public-school

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abstract

This thesis explores the interface between a secondary school and community centre in Vancouver's West End through the model of place-based learning, which emphasizes connection between students, their environment, and the surrounding community. Recognizing that learning is both context-dependent and inherently social, the school is reimagined as an essential piece of urban infrastructure within its neighbourhood. The new public school is positioned as a truly public facility, eschewing the school's traditional hermetic boundaries in favour of a porosity aimed at cultivating human connection.

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This thesis was undertaken, and engages a site, on the traditional,

ancestral, and unceded territory of the Musqueam people.

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Thank you to Brian, for everything.

dedication

To my former high-school self and those who want to watch the world learn.

part I - background



Figure 01: The portable problem. Author.

introduction

Growing up in Kamloops, I remember my high school always being severely over-capacity. At the time, we had just over 800 students in a school designed for 675. The school didn't have a cafeteria so students frequently ate lunch sitting on the hallway floors. Four temporary classrooms, called 'portables', graced the school grounds to accommodate the student surplus. Students in lower grades often had multiple classes in these uninspired spaces as the temporary-turned-permanent installations slowly degraded from use, weather, and student abuse. For a room comprising four exterior walls, the lighting conditions and ventilation were astonishingly bad. The smell was something of a mix of stale paint and wet carpet and did not inspire a great deal of excitement for class, especially in the winter months. Warmer weather meant the doors could be opened, but also that students in gym class on the nearby field had a prime target for soccer balls. Today, my old school has 14 portables. Work on an addition has finally begun this spring.

This thesis was born out of both frustration and hope that our schools can do so much more for us. The school has a profoundly influential role in the development of youth, with its architecture constructing the boundaries within which limits are tested and identity discovered. Schools are traditionally very inward-facing, simulating a microcosm of social relations that offers only a glimpse into the possibilities that lie outside. Student engagement and autonomy is limited by standardization, while pragmatic issues with aging school facilities take precedence over innovation. As designers, we're too busy trying to solve the school's existing problems that

we're not looking forward with enough imagination. What will 'school' mean in the future, and what do we want it to be? This thesis asks: can the reimagined school help build community and cultivate empathy? Can it become a more open, dynamic, and welcoming place for its neighbours?

While not the focus of this thesis, it is impossible to discuss the history of BC's schools without acknowledging the devastating trauma inflicted on Indigenous peoples by the Indian Residential School system, operated jointly by the Canadian government and leading church organizations for over a century. In BC, where schools ran from the 1870s to 1980s, Indigenous youth were taken from their families and housed in these institutions on the pretense of social re-education, designed to perpetuate the erasure of cultural knowledge, language, spiritual practices, and customs, termed "cultural genocide" by Canada's Truth and Reconciliation Commission.1 Though no schools were located directly within Vancouver's limits - the area of engagement of this thesis - it is important to acknowledge the social and cultural significance of this history, for all of us, as it is something that cannot be separated from our understanding of the power of the school and the land on which this inquiry is undertaken.



Figure 02: School through time. Author.

a brief history of the school

Canada's public school system has developed according to regulations and policy of its provincial governments. From the mid-1800s up to World War II, only limited infrastructure existed to support the beginnings of public education. With the perception of mass education shifting away from one of aristocratic privilege, and the class divide slowly eroding, the necessity of equitable education prompted a new, more unified government approach. In the 'policy climate' of the era, the framework for the contemporary model of education was established, with learning viewed as a tool to enhance social cohesion and equity.

In the post-war era, governments became increasingly invested in the social fabric of the state², reflecting the shifting mood of the people for shared resources and bolstered social structures. During this 'welfare state' period of government-backed investment in social programs, the role of the school quickly expanded. Public school was now seen as more than a convenience, or 'nice to have', but rather, a right of the citizen. The post-war population boom further increased the need for a comprehensive, robust system, and educational policy and curricula were overhauled to create more cohesive, rigorous standards. School buildings were consequently adapted to the new roles, breaking away from the traditional typology to embrace new, modern building technologies and less rigid formal expression.

In many ways, 1967 marked the peak of Canadian optimism and prosperity during this era.³ Sweeping cultural shifts, combined with social anxieties and economic uncertainty, saw

backlash against the public school's universalized treatment of student learning. Students became seen beyond the collective 'student body' - they became individuals with unique capabilities who required a varied approach to learning. Towards the end of the 1980s, however, economic conditions prompted a deeper investment in the tangible outcomes of public schooling. Producing well-rounded, future workers became a renewed focus, ushering in a greater attention to quality and standardization of education.

Today, the educational system has undergone many alterations, but many conventions remain entrenched. Standardization is the norm, while customization to fit different students with different learning styles is seen as unsustainable. Along with today's culture, our worldview of education has expanded, placing greater emphasis on critical thinking, interconnection, and collaboration. The architecture of the school has likewise adapted to incorporate a more holistic view of the environment, wellness, and cultural context.

development of 1987 public education Ministry proposes Overhaul of BC school Provincial Curriculum Chant Commission BC Ministry of Education Sullivan Commission BC Education Plan conducted to find most educational reform called emphasizes flexibility and curricula and programs Advisory Board created. recommends core subjects: establishes core curriculum to with emphasis on the three Recommends new subjects reduced class sizes for high ensure students have requisite appropriate and effective 'The Year 2000' to develop personalized learning for C's: Citizenship, Character, to help with 'complexities' schools from 30 to 25. means of preparing students individual potential and skills upon graduation. students. acquire knowledge and skills and Culture. of modern life. for life in the 21st century. 2015 1967 1977 required to contribute to a BCTF critiques Ministry's The BC Teachers' Federation Redesigned curriculum 1989 BC curriculum changes more sustainable economy. implication that all children reiterates focus on developing (BCTF), with public New focus on fostering consultation, emphasizes are alike and can and should the 'educated citizen' (first individual development and architectural implications the personalization and learn the same thing at the proposed in 1989). growth. Students taught to be humanization of education. same rate. self-reliant, self-disciplined, 2019 pedagogy / learning model development and an active member of Latest curriculum includes society with a strong sense of a more global worldview, environmental responsibility. with less testing and exams. Introduces new core competencies: Communication, Thinking, and Personal and Social Responsibility.4 Depression era + rise of modernism [1920s - 40s] Post-war and beyond [1950s - 80s] Contemporary [1990s - today] The role of the school expands, promoting broader and more comprehensive programs Existing schools are in need of repair, renovation, expansion, and Schools break away from traditional H-, U-, or T-shape typologies, (e.g. kindergarten), subjects, and support for community life. Increased focus on a healthy allowing for experimentation with formal expression. New building replacement. New forms are tested to address the need for greater learning environment through better sanitation, ventilation, and illumination initiates a technologies and construction standardization are embraced as efficient functionality, new technologies, and increased density in cities. more considered design of the standard classroom. Desks are arranged in rows and windows solutions to the post-war population boom. The rise of suburbia creates Classrooms and spatial organization prioritize new attitudes towards enlarged to bring in more light. The footprint of schools greatly expands to meet their increased the conditions for the lower, one-storey school typologies, and existing collaborative learning by providing breakout and multi-purpose educational responsibilities, with some schools adding new spaces like cafeterias, clinics, schools are modernized and expanded. Gymnasiums, lunchrooms, and spaces. A greater emphasis on accessiblity, inclusion, sustainability, and laboratories, and workshops. The field becomes an important component to the school.5 auditoriums are added, and annexes built to accommodate overflow.6 occupant wellness are incorporated within design strategies.⁷ modernism post-war + contemporary 1945, Italy 1907, Italy First implemented in post-war In a Montessori school, The 1990s, America Italy, Reggio Emilia pedagogy student has full control over 1919, Germany is typically used with children One of the first references to place-based Introduced in 1919 in Germany, learning was in the 1990s by John Elder their learning and pursues in primary school or younger. and his fellow teachers and researchers at their education at their own the Waldorf approach is play-This method of play-based or pace. Teachers serve as guides based, emphasizing creativity to the Orion Society, Place-based learning project-based learning model, or observers and help students unlock a child's inner strengths helps students learn through places an emphasis on the process of connect with materials and and talents. Teachers guide individual learning and teaching from discovery and exploration, as environments that awaken the lessons for each individual and well as through spontaneous within the community to connect senses to create a complete and helps students create their own students with people and places within actions and interactions with holistic educational experience. materials for learning and study. their local context. nature and with others. montessori waldorf place-based learning reggio emilia 1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000 2010 2020

Figure 03: Timeline on the evolution of public education in Canada. Author.

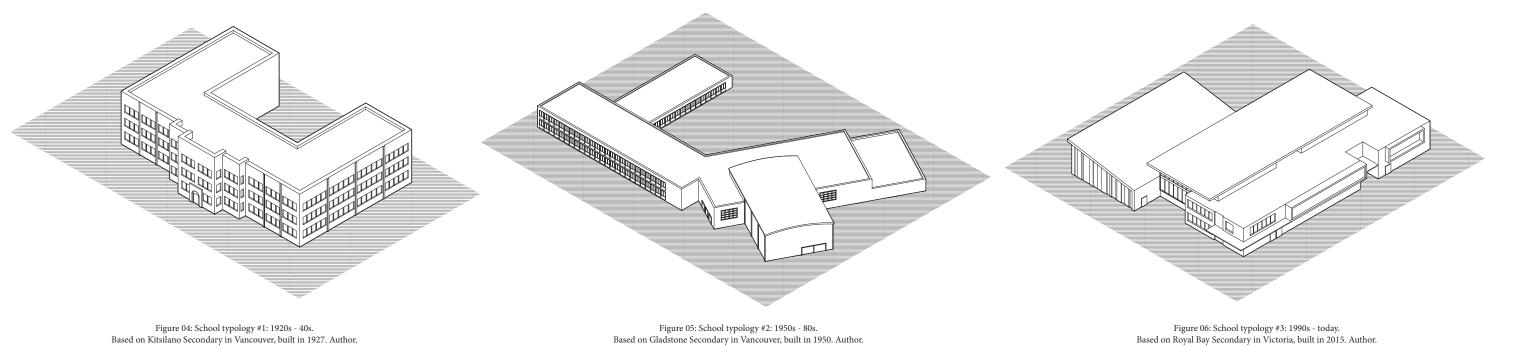
Access to education was limited to the wealthy as parents bore the cost of their child's schooling. As public education became entrenched in Canada, provinces struggled to find a common model of overseeing education. But admist conflict between English and French-speaking parts of the country and in the pursuit of a pan-Canadian economy and society, the federal government sought to standardize many components of public education to encourage connections between cities and provinces.

The post-war period saw a shift toward a more trusting view of the instituti underpinned by a collective social responsibility. Under the political era of twelfare state, government investment in public programs and infrastructuproliferates. In this prosperous era, education is rationalized, organized, a streamlined, and the school is seen as an important site in which universulting independent of the property of the property

The quality of public education was being questioned for "destroy[ing] the souls of children" and for "breaking their spirits before turning them out as rebellious misfits or cogs in the great industrial machine." Education became managed regionally, standardized testing was eliminated, and school curricula and policies underwent a dramatic overhault to emphasize child-centricity in learning.

provincial funding for education became a contentious topic. Ministers of cation were aware of taxpayer concern over the effectiveness of public education, the elimination of standardized testing years earlier meant officials had no way of suring the quality of education. Re-introducing standardized tests and curricula essed issues related to funding and fiscal accountability, quality of education

echnology and globalization have impacted how formation and learning occur. But as specific jobs, well as post-secondary institutions, begin to require occialized skills, students will need to expand their nowledge and abilities to prepare for an increasingly impetitive and changing landscape.¹²



evolution of **the classroom**

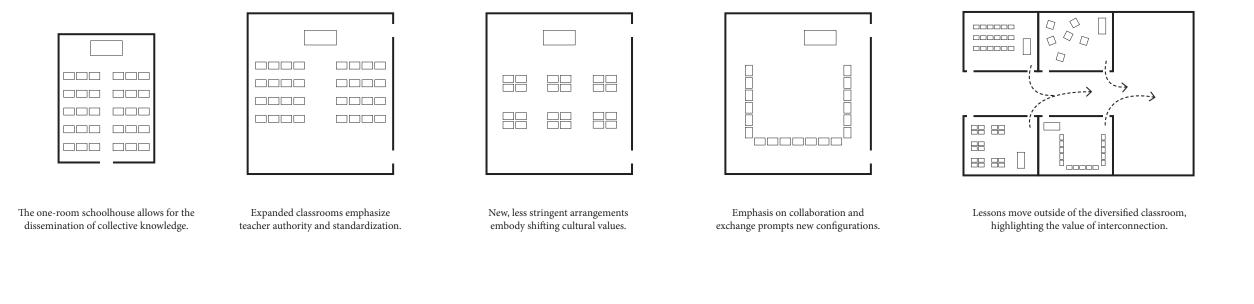


Figure 07: Evolution of classroom configurations. Author.

beyond the school

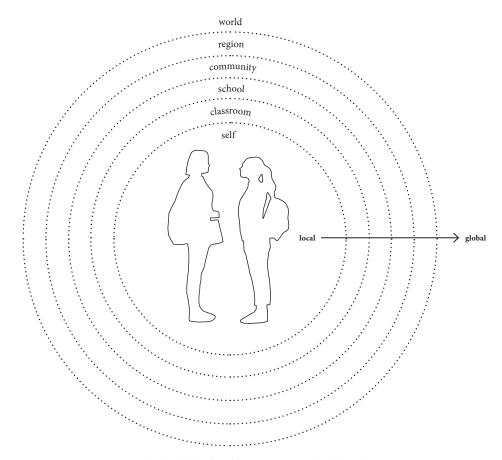


Figure 08: From local to global. Adapted from Teton Science School by author.

place-based learning

Place-based learning is an emerging pedagogy in which physical, social, and cultural context is deeply rooted within education. Developed out of environmental educational models, place-based learning considers the 'local', and seeks to activate community stewardship through a deeper connection to place. While contemporary school pedagogy and curricula relies on standardization and uniformity to teach specific skills and ensure desired outcomes, place-based learning seeks to disrupt the rigidity of the traditional classroom setting, focusing instead on the process of individual learning and teaching from within the community.¹³ A place-based pedagogy emphasizes personalized learning by giving students a voice and choice in determining what, how, when, and where they want to learn; lessons and inquiries are tailored to specific needs, strengths, interests, and pace of learning, rather than taught by one 'gatekeeper' of knowledge with one standard, universal lesson plan.

Place-based learning is highlighted by four core fundamental themes: an attentiveness to local environment, the convergence of science and art, an emphasis on time spent outdoors, and the creation of human connections. ¹⁴ Student learning is rooted first in a local context, with students encouraged to identify their role within their local community before understanding their sense of place and self on a global scale. As the world becomes increasingly globalized, students will need to be responsible citizens who understand both where they come from and the world they will inhabit; the emphasis on distant places that globalization, careerism, standards-based education, media, and environmental/humanitarian concerns brings can divert

focus from meaningful interactions with local people and places. ¹⁵ Meaningful connections should start small, building students' depth of understanding and appreciation of place as the foundation of their development into global citizens. Place-based learning offers a more comprehensive worldview rooted in connectivity and interrelationships, tuned to specific social and ecological systems within inhabitants' local surroundings.

Shifting to a place-based pedagogy highlights the importance of the lived experiences of teachers, students, and the community over fixed syllabi and class materials. Lessons are no longer conducted in isolation from the world outside the classroom, but rather, depend on it to bring context, specificity, and situated understanding of the material. Students are required to reflect on and make connections between their environment, themselves, and others. Through place-based learning, students show greater engagement, enthusiasm for learning, and academic success in social studies, sciences, language arts, and math, while improving their problem solving, critical thinking, and decision-making skills.16 When students create connections with and have a vested interest in the people and places around them, they are far more likely to develop a greater sense of local ecological and cultural sustainability than competitiveness and exploitation.¹⁷ Rethinking today's standard learning model to recognize the importance of connection to people and place is an essential philosophy needed to support the development of a generation of caring, engaged citizens.

new BC curriculum

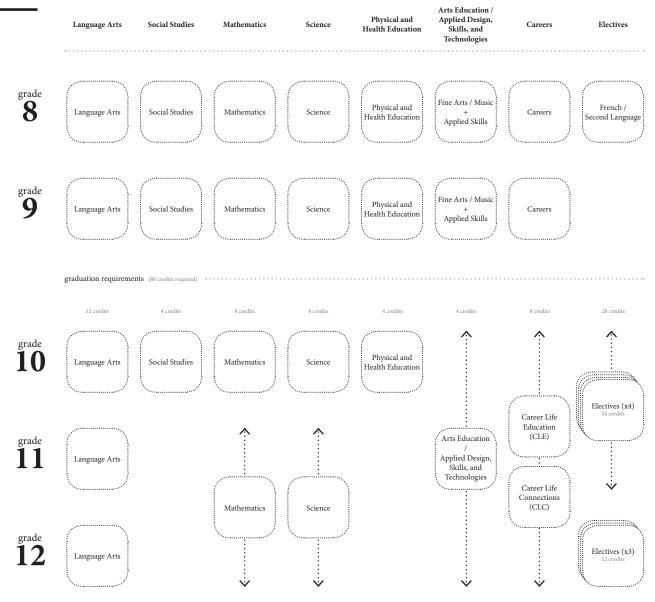


Figure 09: The new BC secondary school curriculum (2015). Author.

curriculum

The BC Ministry of Education, in consultation with educators, is responsible for the development of the secondary school curriculum - an established standard for what students are expected to learn - as well as the principles and framework guiding student assessment. The most recent updates to the BC curriculum began in 2015, establishing a cultural shift towards a more student-centric view and emphasizing the importance of developing a deeper understanding and application of key concepts. In particular, the new curriculum highlights a more personalized approach to learning, ecology and the environment, indigenous perspectives and knowledge, and flexible learning environments. While the curriculum describes what students are expected to learn, it doesn't prescribe how - leaving the process open to interpretation and customization by the school and teacher. The curriculum's recognition of the importance of self-assessment, reflection, and ownership of learning is conceptually aligned with more progressive pedagogies, like place-based learning. Within the standardized school system, change happens slowly, held back by myriad constraints outside of desired curricular outcomes. However, with policy starting to shift to a more inclusive, holistic mandate, we might wonder how this will affect the school itself. The BC government states: "Achieving British Columbia's social and economic goals requires well-educated citizens who are able to think critically and creatively and adapt to change".18 The student is beginning to be seen as a citizen within the broader educational and socioeconomic system; how might this also impact the school's role within the broader community?

Even with updated outlook and policy, schools are still stuck in the past. The school itself is still designed as a closed environment, drawing from embedded assumptions that underscore the need for control on the pretext of effective learning and student safety. At the bare minimum, the secondary school is viewed as an intermediary meant to help students develop the skills, tools, and critical reasoning they need to prepare them for the 'real world' - but with very limited engagement with the social environment outside the school's boundaries. However, this thesis rejects these psychological and physical barriers. Even in the age of technology, learning relies deeply on social interactions and meaningful experiences. Engaging with others, especially those with different backgrounds and life experiences, is inherently valuable as youth develop their sense of identity, belonging, and citizenry.



Figure 10: Standardization of space. Author.

the vancouver school system

British Columbia's Ministry of Education is responsible for overseeing more than 630,000 students enrolled in grades K - 12 every year: 553,000 in public school, 81,000 in independent/ private schools, and 2,200 in home-school. The Ministry receives funding from the provincial government as part of the annual budget, and is responsible for administering three primary areas: Capital Management, which includes capital projects, seismic upgrades, and asset management; Resource Management, which includes funding and budgeting for each school district; and Program Management, which includes the development of a standardized curriculum for all students in the province's 60 school districts.¹⁹

Governed by elected trustees for the Vancouver School District (SD #39), the Vancouver School Board (VSB) oversees over 50,000 students in grades K - 12, comprising 21,000 secondary students at 18 secondary schools and 29,000 elementary students at 101 elementary schools and annexes. The district is further divided into catchment areas, defining boundaries that determine which elementary schools (grades K - 7) feed into their associated secondary school (grades 8 - 12), managing enrollment distribution. 20

The upgrade, renovation, or construction of a new school is financed through the Ministry of Education's Capital Management division. All new projects, additions, and renovations are subject to the Ministry's Area Standards - a document last updated in 2012 - which sets out guidelines for core and elective programming based on capacity estimates. However, in 2018, the Vancouver School Board expressed

concern about the limitations of these outdated standards on the design of new and replacement schools, maintaining that they generally result in significantly smaller buildings with limited spaces for diverse educational programming.²¹ Main criticisms include insufficient space for visual and performing arts, indoor/outdoor breaks, gymnasiums, and storage.²²

Vancouver's schools are currently facing a unique set of challenges: aging infrastructure, poor seismic conditions, and excess student capacity.²³ According to the VSB's Long Range Plan, published May 2019, the average age of schools in the district is 73 years.²⁴ Only three VSB secondary schools have been remediated in the Seismic Mitigation Program - an initiative launched by the Ministry of Education in 2005 to assess and manage required structural improvements based on updated seismic recommendations.²⁵ Currently 10 of Vancouver's 18 secondary schools are identified as needing seismic upgrades.²⁶ Additionally, the VSB's Long Range Plan assesses the conditions of existing facilities, identifying 16 of Vancouver's 18 secondary schools to have rankings of 'poor' or 'very poor'. The facilities' conditions - affecting the school's operating costs due to aging, inefficient mechanical, electrical, and plumbing systems - are addressed separately from the higher-priority seismic issues, and the VSB estimates a cost of \$751 million to adequately refurbish all elementary and secondary schools in the district.27

secondary school enrollment

Vancouver Secondary Schools and 2019-20 Student Population



(17) Britannia

(18) Templeton

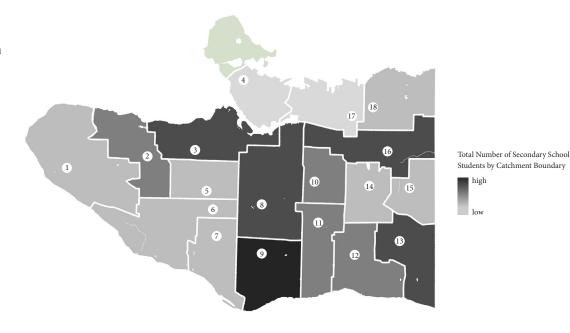


Figure 11: Map of Vancouver's secondary schools and school catchment areas.

Data from Vancouver School Board. Author.

neighbourhoods

Constantly fluctuating enrollment in K - 12 schools is a major issue in school planning. School enrollment typically parallels the population growth and decline in the region, which is largely unpredictable. As the number of school-aged youth varies from year to year with factors like immigration, high birth rates, and cost of living affecting population flux, schools must adapt to meet the city's current needs. With BC's population projected to increase by an estimated 25% from 2020 to 2041²⁸ and Metro Vancouver's population by 32%²⁹, it is clear that the region's schools will need to adapt to accommodate additional students in the coming decades.

The school and the neighbourhood exist in a relationship of reciprocity. The dynamics of each affects the other, with constant exchange between people and place - the school as an interchange, a filter, and a mediator. Currently, enrollment in Vancouver's secondary schools is projected to remain steady at approximately 20,500 students for the next five years, with capacity of schools just under 24,500.30 However, these projections don't take into account variance between neighbourhoods. The VSB allows for students to enroll in any school outside their designated catchment area, providing space exists. The socioeconomic disparity between Vancouver's neighbourhoods (typically understood as an eastwest divide) as well as limited specialized academic offerings (like French Immersion programs) creates competition that drives enrollment demand. In addition, different growth rates and demographic shifts in neighbourhoods contributes to the student population uncertainty, putting pressure on the system to quickly adjust to meet annual space requirements.

The VSB has several strategies for dealing with over- and under-enrollment, most of which are heavily criticized by parents, students, and other community members.³¹ It is rare to come across an elementary or secondary school without any portables on school grounds – a quasi-architectural 'quick fix' with little foresight. These temporary measures have quickly become permanent fixtures, as schools struggle to keep up with changing enrollment demands and limited funding.

neighbourhood projections 3 14 Vancouver Neighbourhoods (1) University Endowment Lands (2) West Point Grey 9 (3) Kitsilano (4) Fairview (5) Dunbar- Southlands (6) Arbutus Ridge (7) Shaughnessy (8) Kerrisdale (9) Oakridge

(10) Marpole

(11) Sunset

(16) Riley Park

(17) South Cambie

(18) Mount Pleasant (19) Strathcona

(21) Hastings-Sunrise

22) Downtown

(23) West End

(12) Victoria-Fraserview (13) Killarney

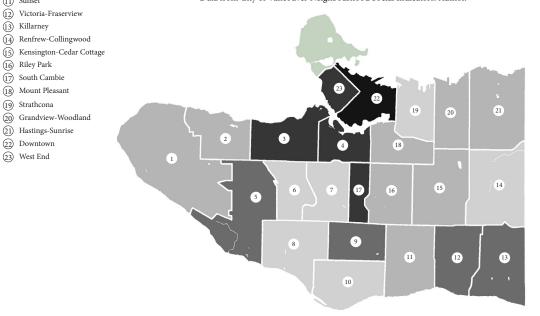
(14) Renfrew-Collingwood

(20) Grandview-Woodland

Population Density Projections by Neighbourhood

increase

Figure 12: Map of Vancouver's neighbourhoods with projected density for the next 20 years. Data from City of Vancouver Neighbourhood Social Indicators. Author.



Secondary School Enrollment Projections by Neighbourhood

Figure 13: Map of Vancouver's neighbourhoods with projected student enrollment for the next 20 years. Analysis based on population growth, immigration, and increase in families with children with data from City of Vancouver Neighbourhood Social Indicators. Author.

neighbourhoods

The real problem, however, is the lack of attention on the bigger picture. We've inherited a system (with questionable roots) that keeps being patched up and repackaged throughout the decades. Policy- and decision-makers are busy fixing existing issues with today's schools, have had little discussion on the direction and future of our public education system. This thesis challenges the conventions and assumptions of what we think of as 'school', both in purpose and physicality.

With the Vancouver School District's aging buildings and fluctuating student population precipitating a not-so-distant need for newly constructed schools, we need to rethink the way schools relate to their surrounding context - physical, cultural, and social. Vancouver's secondary schools are located in neighbourhoods across the city with the goal of higher density areas being served by higher capacity (or multiple) schools, creating a distributed network across the city. With the premise that BC's public education facilities should be, in essence, for the public, this thesis asks: how can the school do more for its community? When is the school more than just a set of classrooms?

Requiring the school to adopt a greater social responsibility embodies the developing attitudes within contemporary education. The school as a purpose-built community hub, designed to activate and support a more resilient neighbourhood culture, positions the school as an integral piece within a broader system.

the school and patterns of use



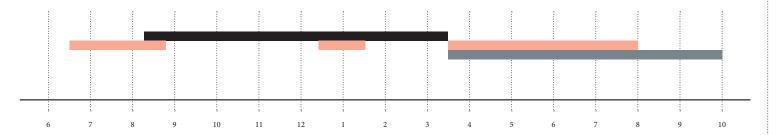


Figure 14: The school's daily patterns of use. Author.

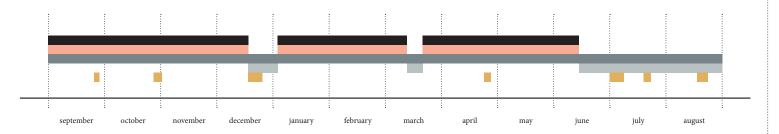


Figure 15: The school's annual patterns of use. Author.

community

For years, schools have frequently been used for functions beyond their intended purpose. While these public buildings are primarily designed to accommodate classroom-based learning and common extracurricular activities (including student groups and sports), the school often plays host to an array of social and community programs as well. These partnerships and uses are already happening in spaces not designed with the forethought to accommodate them. Uses can be classified in terms of their time of use: school day (e.g. daycares, libraries, and student breakfast programs), off-hours (e.g. community bands, art classes, sports leagues, and parent meetings), and off-season (e.g. summer camps, volunteer programs, and summer school). Schools also occasionally host special events on a one-off basis (e.g. conferences, fundraisers, craft fairs, festivals, etc.) that can occur anytime throughout the year during non-school hours. Why not embed the opportunity for these latent uses within the school's design?

Additionally, some schools have more symbiotic, structured relationships in which dedicated space is allocated for public-serving programs like community libraries, theatres, and daycares. Currently, Vancouver has four secondary schools that are either connected or closely linked to a variety of community amenities, including a neighbourhood learning centre, ice rink, community/service centres, and additional sports courts and playfields. Students typically benefit from these relationships due to more frequent or priority access to these facilities, while the centres become a vital part in the building's activation. However, clear spatial boundaries still delineate these partnerships, limiting the way both students

and the public are afforded authorship over the space. This thesis argues for the need to create public space that is seen as truly shared, not just in proximity, but in our collective social imaginary.

on public space & empathy

Since the agora of ancient Greece, 'public space' has long been understood as a free and open gathering place, tied to the notion of the democratic state. Throughout history, its meaning and significance has changed to reflect the cultural milieu of the time, from its underpinning of nation-building ideology to its reflection and reproduction of contemporary consumption.³² Rather than a fixed, universal entity, public space can be understood as a mutable and subjective social construction: "public space is not just an architectural form or material construction but is part of a dynamic and fluid sociospatial dialectic which ultimately reflects our tastes, values, and visions".33 Simply put, people shape, and are shaped by, the spaces they inhabit. Produced by physical, social, and cultural boundaries, public space both reflects and reinforces dominant social customs and beliefs. What we value as a society is communicated through its realization of public space.34

Public space is often defined in the negative, with respect to the private sphere: what is not domestic or privately-owned must therefore be public! However, this dualism represents an oversimplification of our understanding of public space. Spatial boundaries are rarely so precise and universal: "In practice, public and private spaces are a continuum, where many semipublic or semi-private spaces can be identified, as the two realms meet through shades of privacy and publicity rather than clearly cut separation". The idea of the public-private divide as a gradient, with a continuous transition and fuzzy boundaries, more accurately reflects the messiness of reality. Architectural theorist Micheal Brill starts to disentangle this vast 'in-between', by further distinguishing public space from

community space. Public life is defined as "sociability with a diversity of strangers", while community life is "sociability with people you know somewhat".36 Community, therefore, is the public you come to accept as familiar. The consequence of this differentiation between public and community is a more nuanced understanding of the goals, spatial logic, and value of each. Public life "offers a spectacle of strangeness, a celebration of possibility and an offering of a wide array of possible models for behavior"37, while community life has an element of comfort, of familiarity, of increased safety. While we strive for comfort and social interaction in our increasingly connected yet isolated world, we speak of community. Brill notes that with our enduring fixation on the private realm, we are gradually losing both forms of these social relationships; in particular, "there has been some real loss of Public life, especially that which occurs in the presence of a diversity of strangers, and important graces, tolerances and social learnings are becoming lost to us".38

Public space plays a critical role in exposing us to new worlds, and new ways of seeing our old world: "Public space allows us to experience other people's presence and get to know their viewpoint, which is an essential ingredient of living in human societies". Shared space supports shared experience, increasing our awareness, understanding, and empathy for others. Within the public realm, shared social experience helps transform public into community. Shared space is essentially "a school for social learning", using public life as a "transformative text". 40

A fundamental criteria of public space is its publicness - its ability to be accessed, used, and altered by anyone. The notion of collective ownership over shared space is imbued with an element of transparency; the space must support a posture of openness, removing invisible barriers to inclusion. Through the concept of transparency, public life can flourish. Based on Rowe and Slutsky's writings on transparency, three forms emerge: literal (inherent to the optical quality of the substance or material state), phenomenal (inherent to the quality of organization, including the layering of planes or stratification), and experiential (tied to the idea of accessibility or movement throughout the space).41 Here, transparency is taken to mean "a simultaneous perception of different spatial locations" where "space not only recedes but fluctuates in a continuous activity".42 Through the layering of planes, strategic spatial organization, and intrinsic material quality, an architecture of transparency may manifest. Through transparency, place may communicate its public-facing intent, creating a welcoming environment in which the shared experience is rendered legible.

Empathy - the ability to comprehend and share in others' feelings - is both innate and learned. Relationships are critical to developing this capacity for how we understand, process, and engage with the world. Developmental psychology provides a lens with which we can better understand the relationship between empathy and adolescence in relation to place. The search for purpose - the desire to connect with or contribute beyond the self - "manifests in the relationship between an individual and his or her environment [as an aspiration] to

have a meaningful existence in the world." Through early adolescence to early adulthood, purpose is likely to develop through four phases: cultivating empathy, envisioning a role within society, reevaluating values and priorities through life transitions, and developing a pathway to enable the envisioned role. The more inward-facing search for meaning, or self-identity, is held in tandem with the outward focus on purpose and societal connection, locating oneself within the world. Here, this thesis suggests that through a culture of citizenry, youth can better explore their interests to develop a deeper sense of self-identity and discover a meaningful role within broader society. Growing one's relationship to place, through community connection, increases opportunities for social exchange, understanding, and empathy.

fun palace

Architect: Cedric Price Year: 1961 Location: London, UK

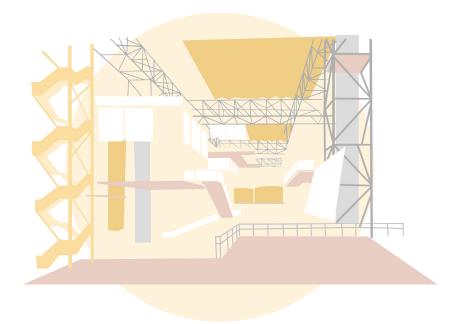


Figure 16: Fun Palace. Author.

Though never built, Cedric Price's Fun Palace sought to expand the notion of public space by creating a radically new educational and cultural centre, thought of as a "laboratory of fun" or a "university of the streets". Located in an industrial part of London, Fun Palace was envisioned as a temporary urban intervention that embodied adaptability at its core. Price carefully considered the conditions for seemingly unrelated programs to coexist, and even amplify one another, giving more autonomy to its users and probing the imaginary of appropriate

social space within our cities. Developed for theatre director Joan Littlewood, the project also embodies a performative aspect, where the rituals and interactions of its occupants play out, their public lives intertwining throughout the project.

"Choose what you want to do - or watch someone else doing it. Learn how to handle tools, paint, babies, machinery, or just listen to your favourite tune...Try starting a riot or beginning a painting - or just lie back and stare at the sky."46

centre pompidou

Architect: Renzo Piano + Richard Rogers Year: 1977 Location: Paris, France

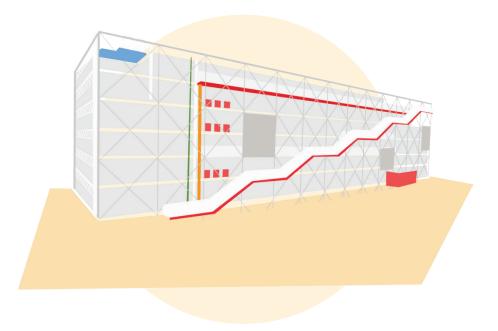


Figure 17: Centre Pompidou. Author.

"The Centre Pompidou, when you first catch a glimpse of it, is startling indeed, but it registers as a relief, not as an incongruous interruption." 47

Completed in 1977, this new Parisian art and cultural institution flipped the building inside-out, expressing its systems on the exterior. A prominent example of high-tech architecture, the thoughtfully engineered exoskeletal structure allows for greater programmatic flexibility within the uninterrupted floor plates.

As a key part of the design, half of the site has been transformed into a large public plaza, rooting Centre Pompidou within its urban context - both distinct from, and intrinsically tied to, the city. The circulation is articulated on the building's facade, adding a gesture of movement and transparency that echoes the building's public-facing posture. Beyond its technical achievements, Centre Pompidou's success lies in its mediation of flows - people and systems - and its interpretation of adaptability and impermanence into spatial resolution.

seattle public library

Architect: OMA Year: 2004 Location: Seattle, USA

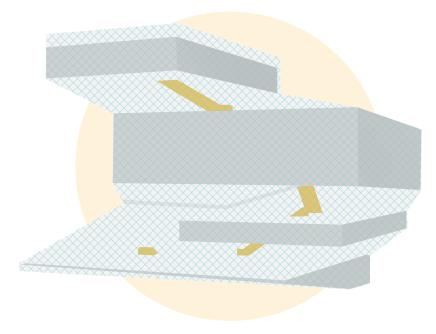


Figure 18: Seattle Public Library. Author.

Rem Koolhaas and OMA helped reimagine the potential of the public library as an open, civic space with equitable access to information - a space for people, not just books. Through the separation of related uses into "programmatic clusters" 48, the Seattle Public Library embodies a clear language of spatial organization that is further rendered in its architectural expression. Flexibility is achieved through specificity and distinction of program, leaving room for more spontaneous interaction to develop in the spaces in-between. The building's

circulation - most notably, the central 'book spiral' - plays a significant role in the design, inviting exploration and movement throughout the public space. To the city, the Library becomes a beacon; the tectonic resolution of form, scale, and materiality projecting its civic posture beyond its physical locale.

ryerson student learning centre

Architect: Snohetta Year: 2015 Location: Toronto, Canada

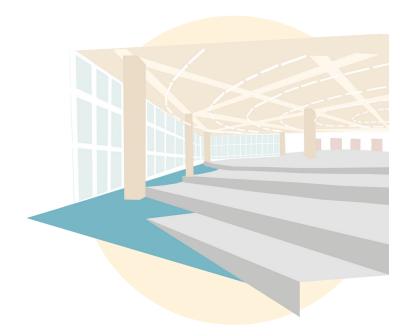


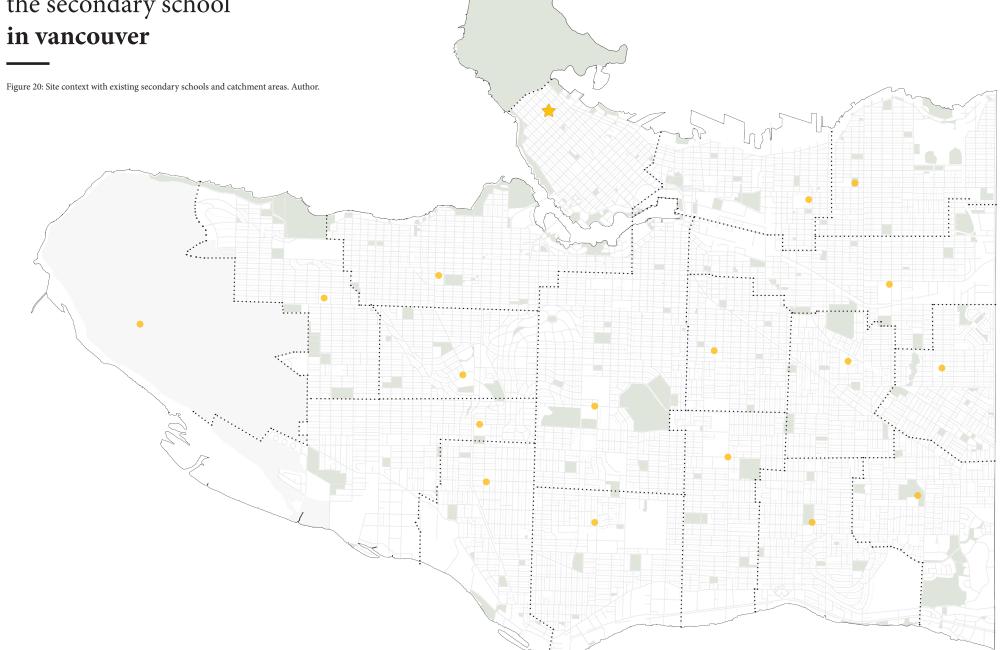
Figure 19: Ryerson Student Learning Centre. Author.

Located in the heart of downtown Toronto, Ryerson's Student Learning Centre provides a space for students to gather, study, and collaborate, while also creating a distinct streetfront presence for the university that interlaces the two realms. Tied to the deep-rooted recognition of the social nature of learning, the Centre's design offers more choice for students through its distinct levels, each with a different function and feel. Levels include the 'Beach', 'Sun', 'Sky', and 'Garden' and draw on their respective thematic characterizations to evoke

a phenomenological effect that varies with the surrounding environmental conditions. The design also incorporates ample flexible, multi-purpose space throughout the building, supporting the dynamic lives of its core inhabitants and positioning the building as a welcoming, open space for anyone to enjoy.

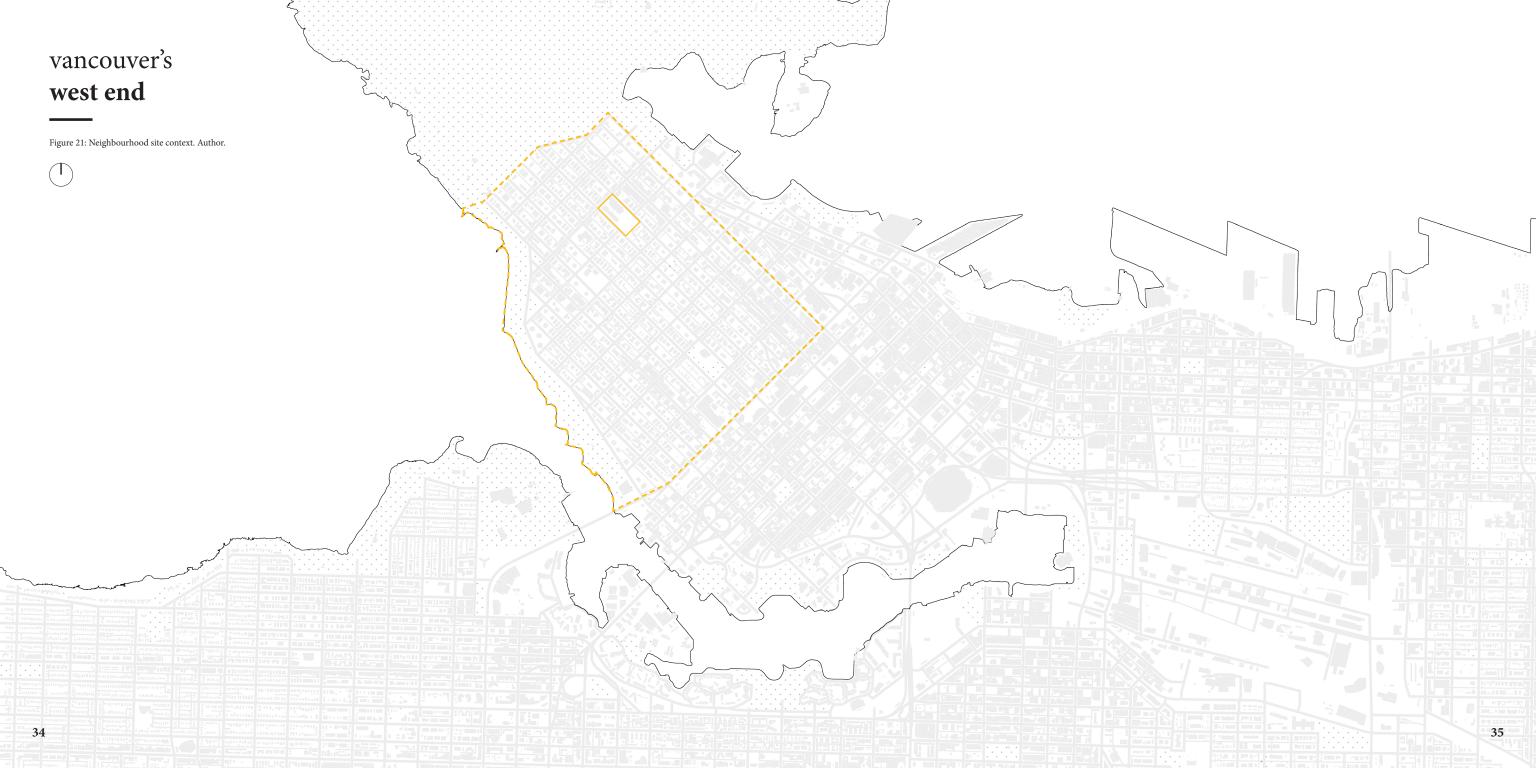
part II - site

the secondary school in vancouver





This thesis engages a site in Vancouver's West End - the city's densest neighbourhood. This site offers a rich backdrop on which to explore the goals of this project, bringing together the school and community centre into a symbiotic partnership. Through design, this thesis aims to leverage the overlap between these traditionally separate entities, creating a more open and activated community space within the city.



the west end

Located between what we now call English Bay, Stanley Park, and Coal Harbour, Vancouver's West End was once a forested area before European settlers displaced the local Musqueam, Tsleil-Waututh, and Squamish First Nations, radically transforming the land. Spurred by the extraction industry, logging practices in the late nineteenth century prompted the development of a nearby settlement of small to large Victorian homes. In 1910, the city added streetcar lines on Robson, Davie, and Denman Streets, defining major arteries and prompting the conversion of some smaller homes into shops, and larger homes into rooming houses. As the city grew, the West End saw the construction of numerous lowrise apartments between the 1930s to 50s, further establishing the residential identity and character of the neighbourhood. Within an era of economic prosperity, social mobility, and changing city regulations, a multi-storey construction boom saw more than 220 mid- and highrises built between 1962 and 1975⁵⁰, adding to the texture of the neighbourhood.

Today, the majority of the West End's mid- and highrises are still-standing remnants of the construction that took place in the 60s and 70s. As a result, the West End possesses nearly one third of all of Vancouver's purpose-built rental housing; 80% of West End households are rented, compared to 53% of households across the rest of the city, making the West End the neighbourhood with the second highest proportion of renters in the city.⁵¹

Due to the availability of rental housing, over 47,000 people live in the two square kilometre area, making the West End Vancouver's densest neighbourhood with 231 persons per hectare. ⁵² With many seniors, immigrants, single adults, young couples, and a large portion of Vancouver's LGBTQ+ community calling the neighbourhood home, the West End is one of the most diverse and vibrant communities in the city.

Over the last four years, the West End has seen a higher rate of immigrants moving to the area than most of Vancouver's neighbourhoods, with just over 30% of the population identifying as members of a visible minority group. Consistent with trends across the city, seniors are expected to make up a greater share of future populations. Currently, 15% of West End residents are over the age of 65, with many living alone. But while there are three times as many seniors as there are children, the West End contains the fourth highest density of children of any community in the city.⁵³ With much of the population made up of seniors, new Canadians, and young adults, it's not unsurprising that the West End has one of the lowest average median household incomes and one of the highest rates of people living below the national poverty line. Residential rental buildings built in the 1960s and 70s typically don't include building amenities, making nearby community spaces and services a critical lifeline for new Canadians and seniors living alone. The West End is in need of increased space to serve the neighbourhood's diverse populace, and promote activity, connection, and civic engagement within the community.

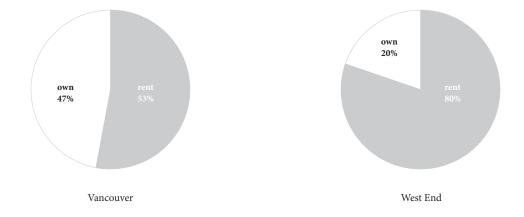


Figure 22: West End rent-own comparison with other neighbourhoods in Vancouver.

Data from the West End Social Indicators Profile. Author.

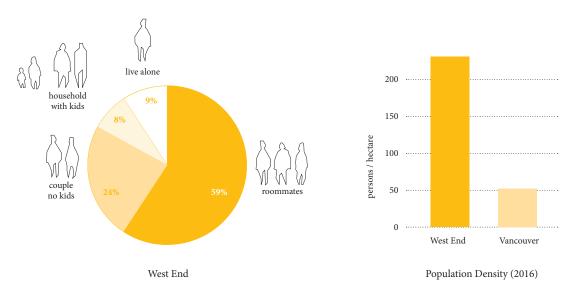


Figure 23: West End demographic statistics. Data from the West End Community Plan. Author.

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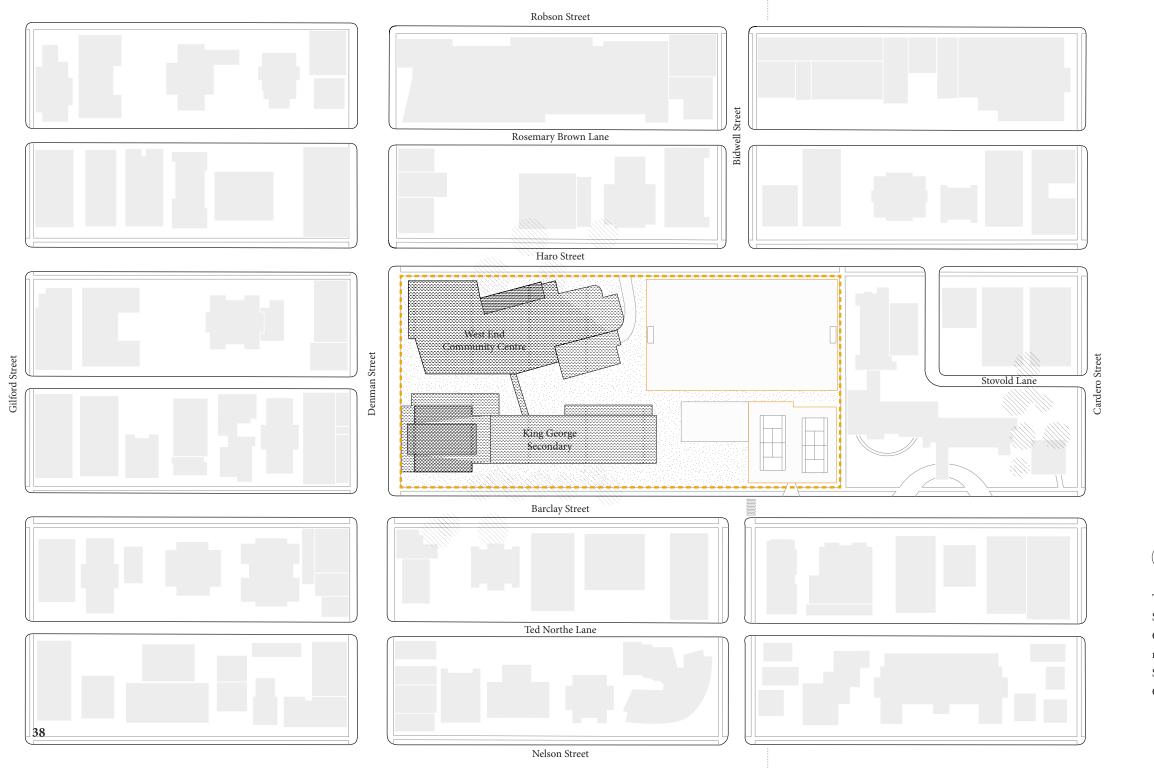




Figure 24: Existing site plan. Author.

The West End Community Centre and King George Secondary School are located on a 4.4 acre shared-use site managed by the City of Vancouver and Vancouver Board of Education under reciprocal leases. The site is bounded by Haro Street, Denman Street, Barclay Street, and the furthest edge of the fenced King George soccer field.

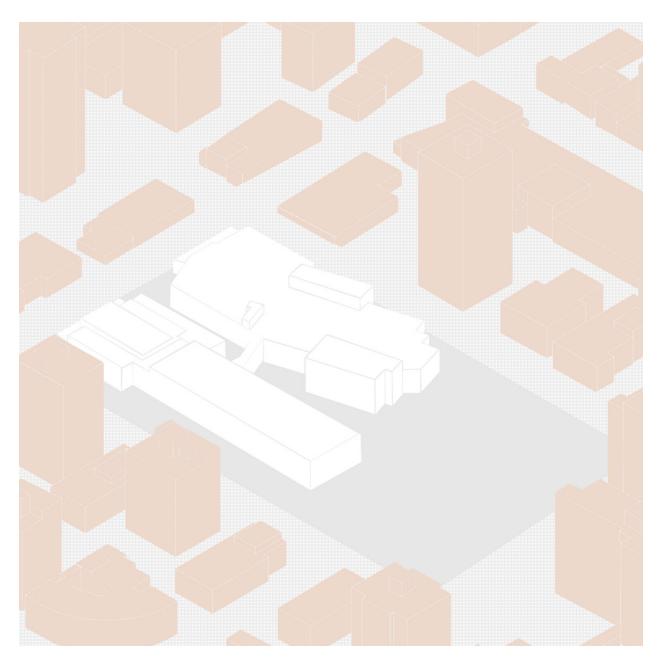


Figure 25: Existing site axonometric. Author.

existing site context

Jointly operated by the Vancouver Board of Parks and Recreation and the West End Community Centre Association, the 60,000 square feet Community Centre contains a childcare centre, fitness centre, auditorium, bookable meeting rooms, ice rink, and outdoor tennis courts, as well as the Joe Fortes Library, one of 21 branches of the Vancouver Public Library. At 72,000 square feet, King George Secondary is a 375-student capacity school, yet enrollment as of 2020 is over 500 students.

King George is also home to one of the Vancouver School District's 'choice' programs, called City School, founded in 1971.54 This 22-seat alternative for grades 10-12 students embraces the motto of 'learning from the city' as students take part in donor-funded trips and activities throughout Vancouver.⁵⁵ In conversation with City School's Educational Coordinator and Head Teacher, the program proposes a valuable alternative mindset to the traditional secondary school experience, shifting the focus away from the culturallyexpected university route to help students define their own "pathways to success". Students become more than just cogs in the educational system, they become people. City School embodies ideas rooted within place-based learning, with facilitators supporting student development with individualized and responsive lessons, opportunities for learning within the city, and a proven basis for an educational model on which this thesis hopes to expand and spatialize.

The Community Centre's amenities and King George's capacity have become outpaced by the West End's growth. The fitness centre is underused due to its poor condition, the childcare centre is over capacity, and the 5,000-square-foot library is undersized. Over the next ten years, King George's catchment area, which includes Crosstown, Elsie Roy, and Robert Elementary Schools, as well as an incoming elementary school in Coal Harbour, will see an increase in enrollment, exceeding operating capacity. ⁵⁶ Existing facilities and infrastructure will require extensive upgrades to deal with growing demand for age-friendly spaces and services for an increasingly dense, growing, and aging population.

In order to accommodate the growth of the West End, and the need to upgrade existing facilities and amenities, the City of Vancouver released a request for proposal (RFP) at the end of 2019 for the development of a master plan for the site. The scope of the RFP calls for upgraded amenities within the Community Centre, including more childcare space, a fire hall, seniors' services, and a larger ice rink (NHL-sized). Additionally, it includes an increase in capacity at King George Secondary from 375 students to 1000, and an increase in size of the Joe Fortes Library from 5,000 square feet to approximately 20,000 square feet.⁵⁷ The RFP is expected to conclude with presentations to the City in June 2021.

Clearly, this neighbourhood has outpaced its investment in social infrastructure. This thesis takes these very real conditions as a starting point to envision what a more robust and integrated community infrastructure might look like. Can public space activate and animate the West End and support its unique, local culture? Can a community-school hybrid create more resilient social networks within the city?

part III - proposal

What if learning could move beyond the classroom?

School architecture has traditionally reinforced a didactic, teacher-knows-all learning model, limiting student engagement, creativity, and autonomy. With the emergence of more progressive pedagogies, the contemporary academic focus is slowly shifting from product to process, offering opportunities for collaboration and customization within the secondary school curriculum. The model of place-based learning embraces connection between students, their environment, and the surrounding community, recognizing that learning is both context-dependent and an inherently social activity.

Within this framework, this thesis explores the interface between a secondary school and community centre in Vancouver's West End, questioning the fundamental role of the public secondary school to reimagine it as an essential piece of community infrastructure within its neighbourhood. This centre is positioned as a truly public facility, eschewing the school's traditional hermetic boundaries in favour of a porosity aimed at cultivating human connection.

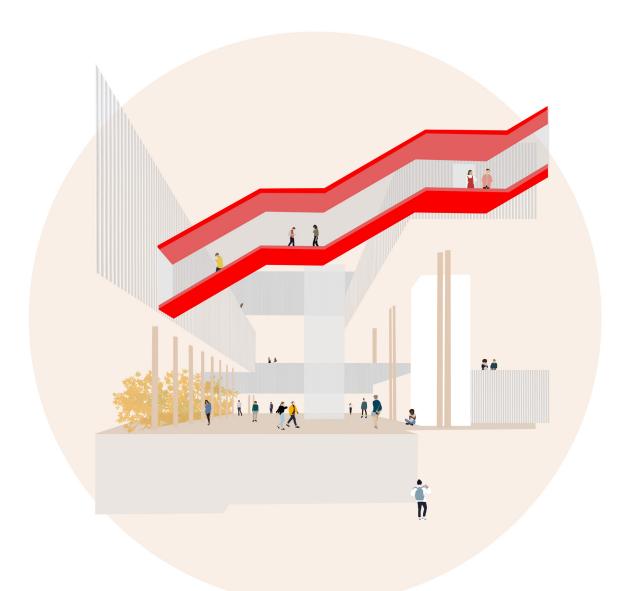


Figure 26: Concept vignette. Author.

At public-school, the public is welcomed in, and the students venture out, while maintaining a balance between student security and independence. Engaging with others, especially those with different backgrounds, life experiences, and expertise, is inherently valuable as youth develop their own sense of identity, belonging, and citizenry.

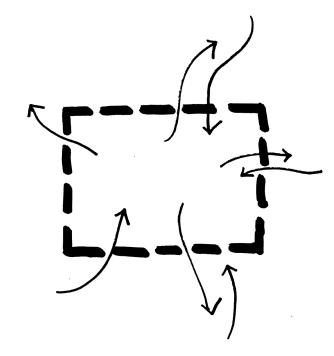


Figure 27: Parti. Author.

The massing is conceived of as a series of planes that rotate around a central open core to create a generous amount of open exterior space for the public while enhancing the porosity and permeability of the building. The public navigates the building by following the roof planes up and around until they can go no further. The top two levels are restricted to the school use and provide a secure place for students.

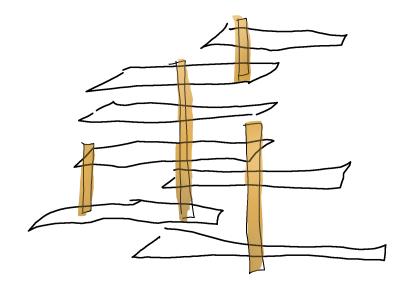
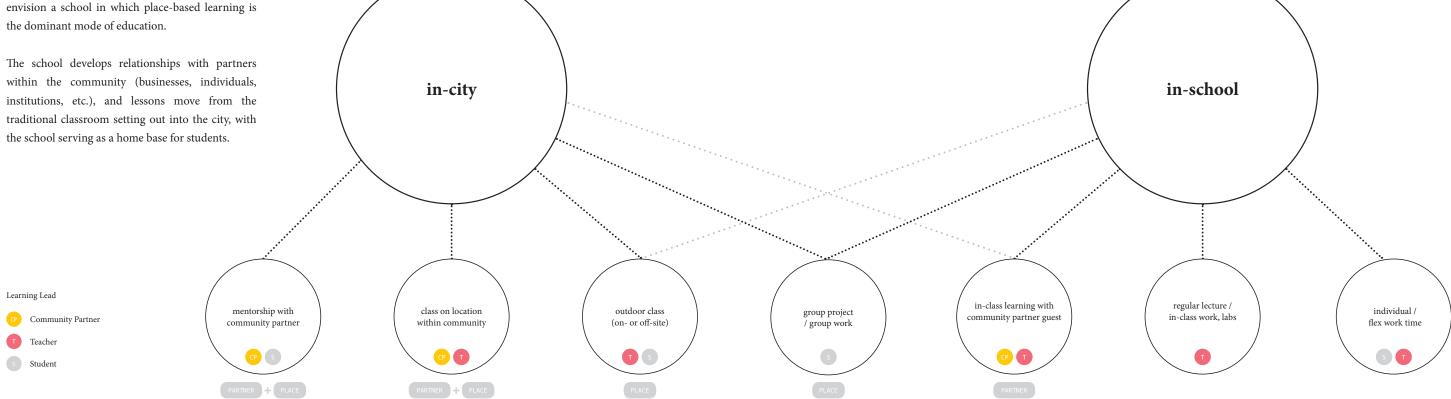


Figure 28: Separated planes. Author.

place-based learning in practice

Aligned with the intent of BC's recent high school curriculum update, this thesis pushes beyond to envision a school in which place-based learning is the dominant mode of education.

within the community (businesses, individuals, institutions, etc.), and lessons move from the traditional classroom setting out into the city, with the school serving as a home base for students.



Community Involvement

a dedicated Community Partner (individual, group, organization, society, etc.) that works to introduce students to 'real world' experiences, and helps foster curiosity and guide inquiry into the field/subject

a site (indoor or outdoor) located within the city that can be used as a 'classroom' for context-specific experiential learning

Figure 29: Place-based methodology. Author

place-based learning by subject and grade

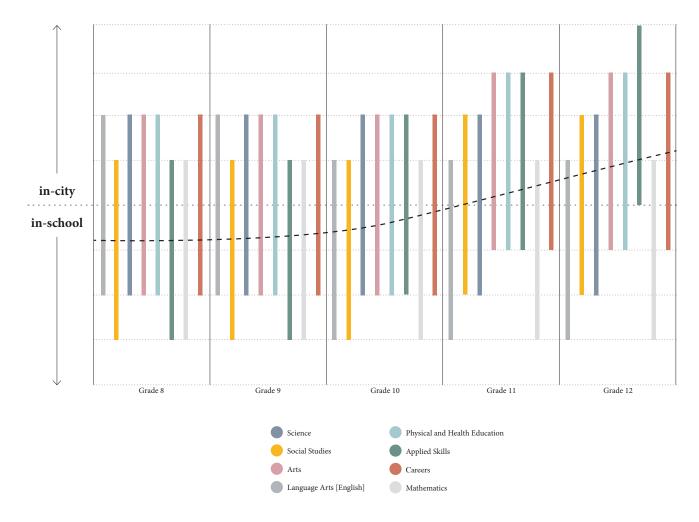
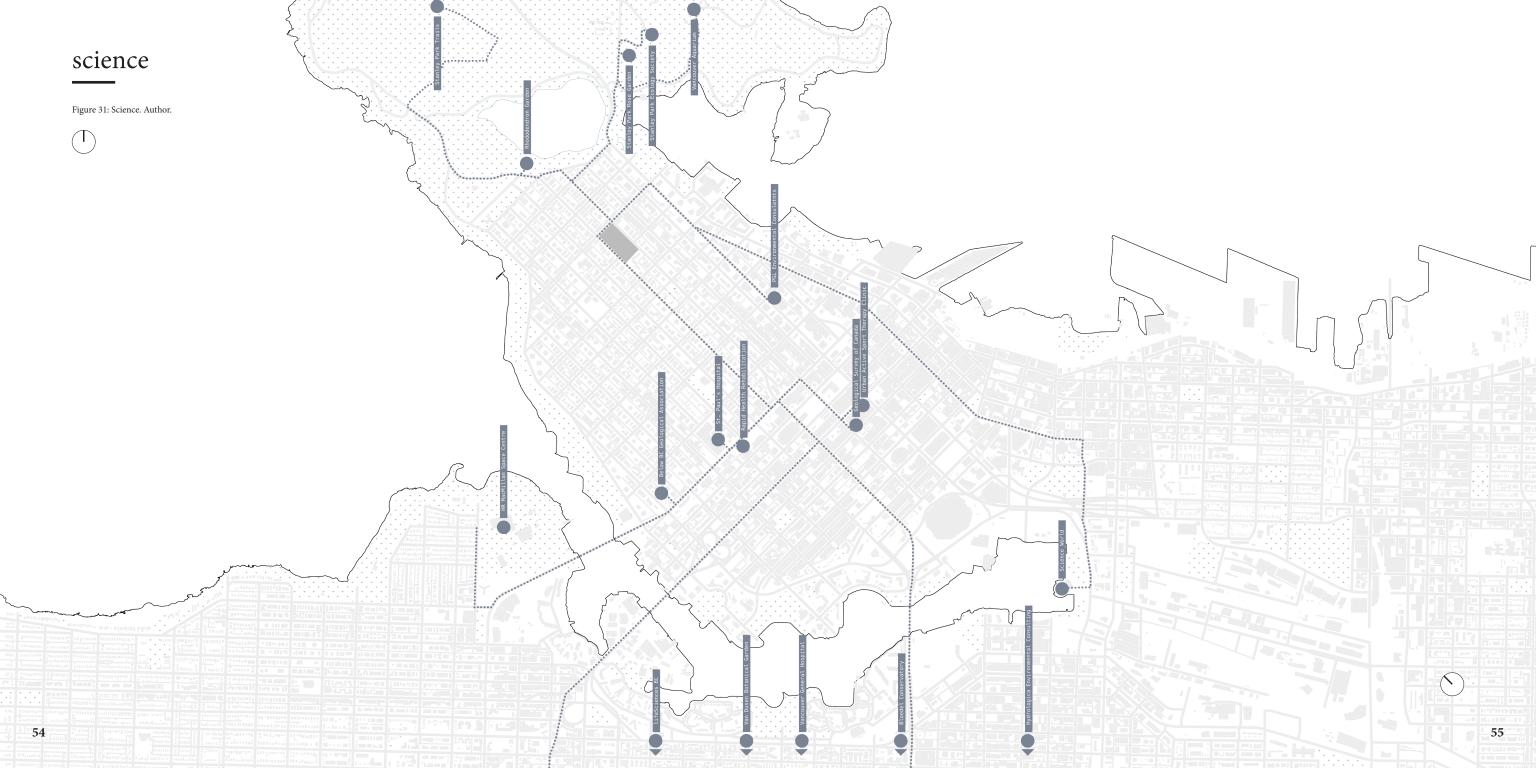
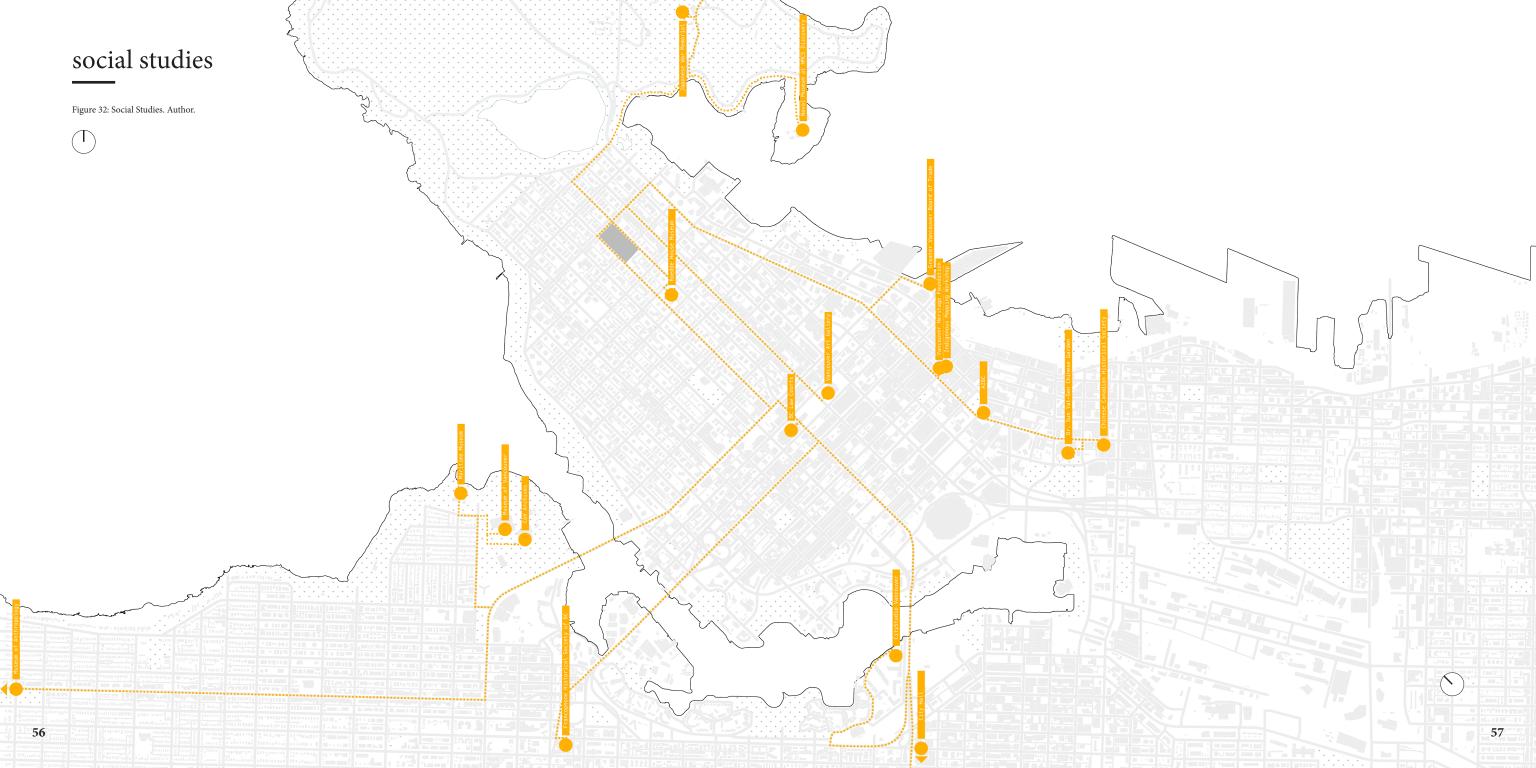


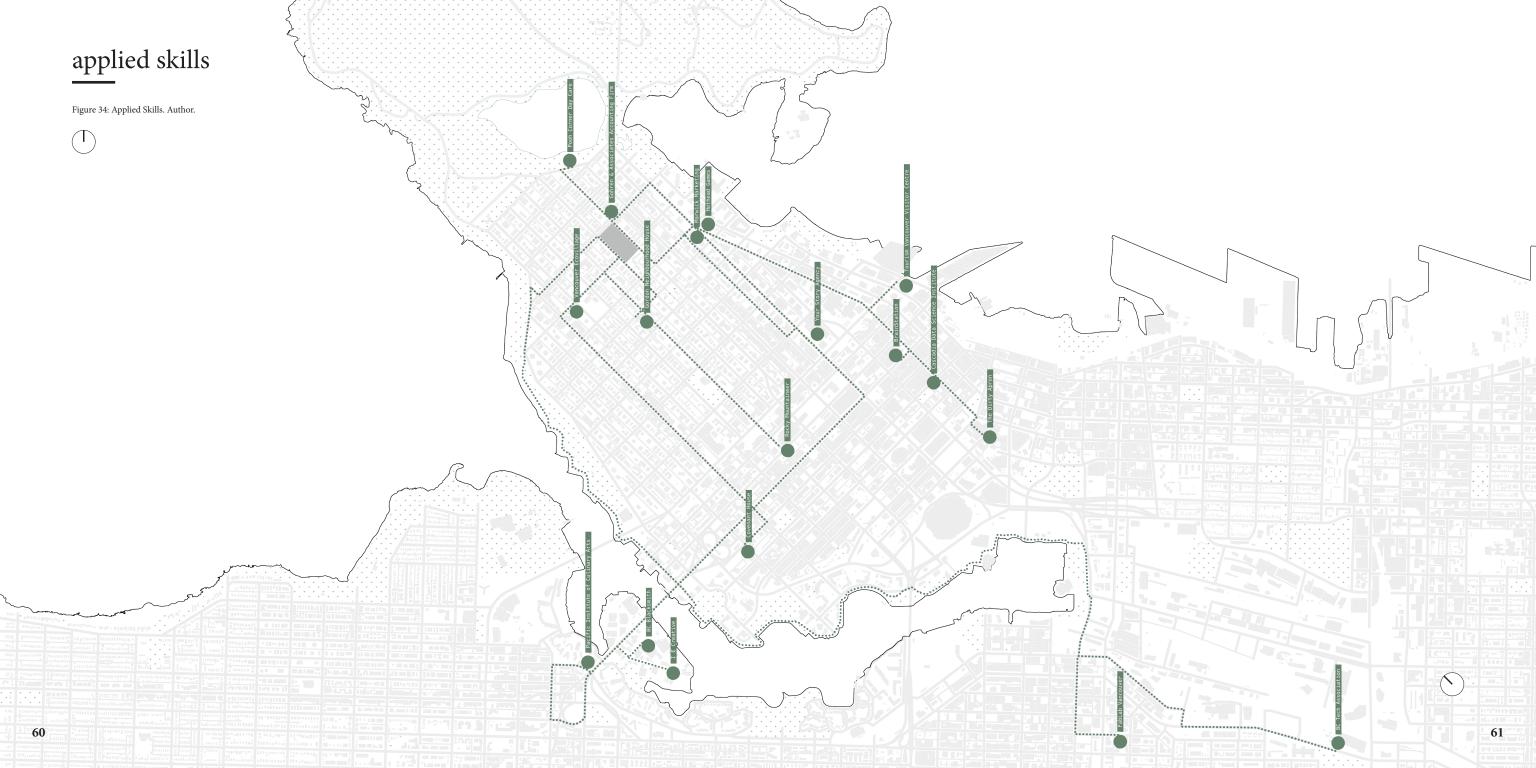
Figure 30: Place-based learning by subject and grade. Author.

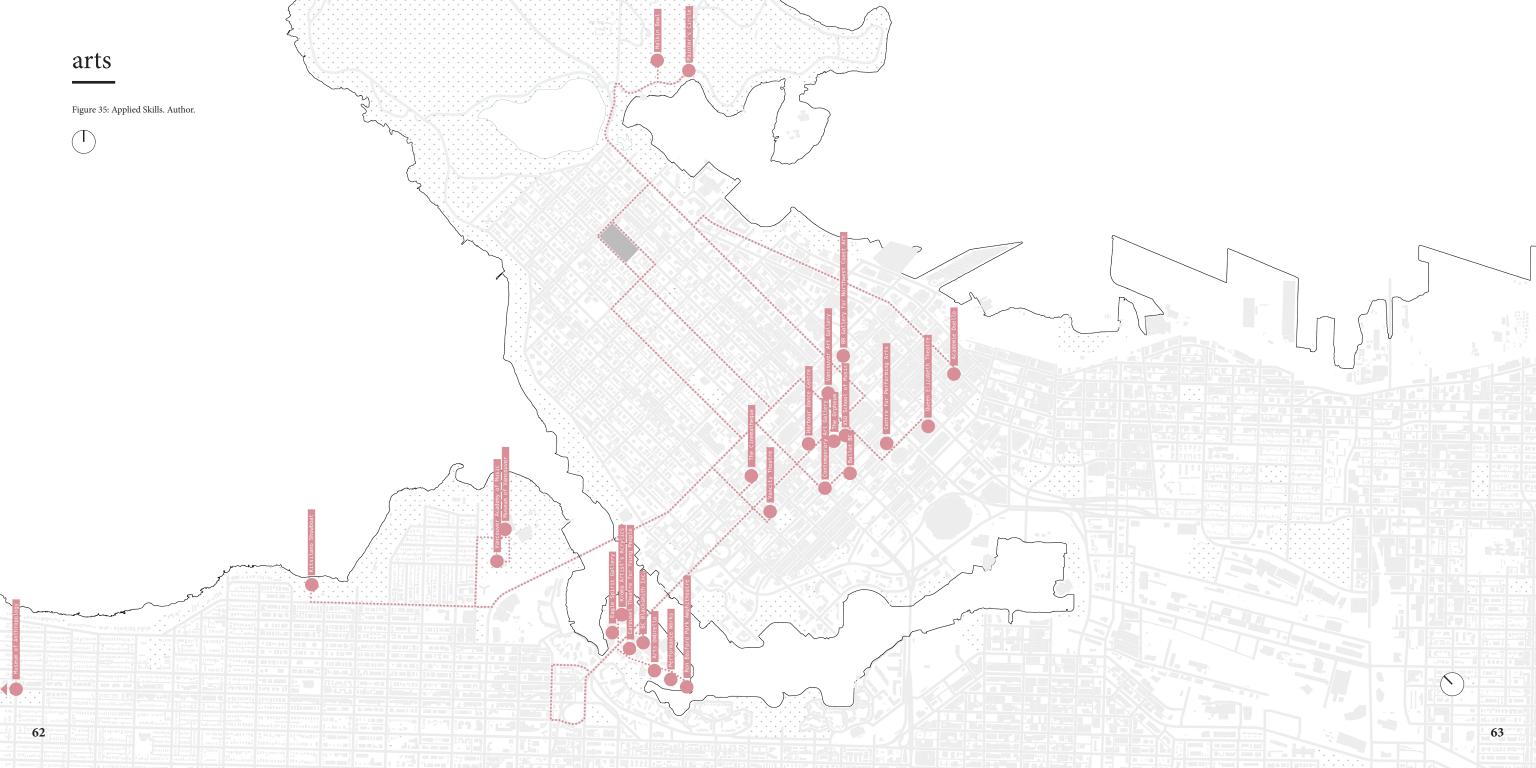
As students move up in grade level, they are able to customize their electives and schedules to spend more time within the community. The goal of this school is not to develop the perfect university applicant, but rather, to support students as they find their own path forward, developing a sense of ownership and responsibility through these choices. Students spend between a quarter to half of their time outside of the school, attending classes in-city with community partners, meeting up with mentors, or working or volunteering within local institutions or businesses.









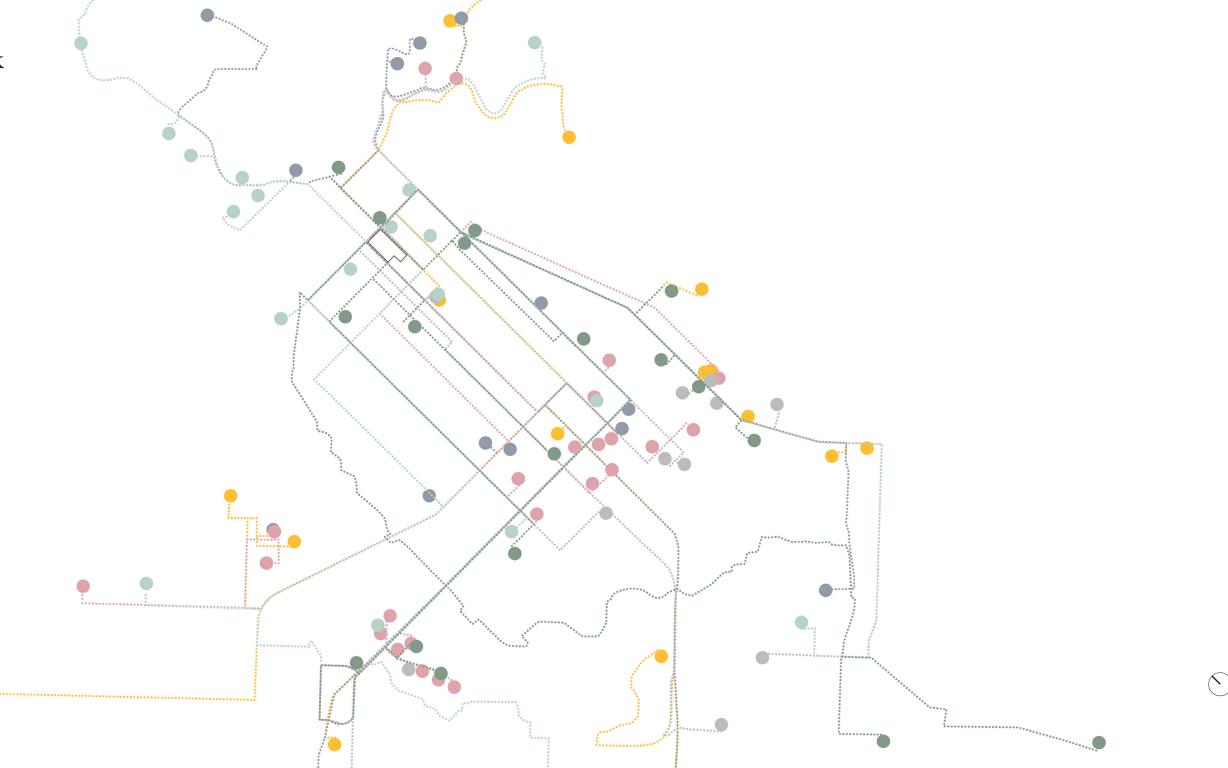




school network

Figure 37: School network. Author.

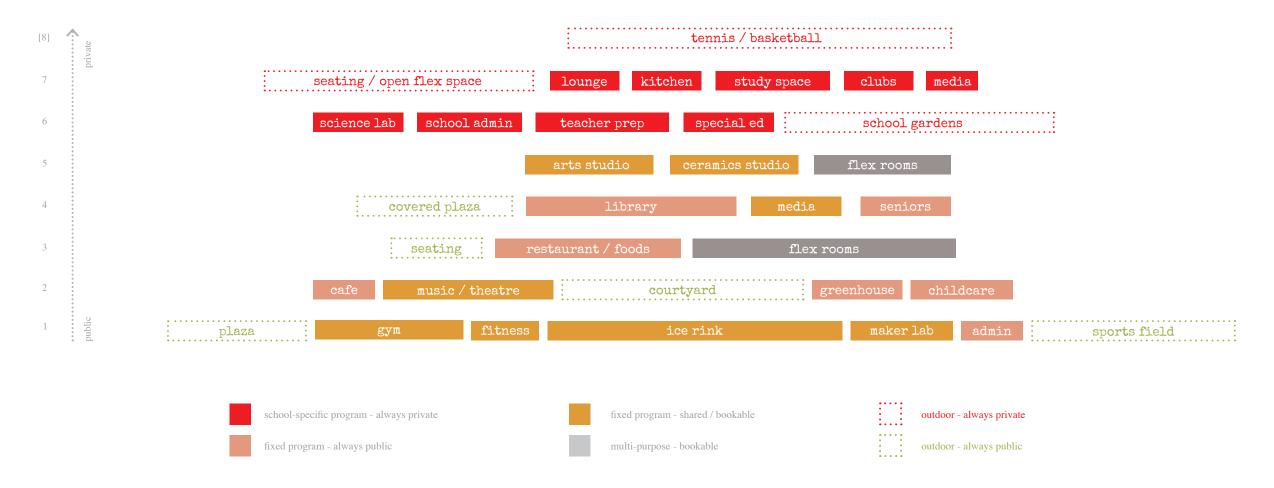




program

Figure 38: Program. Author.

Public-school's programming creates a public-private gradient, placing the student, and school-specific programming, on top, both physically and symbolically. The school has priority in booking shared spaces throughout the day, while the evenings, weekends, and summers see a different balance of student-community activation. Each level is conceived of as housing a different theme, and is connected through a series of open, outdoor public spaces.



massing and form

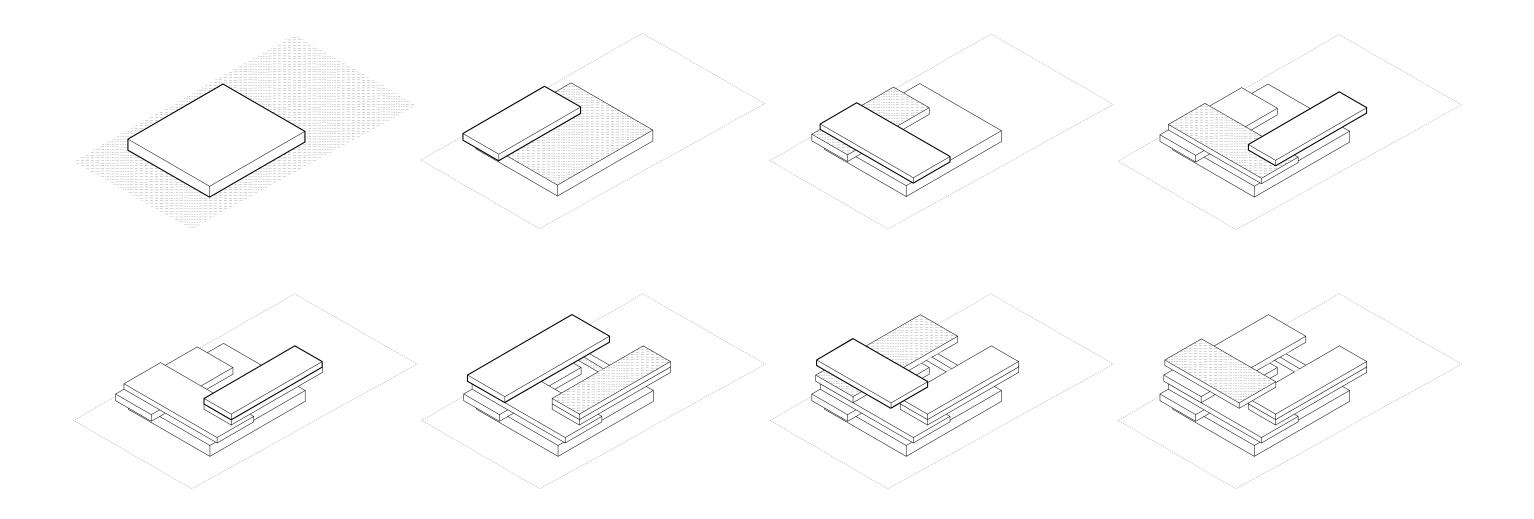


Figure 39: Massing and form. Author.

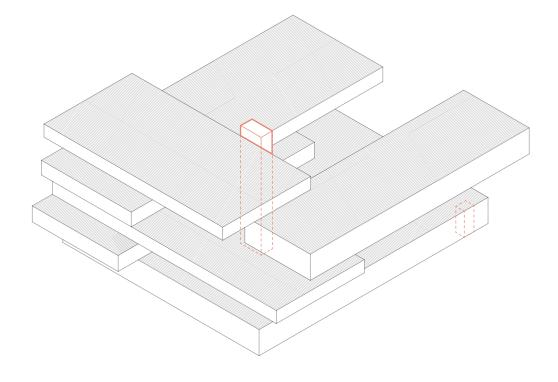


Figure 40: Elevator core. Author.

The central elevator core provides an accessible and direct way to move to all public levels, with students and school staff having their own elevator that reaches the top floors.

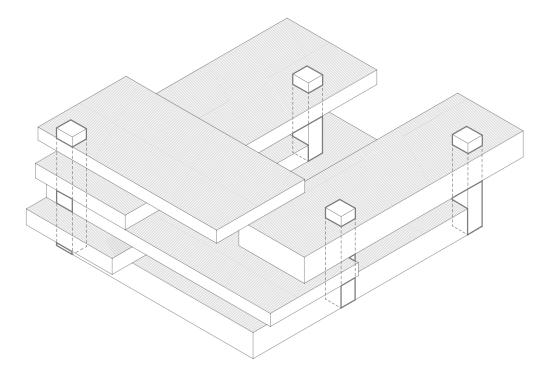


Figure 41: Exit stair. Author.

Exit stair cores are placed at key points and act as part of the building's structure.

73

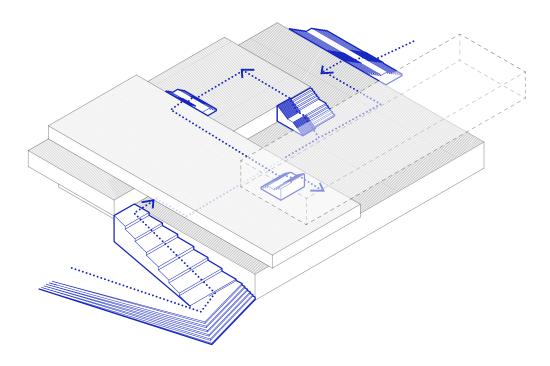


Figure 42: Public circulation. Author.

Circulation plays a critical role in the design, with the main public route comprising a series of generous exterior stairs that pull the visitor up through the public levels, acting as an extension of the sidewalk and plaza below.

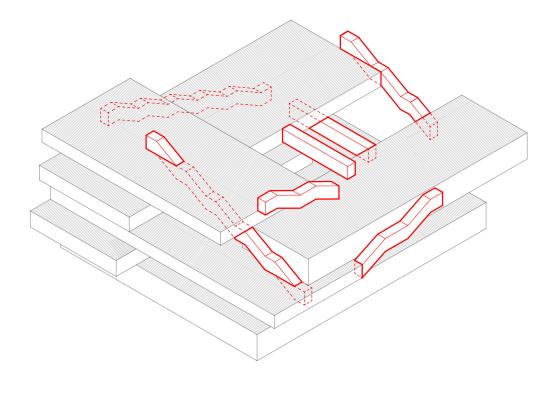


Figure 43: Student stair. Author.

As a counterpoint to the public route, students move through the building using the student stair, again, with controlled access via key card. The stair creates a web of movement, allowing students to develop a legibility about the building.

75

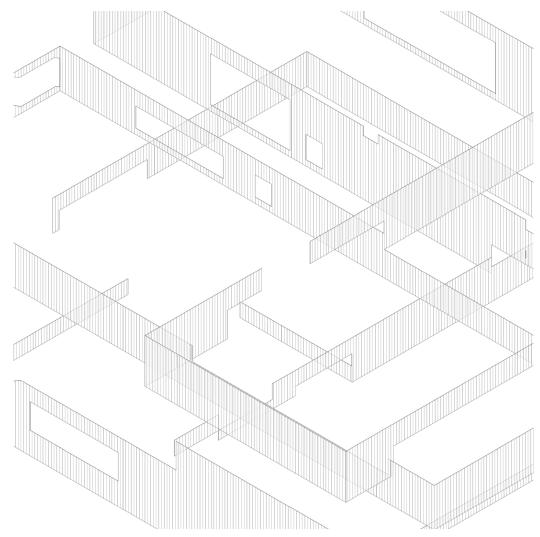
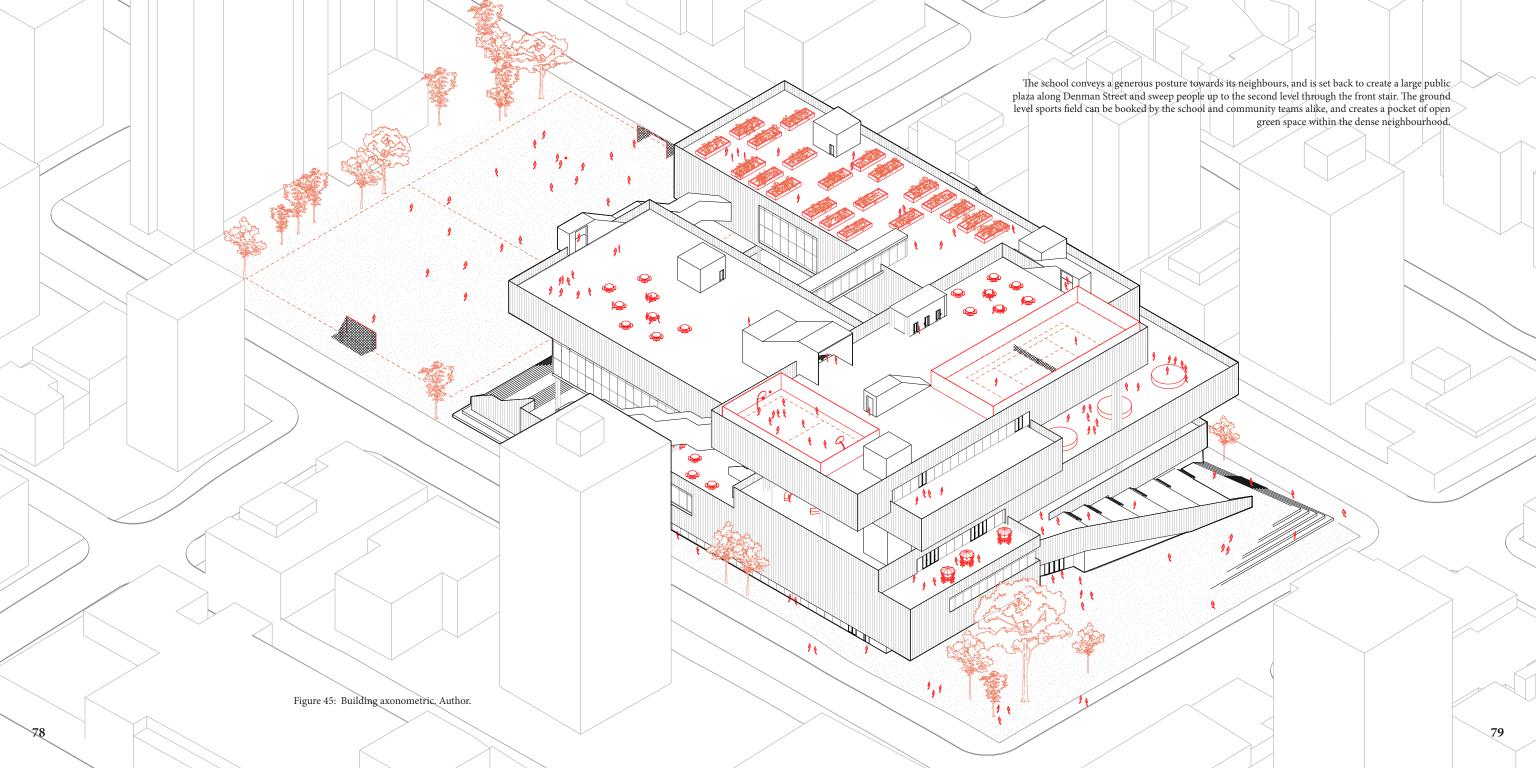


Figure 44: Transparency. Author.

To create a more open public school, the idea of transparency plays a central role in the design's development. The building is conceived of as a series of planes, making the public space an extension of the ground plane to encourage movement up throughout the building. Transparency is reinforced through a public-private gradient, from the ground plane to the secured upper student home base and school administration level, as well as organization and materiality. Different circulation routes for the public and students embed the ideas of movement and overlap between the spaces, with flexibility for learning and community activities to occur in a variety of both indoor and outdoor spaces throughout the building. The building's double-layered façade, comprised of clear polycarbonate paneling over curtain wall, plays with this notion of transparency and filtering, while creating a unique quality of light within the spaces.

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At public-school, forging ties to the community is seen as a crucial part of learning. In addition to their core and elective subjects, students participate in a flexible pass/fail 'Community Connections' course each year, where they develop their own projects centred around volunteering, to encourage community resilience within the West End. Students move around to different parts of the building during the day, are often coming and going to different in-city classes or placements depending on their schedule.

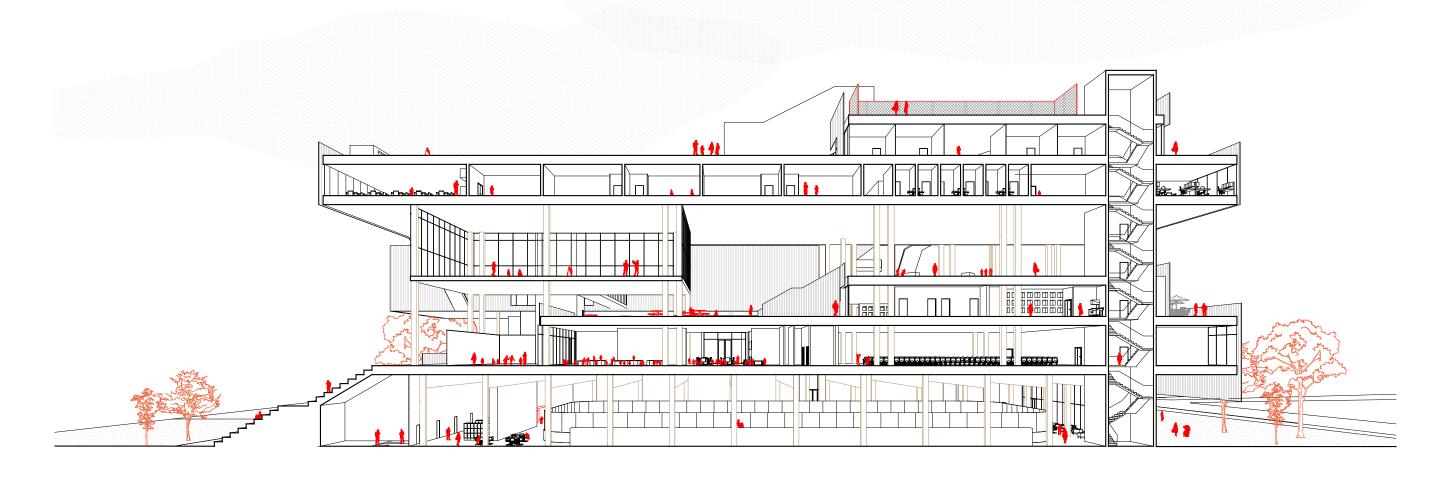
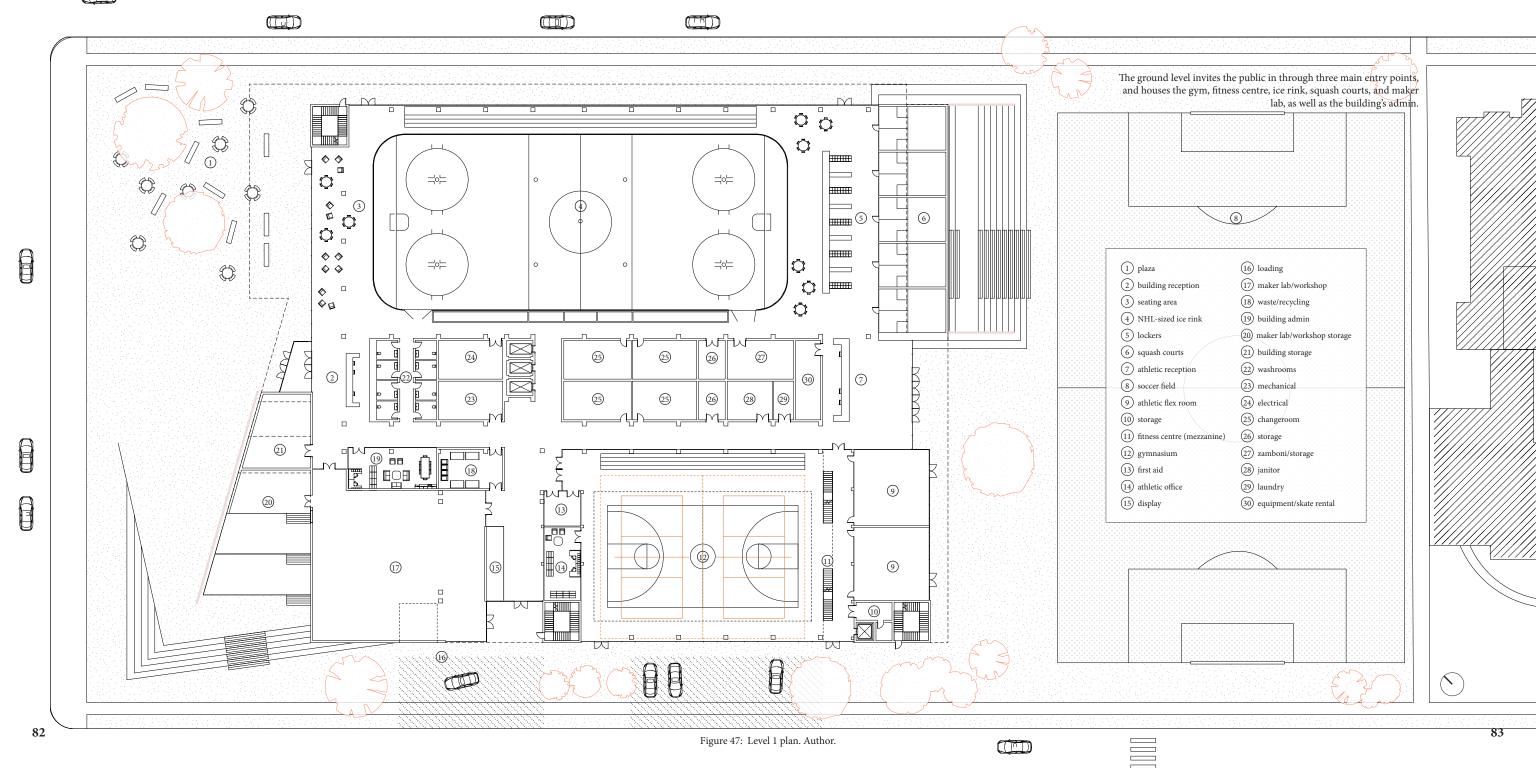
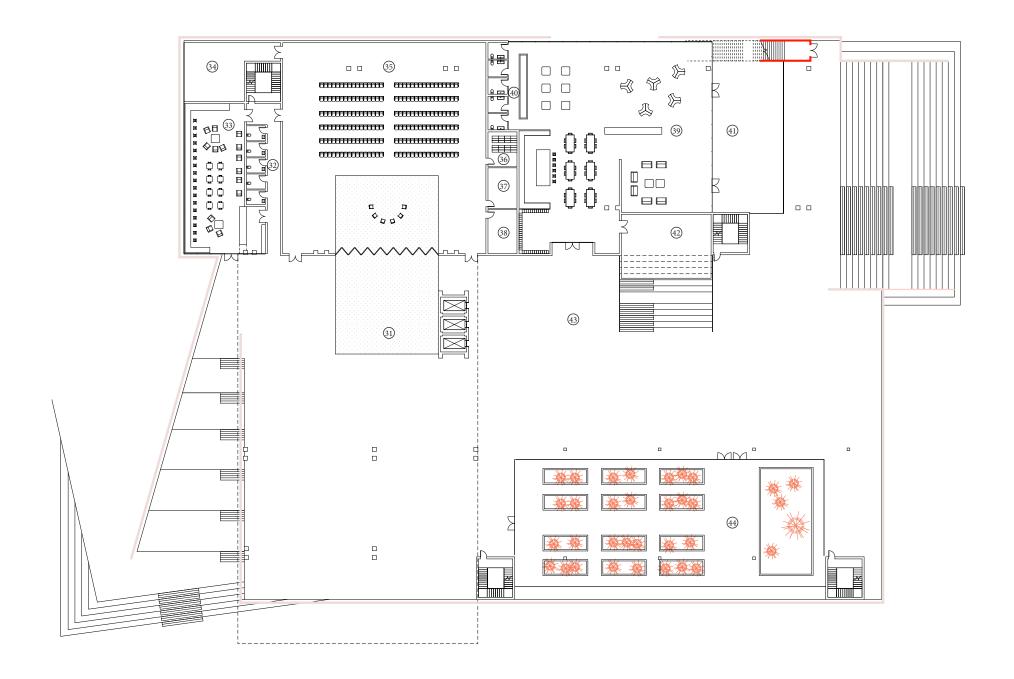


Figure 46: Building section. Author.

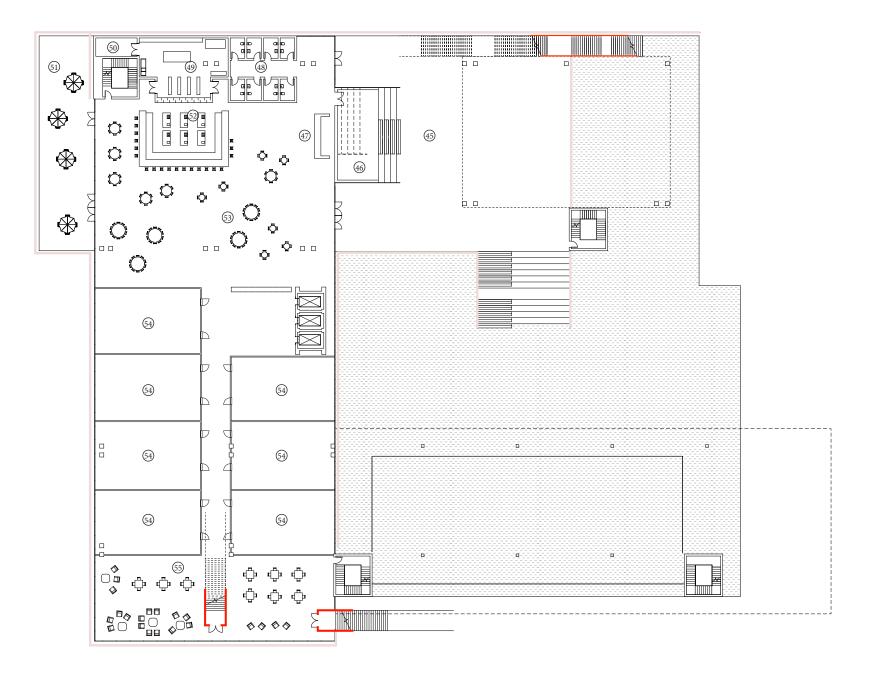




The courtyard on the second level hosts a variety of community events, and is a great place for people to meet up and grab a coffee at the café, where students often work part-time. With spillover from the theatre, childcare centre, and greenhouses, there's always some sort of activity going on.

- (31) outdoor stage
- (32) washrooms
- 33) cafe
- (34) theatre flex room
- (35) theatre
- (36) music storage
- 37) theatre storage
- (38) audio-visual
- (39) childcare centre
- 40 childcare washrooms
- (41) outdoor playspace
- 42) childcare storage
- 43) courtyard
- (44) greenhouse



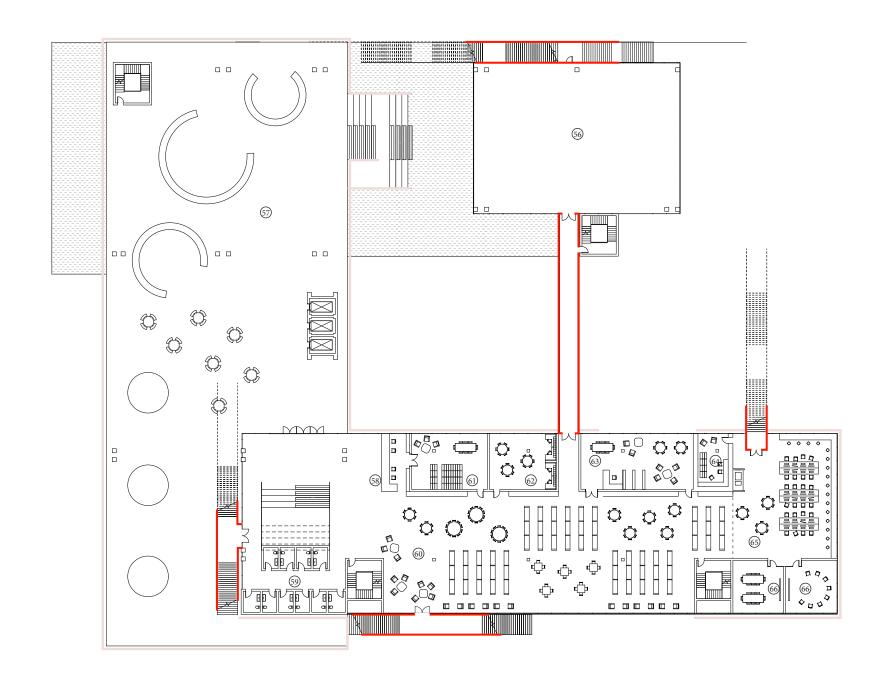


86

A floor up, the restaurant houses a rotating test-kitchen, where different emerging local chefs book out the space to try out restaurant concepts when it's not being used for student foods classes. Chefs partner with the school to provide a hands-on learning experience for students interested in the culinary arts. Multipurpose rooms can be booked for classes or community events, and the whole floor can be rented out for larger events to generate revenue for the school.

- 45) outdoor seating
- 46) storage
- 47) reception
- (48) washrooms
- 49 kitchen
- (50) kitchen mech.
- 51) outdoor patio
- 52) learning/cooking station
- (53) dining area
- (54) bookable flex rooms
- (55) lounge/study space

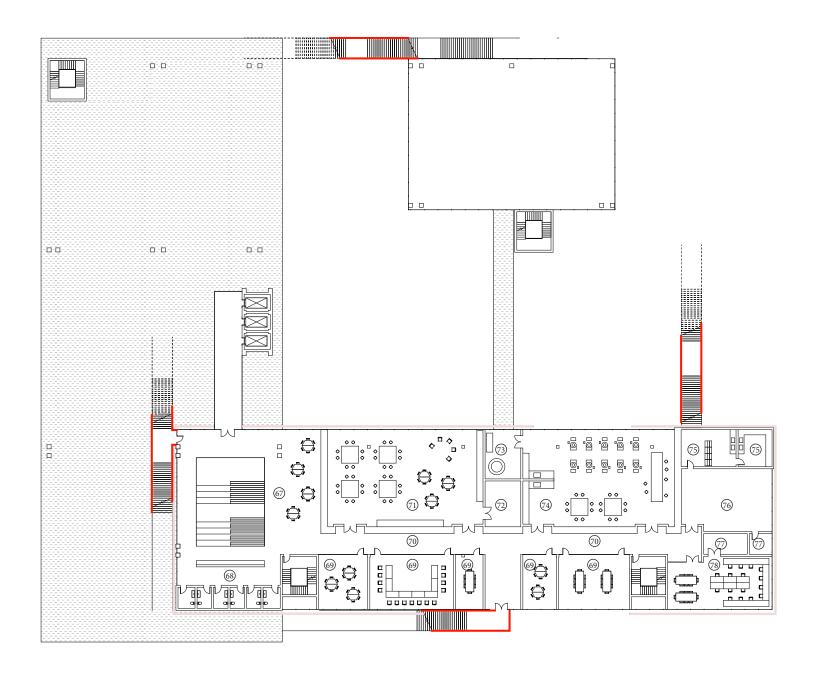




Up a level, the library functions as a partnership between the Vancouver Public Library and the school. Students come here to study, find resources for projects, or do some reading in between classes. A seniors' services centre and media lab are placed close to one another to encourage cross-disciplinary engagement.

- 56) student flex space
- (57) rooftop plaza
- (58) library front desk
- (59) washrooms
- 60) library
- (61) librarian and staff room
- 62) resource centre
- 63) seniors' services
- 64) recording studio
- (65) media centre
- (66) bookable media rooms





Above the library, the fifth floor is bursting with creativity, and houses a ceramics studio, art studio, photography lab and dark room, and a textiles room, complete with sewing machines for evening drop-in use.



(68) washrooms

69) bookable arts flex space

70) display

(71) arts studio

72) arts storage

(73) kiln room

(74) ceramics studio

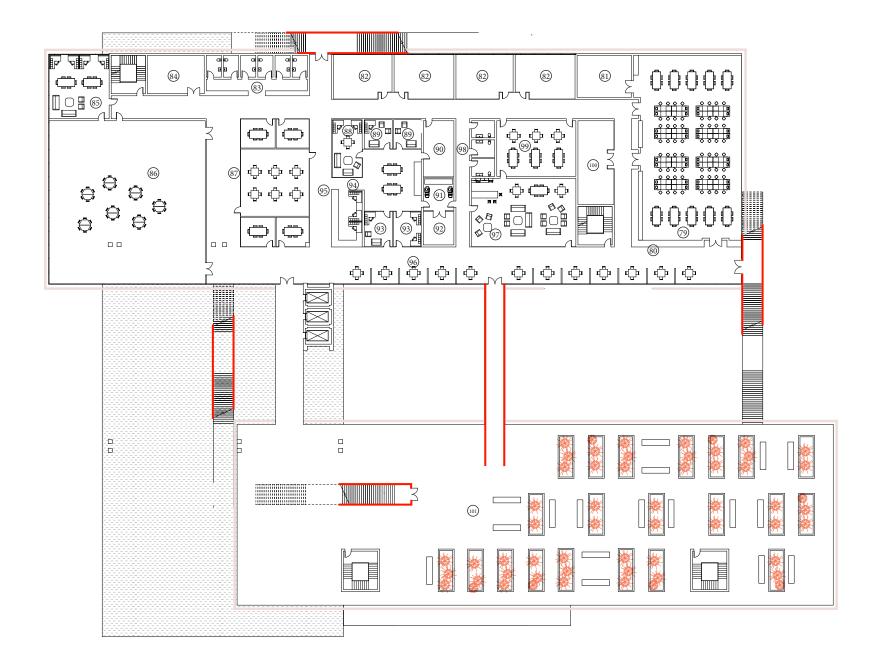
75) photography/dark room

(76) digital media

(77) storage

(78) sewing/textiles

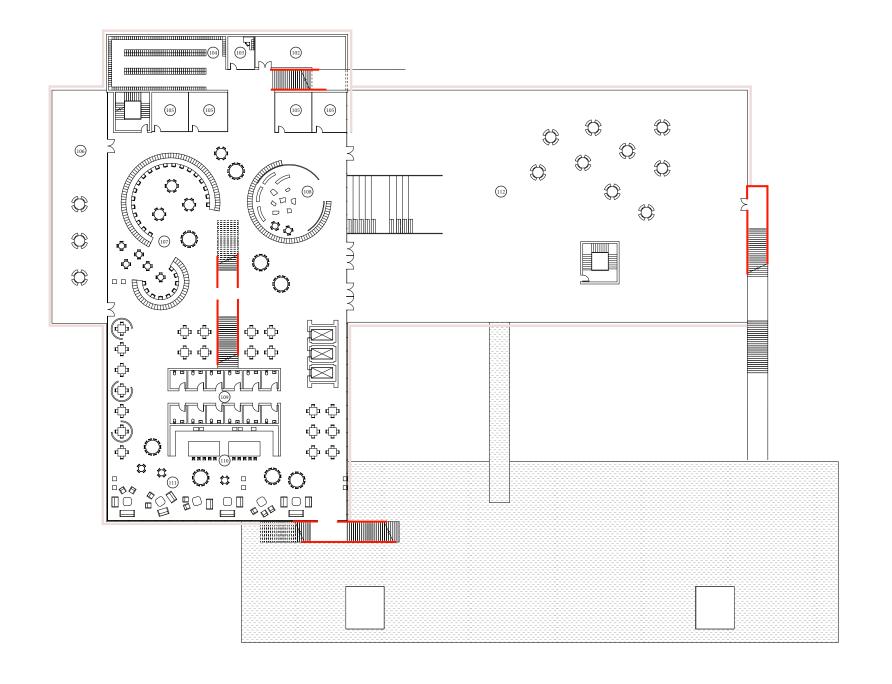




The sixth floor is secured for students, teachers, and administration, and houses necessary school-specific functions including a science lab, although the majority of science classes are taught outdoors or off-site with community partners.

79) science lab	91) copy room
80 display	92) storage
81) science storage	93) administrators
82) teachers' offices	94) kitchen
(83) washrooms	95) reception
84) mech/jan	96) study/work space
85) support staff	97) teachers' lounge
86) special education	98) teachers' washrooms
87) bookable rooms	99) bookable room
88) group counselling	(100) teachers' office
89) one-to-one counselling	101) rooftop garden
90 health/first-aid	

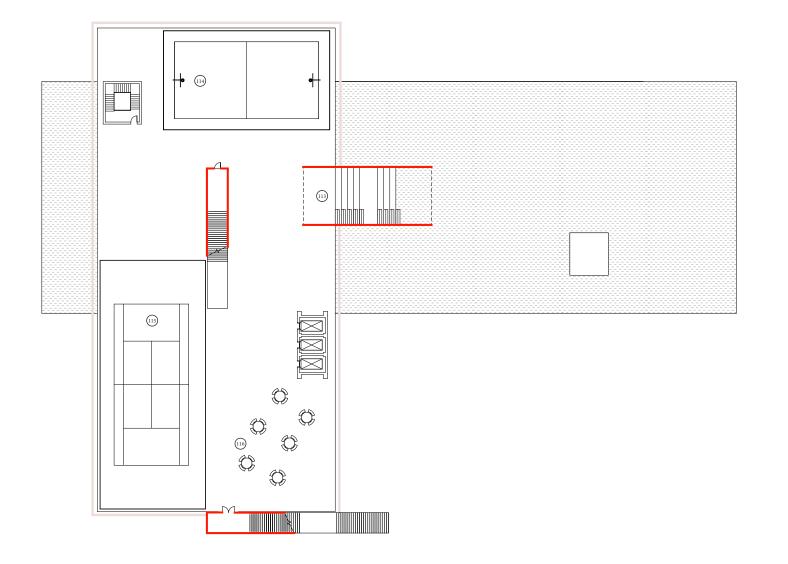




The top floor houses the Student Studio – a 'home base' for students to study, store their belongings, print out projects, and make fresh lunches. A studio monitor keeps an eye on things and helps the students with anything they need throughout the day.

102) storage
studio monitor/office
lockers
student club rooms
outdoor patio
student media centre
projector
washrooms
kitchen
lounge/workspace
(112) roof





Above the Studio, students can unwind and play a pick-up game of basketball or tennis.

(113) covered lecture space

114 basketball court

(115) tennis court

116 rooftop seating





Figure 55: Vignette #1 - Stanley Park Ecology Society. Author.

Students often spend at least a quarter of their time away from the school, with lessons taking place on location with community partners. Here, Mae and her science group are testing water samples at the Stanley Park Ecology Society - a 20-minute walk away from the school. After this morning's lesson, they'll grab a snack from a nearby bakery on their walk back for afternoon math class. If the weather holds up, their math teacher has planned on holding the lecture outdoors on one of the school's open rooftop plazas.



Figure 56: Vignette #2 - Front plaza. Author.

Every Saturday morning, the front plaza hosts a community farmers' and craft market. Alice is here looking to buy some apples, and meets a local farmer who works with students to cultivate a variety of vegetables in the greenhouse, which are used in the restaurant by local chefs. Alice makes a mental note to herself to go check it out sometime.

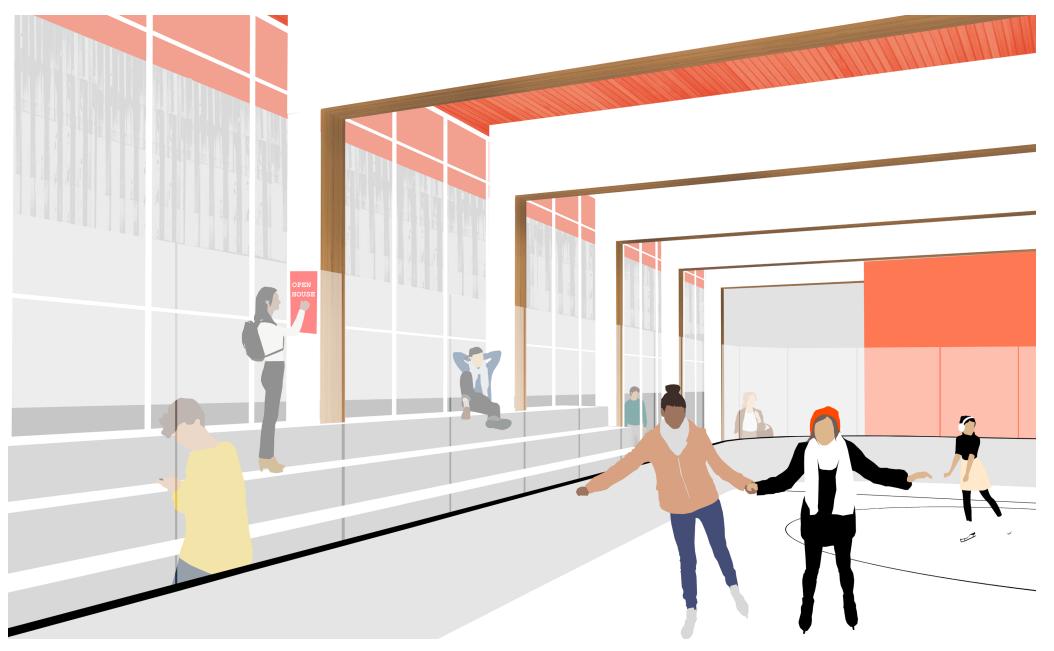


Figure 57: Vignette #3 - Ice rink. Author.

Today, Mae is putting posters up for the school's annual Open House later this week, which encourages new people to come explore the building's amenities and programs. She decides to start at the ice rink because it's a high traffic area for both students and the public, especially when it gets booked out for team hockey. She quickly says hi to her friends, Sam and Elia, who are using their extended break to practice skating during the open public drop-in hours.

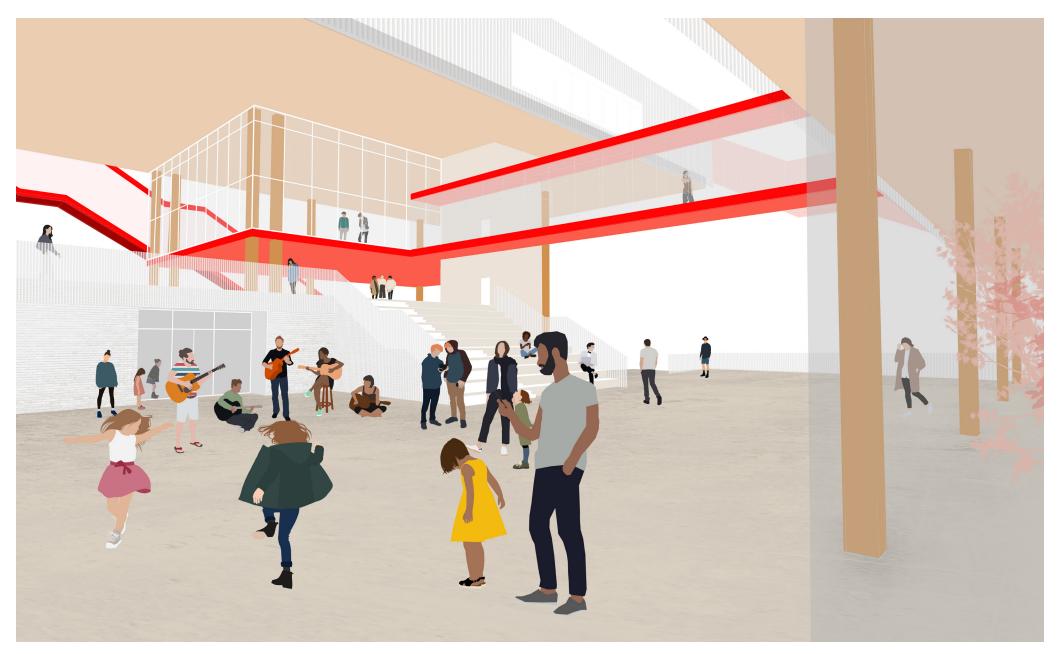


Figure 58: Vignette #4 - Atruim. Author.

On the second level, a community guitar group meets up every week after work. Students interested in learning guitar often drop by to get some pointers. Raj has just picked his daughter up from the childcare centre, and watches in delight as she starts dancing to the music with a few other children.

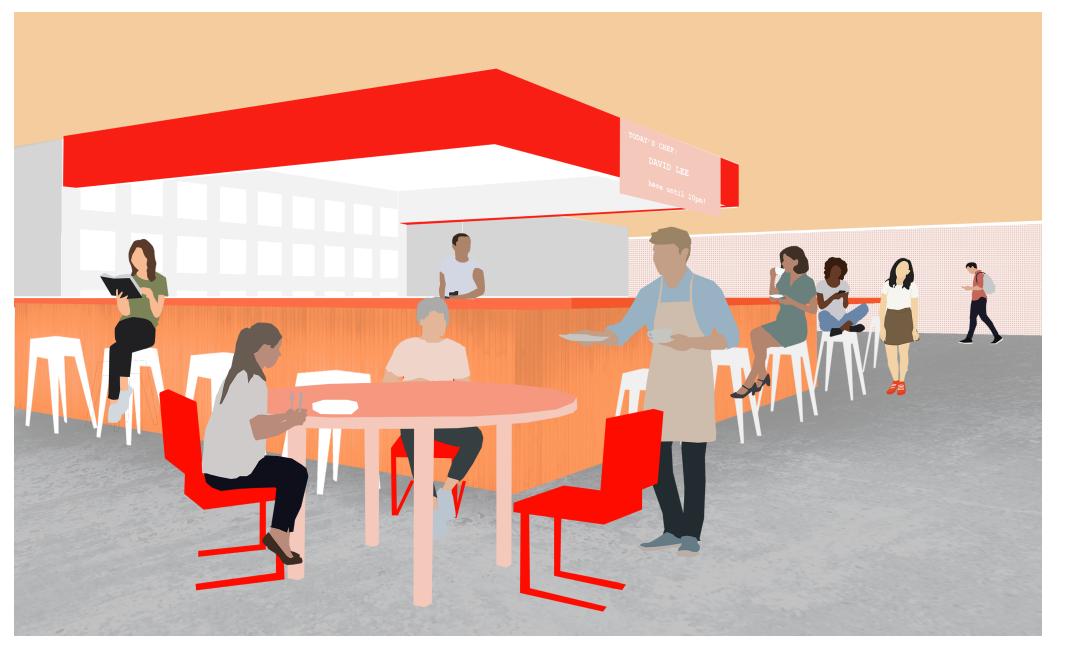


Figure 59: Vignette #5 - Restaurant. Author.

Alice has decided to try out the restaurant today, as the local chef is serving lasagna – one of her favourite dishes. She meets up with a local mentor who she met during the school's drop-in sewing class.



Figure 60: Vignette #6 - Library entrance. Author.

As part of her leadership club, Mae also helps coordinate events for the school, including the school's annual Open House. She and her team arrive at the library entrance, which is always filled with people enjoying the view from the covered rooftop.

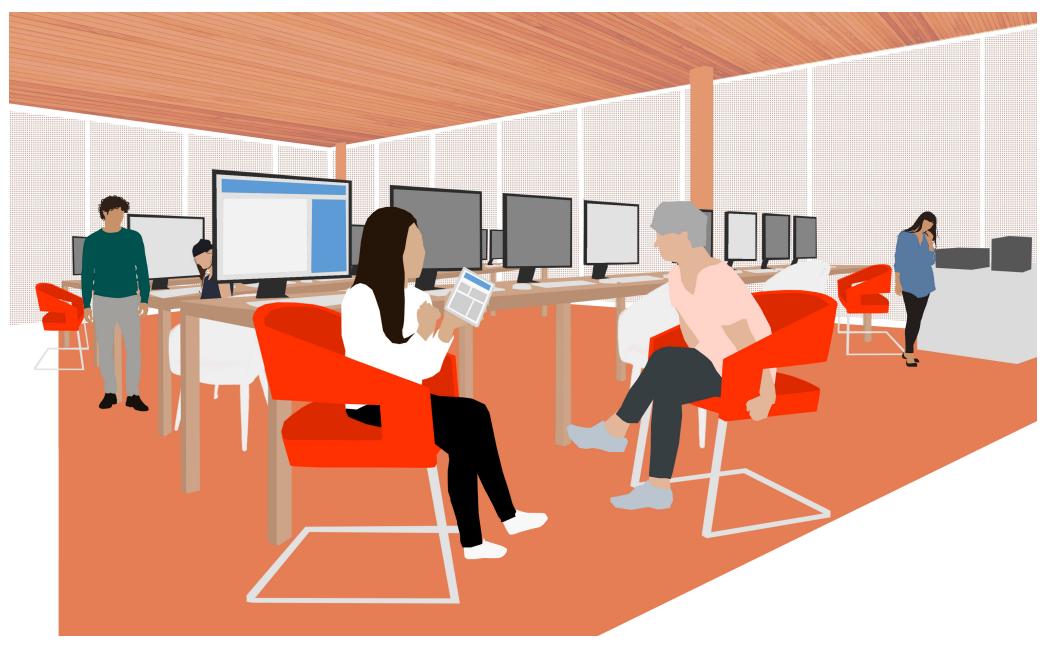


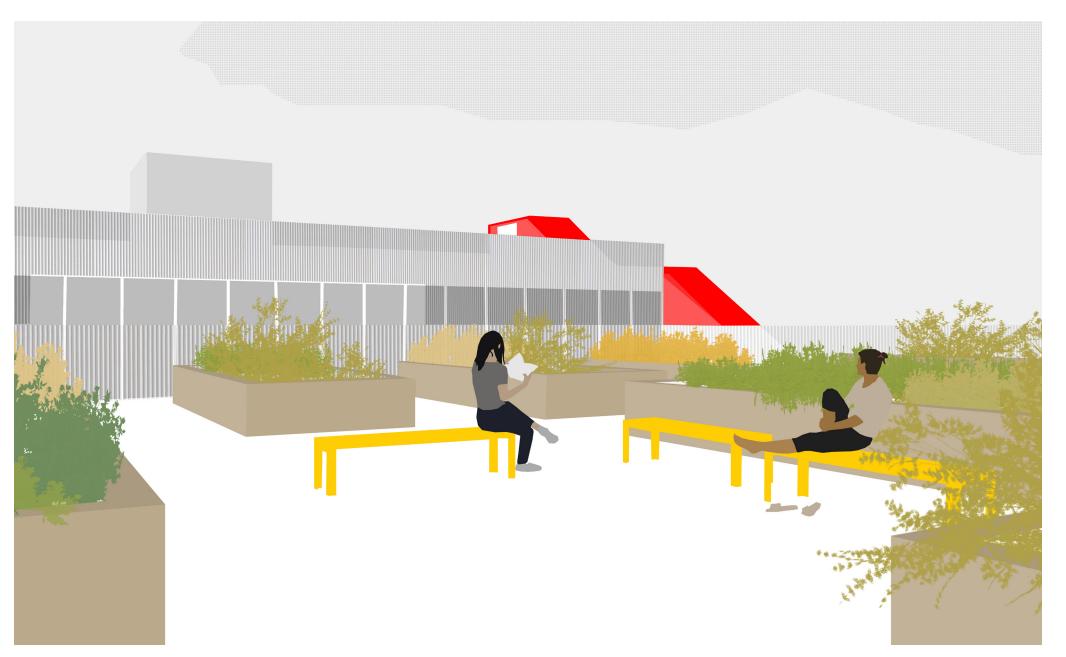
Figure 61: Vignette #7 - Media lab. Author.

Mae also volunteers as part of her Community Connections class to help seniors increase their digital literacy skills, and has partnership with the seniors' services centre to identify the need. Here, she's met up with Alice to help demonstrate how to download and print pictures of her grandchildren from her iPad.



Figure 62: Vignette #8 - Student stair. Author.

Students have their own routes that weave their way throughout the building, instilling a sense of security and ownership over the space. Here, students are meandering up to their ceramics class from the library after taking advantage of the school's drop-in tutoring sessions – their English teacher was super helpful and always has great reading suggestions.



Across the sixth-level walkway, the school's rooftop gardens are used for a variety of lessons (including physical and health education, foods, and life sciences), student gathering space, or just a nice place to unwind.

Here, Mae is taking a moment to do some reading for her English class. She enjoys having the option to retreat up into the building, and the garden is her favourite spot to study. She also loves grabbing fresh parsley for lunch when it's in season.

Figure 63: Vignette #9 - Student gardens. Author.

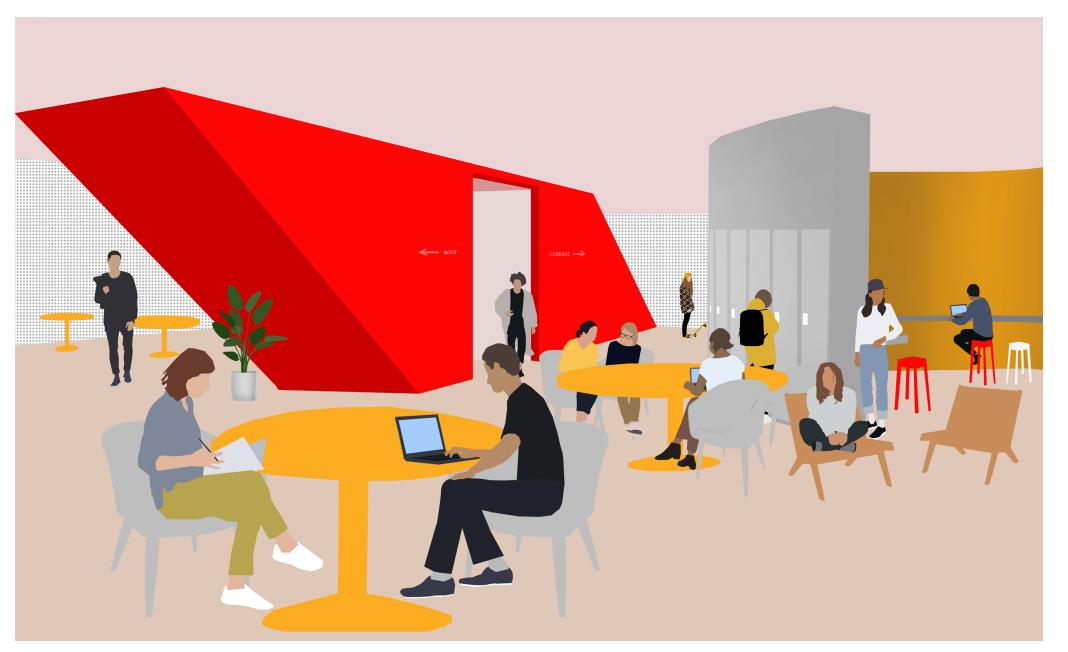


Figure 64: Vignette #10 - Student studio. Author.

While students are able to access and use any of public-school's floors, this studio is solely for them. Because they spend so much time out in the city and have more flexible project-based classes, this is a great space to run into a friend from a different grade or meet up to work on a project. It also reinforces the idea that learning doesn't need to happen solely in the rigid classroom – students are given more autonomy and choice to craft their own schedules and adapt their workflow to a learning style that suits their needs.

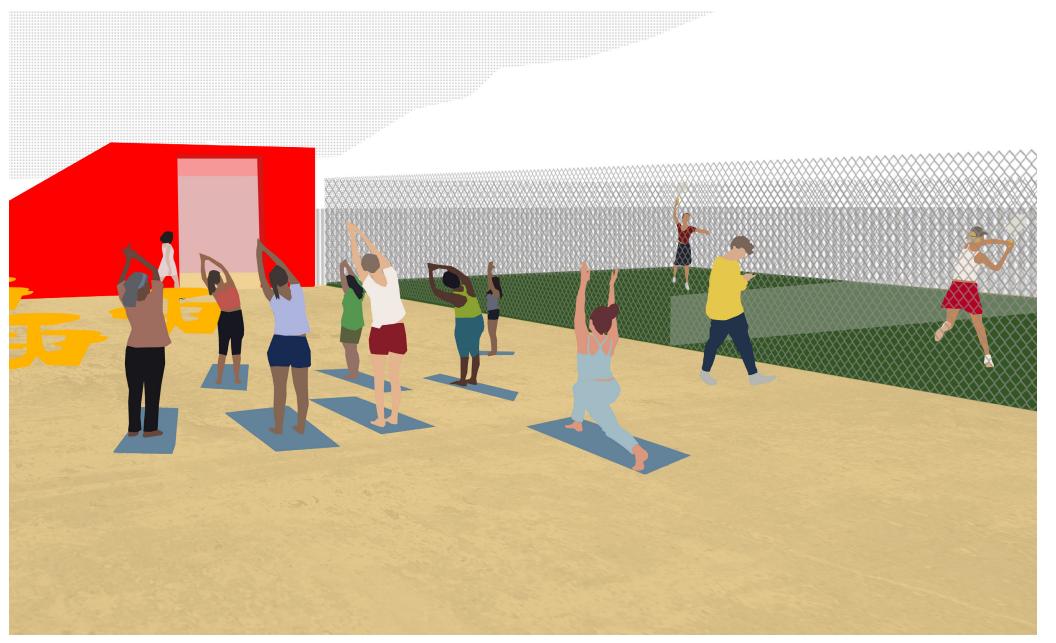


Figure 65: Vignette #11 - Rooftop yoga. Author.

The student wellness club organizes Wednesday morning yoga, which is a great way to start the day looking out over the city. After morning exercise, it's a perfect time to grab a tea or coffee on the second-level cafe. Students often plan meet-ups with their career mentors there.

In the summer, when school's out, the rooftop spaces are able to be booked by the public for different games or events, with access through the elevators.





















Figure 66: Composition. Author.

afterword

This thesis began by questioning the role of the public school as an institution and ultimately wove its way to the project's core: spatializing human connection through design. Here, empathy and learning are one-in-the-same, brought together through a new characterization of the school. This project highlights the need for greater consideration of the power and potentials of our public institutions.

The review prompted a great discussion about the project's position on the need increased residential density within the West End, which was deeply considered at the start of the term, but ultimately, I chose to focus in greater depth on the interplay between the core programs - the school and the community centre. Moving forward, the posture toward public space developed in this project would be interesting to apply in a higher density urban context, incorporating housing and commercial uses with education. What does the school as an integrated community village look like? How does (or should) the public nature of the project shift to incorporate self-sustaining financial viability within our current economic framework?

Can truly public space exist?

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