



Housing on Narrow Lots

What Can You Do on a 50 Foot Lot in Chinatown?

A resource for planning and designing mixed-use buildings*

221A

 **Human Studio**
ARCHITECTURE + URBAN DESIGN

TOMO

Land Acknowledgement

Those who have contributed to this project live and work in Vancouver on the ancestral territories of the xʷməθkʷəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and səlilwətaʔ (Tsleil-Waututh) Nations. We acknowledge our positions as settlers on this unceded territory.

A patch of low-lying and marshy earth, this neighbourhood that we now call Chinatown was once a place for gathering, fishing, and hunting. These lands of abundance have been stewarded by the xʷməθkʷəy̓əm, Skwxwú7mesh, and səlilwətaʔ Nations for thousands of years.

As part of the design profession, our project team understands the impact and influence we have on future land uses and forms of development. We are grateful to those who have cared for and defended these lands and waters since time immemorial. May we all fight for a life lived more lightly on this earth. May we imagine better futures in kinship with all creatures. May we continue to build and repair our relations with the Nations on whose land we currently reside.

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221A

221A

221A is a nonprofit charitable arts organization founded in 2008 and based in Vancouver. 221A operates, researches, and develops arts infrastructure, including artist studios, workspaces, and housing to benefit working artists, nonprofit cultural organizations, and small cultural businesses, towards the public appreciation of the arts.



Human Studio Architecture + Urban Design

Human Studio is a practice dedicated to sociability and sustainability. The Vancouver-based firm focuses on equipping our communities with buildings that are vital, thriving, and resilient. Human Studio has been studying the factors of the built environment that support social interaction since its inception in 2017. The firm, an expert in shaping spaces that foster meaningful relationships, brings the latest evidence-based environmental psychology literature to bridge the gap between academia and architectural practice.



Tomo Spaces

Tomo is short for Together More and reflects the firm's guiding principle. Tomo helps people live happier together in densifying cities. As developers, operators, and researchers, we believe in the power of place to enable people to do amazing things. Our integrated approach, from research and theory to practice and development, creates an exceptional process to engage with complex social issues.

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Summary: Intention & Key Findings

This booklet is for anyone interested in small lots and fine-grain urban development. It emerged from our collaboration to design a mixed-use intergenerational social housing project in Chinatown. Just as we have built on the work of others, in sharing our learnings, we hope to contribute further to the neighbourhood's collective knowledge. Chinatown serves as a great example of grassroots urban development. Many lessons can be learned from its narrow buildings and the liveliness, cultural vibrancy, and community networks these buildings support.

Our intention is that this booklet can be a resource, serving as an aid during early conversations about project goals, unit mix, and building form. It summarizes many of the parameters to keep in mind when designing on narrow lots. The booklet offers lessons and reflections, breaking the information down into three main sections: a brief history of 50' lots, Chinatown's history and current zoning, and design explorations. This last section includes diagrams of unit and building configurations to demonstrate the following key findings at a schematic design level:

1. When designing on a 25', 50', or 75' lot, the amount of space per floor dedicated to the stair and elevator core, circulation, and service shafts is about the same across these different lot widths. This means on wider lots more residential and programmable area is available per floor.
2. Corner lots of any lot width are easier to build on than mid-block lots because of the ability to add windows and access at grade on three sides of the building.
3. Lightwells, courtyards, and jogs in the facade can help increase the amount of exterior wall available to place windows. The requirements for windows in bedrooms and living rooms are often a limiting factor in the design of buildings on narrow urban lots. More wall for windows means more bedrooms or units. It is important to note that increases to the building's perimeter will decrease overall envelope efficiency and may increase cost.
4. Zoning density limitations will often be reached before setback or height restrictions, especially in the HA-1 and HA-1A zones. Conditional approvals and requested relaxations are required for any deviations. Heritage preservation and mass timber incentives may be ways to negotiate more density.
5. Parking, loading, and accessibility regulations will quickly influence what can be done at ground level (i.e., commercial frontages, access, public space); affecting the ability to activate lane-facing frontages.
6. Many of Chinatown's existing narrow buildings, such as society buildings, are the heart of the community. Modern upgrades for seismic safety, climate and flood mitigation, and code standards are often hard to accommodate in narrow buildings and require significant resources and funds. Furthermore, the conservation of intangible heritage is an essential consideration.

Introduction

Vancouver's Chinatown is one of the oldest and largest remaining Chinatowns in North America. While many are dwindling as residents move out and long-time heritage businesses close, Vancouver's Chinatown is often described as 'living' because it is not preserved as a historic place frozen in time through building facade retentions and symbolic signage. Rather, Chinatown's tangible and intangible heritage provides linkages to the past, and the community's culture continues to evolve into the present through connections to place, relationships, and cultural practices. In many people's everyday life, Chinatown continues to be home, community, and a place to access Chinese-language services, groceries, and goods.

The main contents of this booklet resulted from our design explorations for a mixed-use residential project on a 50' lot in Chinatown. In our exploration of the building form, we designed and evaluated various typologies. With Chinatown's zoning restrictions, constraints of 50' lot size, and our project objectives, we found that there was a limited set of design possibilities. It is our intent to share these so that others may build and expand on what we have already done, within their own communities in Chinatown as well as other Vancouver neighbourhoods, given the prevalence of 50' lots in the city.

The book is divided into three sections.

1. The first section situates the 50' lot configuration more broadly within Vancouver's urban development history.
2. The second section is focused on Chinatown. It presents a short history of the neighbourhood, as well as the current zoning and design constraints.
3. The third section includes the design typologies. Within each typology, we discuss our considerations from design, financial, and operational perspectives. The section concludes with applications and implications related to the future of the 50' lot.

Relating to the Land

The grid is not inherently evil, but its strong historical association with colonization, centralization and globalization gives pause for thought.

— Jill Grant (2001)

Colonial re-coding of Indigenous traditional territories

It is not possible to explore the urban grid without acknowledging the values and imposed narrative of this scientific planning system that has served as the organizational building block of European colonial cities. The grid with its regular and equal blocks has been celebrated as an expression of democratic ideals. In the colonial context, however, the purpose was about preparing land for settlement and expanding territorial control. The laying of the grid by military surveyors that disregarded the natural landscape, as well as the preemptive process facilitated by the grid, essentially and expeditiously erased Indigenous presence on the land.

In stories and teachings shared by x^wməθk^wəyəm, Skwxwú7mesh, and səilwətaʔ knowledge keepers, we are offered a different worldview. Lands and places are spoken of in terms of one's connection to them. One's sense of place and sense of belonging are formed through experiences and relationships between people and other beings—human and non-human—who share and dwell on the land. Indigenous place names show this connection to land. K'emk'emeláy, meaning "the place of many maple trees" or "groves of maple woods," is the name this land had before colonization (Sterritt 2023). The interconnection between land and language, values, and cultural heritage reminds us that lives, meaning, and teachings are written on the land (Armstrong 2016). Recent works by Indigenous writers and scholars broaden our understanding of land beyond geology and geography. In their rich discussions of land language, we come to a better understanding of land as cultural heritage embodying language, knowledge, teachings, and meanings.¹

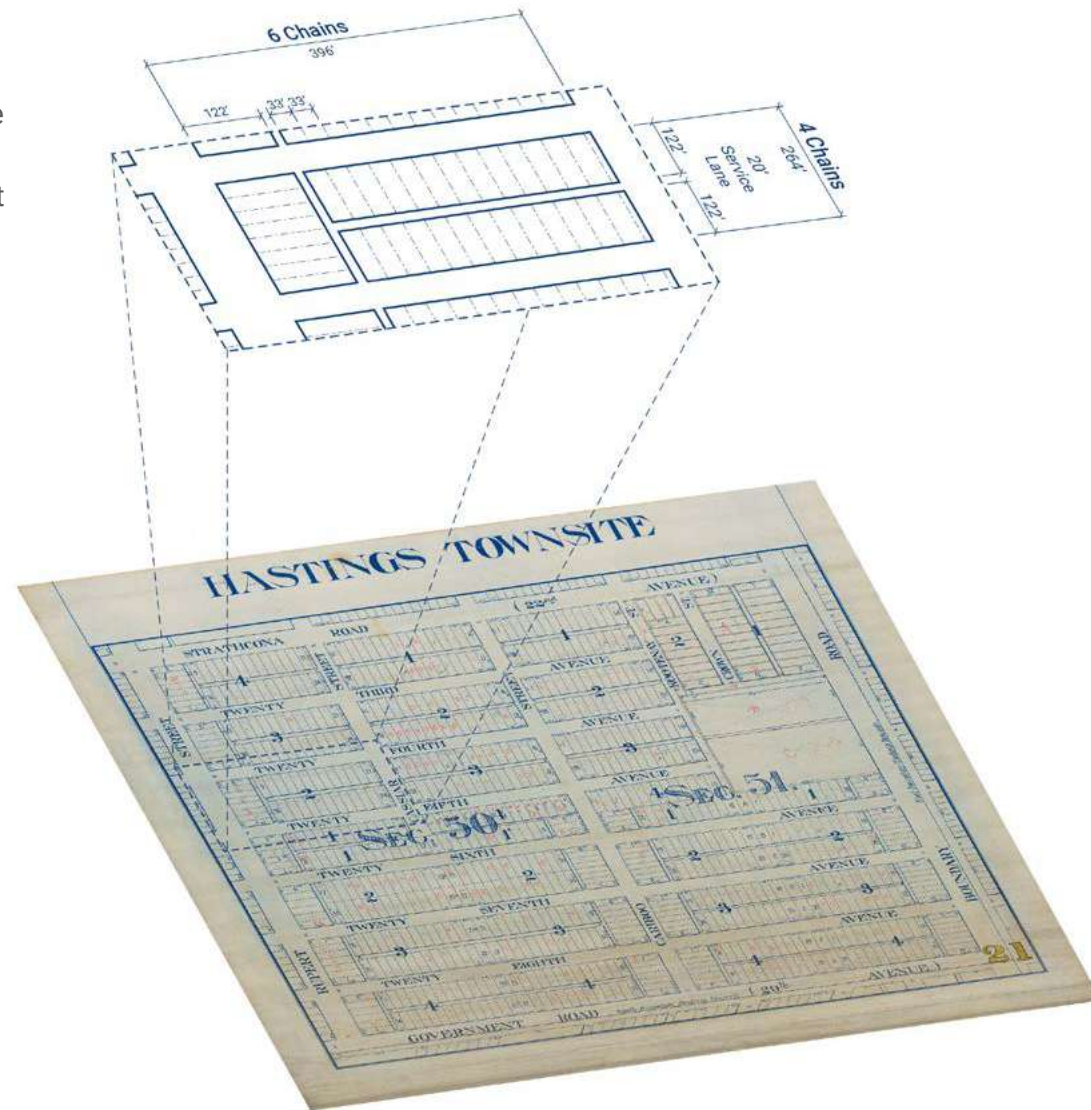
While this project explores the 50' lot as an existing condition in Chinatown, we understand and would like to underscore its role as a colonial tool of land settlement in the past and present. As we proceed, we ask through our work: how are we erasing, writing, and rewriting the urban landscape? What relations are we re(building) with the land and people?

Basically where Chinatown is situated was our supermarket. It's where we went for a lot of resources and food gathering. The land was a land of bounty full primarily of kayi7ch, which is the elk—the first things to go extinct in our territory with the establishment of the city of Vancouver. Also lhaasem, which is the wild rice. It was abundant down there as well as bog cranberries. These weren't found in very many places in our territory, so False Creek, and Chinatown, was in particular an important location for trade and economy for the local people from the local villages.

— Chief Ian Campbell (2019)

Vancouver Land Parcel and Urban Form

The standard lot size in the City of Vancouver has a 25-foot (8 meters), 33-foot (10 meters), and 50-foot (16 meters) frontage and side lengths of 122 feet.



Early land surveyors and Vancouver's grid

In 1858, when the Royal Engineers arrived, one of their first initiatives was to create a path connecting New Westminster to Burrard Inlet. In doing so, they surveyed and organized the land into rectilinear sections. The grid was imposed regardless of topography and geographic features. Large sections were designated townsites or military reserves and smaller land parcels, known as District Lots, were offered for sale through the colonial process of preemption. In this process, preemptors claimed land by marking up to 65 hectares (160 acres). The conditions were that the preemptor had to settle on the land continuously for 2 years, pay \$2.50 per hectare, and improve it by a value of at least

Figure 1: Diagram showing standard block structure based on the chain system. Modified archival image.

"Hastings Townsite: Rupert Street to Boundary Road and Strathcona Road (22nd Avenue) to Government Road (29th Avenue)," 1910, AM1594-: MAP 784-: LEG1369.10, City of Vancouver Archive.

\$1 per hectare. Upon meeting the conditions, the preempted land was recorded in a government land survey, and a Crown grant was issued. Over time, the owners further divided District Lots into blocks and individual lots for sale (Bruce Macdonald 1992, p. 19).

Land surveying method

Vancouver was surveyed using the chain system designed in 1620 by Edmund Gunther (1581–1626), an English clergyman and mathematician. The basic characteristics of this system are:

- Each chain measured 66 feet (20m) and contained 100 links
- 10 chains equal one furlong, and 80 chains equal one mile
- An area 10 chain x 10 chain equals one square acre

Building on this chain system, Jesse Ramsden (1735–1800), an English scientific instrument maker, developed the engineer's chain for the British Royal Engineers. The chain measured 100 feet and contained 100 one-foot-long links.

These chain systems – Gunther's surveyor's chain and Ramsden's engineer's chain – became standard units of measurement in England and spread throughout the British Empire, influencing how colonial cities were planned in Canada. The influence of these chain systems is evident in Vancouver's grid, resulting in a series of standard individual lot sizes. To illustrate, a typical block measured six chains long (396ft or 120.5m) and four chains wide (264ft or 80.5m). It was then divided into two with a service lane measuring 20ft or 6m down the middle. The resulting land parcels were thus 122ft long and 33ft (or 66ft) wide (Berelowitz 2005, p. 45; Kumtucks n.d.; Public Architecture 2023, p. 10). See diagram on opposite page.

In practice, Vancouver was laid out in a grid of streets and blocks based on varying scales and adaptations of the chain system. For instance, Ramsden's 100-foot chain was used on CPR properties. The Hastings Townsite (today's Nanaimo Street to Boundary Road) conformed roughly to Gunther's 66-foot chain.²

Vancouver's urban form

The grid system produced a distinctive morphology. The 25' and 33' width lot pattern created an unusually fine-grained urban fabric. Furthermore, it produced a lane system that eliminated the need for driveways, preserving sidewalk continuity. The long, narrow lots, in turn, affected building typologies. These defining features are particularly evident in historic neighbourhoods like Chinatown, as we will see in the next section.

[T]he railway had surveyor L.A. Hamilton draw and register the official townsite plan for Vancouver. The survey was done solely on paper and not with stakes and measurements on the ground, so the streets were laid out with no regard for the existing topography... Gore Avenue, the one street that did not conform to the new grid, was the original skid road for logs to the Hastings Mill, and its odd angle was allowed to remain. The streets east of Main were named after landowners in the area... and on the west side... after CPR officials, including Hamilton himself.

— John Atkin (1994, pp. 11 & 13)

A Defining Chinatown Characteristic

Although we often focus on the historic buildings, it is the scale of the existing buildings on the subdivision pattern that set the rhythm that lets us know we are in Chinatown.

— Joe Wai (2012)

Chinatown Character: What makes Chinatown Chinatown?

Chinatown’s character comes from integrating and layering tangible and intangible heritage values. The sense of place comes from the smells and sounds, the open storefronts that blur public and private spaces, and the co-location of housing, restaurants, offices, art studios, manufacturing, grocers, and cultural activities.

An important aspect of this defining character is the fine urban grain and rhythm of the street formed by the narrow 25’ lot grid. Most notably, the grid created long and narrow buildings with storefronts and rear laneway access.

Chinatown’s 25’ grid heritage

Early fire insurance maps (1906 and 1912) show that Chinatown was laid out using the chain method into mostly 25’ lots. Photos from over the past decades show how the grid shaped Chinatown’s urban fabric. Before Chinatown, in 1865, the area was acquired by

Chinatown’s unique character arises from its particular history. This is partly expressed in the existing tangible buildings and partly expressed in intangibles: the life lived every day in Chinatown.

- The “Chinese” character of Chinatown is actually a synthesis of 19th Century South China and European aesthetics and technology interpreted by overseas Chinese.
- This interpretation takes place on a subdivision plan of narrow 25’ lots bounded by front streets and active back alleys - the plan is neither particularly European nor Chinese in origin but gives rise to a uniquely fine urban grain. It is “Chinatown”.

the Hastings Mill and referred to as “Sawmill Claim.” According to official surveys, District Lot 196 was bounded by Burrard Inlet to False Creek and between today’s Carrall and Heatley Streets. The main buildings of the Hastings Mill sat at the foot of Dunlevy Street (Atkin 1994, p. 7). While some early Chinese migrants worked as sawmill hands, most came for the gold rush and to labour on the Canadian Pacific Railway (CPR).

In 1885, with the CPR completed and terminating in Vancouver, many discharged Chinese railway labourers stayed in the region and found work at the sawmills, harbour industries, laundries, and farms. They also worked as servants and cooks in homes, hotels, and camps. During this early Chinatown period, the shops operated by Chinese general merchants around Pender and Carrall Streets also served as gathering places (Yee 1988).

With the CPR completed and Chinese labourers no longer needed, the Canadian government introduced the discriminatory Chinese Head Tax (1885) of \$50 per person for all new immigrants from China. In 1901, the tax was raised to \$100, and again in 1903 to \$500, as anti-Chinese sentiment increased. Despite the prohibitive tax, harsh working conditions, and racial hostility, immigrants continued to come, and the Chinatown community grew (Simon Fraser University, n.d.).

As Vancouver expanded and established itself as the province’s economic hub, the centre of the Chinese community shifted from Victoria to Vancouver. Vancouver’s Chinatown experienced a building boom between 1900 and 1910. Chinese merchants, family associations, and benevolent societies bought land and constructed their own buildings.³

- Land use is remarkably diverse because Chinatown was historically self-contained. It was – and can again be – a model for a pedestrian-focused live-work village within the City.

This is an excerpt from an unpublished document titled: Chinatown Character and Advice to Developers and Architects, Summary Notes of a Discussion in Chinatown. It is the outcome of a gathering of 20 community members who were active in the Chinatown Historic Area Planning Advisory Committee and the Chinatown Revitalization committee. They met to discuss why buildings meeting Chinatown Design Guidelines did not reflect the neighbourhood. See Joe Wai (2012).



Figure 2: South side of East Georgia Street captures Chinatown’s fine-grain streetscape of buildings on 25’ and 50’ lots. Collaged series of Google Streetview screenshots, 2024.

Chinatown's commercial spaces

Unique to Chinatown, the buildings constructed were usually three storeys with a *mezzanine* between the ground and second floors (informally called a 'cheater' floor). The architectural styles reflected hybrid Western and Chinese references, such as stained glass and recessed balconies. Buildings also adapted to the grid and the long, narrow lots by creating ground-floor storefronts that faced both the street and alley. This made it possible for two businesses to share the same ground-floor storefront. A typical building would have, for instance, a trading company on the ground floor and a restaurant at the rear facing the alley with residential units and club rooms upstairs. Interestingly, in many of the older 50' and 75' heritage buildings, the street-facing frontages are divided into 3 or 4 smaller units (Fig. 3b, 4c, 4d). These separations do not necessarily correspond with the 25' lot breaks and instead balance structural alignment while providing additional storefront spaces facing the street.

Today, lane activation is considered an important characteristic of the neighbourhood and is encouraged within the zoning bylaws. The sidewalk is also activated by the many storefronts that extend their displays (Fig. 3d). In the mornings, gates and doors extending the width of the storefront are completely opened up, displays are wheeled out, and shoppers and pedestrians flow freely between the sidewalk and the store. Then, in the evenings, the displays are wheeled back in and the doors shut as stores close for the night.



Figure 3: (a) "The South Side of the Unit Block of Dupont (Pender) Street," 1907, AM1376-: CVA 1376-506, City of Vancouver Archive. (b) Yee Fung Toy Society, 226 E Georgia St., by Authors, 2025. (c) Keefer Rooms Block Party, by Authors, 2025. (d) Main Street herbal shops, by Authors, 2025. (e) Parking access gates at laneway for new building, by Authors, 2025. (f) "Market Alley, Columbia between Pender and Hastings Street," 1977, AM1523-S6-F06-: 2008-010.0128, City of Vancouver Archive.

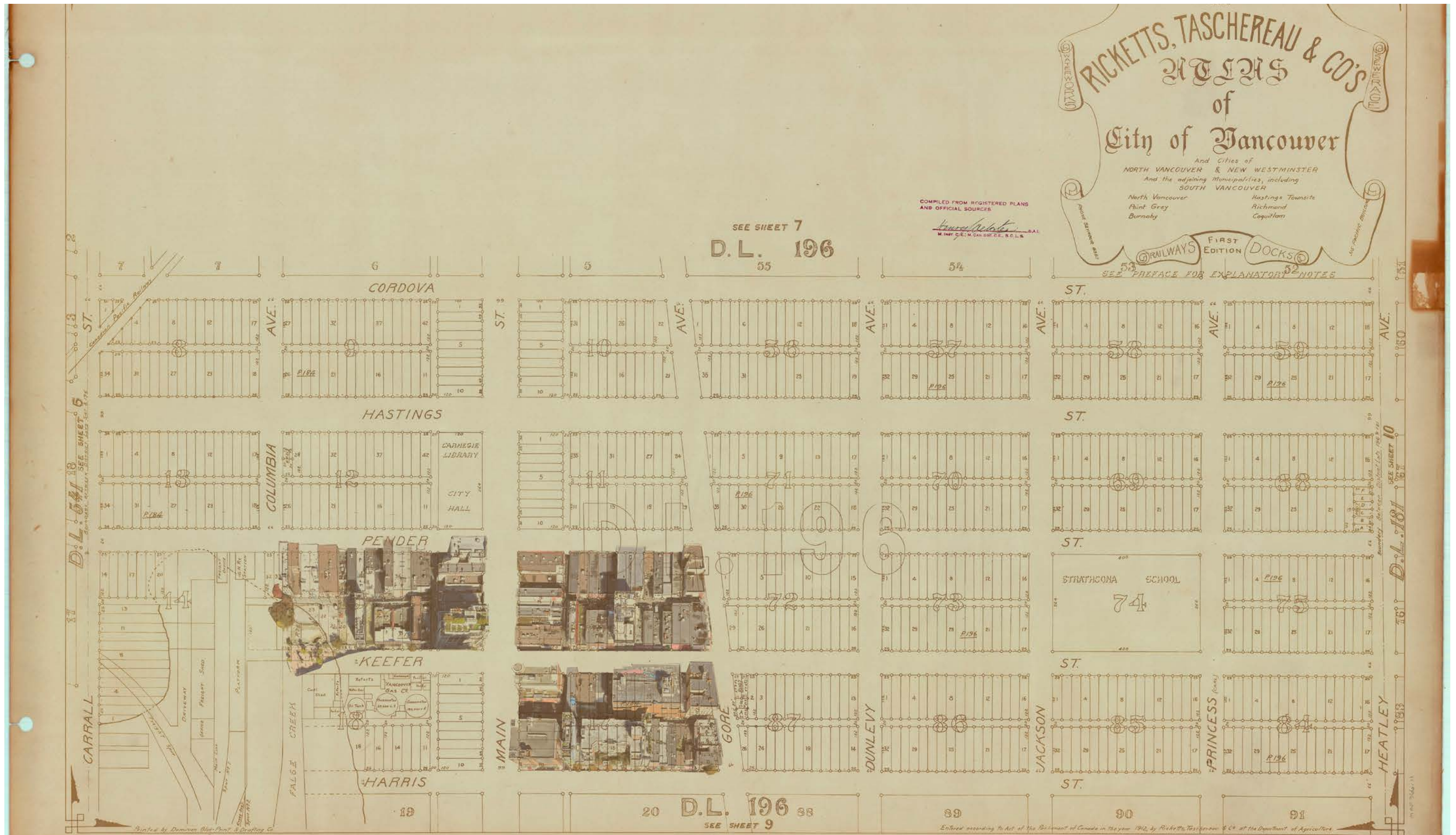
Chinatown's residential spaces

Affordable housing for community members has been a priority since Chinatown's early development. Much of the older housing stock is comprised of single-room occupancy (SRO) units with shared bathrooms and kitchens. Within the neighbourhood's mixed-use building typology, SRO units are typically located above the ground floor businesses (e.g., May Wah Hotel, Fig. 4c) or in a separate secondary building at the rear of the lot (e.g., Yue Shan Society building, Fig. 4d). Clan and benevolent societies have historically played a significant role in providing affordable housing in their buildings as part of their broader social and community services (e.g., Mah Society, Fig. 4b). Today, society-owned housing continues to serve low-income members of the community, many of whom are seniors. Over time, some SRO units have been renovated into self-contained studio or 1-bedroom units to improve livability (e.g., Yee Society building, Fig. 3b). Some nonprofits have also developed purpose-built rental housing. The Chau Luen Tower (Fig. 4a) is one of the largest, providing 82 units for seniors.

In recent years, several large condominium developments have introduced new market-rate housing to the neighbourhood (Fig. 4f, 4g). This has been accompanied by new restaurants and retail shops that cater to a younger, wealthier demographic. As development pressures and real estate speculation increase, questions about housing forms, how they integrate into the urban fabric, and who they are for have led to ongoing concerns about displacement and gentrification.



Figure 4: (a) Chau Luen Tower, 325 Keefer St., by Authors, 2025. (b) North side of East Pender Street, by Authors, 2025. (c) May Wah Hotel, 256 E Pender St., by Authors, 2025. (d) Yue Shan Society, 33-47 Pender St., by Authors, 2025. (e) Fan Tower/Stratford Hotel, 609 Gore Ave., by Authors, 2025. (f) Sparrow Chinatown, 239 Keefer St., by Authors, 2025. (g) Southwest corner of Main Street & Keefer Street, by Authors, 2018.



Conserving Chinatown's Fine Grain

Intervening in a historic urban environment requires an understanding of the history, culture and architecture of the place (i.e., urbanism), as opposed to object buildings only.

— City of Vancouver (2025a)

Balancing heritage conservation with neighbourhood evolution and growth has been an ongoing dialogue and effort among community members, property owners, tenants, urbanists, and city planners. Designing on 25' and 50' lots to conserve the neighbourhood's fine-grain character requires overcoming some design and policy challenges.

Integration of tangible and intangible elements

Vancouver Chinatown's heritage value extends beyond its physical structures. Rather, it is the integration of tangible and intangible heritage that shapes the neighbourhood's identity. Alongside the architecture and landmarks, the neighbourhood's distinct sense of place comes from its cultural practices, traditions, legacy businesses, and shared cultural knowledge.

While this booklet primarily focuses on conserving Chinatown's fine-grain urban fabric, it is important to recognize that intangible and tangible heritage values must be considered together to meaningfully safeguard the area's identity and historical integrity for current residents and future generations.

Challenges

1. The narrow lot limits ground floor uses when parking, loading, setback, and accessibility regulations are applied.
2. The long, narrow lots limit natural light and ventilation, making livability challenging. In particular, larger family units with two and three bedrooms are more difficult to achieve.
3. Building rehabilitation and structural upgrades to bring existing 25' and 50' wide buildings to modern safety, seismic, and energy efficiency standards can be difficult



and prohibitively costly. This is particularly challenging for designated heritage buildings.

4. Chinatown's zoning allows for various uses, enabling mixed-use buildings that integrate commercial, residential, and cultural activities. However, accommodating the varying needs of different uses on narrow lots is more difficult.
5. Chinatown's older building stock and legacy of rooming houses provide some of the City's most affordable commercial and residential spaces. However, the development economics of smaller lots typically result in higher per-unit costs, adding to pressures of displacement and loss of affordability.

The intent is not to replicate or mimic heritage facades but to ensure that new buildings have a level of complexity and an engaging architectural expression compatible with the character of the area's heritage buildings...

There is a well-established pattern of individual buildings on 25' to 50' wide lots in Chinatown. The objective is to reflect the typical streetscape rhythm of Chinatown created by a characteristic single storefront per single parcel frontage. New buildings should continue the existing pattern of small storefront widths. Changes to existing buildings should avoid consolidating two or more existing storefronts into a larger bay.

— City of Vancouver (2025a)

For heritage districts like Chinatown, incremental and infill development may conserve the neighbourhood's fine-grain urbanism and mitigate the complete loss of existing building forms while increasing overall density. Infill architecture refers to the development of vacant or underused sites. Incremental development describes the construction of new buildings within existing lots without the use of land assembly.⁴ Both infill and incremental development allow for smaller projects that can be undertaken by developers and community groups. This may help conserve the existing urban fabric and lead to a greater variety of building types and uses. Conservation and the rehabilitation of society buildings align with the City of Vancouver's aspirations for the neighbourhood, as outlined in the Chinatown Cultural District Framework (City of Vancouver 2024a).

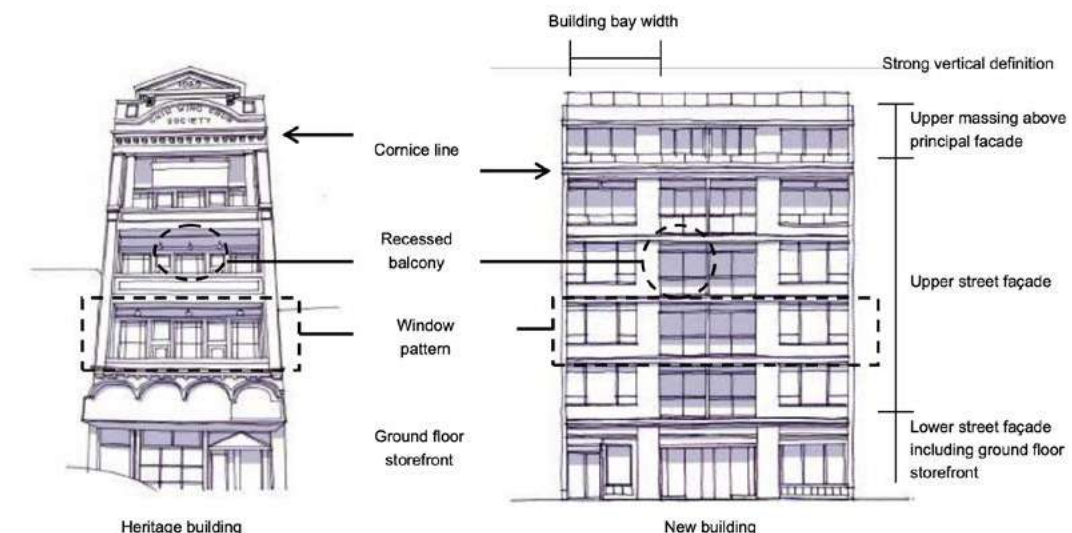


Figure 6: Chinatown HA-1A Design Policies, Façade Composition. City of Vancouver (2025a, p. 11).

Chinatown Current Zoning Summary

A building's form is determined by the interplay of permissible setback, height, and density.

How does zoning work?

Vancouver Chinatown is divided into HA-1 and HA-1A zoning districts. For each district, there is a *schedule* that outlines the rules and regulations that new buildings must be designed to respect (City of Vancouver 2025b). If a new building does not comply with these regulations, the project can request a *relaxation* or apply for *rezoning* to change the site's governing regulations. When designing a building, the *rear setback*, height, and *density* play distinct but interconnected roles in shaping the form of a proposed building and its relationship to the street and neighbourhood around it.

1. Rear setback

Specific to the HA-1 and HA-1A zones, the district schedule distinguishes between rear setback for *dwelling* uses (7m) and *non-dwelling* uses (1m). The intention is to provide residential units with greater access to light and more privacy, particularly when they face toward publicly-accessible laneways or adjacent buildings. The *district schedule* further stipulates that dwelling uses are not permitted on the first and second storeys. Together, these regulations create a particular building form where the first two storeys extend the full depth of the site, while storeys containing residential uses above must step back from the rear property line.

The two *massing* diagrams on the following page (Fig. 8) illustrate what is outright allowable in the HA-1 and HA-1A zoning district schedules and how the stepped rear setbacks align with other important zoning requirements.

While this stepped form follows what is allowable, in practice, it is common to see the reverse: the first and second storeys are set back from the rear property line to make space for back-of-house and service functions (e.g., parking access, loading and parking spaces, electrical transformers, waste bins, and gas meters). Subsequently, the upper levels push closer to the rear property line to maximize buildable area for residential units.

Definitions (in alphabetical order):

Density - a ratio where a unit of measurement is divided by the area it occupies (e.g., # of people/acres, # of buildings/square meter, gross building area/site area)

Dwelling - spaces or uses meant for living in. Typically the term refers to spaces intended for overnight use that contain the necessary functions for living like a bedroom, kitchen, and bathroom. Non-dwelling uses are, therefore, all spaces not intended for the activities listed above.

FSR (Floor Space Ratio) - a calculation similar to FAR (Floor Area Ratio) that governs the maximum building size allowed on a site. It is a ratio calculated by dividing the total building area (less any FSR exclusions) by the site area.

FSR Exclusion - spaces in a design which can be excluded, per the zoning bylaw, from the calculation of FSR. For example, wall thickness exclusions to incentivize more energy efficient buildings or bulk storage exclusions to improve livability by stipulating minimum storage requirements.

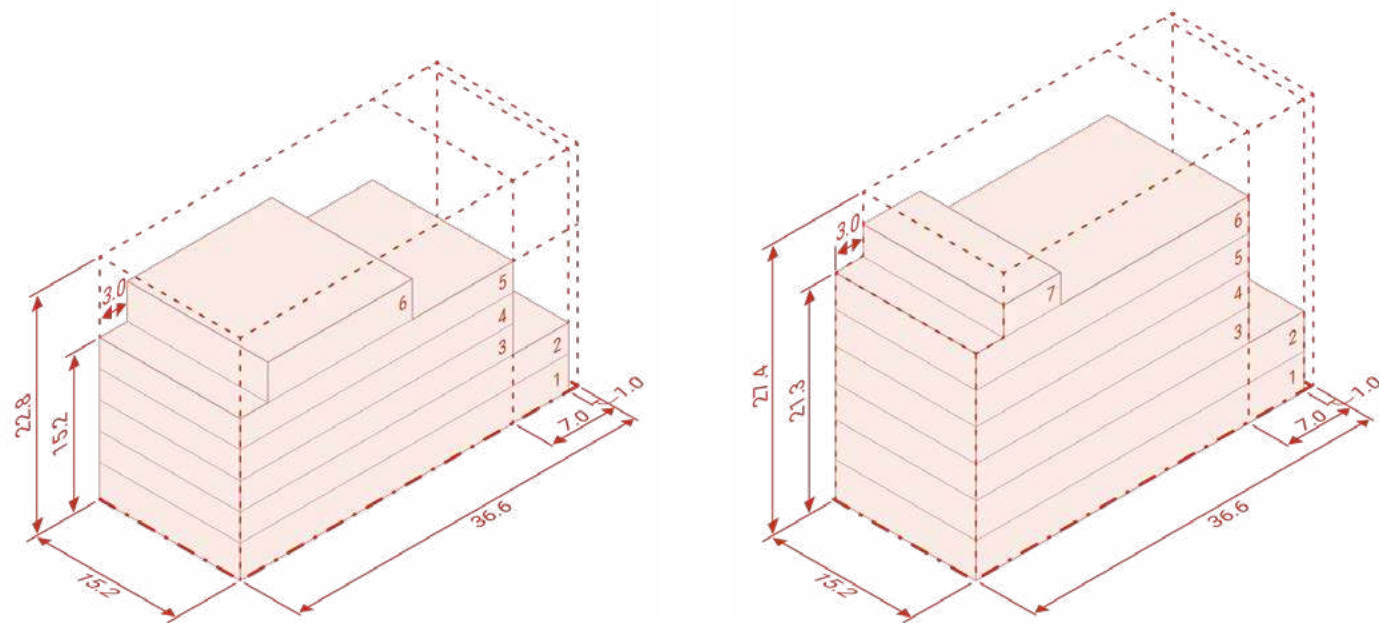
Massing - a building's overall 3-dimensional form, including shape, size, and arrangement. Massing studies are typically used during preliminary design phases to get a feel for how a building will fit on a site and how the design feels spatially from different perspectives.



Figure 7: The HA-1 and HA-1A zoning districts and surrounding neighbourhoods. Human Studio Architecture + Urban Design, 2024.

Summary of Key Zoning Regulations in Chinatown

Regulation	HA-1	HA-1A
FSR (all-uses combined)	4.80	5.35
FSR (dwelling-uses only)	2.95 (with min. 1.5 for non-dwelling)	3.50 (with min. 1.5 for non-dwelling)
Building Height (allowed outright)	15.2m (5-storeys)	21.3m (6-storeys)
Building Height (conditional)	22.8m (7-storeys)	27.4m (8-storeys)
Setback - Front	Guideline is 3.0m for top floor	Guideline is 3.0m (above 21.3m) ⁵
Setback - Rear	1.0m (non-dwelling); 7.0m (dwelling)	1.0 (non-dwelling); 7.0m (dwelling)



HA-1 Zoning

The diagram above illustrates the maximum allowable FSR density of 4.80 in the HA-1 zone as a massing, staying within the setbacks outlined in the district schedule and compliant with the conditionally allowable building height.

HA-1A Zoning

The diagram above illustrates the maximum allowable FSR density of 5.35 in the HA-1A zone as a massing, staying within the setbacks outlined in the district schedule and compliant with the conditionally allowable building height.

Figure 8: HA-1 and HA-1A massing diagrams, based on City of Vancouver (2025b). Human Studio Architecture + Urban Design, 2024.

2. Height

Building height is a variable zoning regulation in the HA-1 & HA-1A districts, with one height permitted outright (e.g., 6 storeys in HA-1A) and a higher height conditionally permitted (e.g., 8 storeys in HA-1A) subject to approval by the Planning Director. Importantly, this increase in height is not accompanied by an increase in allowable density.

Building heights vary widely across Chinatown and reflect the changes in zoning regulations over time. Much of the historic urban fabric consists of 2 to 4-storey commercial buildings, and 4 to 6-storey mixed-use buildings with residential units above (see Fig. 3b, Fig. 4b). There are two notable older high-density residential developments: the 12-storey Chau Luen Tower built in 1973 (Fig. 4a), and the 7-storey Fan Tower built in 1912 (Fig. 4e). Of the taller buildings in Chinatown, most are recent developments built to the 8-storey conditional zoning maximum. Developments that have undergone rezoning are around 15 storeys (see Fig. 4g, Fig. 7).

The relationship between allowable density and height has important implications for project feasibility. The additional height without a corresponding increase in density may or may not improve a project proforma. The 6 to 8-storey zoning maximum in Chinatown can be challenging from a cost perspective. Under the building code, residential buildings over 18m in height (greater than 6 storeys) are considered ‘high buildings’ and have a different set of requirements, compared to shorter buildings. High buildings have more stringent life-safety requirements, such as sprinklering and non-combustible construction, which can contribute to higher construction costs. Typically, additional costs for taller buildings can be offset by increasing building height and density, allowing more units to be built. Each project will require a different approach to balance construction cost, unit count, and unit mix against the restrictions on overall height and allowable density.

3. Density

Density regulates the total buildable area and is the primary control on a building’s overall size and bulk (massing). It is typically expressed as *FSR (Floor Space Ratio)*, which describes the total floor area relative to the lot size. In general, a higher FSR will allow more floor area to be built on a given lot.

Calculating FSR is complicated by two additional considerations. First, in the HA-1 and HA-1A districts, FSR is further distinguished

Mezzanine - an intermediary floor level that is often open to the level below it and does not extend the full floor area. Note: In the City of Vancouver, the zoning bylaws and building code differ on what is considered a mezzanine, whether a mezzanine must be counted as a full floor level, and other life-safety requirements.

Rear Setback - a term used in zoning bylaws to refer to the preferred distance a building face is from the rear lot line, measured perpendicular to the lot line.

Relaxation - a request to ease certain requirements when the design proposal cannot meet zoning regulations (i.e., decreasing the rear setback from 7m to 5m); or when a regulation can be left unmet due to certain circumstances (i.e., a heritage building is built to the property line)

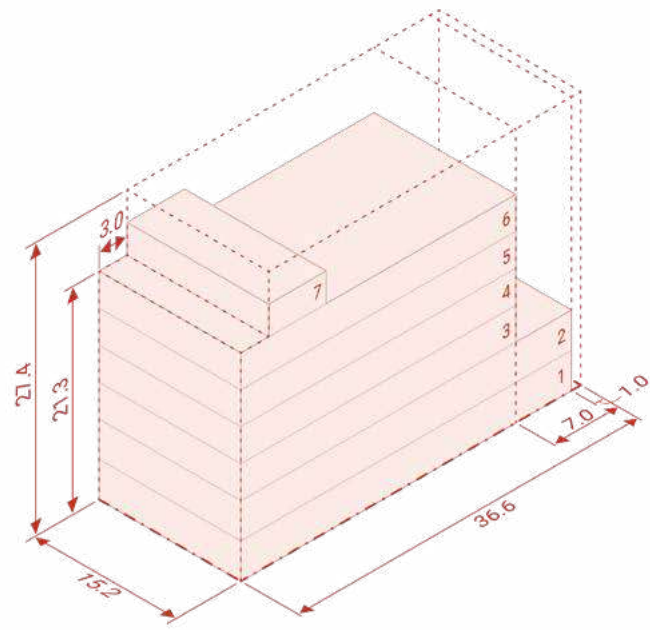
Rezoning - a request to change the zoning district and associated regulations for a specific site (i.e., a site is rezoned from HA-1A to CD-1, allowing for greater density and height in the proposed building)

Schedule (district schedule) - rules and regulations that govern the development of properties (e.g., use, height, density, etc.) in a particular zoning district. Each zoning district is accompanied by a district schedule rulebook.

Additional Design Considerations

1. Lane Activation

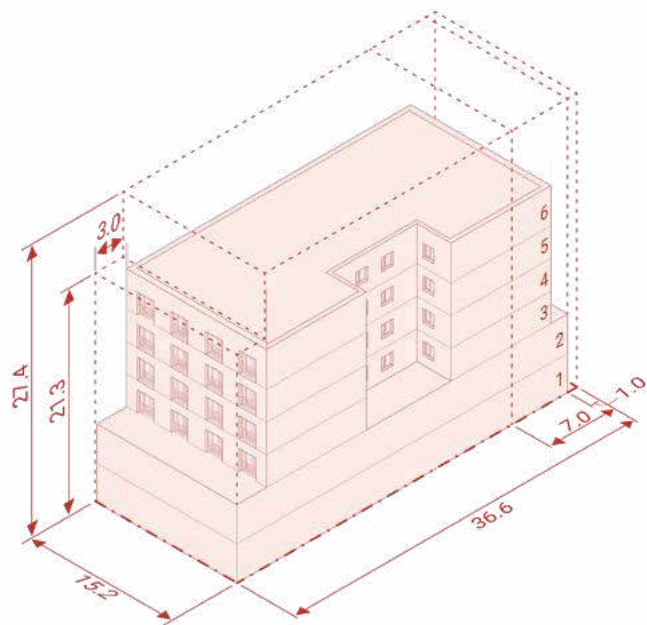
Building on the discussion regarding rear setbacks, lane activation is encouraged on the ground level in HA-1 and HA-1A districts. But, functional and back-of-house uses, such as loading, parking, waste management, and service rooms, will vie for this space below grade and at grade. Having these service spaces compete for frontage affects how the building interfaces with



(a) HA-1A Zoning Baseline

FAR: 5.35
 # of Storeys: 7
 Front Setback: 0m; 3m abv. 21.3m
 Rear Setback: 1m (L1-2); 7m (L3-6)

Relaxations Required:
 1) Conditional building height



(b) HA-1A Zoning Design Example

FAR: 4.98
 # of Storeys: 6
 Front Setback: 0m; 3m abv. 9.8m
 Rear Setback: 1m (L1-2); 2.8m (L3-6)

Relaxations Required:
 1) Rear setback

NOTE: FAR (Floor Area Ratio) is used in the following design explorations instead of FSR (Floor Space Ratio). This is to differentiate these preliminary area calculations which use Gross Floor Area (total building area, no exclusions) to calculate FAR; from the more specific density calculation for FSR identified in the HA-1 & HA-1A district schedules which would exclude certain floor areas.

Figure 9: HA-1A massing examples, based on City of Vancouver (2025b). Human Studio Architecture + Urban Design, 2024.

by maximums and minimums for “dwelling” and “non-dwelling.” This shapes the mix and distribution of uses in a building. Second, zoning bylaws specify exclusions from FSR calculations for its district. *FSR exclusions* function as incentives, often supporting livability objectives or other policy goals. In Chinatown, key exclusions affecting building design include indoor amenity areas, residential storage areas, balconies, and decks.

Interplay between setback, height, density, and daylight

Setback, height, and density work together to shape the building form. For example, a high setback, height, and density will result in buildings that can be tall and skinny. A low setback requirement coupled with high height and density allowances will result in buildings that are close to the property line and massive. The design process involves balancing these interrelated controls, pushing and pulling these different levers to arrive at a suitable building form.

Figure 9 (opposite page) illustrates two massings that would be outright allowable in the HA-1A district. Figure 9a shows a massing that maximizes FAR and complies with allowable and conditional regulations in the bylaw. To compare, Figure 9b shows a more realistic massing that balances zoning regulations with design intent and livability. In this example, the lightwell creates larger and more articulated floor plates on the upper levels, extending the building past the rear setback to fit more residential units. The resulting form is 6 storeys with a total FAR below the 5.35 maximum because adding another storey would push the resultant density over what is allowable and necessitate ‘high building’ requirements.

Figure 9b also illustrates that in addition to setback, height, and density, access to daylight is a key design determinant. Bedrooms and living rooms require access to daylight for livability and egress (in some cases). Thus, unit count and mix are determined by the number of windows, and therefore rooms, that can reasonably fit side-by-side along a building frontage. The use of lightwells creates more exterior wall for windows. However, lightwells increase the amount of exterior wall and will impact construction cost.

The design explorations in the next section use a sample mid-block site in the HA-1A district to examine how density and access to daylight impact a building’s massing. Specifically, the explorations generate different building configurations by prioritizing different design factors: unit types, unit count, amenity location and type, building envelope, and efficiency.

the surrounding streetscape. For mid-block and narrow sites, this constraint has significant impact due to the limited amount of available frontage, affecting the perceived openness, transparency, and public access to the building at grade.

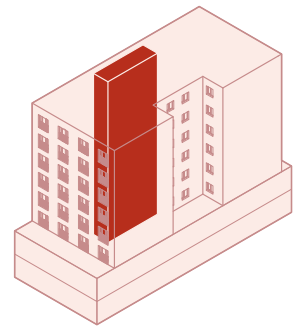
2. Family Units

The interplay between setback, height, and density is further complicated by funding policies, project proforma, and the real estate market. Often, the realities of zoning regulations, together with development economics, result in a scenario where studio and one-bedroom units are built more frequently. This is observable across the City of Vancouver.

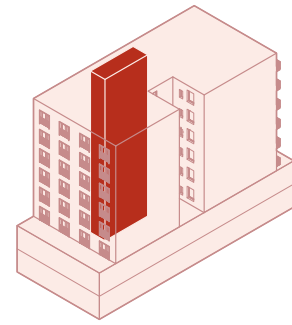
One of our early designs was a rectangular building that complied with zoning regulations (Option N). The offset double-stair core created a compact, efficient massing. Further, from a rental revenue perspective, it resulted in the highest unit count of all the design options, but all were studio units. Our design explorations show that with some compromise, it is possible to create 2 and 3-bedroom units. For instance, by introducing lightwells into the building form, Option A accommodated two three-bedroom units on each floor. Option H, with two smaller lightwells, accommodated a range of units: two studios, two 2-bedroom units, and one 3-bedroom unit on each floor.

3. Mezzanines

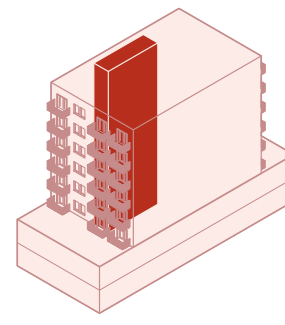
Mezzanines are a unique architectural element called out and supported by the Chinatown zoning bylaws. Mezzanine levels were common in older buildings to create more commercial space close to the street level. It is important to note that building codes (like the Vancouver Building Bylaw) place many constraints on mezzanine use and design. ‘The Sparrow’ (Fig. 4f) is an example of a new building with a mezzanine level.



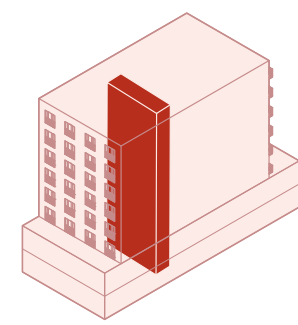
Option A
Large Lightwell



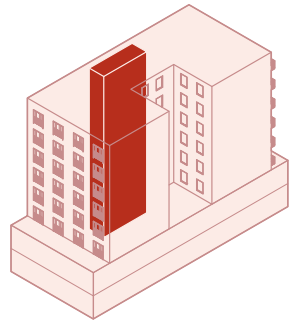
Option C
Medium Lightwell



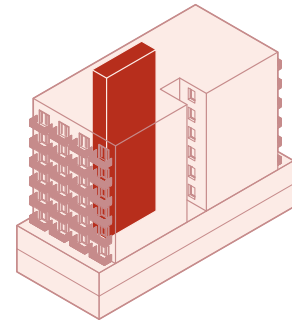
Option I
Hook Corridor



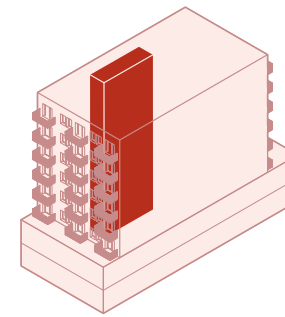
Option K
U-Corridor



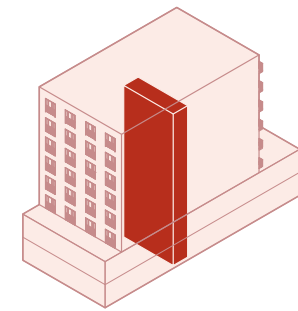
Option B
Extra-Large Lightwell



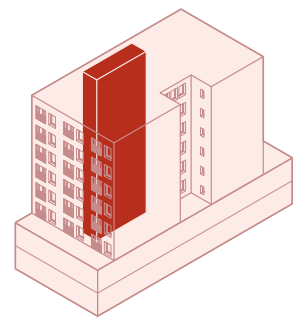
Option D
Small Lightwell



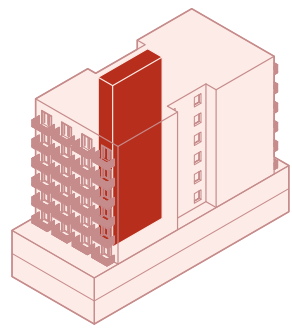
Option J
Nook Corridor



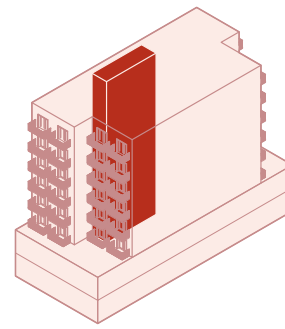
Option L
L-Corridor



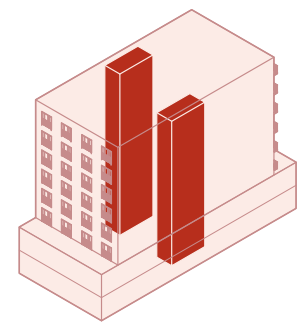
Option E
Lightwell + Amenity



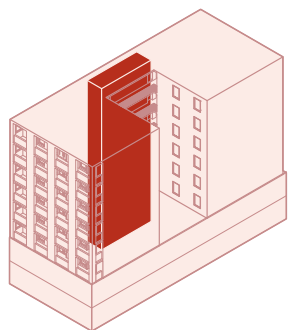
Option G
Vertical Core



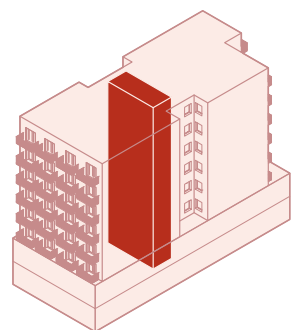
Option M
Offset Facade



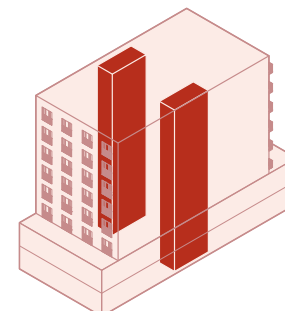
Option O
Deep Floorplate



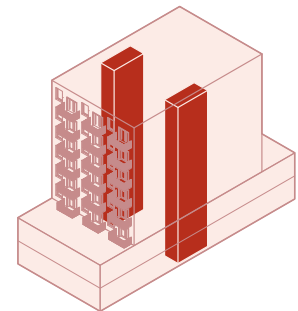
Option F
Courtyard



Option H
Horizontal Core



Option N
Offset Stair Cores



Option P
Compact Floorplate

Figure 10: 50' Lot Design Explorations. Human Studio Architecture + Urban Design, 2024.

Design Explorations

What was explored?

This section of the booklet highlights 6 different options, narrowed down from a series of 16 designs. Each explores how to design and build a mixed-use building on a 50' lot. The options focus on the layout of a typical residential floor, showing the impacts that different setbacks, overall floor plate shapes, and access to light have on a building's massing, unit mix, unit count, and overall density. The intention behind sharing these options is to aid early conversations about project goals, unit mix, and building form.

Base assumptions

All the design explorations assume the same:

1. Site: Standard Vancouver 50' lot
 - Rounded to 50' x 120' (15.24m x 36.58m)
2. Podium: 2 storeys of non-dwelling uses
 - Each storey measures 50' x 117' (15.24m x 35.58m)

From the third storey up, each design has a different residential floor plate. Thus, each impacts the density per storey and, in turn, the overall FAR. In the design explorations to follow, 4-6 residential storeys are added to the podium to compare the projected density against the maximum allowable FAR for the full building (see Fig. 11, steps 3a, 3b, and 3c).

Key takeaways

While maximizing the number of units is an important consideration in balancing the proforma and future net operating income, unit mix and size play equally important roles in these calculations and in metrics like livability and intended future residents (e.g., units for families, mixed-income, seniors, low-income). The following pages present 6 preferred options from our explorations that aim to balance competing priorities, including unit count, inclusion of family units, and building efficiency. Finding the right mix and number of units is a unique challenge for every project. It is also an opportunity to embed shared values into the process and create a building that can support and foster a sense of community.

What massing typologies emerge for a 50' lot?

When working with these narrow and deep lots, it becomes clear very quickly that access to light will be a key driver in design decisions. Specifically, how can spaces that are located in the centre of the floor plate still feel livable and welcoming? Further, how can the living rooms and separated bedrooms in every residential unit have access to a window for light, air, and good views?

With this in mind, the 16 design options can be categorized under 5 massing typologies:

1. Lightwell or courtyard — carve out one big hole in the middle
2. Double lightwell — carve out two smaller holes on the sides
3. Compact floor plate — minimize exterior perimeter
4. Offset variations — reduce depth of individual units
5. Aligned stair cores — reduce depth of the whole floor plate

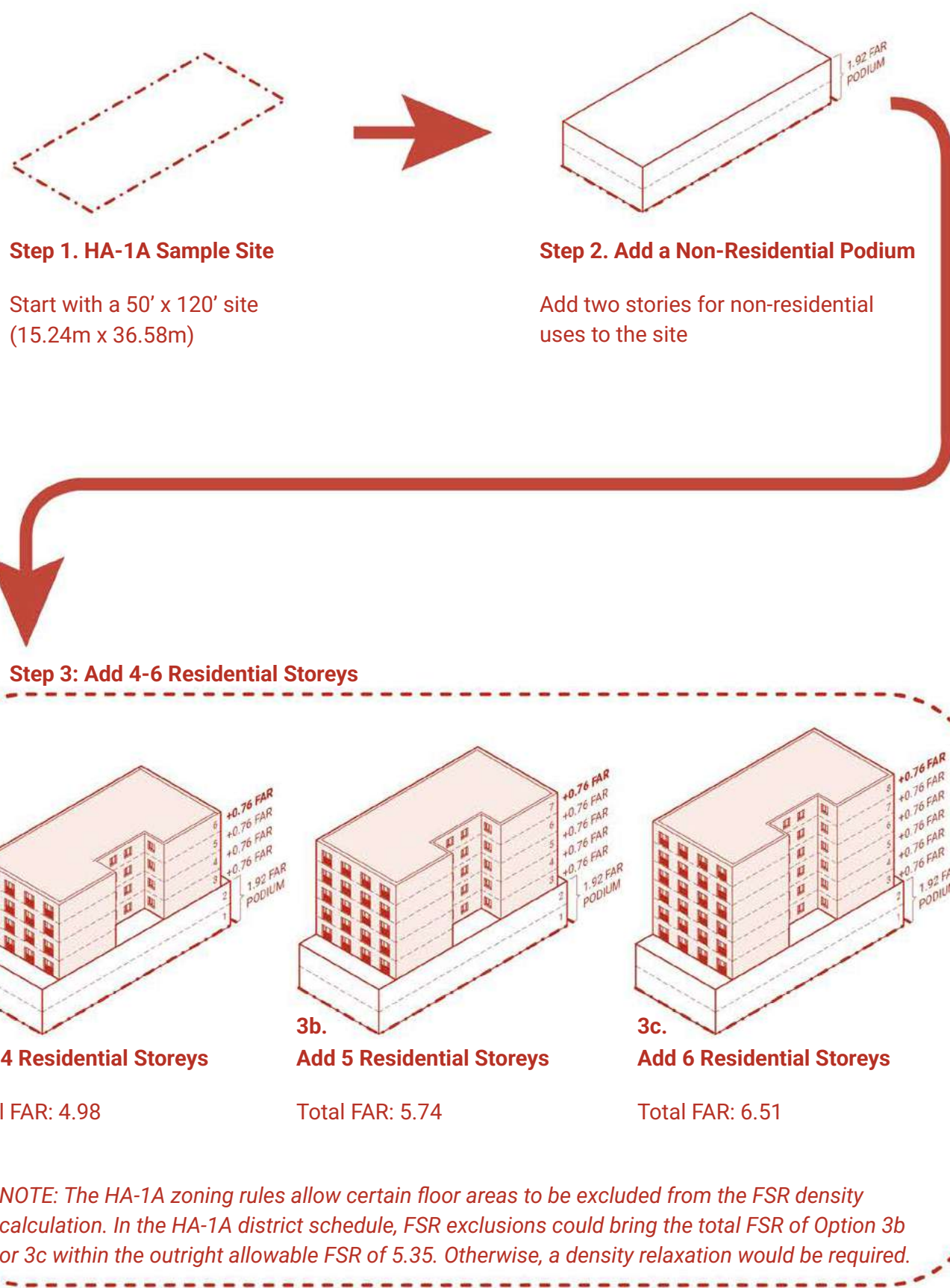


Figure 11: 50' Lot Design Explorations. Human Studio Architecture + Urban Design, 2024.

Unit Mix: Per 1 Residential Floor

Unit Type	#	Average Unit Size
3-Bedroom Unit	2	809 sq. ft.
2-Bedroom Unit	0	n/a
1-Bedroom Unit	0	n/a
Studio Unit	4	348 sq. ft.

Total # of Units (per floor) **6**

Area: Per 1 Residential Floor

Area Type	Area (sq. ft.)	% of Floor
Residential	3647.24	79.5%
Circulation	839.27	18.3%
Service	102.25	2.2%

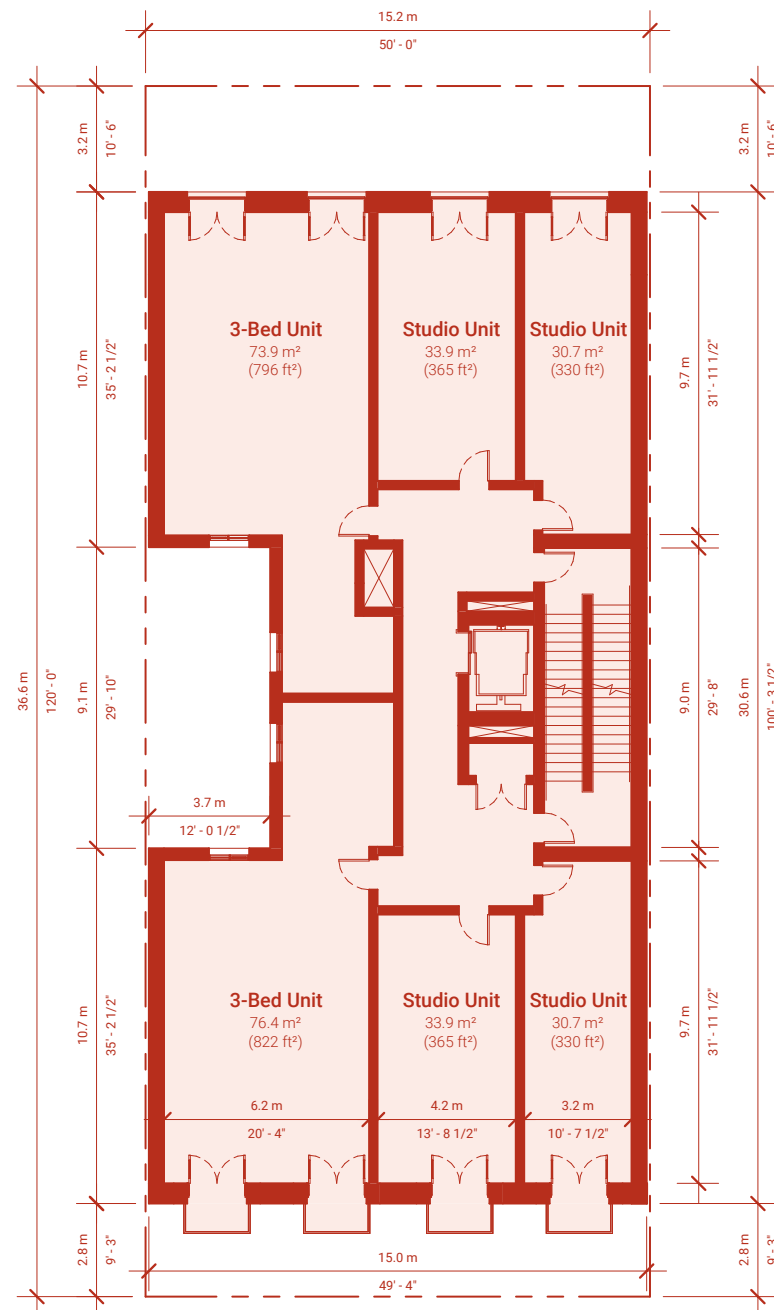
Total Area (per floor) **4588.76**

Perimeter (per floor) **323 ft. (98.5m)**

Efficiency (per floor) **79.5%**

Projected Density Calculation

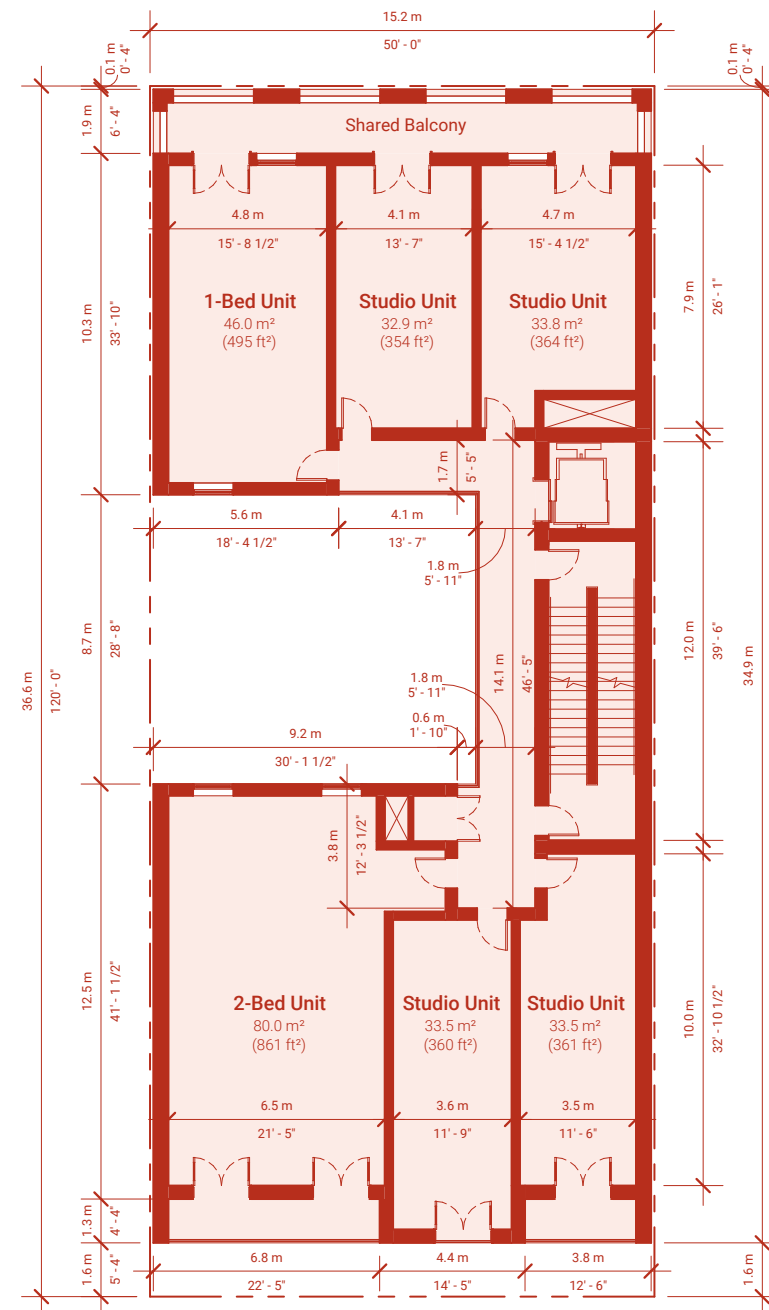
Total # of Storeys	# of Residential Storeys	Approx. Total FAR	Total Res. FAR
8	6	6.51	4.59
7	5	5.74	3.82
6	4	4.98	3.06



A: Large Lightwell

Typology 1 – Lightwell or Courtyard

This option is the one our team chose at the end of our exploration because it includes family units. We liked the unit mix, access to light, and overall building depth produced by this configuration. The lightwell brings light into the deep floor plate, increasing the number of windows that can be added for bedrooms and living rooms. This allows for either more units or, per the plan above, the inclusion of family-oriented units, though the 3-bedroom units are on the smaller side than typical. This massing maximizes buildable floor area on the residential floors while creating flexible unit counts, unit mix, and lightwell size. Option A is great configuration for projects looking to intentionally support intergenerational living. Similar massing: Tung Sam Lau, 177 West Pender St.; Albert Block, 245 East Georgia St.



F: Courtyard

Typology 1 – Lightwell or Courtyard

This typology is highlighted in Chinatown's zoning district schedule because the courtyard brings light and air to the residential units at the back of these narrow and deep lots. It creates generous internal-facing courtyard on the roof of the non-residential podium, encouraging community building, visibility, and interaction between neighbours. There are also opportune places for windows, allowing for flexibility in unit mix and layout based on project priorities and intended future residents. The extensive exterior envelope and corridors do make this a more complex and likely more expensive option. Option F is suited to projects prioritizing sociability and unit mix. Similar massing: Sparrow Chinatown, 239 Keefer St. (Fig. 4f)

Unit Mix: Per 1 Residential Floor

Unit Type	#	Average Unit Size
3-Bedroom Unit	0	n/a
2-Bedroom Unit	1	861 sq. ft.
1-Bedroom Unit	1	495 sq. ft.
Studio Unit	4	360 sq. ft.

Total # of Units (per floor) **6**

Area: Per 1 Residential Floor

Area Type	Area (sq. ft.)	% of Floor
Residential	3331.48	78.2
Circulation	839.45	19.7
Service	90.04	2.1

Total Area (per floor) **4260.97**

Perimeter (per floor) **539.7 ft. (164.5 m)**

Efficiency (per floor) **78.2%**

Projected Density Calculation

Total # of Storeys	# of Residential Storeys	Approx. Total FAR	Total Res. FAR
8	6	6.18	4.26
7	5	5.47	3.55
6	4	4.76	2.84

Unit Mix: Per 1 Residential Floor

Unit Type	#	Average Unit Size
3-Bedroom Unit	1	1016 sq. ft.
2-Bedroom Unit	2	806 sq. ft.
1-Bedroom Unit	0	n/a
Studio Unit	2	377 sq. ft.

Total # of Units 5
(per floor)

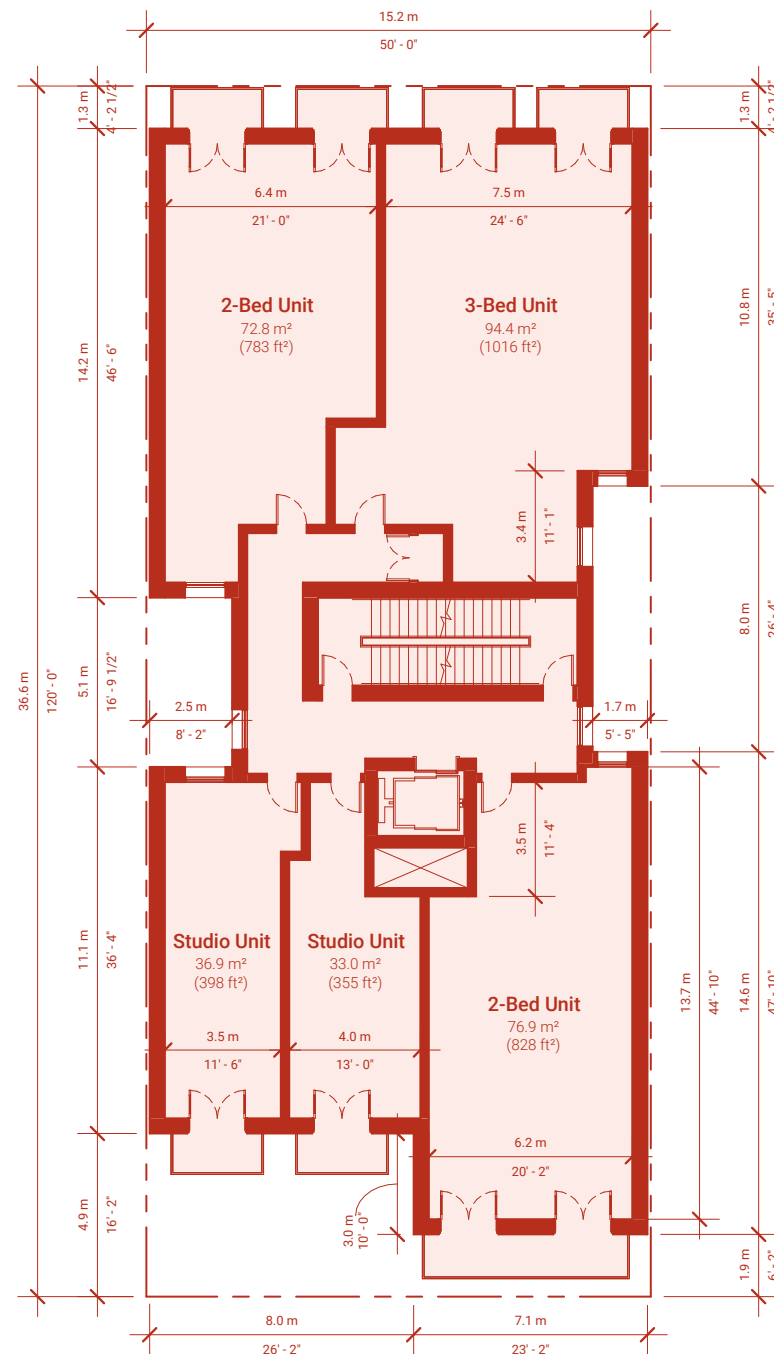
Area: Per 1 Residential Floor

Area Type	Area (sq. ft.)	% of Floor
Residential	3990.7	82.0
Circulation	802.03	16.5
Service	74.06	1.5

Total Area 4866.79
(per floor)
Perimeter 345 ft. (105.2 m)
(per floor)
Efficiency 82.0%
(per floor)

Projected Density Calculation

Total # of Storeys	# of Residential Storeys	Approx. Total FAR	Total Res. FAR
8	6	6.79	4.87
7	5	5.98	4.06
6	4	5.16	3.24

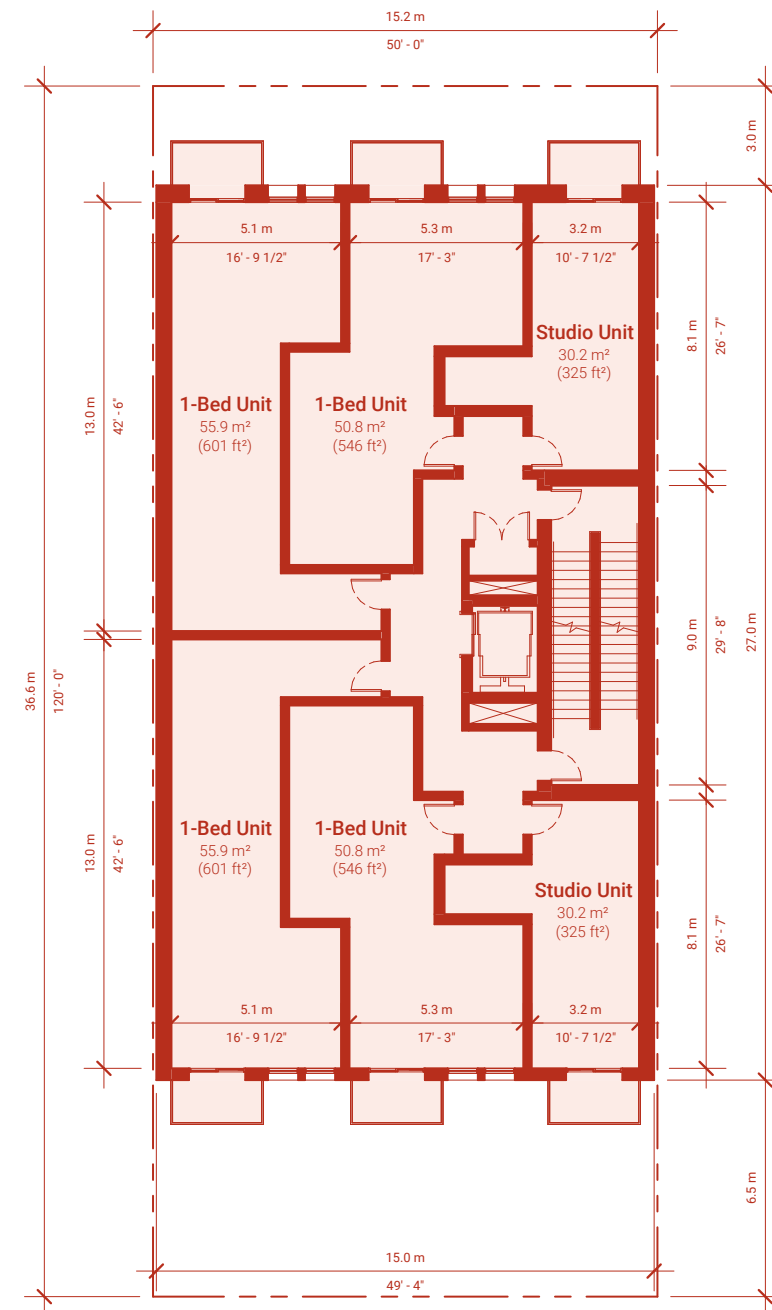


H: Double Lightwell - Horizontal Core

Typology 2 – Double Lightwell

The double lightwell scheme looks to maximize the buildable floor area of the residential floors and diversify the unit mix by introducing small lightwells on both sides of the building for access to light. The lightwells are quite small and close to the property line, resulting in reduced light, privacy, and views, particularly if adjacent lots are developed. In terms of unit size and mix, this scheme offers a range of unit types with one 3-bedroom unit and two 2-bedroom units on each floor. This massing option supports a diverse community of residents but reduces some of the livability of units with a lack of views and good light for certain rooms. Option H is efficient and offers maximum flexibility for unit placement and unit mix.

Similar massing: Yee Fung Toy Society, 226 East Georgia St. (Fig. 3b)



J: Corridor with Nooks

Typology 3 – Compact Floor Plate

This design seeks to maximize efficiency of the overall massing by reducing the perimeter (exterior envelope) and dedicating more floor area to residential use instead of circulation, with the double-loaded corridor. Some casual social interaction and personalization of space is still encouraged in this scheme with little nooks provided at each pair of residential unit entry doors. Because the plan is a rectangle with no jogs or lightwells added, the only locations for windows are on the front and back façades. This results in a floor plan with only 1-bedroom and studio units, which are unusually deep but generously sized, especially on one side of the building. Option J provides a good number of 1-bedroom and studio units within a tight, efficient building envelope.

Unit Mix: Per 1 Residential Floor

Unit Type	#	Average Unit Size
3-Bedroom Unit	0	n/a
2-Bedroom Unit	0	n/a
1-Bedroom Unit	4	574 sqft.
Studio Unit	2	325 sq. ft.

Total # of Units 6
(per floor)

Area: Per 1 Residential Floor

Area Type	Area (sq. ft.)	% of Floor
Residential	3549.68	81.1
Circulation	751.32	17.2
Service	75.52	1.7

Total Area 4376.52
(per floor)
Perimeter 276 ft. (84.0 m)
(per floor)
Efficiency 81.1%
(per floor)

Projected Density Calculation

Total # of Storeys	# of Residential Storeys	Approx. Total FAR	Total Res. FAR
8	6	6.30	4.38
7	5	5.57	3.65
6	4	4.84	2.92

Unit Mix: Per 1 Residential Floor

Unit Type	#	Average Unit Size
3-Bedroom Unit	0	n/a
2-Bedroom Unit	1	909 sq. ft.
1-Bedroom Unit	0	n/a
Studio Unit	5	350 sq. ft.

Total # of Units (per floor) **6**

Area: Per 1 Residential Floor

Area Type	Area (sq. ft.)	% of Floor
Residential	3171.68	77.9
Circulation	797.78	19.6
Service	100.35	2.5

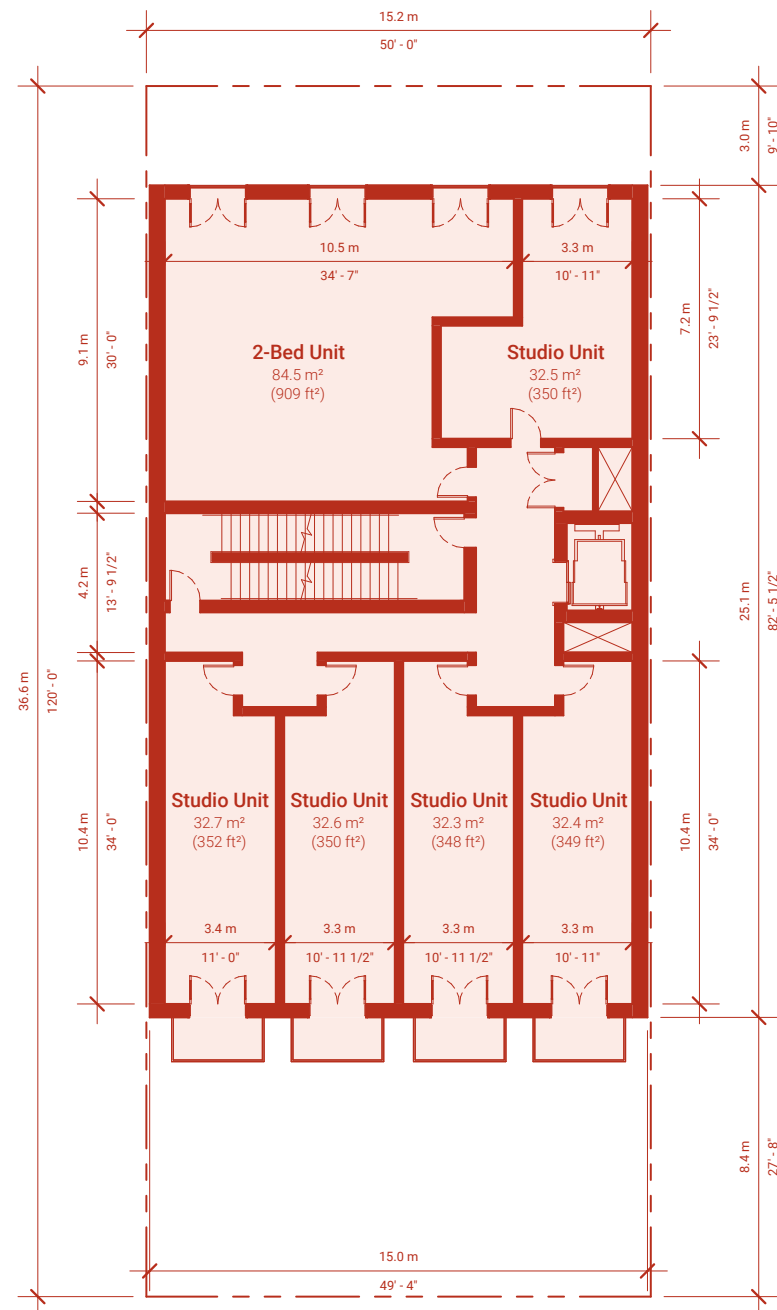
Total Area (per floor) **4069.81**

Perimeter (per floor) **263 ft. (80.2 m)**

Efficiency (per floor) **77.9%**

Projected Density Calculation

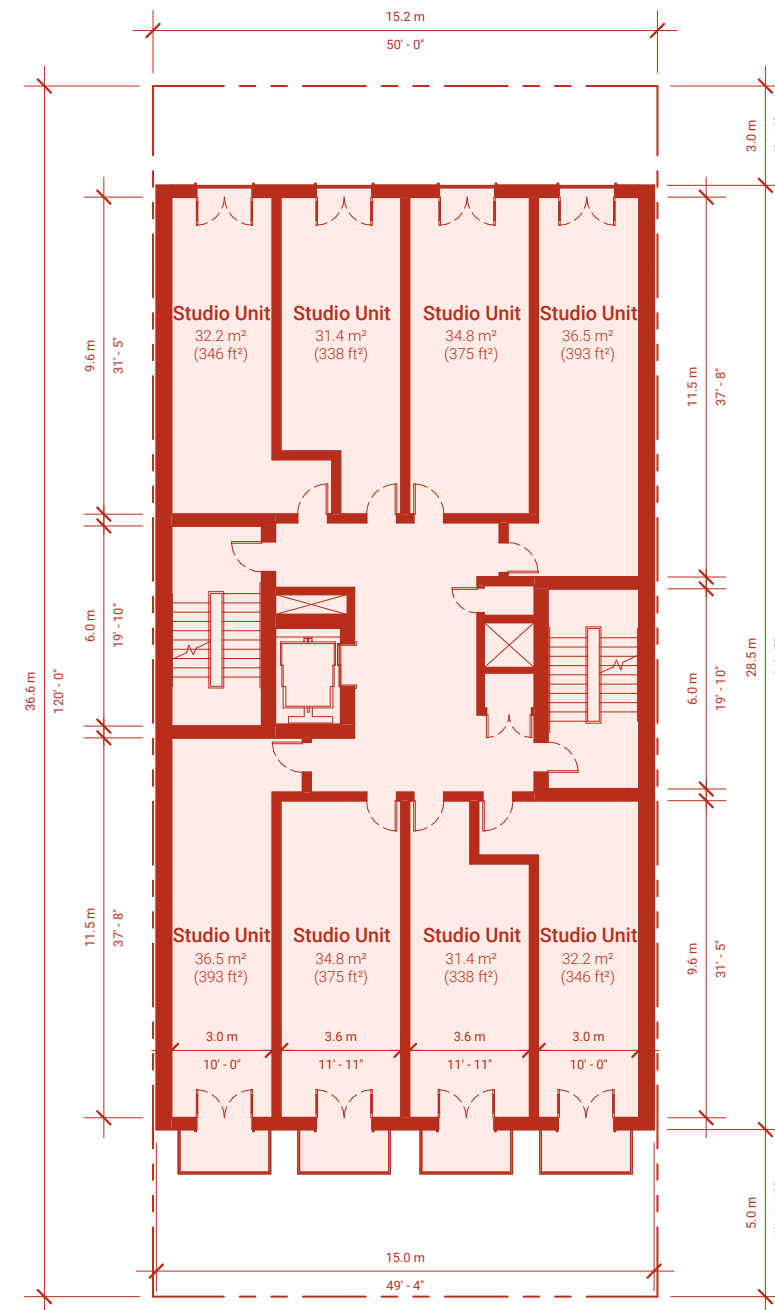
Total # of Storeys	# of Residential Storeys	Approx. Total FAR	Total Res. FAR
8	6	5.99	4.07
7	5	5.31	3.39
6	4	4.63	2.71



L: L-Corridor

Typology 3 – Compact Floor Plate

This option looks to reduce the exterior envelope by creating a compact floor plate compared to Option J. The horizontal orientation of the stair core reduces the depth of the floor plate, equalizes unit sizes, and eliminates unusually deep units. Casual social interaction and personalization of space are also encouraged in this configuration through the creation of nooks outside each pair of residential unit entry doors. The horizontal stair core does add some complexity by creating a hard separation between the front and back halves of the building. Option L is great for projects seeking shallow non-residential spaces on the lower levels and efficient, well-sized residential units above.



N: Offset Stair Cores

Typology 4 – Offset Variations

This option maximizes the number of units that can be built per floor, therefore maximizing buildable floor area on the site through FSR exclusions tied to dwelling units (i.e., bulk storage area exclusions per dwelling unit). The offset stair cores create a generous circulation space to encourage positive social encounters on each floor. The double stair core allows for a floor plate that is less deep than the scissor stair schemes, reducing the exterior building envelope and creating a compact massing. Option N is a great balance of compactness and sociability while housing the greatest number of individual residents in studio units.

Unit Mix: Per 1 Residential Floor

Unit Type	#	Average Unit Size
3-Bedroom Unit	0	n/a
2-Bedroom Unit	0	n/a
1-Bedroom Unit	0	n/a
Studio Unit	8	363 sq. ft.

Total # of Units (per floor) **8**

Area: Per 1 Residential Floor

Area Type	Area (sq. ft.)	% of Floor
Residential	3475.98	75.3
Circulation	1029.45	22.3
Service	113.2	2.4

Total Area (per floor) **4618.63**

Perimeter (per floor) **285 ft. (87.0 m)**

Efficiency (per floor) **75.3%**

Projected Density Calculation

Total # of Storeys	# of Residential Storeys	Approx. Total FAR	Total Res. FAR
8	6	6.54	4.62
7	5	5.77	3.85
6	4	5.00	3.08

Typology 1
Lightwell or Courtyard

*** (p. 27)**

Option A
Large Lightwell

Area (GFA): 4,588.76 ft²
Perimeter: 323 ft (98.5m)
Efficiency: 79.5%
Approx. FAR: +0.76 per res. floor

6 units per floor

+ family-oriented
+ access to light

Option C
Medium Lightwell

Area (GFA): 4,478.46 ft²
Perimeter: 328 ft (100.1m)
Efficiency: 81.5%
FAR: +0.75 per res. floor

7 units per floor

+ diverse unit mix
+ floor efficiency

Option B
Extra-Large Lightwell

Area (GFA): 4,193.57 ft²
Perimeter: 338 ft (103.1m)
Efficiency: 78.9%
Approx. FAR: +0.70 per res. floor

6 units per floor

+ access to light
+ unit size & mix

Option D
Small Lightwell

Area (GFA): 4,618.33 ft²
Perimeter: 325 ft (99.2m)
Efficiency: 78.4%
Approx. FAR: +0.77 per res. floor

8 units per floor

+ maximize unit count
+ mirrored floor plan

Typology 3
Compact Floor Plate

Option I
Hook Corridor

Area (GFA): 3,790.56 ft²
Perimeter: 252 ft (76.8m)
Efficiency: 79.1%
Approx. FAR: +0.63 per res. floor

5 units per floor

+ minimize perimeter
+ unit size & mix

Option K
U-Corridor

Area (GFA): 4,379.42 ft²
Perimeter: 276 ft (84.2m)
Efficiency: 73.9%
Approx. FAR: +0.73 per res. floor

6 units per floor

+ minimize perimeter
+ add 2-bed units

*** (p. 30)**

Option J
Nook Corridor

Area (GFA): 4,376.52 ft²
Perimeter: 276 ft (84.0m)
Efficiency: 81.1%
Approx. FAR: +0.73 per res. floor

6 units per floor

+ floor efficiency
+ casual social interaction

*** (p. 31)**

Option L
L-Corridor

Area (GFA): 4,069.81 ft²
Perimeter: 263 ft (80.2m)
Efficiency: 77.9%
Approx. FAR: +0.67 per res. floor

6 units per floor

+ minimize perimeter
+ add 2-bed units

Unit Type (M) Micro Unit (1) (2) (3)
(S) Studio Unit 1, 2, or 3-Bedroom

Note: Unit areas shown on plans are ft²

Typology 2
Double Lightwell

Option E
Lightwell + Amenity

Area (GFA): 4,193.32 ft²
Perimeter: 302 ft (92m)
Efficiency: 74.8%
Approx. FAR: +0.70 per res. floor

6 units per floor

+ social encounters
+ access to light

Option G
Vertical Core

Area (GFA): 4,346.31 ft²
Perimeter: 307 ft (93.6m)
Efficiency: 80.6%
Approx. FAR: +0.72 per res. floor

5 units per floor

+ floor efficiency
+ diverse unit mix

Typology 4
Offset Variations

Option M
Offset Facade

Area (GFA): 4,362.3 ft²
Perimeter: 296 ft (90.3m)
Efficiency: 79.5%
Approx. FAR: +0.73 per res. floor

8 units per floor

+ maximize unit count
+ mirrored floor plan

Typology 5
Aligned Stair Cores

Option O
Deep Floorplate

Area (GFA): 4,464.36 ft²
Perimeter: 280 ft (85.2m)
Efficiency: 76.6%
Approx. FAR: +0.74 per res. floor

8 units per floor

+ maximize unit count
+ minimize perimeter

*** (p. 28)**

Option F
Courtyard

Area (GFA): 4,260.97 ft²
Perimeter: 539.7 ft (164.5m)
Efficiency: 78.2%
Approx. FAR: +0.71 per res. floor

6 units per floor

+ communal courtyard
+ access to light

*** (p. 29)**

Option H
Horizontal Core

Area (GFA): 4,866.79 ft²
Perimeter: 345 ft (105.2m)
Efficiency: 82.0%
Approx. FAR: +0.81 per res. floor

5 units per floor

+ diverse unit mix
+ floor efficiency

*** (p. 32)**

Option N
Offset Stair Cores

Area (GFA): 4,618.63 ft²
Perimeter: 285 ft (87.0m)
Efficiency: 75.3%
Approx. FAR: +0.77 per res. floor

8 units per floor

+ maximize unit count
+ casual social interaction

Option P
Compact Floorplate

Area (GFA): 3,549.0 ft²
Perimeter: 252 ft (76.8m)
Efficiency: 75.9%
Approx. FAR: +0.59 per res. floor

6 units per floor

+ minimize perimeter
+ minimize unit depth

Figure 12: Summary of 50' Lot Design Explorations. Human Studio Architecture + Urban Design, 2024.

The Future of the 50' Lot

There are several policy initiatives under review in Vancouver and BC that will influence future forms of development on 50' lots.

Key policy changes currently under consideration

1. Single exit stair buildings
2. Bill 47 - Transit Oriented Areas (TOAs)
3. Adaptable residential units – Building Code changes
4. Mass timber incentives

1. Single exit stair buildings

Policies allowing buildings with a single exit stair to be built, as opposed to the typical requirement for two exits, are being increasingly adopted by cities across North America. In 2024 and 2025, the BC Building Code (BCBC) and the Vancouver Building Bylaw (VBBL) were revised respectively to enable single exit stair buildings up to 6 storeys in height. According to Public Architecture (2023) these changes can diversify building layouts and typologies, supporting:

- Incremental development on smaller lots (i.e., 50' lots) without the need for land assembly
- More efficient layouts for residential floor plates, due to the reduced area needed for circulation
- Increased livability in residential units with more opportunities for windows and cross-ventilation, therefore reducing reliance on active mechanical systems
- Larger units and more family units in buildings, as a result of all of the above

Recent changes to the BCBC include several provisions to manage life-safety concerns including: limiting occupancy loads, limiting distances to exits, automated sprinklers, innovative smoke management systems, and cooperation with local fire departments regarding inspections and fire system maintenance. In the BCBC, a key consideration is the limit of four residential units per floor, resulting in a maximum of twenty-four units total. This limit on unit count will naturally generate larger units and more family units, while the lower unit count may be offset by higher floor plate efficiencies or by using light wood-frame construction.

Single-exit building policies will have the greatest impact on fully residential developments. This is because mixed-use buildings (i.e., buildings with commercial, retail, or assembly spaces) will still require two exit paths for non-residential floors. For residential buildings, the potential in the single exit includes higher efficiencies (less circulation, more residential) and a reduced floor plate area due to the compact stair core, potentially lowering the base cost of construction.

2. Bill 47: Transit Oriented Areas (TOAs)

Provincial Bill 47 has transformed Vancouver's development landscape by mandating minimum densities and heights near transit stations. For 50' lots across Vancouver, these allowances represent development potential previously unavailable in many areas. The Provincial TOA Policy Manual establishes tiered densities based on distance from a SkyTrain station (Government of BC 2024b, pp.10-11).

Tier 1 (within 200m): baseline of 20 storeys and 5.0 FSR

Tier 2 (200-400m): baseline of 12 storeys and 4.0 FSR

Tier 3 (400-800m): baseline of 8 storeys and 3.0 FSR

The City of Vancouver has designated 29 TOAs around transit stations and bus exchanges and increased Provincial minimums (i.e., 5.0 FSR to 5.5 FSR in Tier 1 areas) "to better reflect the expected form of development based on typical lot sizes and assemblies in the Vancouver context" (City of Vancouver 2024b, p.6). The City of Vancouver's implementation of Bill 47 also aims to incentivize affordable, rental, and seniors housing. Along with the bump in density, Vancouver's implementation requires affordable housing within TOA developments. Proposals seeking maximum density are required to provide either "100% secured rental housing with 20% below-market rental" or "30% of residential floor area as 'turn-key' social housing" (City of Vancouver 2024b, p.6). The City also allows heights and densities "above and beyond" the TOA policy for nonprofit seniors housing, 100% social housing, and projects advancing reconciliation goals (City of Vancouver 2024b, p.7). This approach impacts redevelopment economics while creating pathways for affordable housing delivery on smaller lots throughout the city.

3. Adaptable residential unit – Building Code changes

An adaptable dwelling unit is defined as being "designed and constructed with some accessible features and which accommodates the future modification to provide more accessible⁶ features" (Government of BC 2024a, 1.4.1.2.1). In 2025, new code provisions came into effect that impacted the number of adaptable dwelling units required in new residential developments under the BC Building Code.

Vancouver's TOA Rezoning Policy notes that "Provincial heights and densities may not be achievable in the Chinatown and Gastown Historic Areas" and other heritage districts (City of Vancouver 2024b, p. 8). However, 50' lots elsewhere could now support mid-rise or high-rise development. This would be a significant jump in density especially in areas that are currently predominantly single-family housing near transit nodes.

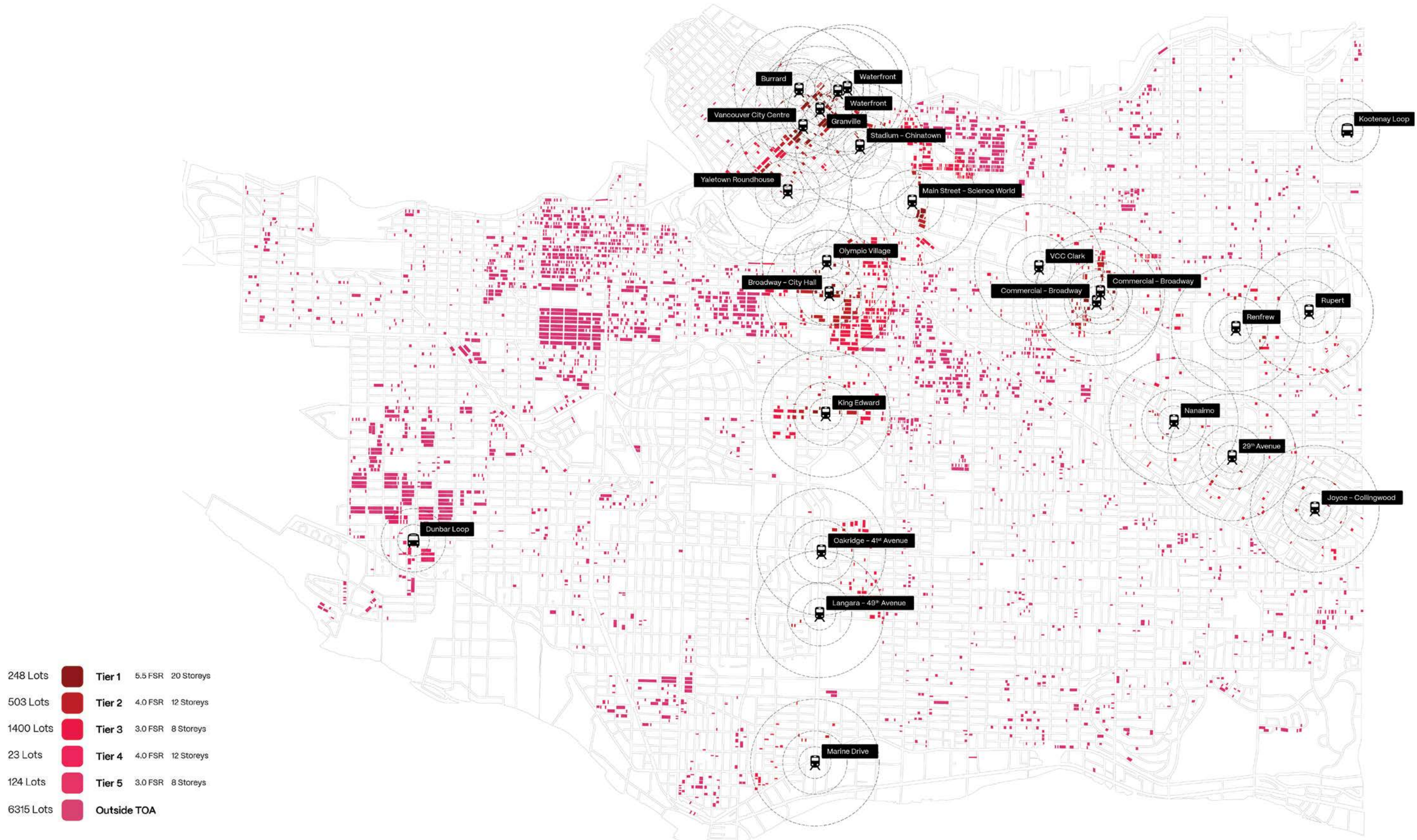


Figure 13: 50' Lots in Vancouver (varying shades of colour for lots anticipated to be affected by the new TOA policies).
 Generated in Grasshopper and Rhino using publicly accessible data. Human Studio, 2025.

Adjustments to the Vancouver Building Bylaw are currently under review. In 2025, the BCBC required 20% of the units in a building to be adaptable with the intention of achieving 100% adaptable units in future buildings (Government of BC 2025). The goal is to increase the housing inventory that meets a wider diversity of needs, and to create safer and more inclusive living spaces for people of all ages and abilities (Government of BC 2024c).

When designing adaptable and accessible units, spatial requirements in the Building Code have the most impact. These requirements focus on appropriate clearances and maneuvering space within the dwelling unit to ensure ease of circulation. Previously, meeting 'code minimum' for an adaptable unit meant designing for smaller clearances than those for an accessible unit. The 2025 provisions redefine these spatial requirements, aligning adaptable with accessible. For example, minimum doorway clear widths increased from 810mm (Government of BC 2018, 3.8.5) to 850mm (Government of BC 2024a, 3.8.5 and 3.8.3.2).

As these provisions are rolled out, the dwelling unit areas shown in this booklet will need to increase proportionally. A minimum 8-12% increase should be assumed for all units. This will present some challenges for the 50' lot, as the units are already quite narrow and an increase in unit area reduces the number of units that can reasonably fit on each floor. But, this may also incentivize the construction of 2-bedroom and studio units which accommodate these changes better because they have fewer walls separating rooms and a generally more efficient bedroom-to-bathroom ratio.

4. Mass timber incentives

In 2023, the City of Vancouver implemented a series of incentives aimed at enabling the use of mass timber in construction with the goal of reducing carbon intensity. Mass timber is considered a sustainable material choice as a renewable resource and may offer lower embodied carbon emissions compared to conventional construction materials like steel or concrete. Other opportunities the City sees in incentivizing mass timber construction include cost-effective seismically resistant structural strategies, ease of prefabrication and transport to reduce installation time and costs, as well as kick-starting the region's timber fabrication industry to create local job opportunities (City of Vancouver 2024d).

Mass timber can be a more expensive option compared to concrete or steel. To offset these upfront capital costs, the City's incentives allow for additional height and commensurate density for tall buildings using mass timber. These height and density increases are

Expanding the use of mass timber is a priority action under the Climate Emergency Response goal of reducing carbon emissions related to construction materials. Mass timber is a low carbon material with good insulating properties that can be manufactured off-site. Building with mass timber can reduce the embodied carbon of construction; improve energy efficiency; and reduce the time, cost, and community impacts of on-site construction.

— City of Vancouver (2024c)

evaluated on a case-by-case basis and must still comply with other zoning regulations outlined in the site's district schedule. In Section 10.22 of the Zoning and Development Bylaw, mass timber buildings 7+ storeys and not in a CD-1 district are allowed a 10% increase in building height (City of Vancouver 2025c, p. 12). This would allow most sites in the HA-1A district to achieve the conditional height of 8 storeys outright if built with mass timber. For projects pursuing rezoning, two additional storeys are given on sites where 8 to 11 storeys are approved; three additional storeys are given on sites where 12+ storeys are approved (City of Vancouver 2024c).

Mass timber can be complementary to designing on 50' lots. Shorter spans and a regular and dense column grid are typically preferred for mass timber buildings. When combined with residential uses on upper floors, dense column grids can easily be aligned with the many walls between and within dwelling units. Efficient residential design also favours the same arrangement of units floor to floor. This corresponds to the regularity and vertical alignment of structural elements desired in mass timber design. As building codes continue to evolve, we may see an increase in the use of mass timber in future residential developments.

Conclusion

The 50' lot is a defining characteristic of Vancouver's urban fabric. Its size and prevalence lend well to new and exciting opportunities as more policies, funding, and development targets incremental densification and the construction of missing-middle housing. When designing for narrow lots, there are two key things to keep in mind:

1. 50', 75', and corner lots are easier to work with than mid-block or 25' lots. This is because core elements, such as circulation and service spaces, require a minimum area regardless of lot size. Access to daylight, which is necessary for higher unit count and greater unit mix, is easier to achieve on lots with more frontage, such as corner lots or through the use of courtyards and lightwells when designing for mid-block lots.
2. Determine the target unit mix and count early in the design process. They influence massing and building configuration and differ depending on project goals and site conditions.

Small-scale housing can positively contribute to the liveliness of our neighbourhoods. The opportunities presented by 25', 50', and 75' lots are well demonstrated in Chinatown, where fine-grain urbanism supports a vibrant mix of uses, walkability, and a strong sense of community.

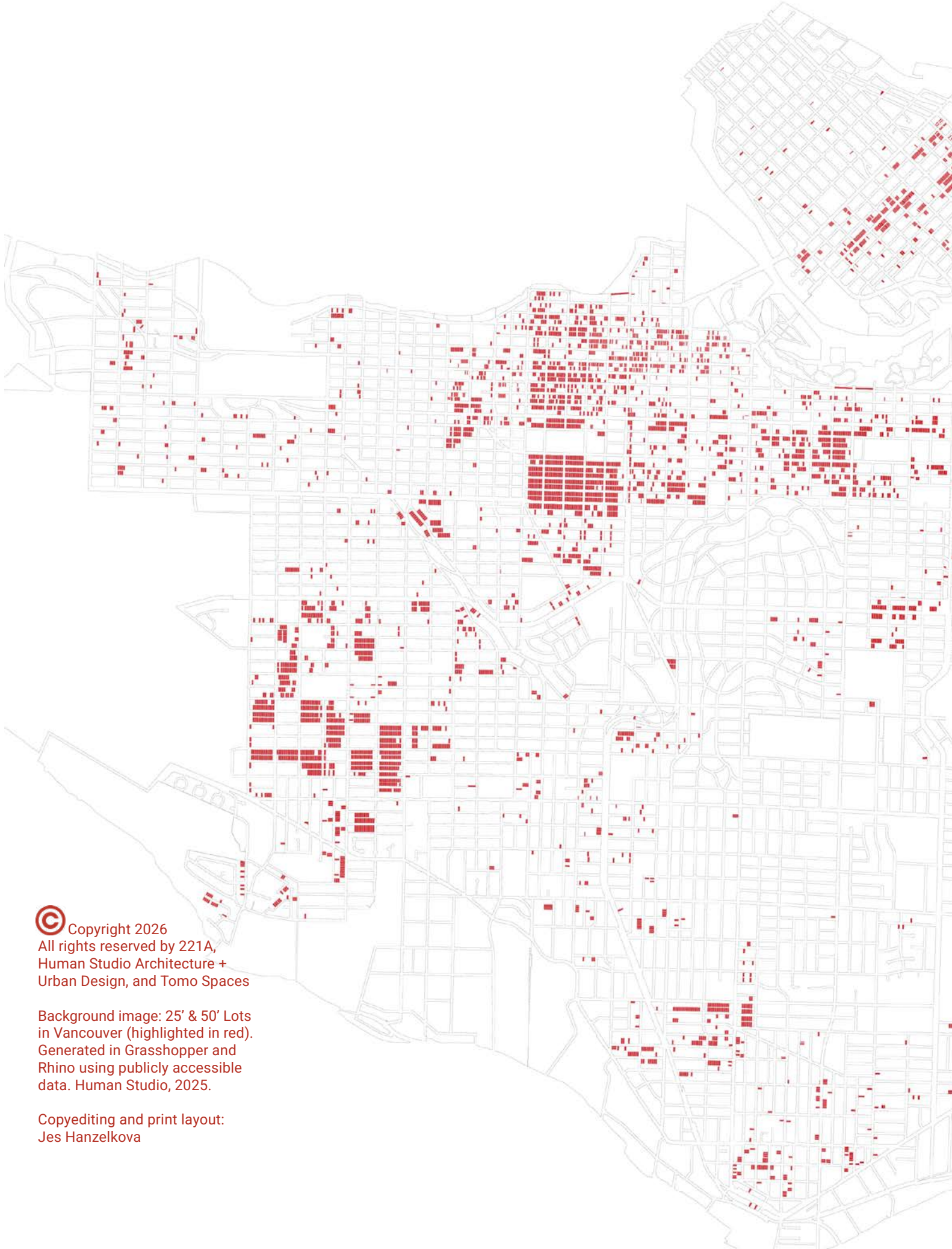
Endnotes

1. See Jeanette Armstrong (2016), Christine Elsey (2021), Lisa Prosper (2022), and Kamala Todd (2023).
2. This section is a brief summary of surveyors and methods. We drew from various sources. See Kumtuks (n.d.), a website with an educational video about urban planning in Metro Vancouver and Gord Olsson (n.d.) for an article from Alberta Land Surveyors' Association. Lance Berelowitz (2005) provides a detailed discussion of Vancouver's planning history with illustrations and images. Bruce Macdonald (1992) tells Vancouver's history through a series of graphic maps, images, and illustrations.
3. The settlement and growth of Vancouver's Chinatown is an integral part of the City's social history. For more information refer to John Atkin (1994) which tells the history of the Strathcona neighbourhood, including Chinatown, as the two communities are linked. Paul Yee (1988) is a visual history of Chinese immigrants in Vancouver. Daphne Marlatt & Carole Itter (1979) is a history of East Vancouver told through a collection of 47 interviews with residents, many of whom lived and worked in Chinatown.
4. Land assembly is when multiple adjacent lots are bought by a single entity/developer/owner with the intent to consolidate the lots and build a single building.
5. Refer to City of Vancouver (2025a).
6. Here, "accessible" is defined as "an area and its facilities, or both, as required by this Code, which is easy to approach, enter, exit, operate, participate in, pass to and from, and use safely and independently by persons with disabilities". See Government of BC (2024a) 1.4.1.2.1.

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Urban Design, and Tomo Spaces

Background image: 25' & 50' Lots
in Vancouver (highlighted in red).
Generated in Grasshopper and
Rhino using publicly accessible
data. Human Studio, 2025.

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