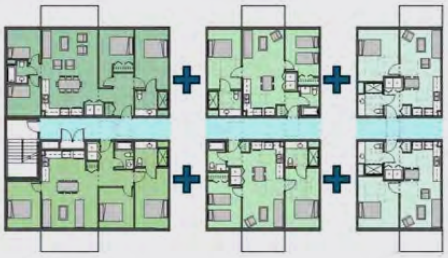


Connecting standardized designs, prefabricated parts, and a coordinated supply chain, using non-proprietary components for accelerated delivery.

Design Modules



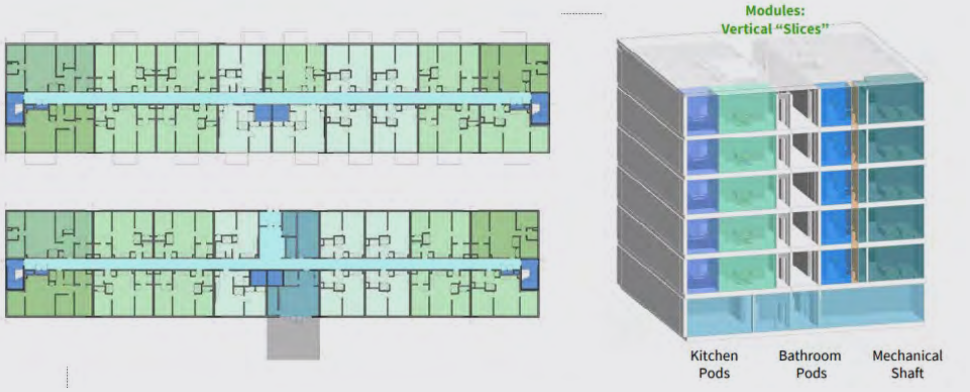
Design Modules



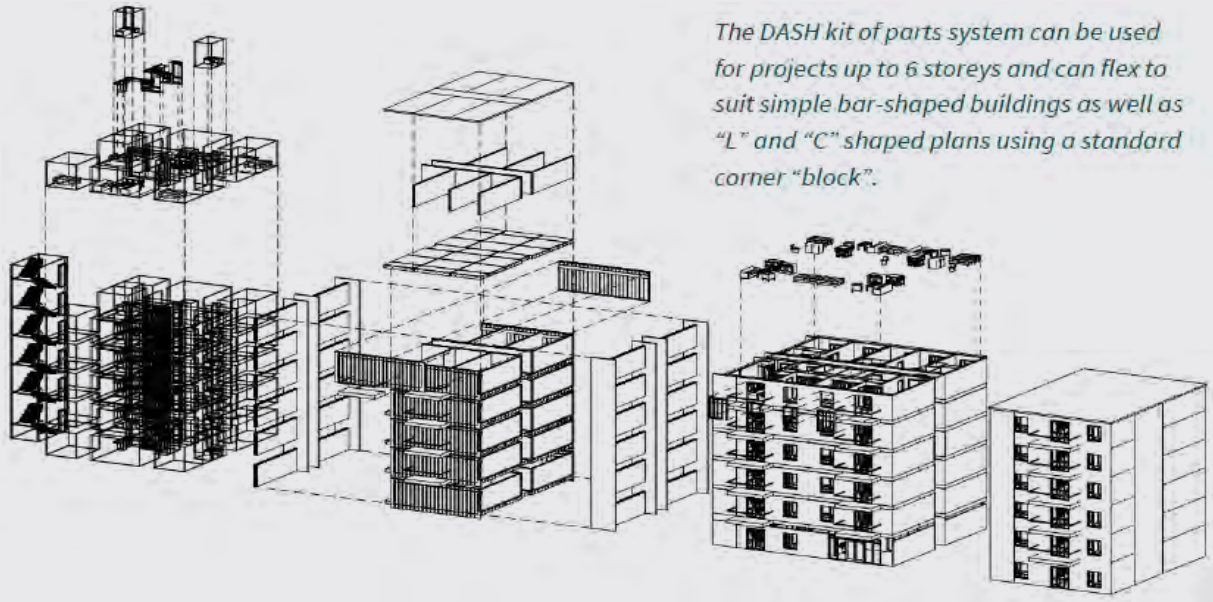
Reference Building

A simplified, cost-effective building optimized for off-site construction, with a scalable and repeatable design. The mix of studios, 1-4 bedrooms can be adjusted to the development requirements.

Design Efficiency



Building organized as vertical slices, with flexible components to create different unit mixes and development sizes. Design efficiently stacks building services (kitchen, bathroom, mechanical) for quick assembly.



Building Information Modeling (BIM) is a collaborative process that creates a detailed digital model of a building's physical and functional aspects. It helps project teams by using 3D modeling to plan, design and manage buildings, through the project's lifecycle.

2.3 Getting to DASH-ready Planning, Approvals and Permitting Environments

The DASH system and its tools provide general recommendations and guidance for moving towards a DASH-ready planning, approvals and permitting environment. This report aims to:

1. Identify common obstacles in the traditional planning and permitting approvals process and its impacts on the viability of offsite construction and panelized construction;
2. Describe the immediate, short-term, and long-term actions that jurisdictions can take to become ready for DASH projects; and,
3. Introduce case studies that examine current regulatory processes in three different Metro Vancouver municipalities, highlighting innovations and opportunities that can be applied elsewhere.

Why Does DASH Focus on Panelized Construction?

While there are many forms of offsite construction, this report focuses primarily on facilitating panelized construction methodologies aligned with the DASH kit-of-parts approach. Panelized construction offers a high level of customization and is more readily adapted than other forms, such as volumetric modular construction.

Because of its ability to recreate familiar, site-built building design, panelized construction forms the basis of the DASH kit-of-parts system, and the recommendations included in this report.

From *A Practice Path Forward for Offsite Manufacturing:*

> "[Panelized Construction (PC)] is compact, flexible, and cost-effective. It is easy to start and scale in a small manufacturing space and can rapidly increase framing capacity. Most anything that can be stick-built can also be panelized, without additional engineering or permits. Flat stack bundles and standard freight dimensions minimize shipping costs. PC is borne out of the component manufacturing industry, so there is a wealth of standard equipment and automation on the market to help boost efficiency."

Planning Instruments to Enable Panelized Construction

The regulatory changes outlined in the previous section offers meaningful benefits for housing delivery regardless of construction method. For municipalities interested in actively enabling the offsite construction industry, and DASH projects, there is an additional opportunity: ensuring that regulations are written with industrialized processes in mind from the outset. Changes to land use regulation and permitting processes must factor the certainty needed to pre-order components ahead of construction and the reality that industrialized processes require standardized, repeatable elements that can be produced at scale.



Roofing panel lowered into place. Image source: Structural Insulated Panels Association



Open wall panels assembled on-site. Image source: Atlas Structural Systems

What is Panelized Construction?

Offsite construction or prefabrication is a construction approach in which building elements are produced in a controlled environment, transported to site, and assembled, rather than constructed on-site. Panelized construction is a form of offsite construction. The University of New Brunswick's Off-site Construction Research Centre states that panelized construction involves the production of flat panels, such as walls, floors and roof sections, which are then assembled on-site. Panels can be made from a variety of materials including wood, steel and concrete.

This application is suitable for residential homes, apartment buildings, commercial buildings and educational facilities.

Compared to other forms of offsite construction—including the pre-fabrication of 3-D modules (also known as volumetric modular construction)—benefits of this method of offsite construction include:

- Increased flexibility in design and customization
- Reduced construction time compared to traditional methods
- Enhanced precision and quality through factory manufacturing

For these reasons, panelized construction represents a practical and scalable entry point for integrating offsite manufacturing into British Columbia's housing supply, with the potential to deliver meaningful gains in speed, quality, and cost efficiency within the existing regulatory and development context.

What can panelized construction look like?

Residential buildings designed with panelized construction typically feature simple building massing with minimal articulation, aligned to structural grids. Balconies can pose structural complexity and may be minimized or designed to be structurally independent from the building.



The Wellington. Saint John, New Brunswick. Photo: Julian Parkinson





Skousbo I, Denmark, Vilhelm Lauritzen Architects



Community living in Wedding - Lynarstraße 38-39, Berlin, Germany. Photo: © Markus Löffelhardt



Residential rental building with commercial retail space at grade. Toronto, ON. CMV Architects, Assembly Corporation



Brock Commons Student Residence, UBC Vancouver, BC. HK Architekten, Acton Ostry Architects

The BC Municipal Planning Framework

Municipal Land Use Planning Instruments

Municipal planning instruments are the legal documents through which BC municipalities determine what gets built, where, and how.

Planning Instrument	Risk to Panelized Construction	Opportunities
Official Community/Development Plan: A local government's highest-level land use policy document, setting out the long-term vision for how land should be used, where growth should occur, and what policies govern development decisions. All other planning instruments must conform to it.	By determining where building forms are appropriate, the official community/development plan can facilitate a predictable project pipeline.	• Standardize land use categories across regional scales • Include housing policy that considers and is supportive of offsite construction
Development Permit Area Guidelines: Local governments have the authority to designate development permit areas. These areas identify locations that need special treatment for certain purposes including protection from hazards, establishing objectives for form and character in specified circumstances, or revitalization of a commercial use area.	Form and character design guidelines included in development permit areas that were not written with offsite construction methods in mind and may include design or structural complexity that negatively impact the viability of panelized construction.*	• Remove upper-storey stepback requirements for buildings up to 6-storeys • Allow a mixture of private and common amenities rather than requiring all units to have balconies • Achieve facade variation without requiring substantial articulation
Zoning Bylaw: The primary legal instrument governing development rights. It prescribes what uses are permitted and the physical standards that govern development (e.g., setbacks, height limits, lot coverage, and parking ratios).	While the zoning bylaw is commonly understood as the instrument that implements official community/ development plan, parcels are often not zoned in conformity with the official community/ development plan by default.	• Standardize zoning district schedules. • Pre-zone lands in conformance to the OCP/ODP's land use designations • OR, establish standard overlay zoning district schedules that facilitate predictable design outcomes through embedded design criteria

*Reference DASH's *Local Government Regulatory Guidelines* for further direction: https://www.acceleratedhousing.ca/

The Development Approval Process

This is when a project is evaluated against the land use regulations that govern land development and the BC Building Code.

Development Approval Step	Risk to Panelized Construction	Opportunities
Rezoning Amendment: A site-specific change to a jurisdiction's Zoning Bylaw, required where a proposed development does not conform to the permitted uses or development standards applicable to a parcel. Rezoning applications are subject to public notice and council approval.	For many sites designated for low- to mid-rise apartment development in an official community plan, achieving zoning conformity requires a site-specific zoning bylaw amendment, adding a layer of discretionary approval before the building envelope is settled. As zoning bylaw amendments can take several months to over a year, the process generates risk that the amendment is not approved or materially changed affecting a manufacturer's specifications or project pipeline.	• Pre-zone lands in conformance to the OCP's land use designations* • OR, establish standard overlay zoning district schedules that facilitate predictable design outcomes through embedded design criteria *
Development Application: A formal request to local government for approval to build, subdivide, or alter land within designated areas. It ensures projects follow community guidelines for design, character, and safety. Common examples include multi-family housing, commercial developments, and building in hazardous or environmentally sensitive areas.	Municipalities may require design revisions to façade treatment, material selection, or building geometry as a condition of approval. These design revisions can require panel redesign or customization, directly undermining the standardization that makes factory production economical.	• Streamline design guidelines into objective design standards that limit subjectivity in approvals* • Implement electronic review using design standards • Delegate development approvals that are OCP compliant, and design standard compliant to staff
Building Permit: An application to the local government for authorization to construct a building in accordance with the BC or Vancouver Building Code and applicable zoning standards. The building permit is the final regulatory step before construction may begin, and is issued once the AHJ confirms that the proposed construction meets all applicable requirements.	In principle, building permit issuance should be a technical confirmation that a compliant design may proceed: the point at which offsite production can begin with full confidence. In practice, review timelines vary significantly across municipalities, and permit conditions or requests for additional information can introduce late-stage delays. For panelized construction, where factory scheduling depends on predictable site-readiness timelines, building permit delays can disrupt production sequencing and increase holding costs – in some cases by requiring the storage of completed panels. Additionally, building officials across the region are navigating unfamiliar territory: limited exposure to offsite construction methods and the CSA A277 certification standard has made it difficult to assess how prefabricated components demonstrate compliance with the applicable Building Code, introducing risk concerns that can slow or complicate the approvals process. In some cases, officials have expressed a desire to inspect components at the factory directly. Where factories are located outside a municipality's boundaries or in another province, this raises unresolved questions about inspection authority and what certifications can be accepted in lieu of direct review.	• Facilitate training and knowledge sharing regarding CSA A277, the Canadian Standard for certifying that factory-built structures comply with the provincial and national building codes • Publish approach to reviewing applications using prefabricated components

*Reference DASH's *Local Government Regulatory Guidelines* for further direction: https://www.acceleratedhousing.ca/

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Where We Could Go

The innovation described in the previous section represents a meaningful opportunity to transform existing planning and permitting systems. Traditional planning processes are built on layered, bespoke rules and subjective design decisions based on site-by-site, custom development. The corresponding permitting revisions rely on iterative, document-based discretionary reviews that introduce time and uncertainty at every stage. A future state where regulatory compliance is automated and permitting is standardized is technically conceivable and feasible: a compliant BIM model submitted by a design team triggers an automated check against machine-readable rules, and a permit is issued without individual review. DASH, as a reference design built on standardized components, is a reasonable early step in this direction.

Following the DASH demonstration projects, BC Housing will purchase the building designs used by the DASH blueprints and kit of parts. BC Housing will post the design outcomes on the DASH website as an open-source catalogue. That catalogue can create the foundations of the e-permitting process, though realizing that potential will require significant changes to how planning rules are written and administered.

The distance between the current state and that future should not be understated. Automating compliance requires that planning rules be objective, clear, and machine-readable. In Metro Vancouver today, the opposite is largely true: rules are discretionary, and written in subjective language that is not suited to automation. Closing that gap will require a fundamental shift in how municipalities write and administer planning policy, zoning and development permit regulation and guidelines. These changes will require adjustments to city council and staff authorities, community engagement processes, and professional reliance.

Achieving that future is best understood as a long-term directional goal rather than a near-term deliverable. The table on the following page maps that progression across three stages, from the current state through to full automation, across both planning and building permitting. Each stage is achievable on its own terms and delivers value independently of whether the final stage is ever reached. DASH demonstration projects provide a practical testing ground for the transition from stage 1 to stage 2.

Meaningful progress toward this vision will require sustained provincial leadership: establishing open digital standards for cataloguing planning rules; leading batch software procurement on behalf of smaller jurisdictions; building local capacity; and integrating these changes into the BC Building Permit Hub as a coherent system. Without that provincial coordination, the risk is that municipalities invest in digital tools that are locally useful but regionally incompatible, which reinforces the fragmentation that already constrains offsite construction.

DASH has the opportunity to demonstrate what a more standardized, digitally-enabled housing delivery system could look like in British Columbia. Whether that demonstration leads to the systemic change the vision requires will depend on collective leadership, resourcing, and a willingness to transform current systems and tools.

	Traditional Approach	Stage 1 Innovation	Stage 2 Innovation	Stage 3 Innovation
Planning (Regulatory Simplification)	Layered, bespoke rules; discretionary guidelines.	Objective, machine-readable standards; DASH recommendations considered; rules inventory complete	Automated zoning compliance pre-checks; GIS-linked pass/fail site validation	Pre-zoned areas suitable for DASH reference designs; fully automated planning compliance
Building (Digital Permitting)	Paper/PDF intake; iterative reviews; long timelines	Pre-vetting of DASH reference designs; accelerated intake and issuance; structured digital forms	Partial auto-check in place for some zoning and key BCBC clauses; BIM/IFC submissions accepted	Touchless permitting for compliant BIM models; manual review only for edge cases

Integrating Building Information Modelling/Management (BIM)

The efficiency gains of offsite construction depend not only on how buildings are assembled, but on how they are designed. Building Information Modelling (BIM) is a digital process that integrates design, construction, and building operations into a coordinated model, and is an enabler of offsite delivery. By shifting coordination work to earlier in the design phase, **BIM allows teams to identify clashes between design decisions and prefabricated systems before detailed design and construction begins, reducing costly rework and limiting waste on site.** When BIM is adopted across the project team, the result is a more predictable construction process and stronger alignment between what is designed and what is built.

The potential extends beyond individual projects. Where municipalities adopt BIM as a coordinating tool between building officials and applicants, it can accelerate permitting and improve the quality of regulatory review. Public authorities in Singapore, Finland, Estonia, and Dubai have moved furthest in this direction, integrating BIM-based submissions into permitting workflows to enable automated compliance checking and reduce manual review time (buildingSMART International, 2024). Canada has not yet taken this step. There is no national BIM mandate for public projects, no Canadian-specific standard for data requirements, and no consistent expectation that models be maintained through to occupancy (BC Housing Research Centre, 2024). Without this foundation, BIM adoption varies widely across projects and jurisdictions, limiting the coordination benefits that make its use for offsite construction most effective. Addressing this gap is part of what DASH is designed to support.

3. Action Framework

Section Overview

Action Framework At-a-glance

This section provides a summary of the recommendations included in the Action Framework.

Phase 1 - Immediate Actions

This section describes actions that can be taken by senior staff today, typically within existing authority and without bylaw amendment or council resolution. Individually, each action removes a specific friction point for offsite construction. Together, they send a clear signal to the development and manufacturing sectors that the municipality embraces modern methods of construction.

Phase 2 - Short-term Actions

This section describe actions that involve changes to internal processes and administrative practices that can be implemented within existing legislative frameworks. They address the timing and certainty challenges that are most acutely felt by offsite construction projects, where design decisions must be locked in earlier than conventional construction.

Phase 3 - Long-term Structural Actions

These actions require bylaw or policy amendments and a longer implementation horizon. They represent the structural changes that will most durably shift the regulatory environment in favour of offsite construction, and should be prioritised within the next OCP and zoning bylaw update cycles.

Phase 4 - Future Horizons

This section describes actions that represent the technical and systemic innovations that will define the long-term potential of offsite construction in BC. They require sustained investment, provincial coordination, and a willingness to redesign systems rather than pursue incremental improvements. These are directional ambitions.

Action Framework

Throughout this engagement, three challenges surfaced consistently across municipalities: limited staff and council familiarity with offsite construction, including the process-change required to support it; public misconceptions of what constitutes prefabrication or offsite construction, and a concern about whether desired urban design outcomes can be achieved.

These concerns point to a clear opportunity for targeted, phased actions that enable municipalities to move from uncertainty to confidence, building the internal knowledge, regulatory tools, and community awareness needed to support offsite construction as a mainstream housing delivery method.

With DASH projects moving through municipal development approvals in the near-term, this guide aims to provide actions that help jurisdictions address immediate needs alongside longer-term changes to planning systems. The recommendations are organized as a roadmap for becoming offsite-ready: a jurisdiction where planning, development, and building departments are equipped to process offsite projects efficiently; where the policy environment supports the design standardization that makes factory production scalable; and where the development and manufacturing sectors have a reliable pipeline.

The roadmap is organized into four phases:

- **Phase 1** actions require no bylaw changes or Council approvals and can be implemented immediately by senior staff.
- **Phase 2** actions involve administrative process reform achievable within existing legislative frameworks.
- **Phase 3** actions require bylaw or policy amendments and a longer implementation horizon.
- **Phase 4** actions represent the technical and systemic innovations that will define the long-term potential of offsite construction in BC.

It also identifies amplifying actions for the Province and BC Housing, recognizing that municipal efforts can be amplified by provincial leadership.

The recommendations were developed with input and feedback from staff at the City of Richmond and BC Housing partners and draw on lessons shared by FPInnovations, the Zero Emissions Innovation Centre and Canada Builds Modular.

Funding Support for Implementation

Municipalities and jurisdictions should track provincial funding sources, such as the Local Government Development Approvals Program, to support Action Framework implementation.

Action Framework At-a-glance

Immediate Actions

These actions can be taken by senior staff today, typically within existing authority and without bylaw amendment or Council resolution. Individually, each removes a specific friction point for offsite projects. Together, they send a clear signal to the development and manufacturing sectors that the municipality is open for business.

1. Issue an internal memo accepting CSA A277 factory certification
2. Designate a named offsite permit specialist within the building department
3. Publish a plain-language offsite permit guide on the municipal website

Short-term Actions

These actions involve changes to internal processes and administrative practices that can be implemented within existing legislative frameworks. They address the timing and certainty challenges that are most acutely felt by offsite projects, where design decisions must be locked in earlier than conventional construction.

1. Create a formal pre-application written determination for offsite dimensional compliance
2. Establish a parallel-path permit review stream for offsite projects
3. Support CSA A277 orientation training for all building officials
4. Audit the zoning bylaw and DPAs for offsite friction points
5. Reduce development variance permit requirements where the variance arises solely from standard panel dimensions and delegate approval to staff

Long-term Structural Change

These actions require bylaw or policy amendments and a longer implementation horizon. They represent the structural changes that will most durably shift the regulatory environment in favour of offsite construction, and should be prioritised within the next OCP and zoning bylaw update cycles.

1. Incorporate dimensional tolerances into a zoning update
2. Establish an administrative DP approval pathway for A277-certified offsite projects in form and character DPAs
3. Publish an annual offsite permit metrics report

Future Horizon

These actions represent the technical and systemic innovations that will define the long-term potential of offsite construction in BC. They require sustained investment, provincial coordination, and a willingness to redesign systems rather than improve them incrementally. They are presented here not as near-term deliverables, but as the directional ambition that should orient decisions made in the earlier phases.

1. Adopt e-permitting processes
2. Apply the BC Housing catalogue for expedited approvals

3.1 Phase 1: Immediate Actions

These actions can be taken by senior staff today, typically within existing authority and without bylaw amendment or council resolution. Individually, each removes a specific friction point for offsite projects. Together, they send a clear signal to the development and manufacturing sectors that the municipality is ready for offsite construction.

Engagement with municipalities highlights how building officials review and approve projects that incorporate prefabricated components. This is where CSA A277 becomes essential. CSA A277 is the Canadian standard for factory certification of prefabricated buildings, modules, and panels. It establishes the quality assurance framework that governs how prefabricated components are designed, fabricated, and inspected before they arrive on site. For building officials, familiarity with CSA A277 is foundational for reviewing offsite projects with confidence. A building official who understands what CSA A277 certification covers, and what it does not, is far better positioned to determine what additional review is required at the permit stage and what can reasonably be accepted on the basis of factory certification. Building this familiarity is fundamental to establishing an offsite-ready approvals environment, and it is a thread that runs through the recommendations that follow.

1.1 Issue an internal memo accepting CSA A277 factory certification

Directing the AHJ to formally accept A277 documentation packages from accredited certification bodies in lieu of travel inspections is a high-impact action a municipality can take with relatively low-risk effort. The BC Building Code already permits this. A written memo makes the practice explicit, consistent, and visible to applicants.

Lead: Chief Building Inspector

How: Direct the AHJ to accept A277 documentation packages from accredited certification bodies in lieu of travel inspections for factory-built components. Require Registered Professionals to demonstrate attendance at the manufacturing facility for field review where required by the Certificate of Compliance.

Authority: AHJs have discretion under the BC Building Code to accept A277 certification. A written internal memo standardizes this practice without requiring a bylaw change or provincial action.

Impact: Reduces per-project travel inspection costs that make small and mid-scale offsite projects uneconomic, and provides applicants with the certainty they need to commit to factory-based delivery.

Provincial Amplifying Action

The Province could follow Alberta's model and mandate A277 recognition in the BC Building Code, removing AHJ discretion entirely and establishing a consistent standard across all jurisdictions. This memo is the appropriate interim measure until that standard is in place.

1.2 Designate a named offsite permit specialist within the building department and include them early in the development approvals process

One of the most common friction points for offsite projects is navigating a permitting system that was not designed with factory-based construction in mind. A single named contact within the building department, publicly identified as the first point of contact for panelized and modular applications, removes that friction immediately and signals to the sector that the municipality understands and welcomes this form of construction.

Lead: Building Department / CAO

How: Assign one building official as the designated contact for all panelized and modular permit applications. Provide CSA A277 orientation training. Include this official in pre-application meetings where the applicant is using prefabricated components.

Authority: An internal staffing and role assignment decision. No new hires required; this is a capacity-building measure within an existing position.

Impact: Reduces documentation errors, pre-application uncertainty, and application rejections. Even a part-time designation significantly reduces project friction for applicants unfamiliar with local permitting requirements.

Provincial Amplifying Action

BC Housing or the Province could assemble and share peer learning across municipalities, curate recommended training resources from partners such as the Zero Emissions Innovation Centre, and develop a shared orientation module that any municipality can adopt.

1.3 Publish a plain-language offsite permit guide on the municipal website

Builders and manufacturers considering a project in an unfamiliar municipality need to quickly assess whether the local permitting system is responsive to prefabricated and off-site construction methods before committing time and resources. A clear, publicly available guide removes that uncertainty and reduces the volume of pre-application inquiries staff must field.

Lead: Building Department / Communications

How: Publish a one-page guide covering: required documentation for an A277-certified panelized project; how the AHJ treats factory certification; and expected timelines from application to permit issuance.

Authority: A communications and website decision. No approval required beyond the building department and communications team.

Impact: Reduces pre-application inquiries, documentation errors, and application rejections. Builders from outside the municipality can assess local process requirements before committing to a project.

Provincial Amplifying Action

BC Housing and the Province could develop a draft guide in an editable format for municipalities to adopt as-is or adapt to their specific conditions, reducing the effort required at the local level.

3.2 Phase 2: Short-term Actions

These actions involve changes to internal processes and administrative practices that can be implemented within existing legislative frameworks. They address the timing and certainty challenges that are most acutely felt by offsite projects, where design decisions must be locked in earlier than conventional construction.

2.1 Create a formal pre-application written determination for offsite dimensional compliance

A source of cost and schedule risk for offsite projects is a dimensional compliance question, such as a setback interpretation or FSR calculation that arises after panel engineering is already underway. Panel geometry must be locked in before permitting. A written pre-application determination, that identifies zoning compliance at submission, before panel design is finalized, may address this risk without changing any approval outcomes.

Lead: Building and Planning Departments

How: Establish a process for projects using offsite construction to obtain a written AHJ determination on zoning compliance, setback interpretation, and FSR calculation before panel engineering is finalised. Commit that the determination will be honoured at permit stage on the condition that late stage changes do not happen from the designer/applicant that have a material impact on development permit or building code compliance.

Authority: An administrative decision. Pre-application meetings already exist in most BC municipalities but are informal and non-binding. Adding additional rigour to these meetings with the specific aim of conferring on key zoning parameters that have an impact on dimensional compliance could be done as a process update at the staff level.

Impact: Moves dimensional compliance risk to the pre-application stage where design changes are still manageable.

CSA A277: An Overview

CSA A277 is the Canadian standard for factory certification of prefabricated buildings, modules, and panels. Under this standard, an accredited third-party certification body audits a manufacturer's quality management system and conducts periodic unannounced factory inspections, verifying that components are built to the applicable building code before they leave the facility. It is important for applicants to understand the scope of the certification and how it interfaces with the proposed design. For municipalities, accepting A277 certification means that factory-produced components arrive on site with a documented quality assurance record, reducing the need for on-site inspection of work that is already enclosed. The BC Building Code gives Authorities Having Jurisdiction the discretion to accept A277 certification in lieu of travel inspections. Several BC municipalities already do so informally. The steps in this roadmap build toward making that acceptance consistent, transparent, and sector-wide.

2.2 Establish a phased permit review for offsite projects

For offsite projects, the conventional sequential relationship between development permit approval and building permit issuance creates a scheduling conflict: factory production cannot begin until permits are in hand, but permit timelines are uncertain. A phased building permit allows factory procurement to begin at the applicant's risk while approvals are completed, compressing the overall project schedule.

Lead: Building Department

How: Introduce phased permitting to allow factory scheduling to begin while the building permit is under active review. Clearly communicate the applicant's risk exposure if late-stage design changes occur.

Authority: An administrative decision by the Chief Building Inspector. No bylaw amendment required.

Impact: Directly addresses the scheduling incompatibility between discretionary approval timelines and factory production windows, enabling earlier factory engagement and reducing overall project delivery time.

Provincial Amplifying Action

The Province could create a model recommended parallel path process.

2.3 Support CSA A277 orientation training for all building officials

A permit specialist designation addresses the immediate need for a knowledgeable first point of contact. Broader staff training ensures that offsite projects can be processed consistently across the department, reducing the risk that an unfamiliar reviewing official introduces unnecessary friction or delay.

Lead: Building Department / HR

How: Require completion of the CSA Group Modular Construction Projects training as part of building official professional development. Integrate into onboarding for new hires. The module requires approximately three to four hours per official.

Authority: An HR and professional development decision within the building department.

Impact: Builds consistent departmental knowledge, reducing application errors and the risk of inconsistent treatment across reviewing officials.

Provincial and Metro Vancouver Amplifying Actions

The Province could fund AHJ-focused training, making it standard across all BC municipalities. Metro Vancouver could work with education providers to host training cohorts across member jurisdictions. Both organizations could work with CSA to modify training for an AHJ audience.

2.4 Audit the zoning bylaw and DPAs for offsite friction points

Before bylaw amendments can be made, municipalities need a clear picture of where the current regulatory framework creates unintended barriers for offsite construction. A structured audit of the zoning bylaw and Development Permit Area guidelines, conducted with offsite construction in mind, creates the basis for Phase 3 actions.

Lead: Planning Department

How: Review the zoning bylaw and DPA guidelines to identify setback, FSR, height, and upper-storey stepback requirements that conflict with standard panel dimensions. Flag identified provisions for update at the next OCP update cycle.

What to look for: FSR calculation methods that do not account for thick high-performance wall assemblies; manufactured dwelling definitions that could be misapplied to panelized construction; DPA guidelines requiring heavy masonry cladding, individual balconies, or upper-storey stepbacks incompatible with standard panel geometry. Confirm zoning bylaw definitions do not conflate CSA A277 modular construction with transportable manufactured homes.

Authority: A planning department work program decision. No council approval required to conduct the audit.

Impact: Produces a targeted list of regulatory obstacles that can be addressed efficiently at the next bylaw update, avoiding the cost and disruption of ad-hoc amendments.

2.5 Reduce development variance permit requirements where the variance arises solely from standard panel dimensions and delegate approval to staff...

...where a development variance permit (DVP) is required only because standard panel dimensions fall marginally outside a siting standard with no material impact on adjacent properties or the broader neighbourhood. A development procedures bylaw update waiving or reducing the fee decreases financial impacts of these changes while preserving the intent of the DVP process. Further, delegation of certain variances (like those created by panel sizes) to staff so they can be executed at the staff level would also help to streamline the process and decrease approval times.

Lead: Council

How: Update the development procedures bylaw by establishing eligibility criteria for fee waiver or reduction. For example, the variance arises from standard panel product dimensions; there is no material impact on adjacent properties; and the project otherwise meets all zoning requirements. Further procedures bylaw updates to delegate DVP approval to staff for similar situations, within a defined threshold aligned with the fee reductions.

Authority: Council has authority to set and waive development application fees and delegate approvals via bylaw updates.

Impact: Removes a cost for offsite projects that are technically compliant in all material respects and maintains speed of the process.

Reference DASH's *Local Government Regulatory Guidelines* for further direction:
https://www.acceleratedhousing.ca/



Workers guide a CLT panel into place. Vienna House, Vancouver, BC. Image source: viennahouse.ca



Panel craned onto the site. Vienna House, Vancouver, BC. Image credit: Wade Corner

3.3 Phase 3: Long-term Structural Actions

These actions require bylaw or policy amendments and a longer implementation horizon. They represent the structural changes that will most durably shift the regulatory environment in favour of offsite construction and should be prioritised within the next OCP and zoning bylaw update cycles.

3.1 Incorporate dimensional tolerances into a zoning update

Standard panel dimensions and the thick wall assemblies required by high-performance building envelopes can place otherwise compliant projects in technical breach of setback, FAR, and height provisions. Including dimensional tolerances into the zoning bylaw resolves this structural incompatibility without compromising the intent of the underlying standards.

Lead: Planning Department / Council

How: Use the mandatory OCP update cycle as the impetus for updating the zoning bylaw. Implement the changes identified in the Phase 2 audit, including introducing setback exceptions for high-performance wall assemblies, FAR calculation adjustments for thick insulated panels, and height tolerances for roof panel systems.

Precedent: Several BC municipalities have already introduced tolerances to accommodate the greater insulation thickness required by passive house construction. The same logic applies to panelized offsite systems.

Provincial Amplifying Action

The Province could publish a reference zoning schedule incorporating these tolerances, developed in coordination with industry associations such as WoodWorks BC. Industry could support this process by working toward the publication of standard panel dimensions that municipalities can reference directly in their bylaws.

3.2 Establish an administrative DP approval pathway for A277-certified offsite projects in form and character DPAs

Discretionary design panel review introduces timing uncertainty that is incompatible with factory production schedules. For A277-certified offsite projects that meet an objective design checklist, replacing discretionary panel review with administrative staff approval eliminates this incompatibility without reducing the quality of design outcomes.

Lead: Planning Department / Council

How: Amend DPA guidelines to provide an objective compliance checklist for A277-certified projects. Qualifying applications meeting all checklist criteria to be approved administratively by staff, bypassing the design panel review process.

Impact: Eliminates the design panel review step for qualifying offsite projects.

3.3 Publish an annual offsite permit metrics report

Consistent public reporting on offsite permit activity creates accountability, a feedback loop for continuous improvement, and an evidence base for provincial advocacy. It also signals to the development and manufacturing sectors that the municipality is actively tracking and supporting this form of housing delivery.

Lead: Building Department / Council

How: Track and publicly report the following metrics annually: number of offsite permits issued; average days from application to permit; percentage of applications requiring a DVP; inspection method used; and permit volumes by housing type.

Impact: Creates a transparent record of the municipality's progress toward becoming offsite-ready, and provides the data needed for provincial regulatory advocacy.

Provincial Amplifying Action

BC Housing's DASH program could aggregate and publish these statistics, building a regional evidence base for use by municipalities and industry stakeholders across BC.

3.4 Phase 4: Future Horizon — Technical Innovation

These actions represent the technical and systemic innovations that will define the long-term potential of offsite construction in BC. They require sustained investment, provincial coordination, and a willingness to redesign systems rather than improve them incrementally. They are presented here not as near-term deliverables, but as the directional ambition that should orient decisions made in the earlier phases.

4.1 Adopt e-permitting processes

For offsite construction projects, digital submission and real-time application tracking provide the schedule certainty that factory production depends upon, reducing the risk of unexpected delays mid-manufacture. An e-permitting system that allows applicants to submit, track, and receive decisions on development and building permit applications digitally is the foundational infrastructure for the more ambitious automation described in Phase 4.

Lead: Planning Department / Council

How: Implement an electronic permitting system with digital submission, real-time application tracking, and online decision notification. Prioritise structured digital submission forms that are compatible with BIM and Issued for Construction (IFC) file formats used in DASH projects.

Provincial and Metro Vancouver Amplifying Actions

The Province could leverage the Building Permit Hub to establish a shared e-permitting platform, compliant with panelized construction, available to all BC jurisdictions, reducing procurement burden on smaller jurisdictions and enabling consistent submission standards across the region. Metro Vancouver could coordinate a working group among member municipalities to align submission requirements and share implementation learnings.

4.2 Apply the BC Housing catalogue for expedited approvals

BC Housing's open-source design catalogue, planned to be developed following the DASH demonstration projects, should provide a foundation for expanding pre-approved building designs for low- to mid-rise wood-frame apartment development across the province. Making that catalogue the basis for pre-approved designs at the local-level would deliver benefits across the housing system. Communities would benefit from clarity about the design and form of new development. Local governments would reduce the volume of discretionary design review required. And manufacturers would gain the pipeline needed to tool their factories, train their workforce, and invest in capacity with confidence.

Lead: BC Housing, Planning Department, and Council

How: Test the catalogue designs against local conditions. Adjust as necessary to create a set of pre-approved designs that can navigate a streamlined approval process for compliant projects.

Impact: Creates an architectural foundation needed for the offsite construction industry to scale, by providing a shared baseline of well-designed, code-compliant building forms that can be delivered efficiently and repeatedly across multiple jurisdictions.

4. Case Studies

Section Overview

- Introducing the Case Studies
- District of North Vancouver
- City of Port Moody
- City of Richmond

Case Studies

4.1 Introducing the Case Studies

This section examines three member jurisdictions in Metro Vancouver: the District of North Vancouver, the City of Port Moody, and the City of Richmond. Like many cities in BC, these three jurisdictions are grappling with acute housing affordability pressures and the need to accommodate provincial growth mandates. These specific jurisdictions were chosen as case studies because they will host demonstration DASH projects led by Metro Vancouver Housing and BC Housing. They also offer a spectrum of familiarity and experience with offsite construction. Together, they represent a cross-section of the policy, regulatory, and internal procedures and processes that currently shape housing delivery in the region.

Within each case study, the local urban context and physical characteristics are described alongside an analysis of existing land use planning and regulatory frameworks. By examining these local contexts, such as proximity to rapid transit and environmental constraints, each section then highlights unique lessons learned and identifies opportunities to shift from conventional site-built development towards prefabricated, 4–6 storey wood-frame apartment buildings.

To move beyond the theoretical, these DASH projects can serve as demonstrations for implementing and testing streamlined approvals, navigating design guideline flexibility, and assessing standardized 4–6 apartment construction.

Applicability to Other Municipalities

While the recommendations in this report are grounded in three specific communities, the analysis is written to be transferable to communities across the Metro Vancouver region with relevance to communities across BC. Each case study describes community characteristics, geographic context, and local housing trends in sufficient detail to allow readers to draw meaningful comparisons with their own municipality. The findings and opportunities identified here are not unique to Metro Vancouver; the underlying barriers to prefabricated housing delivery, including inconsistent design guidelines, approval process variability, and limited familiarity with offsite construction methods among municipal staff exist across many jurisdictions.

The analysis revealed strong foundations are already in place and targeted opportunities that can be achieved; changes that other jurisdictions could also realize. Those are noted with the following icons:

A strong foundation for panelized construction

Opportunity to enable panelized construction


District of North Vancouver
City of Port Moody
Burrard Inlet
City of Richmond
Strait of Georgia
Fraser River



The District of North Vancouver is located on the traditional and unceded territories of the Sḵwx̱wú7mesh (Squamish) and səlilwətaɬ (Tsleil-Waututh) Nations.

District of North Vancouver

Physical Context

The District of North Vancouver is located on the north shore of Burrard Inlet, directly north of the City of Vancouver and surrounding the City of North Vancouver to the east, north, and west. It borders the District of West Vancouver to the west, Electoral Area A to the north and the Burrard Inlet waters to the south and east.

Much of the District's landscape is dominated by the steep slopes, riparian areas and forests of the North Shore mountains. It has extensive parkland and natural areas, including Lynn Headwaters Regional Park and Capilano River Regional Park. DASH projects lend themselves to slightly or moderately sloped sites. While the District's varied topography may limit the applicability of the DASH model on a broad basis, it does not prevent the use of prefabricated systems on suitable sites.

The District's built environment is characterized by a blend of larger lot single-family housing, suburban residential neighbourhoods, and mixed-use village centres that are typically well-serviced by public transit and retail areas.

Community Statistics At-a-glance

Geographic Size: 160.66 square kilometres

Population: 88,168 (2021 Census)

SkyTrain Stations: 0

Housing Statistics:

- 5-Year Housing Demand: 7,425 units
- 20-Year Housing Demand: 22,369 units
- Vacancy Rate: 2.8% (2023) – below the healthy 3–5% range
- Ownership Rate: 76%
- Renter Rate: 24%

Other Key Metrics: Average construction rate of 642 new units annually (2019–2023)

Housing Trends

Housing trends in the District of North Vancouver highlight an ongoing shortage of rental housing, a pervasive issue shared across Metro Vancouver. According to the District's 2024 Housing Needs Report, the rental market is strained. Per the report, the vacancy rate for rental units is 2.8%, below the healthy threshold of 3% to 5%.

The report also emphasizes the urgent need to diversify the housing stock, which currently 49% single-family homes, to better serve the community's changing demographics. This lack of variety, both in form (single-family homes vs. smaller units) and tenure (ownership vs. new rental), creates barriers to the entry into the District's desirable neighbourhoods for existing and new residents.

The Housing Needs Report (2024) projects a need for 22,369 net new units delivered between 2021 and 2041, and 7,425 between 2021 and 2026. Further, as a short-term target under the Housing Supply Act, the District is required to deliver 2,838 net new housing units by September 2028.

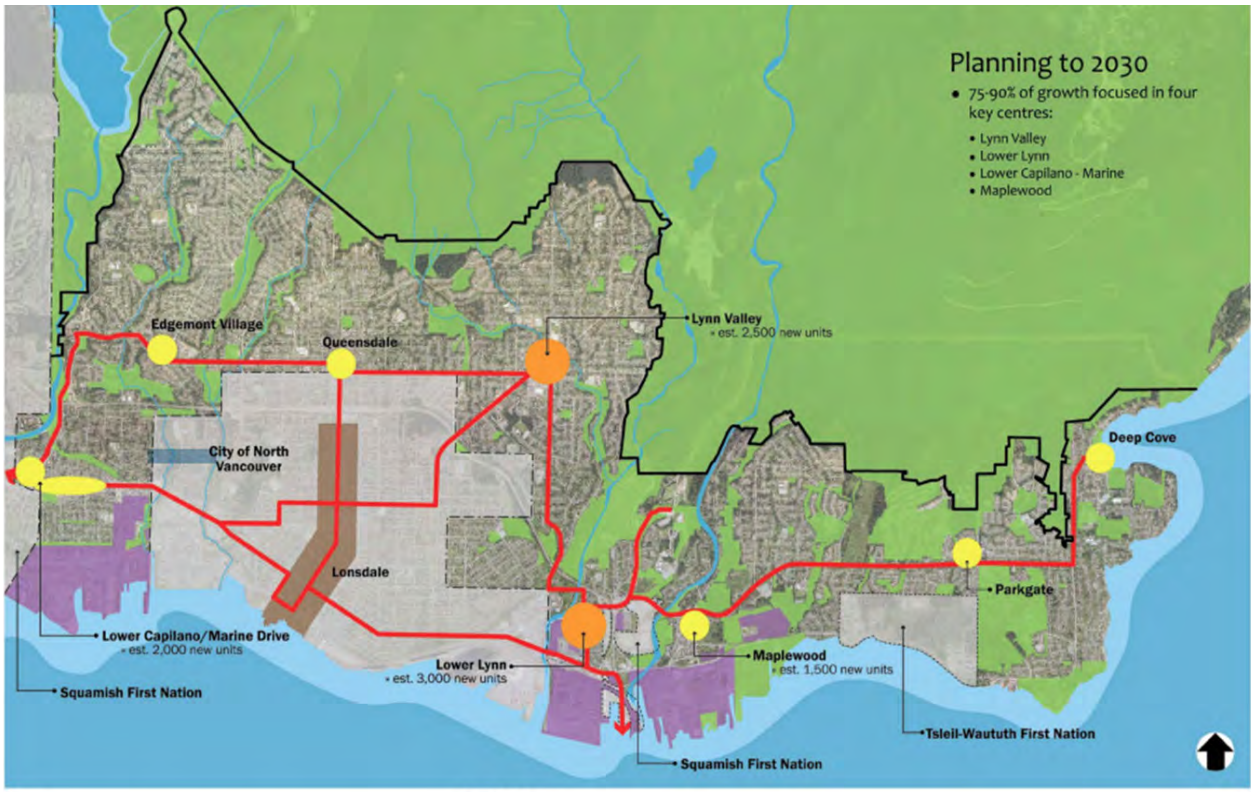
The scale of housing delivery required to meet the Housing Need is a notable increase relative to recent construction trends. Between 2019 and 2023, the District averaged approximately 642 housing completions annually. Meeting the target would require an average annual delivery rate of approximately 1,119 units, indicating the need for a significant acceleration in development activity over past levels. By incorporating changes to planning policy, zoning regulations, development approvals and building permitting to enable offsite construction, the District can accelerate the delivery of all forms of housing.

Policy Environment

Land Use and Zoning Direction for Low-rise Apartments

The District's OCP channels housing growth through a focused spatial strategy, directing 75–90% of new residential development into four of its designated centres: Lynn Valley, Lynn Creek, Lions Gate (Lower Capilano-Marine), and Maplewood. This "network of centres" concept is designed to create hubs offering a variety of housing, services, and jobs (Schedule A: Town & Village Centre Policies). Within these town centres, growth is directed in the form of mixed-use and multifamily development, and the District explicitly focuses its infrastructure and amenity investments into these specific nodes to accommodate this growth (Policies 2.1.4 and 11.1.1). These centres, along with major corridors, are where land use designations for low-rise apartments are concentrated.

The OCP uses FSR to describe the form of development envisioned. It has two apartment land-use categories that accommodate the low- to mid-rise apartment form: Residential Level 5: Low Density Apartment and 6: Medium Density Apartment. Residential Level 5 includes low-density apartments and townhouse forms up to 1.75 FSR and Level 6 includes medium-density apartments up to 2.5 FSR. Building heights are not described.



Map 1
Network of Centres Concept Map

Note: This map is conceptual in nature only

Legend

- Town Centre
- Village Centre
- Transit Corridor
- Urban Containment Boundary
- Industrial & Light Industrial
- Parks & Natural Areas

Through their Network of Centres, the District aims to direct growth into four of their seven centres: Lynn Valley, Lynn Creek, Lions Gate and Maplewood.

Applicable Official Community Plan Designations to DASH

Medium Density Apartment (OCP – Residential Level 5)

- Density: Maximum of 1.75 Floor Space Ratio
- Location: Centres and Corridors.
- Use: Low-rise apartments with some commercial

Medium Density Apartment (OCP – Residential Level 6)

- Density: Maximum of 2.5 Floor Space Ratio
- Location: Centres and Corridors.
- Use: Mid-rise apartments with some commercial

Though the OCP does not assign building heights to land use designations, the Development Permit Area Guidelines provide a framework for 6-storey building forms by explicitly defining "low-rise" developments as buildings of "six or fewer storeys." This definition is formally established in the introductory discussion section of Schedule B of the OCP which details development permit area guidelines for multi-family housing.

While the OCP envisions future land use with several low- to mid-rise apartment areas, currently the Zoning Bylaw only contains one zone that supports 6-storey apartments as-of-right: the High-Rise Residential Zone (RH 1, RH 2, and RH 3). High-Rise Residential Zones permit a maximum height of 110 feet (33.5 metres, approximately 11-storeys).

This provides strong rationale for updating the current Zoning Bylaw which currently caps low-rise zones at 4 storeys. Doing so would align the OCP's land use designations with the Zoning Bylaw and implement the OCP. The District is presently in the process of completing this effort as part of their Zoning Bylaw Rewrite initiative.

The District of North Vancouver's Official Community Plan recognizes pre-zoning as a regulatory tool to stimulate desired development. Specifically, the OCP directs the District to "apply incentives (including, but not limited to density bonusing, pre-zoning and reduced

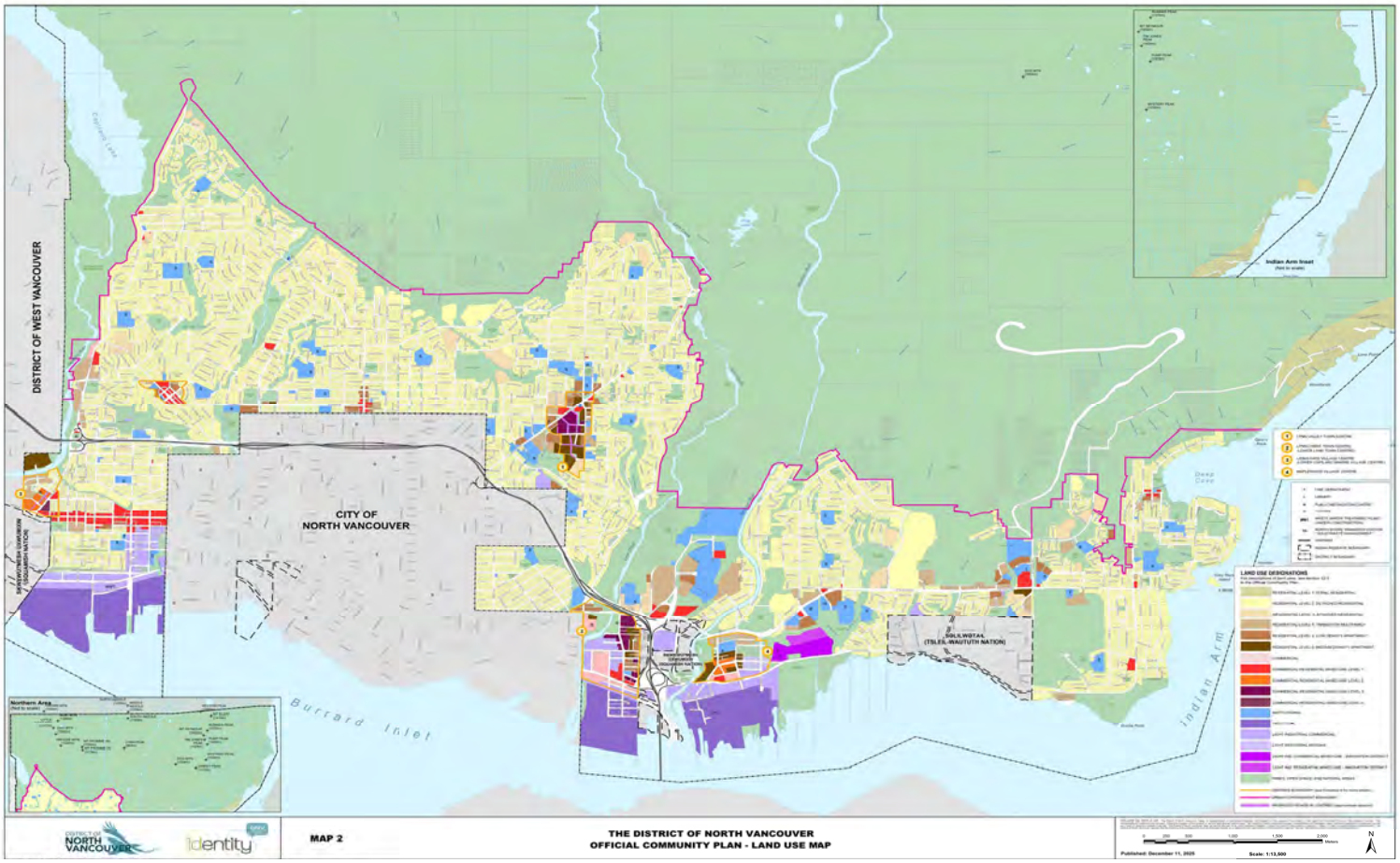
Expand the Policy Tool of Pre-Zoning to Deliver Multifamily Homes

The District of North Vancouver's Official Community Plan recognizes pre-zoning as a regulatory tool to stimulate desired development. This acknowledges that eliminating rezoning provides certainty that can actively accelerate housing delivery.

By broadening the use of pre-zoning from a targeted affordability incentive to a foundational growth management tool within its four designated centres, the District can provide the regulatory predictability that the development industry seeks. Expanding this proactive approach would eliminate the time, cost, and risk associated with site-specific negotiations, ultimately creating a highly supportive environment for the rapid delivery of housing the region urgently needs.

Assign Storeys to Land Use Categories

Complement existing FSR-based land use categories with storey-based height guidance, giving both the community and the development sector a clearer and more transparent signal about the form of development envisioned in each area. FSR is a precise and useful planning tool, but it is an abstraction that is difficult for residents to visualize and, on its own, leaves considerable ambiguity about built form outcomes. FSR tends to work best in larger sites, where there exists more flexibility for shifting and repacking of density . In lower-scale areas, storeys communicate scale in terms people better understand, support more informed community engagement, and give applicants earlier confidence about what the District will support.



Shown in tan and brown, the Official Community Plan - Land Use Map focuses low and medium-density apartment areas into growth centres and along transit corridors.

parking requirements) as appropriate, to encourage the development of affordable housing" (Policy 7.3.3). Using pre-zoning broadly to implement the form of housing envisioned by the OCP within its growth centres would offer predictability to applicants and help the District achieve its housing targets and meet the OCP's objective of encouraging and enabling "a diverse mix of housing type, tenure, and affordability to accommodate the needs of people at all stages of life" (Policy 7.1.6).

Development Permit Area Guidelines

The OCP's Development Permit Area guidelines offer applicants flexibility in achieving urban design outcomes. However, open-ended or subjective language, such as guideline B1.1's direction "new development should fit the neighbourhood context", can create inconsistencies in interpretation. Streamlining design guidelines as a set

of objective standards with clear metrics would improve communication between the District and applicants, and lay the groundwork for future automated approvals.

To support offsite construction methods, design direction should also be written with structural simplicity in mind. Guidelines B3.2 and B3.6 propose building massing that steps down in relation to existing context or sloped sites. While responsive to surrounding neighbourhood character, these approaches introduce structural complexity and limit the standardization of floor plans that panelized construction benefits from. Given that areas supportive of low-rise apartments are anticipated to receive the majority of the District's future growth, design guidelines could more productively orient new buildings toward future context rather than existing conditions.

Guideline B3.14 requires private or semi-private outdoor space for each dwelling in the form of patios, balconies, or rooftop decks. For panelized construction, balconies present particular challenges: they project through the exterior wall, require custom structural support, and create discontinuities in the building envelope, increasing cost and design complexity while reducing energy efficiency. Guideline B3.15 adds a further constraint by proposing that street-facing balconies be recessed into the main facade, which limits the use of prefabricated "bolt-on" balcony systems designed to address structural integration challenges.



Common Woods, designed by Space&Matter and DELVA Landscape Architecture & Urbanism, prioritizes shared amenity space in its apartment community. Image source: Space&Matter

! **Adopt a Flexible Amenity Provision Framework in DPAs**

Transitioning to a framework that gives applicants the option to meet amenity obligations through any combination of private outdoor space, shared outdoor space, and indoor amenity area, subject to defined limits on each category would better support offsite construction. Though many applicants may opt to provide private balconies given their marketability, a flexible framework would provide greater options and preserve, and potentially enhance, the quality of amenities available to residents.

! **Adopt Flexible Guidance for Development on Sloped Sites in DPAs**

The stepping roofline requirement reflects a genuine and reasonable design intention: that buildings should relate sensitively to their natural context rather than impose an incongruous form on the landscape. For site-built construction, where rooflines can be readily customized to follow topography, this is achievable. For panelized offsite construction, which depends on a standardized building envelope, this introduces a level of geometric complexity that can undermine the economic case for the construction method entirely. Consider other means for achieving the design outcome, or tie the guideline to a specific slope threshold.

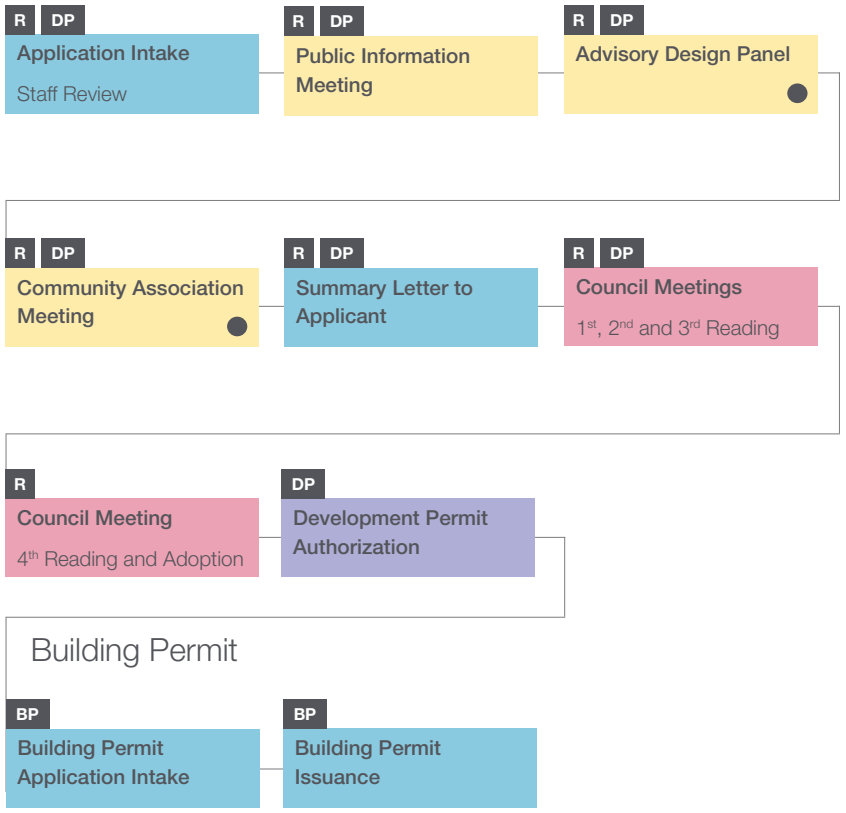
Development Approvals and Permitting

In the District of North Vancouver, most new apartment developments require a rezoning and development permit application. Applicants may pursue rezoning and development permit at the same time, reducing the overall permitting timeline by several months.

The District utilizes an Advisory Design Panel (ADP) and hosts a Community Association Meeting early in the application process. The ADP is comprised of 11 professional volunteers who are experts in their fields and represent different aspects of the construction industry. According to the District's website, "the Panel advises Council and staff on the design of projects, including site layout, exterior design of proposed buildings, choice of building materials, and landscape design." The Community Association Meetings also allow early input by community association members on the design direction of the proposed project. An applicant-run Public Information Meeting is also held to provide project information to a broader community audience.

District of North Vancouver Development Approval Framework

Concurrent Rezoning & Development Permit Application



Left: This process diagram illustrates a summary of the District of North Vancouver's concurrent Rezoning and Development Permit review process and the Building Permit review process based on publically available information on the District's website. It shows a streamlined process that assumes complete applications. It does not include applicant revisions. Unique to the District is the inclusion of both an Advisory Design Panel and Community Association Meeting in addition to the applicant-led Public Information Meeting.

Following the community engagement process, the application proceeds to Council for first, second, and third reading. Where rezoning and development permit are pursued concurrently and if the application is approved, rezoning is formally adopted as a bylaw at fourth reading and signed by the Mayor and City Clerk. Anticipating adoption, applicants may submit their Building Permit application after third reading to expedite the overall approvals process.

There are opportunities to streamline the community review process by establishing clear parameters for what is and is not subject to feedback. For example, treating height and articulation as settled while keeping changes like public realm components open. These could improve the predictability and efficiency of review. Additionally, where a proposed development aligns with the growth vision established by the OCP, a staff-led development review process may be an alternative to the current community-facing model.

There are also opportunities to streamline the building permit review process. The District's current policy requires a full submission before review begins, though staff have expressed interest in exploring a phased release model, where components of the submission are reviewed as they are completed rather than all at once. A phased building permit process can allow demolition, excavation, and foundation-to-grade work to begin while prefabricated components are manufactured and in-transport. Given that offsite construction relies on prefabricated components, building officials would also depend on registered professionals to undertake both offsite and onsite reviews. To prepare for buildings that incorporate prefabricated components, Building Officials may draw on the Canadian Standards Association's A277 Certification for prefabricated components as a reference framework. This certification is discussed further in Section 2.

! **Create a Compliance Checklist to Delegate DP Approval to Staff**

A compliance checklist could establish clear performance thresholds that, when met, would direct Development Permit approval to an administrative process delegated to staff rather than a discretionary one. This approach would be best applied to projects on pre-zoned sites that are already deemed suitable for this form of housing and are in compliance with the OCP. To target the benefits of streamlined approval toward projects that advance specific policy goals, eligibility could be tied to criteria such as the extent of offsite-constructed content, affordability commitments, or tenure type. For example, a project might be required to demonstrate that a minimum of 90% of vertical above-grade wall assemblies separating conditioned spaces from the exterior are constructed using panelized methods. Similar thresholds could be established for rental housing or projects meeting defined affordability standards.

! **Issue Building Permits in Phases**

Issuing the Building Permit in phases, from demolition, excavation, to foundations-to-grade, enables some site works to commence while prefabricated components are being manufactured and transported to the site.

Lessons-Learned From the District of North Vancouver

The District of North Vancouver offers a useful case study in bridging the gap between a municipality's long-term housing vision and the regulatory tools available to implement it. The District's OCP establishes a clear and spatially focused growth strategy, directing the majority of new residential development into designated centres where infrastructure investment and transit access are concentrated. Nevertheless, the Zoning Bylaw has not kept pace, resulting in the need for individual, site-specific applications to enable the desired development. Closing this gap, by updating zoning to reflect OCP designations through the judicious use of pre-zoning, would facilitate the District meeting its housing targets.

The District's topography acts as a constraint on the applicability of offsite construction methods. Steeply sloped sites introduce structural complexity that works against the standardization panelized construction depends on. Identifying and prioritizing sites with minimal grade change allows the District to direct DASH-suitable projects toward appropriate locations.

The development approvals process presents an opportunity to temper community and design review expectations with the standards of offsite construction. Unfamiliarity with and stigma around prefabrication may cultivate misconceptions among Advisory Design Panels and Community Associations. Participating in amplifying government and industry messaging about panelized construction could build confidence in the method. During the review process, clarifying what aspects of a project design are open to feedback, and considering staff-led review for projects that meet clear OCP form and character guidelines, would improve consistency and reduce the risk of design changes that undermine the efficiencies of offsite construction.

At the building permit stage, two opportunities stand out as potentially beneficial. First, moving toward a phased submission and review process would allow site preparation and foundation work to proceed while prefabricated components are being manufactured, reducing the period between approvals and construction. Second, building officials should develop familiarity with CSA A277, the Canadian standard for factory certification of prefabricated components. Understanding what the certification covers gives building officials a basis for determining what can be accepted on the strength of factory inspection and what requires additional inspection on-site. This is foundational to an approvals system that can process offsite projects efficiently and with confidence.

Taken together, the District's experience points to a consistent theme: becoming offsite-ready requires coordinated action across policy, entitlement, development and building permit reviews and inspections. While improvements to any of these are helpful, no single change in a complicated system will achieve the desired outcome of streamlined approvals. Progress in one area, such as updated zoning, delivers more value when paired with progress across the entire system. With the Zoning Bylaw Rewrite and Development Approvals Process Review in progress, the District is well on its way.

Through policy and engagement with staff, the District already exhibits promising openness to practices that can accelerate offsite construction.

Specifically, the District's consideration for implementing professional reliance standards for low-rise apartments may be an effective way to reduce the municipal inspection burden and accelerate project timelines.

In Conclusion

The case study of the District of North Vancouver demonstrates a well defined land use and growth strategy, and identifies straight-forward system change required to fully unlock the potential of mid-rise offsite construction.

What is Working Well: Through policy and engagement with staff, the District already exhibits promising openness to practices that can accelerate offsite construction Specifically, the District's consideration for implementing professional reliance standards for low-rise apartments may be an effective way to reduce the municipal inspection burden and accelerate project timelines.

Opportunity Areas: The most significant opportunity lies in closing the gap between the OCP's housing vision and the Zoning Bylaw's current provisions. Updating zoning to reflect OCP designations and expanding pre-zoning in designated growth centres would reduce uncertainty and improve timelines. Identifying and prioritizing sites with topography suitable for panelized construction would further strengthen the District's capacity to support DASH-aligned projects.

Streamlining the community and design review process represents a further opportunity. Clarifying what is and is not subject to feedback, and establishing staff-led review pathways for projects that meet OCP guidelines, would improve consistency and protect the design efficiencies that offsite construction depends on. At the building permit stage, developing staff familiarity with CSA A277 certification is a foundational step toward an approvals environment equipped to process prefabricated buildings with confidence.

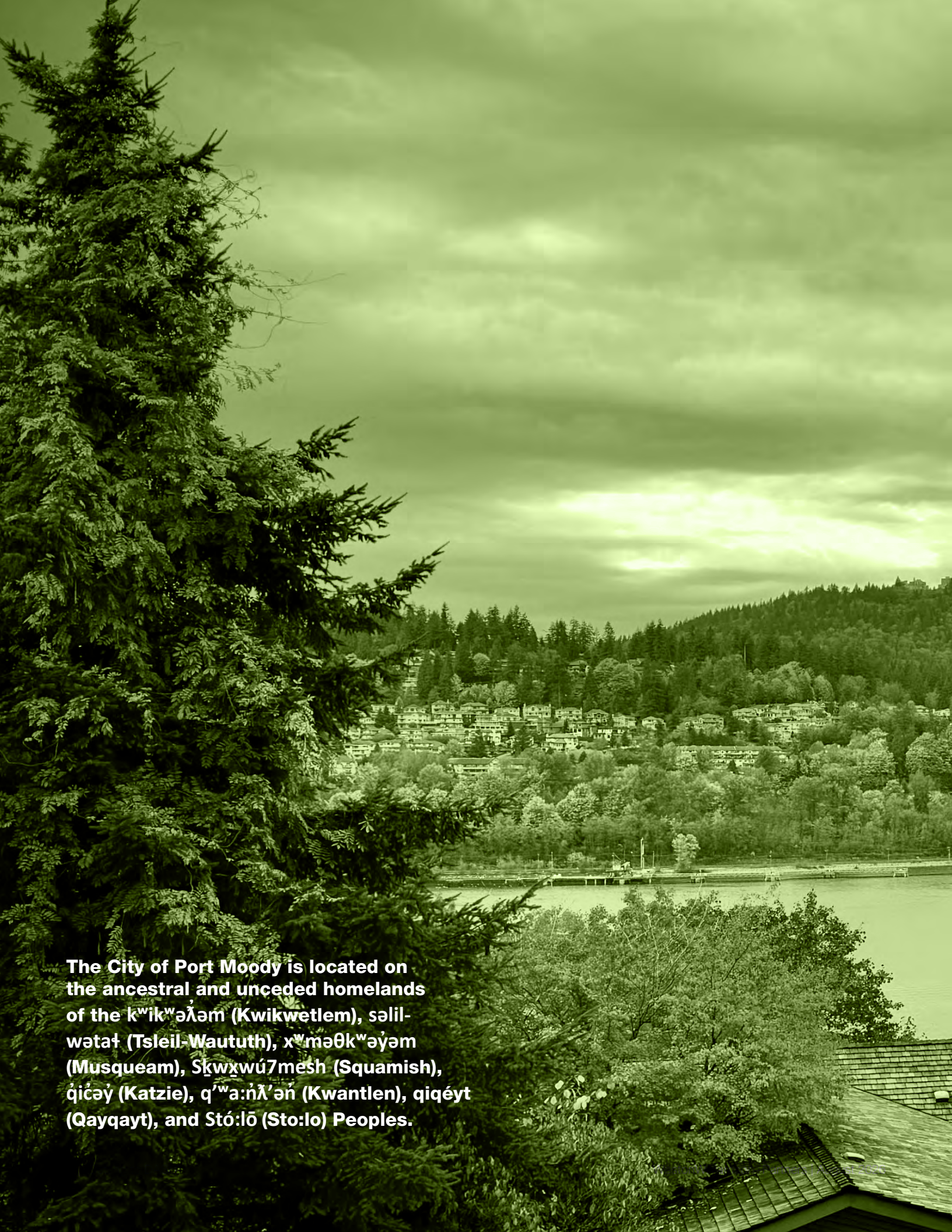
Project Precedent: Chief Leonard George Building, Vancouver BC







Located in Vancouver, BC, Chief Leonard George Building is Canada's first mixed-use tall mass timber Passive House building. Image credit: Take Off Photography, Intelligent City



The City of Port Moody is located on the ancestral and unceded homelands of the kʷikʷəƛ̓əm (Kwikwetlem), səlil-wətaɬ (Tsleil-Waututh), xʷməθkʷəy̓əm (Musqueam), Sḵwx̱wú7mesh (Squamish), q̓íc̓ə̓y̓ (Katzie), qʼʷaːn̓ƛ̓ʼən̓ (Kwantlen), qiqéyt (Qayqayt), and Stó:lō (Sto:lo) Peoples.

City of Port Moody

Community Statistics At-a-glance

Geographic Size: 26.21 square kilometres

Population: 33,535 (2025 Census)

SkyTrain Stations: 2

Housing Statistics:

- 5-Year Housing Demand: 3,063 units
- 20-Year Housing Demand: 9,796 units
- Vacancy Rate: 2.45% (2025) – consistently below the healthy 3–5% range
- Ownership Rate: 75.5%
- Renter Rate: 24.5%

Other Key Metrics: Provincial Housing Target Order requires 1,694 net new units by September 2028

Physical Context

Port Moody is bordered by Coquitlam, Burnaby, Belcarra, and Anmore. It is situated at the base of Eagle Mountain and occupies the east end of the Burrard Inlet.

Much of Port Moody's landscape is defined by its shoreline, forested slopes, and extensive parkland (more than 35% of land is green space), including Rocky Point Park along the waterfront, as well as nearby regional natural areas such as Sasamat Lake and Buntzen Lake.

Port Moody's built environment is characterized by established single-detached residential neighbourhoods, particularly on sloped terrain. Evolving mixed-use and higher-density neighbourhoods are concentrated near the waterfront, on flatter terrain and along rapid transit corridors that are close to amenities, services and convenient to public transit.

Housing Trends

Like other Metro Vancouver municipalities, Port Moody faces acute pressure to align housing supply with evolving demographic demand. According to the 2024 Interim Housing Needs Report, the City's most recent housing needs report, the rapid increase in housing costs has outpaced local incomes. Consequently, one in five Port Moody residents currently lives below the affordability standard, spending more than 30% of their gross income on housing costs. This affordability crisis is underscored by the City's identified need for 3,063 new units over the next five years and a total 20-year requirement of 9,796 units to address the accumulated housing deficit and future growth.

The Housing Needs Report (2024) points to a strained rental market, Although new data shows improvement, vacancy rates have historically hovered between 0.5% and 1.9%, consistently falling below the 3% to 5% threshold considered healthy. The shortage is strongly felt in family-oriented rental stock for units with three or more bedrooms. To mitigate these pressures and meet the Provincial Housing Target Order of 1,694 new rental and ownership units by 2028, the City must accelerate the delivery of purpose-built rental and non-market housing.

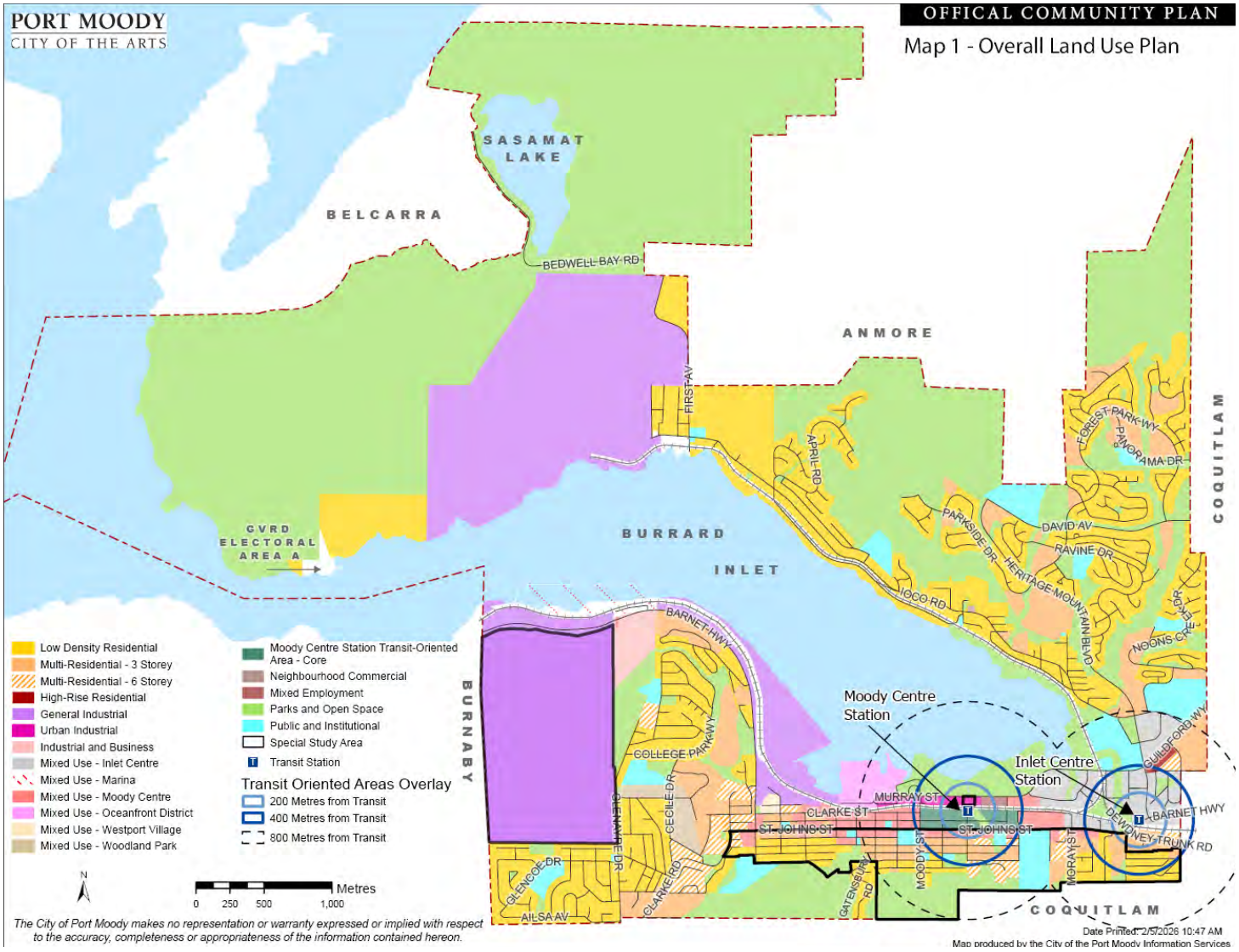
Port Moody's housing challenge is not uncommon: a lack of family-sized rental units, a provincial target that demands a substantial increase compared to housing completion rates cited in Table 24 of the Interim Housing Needs Report (2024), and a community that is struggling to find rental options within their means. Meeting this challenge requires more housing, faster. Enabling offsite construction methods through targeted changes to planning policy, development approvals, and building permitting offers the City a practical path to accelerating delivery.

Policy Environment

Land Use and Zoning Direction for Low-rise Apartments

The City of Port Moody's adopted Official Community Plan: Port Moody 2050 (OCP) establishes a framework for housing growth, aiming to "provide a range of housing forms, sizes and tenures to meet the changing needs of a diverse population." To achieve this, the OCP emphasizes the development of complete, connected, and compact communities that are pedestrian-oriented and integrate affordable housing alongside local amenities, serving diverse demographics, from families and singles to seniors and individuals with special needs.

Growth is concentrated near public facilities, parks, and transportation networks, and directs higher-density development around Millennium Line stations and identified transit corridors. Multi-Residential and High-Rise Residential provide the regulatory foundation for this intensification, supported by Neighbourhood Plan Area policies that encourage multi-family housing aligned with transit-oriented development principles.



Applicable Official Community Plan Designations to DASH

Multi-Residential - 6 Storeys

- Use: Ground-oriented townhouses or stacked townhouses to apartment structures.
- Height: up to 6 storeys
- Location: Centres and Neighbourhoods (per Development Permit Areas)

Though some applicants pursue rezoning to the RM-8 Zoning District, delivering apartment development in Port Moody is often enabled through site-specific Comprehensive Development (CD). CD zones are negotiated individually, resulting in highly variable parameters for height, floor area ratio (FAR), and site coverage, both in terms of actual metrics, and how the built form is expressed.

This practice works as a constraint on prefabricated housing delivery, and a barrier to the uptake of offsite construction methods that require the design to be "locked-in" early in the development lifecycle to procure materials and schedule factory production.

Development Permit Areas Guidelines

Design guidelines for multifamily housing in Port Moody are established across three Development Permit Areas 1, 2 and 3: Neighbourhood Residential, Inlet Centre, and Moody Centre respectively, where the City's concentration of apartment housing is located. The guidelines are fairly consistent across these areas, but like many DPA guidelines, are written in a way that is open to interpretation. Direction such as "both low-rise and high-rise buildings should provide for a level of detail and quality results in a comfortable and interesting street level experience" leaves considerable room for subjective judgment, which can introduce inconsistency into the review process. Streamlining these guidelines into a set of objective design standards with clear, measurable metrics would improve predictability for applicants and lay the groundwork for more efficient approvals.

Zoning Identified in OCP Policy as a Tool for Meeting Housing Targets

Under Chapter 7: Built Environment, Objective 5, The City of Port Moody's OCP Housing Advocacy Policy 2 directs the City to routinely assess land use designations and zoning regulations to ensure housing targets are met. In the same chapter, under Objective 2, Affordable Housing Policy 4 further identifies process and regulatory tools as methods to expand non-market housing supply. Together, these provisions offer a policy basis for zoning and approval updates that support panelized construction as a tool to expedite housing delivery, particularly for non-market affordable housing.

Standardize Zoning District Schedules to Facilitate a Predictable Development Pipeline

Establishing standardized district schedules, even in the absence of pre-zoning, in designated growth areas would facilitate improved certainty and clarity early in the development lifecycle, which can contribute to a project pipeline for manufacturers.

The DPA guidelines also have policies for transitions between lower and higher density and use areas. For example, requirements for roofline and height transitions between multi-residential buildings and adjacent single-detached homes that are expected to remain provide a useful framework for managing compatibility. Importantly, this approach orients design toward a future land use vision rather than simply mirroring existing conditions, which is a more productive basis for guiding development in areas anticipated to change over time.

Three aspects of the guidelines warrant reconsideration in the context of panelized construction. First, the requirement for balconies or decks for every unit in an apartment building introduces structural complexity that can work against the standardization panelized construction depends on. A more flexible approach, establishing a total required amenity area that can be fulfilled through a combination of private and common outdoor spaces, would allow for more cost-effective and energy-efficient solutions. For example, multifamily buildings on arterial streets may be better served by well-designed common outdoor space than by individual balconies on every unit.

Second, the guidelines' strong discouragement of design repetition between buildings in close proximity or within the same DPA presents a meaningful constraint on panelized components. Visual differentiation can be achieved through facade treatment, material selection, and colour without requiring variation in the underlying structural system or unit layout. Investment in public realm quality, including paving, landscaping, and street furniture, is also an important tool for achieving urban design goals for visual interest at the block and neighbourhood scale. In designated growth areas, accepting material and colour variation as a sufficient expression of design diversity, paired with a stronger emphasis on public realm quality, could offer design integrity while maximizing the efficiencies of scale that make factory production viable.

! Shift Design Guidelines to Objective Design Standards That Support Structural Simplicity and Repeatability

Design guidelines could be strengthened by shifting from open-ended, interpretive language to objective, measurable standards. Three specific changes would meaningfully improve compatibility with panelized construction: replacing per-unit balcony requirements with a flexible total amenity area standard; accepting material and colour variation as sufficient design differentiation between buildings in growth areas, supported by investment in public realm quality; and introducing a storey threshold below which upper-storey stepbacks are not required.

! Lay the Groundwork for E-Permitting with Design Standards

The shift from open-ended design guidelines to objective, measurable standards does more than improve consistency in the near term. Clear, quantifiable design parameters are a prerequisite for automated, digital permitting systems that can evaluate applications against established criteria without requiring case-by-case discretionary review. Moving toward standardized design requirements with e-permitting in mind allows the metrics and thresholds to be compatible with digital review tools in the future. For projects in pre-zoned areas, this could enable near-instantaneous development permit issuance, significantly compressing the approvals timeline and providing the design certainty that offsite construction requires early in the development lifecycle.

Finally, the guideline directing that upper storeys of both low-rise and high-rise buildings "should be set back from the street face to provide a comfortable pedestrian scale street edge" introduces structural and design complexity that warrants reconsideration in the context of offsite construction. Upper-storey stepbacks disrupt the standardization of floor plates and structural systems that make panelized construction most efficient and the cost implications should be weighed carefully against their urban design benefit. As currently written, the guideline applies equally to buildings of all heights. Cities regularly referenced for their human-scale environments, such as Barcelona and Paris, maintain pedestrian-oriented and active street environments without upper-storey stepbacks for buildings six-storeys and below. Introducing a storey threshold below which upper-storey stepbacks are not required would better reflect this complexity and reduce structural constraints on low- to mid-rise buildings of up to six storeys.

Development Approvals and Permitting

In the City of Port Moody, most new apartment developments require both a rezoning and a development permit application. The process begins with a pre-application submission, which gives applicants the opportunity to consult with City staff and understand the appropriate approval pathway for their proposed development before a formal application is submitted.

Once an application is accepted, online public engagement through Engage Port Moody launches and runs through to second reading. The Land Use Committee may also be called upon for input during this period. The Committee, comprised of two Council members, volunteer representatives from Port Moody neighbourhoods, and from the Economic Development and Tourism Committee, provides Council and the General Manager of Community Development with advice on proposed land use changes within its terms of reference. Prior to any bylaw readings, the applicant must host a community information meeting. As with other review processes, community members participating in these meetings may not be familiar with the design considerations of offsite construction, and feedback received at this stage has the potential to introduce changes that undermine the efficiencies of panelized methods.

Port Moody disbanded its Advisory Design Panel in 2024, citing the time burden placed on ADP volunteers, difficulties recruiting members, and project delays. In its place, the City trialed contracting with a broader range of professionals, focusing on Port Moody-based expertise where possible, with the City facilitating third-party review and recovering the fee as a charge to the applicant. The shift toward compensated, professional review may offer an opportunity to specify design reviewers with familiarity in offsite construction methods.

Following community and committee engagement, Council reviews the application through first, second, and third readings, with the ability to combine the first, second

and third. The applicant refines the application based on Council feedback between readings. Development permit review occurs prior to fourth reading, at which point Council formally adopts the zoning and authorizes issuance of the development permit.

This process raises considerations similar to those identified in the District of North Vancouver. The subjectivity of some design guidelines can create conflicts in interpretation, and community feedback at the information meeting stage may not account for the design principles associated with offsite construction. Where the OCP's land use plan for low-rise apartments has already been shaped by significant community input, there is an opportunity to consider whether additional project-level community input remains necessary. Establishing clear parameters for what is and is not subject to feedback, and considering staff-led review pathways for projects that align with the OCP's growth vision, could improve the predictability and efficiency of the approvals process for offsite projects.

The City is already familiar with releasing building permits in phases, separating out demolition, excavation, and foundation-to-grade work. This phased approach allows site preparation to proceed while prefabricated components are being manufactured and transported, directly reducing the gap between approvals and construction that can otherwise erode the schedule benefits of offsite delivery. As with other jurisdictions, building officials reviewing projects with prefabricated components may draw on the Canadian Standards Association's A277 Certification as a reference framework for factory-certified components. This certification is discussed further in Section 2.

! Fast-track Development Applications that Implement Policy Priorities

Port Moody's development permit process currently treats all applications through the same review pathway regardless of their tenure, construction method, or alignment with OCP growth objectives. Establishing a prioritized or expedited stream for applications that meet defined criteria, such as purpose-built rental housing or projects that incorporate a minimum threshold of offsite-constructed content, would accelerate delivery of the housing types the City wishes to prioritize. This approach requires no bylaw amendment and could be implemented as an administrative policy decision by senior staff, making it an accessible near-term action with direct benefits for both housing delivery and offsite construction uptake.

City of Port Moody Development Approval Framework

Concurrent Rezoning & Development Permit Application



Above: This process diagram illustrates a summary of the City of Port Moody's concurrent Rezoning and Development Permit review process and Building Permit process based on public information on the City's website and a meeting with staff. It shows a streamlined process that assumes complete applications. It does not include applicant revisions. Unique to the City is the Land Use Committee, which is comprised of Council members and community volunteers. The City also has a practice of issuing Building Permits in phases.

Phased Building Permit Release

Port Moody already has an established practice of releasing building permits in phases, separating demolition, excavation, and foundation-to-grade work. This positions the City well to support offsite construction; enabling site preparation to begin while components are being manufactured and transported is a schedule advantage.

Lessons-Learned From Port Moody

Port Moody has created policy foundations for accommodating growth in their newly adopted OCP. However, proactive implementation of the OCP vision has not yet been advanced. The City's reliance on site-specific Comprehensive Development zones means that each apartment project is negotiated individually, producing a design process that remains in flux until final development approval. For offsite construction, which requires a level of design certainty early in the development lifecycle to schedule factory production, this variability is a real barrier. Transitioning toward standardized zoning in designated growth areas, supported by OCP policy, would create predictable development conditions for prefabricated housing.

Development Permit Area guidelines present a similar tension between bespoke urban design objectives and the practical requirements of panelized construction. Direction for individual balconies, discouragement of design repetition between buildings, and upper-storey stepback requirements introduce structural complexity and cost that can work against panelized construction.

Port Moody's building permitting process offers strengths to capitalize on. The City's existing practice of phasing building permit release, separating demolition, excavation, and foundation-to-grade work, is compatible with the manufacturing and transportation timelines of prefabricated construction. This is a clear advantage over the requirement of a full submission before any review begins.

As in the District of North Vancouver, the community engagement process offers an opportunity to consider what elements of design are appropriate for project-level input where the broader planning vision has already been established. Focusing community input toward elements such as public realm design, while treating height and building articulation as set by design standards, would reduce the risk of late-stage design changes that erode the efficiencies offsite construction is intended to deliver. A staff-led review pathway for projects meeting clear OCP determined guidelines is worth exploring as a complement to this approach.

Taken together, Port Moody's experience reinforces a finding consistent across the municipalities examined in this report: targeted, incremental changes to zoning, design guidelines, and review processes can begin a transformative shift in planning and regulatory systems.

Port Moody's practice of phasing building permit release, separating demolition, excavation, and foundation-to-grade work, facilitates the manufacturing and transportation timelines of prefabricated construction.

In Conclusion

The case study of Port Moody reveals a municipality with foundational policies to increase housing supply, yet there are opportunities within procedural areas to fully unlock the potential of wood-frame, offsite construction.

What is Working Well: Port Moody already implements promising practices that can accelerate off-site construction methods. Concurrent rezoning and development permit process and the City's practice of releasing building permits in phases is a significant asset for offsite construction scheduling.

Opportunity Areas: Currently, the regulatory framework is largely designed for traditional, site-by-site development approvals. Guidelines requiring projecting balconies and substantial facade articulation interrupt the standardized building envelope, which can inadvertently hinder off-site construction implementation. Further, the reliance on highly variable, negotiated Comprehensive Development (CD) zones limits the pipeline predictability that landowners and manufacturers need to be efficient and cost-effective.

Project Precedent: 330 Goldstream Avenue, Victoria BC





330 Goldstream Avenue is a 102-unit affordable housing in greater Victoria that makes use of light-wood frame prefabricated panels. Image credits: James Jones Photography, courtesy of Cascadia Architects



The City of Richmond is located on the traditional and unceded territories of the xʷməθkʷəy̓əm (Musqueam) People.

City of Richmond

Community Statistics At-a-glance

Geographic Size: 129.74 square kilometres

Population: 209,937 (2021 Census)

SkyTrain Stations: 6

Housing Statistics:

- 5-Year Housing Demand: 15,527 units
- 20-Year Housing Demand: 51,981 units
- Vacancy Rate: 0.2% (2023) – below the healthy 3–5% range
- Ownership Rate: 71%
- Renter Rate: 29%

Other Key Metrics:
New housing capacity modelled under OCP 2050 accommodates up to 95,000 additional dwelling units

Physical Context

Richmond is situated on the Fraser River delta between two estuarine distributaries with the City of Vancouver located to the north, the cities of Surrey and Delta to the south and east, and the Strait of Georgia to the west. Richmond encompasses almost all of LuLu Island, Sea Island, and several smaller islands. Richmond also enjoys a prominent waterfront along the North Arm of the Fraser River.

While the physical characteristics of Richmond's geography are well suited for agricultural uses, these same conditions also impose significant constraints on urban development. The low lying, flat terrain and alluvial soil of the delta are optimal for the agricultural uses that occupy almost 40% of Richmond's land area and are protected by the Agricultural Land Reserve which precludes most other types of development. Moreover, the soil conditions create liquefaction risks in the event of seismic activity; the high-water table limits excavation depths for basements and underground parkades; and the flood risk created by the near sea level elevation mandate strict adherence to Flood Construction Level (FCL) requirements.

Another factor limiting urban development is the location of Vancouver International Airport (YVR) on Sea Island. YVR is a major economic engine for the region and the province that generates over 126,000 jobs in airport operations, cargo, trade, and tourism. However its location northwest of Richmond's City Centre presents challenges as significant swaths this of area lie within the federal airport overlay zone, which limits restrict maximum building heights and controls land uses to protect airspace and runway approaches from incompatible development.

Nevertheless, the flat topography does offer an advantage for modern construction methods which benefit from standardized building envelopes that can be applied consistently across multiple sites free from slope-driven design complexity.

Housing Trends

The City of Richmond's 2024 Interim Housing Needs Report highlights the supply and affordability issues driving the municipality's housing strategy. According to the report, Richmond faces a projected 20-year housing need of 51,981 new units by 2041, requiring an average delivery of 2,600 units annually to address both anticipated population growth and existing market pressures. Affordability remains a critical local challenge, with 35% of all Richmond households currently spending more than 30% of their gross income on shelter costs. This cost burden is exacerbated by a constrained rental market where the vacancy rate dropped to 0.2% in 2023, which drove a 39% increase in median market rents over just a five-year period. Furthermore, as the average household size continues to decline in the city, more homes are required simply to house the same population, with the report estimating that half of all new housing built will need to be studio and one-bedroom units.

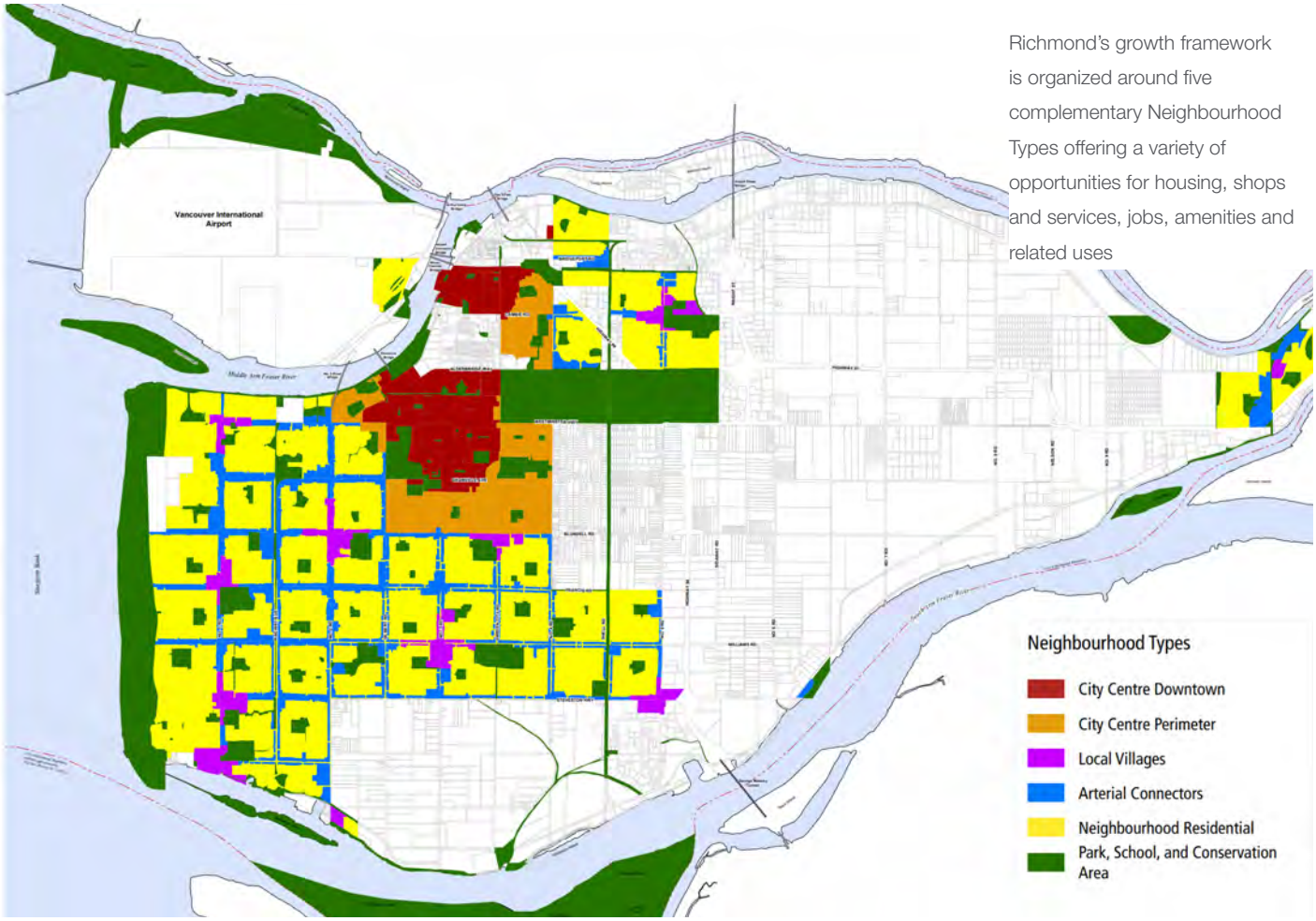
Richmond's OCP, adopted in 2026, contains several policies aimed at addressing this housing shortfall. In 2025, Richmond launched its Getting Ready for Pre-Fab study, focused specifically on enabling faster delivery of 4–6 storey housing through prefabrication and rapid onsite assembly, demonstrating the City's commitment to using offsite construction as an approach to closing the housing supply gap. As a starting point, Council directed staff to gain initial community feedback regarding the development of affordable housing of four City-owned sites. The overall goal to make each site eligible for funding from Build Canada Homes. Consistent with Build Canada Homes objectives, the goal is to commit to building the 470 units across the five sites using modern methods of construction. Activities in 2027 include further detailed public engagement for each site and advancing the sites for rezoning to meet Build Canada Homes' 'shovel-ready' requirements.

Policy Environment

Land Use and Zoning Direction for Low-rise Apartments

Richmond's OCP 2050, adopted in January 2026, provides a robust and forward-looking policy framework for housing delivery. The OCP sends a clear signal that the City will use regulatory tools and available resources to secure a diverse mix of housing types and tenures, including alternative ownership and rental housing models, to deliver more housing choices that more households can afford. Increasing the supply of market and non-market rental units is identified as an immediate priority.

Under previous plans, development was directed to City Centre to build on the SkyTrain subway introduced for the 2010 Winter Games; under this framing, 70% of growth occurred. The 2026 OCP retains Richmond's City Centre as a growth centre but has notably created growth opportunities outside of the City Centre using lower-cost, low-rise apartments in newly defined local villages and arterial connectors, which effectively create a more balanced growth scenario. These areas offer convenient access to amenities, services, and public transit. Low-rise apartments are also envisioned on large lots within the Neighbourhood Residential land use category.



Richmond's growth framework is organized around five complementary Neighbourhood Types offering a variety of opportunities for housing, shops and services, jobs, amenities and related uses

Applicable Official Community Plan Designations to DASH

City Centre Downtown Tier 3

- Typical Density: 3.0 Floor Area Ratio
- Location: Within a 10-minute walk (800 m) of a transit station
- Storeys: Up to 8
- Predominant Use: Mixed-use

City Centre Perimeter Tier 2

- Typical Density: 1.2 Floor Area Ratio
- Location: Oval Village, McLennan North and South, Moffatt, St, Albans, Alexandra
- Storeys: Up to 4
- Predominant Use: Townhouse; Apartment

Local Villages Tier 1

- Typical Density: 1.2 Floor Area Ratio + commercial
- Location: Properties fronting designated Local Village high streets
- Storeys: Up to 4
- Predominant Use: Mixed-use (apartment)

Arterial Connectors Tier 1

- Typical Density: 0.8
- Location: Within a 10- to 20-minute walk (800 to 1 km) of a Local Village high street
- Storeys: Up to 4
- Predominant Use: Townhouse and rowhouse
- Other uses: Rental-only apartment

The OCP includes a suite of policies directly relevant to enabling offsite construction at scale organized under its first objective: building more housing for new and existing residents. Key among these are explicit commitments to pre-zone land for apartment housing, streamline approvals, and adopt a form-based zoning approach to provide

An OCP That Names Offsite Construction

Richmond's OCP 2050 includes an explicit policy commitment to accelerate the delivery of homes by incorporating elements of provincial and Metro Vancouver home building models into local design guidelines. It is notable that the OCP identifies offsite construction delivery as a policy direction, and positions Richmond as a leader among Metro Vancouver municipalities.

An OCP Policy Suite Built for Predictability

The OCP's first objective, building more housing for new and existing residents, includes explicit direction to pre-zone land for apartment housing, streamline approvals, and adopt form-based zoning. Taken together, these commitments lay the regulatory groundwork for the design certainty and approvals predictability that offsite construction methods require.

Regional Coordination as an Impact Multiplier

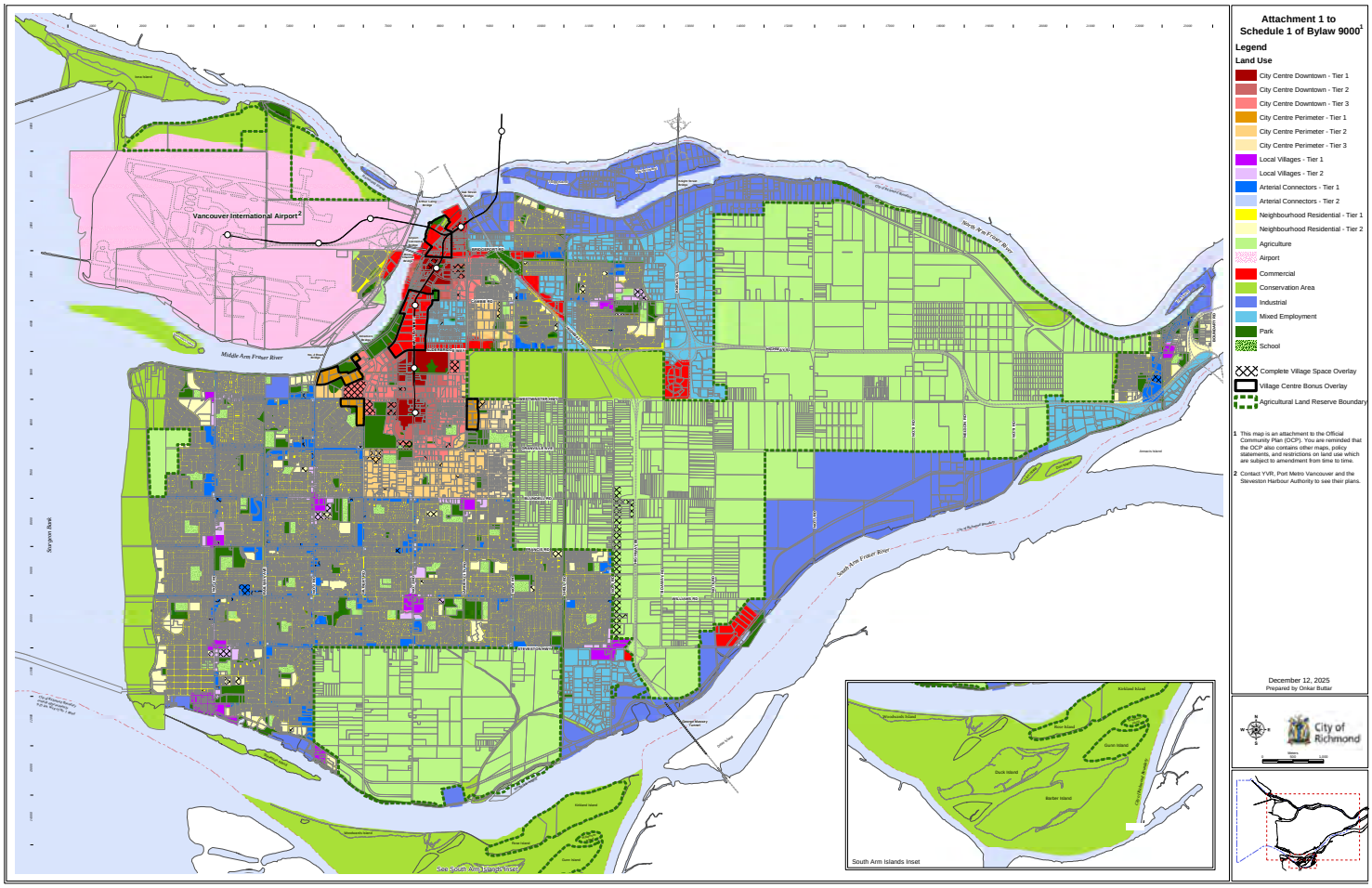
The OCP's commitment to collaborate with other levels of government and Crown corporations to streamline assessment and construction processes serves as a strong example for other municipalities. Coordinating on shared design standards, approval processes, and building official training across Metro Vancouver municipalities would amplify the impact of Richmond's local leadership and create the regional consistency that makes factory production at scale economically viable.

greater clarity on housing and urban design outcomes. Together, these policies point toward the kind of predictable regulatory environment that makes investment in innovative construction methods an appealing choice for the development industry.

The OCP also signals direct alignment with DASH through a policy commitment to accelerate the delivery of efficient and scalable homes by incorporating elements of provincial and Metro Vancouver home building models that are suitable to the Richmond context into design guidelines. This is a notable statement of intent for a municipal OCP, and one that positions Richmond as an early mover in translating regional offsite construction initiatives into local policy. Richmond's OCP goes further by acknowledging the

Getting Ready for Prefab

Richmond's Getting Ready for Pre-Fab study to review Modern Methods of Construction (MMC) approval opportunities on City-owned sites was intentionally undertaken to inform short- to medium-term policy changes, including design and technical guidance referencing CSA A277 certification. The City is already aware that many private developers are using MMC approaches (e.g., 2D panelization) without such guidance, but anticipate that well-defined policy and, more importantly, well-designed fast approval pathways will promote broader adoption of MMC across all building sectors.



Multi-family homes are distributed in the City Centre, City Centre Perimeter, Local Village and Arterial Connector land use designations.

broader ecosystem of actors involved in housing delivery. Policies committing the City to provide design and technical support through its website and engagement channels, and to collaborate with other levels of government and Crown corporations to streamline assessment and construction processes, acknowledges that accelerating housing construction requires coordination beyond municipal boundaries.

With this policy foundation in place, Richmond is now moving to implementation, including an initiative to prepare City staff for the review and approval of prefabricated four-to-six storey housing. The engagement conducted as part of that program has informed the recommendations included in this document. The outcome of that work will be recommendations on enhanced development review, and building permitting and inspection processes for rapid mid-rise housing in Richmond. As the City advances OCP implementation, its experience will offer a model and set of lessons for other jurisdictions working toward similar goals.

Development Approvals and Permitting

In the City of Richmond, most new low-rise apartment developments require a rezoning application. The City allows the Rezoning and Development Permit process to run concurrently, but Council cannot approve and issue the Development Permit until rezoning has been given final adoption. Applicants are encouraged to begin with a pre-application meeting with City staff to discuss the application contents and understand the review process before a formal submission is made.

Once a rezoning application is submitted, City staff review and provide consolidated comments to the applicant. Public engagement is also conducted at this stage, led by either the applicant or City staff, to gauge community interest and support for the proposed development. The rezoning application is then revised in response to staff and community feedback before being submitted to Richmond's Planning Committee.

The Planning Committee is a committee of City Council comprised of councillors. It reviews and deliberates on land use decisions, development applications, and long-range planning policies before they proceed to full Council for final ratification. Typically, the Committee recommends the 1st, 2nd, and 3rd reading of the Bylaws. 4th reading is brought back for Council consideration once all rezoning considerations have been addressed, including obligations such as fees, covenants, and servicing requirements. Applicants often move quickly to the Development Permit application given the level of detail addressed through the rezoning process.

City staff review the Development Permit Application and provide a summary of the requirements to proceed. The applicant is then required to present their proposal to the Advisory Design Panel, an independent body appointed by City Council comprising nine representatives from professional associations. The Panel considers the design, landscaping, and site planning of the proposal and makes recommendations to staff. The applicant revises their application in response to both staff and Advisory Design Panel comments. The application is then forwarded to the Development Permit Panel, comprised of senior city staff.

The Development Permit Panel submits a recommendation on the application to City Council. Where requirements are met and Council accepts the Panel's recommendation, Council formally adopts the Development Permit, which is then issued and executed by the Mayor and City Clerk. Where requirements are met and Council accepts the Panel's recommendation, Council formally adopts the Development Permit, which is then issued and executed by the Mayor and City Clerk. For concurrent applications, rezoning must be adopted before a Development Permit is approved.

As with the other municipalities examined in this report, this process raises considerations for DASH-ready approvals. The Advisory Design Panel introduces a review stage that may not account for the design considerations of panelized systems. If design feedback requires changes to building geometry, cladding, or balcony configuration, it has the potential to undermine the standardization that offsite construction depends on. Establishing clear parameters for what is and is not subject to Panel feedback, and ensuring that Panel members are briefed on the design logic of prefabricated systems before reviewing relevant applications, would reduce this risk. Where a proposed development aligns with the growth vision established through the OCP, a staff-led review pathway for qualifying projects is also worth exploring as a longer-term alternative to the current Panel model.



Richmond's Fast-Track Development Permit Program

Richmond has established a fast-track development permit stream for qualifying applications, reducing processing times for projects that meet pre-defined criteria. This demonstrates that administrative differentiation between application types is both feasible and effective, and offers a replicable model for other municipalities looking to prioritize housing delivery without requiring bylaw amendments.



Building Official Open to Expedited Permit Issuance for Qualifying Offsite Projects

During the Getting Ready for Pre-Fab study, inclusive of DASH considerations and the City's automated plan review developed with CMHC Housing Accelerator funding, Richmond's Chief Building Official indicated that, for a well-prepared application with satisfactory assurances in place, Building Permit approval could potentially be issued in as little as four weeks compared with the months that applicants currently experience. The conditions for this include: the applicant has its error detection, quality control, and Code compliance processes clearly documented, and submittals are compatible with the City's automated plan review system. This represents a significant potential acceleration for offsite construction projects, which depend on building permit certainty before factory production can begin.

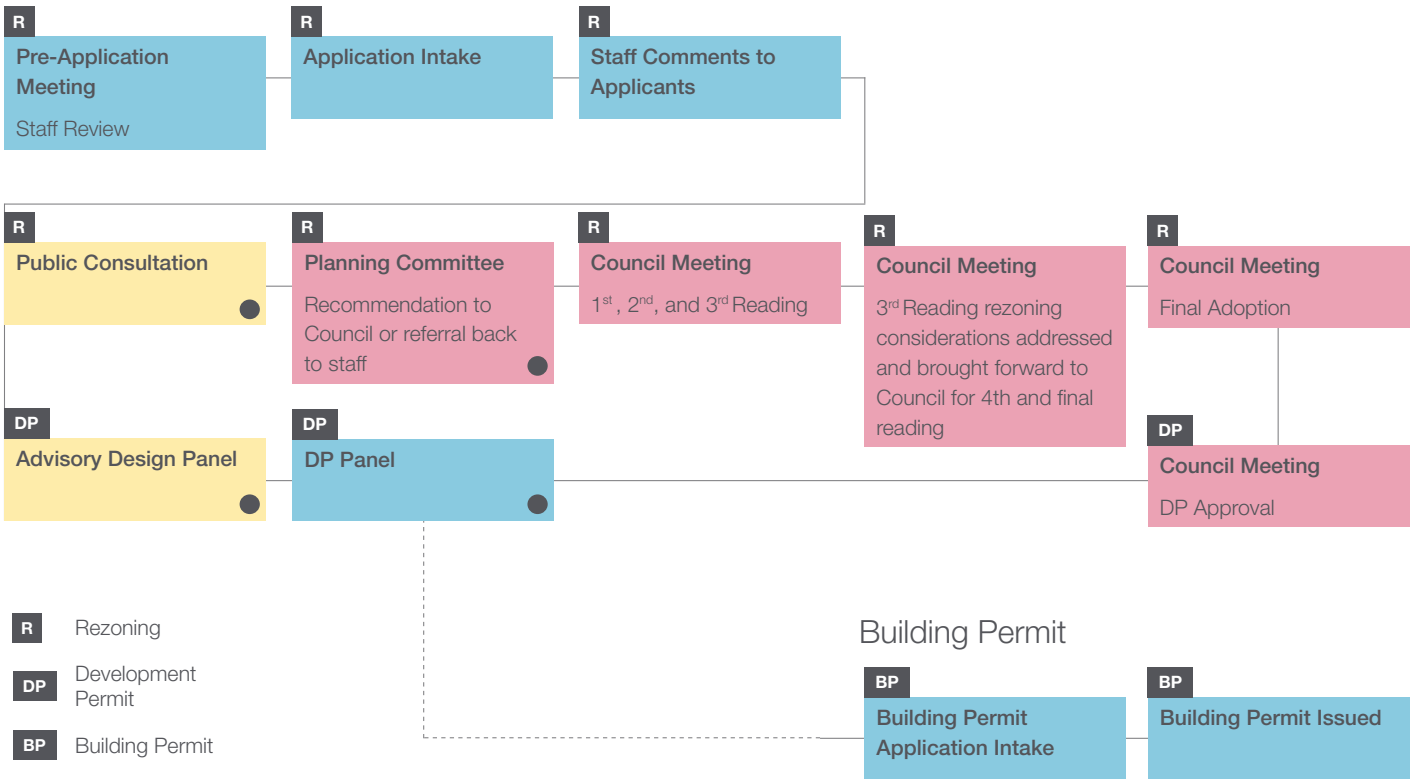


Partial Building Permit Pathway Under Active Exploration

Richmond staff and the project team are actively exploring the conditions under which a Partial Building Permit could be issued — allowing offsite prefabrication of components to proceed ahead of the full site construction phase, based on an approved structural design and site plan. This mirrors the phased permit approach that Port Moody has demonstrated as a meaningful scheduling advantage for offsite construction. A defined pathway for partial permitting in Richmond would formalize what is currently an exploratory conversation, giving applicants and manufacturers the certainty they need to begin procurement and factory production on a defined schedule.

City of Richmond Development Approval Framework

Concurrent Rezoning and Development Application



Above: This process diagram illustrates a summary of the City of Richmond's concurrent Rezoning and Development Permit, and Building Permit process based on published information on the City's website. It shows a streamlined process that assumes complete applications. It does not include applicant revisions. Unique to the City's rezoning process is the Planning Committee, comprised of five Council Members. The Development Permit process involves an Advisory Design Panel, comprised of professional volunteers and a Development Permit Panel comprised of three senior staff. Building Permits can be submitted after the 3rd Reading of a Rezoning Application or DP Panel review.

Lessons-Learned From the City of Richmond

Richmond is an established a leader in modern construction methods through its Getting Ready for Pre-Fab process. Further, the OCP 2050 identifies prefabrication as a delivery mechanism, commits the City to pre-zoning, form-based zoning, streamlined approvals, and directs collaboration with other levels of government to accelerate construction processes. The Getting Ready for Pre-Fab study, coupled with Council direction to bring forward rezoning applications for four City-owned sites to make them eligible for funding application submissions to Build Canada Homes, translates policy intent into active staff preparation. This work, as a whole, represents Richmond's commitment to efficient delivery of housing overall. The lessons generated through Richmond's experience is directly relevant to the broader recommendations in this report, and to the many Metro Vancouver jurisdictions ready to undertake similar transformational work in the years ahead.

Richmond has already assembled many of the building blocks necessary to be DASH ready. OCP 2050 provides explicit policy support for prefabricated construction, pre-zoning, and form-based zoning, offering a strong policy foundation.

Richmond's transformation is underway. The Getting Ready for Pre-Fab study launched a staff capacity building process that identified subsequent policy/approval that will be undertaken in the years ahead. Observations from this report note there may be merit in Richmond staff examining both the rezoning process and the Advisory Design Panel's role in reducing discretionary changes to form of development that do not correspond to standardization dimensions and specifications of panelized systems.

Richmond staff are currently working to align these and other regulatory processes with its progressive OCP policies. Specific regulatory and process recommendations are described in the Action Framework in Section 2.

In Conclusion

The City of Richmond has become a leader in offsite readiness by aligning its policies, regulations and processes with modernized construction methods. Its OCP explicitly names prefabrication as a housing delivery mechanism, and its Getting Ready for Pre-Fab process demonstrates that the City is actively working to deliver the necessary changes.

What is Working Well: Richmond has assembled many of the building blocks of a genuinely offsite-ready municipality. OCP 2050 provides explicit policy support for prefabricated construction, pre-zoning, and form-based zoning, offering a strong policy foundation. The Getting Ready for Pre-Fab process represents a proactive investment in staff capacity and process readiness that is directly relevant to DASH delivery. Richmond's flat topography allows standardized building envelopes to be applied consistently across growth areas, and staff engagement through this program has demonstrated openness to compressed permitting timelines and phased permit release for qualifying applications.

Opportunity Areas: The next opportunity areas are in regulatory implementation and permitting. Pre-zoning has been committed to in policy but not yet operationalized. Design guidelines that require facade articulation and per-unit balconies remain in force, which can create friction for standardized panel systems. The Advisory Design Panel will need to be educated about the design requirements of panelized construction. Formalizing a briefing process for Panel members on the design logic of prefabricated systems, and establishing clear parameters for Panel feedback would meaningfully reduce this risk. Publishing plain-language guidance on the City's approach to approving projects with prefabricated components would further signal to the development and manufacturing sectors that Richmond is open for offsite construction business. Further, allowing phased building permits will support the manufacture and transportation of prefabricated components while site works occur.

Project Precedent: University of the Fraser Valley, Abbotsford BC









Construction of student housing at the University of the Fraser Valley. The project, designed by DIALOG and Group2 uses mass timber and light wood frame prefabricated panels. Image credit: University of the Fraser Valley IPD Team

5. Conclusion

British Columbia's housing crisis will not be solved by any single policy change, construction method, or level of government acting alone. But it can be meaningfully addressed by coordinated action across policy, and regulatory systems, transformed to respond to new modernized construction methods and materials that enable the full range of tools available for offsite construction.

This report set out to answer a practical question: what can individual municipalities do to become ready for DASH projects and for offsite construction? The three case studies examined here, the District of North Vancouver, the City of Port Moody, and the City of Richmond, offer a collective answer that is both specific and widely applicable.

Across all three jurisdictions, the analysis points to a consistent pattern. Barriers to offsite construction arise from long established regulations, processes, and systems that were designed for a different era of housing delivery: systems built around site-by-site negotiation, discretionary design review, and sequential permitting processes that assume construction begins on site. Panelized construction, which requires design certainty early, factory production on a fixed schedule, and phased site activity, does not fit neatly into that model. The result is friction at multiple stages, from zoning to development permit to building permit, that erodes the schedule and cost advantages offsite construction is meant to deliver.

The good news is that this friction can be eliminated. The recommendations in this report are organized as a phased action framework, beginning with actions senior staff can take today without bylaw changes or council approvals, and building toward the structural regulatory transformation that will deliver results. No single action is sufficient on its own, but each one removes a specific barrier and sends a signal to the development and manufacturing sectors that the municipality has prepared for modern construction methods.

Across the planning and approvals system, several themes recur. Pre-zoning and standardized zoning district schedules create predictability. Objective design standards lay the groundwork for digital permitting. Familiarity with CSA A277 certification, and the formal acceptance of factory certification in lieu of inspections of the factory, are foundational to building approval procedures that can process offsite projects efficiently. And phased building permits, allowing site preparation to proceed while components are manufactured and transported, unlock the schedule benefits that make offsite construction cost-competitive.

Richmond's experience is instructive in this regard. A municipality with an OCP that explicitly names offsite construction, a proactive staff work program to identify and make necessary changes, and Building Officials open to adopting change demonstrates that operational readiness and policy ambition can move together.

DASH represents a genuine opportunity. Its demonstration projects in the District of North Vancouver, the City of Port Moody, and the City of Richmond are opportunities to pilot a new form of housing construction. The lessons generated through those pilots, when shared, can inform the next wave of municipalities preparing to receive similar projects.

Whether that potential is realized will depend on what happens next. Municipalities that act on the immediate and short-term recommendations in this report will be better positioned to embrace DASH projects. Those that pursue the longer-term structural changes will be positioned to support offsite construction not as an exception, but as a routine and competitive pathway for housing delivery. And if the Province and BC Housing take up the amplifying actions identified throughout, the cumulative effect could shift the regional regulatory environment in ways that no single municipality could achieve alone.

The distance from today's approvals environment to a future of standardized, digitally-enabled, offsite-ready housing delivery is real. But it is a distance that can be covered in stages, with each step delivering value independently. This report is an invitation to take the first step.

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