SvN



Digitally Accelerated Standardized Housing

DASH
Recommendations

prepared for:

metrovancouver

with:

collective

December 2024

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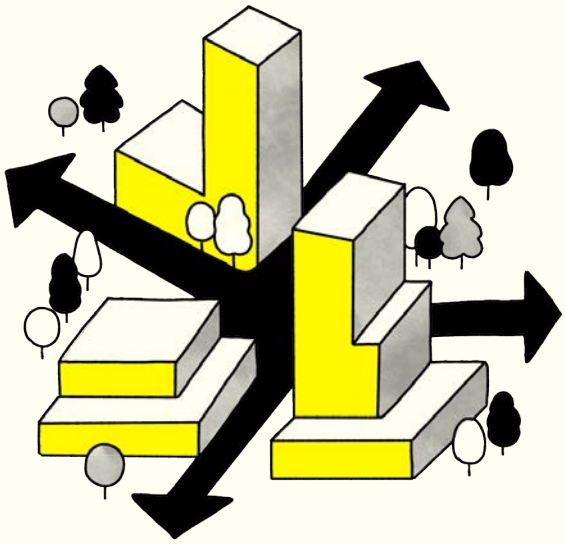
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Section One

Purpose

Getting Started
About DASH



Getting Started

Using this Document

This document is an outcome of the policy, regulation and process stream of the Digitally Accelerated Standardized Housing (DASH) program. It provides recommendations to facilitate the rapid delivery of rental housing across the Metro Vancouver region.

Who is This Document For?

Local Governments

council member, mayor, staff etc.

who wish to simplify and expedite approvals for six-storey rental housing in their jurisdiction.

Manufacturers

prefabricated panel manufacturers

who wish to standardize and simplify building elements to achieve efficiencies of scale across their product line.

Development Community

non-profit and private developers

who wish to use standardized design approaches to achieve efficiencies of scale, lower the cost and speed the construction of six-storey rental housing.

The Need for Purpose-Built Rental Housing

With less than 10,000 new purpose-built rental units built between 2011 and 2021, compared with about 87,000 new renter households, the uptick in purpose-built rental housing has not kept pace with the growth in new renters. In 2011, there was one unit of purpose-built rental housing for every 2.85 renter households in Metro Vancouver. By 2021, despite an increase in purpose-built rental construction, this ratio had increased to only one purpose-built rental for every 3.67 renter households in the region.[1]

Increasing the supply of purpose-built rental housing is a fundamental strategy in fostering greater housing diversity and affordability. By building more purpose-built rental housing, communities can offer a greater variety of housing options that cater to different preferences. This includes different sizes, locations, features, and levels of affordability.

This form of housing can be either market or below-market and represents the bulk of the current affordable and attainable housing supply within Metro Vancouver. It is a central element in nearly every housing strategy adopted by local governments in the region.

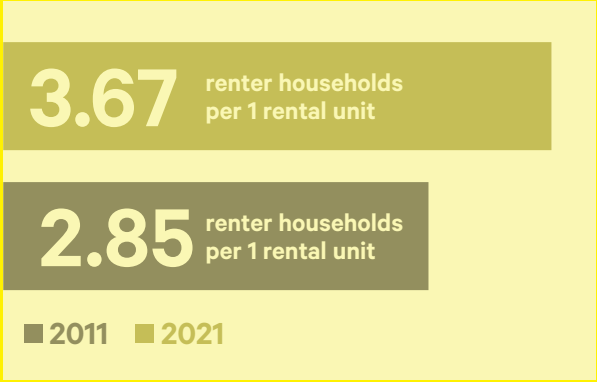


Figure 1: Number of renter households per one unit of purpose-built rental housing between 2011 and 2021.

1. Metro Vancouver. (2023) Metro Vancouver Housing Data Book.

About DASH

DASH was initiated by Metro Vancouver and the Province of British Columbia to streamline multi-family rental housing delivery through standardization and modern construction methods.

DASH has two main streams:

1. explore standardized regulatory approaches.
2. develop vetted reference designs for six-storey rental buildings.

These streams work in tandem to speed design, approval and construction, while carefully balancing trade-offs between building cost, quality and complexity. This linked nature is important to emphasize. Improvements to the regulatory approach are a key prerequisite for streamlined design and construction methods and have the potential to provide a significant time and cost incentive to building this form of housing.

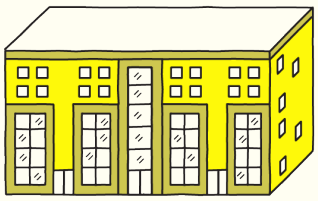
The regulation stream of DASH is made possible through the collaboration of 11 participating member jurisdictions who have signed on as local government champions to co-create the elements of the standard regulation:

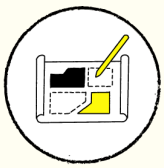
- Bowen Island Municipality
- City of Burnaby
- City of Delta
- City of Langley
- City of Maple Ridge
- City of New Westminster
- District of North Vancouver
- City of Richmond
- City of Surrey
- City of Vancouver
- City of White Rock

The DASH Program

From this → To this







Expensive & time consuming **rezoning.**



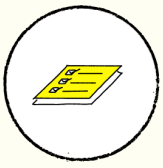
Inconsistent regulation in the Lower Mainland market.



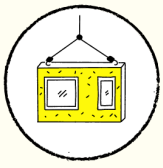
Incompatible with off-site construction.



Streamlined approvals.



Consistent regulation in the Lower Mainland market.



Supportive of off-site construction and prefabrication.

Stream One: Standardized Regulation

The aim of stream one is to develop a standardized regulatory approach for six-storey rental buildings that local governments can readily adopt and that is supportive of the reference building designs optimized for off-site manufacturing.

Why Standardize Regulation?

Metro 2050, the regional growth strategy, highlights the need to increase the supply of purpose-built rental housing as a key component of providing more diverse and affordable housing choices across the region.

Supply not keeping pace with demand

Purpose-built rental housing hasn't met demand in Metro Vancouver. Over 70% of purpose-built rental units were constructed before 1980, and from 2011 to 2021, only 10,000 new rental units were added compared to 87,000 new rental households.[1]

Speed up approval and construction timelines

Current approvals timelines across Metro Vancouver slow the delivery of purpose-built rental housing. The current average project delivery time is approximately 4.5 years, with 2-2.5 years in municipal approvals. A standardized regional regulatory approach could streamline and clarify this process, making it easier and faster to deliver six-storey rental buildings.

Make it possible to address the skilled trades labour gap with off-site construction

We are facing a shortage of skilled tradespeople. By 2028, 700,000 trades workers in Canada are expected to retire, and there aren't enough apprentices to replace them.[2] Off-site construction improves efficiency through controlled environments and streamlined tasks, but varying building standards across jurisdictions hinder scalable production. Standard regulations can enhance the viability of off-site construction methods and through production efficiencies, help to fill the labour gap.



Growth of the rental supply in Metro Vancouver has been limited for much of the past three decades. **Over 70% of the units in the primary rental market in the region were built before 1980**.[1]

1. Metro Vancouver. (2023) Metro Vancouver Housing Data Book.
2. Desjardins Group. (2023) Global Housing Supply Success Stories: A How-To for Boosting Home Construction in Canada.

Delivering Six-storey Rental Buildings in Metro Vancouver

Six-storey rental buildings are recognized as a critical piece in the housing continuum and key to meeting the housing needs of current and future residents in an affordable manner. The building form maximizes the amount of density provided by wood-frame construction, reducing per-unit building costs when compared to higher-forms of mid-rise that require concrete construction. Six-storey wood frame construction also tends towards simpler architectural form and massing outcomes that more easily support standardization and more straightforward assessment against relevant regulations, guidelines and codes. Six-storey buildings are supported across urban and suburban areas, as indicated in Official Community Plans (OCPs) in various land use designations such as transitional areas, corridors, mixed-use zones, towns, and village centers throughout the region.

Given the specific benefits of this housing form, the six-storey building offers an apt pilot for assessing opportunities to streamline the regulatory process to expedite the delivery of new rental housing. Through review and engagement, Metro Vancouver and the consultant team have highlighted four regulation-based challenges and four regulation-based opportunities to deliver purpose-built six-storey rental buildings.

Challenges

Unique rules for each jurisdiction

Local governments each have their own provisions and definitions for common building bulk regulations such as height, setbacks and density. In addition, the application of site-specific guidelines further complicate the development of these housing forms.

Rules frequently require site-specific considerations and exceptions

Few jurisdictions have zoned sites that currently for allow six-storey, rental-only development, triggering a site-specific rezoning process and extending approval timelines.

Rules are difficult to find

Finding the correct zone and its subsequent provisions is often an arduous process, involving referencing multiple subsections within a PDF document. This process is not user-friendly and is difficult to verify. Consequently, applicants may misinterpret provisions or rely on local government staff support for interpretation.

Rules are difficult to interpret

Zoning provisions often include caveats or exceptions, adding complexity and requiring significant time for local government staff to assess and advise applicants on compliance. Establishing consistent and clear development standards will clarify expectations for both staff and applicants.

Opportunities

Enable economies of scale

Uniformity in building requirements in a region allows for efficient, bulk production of components. This reduces design complexity and costs for traditional construction and makes off-site methods more viable and cost-effective.

Objective standards

Objective design standards reduce misinterpretation by providing clear, measurable criteria, ensuring consistent application and minimizing ambiguity among stakeholders. This clarity helps prevent conflicting interpretations and streamlines the planning process.

Machine-readable rules

Machine-readable regulation speeds up permitting by enabling electronic compliance checks and reducing manual review. It streamlines approvals, integrates with digital tools, and improves accuracy, making zoning information more efficient and accessible to developers and the public.

Pre-zoned sites

By reducing risks and financing costs, predictability makes areas more attractive for investment in rental housing. Combined with other streamlined approval steps, local governments can offer a simplified path to construction, while making staff time and resources more available for planning and processing applications for more complex developments.

Current Zoning Practices

In addition to variance in zoning bylaw provisions, jurisdictions provide different definitions and measurements for heights and densities and there is a wide range of provisions related to lot requirements.

Additional unstated interpretations of existing bylaws and application of site-specific guidelines also provide a level of complexity to the development of these housing forms and may limit the opportunity for pre-approved designs.

While these rules respond to the unique site, character and political contexts of each jurisdiction, they add complexity to to the approvals process and limit the opportunity for standardization in the design and construction process.

COMPARATIVE MATRIX FOR ZONING OF 6-STOREY BUILDINGS IN METRO VANCOUVER PILOT JURISDICTIONS (February 2024)

	City of Burnaby	*City of Delta*	*City of Langley*	*City of Maple Ridge*	*City of New Westminster*	*District of North Vancouver*	*City of Richmond*	*City of Surrey*	*City of Vancouver*	*City of White Rock*	*Range*	*Average*
FSR	2.8	3	2.75	2.5	3.9	2.5	2.28	2.5	2.60	2	2-3.9	2.7
Minimum Lot Width (m)	37		30	30			40	30	40	18	18-40 m	32.1 m
Minimum Lot Size (m^2)	1,670		1,859	1,300			2,400	2,000	855	742	742-2400 m^2	1545.3 m^2
Maximum Lot Coverage (%)			35		40		60	33	50	45	35-60 %	43.8 %
Maximum Building Height (storeys)	6	6	6	6			6				6.0 m	6.0 m
Maximum Building Height (m)				22			25		21.3	23	21.3-25 m	22.8 m
Front Setbacks (m)	4.57	7.5	4.5	7.5	7.62		3	7.5	3.7	6	3-7.5 m	5.8 m
Interior Side Yard Setback (m)	4.57	7.5	7.5	7.5	2.44		1.5	7.5	3	6	1.5-7.5 m	5.3 m
Minimum Exterior Side Yard Setback (m)	4.57	7.5	4.5	7.5	2.44		3	7.5	3	6	2.44-7.5 m	5.1 m
Minimum Rear Setback (m)	4.57	7.5	4.5	7.5	7.62		1.5	7.5	6.1	6	1.5-7.5 m	6.0 m

Bowen Island was excluded due to the lack of baseline zoning regulations for six-storey buildings. This chart reflects baseline zones. Additional varied specific conditions apply in some cases.

Stream Two: Reference Design

The Reference Design work is led by a multi-agency team, including Metro Vancouver and BC Housing. The end-product will form a submission as a finalist in the Canada Mortgage and Housing Corporation's Level Up Housing Supply Challenge (Level-Up). Level Up's goal is to scale system-level solutions using digital processes to expedite concept planning, building design, and permitting while developing supply chains for off-site building components.. Successful solutions will lead to quicker development, reduced costs and permanent improvements in Canada's housing delivery process.

The goal of the Reference Design is to reduce the time to develop a six-storey light wood-framed housing project by at least 30% from land acquisition to occupancy. It aims to do so by standardizing the development process by:

- Utilizing Building Information Management (BIM) from design to handover;
- Use ***planning configurators*** for planning pre-approval and prefabrication (off-site construction) optimization; and,
- Aligning with the recommendations set forth in this document as part of the standard regulation stream.

What is a Planning Configurator?

The term planning configurator describes software that uses artificial intelligence to automatically produce several building massing options permitted by the zoning bylaws and development permit guidelines within a jurisdiction.



Figure 2: Artistic rendering depicting a possible outcome of the reference design stream.

Graphic produced by Iredale Architecture.

Reference Design Concept

The Reference Design utilizes pre-vetted, standardized layouts within a BIM template. The design makes use of Design Modules and Unit Blocks that form a "kit of parts". They include unit layouts, structural system, mechanical and engineering systems and certain exterior/interior fit-out elements to support the rapid design, prefabrication and construction of rental buildings.

Key features of BIM Design Modules

- Code compliant.
- "Open-source", shared freely for adoption by others.
- Can be mixed and matched to build Unit Blocks.
- Include service rooms with standardized systems design.

Key features of BIM Unit Blocks

- Combined with Connector Blocks (containing elevators, services etc.) and End Blocks at each level to form typical levels.
- Blocks are vertically stacked for efficiency, and assembled into buildings as vertical "slices."

Putting them all together in the BIM Kit of Parts

- The Reference Design Kit of Parts can be assembled for different building sizes, forms and unit mixes.
- Reference Design aims to standardize 80% of building design, allowing for 20% site-specific design (i.e. foundations, civil, etc.)
- The Kit of Parts leverages BIM to ensure planning compliance, accelerate design, and facilitate early, efficient fabrication and construction coordination.
- Standard "tool box" of architectural, structural, mechanical and electrical elements, including wall types, bathroom pods , modular millwork, fixtures, equipment, etc. reduces variability and takes advantage of economies of scale.

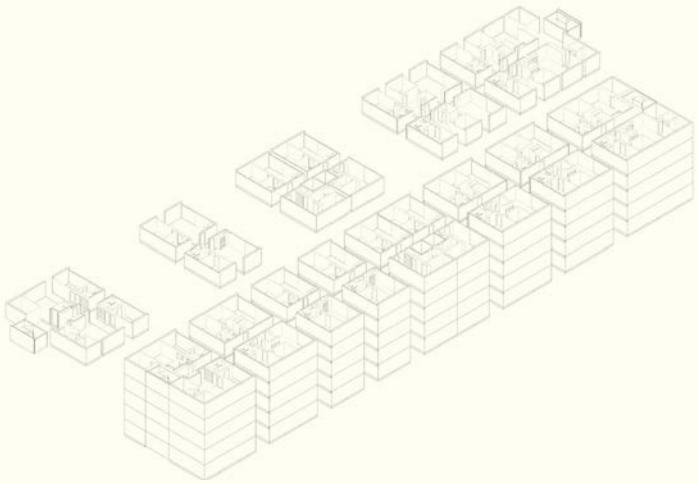


Figure 3: BIM Design Modules (top row) and Unit Blocks (bottom row). The Design Modules and Unit Blocks can be combined and rearranged as a Kit of Parts.

Graphic produced by Iredale Architecture.

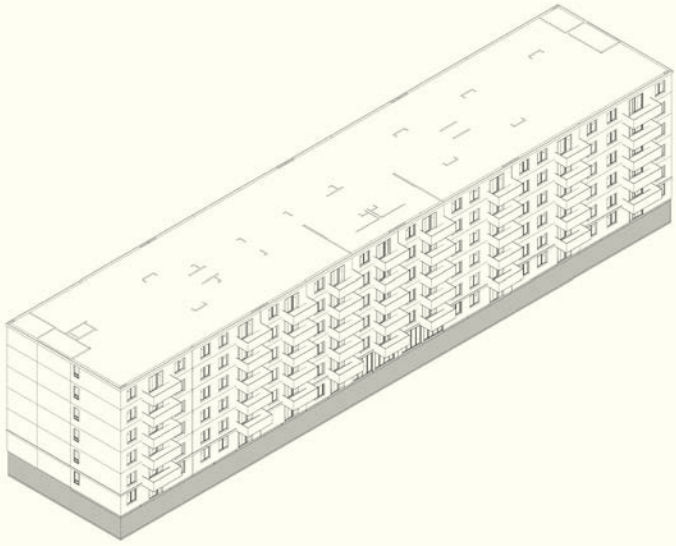


Figure 4: Combined with Connector Blocks, the Unit Blocks can form many different building typologies.

Graphic produced by Iredale Architecture.



Section Two

Recommendations

Approach

Implementation Pathways

Next Steps

Approach

This section outlines a proposed approach for creating regulations that govern building scale, form, and character. The recommendations were formulated based on a review of precedents and the project objectives.

Objectives

1. Balance principles of neighbourliness with development viability.
2. Keep the associated design standards clear, technical, and simple so that they're easy to interpret.
3. Facilitate off-site construction, including prefabricated panelized building elements.
4. Enable electronic compliance checks in design and approvals processes.

To meet the objectives, the proposed values for building bulk and design standards aim to make **interpretation** easier and facilitate electronic compliance checks for development applications. They strive for clarity and objectivity, while also balancing the need for flexibility in design outcomes to improve **livability** and **feasibility** of six-storey rental building projects. Further, they challenge typical regulation for articulation to support the viability of **off-site** construction. The criteria have been labeled with the following tags:

Interpretation Off-site Livability Feasibility

Regulating Building Bulk

The following seeks to streamline the regional approach to governing overall building bulk through the use of maximum height, minimum setbacks and maximum unit depth values. Notably, it does not contain FAR/FSR and lot coverage, opting instead for a simplified approach.

Omit Floor Area/Space Ratio

Interpretation **Feasibility**

Proposed Value: *N/A*

In most Metro Vancouver member jurisdictions, Floor Area Ratio (FAR) or Floor Space Ratio (FSR) is defined in an Official Community Plan (OCP) or Official Development Plan (ODP) in the case of Vancouver, to communicate the anticipated building mass envisioned within a land use designation to the development community and public at large. FAR/FSR has been traditionally used as a negotiating tool between a jurisdiction and a development applicant whereby a development applicant may be permitted to build to a higher FAR/FSR in exchange for providing community amenity contributions (CACs) or community benefits. The FAR/FSR contained within the OCP/ODP may be larger or smaller than the building area set out in a zoning bylaw through maximum height, setbacks, lot coverage and other parameters or site conditions that influence building bulk. In these instances, FAR/FSR, no longer an accurate predicator of building mass, becomes a negotiating tool for a jurisdiction in discussions around community amenities and benefits.

In 2024, new regulations for amenity cost charges (ACCs) came into effect that limit the powers of density bonusing as it relates to collecting funds for amenities.

Regulating Building Bulk Without FAR/FSR

A six-storey rental zone is expected to be applied where an Official Community Plan offers a land use designation that would enable six-storey rental housing. The recommendation proposes using setbacks and a maximum building height to regulate the interface with adjacent buildings, maximum unit depth to regulate the livability of units and, by proxy, the overall size of a building, and amenity and landscaping requirements to support biodiversity and stormwater permeability.

Negotiating Community Amenities Without FAR/FSR

In most Metro Vancouver markets, land values associated with six-storey rental housing do not typically generate land lifts sufficient to provide amenity contributions and as such, this form of housing is often excluded from density bonus bylaws and policies.

Further, as part of determining the ACC charge amounts, local governments must consider whether the charges would deter development or discourage construction of reasonably priced housing (as per s.570.7(5) of the LGA and s.523K(5) of the *Vancouver Charter)*.

It is the recommendation of this report that ACCs not be applied on this type of housing as a way to support more and wider provision of this housing form which forms a backbone of housing strategies in more Lower Mainland municipalities.

If densities are required to support future bonusing policies or infrastructure planning, this form of development can easily support this form of calculation without use of FSR/FAR via height thresholds or realized GFA.

Regulate Building Height Through Number of Storeys

Interpretation **Feasibility**

Proposed Value: *6-storeys*

Each jurisdiction regulates maximum height through a different value and definition, often with complicated calculations required. To simplify interpretation, this report recommends regulating building height through number of storeys. This will clarify requirements for lay-audiences and professionals alike.

In this scenario, all storeys within a building count towards the storey limit (including mezzanines), with exceptions for undergound parkades, mechanical penthouses, elevator overruns, the roof and rooftop access.

The building should not exceed the storey limit when measured at any vertical section along the width of the building. This methodology allows for terraced forms. It also simplifies height measurements by not needing to reference finished grade or natural grade. Finished or natural grade would only be relevant for determining if a parkade level is considered underground.

The assumption is that it's extremely rare that an applicant would build more than 2.7 m (9 ft.) ceilings, particularly for a 6-storey rental building.

Use Unit Depth to Regulate Building Depth

Livability

Proposed Value: *9.6 m (32 ft.) for single aspect units; 14.0 m (46 ft.) for dual aspect units.*

Building depth is regulated to provide appropriate daylighting and ventilation of dwelling unit, manage urban character and maintain open space.

Instead, this regulation uses unit depth as an indicator of performance. Unit depth regulation offers greater flexibility for the building form. The proposed value was determined through referencing the City of Aukland's Apartment Design Guide (2018) and the City of Vancouver's Residential Rental Districts Schedules Design Guidelines (2024). The City of Aukland recommends a maximum unit depth of 8 m (26 ft.) for optimal daylight access. The City of Vancouver recommends a deeper unit depth noting that some rooms require less daylight access than others. To assess the proper unit depth, Vancouver uses a performance measure relative to ceiling height. The measure proposed applies the "rule of thumb" for maximum unit depth which is the height of the ceiling multiplied by four. Assuming a standard ceiling height of 2.4 m (8 ft.), the proposed maximum unit depth value is 9.6 m (32 ft.) for single aspect units.

Because required hallway widths are determined by the building code and represent unleasable area, the building width is inherently limited by market dynamics.

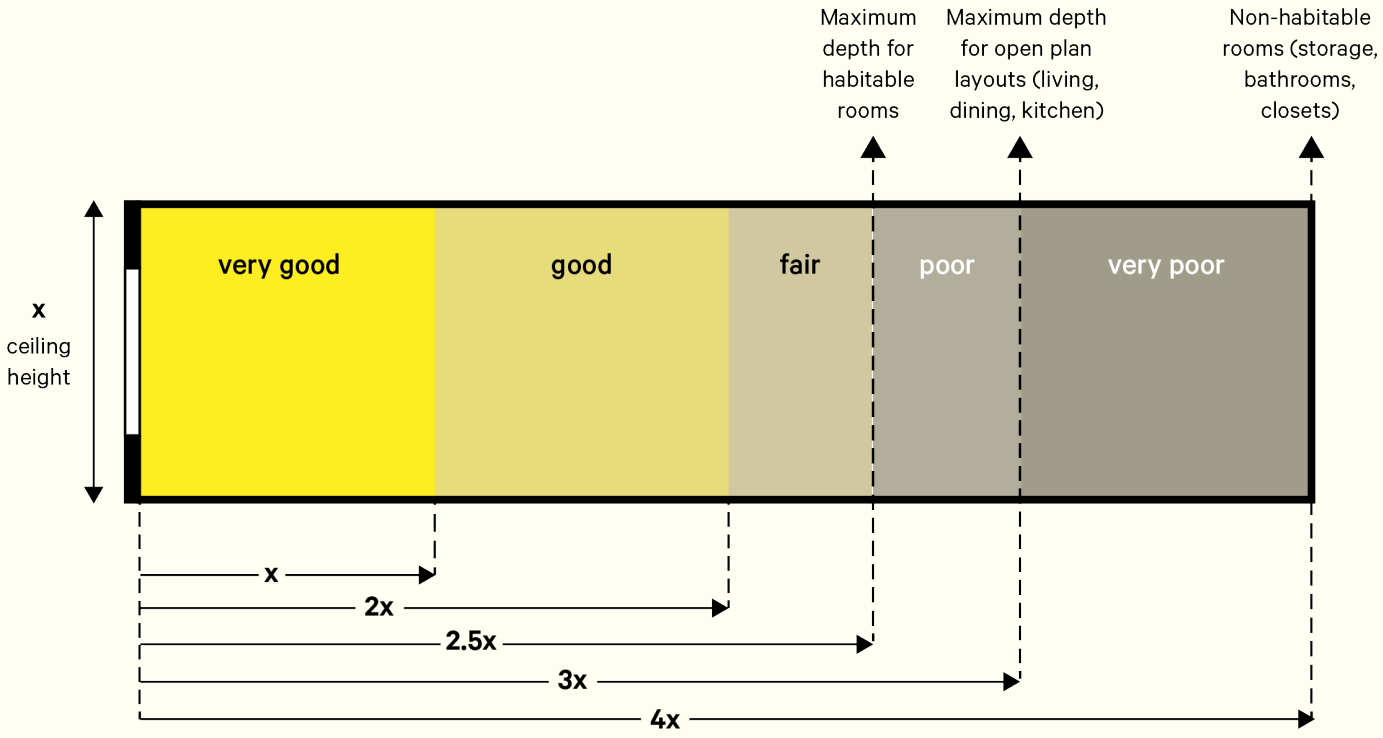


Figure 5: Unit depth performance relative to ceiling height. Figure adapted from the City of Vancouver's *Residential Rental Districts Schedules Design Guidelines (Amended April 23, 2024)*

Standardize and Reduce Setbacks Where Appropriate

Interpretation **Feasibility**

Proposed Values:

Front yard	3.0-6.0 m (10-20 ft.) *This value may be reduced further in mixed-use areas.*
Side yard	Interior: 1.5-6 m (5-20 ft.) Exterior: 2.4-4.75m (8-15 ft.) *These values may be reduced further in mixed-use areas*
Rear yard	4.5-6.1 m (15-20 ft.)

Setbacks influence:

- Admittance of sunlight and daylight;
- Extent and quality of outlook;
- Visual and acoustic privacy;
- Walkability;
- Fire safety; and,
- Support for landscape planting, especially trees.

Historically, front yard setbacks intended to create a consistent street wall with existing conditions, regardless of whether a new development was a detached home or a denser structure. Today's context of limited and expensive land requires a more efficient use of space. Setbacks should be determined by their ability to provide adequate privacy, daylight, and support viable development. Building codes regulate fire safety. By reducing setbacks, we can enhance the viability of development, particularly for courtyard-style buildings.

The range of values is included in the recommendation table are intended to account for the varying urban conditions in the region. The values represent the lowest value present in the region, and the median value present in the region.

Omit Minimum Lot Size

Interpretation **Feasibility**

Proposed Value: *N/A*

Minimum lot sizes help maintain uniformity in neighborhood development. When paired with maximum lot coverage rules, they ensure predictable amounts of private open space, even as density increases. However, typical minimums require multiple lots to be purchased and assembled, an increasingly costly endeavor.

Removing minimum lot size requirements allows for development on smaller lots, leading to a more fine-grained neighborhood and reducing the capital needed for new projects. This opens up opportunities for a broader range of participants in housing development, including non-profit organizations. With updates to the BC Building Code allowing single-exit stair buildings up to six stories, smaller projects have become more feasible.

With this rule omitted, projects that were market-viable but prohibited due to minimum lot size regulation can now be brought to life.

Omit Maximum Lot Coverage

Interpretation **Feasibility**

Proposed Value: *N/A*

Lot coverage limits are traditionally used to control building density and preserve open space for stormwater absorption. However, different urban conditions create different expectations for appropriate lot coverage. For example, a site surrounded by early 20st century apartment buildings, which were constructed to their lot lines, has different coverage expectations than a site in a neighborhood of single-family homes. Similarly, expectations differ in areas with existing apartment buildings built in the mid-late 20th century.

Instead of tailoring lot coverage standards to each unique context or jurisdiction, this report suggests omitting maximum lot coverage limits altogether. Instead, regulation could focus on setbacks, building depth, and requirements for landscaping, common amenities, and tree planting, retention and replacement to guide appropriate lot coverage. This approach may enhance neighborhood walkability and offer more design flexibility.

Setbacks, in conjunction with maximum height limits, define the overall buildable area on a parcel of land. However, if a building's footprint covers the remaining area after setbacks are accounted for, it could raise concerns regarding daylight access and ventilation for the resultant apartment units.

The combination of maximum height, minimum setbacks, maximum unit depth, and design standards requiring common amenity areas, produces a streamlined and performance-based metric for regulating building bulk.

Summary of Recommended Values

PROVISION	VALUE
Building height	
Maximum *building height*.	6-storeys
Dwelling unit depth	
Maximum depth for single aspect *dwelling units*.	9.6 m (32 ft.)
Maximum unit depth for dual aspect *dwelling units*.	14 m (46 ft.)
Setbacks	
Front Yard	
Minimum setback. *This value may be reduced further in mixed-use areas.*	3.0-6.0 m (10-20 ft.)
Side Yard (Interior)	
Minimum setback (interior). *These values may be reduced further in mixed-use areas*	Interior: 1.5-6 m (5-20 ft.)
Side Yard (Exterior	
Minimum side yard setback (exterior). *These values may be reduced further in mixed-use areas*	Exterior: 2.4-4.75m (8-15 ft.)
Rear Yard	
Minimum rear yard setback.	4.5-6.1 m (15-20 ft.)

Design Standards

Whereas design guidelines require interpretation and discretion, design standards are measurable, verifiable, and knowable. Objectivity is required to offload discretionary reviews to electronic compliance checks and in doing so, speed the regulatory review process. Here, we describe design standards to streamline in form and character development permit area guidelines.

Design Guideline	Design Standard
Example: Incorporate frequent entrances along commercial frontages to create visual interest and support pedestrian activity.	**Example: Locate entrances along commercial frontages no more than 7 metres apart.**
This requires a discretionary review and determination as to what "frequent entrances" means.	*This is measurable, verifiable, knowable and involves no personal or subjective judgement.*

Figure 6: Design standards compared to design guidelines which introduce subjectivity and can increase the time that it takes for a development applicant to achieve desired design outcomes.

Articulation

Interpretation | Feasibility | Off-site

Proposed Value: *Articulate buildings through vertical breaks that vary the facade depth where building frontages are greater than 50.0 m (164 ft.).*

Articulation requirements often mandate design features like offsets, recesses, projections, changes in material, or other aesthetic details to avoid large, flat, and monotonous exterior walls, and mitigate shadows. While the intent is to enhance the visual appeal and character of a neighborhood, these regulations can present significant challenges for off-site (prefabricated or modular) construction.

Off-site construction thrives on standardization, where components or modules are manufactured in controlled factory environments and assembled on-site. This process reduces costs and increases efficiency. However, articulation requirements often demand unique, site-specific designs, which force customization. Customizing panels to meet varying façade designs, offsets, or material changes increases the complexity of manufacturing, reducing the economies of scale that make off-site construction competitive.

This challenge is particularly prevalent in buildings with significant step-back requirements, leading to a "layered cake" design. When floor plates, including mechanical systems, structural components, and floor plan layouts, cannot be standardized across floors, off-site construction becomes less viable. Higher levels of customization undermines the time and labor efficiencies typically associated with off-site construction.

Exterior Cladding

Interpretation | Off-site

Proposed Value: *Buildings should use materials aligned with CSA S478, selected for their permanence, durability and energy efficiency. Specific materials may be excluded (e.g. vinyl siding, hardie board).*

Design guidelines typically include requirements for high-quality exterior cladding. By tying to a standard, this requirement is more objective.

Uncertainty on permitted materials and differing regulation for permitted materials across jurisdictions presents a barrier to scaled production of building components.

Combined Private and Common Amenity Areas

Interpretation Feasibility

Proposed Values:

Amenity space should be provided at a rate of 10.5 m^2 (113 ft^2) per dwelling unit up to 557 m^2 (5996 ft^2);
Common amenity area should be provided at a minimum of 50 m^2 (538 ft^2) with no dimension less than 6.0 m (20 ft.).
Common amenity area should not be locate in a required setback and should be accessible from all dwelling units.
Indoor common amenity spaces may only be provided to satisfy the amenity space requirement as part of a development - which may include multiple buildings - with 100 or more units.
A maximum of 10.0 percent of the required amenity space may be provided as indoor common amenity space.
Outdoor common amenity space must provide a balcony, deck or patio, and at least one of the following as permanent features: (1) a barbeque; or (b) seating; or (c) play space.
When the private amenity space provided is 6.0 m^2 or less per dwelling unit, that specific area will be included to satisfy the required amenity areas.

This proposed amenity areas provision references a draft report completed by WSP for the City of Brampton's Comprehensive Zoning By-law Review in 2018 entitled Technical Paper #5 Amenity Areas and Density Bonusing and the City of Calgary's Zoning Bylaw (2007).

The City of Brampton report recommends a standard between 6.0 m^2 and 10.0 m^2 per unit for communal amenity area space, with a minimum of one area consisting of 50.0 m^2 with no dimension less than 6.0 square metres. This recommendation excludes private space. The consultants recommend private space could be included within the standard, provided the standard is increased to 15 m^2 per unit with a minimum of 50% of the space allocated for communal space.

The City of Calgary uses a combined approach for regulating the provision of amenity areas, setting limitations for the amount of private and indoor amenity area that will satisfy the requirement. They also specify requirements for the form and location of outdoor amenity spaces, including minimum usable sizes.

This recommended minimum amenity area requirement is 10.5 m^2 (113 ft^2) per dwelling unit. The minimum area is inclusive of private amenity, indoor common amenity and outdoor common amenity areas, with some limitations for the contribution of indoor and private amenities towards satisfying the minimum requirement. The minimum area adopts the City of Brampton minimum of 6.0 m^2 (65 ft^2) and adds 4.5 m^2 (48 ft^2) which is a typical dimension for usable private outdoor space. This report recommends that the a maximum of 6.0 m^2 (65 ft^2) of private amenity space per unit be calculated towards the amenity area requirement. While lower than the City of Brampton recommended minimum, this requirement is more reflective of what is currently developed in the Metro Vancouver region.

Indoor and outdoor amenities both contribute to livability and social connection. However, the appropriate ratio of each may differ depending on the amenities present within the neighbourhood context of the proposed building. Accordingly, the recommendation sets a minimum standard, while allowing the market to evaluate the appropriate mix of indoor and outdoor amenity spaces.

For example, despite imposing a construction cost on a project, during engagement with municipal staff in the Metro Vancouver region, we heard that private balconies and patios are often provided by developers regardless of whether they are required because they are highly marketable to end users.

Usable Private Amenity Area

Livability

Proposed Value: *Where provided, usable private amenity areas in the form of balconies or patios should have a minimum floor depth of 1.5 m (5 ft.) and minimum floor area of 4.5 m^2 (48 ft^2) .*

Balconies and patios require a minimum depth dimension in order to be usable. This dimension offers a usable space for a table and chairs.

Juliette balconies, or other smaller balcony forms, are still possible, but would not count toward the amenity provision calculation.

Storage

Livability

Proposed Value: *General Storage shall be provided at a rate of 2.3 m^2 (25 ft^2) for each dwelling unit. General storage may be provided in-suite or in a secure storage space elsewhere in the building. General storage spaces should have a full floor-to-ceiling height (min. 2.1 m (7 ft.)) and a minimum clear horizontal dimension of 1.2 m (3 ft.) in all directions.*

The minimum general storage requirement was developed based on minimum requirements set out in the BC Housing Design Guide and Construction Standards but does not distinguish a requirement for in-unit or out-of-unit storage. In some instances, households may prefer storage to be provided in-unit, for example if a household wishes to store crafting supplies. In other instances, households may prefer for the storage to be provided elsewhere, for example if the household wishes to store camping equipment that will often be loaded into a vehicle. Therefore, the regulation leaves the ratio of required in-unit vs out-of-unit storage to market demand.

The required minimum dimensions are taken from the City of Vancouver's Bulk Storage and In-suite Storage – Multiple Dwelling Residential Developments Bulletin (2022). The dimensions offer adequate space for households to store up to two bikes within the required storage space, offering a storage option for those with high-value bikes or other large items that may be at risk of theft in a communal storage space.

Priority Design Standards

Putting it all together.

This report recommends that local variations to the proposed design standards to be minimal in order to support regional standardization. Where variation occurs it should be in response to specific local requirements such as steep slopes, flood-construction levels or other highly specific hydrological or geotechnical considerations. Variations should be:

- Quantifiable (i.e. not open to interpretation)
- Limit barriers to scaling production of components
- Be carefully considered for feasibility (ex. impact on off-site construction methods, ease of interpretation)

DS.	CRITERIA
1.	**Access**
A	**Pedestrian pathway.** Connect the main building entrance to the public street with a minimum 1.8 m (6 ft.) wide pedestrian pathway.
2.	**Landscaping**
A	**Location of trees**. Set back trees 1.2 m (4 ft.) from the property line.
B	**Landscaping in the street-facing setback.** Define the street edge through landscaping with layers of planting, low walls, hedges, or changes in grade along the property. Large evergreen hedging along the street is not permitted.
C	**Landscape material.** Landscape plans and designs shall be prepared by a registered BC Landscape Architect in accordance with, or exceeding, BCNTA/ BCSLA standards.
D	**Landscaping in outdoor common amenity areas.** A minimum of 30% of at-grade outdoor common amenity areas should be permeable landscaping.
3.	**Articulation**
A	**Vertical breaks**. Articulate buildings through vertical breaks that vary the facade plane where building frontages are greater than 50.0 m (164 ft.).
4.	**Exterior cladding materials**
A	**Exterior materials**. Buildings should use materials aligned with CSA S478, selected for their permanence, durability and energy efficiency.

5.	Amenity areas
A.	**Provision of amenity areas.** Private amenity areas, indoor common amenity areas and/or outdoor common amenity areas shall be provided per dwelling unit at a combined rate of:
i	10.5 m^2 (113 ft^2) per dwelling unit up to 557 m^2 (5996 ft^2);
ii	One common amenity area should be at minimum 50 m^2 (538 ft^2) with no dimension less than 6 m (20 ft.)
	Common amenity area should not be locate in a required setback and should be accessible from all dwelling units.
	Indoor common amenity spaces may only be provided to satisfy the amenity space requirement as part of a development - which may include multiple buildings - with 100 or more units.
	A maximum of 10.0 percent of the required amenity space may be provided as indoor common amenity space.
	Outdoor common amenity space must provide a balcony, deck or patio, and at least one of the following as permanent features: (1) a barbeque; or (b) seating.
B	**Usable private amenity area.** Where provided, usable private amenity areas in the form of balconies or patios should have a minimum floor depth of 1.5 m (5 ft.) and minimum floor area of 4.5 m^2 (48 ft^2).
C	**Projection.** Balconies or other permanent building elements should not encroach into the public right of way.

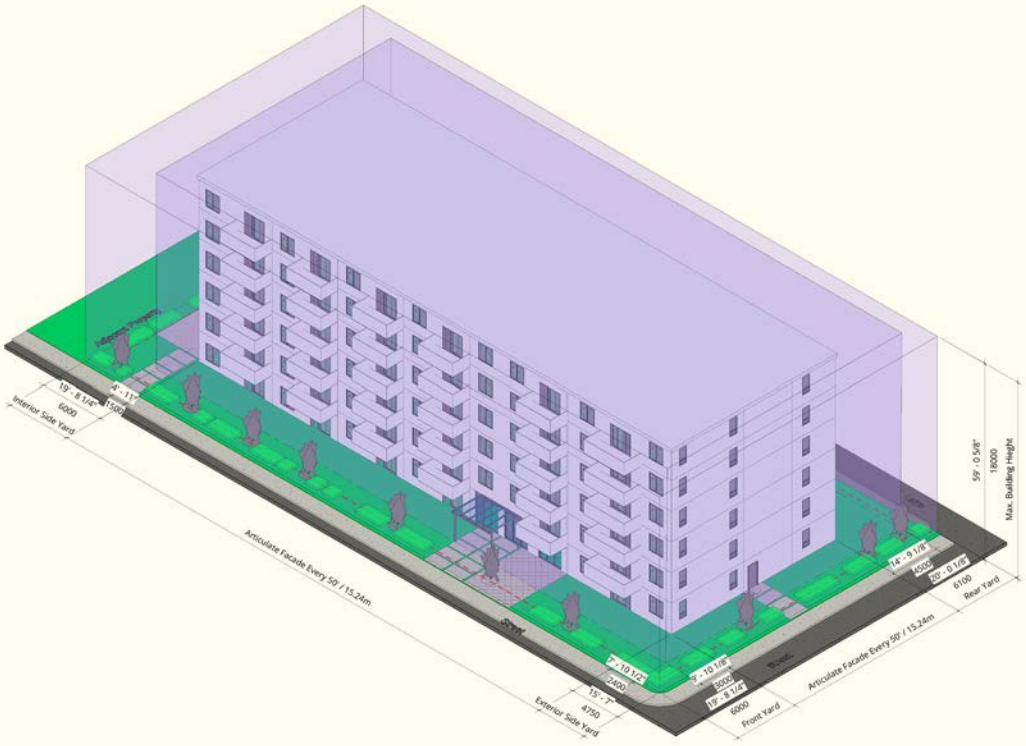


Figure 7: The recommended setback creates an overall buildable envelope. Maximum unit depth and the amenity space requirements limit the buildable area.

Graphic produced by Iredale Architecture.

Implementation Pathways

Harmonizing and simplifying regulations will offer clarity to the marketplace and support off-site construction, however the impact of simplified regulation depends on how and where it's applied and the approval process used to implement it.

This page presents implementation and approvals pathways. In all cases implementation pathways require a review of existing bylaws and DP guidelines and the incorporation of the recommended standards where feasible.

IMPLEMENTATION			
	Supportive of Standardization	**Supportive of Expedited Delivery**	**Trade-offs and Considerations**
Create a floating zone with simplified requirements, ready to be applied	⊖	⊗	**Trade-off:** expedited delivery of rental housing in favour of increased municipal review and discretion.
Prezoning area-wide for rental tenure only	✓	✓	**Trade-off:** municipal review and discretion in favour of expedited delivery of rental housing. **Consideration:** land values if applied to areas with land-use designations supportive of 6-storey buildings irrespective of tenure. **Consideration:** effect of creating rental on broader goals of neighbourhood diversity.
Prezoning for simplified six-storey buildings irrespective of tenure	✓	✓	**Trade-off:** municipal review and discretion in favour of expedited delivery of rental housing. **Trade-off:** other incentives required to incentivize rental tenure.

Proposed Approvals Pathway

1. **Vet reference design** against typical site conditions.
2. **Apply 6-storey rental zone** after modifying or creating an additional zone.
3. **Include corresponding DP Area in OCP** with standardized form and character guidelines.
4. **Delegate to municipal staff** for expedient review.
5. **Accept applications** for combined BP and DP to enable faster construction timelines.
6. **Offer Reference Design** an expedited review to incentive adoption.

Next Steps

This report is the beginning of a longer process towards accelerating purpose-built rental housing in Metro Vancouver. We're looking ahead to three next steps.

Facilitate Collaboration Towards a Standard Regulation

Metro Vancouver will continue to facilitate collaboration among municipal staff working on regulatory updates, enabling them to share information and identify opportunities for alignment.

Test for E-compliance and Design Outcomes

The proposed values offer a starting point towards greater standardization in the region's policy environment. As more municipalities adopt electronic compliance checks and the design outcomes become apparent, they may need to be refined further.

Exploring Financial Support for Updating Zoning Bylaws and Design Guidelines

Through CMHC's Level Up program, Metro Vancouver is exploring opportunities to provide support to select municipalities that commit to updating their zoning bylaws and design guidelines in line with the objectives of this report: simplify and standardize regulation, support machine-readibility, and enable off-site construction.

Promote Process Changes to Expedite Delivery of Rental Housing

Approval processes will be critical in achieving the goals of this initiative. The bylaw and design recommendations outlined here are designed to support the pre-zoning of key sites and establish a streamlined, staff-delegated development permit process, that combines development permit and building permit. This will provide landowners and applicants with greater certainty regarding processing times.

This proposed streamlined process is particularly advantageous for off-site construction projects, where faster approval times are essential for prefabrication. By ensuring that all regulatory aspects are reviewed together, it minimizes delays caused by multiple reviews and coordination issues, which can otherwise undermine the benefits of prefabrication. It also helps align design and construction standards from the outset, reducing discrepancies between on-site and off-site components.

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