

COMMUNITY BUILDING - research essay

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The steel design competition for Assembling Housing provided a canvas to explore our interests in both local and global opportunities. Exposing ourselves to the city we live in, local issues became increasingly apparent, and the competition thus became more exciting. We had previous experience with kit of parts systems that we further focused on in the proposal, combining our interests in community and infrastructure. Our research consisted equally of architectural precedents and contextual discoveries; we did as much walking as we did reading. And with ideas formulating from our surroundings, we found answers and solutions in the precedents we read.

Vancouver's lack of affordable housing is an increasing problem particularly in its downtown core. Students, young professionals, and service workers are pushed further out to the periphery while the downtown becomes more gentrified. As the city continues to approve high-end towers, and available land becomes increasingly scarce, the cost to buy rises by the square foot. Thus, there is a ripe demand for compact and affordable options in the city center. However, the larger issue here is not merely the availability of affordable housing, but its balance within the urban context. Downtown Vancouver clearly divided into neighborhoods, each concentrated with a single economic class. Areas like Yaletown and Coal Harbor are so exclusive they've become inaccessible. While other areas like East Hastings are overwhelmed with a homeless, low-income, and drug addicted population.



Yaletown Marina



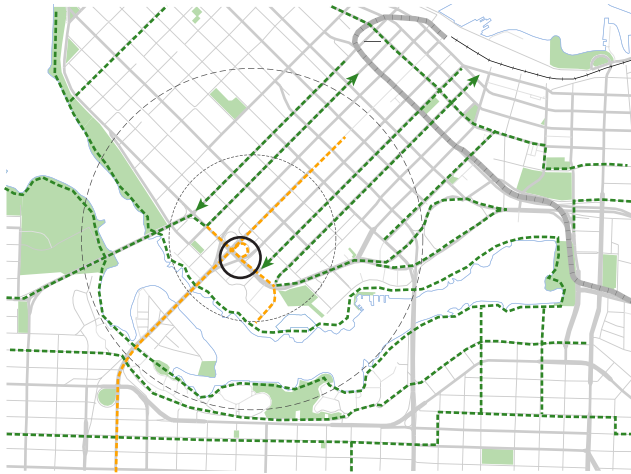
East Hastings - abandoned storefronts and homeless crowds

The city's attempt to clean up the downtown has centralized low-income housing and assistance to one location. While mapping these non-market housing blocks, we were surprised to find as many as we did. This observation emphasized that availability is not the only issue here, but that concentrating the problem is actually sustaining it. Our proposal therefore focused on breaking apart these pocket demographics and forming a new mixed community that could potentially support economic and social opportunities for its residents. The design would negotiate between a system of individual customization and an emphasis on community.

Community in this sense acts not only as a social tool, but also as a major sustainable principle. Over time, globalization and technology have allowed us to make further connections, importing, exporting, and traveling (broadening the footprint of every individual). The consequences of this are surfacing. Look for example at the recent media coverage on Air Canada. Due partially to rising fuel prices, the airline is making major cutbacks in its level of service. Relevant specifically to us, direct service to Rome is being cancelled this fall. Our global connections will slowly be cut, and the need for local networks will rise. The proposal aimed to lessen each resident's environmental footprint by providing strong communities and resources right at home; the primary focus of this network being on food production.

This focus begins at the level of the urban site as an extension of the Granville Island Market. The intersection of Granville and Pacific was chosen for its underutilized potential as a prominent hub. It is a gateway to downtown, a meeting place between west and east, and is surrounded by several layers of infrastructure that provide multiple street faces and access points. Research for the urban design began on foot and commenced in mapping surrounding amenities, pedestrian and vehicular traffic, and demographic studies. We found that the existing building was a social housing block for low-income singles, and the remainder of the site was overflow parking for a nearby Toyota dealership. The site also currently sat as an island, isolated by infrastructure and breaking any pedestrian links between Pacific and Granville. We decided that the very obstructions causing this disconnect could create new connections. Dave's previous term research on infrastructural transects laid a foundation for our understanding of the site's potential.

----- existing designated bike route
----- proposed designated bike route

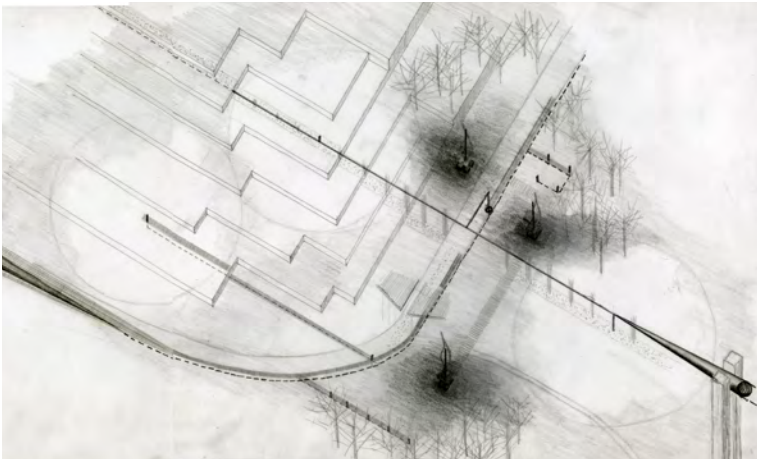


The major urban moves included: creating a pedestrian catch basin at the tip of Granville that re-circulated them back down Granville or on to Pacific; creating a large market plaza on Pacific that borrowed shelter from the bridge and building; and expanding the off-ramp between the two streets into a pedestrian boardwalk and terraced garden plots. The gesture began as a monolithic ramped green space over extensive parking levels below. The final proposal was inspired by rice paddy formations as a way of dividing the ramp into useable parcels of growing space, sloping towards the south light. These plots are community allotment gardens and are part of the design's network of growing spaces. These community gestures are, as previously mentioned, in balance with a focus on the individual.

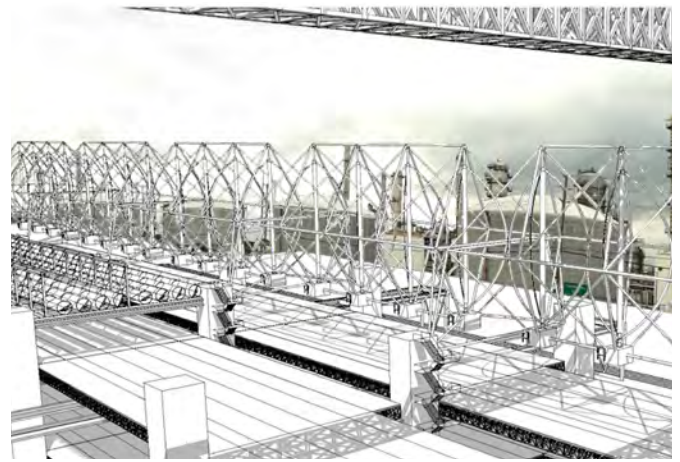


off ramp around site - grade change to be terraced

Before we even started the building, we were designing a unit system to accommodate diverse individuals. By providing only for specific needs and flushing the unit of excess, customization could actually allow further space and resources for communal amenities. Focus on the individual thus benefits the collective. We researched current proposals in Vancouver for both high-end and low-income housing and found that square footage is scarce across the board. Units are getting smaller as the cost per square foot rises. However amid this fact, efficiency is not yet a driving design factor and the usability of space is sacrificed. In our proposal, units provide necessities while increased shared space allows for more usable amenities. The personalization and efficiency of the units work as a kit of parts, furthering an exploration both of us began in previous projects. In his 3B project, Infrastructural Transects, Dave and his partner proposed a system of interchangeable components for circulation, chemical re-claiming, and green energy, to plug into major highways and bridges. In 2B I proposed a community garden center not as a building, but as an infrastructural park and kit of parts to be grown over time. The park would trigger community involvement by laying foundations and services, and providing components for continuous change and development. Both projects were indeterminate, suggesting not an end but a flexible system.



water + power connections + foundations, Lindsey Nette



wind energy modules, David Schellinghouth

In the competition these ideas were applied as a fragmented pre-fabrication system that could accommodate varying individual needs. The pieces plug into the unit shell and building systems, each piece added or removed independently in the unit. The unit is therefore able to change with its occupant's needs. Each piece has been designed with efficiency and quality of space in mind. The C-1 House by Milligram Studio was a precedent for minimalism and the feeling we hoped to portray in our units. We drew from it solutions for compact functions and clean open space. It segmented a long footprint into consecutive functional bars with clear spaces between; our design ran two bars of plug-in functions along the sides and left open space down the center.



C-1 House, Living room module



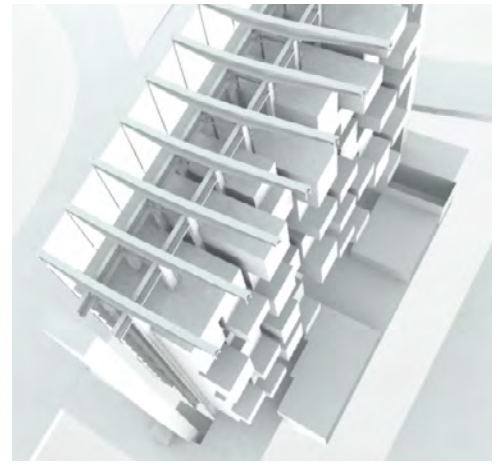
unit design, bed folded out

The independent nature of the plug-ins also opens a network of selling and trading unit parts, returning again to the community emphasis existing among individual expression. The kit of parts then spreads beyond the unit into the greater community and building. The super structure would support each sealed unit independently, providing an indeterminate composition of unit types for changing demographics in Vancouver.

With this primary goal in mind, we found solutions through a few innovative architectural projects as well as a very characteristic and more typical element of the Vancouver skyline: the crane structure. With development for the Olympics, Vancouver is saturated with construction sites that each begins by digging foundations and erecting a crane. The crane is temporary and the building is intended to be permanent. However, for our proposal, the crane acts as the permanent element in the structure. The Biblioteca Jose Vasconcelos in Mexico served as an effective precedent for the load take down in the building. In this example, large concrete arches hung the library stacks from the center and transferred the compressive load to the edges. The Community Building acts instead with the compressive forces coming down the center, opening up the facades and supporting them in tension from the cranes above. Units are on one side and corridor on the other, with cable connecting them across the cranes and centering the load. With the footprint narrowed to a single colonnade, the market becomes very open; and with the crane structures on the roof we could create a unique and partially sheltered roof deck.



Biblioteca Jose Vasconcelos - books hover over public space

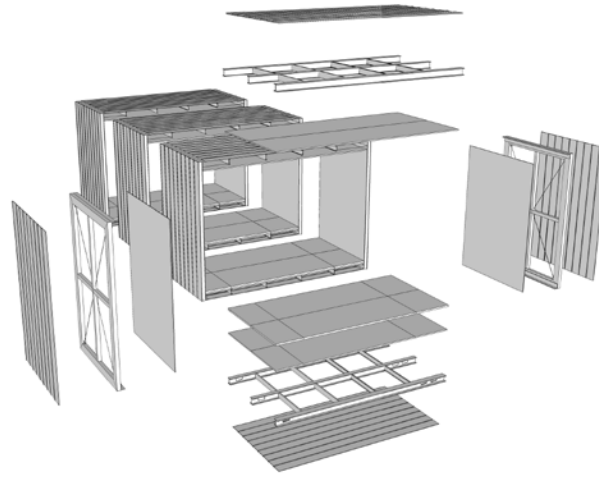


Community building - Cranes suspending unit blocks

The support provided by the cranes was crucial to allowing a range of unit lengths. The units could then cantilever from their connection off the cables, and hang independently as desired. A doctors office by Akira Yoneda provided a solution for our units as sealed rigid boxes; we followed a similar panel system so that each unit could be extended in modular lengths.



Akira Yoneda's cantilever structure



Community Building - pre-fab unit structure

The textured façade of these unit lengths, in contrast with the smooth and transparent façade of the corridor was the resulting aesthetic. These facades addressed the specific context each faced, acting dynamically as one could experience the building from 360 degrees (an unusual and beneficial situation in an urban context). Any attempts at a

distinct building form were abandoned early on in the project as we simplified to a single loaded exterior corridor to allow through units. The Community building was flushed of excess as its units were, and laid out with the inspiration of a social housing project we came across: the Gifu Kitagata apartments in Japan by Kazuyo Sejima and associates. The precedent was bright and airy, simple yet elegant, transparent and thin. Amid complex units, our building plan is simple so that it can emphasize the communal and agricultural spaces important to the proposal.

Gifu Kitagata apartments



Community Building - West and East facades



We studied a number of examples of urban agriculture and networks of green space. Atelier SOA's project, La Tour Vivante "was conceived as an autonomous ecological machine". Its spiral of greenhouses actually links spaces continuously, precisely defining a network of growing spaces. This is only one of many examples of urban agriculture. Housing + Food is emerging as a new building type. One of the winning entries for Living Steel's 2nd International Architectural Competition for sustainable housing was "Agro-housing" by Knafo Klimmor. The entry was for China, and explained that urbanization was causing the loss of agricultural routes. It hoped to combine agriculture and housing.



La Tour Vivante, Atelier SOA



Agro-housing, Knafo Klimmor

This idea is becoming increasingly relevant all over the world. With food crises and fuel prices, growing food at home presents not only a return to cultural routes, but allows residents to live more independently. The Community building provides a network of agricultural spaces from the terraces for surrounding community, to the restaurant's private garden, up through the greenhouses and roof. All greenspace dominates the south façade, and are connected vertically by water flow, and culturally by the ground level market. The market presents an opportunity for community to trade, supporting local and urban farmers. The community building encourages networks between residents with specific individual needs; it aims to self-sustain a diverse make up of people.

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Lindsey Nette and David Schellingerhoudt, University of Waterloo student work, terms 2B and 3B