

**A SHARED WATERFRONT:  
INSTILLING PUBLIC SPACE BACK  
INTO HAMILTON'S INDUSTRIAL PORT**

by

Connor Boyd Clark

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## **ABSTRACT**

Cities and waterfronts have historically been closely tied through public and private amenities offered in connection to water. Industrial expansion has created an imbalance of public life at the waterfront, eliminating recreation and disconnecting cities from this culturally important land. In Hamilton, Ontario, strong divides are created between public and industrial spaces which are detrimental to a shared waterfront experience.

This thesis questions division as a design method on the waterfront, reconnecting across harsh thresholds in Hamilton's industrial harbour through public architecture and park space. It aims to attract public activity, create interaction between separated groups and strengthen industrial ties. Four buildings are proposed, altering public and industrial relationships through architecture, spatial conditions and overlapped community programmes. These methods apply to port cities recovering from the industrialism of the past century, by regrowing public space within existing constraints, and creating a connected city where waterfronts belong to the public.

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## CHAPTER 1: INTRODUCTION

### The Problem

For port cities across the globe, the balance of industry, cultural space, and growth along the water are always evident. These cities are typically born from their waterfront condition, as it provides an advantage for movement, trade or other public use. As these places have developed over time, industrial port activities have grown to have a substantial impact on the cities they belong to. Over the 20th century in particular, these industries grew at an unsustainable rate. This industrial growth can be positive in many ways as employment increases, while global demand for goods creates the need for continued development, bringing in more investment, profit, and potential residents. Overall, the port has an immense influence on how many cities are established, develop and maintain relevance in today's world; but at what cost does this unwavering economic development have on cultural spaces in the city?

In the transformation to meet worldwide demand, publicly accessible waterfront land was sacrificed to provide short-term economic growth. This oversight is proven costly, as industrial demand fluctuates and sometimes falters. Formerly thriving industrial waterfronts are now removed of their industry or maintain productivity at a fraction of their former selves. In each case, many waterfronts containing current and past industrial activity remain publicly uninhabitable. "A fever of short-term profit and belief in unlimited technical progress has brought most developed countries to the brink of physical and cultural exhaustion" (Krier 2007, 236), and what is left behind are



Aerial image depicting Hamilton's relation to its waterfront. Bands of city - industry - water run across the page. (Rennison 2015)



port cities thoroughly disconnected from their waterfronts. In Hamilton, the growth of a single-purpose industrial network has created an imbalance between industrial and public spaces, as well as a lack of diverse economy and activity along the waterfront.

Traditionally, architectural and urban planning practitioners believed these uses were best kept separate, but theorists in the same fields challenge the idea of pure separation in favour of fluidity and adaptation between uses. Jane Jacobs observed that one of the largest handicaps to city diversity is a lack of primary-use mixing - meaning the balance of workplaces, commercial areas and public spaces that supply continuous activity throughout a day (1961, 176). Of course, there are obvious reasons why public and industrial spaces could remain separate, from safety concerns, aesthetics, property value, and environmental effects, but designing within these limitations can deny public access to favourable conditions of a city like its waterfront. Rather, urban strategies and architectural design can be enhanced by meaningful interaction amongst very different uses. A more holistic approach to solving these issues, which intentionally creates a relationship between city and industry, is preferable for the creation of a shared waterfront condition.

## **Context of Change**

Industry has evolved since the unsustainable growth seen in the 20th century. Hamilton's working waterfront now contains a diverse mix of industrial types, which create less pollution and expand job markets to employ different fields. Redevelopment of urban waterfronts in response to this kind of change is "the best current example globally about

the resiliency of cities” (Breen and Rigby 1996, 11). Yet many cities have failed to adapt to their changed industrial condition, relying on outdated principles of urban design. In an effort to create more accessible city spaces, larger metropolises such as Toronto, Montréal, and Vancouver have simply removed industries from their waterfronts, ultimately failing to address the continued importance of waterfront industry and furthering the idea that cities and industry cannot coexist.

In response to these conditions at Hamilton’s waterfront, a two-part question is posed in this thesis: how can industrial waterfronts be transformed to integrate public space and maintain important port activity? - and - how can architecture contribute to dissolving thresholds between distinct industrial, recreational, commercial and residential neighbourhoods?

This thesis addresses the strong divide between city and industry at the waterfront, to reconnect Hamilton residents to their water resource. It works to reclaim historically public waterfront space, build a new sustainable relationship between city and industry, and to heal and mitigate ongoing negative environmental effects from industrial processes.

The second chapter of this thesis looks at city-making issues and the effects of traditional urban planning. The third chapter categorizes the main events in the two-hundred-year development to better understand Hamilton’s waterfront growth through highs and lows. The fourth chapter assesses current trends and foreshadowing along Hamilton’s waterfront. Lastly, the fifth chapter defines architectural methods for working within the

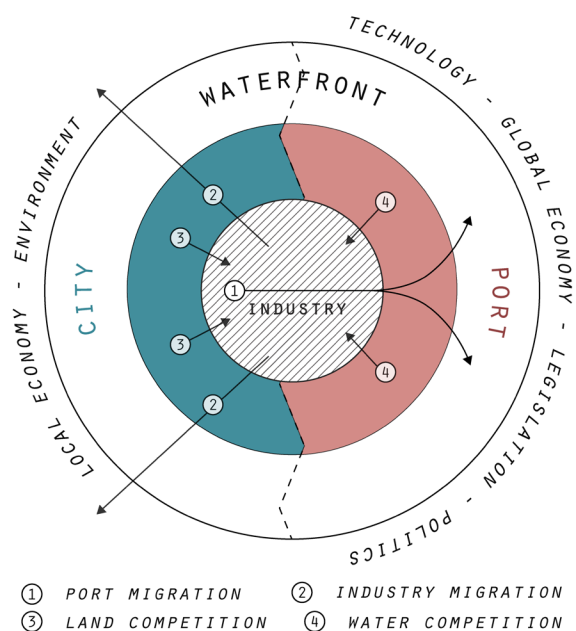
industrial landscape. Embedded in each chapter are case study projects, which are used as idea generators towards the final project, each dealing with a differing scale of the relationship between city and industry. This research culminates with a proposed urban and architectural design solution that addresses a portion of Hamilton's industrial waterfront as a new primary-mixed-use community. Further development focuses on a public swimming facility that enhances use-mixing through architectural elements and space, on the main proposed waterfront site.



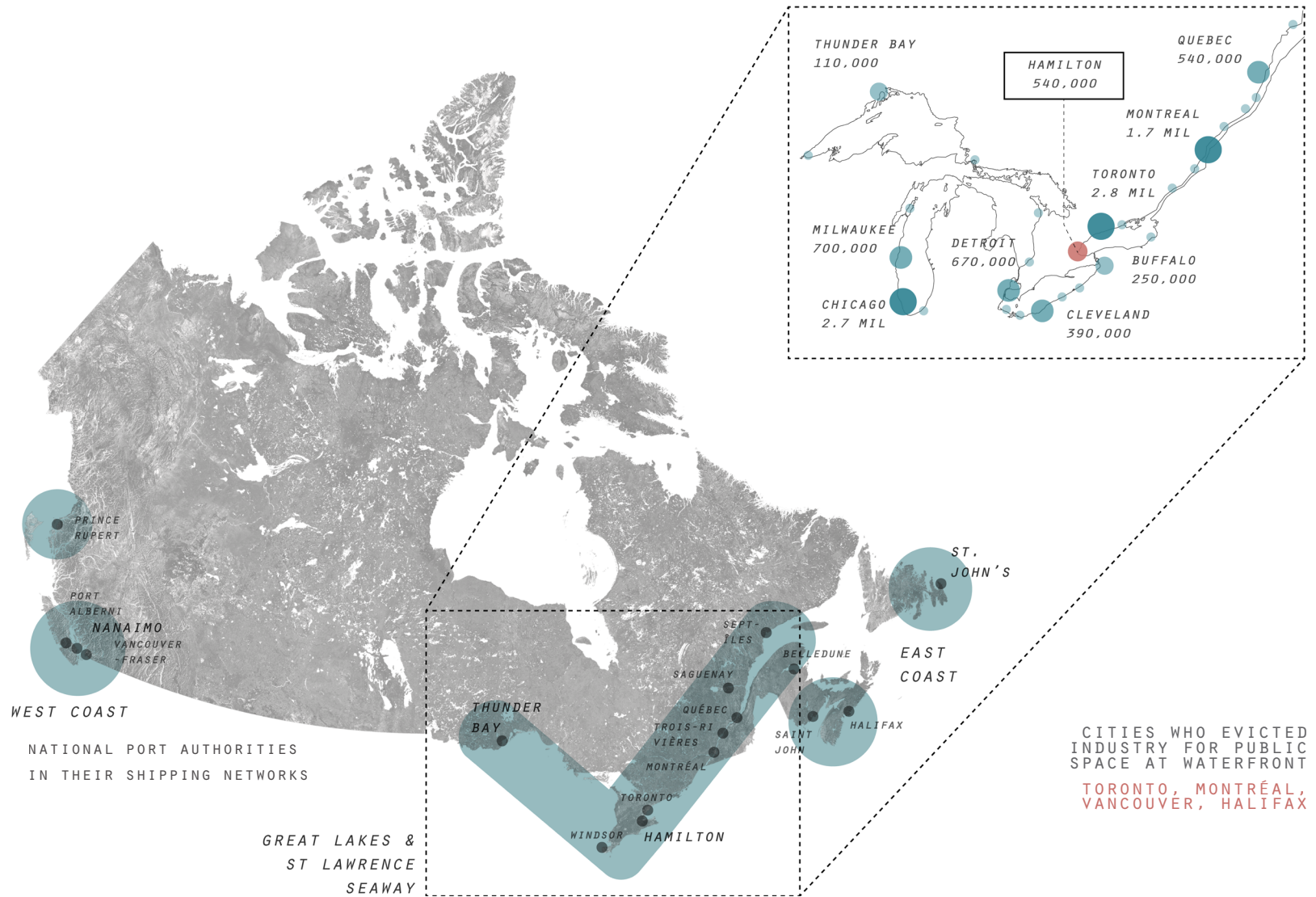
## CHAPTER 2: QUESTIONING CITY-MAKING TRADITIONS

### Port City Influences

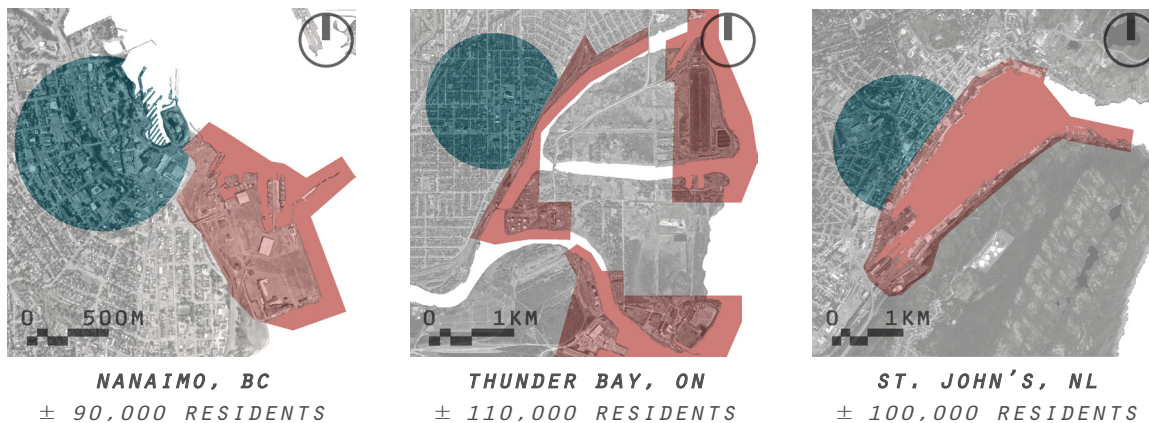
Across Canada, many cities share the same condition as Hamilton, in being disadvantaged from strictly-zoned industrial waterfronts. These port cities have historically been defined by their industry; every change along the waterfront has had large influences on the success of its port and the livability of the city itself. These waterfronts are complex zones of conflict, mostly located at the water's edge and pressured by economic, social, technological, political, and environmental forces from near and far. This gives the port a push-pull dynamic, both in its physical and physiological contexts. "Cities and ports which once were intimately connected and finely balanced have grown apart, and both ports and cities have found new ways of adjusting to their new relationships" (Hoyle 2001, 28). In many cases, these cities are forced to resolve imbalances of industry and public space on their waterfronts.



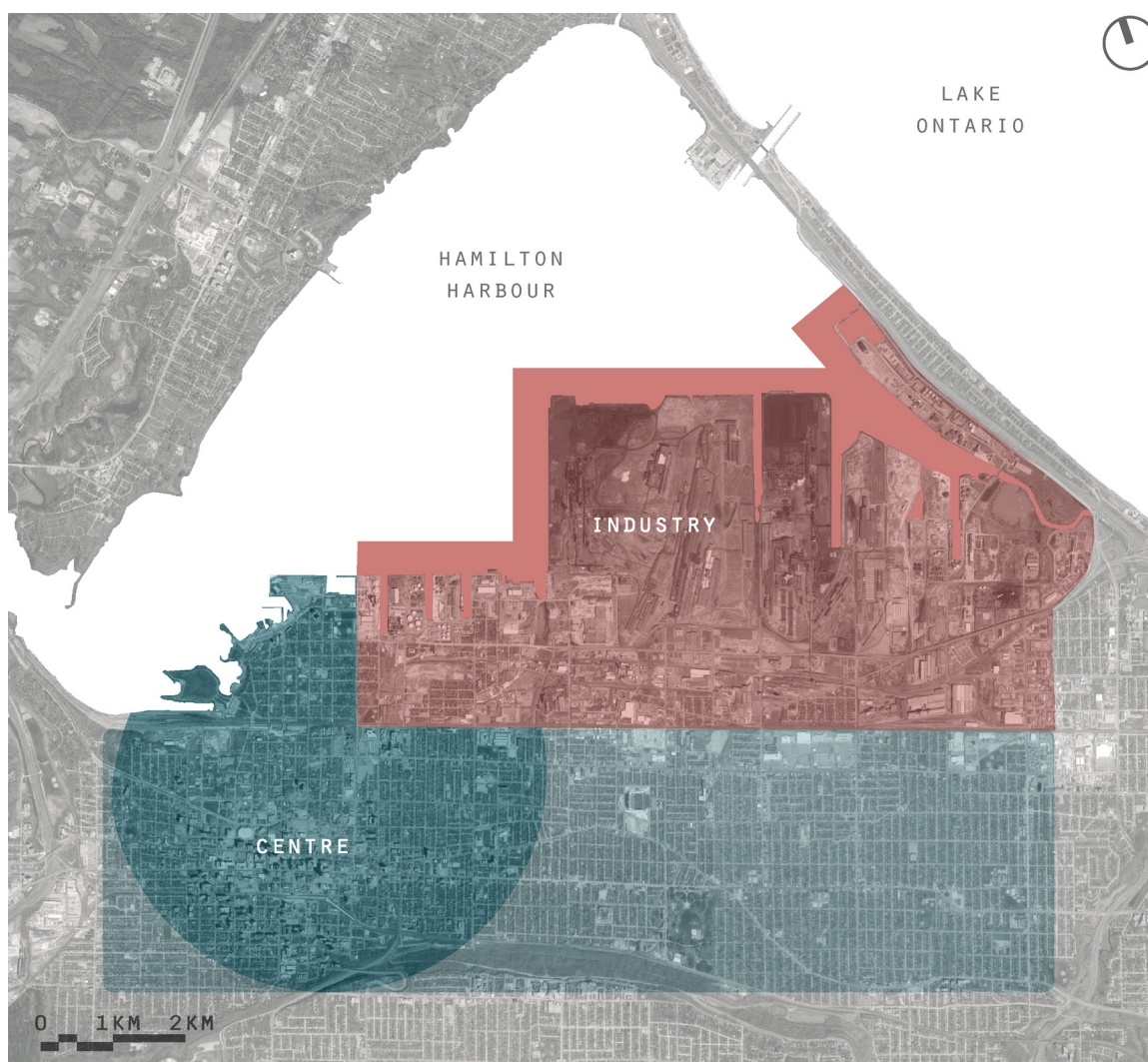
Port - city diagram, describing forces acting on the waterfront, both local and global. (recreated from Hoyle 2001)



Canadian Port Authorities and Great Lakes system, including US cities. (base from Department of Natural Resources Canada 2013)



Canadian port cities, unbalanced industry at waterfront. (base maps from Google Earth 2018)



**HAMILTON, ON**  
± 540,000 RESIDENTS

Hamilton's unbalanced waterfront condition, showing city centre and size comparison of industrial zone. (base maps from Google Earth 2018)

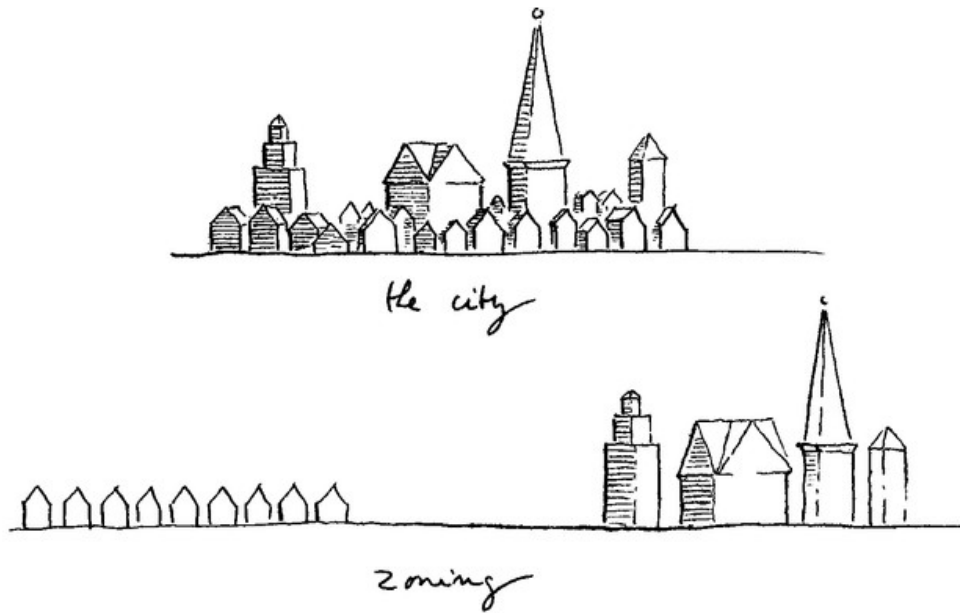
Many of the cities suffering from this condition target development in both industry and public sectors at the waterfront through planning documents. In many cases, this is a contradictory sentiment based on lack of understanding towards how these uses can coexist. This thesis inserts as a framework towards a waterfront that supports public space and industry equally, by intentionally integrating them in a new waterfront shared zone. To understand the factors involved in designing for this new port-city interface, this chapter defines how complex city problems are misunderstood through zoning, contrasting resolutions with their negative effects, as well as assesses examples of waterfront development and its effect on this relationship.

### **Strict Zoning and Its Effect**

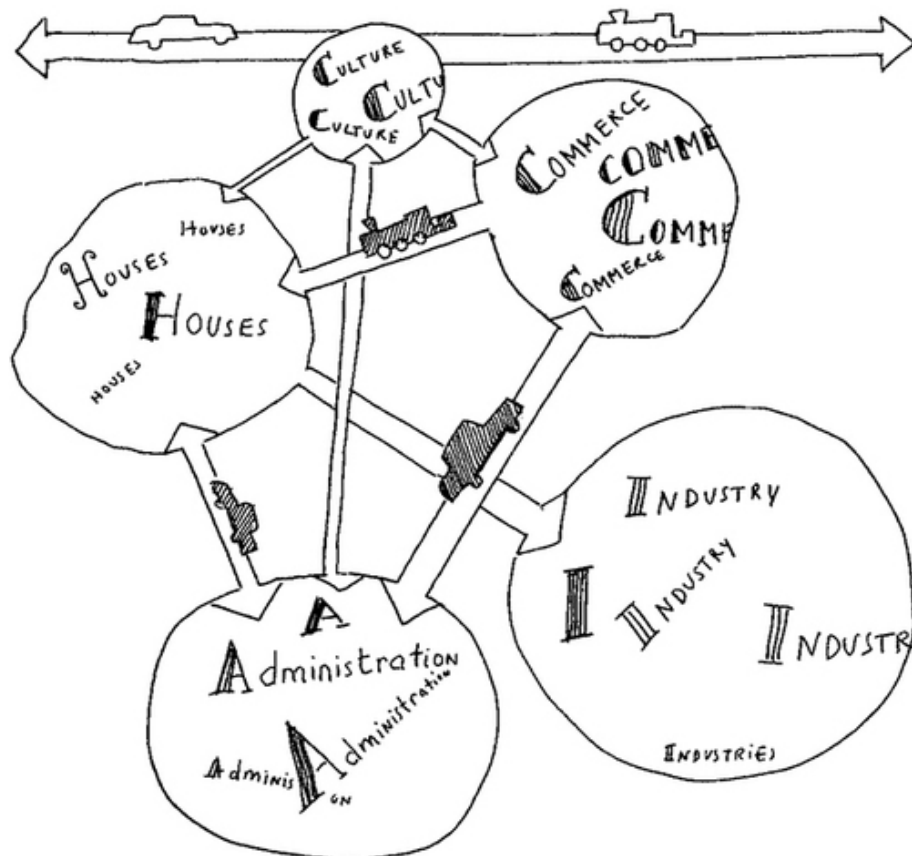
Traditional planning methods attempt to quantify the complex city by simplifying it into manageable parts, creating separated areas for things like industrial, commercial activity, and public space. This approach, evident in most North American cities, using districts, zones, neighbourhoods and blocks to specify different parts of the whole, often misses key elemental relationships that foster diverse urban life.

This approach to land-use separation is the basis of city-wide zoning, established as a concept to separate different uses to avoid disturbances. It was effective in a time where urban centres were littered with heavy polluters and the industry to city relationship was pushed to its limits. “The attraction of city-wide zoning was the security it gave to early 20th century home-builders and home-owners [for stability in their investments]” (Fischel 2004, 318).





Leon Krier's drawings comparing the traditional city to the strictly zoned city, depicting missing relationships between important elements. (Krier 2007)



THE INDUSTRIAL CITY IS DECOMPOSED INTO ZONES

Drawing of the industrial, decomposed, city into its zones of use, mostly only accessible through the interjection of automobiles. (Krier 2007)

Simply put, zoning was introduced to separate valuable private land from undesirable neighbours that could potentially hurt its value. Although intended to resolve issues between differing uses, the result of zoning can create a strong disconnect between parts of a city, leading to issues of fragmentation, dead zones, harsh barriers and border vacuums, each exhibited at Hamilton's waterfront.

### ***Fragmentation***

"In urban practice, fragmentation is realized through functional zoning" (Krier 2007, 233). That is to say, the main result of zoning is a fragmentation of the city into disconnected parts. As zoning separates into specific uses, overlaps are lost in favour of simplification. In urban centres, fragmentation removes the connective tissues, such as city streets, informal pathways and overlap of use that contribute to a healthy and connected city.

### ***Borders***

Once fragmented into parts, strict zoning is enforced through strong borders. Although effective to reduce visual, audio or other observable disturbances between the two zones, the spaces created adjacent to these borders are commonly unusable by either use. "Often borders are thought of as passive objects... however, a border exerts an active influence. Borders in cities usually make destructive neighbours" (Jacobs 1961, 257).

### ***Dead Zones***

These borders have much more effect than just barriers to disturbances, as they remove the social and cultural meaning of space, creating dead zones. A dead zone is an

area of unusable space, often left in a limbo of non-activity. Common urban dead zones are the areas underneath or beside highway infrastructure. This unusable space can have negative physical, economic, functional and social impacts on its neighbours.

### ***Border Vacuums***

In these areas of strong borders and dead zones, neighbours are often subsequently pushed out based on poor conditions in proximity to an undesirable neighbour. This is what Jane Jacobs refers to as a border vacuum (1961, 259). When neighbours are removed, the larger zone grows into the newly vacant land. Therefore, the problem is compounded. This leads to even larger closed-off zones dedicated to only one use, in no service to the public life in a city, and cutting off important cultural lands such as waterfronts.

Ultimately, there are overarching negative effects of strict functional zoning in important urban plots, visible in fragmentation, borders, dead zones and border vacuums. In looking at waterfront land, these physical issues are at the forefront for re-planning a balanced relationship of city and industry. The truth is that cities are very complex entities, sometimes better understood as a whole; the notion of simply separating them into parts only solves issues in vacuums - meaning in a realm unattached to outer, and often larger, city issues. Jane Jacobs categorized this faulty over-simplification as a “statistical reordering of a system of disorganized complexity” (Jacobs 1961, 436). She argues that the inter-relationships in a system of disorganized complexity are factors that designers can build on to enhance urban life. Overall, limits do exist in

Streets ending in gated access to privatized industrial waterfront space, Pier 14 Hamilton, 2018.



Harsh barriers to neighbouring use, creating border vacuum, dead space, Pier 12 Hamilton, 2018.



Under-utilized industrial land adjacent to waterfront, amalgamated into the expanded industrial zone, Hamilton, 2018.

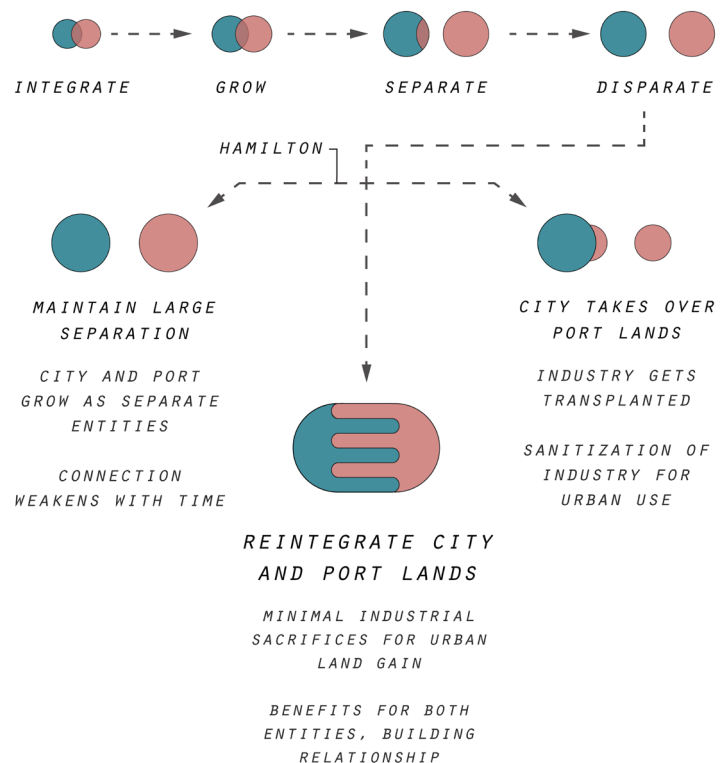




understanding cultural and social implications of urban design, but too much work is put into separating different elements rather than understanding and building upon their relationship.

## Moving Forward

Typically, modern cities have responded to the issue of a fragmented waterfront, between industry and public space, in one of two ways. The most common response is with complete sterilization of industry from a waterfront, either in places of industrial ruin or through eviction of working industry. Otherwise, if a city decides industry is too important in its current state to be altered, maintenance of the separated relationship between city and industry is accepted. The city and port continue to develop as if they are not a part of the same system. These approaches are commonplace among Canadian cities, with cities like



Port - city development timeline, from a small integrated relationship to a disparate one, inserting thesis as option for reintegration. (data from Hoyle 2001)

Toronto, Vancouver, Montréal and Halifax acting towards the removal of industry and other, often smaller, port cities like Hamilton, St. John's and Nanaimo maintaining their industrial presence.

Unfortunately, neither of these options is truly reacting to the problem of how the city can function if connected; rather, they continue to subscribe to the method of complete separation of uses. New approaches that activate primary-use-mixing and coexistence are better suited to these waterfront projects, as they can maintain the historical and economic presence of industry while allowing meaningful public interaction, proposed in this thesis. Jane Jacobs speaks of planning for vitality as an alternative to the authoritarian functional zoning method. This idea seeks to understand the cities relationships better and address design issues with place-specific solutions that stimulate the most diversity of people, as well as connect streets and neighbourhoods to the rest of the city (Jacobs 1961, 408-9).

In questioning city-making traditions, this chapter attempted to categorize the harshest effects of strict industrial zoning, understand the thinking behind traditional urban design approaches, comment on national examples of waterfront rehabilitation and interpret urbanist theories towards use-mixing to set a base for intervention in this thesis work. An argument is put forward for a new approach to use-mixing, specifically in the evolution of waterfront cities. As Jane Jacobs notes, "there comes a point, at increased levels of complication, where actual invention is required" (Jacobs 1961, 415).

The following case study from Auckland, New Zealand continues the narrative of questioning traditional zoning through a public promenade project, sited in an active industrial neighbourhood. This project speaks to the coexistence possible between these two elements through intentional use-mixing and diversity of public programme.

## **Case Study - Public Space Introduced in a Working Industrial Zone**

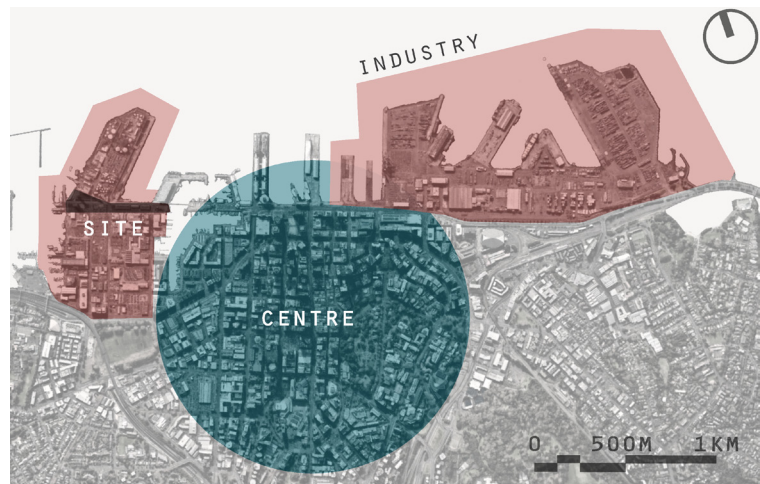
*North Wharf Promenade (Taylor Cullity Lethlean), Auckland, New Zealand*

Aerial view of North Wharf Promenade showing connection to downtown Auckland. (Taylor Cullity Lethlean 2011)

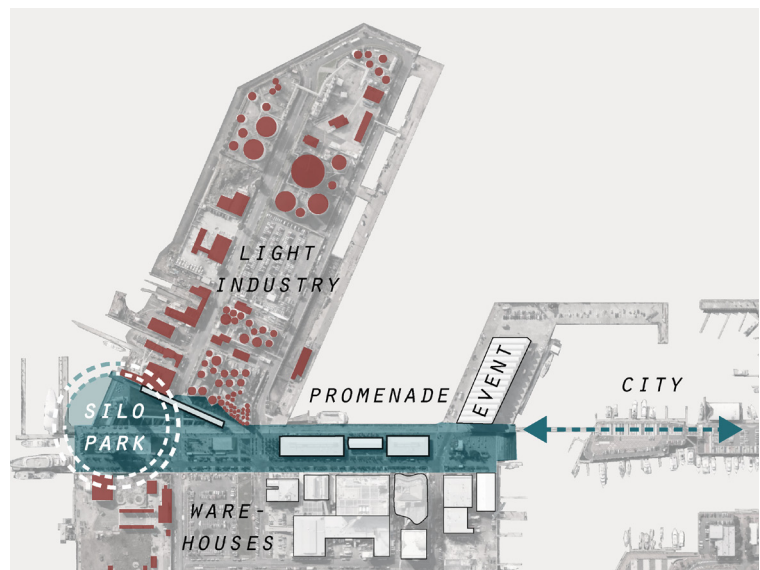


On the waterfront of Auckland, New Zealand, Taylor Cullity Lethlean Landscape Architecture transformed a portion of industrial frontage into an accessible public promenade, a strong example of primary use-mixing between public space and industry in the urban context. As in other port cities noted in this thesis, Auckland shares similar traits of a waterfront starved of public space in favour of a solely industrial port. This project is a step towards remediating that issue, with public access to formerly closed-off land, a built example of the coexistence possible between public space and industry.

Map of Auckland, showing relation of industrial waterfront to city centre. (base from Google Earth 2019)



Project Site Plan, stretching across an industrial area to connect to water and city. (base from Google Earth 2019)



The project is placed directly in between two industrial areas along the water, a heavier port zone and a lighter warehouse area inland. Its ability to span across the industrial landscape relies on two strong anchors at each end, dedicated public space along its stretch, and activated public programmes throughout. At the west end, the architects highlighted decommissioned silos as a public feature in Silo Park, and at the east end, the project benefits from direct connection to Auckland's downtown.

The commitment to primary use-mixing is the defining point of this project. This juxtaposition of public space and

working industry is an attribute unmatched in commonly practiced waterfront renewal projects. Rather than with the removal of industry in favour of public space, users are drawn to the site for day-to-day industrial workings, on top of the public amenities that have been added.

Public boardwalk along active industrial waterway, connecting public to industry. (Taylor Cullity Lethlean 2011)



Working waterfronts are constantly in flux: crusty, utilitarian, muscular and dissolving, with temporal qualities that engage all of our senses. Yet contemporary waterfront redevelopments are often characterized by the removal of the very qualities that attract us to these places. At Auckland's Wynyard Point redevelopment these conventions are challenged in a development that anticipates transforming a forlorn industrial and maritime precinct into a mixed-use precinct. (Taylor Cullity Lethlean 2011)

This project is used as inspiration for this thesis as it is a strong example of successful public space in close proximity to industry. It uses a strong mix of activity types, applying public space which uses industry as a backdrop, and allows Auckland's residents to reconnect with the formerly closed-off waterfront. Furthermore, the project acts as a cultural marker for Auckland, as a city adaptable to evolving industries and need for public space along its waterfront.



Silo Park, connecting public space to former industrial infrastructure. (Taylor Cullity Lethlean 2011)



Aerial view at intersection of public and industry spaces, structure to provide connection and views. (Taylor Cullity Lethlean 2011)



Ground level views of the waterfront promenade looking at industry through promenade and park-space. (Taylor Cullity Lethlean 2011)



## **CHAPTER 3: HAMILTON DEVELOPMENT, CULTURE AND ELEMENTS**

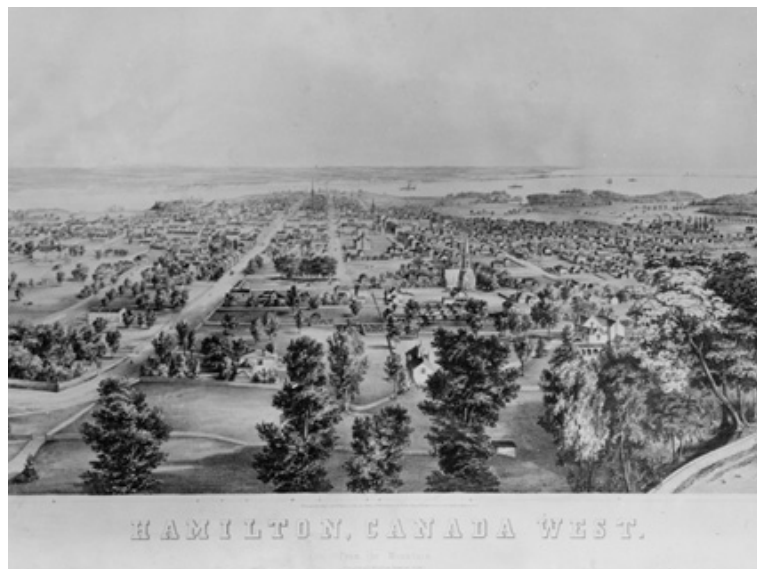
It is important to note that Hamilton's waterfront was used as a port even before modern intervention. Until the late 18th century, it was used by the Iroquois as a post for fur trading. Since then, its harbour has evolved from shallow and marshy lands to a completely manufactured industrial landscape. Hamilton's unsustainable industrial growth over this time was categorized by war production, international shipping, and global demand. It has been in constant flux with incredible highs and lows, in many ways negatively affecting residents of Hamilton, the city's organizational framework, and therefore its waterfront. This chapter takes a closer look at events that sparked this unsustainable growth and lack of public presence at the harbour. With a better understanding of these events, future development can be designed to adapt to ever-changing conditions, and the importance of public use on the waterfront can be categorized.

### **Early Settlement, Industrial Beginnings**

Throughout most of the 19th century, Hamilton maintained a public connection to its water with activities such as swimming and boating, and with public parks dotting the waterfront. During this time, commerce in Hamilton was still very dependent on the harbour, but because of the shallower waters, large ships unloaded just outside in Lake Ontario, and goods were transferred into the harbour on smaller boats (Proulx 1972, 32). The smaller infrastructure at the water's edge had little effect on the public's presence, leaving the waterfront open to public use.

In 1830, as industry began to grow, the harbour was dredged to allow for larger ships to enter. Within a year the waterfront industry saw significant growth, expanding from three to eighteen stores (Proulx 1972, 32) and affecting the allowable public space. In the 1840s, the port was increasingly busy with large steamboats at its docks, entering the city into a new era of industrial presence, growing to impact the city in unforeseeable ways.

View of Hamilton from escarpment, showing most development close to water (at back of image), compared to current day where city centre is located in foreground of the image and waterfront is strictly industrial. (Whitefield 1854)



As pollution-heavy industries developed and grew at the waterfront near the end of the 19th century, the residential population of near one-hundred-thousand Hamiltonians began to look south for development, towards the base of the Niagara escarpment, a mere two kilometres away. This began a large shift towards the industrial based Hamilton. As residents moved from the waterfront area, industry was allotted more space for growth; as referenced in the last chapter, a border vacuum effect was occurring. As the turn of the century came to Hamilton, industrial growth was increasing, and this sector became the largest single entity existing within in the city.





**HAMILTON, 1910**  
WITH COMPLIMENTS OF CANADIAN METER CO., LIMITED

Aerial lithograph of Hamilton's urban make-up at the turn of the 20th century. Street connections stretch from escarpment (at top) down to the waterfront, where multiple public parks connect public space along its length. (Wiseman 1910)

## **Industrial Development, 20th Century Rise**

The 20th century was characterized by a lot of highs and lows of industrial production. Mostly, the highs were instrumental in the industrial footprint growing to the current, overwhelming size. In most cases, these changes occurred quickly with little planning and foresight. The two World Wars, labour strikes, and distinct market fluctuations were markers of a volatile century for industry, affecting present and future city balances.

April 1912 marked the creation of the Hamilton Harbour Commission, now the Hamilton Port Authority (furthered referred to as HPA). This group, consisting of members from Federal, Provincial, and Municipal governments along with local support, was put in place to “manage, develop and promote the port for the benefit of it’s stakeholders and to ensure a high level of security, safety and environmental responsibility” (Government of Canada 2019). From the start, this organizations goals were to advance industrial production in Hamilton, and this happened alongside the establishment of Hamilton’s two main steel mills: The Steel Company of Canada (Stelco) and Dominions Steel (now ArcelorMittal Dofasco), ultimately instrumental in the growth seen in the coming century.

In World War One (1914-1918), Hamiltonians dealt with heavy demands on the steel industry to produce steel for munitions. “The demands of war had meant rapid expansion for the city’s fledgling steel plants and the post-war years started a boom that would last for several years” (Proulx 1972, 64). This unplanned and seemingly mismanaged growth was an instrumental push towards a city based in industry.

Aerial view of the west part of Hamilton Harbour, Pier 10 at centre of image, showing informal and formal places of water access, with more recreational waterfront space. (Hamilton Spectator 1952)



Ships from France and Panama meet at Hamilton Dock. (Ross 1954)



Aerial view of Hamilton steel factories. (Steel Company of Canada, 1952)





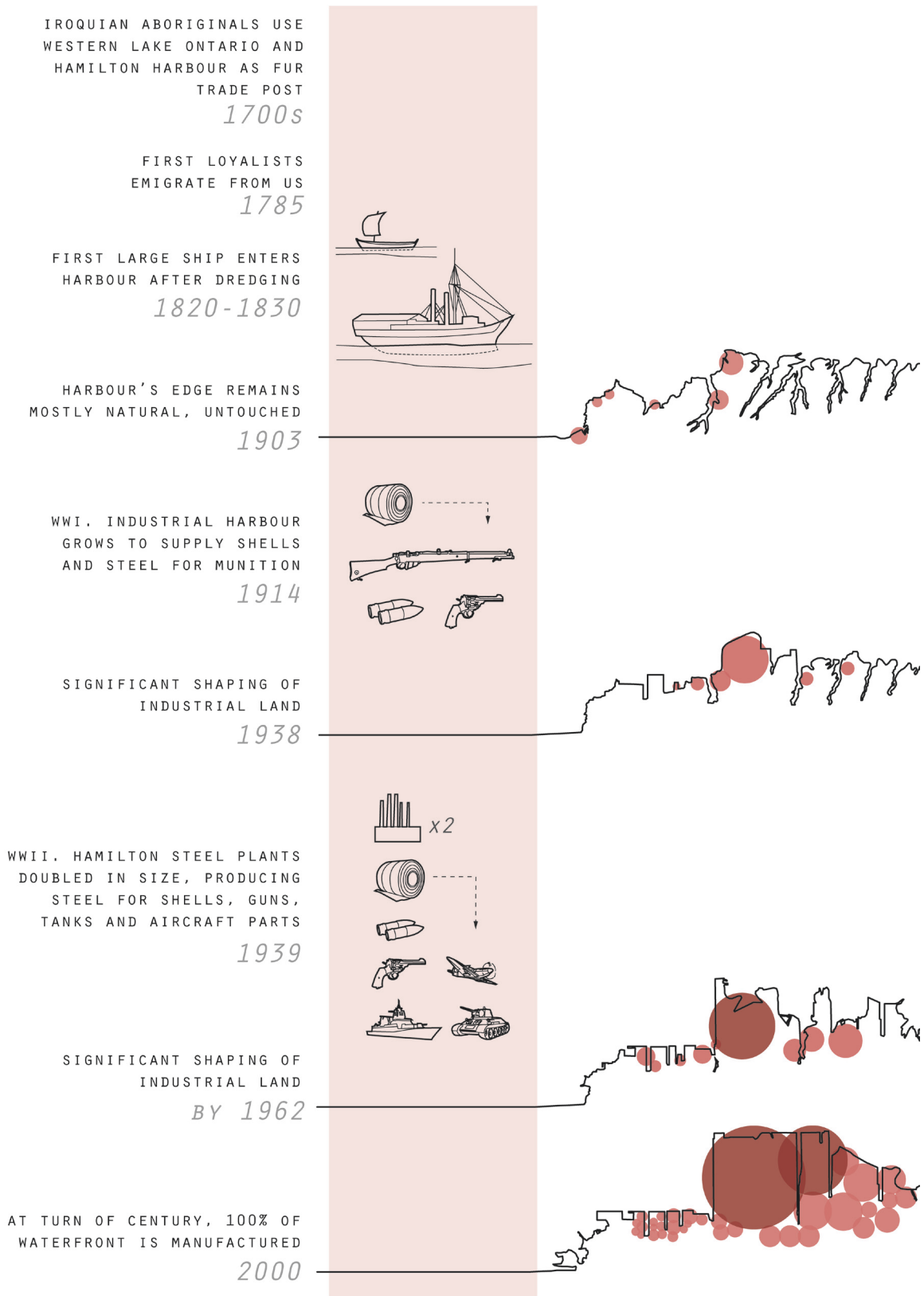
Roughly ten years later saw the first large layoffs of the steel industry on Hamilton's waterfront, relating to the Wall Street crash of 1929. Steel and world trade diminished greatly, and in two and a half years Hamilton's industrial workforce dropped from forty-thousand to a mere two-thousand men (Proulx 1972, 78).

The city only returned to full employment ten years later in 1939, entirely brought on by the Second World War; in the span of only a few days, the steel mills got into full swing again (Proulx 1972, 78). This time around, steel mills doubled in size to produce steel for shells, guns, tanks and aircraft. Economists were warned of a postwar depression but instead followed another high-demand period, mostly to replace goods and materials that were rationed during the war (Proulx 1972, 79).

From 1950-1962, instrumental Mayor Lloyd D. Jackson sparked production in the industrial sector as he brought the big city idea to Hamilton, with developments focusing on downtown (Proulx 1972, 94). This affected the waterfront in two ways; first, demand was high in the industrial sector for building materials, and second, there was a renewed focus on development of the downtown core closer to the Niagara escarpment.

Also, in 1959 the St. Lawrence Seaway officially opened, connecting the Great Lakes to a worldwide network of shipment, and solidifying Hamilton as the most productive Great Lakes port city in the United States or Canada (Hamilton Port Authority 2018).

In the final two decades of the 20th century, manufacturers had to respond to increasing continental and global competition. Three of



Visual timeline, depicting major events shaping the nature of Hamilton's waterfront. Red markers denote industries planted on the waterfront, larger and darker represents more influential entities.

the region's largest employers... shut down their local operations, while others were forced to dramatically restructure their workplaces. Both major Hamilton steel plants reduced their workforce by nearly one half. (Weaver 2017)

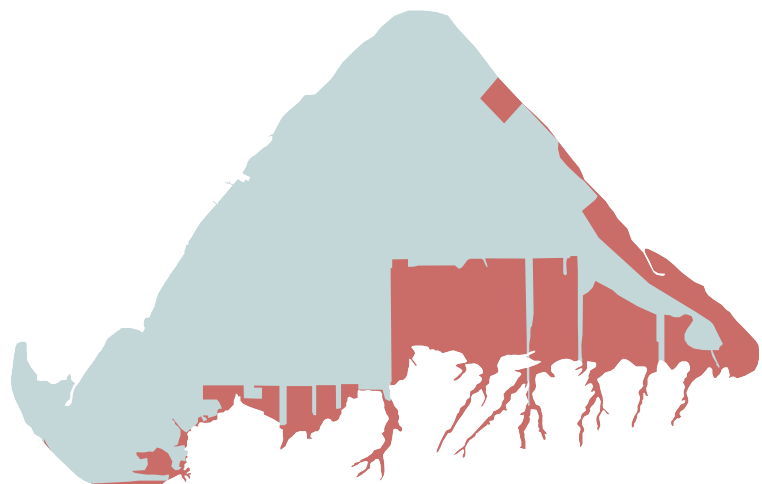
Through the second century of Hamilton's industrial history, these high and lows created excessive growth and unmatched downfalls in production. This constant change meant that the physical harbour and waterfront were also growing and adapting, most importantly with the removal of public space, as outlined in the following sections.

## Changing Elements

### *Physical Edge*

For much of the 19th and early 20th century, the south shore of Hamilton Harbour, an area now densely occupied by industry, was characterized by a series of marshy inlets that were home to a wide variety of plants, animals, fish and birds (Mercier 1998, 54). Through industrial development periods to this day, this natural landscape has been heavily altered to suit the sites industrial needs. Land was created by infilling sections of water, removing area from the natural harbour. This change has had long term

Natural edge condition compared to developed industrial edge, 1900 to 2018.



effects on the working ecology of the harbour ecosystem, removing soft vegetated edges that mediated the coastal environment. Also, it changed the flow of water, leading to stagnant areas of contamination. This water's edge is now an almost entirely manufactured frontage, leading to environmental conditions of the harbour which are less than desirable.

### ***Public Activity***

Along with the physical and biological changes at the water, the removal of public activity has been a major change throughout Hamilton's history. As mentioned, public life was historically dotted along the waterfront before the interjection of large industrial development throughout the 20th century. Before this, "residents used the bay both for recreation and to supplement their meals. For many decades, families swam off old piers, abandoned wharves, and wrecks" (Mercier 1998, 54).

This all changed when, as mentioned, the Hamilton Harbour Commission was founded and looked to grow the industrial economy in 1912. "[The group] designated [the south shore] as an ideal location for a concentration of heavy industry... The hope was that by locating industry in one section of the waterfront, the rest of the area could be left for recreational and residential uses" (Mercier 1998, 54). As history has shown, this designed relationship does not prosper when treated as typical and neighbourly and, shortly after, "by the mid-1920s, much of the Hamilton side of the Bay was unusable by residents... because of the polluted water" (Mercier 1998, 54), taking much of the public activity with it.

These issues are still existing now, with contaminated water and industrial land use acting as barriers to public connection at the waterfront. Historically, the harbour was an important piece of Hamilton's public realm, but industrial growth evicted public space and ultimately displaced Hamiltonians from this area.

### ***Industrial Identity***

Industrial ties in Hamilton exist in more aspects than in a physical built form, they have grown to affect the city's self-image. With the historical importance of steel manufacturing in Hamilton, industrial workings have developed into an identity. Monikers such as '*Steelcity*' and '*The Hammer*' have permeated through local culture, both criticizing and representing the city as merely industrial. Realistically, the city of Hamilton contains many attributes in common with other great cities, and these widely spread misrepresentations work to degrade other positive qualities. Moving forward, there are opportunities to shape what role an evolved industrial waterfront will have as a representational moniker for the City of Hamilton. As industry is woven back into the city, these representations can expand to enhance the image of the city, locally and globally.

Overall, industry has held ownership of Hamilton's waterfront arguably since the 1940s. It has fostered the most work, earned the most money, and had the most control over the city, but in doing so caused a lack of public space at the waterfront and connection across the city. After a century moving in a linear direction of industry controlling the waterfront, this thesis aims to address the next century, in effort to reverse the accumulation of



industrial coverage and address the negative effects that have been produced from its unsustainable growth, thus reintroducing public space back into the waterfront.

In the following case studies we can understand how urban and architectural design can alter the perception and use of land negatively effected by infrastructure. These two projects deal with the same issues at completely different scales: one at the scale of a university campus, and the second at the scale of New York City. Each is a good example of designing for a connected city rather than a separated one, and re-establishing connection across detrimental thresholds.

### **Case Studies - Public Architecture Breaking Infrastructural Barriers**

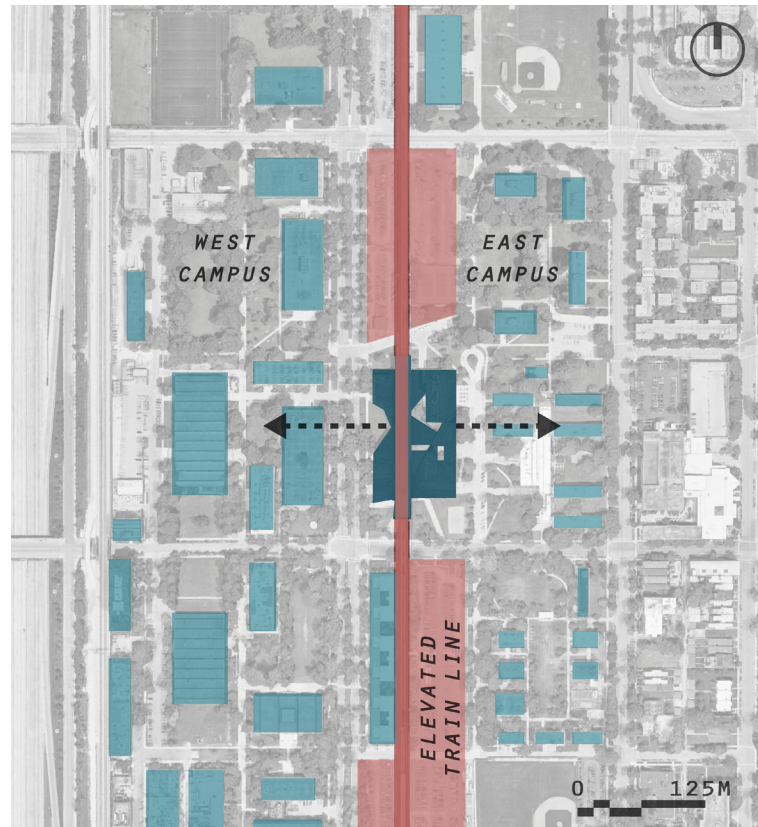
Aerial view of McCormick Tribune Centre at IIT, incorporating elevated CTA Green Line. (Office of Metropolitan Architecture 2003)



#### ***McCormick Tribune Centre (OMA), Chicago***

This project by the Office for Metropolitan Architecture (OMA) was designed to reconnect the formerly divided university campus of the Illinois Institute of Technology (IIT) in Chicago. The architects designed the building to resolve the strong physical separation of an elevated train

Project site plan. Building reconnects under red train line which previously cut campus into two parts. (base from Google Earth 2019)



line centrally located on campus, through architectural elements as environmental dampeners and an overlapping mix of community programme. This setting is another example of infrastructure disconnecting a city from its parts, similar to industry's role in Hamilton's relationship between city and waterfront. In both cases, infrastructure disconnected the city (or campus) into parts, both physically and psychologically.

The tribune centre was designed as a passageway underneath the damaging train line, reconnecting the campus through urban, street-level programme to serve the students. An auditorium, café, bookstore, computer centre, public washrooms and public meeting spaces all intersect on the ground floor plan, creating overlapping interior public spaces and in some cases, outdoor courtyards, acting to further publicize the building.





Overlapping of interior programme creates open space where different users interact. (Ruault 2013)



Spaces between overlapped programme also create outdoor courtyards, connecting different programmes to the same space. (Chicago Architecture Centre 2019)



Material as environmental barrier. Cellular window structure changing views based on perspective. (Dant 2003)



Architectural elements helped dissolve physical and environmental barriers evident in the site. Specifically, the excessive noise of the train line was addressed through a noise-absorbing steel tube, which encapsulates the train line near the new building. This element uses spatial and material qualities to dampen the environmental auditory damage to allow public programmes to coincide with the infrastructure.

Two focal points of this architectural response in Chicago are architectural elements acting as dampeners to unfavourable environmental effects, and the overlapping of continuous programmatic elements to providing a base for activity, unlike other public buildings. These responses combined to conquer the negative effects of the train line cutting through the campus and are applied further to this thesis as strategies for designing in an industrial zone.

### ***The Highline (Diller Scofidio + Renfro), New York***

Aerial image of the Highline, connecting public space along city blocks, and interacting with urban building infrastructure. (Baan 2017)

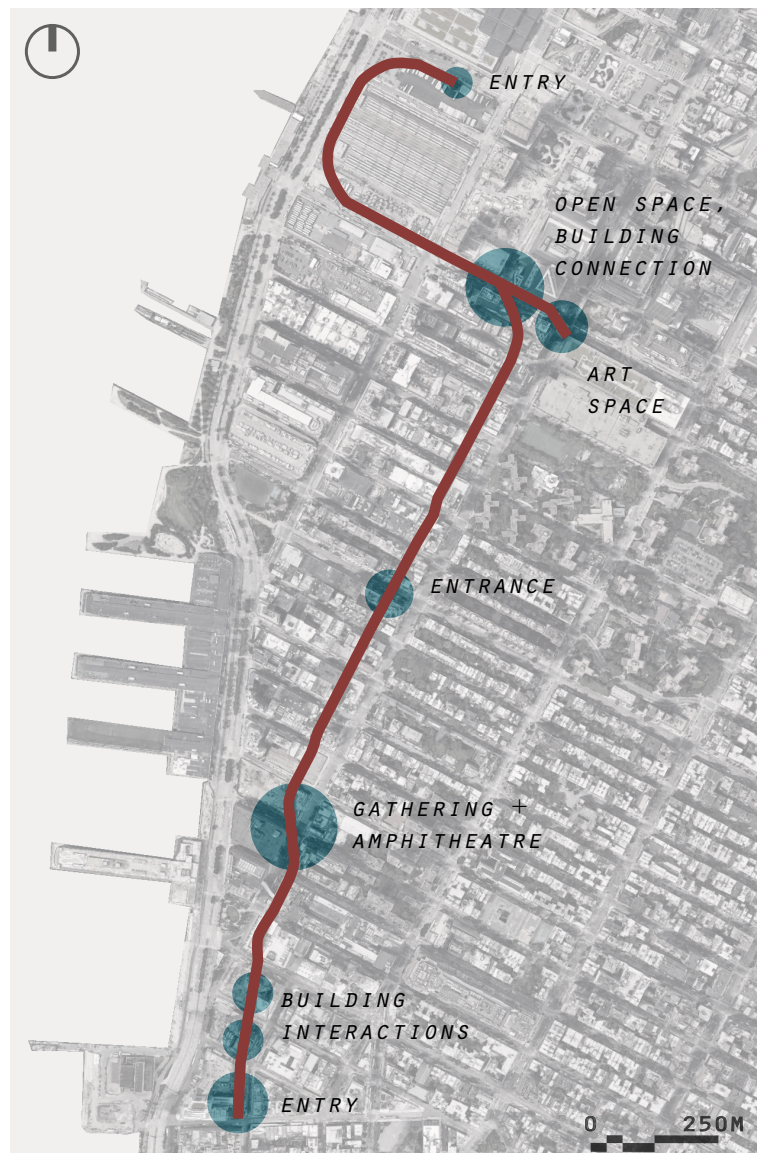


The Highline is an adaptation of an abandoned public railway in New York City as a public park, in parts completed by Diller Scofidio + Renfro between 2009-2014. It aimed to take the overgrown and unused elevated rail lines and



adapt them to serve a new public purpose, adding more park space to the downtown area and connecting people to the infrastructure of urban skyscrapers like no other previous public space. This project is a good example of a disused infrastructure providing a base for public use, interacting with urban infrastructural elements, and of a large-scale public space renewal project acting as a spine of connectivity, to multiple urban interventions.

Along its length, there are a few nodes of focused activity, noted on the site plan. Each of these has a different



Site plan view of entire Highline project, showing connection to multiple nodes of specific activity. (base from Google Earth)

Two sections of the Highline, one incorporating the found condition, while redesigned are serves public use while integrating existing rail lines. (Baan 2017)



A view at the end of the Highline, with connection to ground. Existing steel materiality celebrated with light park elements above. (Baan 2017)



Image along Highline public park, showing connection to urban building infrastructure. (Baan 2017)



activity, leading to a varied experience along the park's length, such as public open space, viewing platforms, a public auditorium, celebrated access points, and places of interaction with buildings. Therefore, the idea of the Highline is really of a connective park spine, which pushes in and out of building areas and does not treat any node as a destination, but as a part of the whole.

The Highline builds so successfully on the ties to the city's history, maintaining elements of the historic railway in its redesigning of the space. Rail lines are maintained and incorporated into new spaces of movement and rest, while the harsh steel materiality is also celebrated in contrast to the added hard and softscape elements.

This project was truly a seed in terms of rethinking the use of New York City's decommissioned infrastructural elements, which has created a precedent for many cities working in a similar way, in altering the perception of existing undesirable infrastructure. In many ways, it connects to this thesis' work in Hamilton, as the project looks to alter the industrial condition with the addition of public space. Moving forward, ideas of an intervention as a multi-nodal connective spine, as well as active interaction with infrastructure are methods to be carried forward into the thesis design.

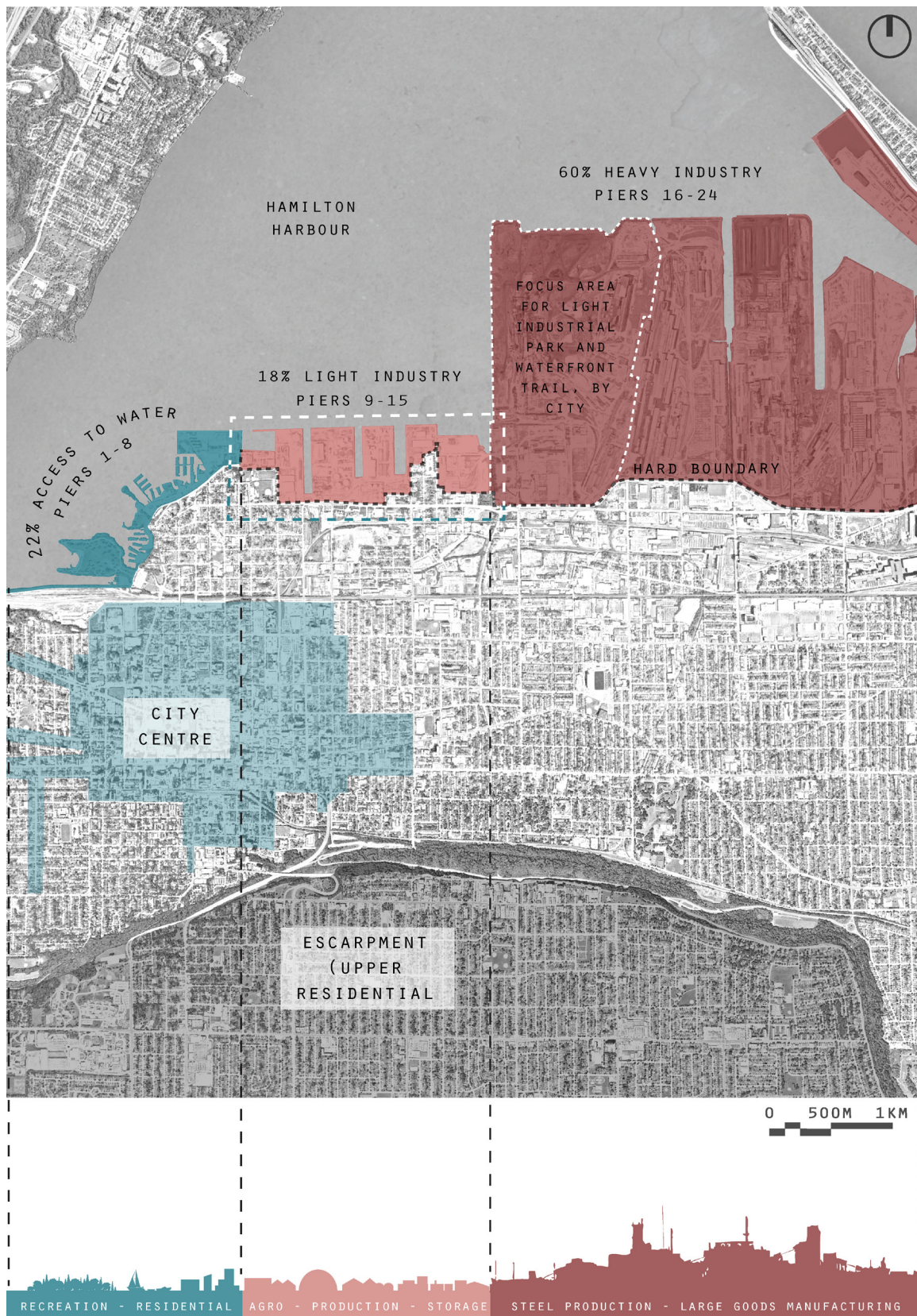


## **CHAPTER 4: HAMILTON NOW: LANDS, MARKET AND EVOLUTION**

With the city centre moving away from the water and residential communities expanding even further, Hamilton's industry has gained almost complete control of the waterfront. The relationship between city and industry has been stretched immensely, and now the waterfront is split into three zones, from largest to smallest: heavy-steel manufacturing, light-mixed industry and a public park on the far west waterfront. The industrial zones have created harsh thresholds between residential, public and industrial uses, affecting the success of public space and livability of residential areas nearby. The situation has grown to a level where Hamiltonians have almost no relationship with their harbour; there is minimal space for activity, a lack of public programme and no means to experience the majority of waterfront land. A couple of factors have contributed to these conditions: from industrial land growth, disconnection from the city, and misused waterfront land, but with growing importance of a public waterfront and a diversified market, there are arguments to be made for rethinking industry's role on the harbour.

### **Industrial Land Growth**

The largest negative factor of imbalance on the waterfront is the sheer quantity of industrial land it holds; currently, seventy-eight percent of the waterfront perimeter is inhabited by industry, accounting for roughly 1600 hectares of land. The industrial areas have been informally divided into two groupings based on type, scale and ownership. The largest is a plot of land owned by two steel manufacturing facilities, US Steel Company and AccelorMittal Dofasco.



Hamilton waterfront in 2018, showing heavy industry, light-mixed industry and public space. Bottom, representational section of waterfront use from city's perspective. (base from Google Earth 2019)



These are facilities that much of Hamilton's industrial prowess was built upon, which remain as some of the oldest on the port. Combined, their lot coverages at the waterfront have grown in scale to rival Hamilton's entire downtown core. The second industrial area in the more western harbour is a smaller industrial plot encompassing Piers 10 through 15, owned and operated by the HPA. This area is home to roughly twenty smaller scale industries such as agricultural grain storage and milling, ship repair, liquid and dry storage and general shipment holdings. Although the industry is relatively smaller, the effects on its neighbouring residential areas are similar, of complete detachment and disconnection from the city.

Both types of industrial areas impose negative physical and physiological effects on nearby residents, such as limited entry, high visual barriers and low land coverage. Over 1200 hectares of land across the industrial waterfront is seasonally underused for storage (Deloitte Real Estate 2015, 35), meaning that for large amounts of time the land is completely unused. Although useful for industrial demand fluctuations, the sheer quantity of unused land in comparison to allotted public space on Hamilton's waterfront brings to light the imbalances in which this thesis intends to question.

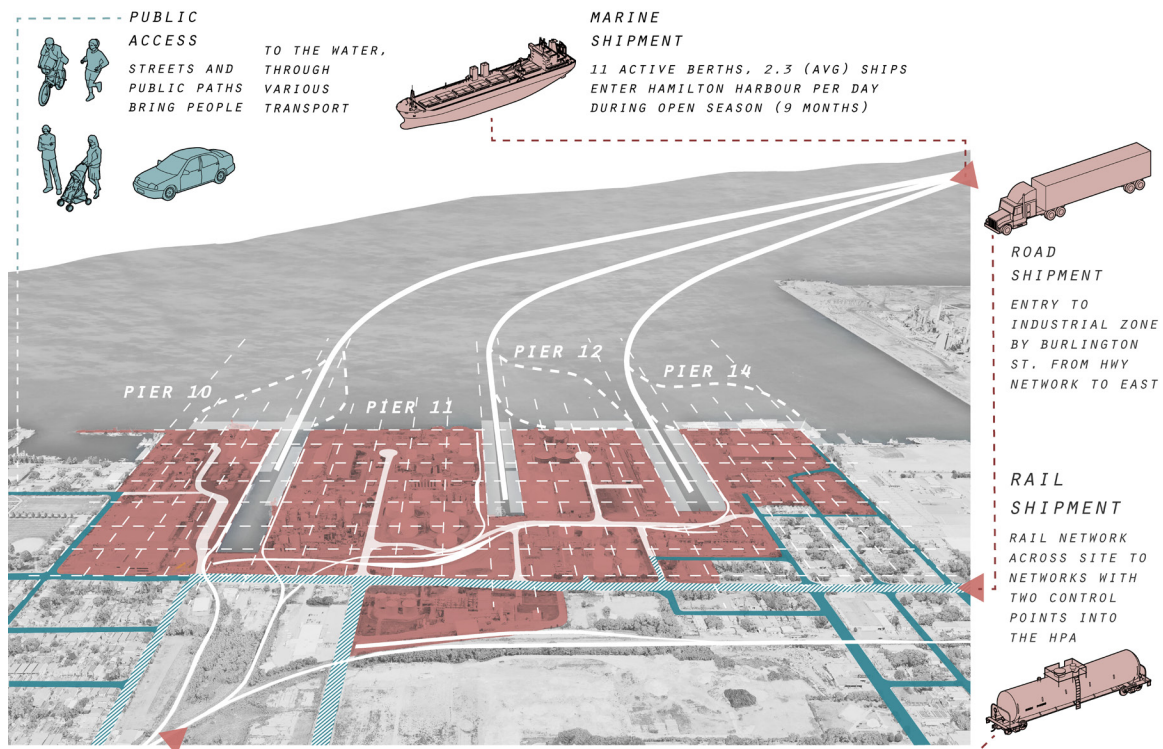
### **Missing Connections and Opportunities**

The negative effects mentioned above have many further-reaching implications on the city over their environment or aesthetic properties. Connection to system networks such as recreation and vehicular as well as to community programme areas, which are essential in public waterfront cities, are lost with the strict division of land.

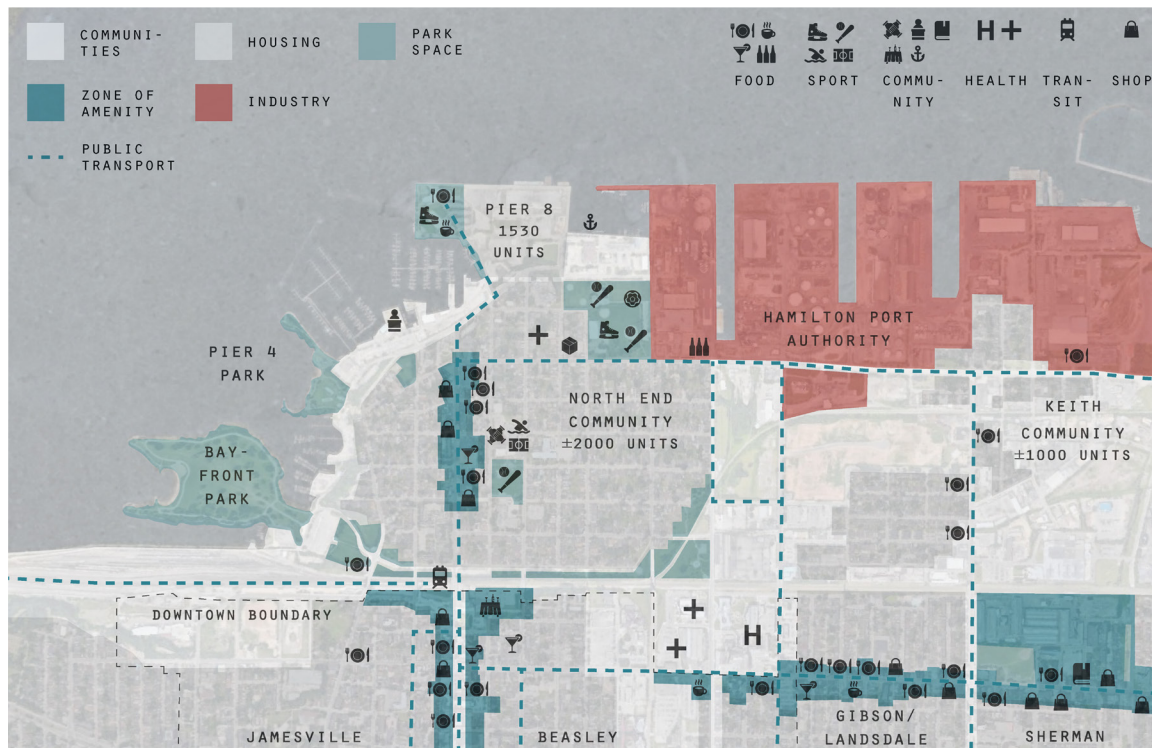
The largest broken connection is that from the city down to the water. Whether by vehicle, personal transportation or by foot, the existing streets and pathways terminate at Burlington Street, a large thoroughfare shared with industrial transport. This street marks the first edge of the industrial zone. Historically, these city streets would have connected as far down to the water as possible, with parkland bookending them, a desired condition in this thesis work.

Another transport-related system opportunity exists in industrial traffic movement on the HPA site, whether by rail, truck or marine shipment. With new developments growing along the water, the existing thresholds that allow industrial vehicle access are intensified as proximity of industry and city grows. By connecting public space through the formerly enclosed industrial site, transport infrastructures will be better shared, and with intentional crossover, minimal impact will be made on the workings of port industries.

A complete disconnection exists in the lack of provided community programmes within or nearby the HPA site, creating a cultural dead zone that has grown over time. In the neighbouring communities of Jamesville, Beasley, Gibson/Landsdale, and Sherman, a mix of community amenity exists in groups, creating centres along main streets. Programmes overlap to provide a commercial base, public spaces, and gathering points that draw people to the community. These qualities are lost in the area surrounding the HPA lands, as the growth of industry and disintegration of public space has removed any possibility of coexistence these two uses in its current state.



Aerial map overlaid with industrial and city system connections, crucial for continued integration of uses. (base from Google Earth 2019)



Representative community programme map, showing major cultural groupings, and the dead zone created around the HPA site. (base from Google Earth 2019)

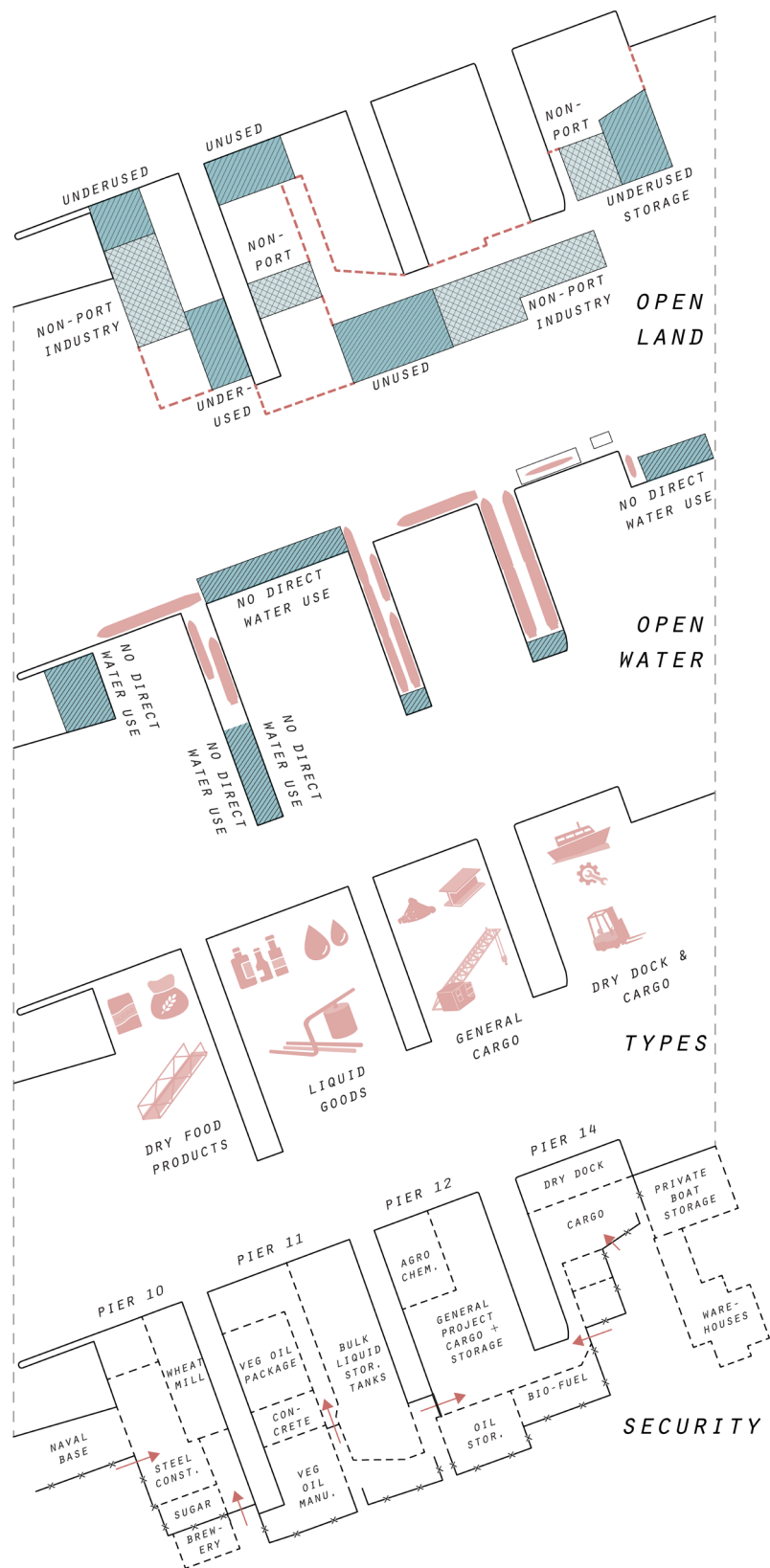
Another missed system connection exists at the Bayfront Park waterfront trail. This well-used recreational trail exists only in the far western harbour and breaks apart as it approaches industry. In many successful public waterfront cities, cross-trails, promenades and boardwalks are prominent elements that connect across the waterfront and can draw public activity to the site.

### **Site Makeup**

Focusing on the chosen HPA site of Piers 10 through 14 reveals the ever-changing landscape and underutilized space in connection to its industrial use. Specific attention was paid to issues of site coverage, security and access, industrial types, edges, and lot coverage of port industries.

Through a survey of industries, plot usage, and active ship berths, it was found that many underused waterfront areas exist within this light industrial setting. These areas will be the testing grounds for this thesis, arguing that they could be better utilized for water reconnection, public architecture or public open space.

The safety and security of the port is also a major point of concern for a project neighbouring public use and industry. Currently, this is managed at a 'by instance' negotiation of risk (on the Marine Security official scale). Openings are left in the general boundary for ease of movement, while control points within can close portions of space, by pier or berth, if risks of terror or safety are high. Also, with further development in this area of security and surveillance, it is believed that digital forms of security will lessen the need for strict physical measures.



Representative plans of existing site layers, focusing on security, safety, industrial types and open land available for reinterpretation.



## **Growing Waterfront Importance**

Currently, the city is experiencing a shift in attitude towards creating an accessible waterfront; new residential and commercial developments are shaping the waterfront's future in the west end. Although these oncoming projects aim to publicize the waterfront, they are acting in a similar fashion to traditional waterfront developments as they choose to completely replace industrial activity with public space. This is problematic as it places waterfront public spaces in competition with industrial use, an entity that, in Hamilton's past, has often been favoured. These projects exist in a few sectors from opportunity studies, public development projects and ongoing remediation projects in the harbour, each having a significant influence on the future of Hamilton's waterfront.

### ***Hamilton Bayfront Opportunities Study***

A market study was completed by the consulting firm Deloitte in 2015 which examined potential development opportunities along the waterfront, titled '*Hamilton Bayfront Industrial Area: A Strategy for Renewal*'. It compiled base knowledge towards redevelopment options for the waterfront and explored implications of possible land-use change. Ultimately, it concluded that the waterfront lands were set to benefit from the growth of steel and related manufacturing uses in the near future, referencing underutilized industrial land as an opportunity for industrial intensification. As economists are concerned, the Hamilton waterfront will continue to maintain industrial importance; therefore, a strategy of coexisting must be attempted. This study shows signs of global and national economy again taking precedence over local, cultural activity.

### ***Public Development Projects***

Although the opportunities study mainly prioritized future industrial growth, it has not fully shaped the future of the waterfront, as the City of Hamilton has purchased portions of land, marked for public development. These redevelopment projects will each have a large presence on the waterfront, together known as the ‘*West Harbour Redevelopment*’ projects. Along the area between Pier 1 to Pier 8, three major projects are underway that to place public access to water as a driving force for future development in Hamilton.

Rendering shows connective public space projects from Pier 1 through Pier 8, from right to left across image. (City of Hamilton 2018b)



Piers 1 through Pier 7 are undergoing development towards “constructing a new boardwalk at the water’s edge for public use and planning a vibrant commercial village and public piazza at the foot of James Street North” (City of Hamilton 2017). This development will connect to the Bayfront Park trail on the far west and to the further developing Pier 8 areas, with a commercial and recreational waterfront.

The second main waterfront project at Pier 8 differs slightly as the development focuses on a new district combining commercial and residential units on the former industrial

Pier 8 development rendering, with promenade park on its perimeter and industrial sites to the left. (The Waterfront Shores Corporation 2018)



Rendering of waterfront promenade spanning the edge of Pier 8 development. (The Waterfront Shores Corporation 2018)



site. It will house 1500 residential units and 13000 square meters of commercial and institutional space on Pier 8 (City of Hamilton 2017). As seen in many waterfront cities, the influx of people residing on the waterfront attracts activity from the rest of the city. The richness of having a large mix of uses also provides many opportunities to visit the space for shopping, restaurants, working or institutional uses. Also, in Pier 8 being the closest to the HPA site, the growing public activity will have an affect on the current relationship of city to industry, inspiring public use to continue along the waterfront.

### ***Remediation Projects***

The third type of project shaping the waterfront's future is focused on environmental remediation. This is an important aspect of a viable public waterfront, as environmental factors could seriously compromise the safety and comfort for public use. There are two current water remediation projects which are set to have a great effect on the waterfront's future at Woodward Wastewater Treatment Plant and Randle Reef.

Significant work has been done at Hamilton's main water treatment plant, Woodward. Upgrades to the primary clarifiers at the treatment plant mean that soiled water, which was historically emptied into the harbour, is treated to produce purified water, which is then fed into the harbour.

One of the largest sediment contamination sites in the Great Lakes, Randle Reef, is being remediated by a large grouping of parties (Environment Canada, the Ontario Ministry of the Environment, the City of Hamilton, the Hamilton Port Authority, U.S. Steel Canada, the City of Burlington, and the Regional Municipality of Halton). The goal is to remove a large environmental contaminant in the harbour to maintain higher water quality for the future.

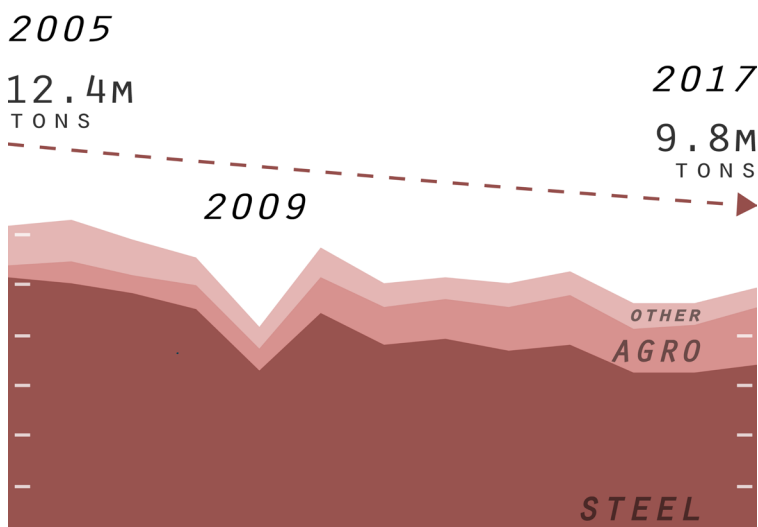
These three types of projects, in waterfront opportunity studies, public developments, and ongoing remediation projects address physical, palpable concerns in Hamilton's waterfront becoming a more public. They ultimately show that Hamilton is placing importance on culture and environment along the water as well as industrial success.

### Market Diversifying

The city has experienced a large market change and is much more diverse than when it relied almost entirely on industry as an economic base. Manufacturing jobs account for the lowest percentage ever, formerly massive industrial corporations are declining and the port itself has recently seen significantly less tonnage shipped through annually.

Industry has constantly been in flux, with highs and lows of production in Hamilton, as touched on in Chapter 3. Over most of the 20th century, industry was on the rise, but with industrial production lowering, especially within the past thirty years (Weaver 2017), we see a large change in how the city could be structured. This is evident if we analyze tonnage shipped through the port through 2005 to 2017. Also evident in this figure is the growth of more diverse industrial uses, evident specifically in the HPA lands from Pier 10 through Pier 14.

The changing landscape of steel manufacturing plants in Hamilton (the US Steel Company and ArcelorMittal Dofasco) has had a large effect on these tonnage stats.



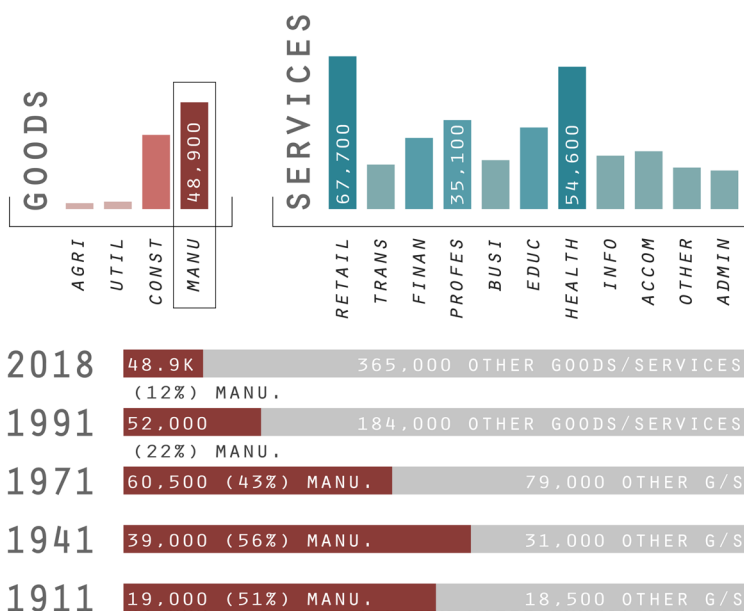
Graph of physical tonnage shipped through Hamilton's port, from 2005-2017. (data from Hamilton Port Authority 2018)



After a strike in 2011, the US Steel Company has not yet recovered to run their blast furnace, meaning that the facility is no longer producing its main export. On-site usage is a fraction of what it was during the height of steel production, creating a large amount of dormant land. This change has been balanced slightly by the introduction of smaller, more adaptable industries along different parts of the waterfront, which continue to activate the port.

Another notable market change effecting Hamilton’s reliance on industry is the evolved job market, which has grown immensely in diversity from most of the 20th century. As Mayor Victor Copps envisioned in ‘*Pardon My Lunch Bucket*’, the service industry has taken over as the largest job sector in Hamilton after the passing of the millennium (Proulx 1970, 1), meaning manufacturing now only accounts for roughly twelve percent of total jobs in Hamilton, much less than it has historically maintained. All this to say, considering the measurable factors of lower shipped tonnage, industrial elements shifting and a completely renewed job market in Hamilton, the city

Current labour force by sector in Hamilton, showing large growth of service industry, low reliance on manufacturing, and evolution over time. (data from Statistics Canada 1911, 1941, 1971, 1991, 2018)



should rethink the role of heavy industry controlling their waterfront in favour of a more public and diverse setting.

This chapter has described in many ways how Hamilton is taking a step towards a more publicly accessible waterfront. The developments at sites across the area are working to break down cultural barriers to the water. In some way, these developments' impacts can worsen the effects of strong borders to industrial land as they bring activity even closer to closed industry, creating the possibility of an abrasive relationship. By approaching this issue head-on, and designing for that threshold condition, this thesis aims to lessen these negative impacts of public development by setting up a working relationship between industry and the city.

## **Case Studies - From Industry to Public Space, Waterfront Evolution**

### ***Granville Island Public Market (Dialog), Vancouver***

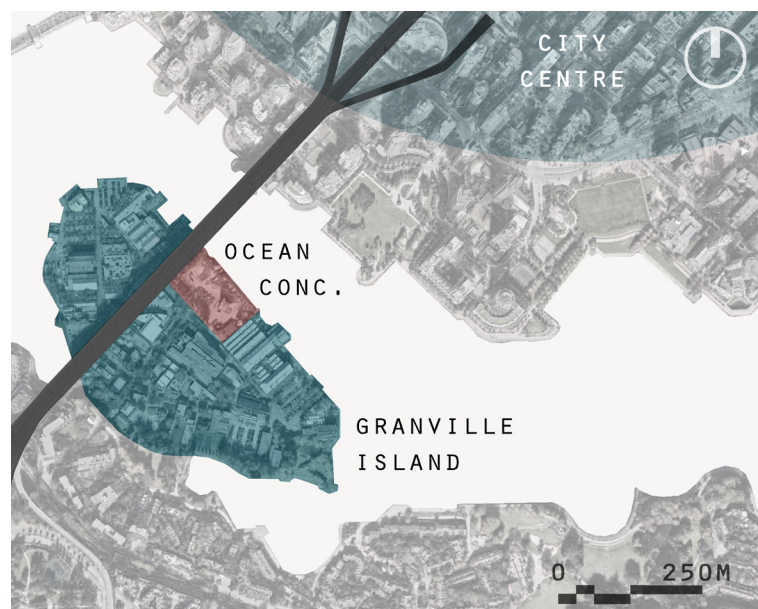
The Granville island renovation project was completed in the 1980s by Dialog, reimagining a large, increasingly desolate urban industrial site into one of Vancouver's

Repurposed industrial shed buildings serving public use. (Canada Mortgage and Housing Corporation 2019)



most successful public spaces. At that time, the city was going through major changes in removing industry from its waterfront in favour of publicly accessible space. On the island, Dialog converted over 14 hectares of industrial land into public gathering spaces, a farmer's market, an education facility, production areas and retail spaces. It is a great example of urban life taking ownership of industrial land, conditions of working in a formerly industrial site and, with the continued operation of a concrete manufacturing facility, this project speaks to the possibility of maintaining industry with introduction of public use.

At its industrial height in the 1930s, simple post and beam tin buildings hosted forty industrial companies on this piece of land. In this project, Dialog preserved most of these buildings, which were reassigned new public use, maintaining a connection to the site's industrial past. The site also benefits from being sited underneath the large Granville Street bridge, bringing a new experience of urban infrastructure with the introduction of public space.



Site plan of Granville island, showing connection to city surrounding. (base from Google Earth 2019)



Ground floor entrance to the public market, in a repurposed industrial shed building, with Granville Street Bridge connecting overtop. (Tourism Vancouver 2019)



Permeable entrance to Ocean Concrete, with enticing murals on its silos and public activity passing by. (Denniston 2014)



Overgrown, public and infrastructurally rooted street entrance to Granville Island under the bridge. (Toulgoet 2018)





The Granville Island site is also unique in that one of the most popular public spaces in Vancouver maintains industrial use to this day. Ocean concrete is the only remaining industrial facility, located on edge of the False Creek Waterway, the longest tenant of the island having opened in 1917. Today, the facility is only separated from the surrounding public space by a permeable fence, which allows passersby's to enjoy the industrial work, as well as experience colourful murals painted on the cement silos. This art installation creates an active coexistence as industry builds off its relationship to public space, working to dissolve the preconceptions of the polluting and ugly industrial neighbour and drawing visitors to the site to experience the work.

Many aspects of this project support the ideas put forth in this thesis, such as public use taking priority in waterfront cities, towards the coexistence of public space and industrial working waterfronts, and the idea of a relationship between the two that builds off interaction and alters existing preconceptions.

***Institute of Contemporary Art (Diller Scofidio + Renfro), Boston***

The Institute of Contemporary Art (ICA) project was completed in 2006 by Diller Scofidio + Renfro, placing public galleries and gathering spaces along an industrial stretch of Boston's waterfront. This portion of the Boston waterfront was mainly used as excess urban parking at the time of conception, creating a complex design issue as the site would eventually connect to the 75 kilometre public Boston Harborwalk. Working in such a stark environment, the architects designed the building to relate to industry

View of ICA from water, showing massing directed out at harbour and public seating spaces sheltered beneath (Baan 2019)



in its makeup, by using massing elements to create a connection with site conditions, and designed gathering spaces that break down the existing site and building barriers.

The overall form of the building is reminiscent of gantry cranes, visible in the more eastern part of Boston's seaport. This project is taking hints of the industrial machines of the area and alters them to fit the needs of public space. The massing also plays on specific relationships to elements along the waterfront. The gallery is located at the highest level, reaching out towards the inner harbour and offering extensive views of the water, while translucent panelling removes the view from the other three sides. This element also creates a large outdoor sheltered space beneath it, used for outdoor public space that can be controlled. The multimedia library then attaches to the underside of the gallery, protruding at an angle to a view of only water. With these two elements focusing on the water, secondary space underneath the public seating area is then focused back to the street, connecting the building to both frontages.

View of ICA from water, showing large cantilever with media library on the underside and public seating spaces sheltered beneath. (Baan 2019)



From the inside of multimedia library, focused view of only the water creating experiential space. (Baan 2019)



Entrance to site, showing stairs to upper level along with passage underneath to waterfront. (Choi 2009)



The designed public space in this project spans from indoor to outdoor in a continuous manner. The amphitheatre at the water connects further at its top to an indoor auditorium, connecting to both public and performance spaces. There are also underpass elements at play at the street-side entry, where one could either enter the front café or pass under the building to public space at the waterfront.

This project siting shares many undesirable relationships with the Hamilton thesis site at its time of conception, but through thoughtful and public interaction in the industrial zone, Diller Scofidio + Renfro were able to design a building that could create connections to existing conditions as well as to public use in the future. Specifically, ideas of industrial architectural influence, waterfront public gathering spaces connecting inside and outside, and massing elements directed to specific relationships are ideas that are mirrored in this thesis work.



## CHAPTER 5: THE IN-BETWEEN LANDSCAPE

Possibly the most interesting aspect related to any industrial waterfront is how much it differs from the rest of the city. People are drawn to industrial sites to experience the scale change and the machine-like qualities they have to offer: this phenomenon is referred to as being *'other'* - as in incomparable to typical city spaces. Therefore, urban and architectural work in this area offers varied challenges compared to that in other urban sites, especially considering the movement inherent in an industrial zone intended to remain active. This project looks to benefit from the interaction in these moments with new relationships and form, building on and benefitting from the *'otherness'* provided in this landscape. This chapter attempts to understand definitions of the *'other'*, setting up a framework for working within it, and understanding the specific qualities and opportunities involved. These qualities are built upon in the proposed design for this site to engage, rather than remove, existing industrial use and history from the site.

Bunge vegetable oil manufacturing plant on Pier 11, up close showing the type of infrastructure that varies from other urban sites. (Waisgluss 2013b)



## Understanding the Other

Industrial zoned land is designed as a space unlike many other parts of a city. It contains a grouping of machines - referring to the factories, plants, warehouses within - which are designed to be almost entirely self-organizing, containing a multitude of processes while having minimal relation to the city. Typical urban sites differ tremendously from this situation as they rely on the overlapping of use from neighbouring buildings to create a community fabric.

Foucault and Miskowiec describe this self-organizing and unrelated condition as a '*heterotopia*', directly translating to other space. But it is a way of imagining space further than the idea of being different from the city; '*heterotopias*' are disturbing, intense, incompatible, contradictory and transforming.

[They are] places that... are formed in the very founding of society - which are something like counter-sites, a kind of effectively enacted utopia in which... all the other real sites can be found within the culture, are simultaneously represented, contested, and inverted. Places of this kind are outside of all places. (Foucault and Miskowiec 1986, 24)

View of US Steel Company (Stelco) factory in full swing, from harbour. (Waisgluss 2013a)



These '*heterotopias*' exist in other places around the city as well. Common examples are prisons, cemeteries or traditional gardens; these places act as enclosed worlds while only slightly relating to the outer city context.

In the urban context, Dehaene and Cauter argue that '*heterotopias*' "embod[y] the tension between place and non-place that today reshapes the nature of public space" (2007, 5). Simply put, their '*otherness*' offers the opportunity for an unforeseen experience in the public realm. Also, the fact that they are designed to exist without the city surrounding them begs an attempt of reintegration, as a testament that all spaces can and should be city spaces.

Edensor, in *Industrial Ruins*, mirrors the idea of industrial space being '*other*' to the city. Through his personal experiences, he describes a spontaneity of tasks that are performed only in this space, the quality of materiality inherent, and the lack of organized space - in the formal, city sense - as defining elements that draw visitors to experience the landscape. He also notes that this concept is true for both active and ruined industries.

View of wheat mill and storage facility on Pier 10, through neighbouring construction industry. (Waisgluss 2013b)



Taking these theories into account, the industrial area has a character and importance unmatched outside of its borders. Therefore, simply approaching work in such a location like a traditional architectural project with typical methods, as many cities have along their industrial waterfronts, is an approach untied to the sense of place and the industrial character these ports bring to the city. This thesis intends to alter the response of this condition, in designing within the limitations and opportunities inherent in such a differing landscape.

### **Situationist Approach to Design**

The Situationists give a window of clarity towards designing for atypical spaces throughout a city such as the industrial zone. Their methods aim to understand the more intricate needs of direct and indirect users, highlighting qualities that work off each other. The Situationists fought to dismiss the existing authoritarian, top-down, approaches to urban design, such as the widely used traditions of the city grid and the idea of strictly zoned land. Their work focused rather on designing from cultural and social situations specific to the site under development and allowing a sense of spontaneity in design, resulting in a richer story, character of space, and playfulness of the city. "Situationist architects projected a city based not on functional order but on purposeful disorder" (Sadler 1998, 120). With a site-specific understanding, designing under the guidelines of the Situationists, any type of intervention is possible, whether overlapping industry and public space or other neighbouring uses, if genuine understanding is applied and existing relationships are built upon.



## Differentiating Qualities

### *Time and Weathering*

Large industrial infrastructures are typically designed to have a long lifespan, often painting them as rusted and weathered relics of the past. But weathering is not strictly a negative aspect of a building's life. At the root, weathering adds a dimension to a building's appearance as it physically "marks the passage of time" (Mostafavi and Leatherbarrow 1993, 12). In many cases, the marking of time is cherished as a nod to the historical presence of the site and attracting users to experience this shift. Therefore, what is kept from a site and what is to be removed are important choices that reflect the specific history of a place. With introduction of public space into the industrial zone, certain elements are kept and altered to suit a playfulness in their new public context. These elements will draw Hamiltonians to visit the waterfront site, not only to experience the activity of existing industries but to interact with remaining artifacts and understand the time, scale and materiality embedded in this previously unreachable waterfront zone.

Oil storage tanks at base of Pier 12, showing age and large scale change in industrial zone, 2018.



### ***Learning from the Land***

Observing how existing industrial users interact with this infrastructure can aid in developing a method for designing on the specific site. In the case of an industrial community, how the factory workers, ship captains, material handlers and yard workers move in and out of the zone and interact with infrastructure are movements that can enhance the further public use of the space. Areas of the heaviest port activity may remain untouched, while stagnant or disconnected port industries give space for public intervention and existing entrances can be repurposed for a shared experience.



View of underused industrial land at base of Peris 11 and 12, with active rail line. (Waisgluss 2013b)

### ***Environmental Incompatibility and Remediation***

The rapid and unmanaged growth of industries in the 20th century had large environmental impacts on waterfront lands. Reviewing these changes in retrospect allows more care to be taken in designing for this effected environment. We see these issues come to light in the Randle Reef remediation project, where hundreds-of-millions of dollars are being spent to fix an oversight to historical mistreatment of the environment. Remediation is, therefore, a very

important piece moving forward designing within these sites, applying to the land, water, and air quality.

In the allocation of new functions, an evaluation now has to be made that introduces the concept of environmental compatibility. The same can be said of the traditional concepts of zoning and land use hierarchies. (Secchi 2007, 11)

Secchi views all projects as opportunities to re-evaluate for environmental sensitivity as a responsibility of the architect. This idea, to him, permeates through all aspects of design, imagining “a city where form follows biodiversity, social diversity, social practices, and natural processes, rather than fiction, fear, finesse and finance” (Secchi 2007, 11).

Through this research, it is concluded that there are a lot of factors in designing for industrial spaces, as these areas are inherently different from other urban sites. These factors create a sense of ‘*otherness*’ attached to industrial space, which can be built upon in future design projects, related to time, materiality, land-use and environmental remediation. In this thesis, relation to active and inactive industrial artifacts is a driving force in the design, as they bring new experiences when tied to public space, and ultimately entice residents to explore the industrial nature of the waterfront.

A case study project, Landschaftspark, is examined as an example of placing public space in direct context of decommissioned industry. It builds on a relationship to the large-scale, weathered, “*other*” landscape as an attracting quality to the space, using remaining industrial artifacts in new public contexts.

## Case Study - Reseeding Public Space in an Abandoned Industrial Setting

*Landschaftspark (Latz + Partner), Duisburg-Nord, Germany*



Aerial image of  
Landschaftspark project.  
(Google Earth 2019)

This project is an adaptive reuse of a steel manufacturing plant in East Germany. The industrial complex was converted into a public landscape park in 1991 by the landscape architecture firm Latz + Partner. Now containing a water park canal, diving centre, climbing garden, ropes course, and viewing tower, the landscape park receives an average of one million visitors per year (Duisburg Kontor Hallenmanagement 2019). The introduced public features exist mostly within remaining industrial infrastructure, such as a diving tank in a repurposed gasometer, bunkers used for climbing, and a steel cast-house equipped as a viewing tower. This example speaks volumes towards a shift in city-industry culture as industrial artifacts are rethought to host public use, and of the public's desire to experience the scale, materiality, and age available in this landscape.

The area in Duisburg-Nord shares many qualities of Hamilton's waterfront, which are the basis of this adaptive



Public space integrated into former industrial plaza, with existing infrastructure remaining. (Latz 2002)



Public access to industrial tower, converted into an accessible viewing platform. (Berns 2018)



reuse project; communities around the old steel plant were projected to grow increasingly urban, and with an influx of residents, the site was altered to serve as public space rather than remain in ruin. The International Building Exhibition Emscher Park (IBA) set out to transform the environmental, social and economic connection to these former industrialized regions, *Landschaftspark* being one of the prototype projects in this vision. The focus of the park is mostly on leisure and recreation, as well as hosting grounds for a broad range of events. Overall, the park hosts a generous mix of visitors, activated constantly and through different times of the year.

Project view through public park to raised industrial elevators in the background. (Panick 2011)



Integrated public activity within old industrial infrastructure. (Berns 2018)



The idea was to integrate, shape, develop and interlink the existing patterns that were formed by its previous industrial use, and to find a new interpretation with a new syntax. The existing fragments were to be interlaced into a new “landscape.” (Latz + Partner 2002)

In this project, the architects aimed to reconnect users to the site to remove stigma and connect the city across harsh barriers. Using industrial infrastructure as a backdrop for public activity allows the monumentality, materiality and age of the infrastructure to speak to a new use. In this thesis work, ideas of interaction with ruined or active industrial elements and desire to experience the different industrial landscape are developed further.

## CHAPTER 6: PROPOSAL

### Design Framework

Most importantly, this thesis proclaims that access to urban waterfronts is a public right and should be open in connection with the rest of the city. The ability for water to bring people together and provide a base for a multitude of activity is part of the reason cities are often established at this edge, and increasingly the most active and successful urban environments rely on this space as a cultural centre. Therefore, cities should value their waterfront's public importance and not succumb to global economic pressures that disrupt local networks and the livability of their city.

In cities where industry has taken over, as in Hamilton, work should be done to retroactively re-establish a public connection to the waterfront. Rather than working toward the removal of industry for this purpose, the waterfront condition can be adapted to suit the public needs of the city in lieu of complete industrial exodus.

In designing a new relationship of city and industry along the waterfront, a few strategies stand out as keys to its possible success in pushing the traditional boundaries. The following methods are introduced from research topics as design interests, relating and building on the previous chapters. These topics are: working with industry, port redesign, port and city strategies, building placement and relationships, massing and interaction, programme, elements and materials, ultimately culminating in the proposed building design.



### ***Working with Industry***

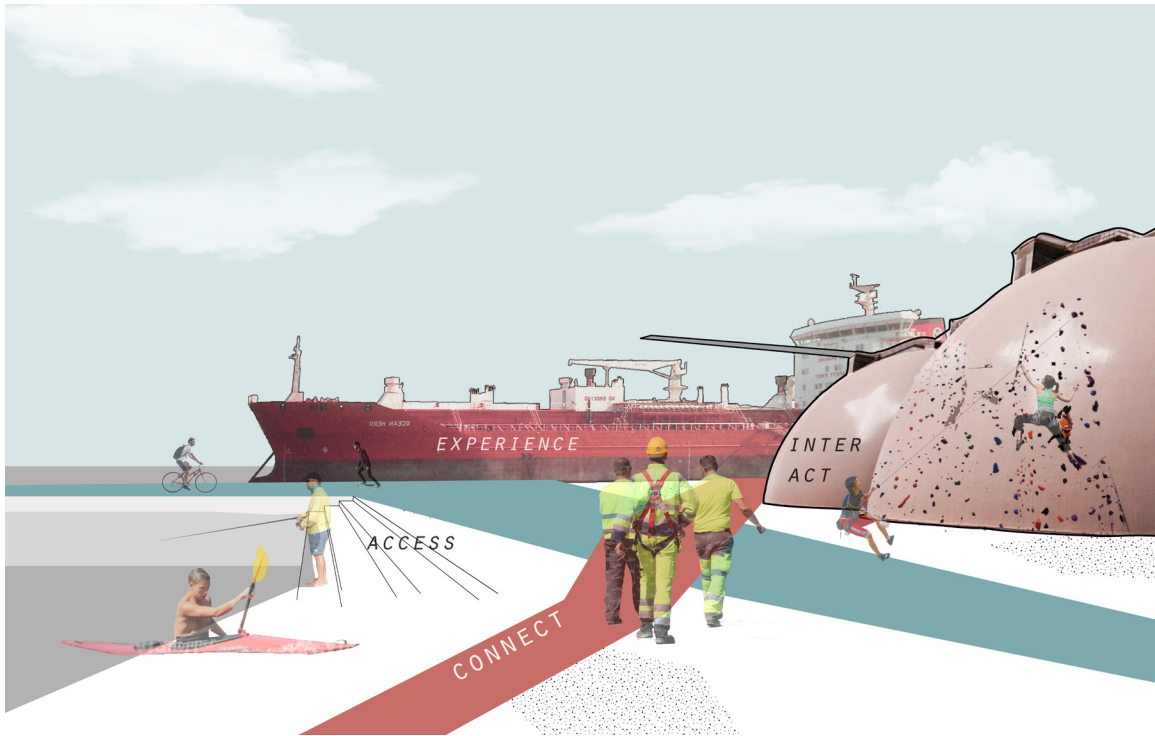
In Chapter 5, a lot was learned about the 'otherness' that industry brings to the city, as a type of space which is unmatched in scale, activity, and grittiness to other urban sites. These differentiating qualities are what draw people to the space, therefore the level of interaction between new use and industry can be crucial in the success or failure of the project; consider a park which simply borders fenced industry versus a viewing tower that places the user within metres of working infrastructure.

Decommissioned industry can also have an influence on people visiting the space. Removed from its former industrial activity, these pieces still share the monumentality and age of their industrial past. Remaining artifacts are reconfigured to better serve as public anchors than in their former configurations. Therefore, in cases where industry has been removed from its former place, there is an opportunity to adapt the infrastructure to a new configuration, serving a new use in a public context.

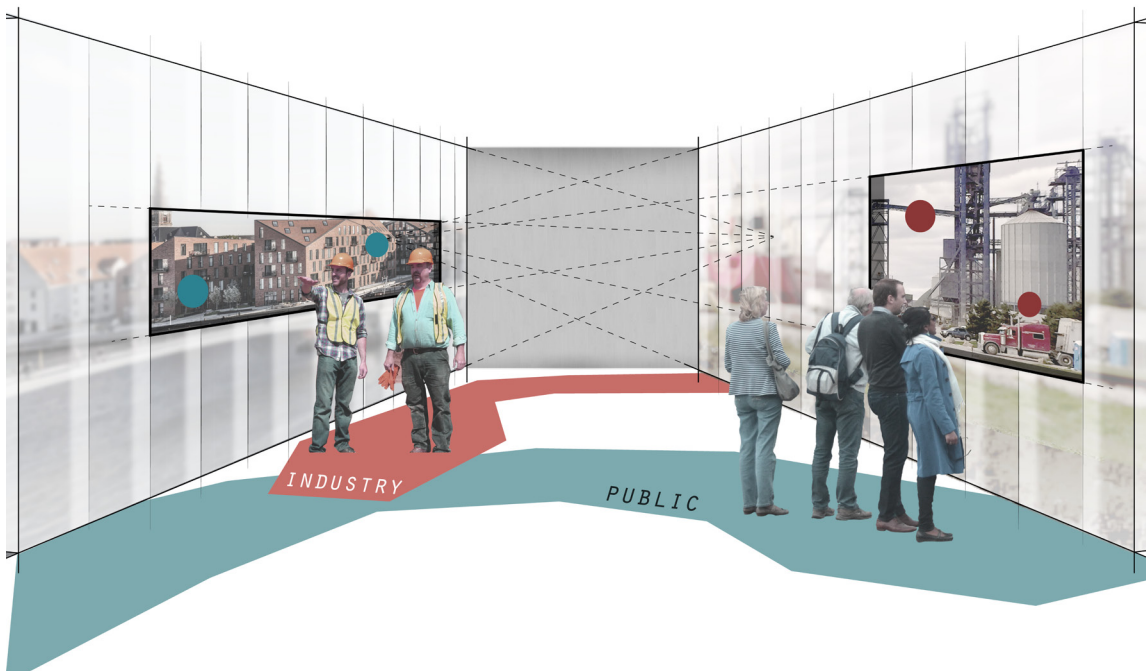
In any case, with public use in proximity to active or decommissioned industry, safety and security are important measures to consider for all work in this landscape. At a minimum, maintenance of the current condition for these measures must be maintained. Secondly, as the industrial landscape continues to adapt, it is apparent that security measures are increasingly handled in a digital realm, meaning that physical barriers to space are less of a requirement, and can be used more sparingly.

Overall, opportunities exist by intentionally interacting with industry as a neighbour to public space on the waterfront.

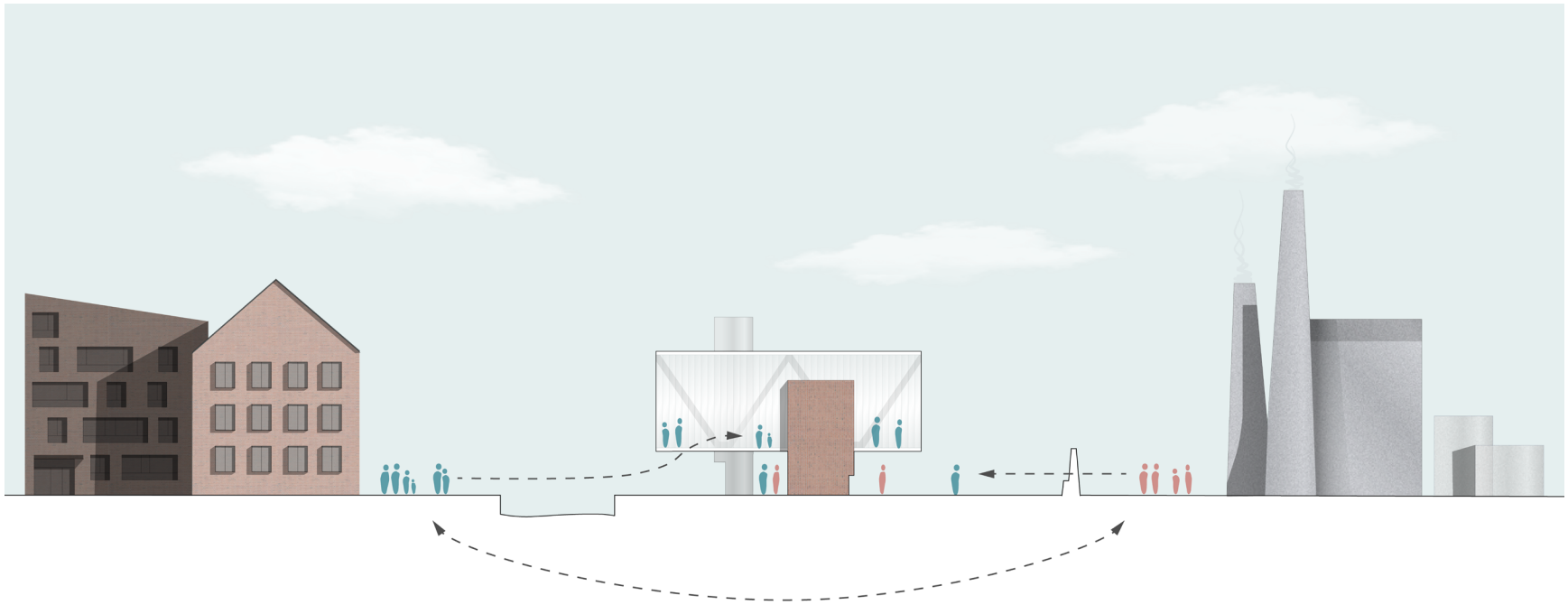




Community wish image - showing desired outcome in new mixed zone; of overlap between industrial and non-industrial users, ground openness, and a new mix of activity from different users.



Building wish image - provide space and amenity that serves all potential users throughout the day, offering moments of overlap in perspective and a new relationship amongst waterfront users.



Proposed sectional wish image - user groups crossing existing impassable thresholds to create a new mixing-ground.

### ***Port Redesign***

The urban strategy for the extended Hamilton Port Authority site attempts to manipulate its existing industrial organization only slightly to allow for continued industrial prosperity, while adding public space and moving towards a shared waterfront condition. Three urban design moves manifest as steps towards the desired result:

- First, the existing industrial footprint is condensed to only port industries which rely on their connection to the water. Mainly, these are the areas directly adjacent to the waters edge with boat access. Other industries, which have grown into the landlocked portions of the site, are purposefully displaced to allow for public reinterpretation, as they do not rely on the water for their prosperity.

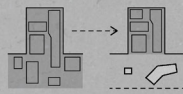
- Second, the remaining industrial lands are bordered by connective public space. A port park is extended from Pier 10 through pier 14, interacting with active industrial elements and artifacts from removed industry. The park sits between Burlington Street and the port, connecting to each of the four building interventions and reaching the water at multiple points, which form smaller gatherings in the larger setting.

- Third, the city grid is introduced into the park by extending street networks, reconnecting essential urban transport systems into the site such as by foot, car, or other modes of transport. This allows a more informal flow of people to the site, with a porous edge rather than a park which has determined arrival points which further act as separating forces.

# PORT REDESIGN

In order to interject public space into a working port, existing attributes were addressed in order to allow these two uses to coexist: a) condense industrial footprint to strictly port industries in moorable plots of land, b) border industry with park space, connecting water and city networks, c) reconnect the city grid into the port park, by extending street networks to the water's edge, allowing informal park access, d) envision public instillation past current site edge, to connect to further industrial areas and convert more of the waterfront into an accessible edge

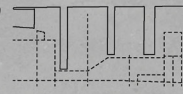
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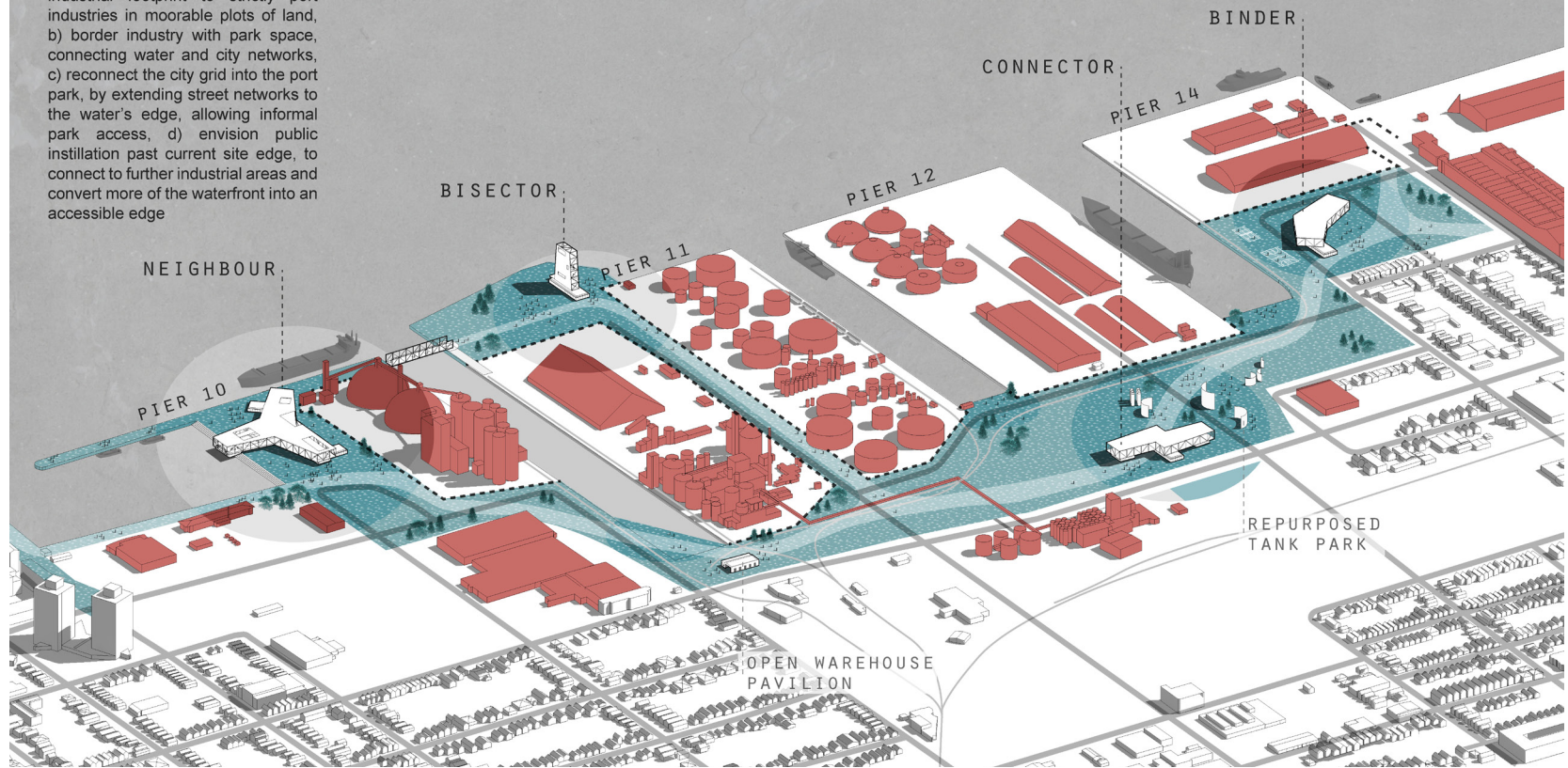
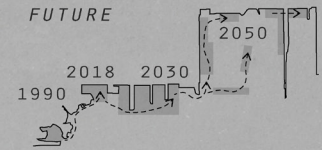
PARK



GRID



FUTURE



Urban port redesign strategy. Proposed port park connecting Hamilton to its water and its industry. Across top, strategies for a reorganization of land culminates with four proposed buildings along its length, each interacting with nearby industry in new ways. Smaller parks at water connection points are made within the scheme and repurposed industrial infrastructure serves public function in their new setting.



### ***Port and City Strategies***

In the proposed port redesign, a few key strategies are upheld in attempt to create a thorough connection between the port and the rest of the city. These strategies range in context from public infrastructure, landscape and more architectural origins, which could each be developed by different groups and at different times. They are as follows:

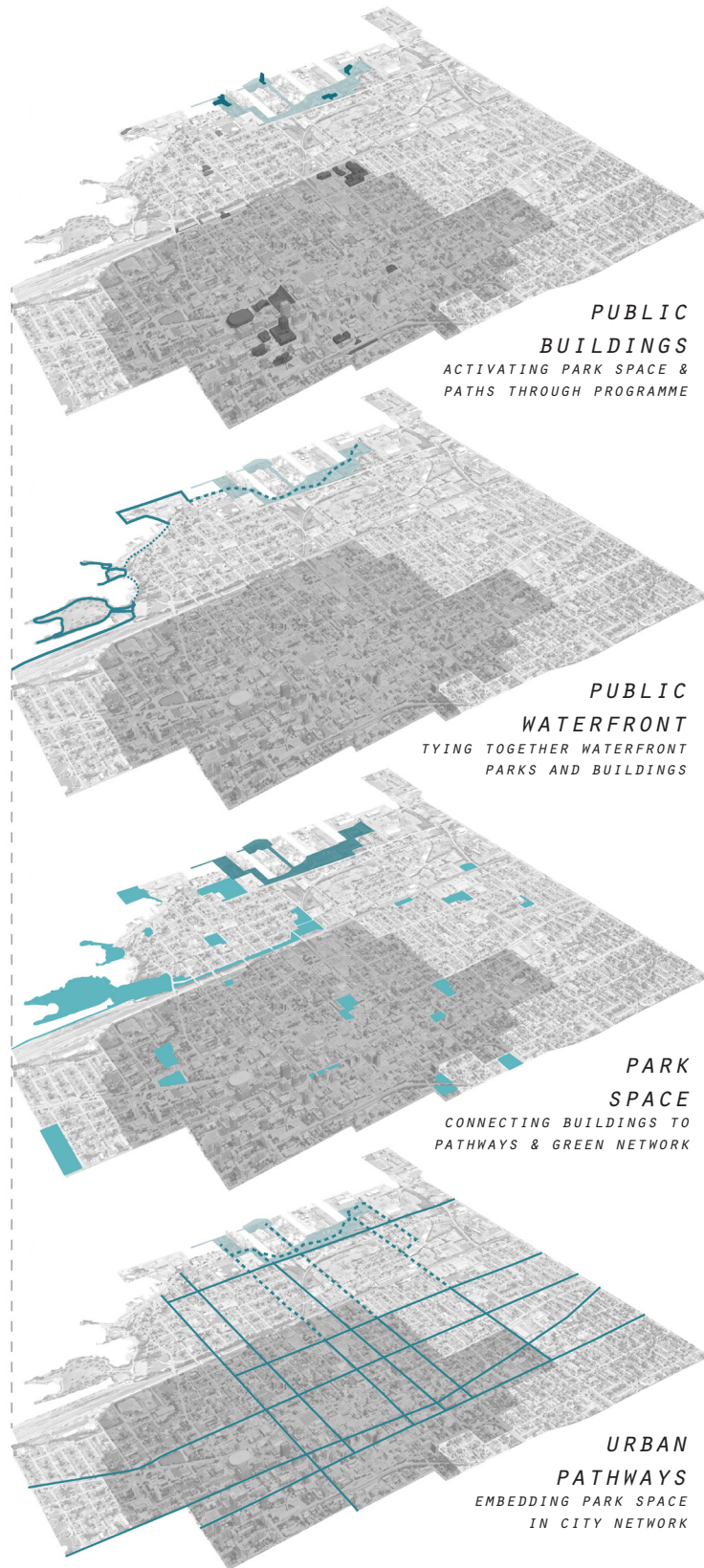
- The city must connect into the proposed park through *urban pathways*. Existing streets lack the ability to host diverse transport methods and do not connect to the waterfront. The proposed work highlights a few major thoroughfares, both for car or pedestrian, that will work to pull users back down to the water to experience the shared condition. By highlighting these urban connections, drawing them into the waterfront, and enhancing the physical infrastructure, the city can reconnect and grow back towards the port park site.

- The people must create a connection with the *park space* through landscape and the open park setting. A multitude of activities can be supported on the project site, whether formal or informal. An open landscape is created that increases access to the formerly enclosed port area, and allows visitors opportunity for a new experience. It also works to replace historic waterfront parks that existed in this area.

- In recent and future developments, Hamilton's public *waterfront* will become a more connected recreational network, that comes to an abrupt stop at industrial areas. Through this work on the HPA site, this waterfront network is extended through sites with active industry, allowing the

path to reach new areas of the waterfront and provide a more varied experience to its users.

- Proposed *public buildings* on the site provide a base for more specific activities that enhance the livability of this area year-round. They provide lacking public amenity, that supports and draws a wide variety of users to the waterfront. As well, a new cultural centre is created on the waterfront with this grouping of public buildings, drawing public attention to this portion of the waterfront.



Multiple urban strategies connecting city and port, encouraging new activities and pulling people back to the water.

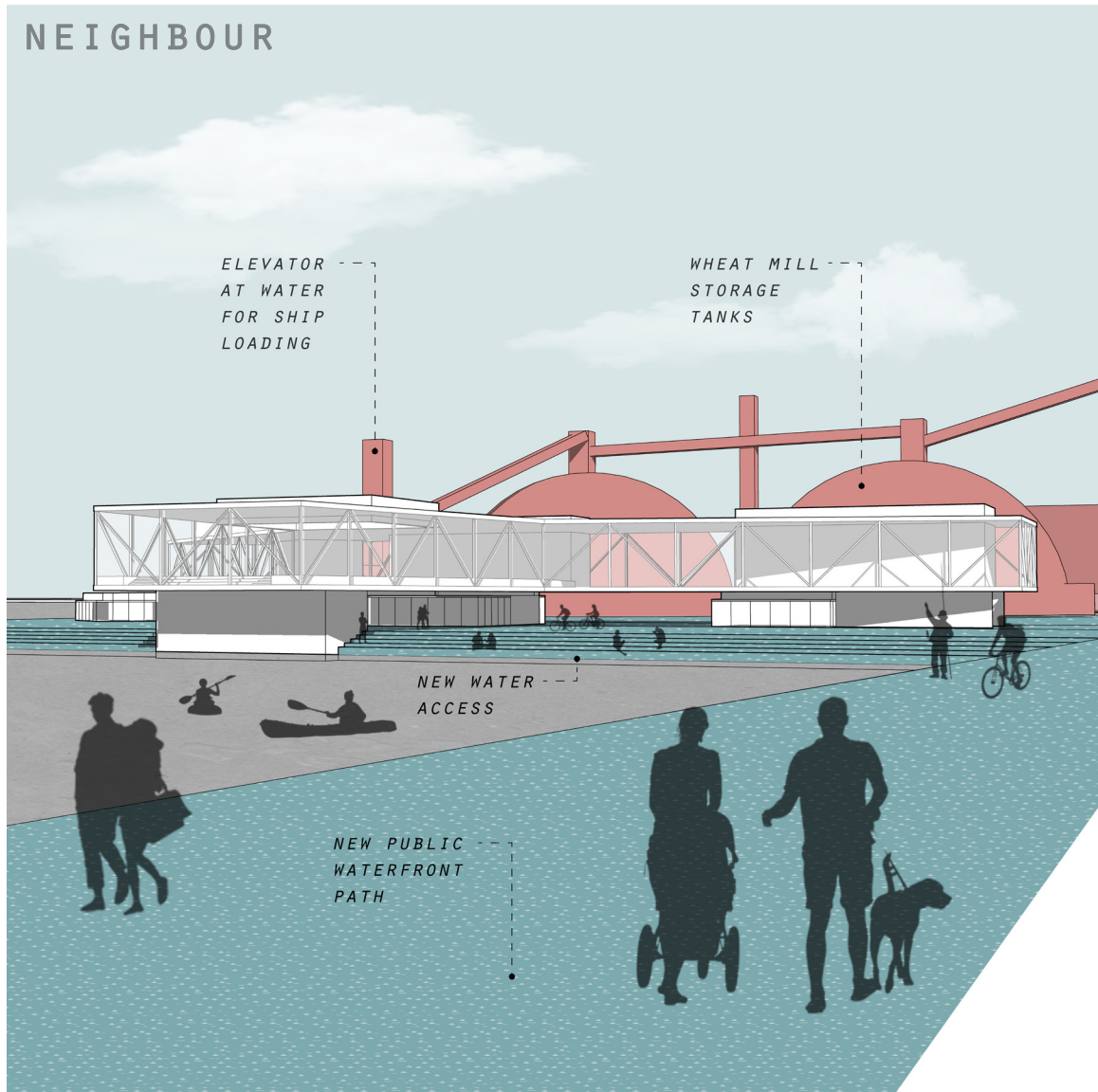
### ***Building Placement and Relationships***

With a project that looks at a large stretch of industrial waterfront as one site, multiple buildings can offer different interaction levels with their active, industrial neighbours. Simply in the placement of interventions, many different outcomes can push boundaries of the current city to industry relationship. This is possible through adaptable security measures, for the ability to close off areas and open others for interaction with public use, based on industrial type. On the HPA site, multiple unused sites are host to new public use, each having a different relationship to the water's edge, active industries, and the city networks to the south of the site. This deviation of formal relationships between interventions and industry can help to provide a varied experience along the proposed waterfront site, seen in the four, aptly-named, formal interventions.

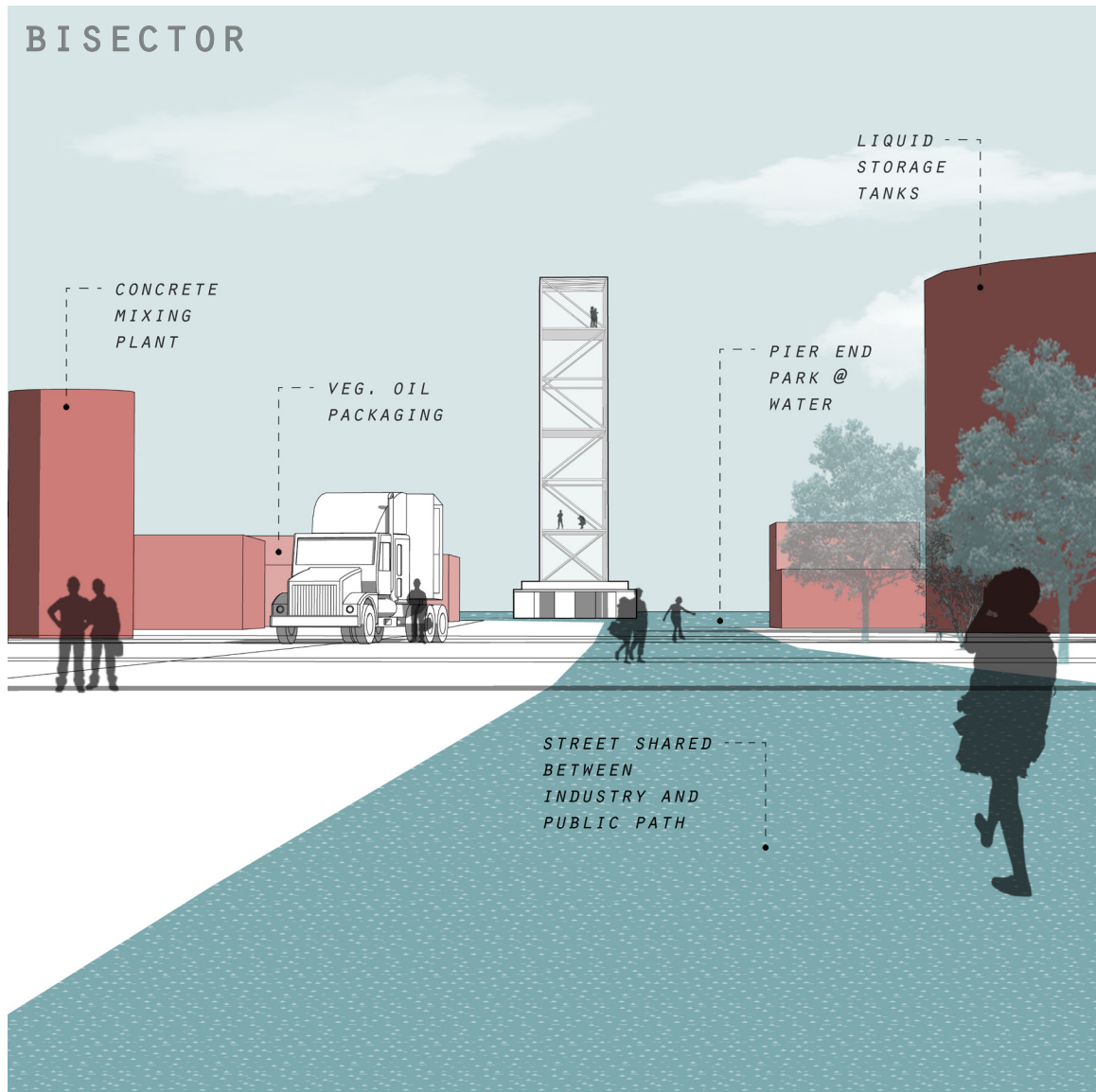
### ***Massing and Interaction***

Whether active or inactive, careful interaction towards industry must be made with any proposed design in this space. The new buildings must be sensitive to the active industrial site needs for things like supply movement, sound disturbance or for security measures. Interaction between these two uses should be deliberate and thought out. Methods such as gained height and perspective, directed massing elements, and variable opacities of façade are used to create a connection with neighbouring uses more sensitively, on the building scale.

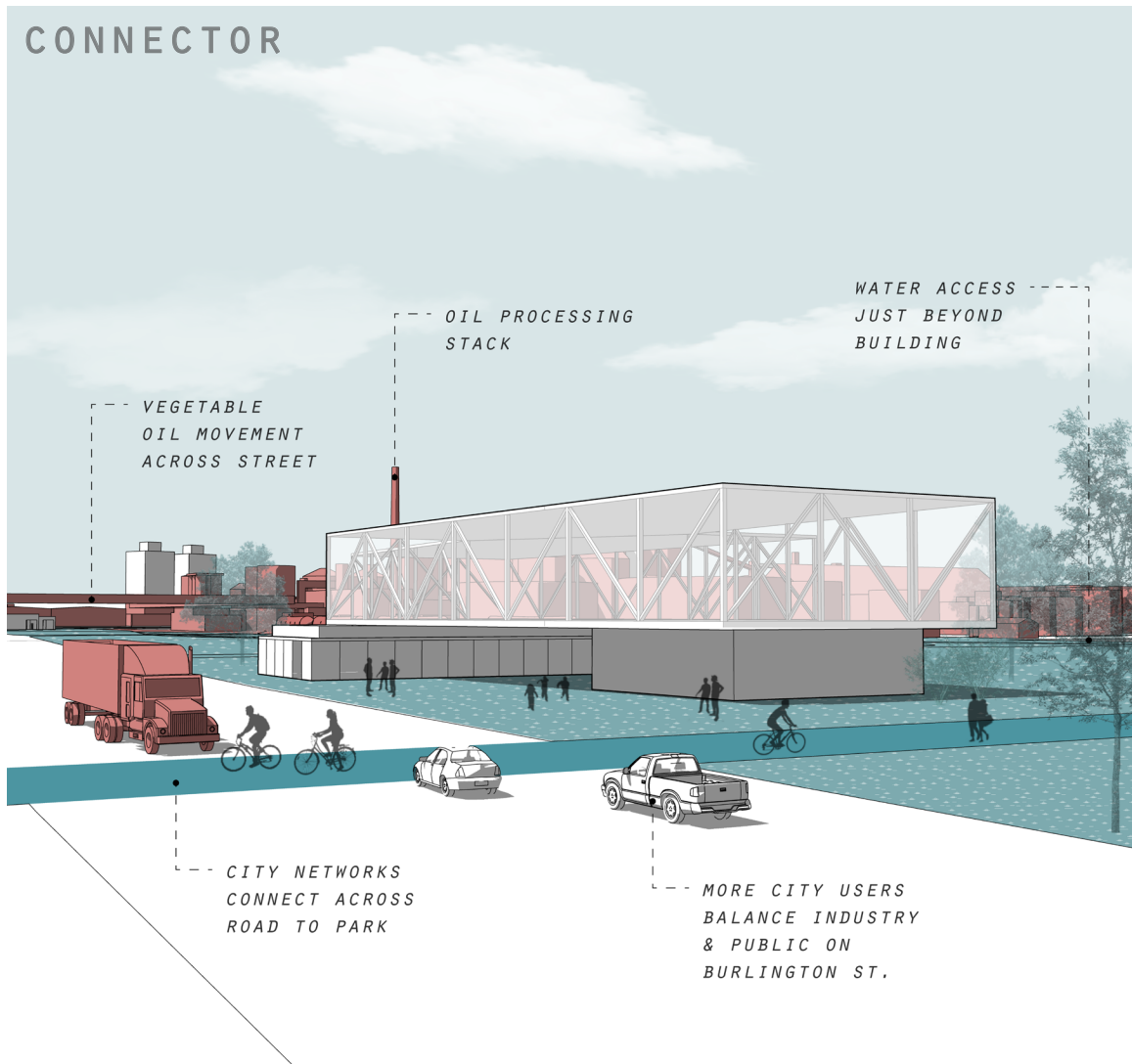




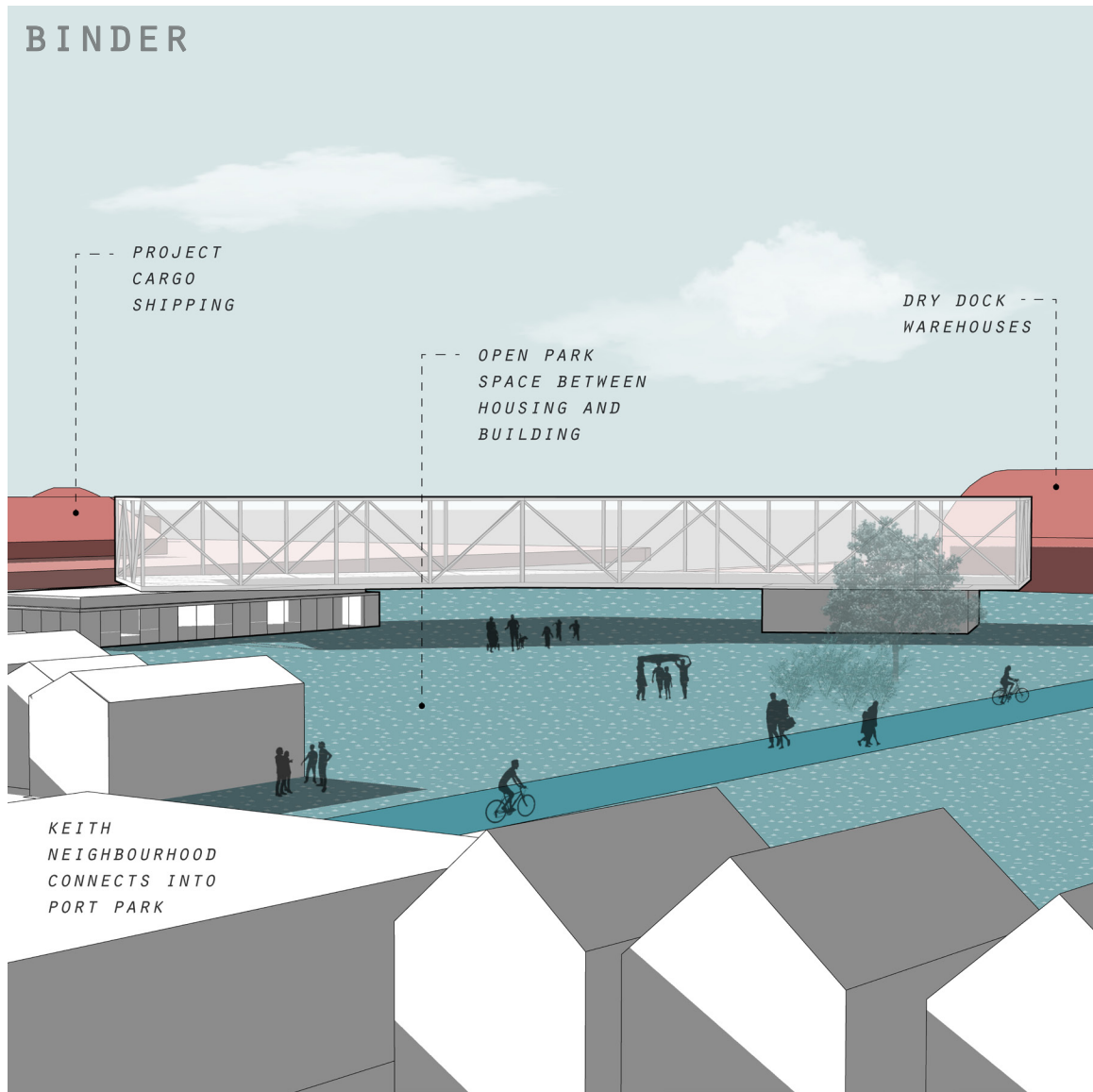
The first western intervention on the site acts as *neighbour* to active industry. It sits adjacent to the wheat production mill, separated by a small barrier, but uses gained height and massing to push boundaries of the physical relationship and create connection with its industrial neighbour.



The second intervention draws the public realm down the centre of an industrial pier, acting as *bisector* to industry at its sides as it publicizes formerly closed-off land. The tower exists in a new park at the pier's end, as the circulation and park space around it act as a strong mixing ground of industrial and public use.



The *connector* building exists along the main stretch of the port park, fronting both the park and street equally. Formally it is in line with the park scheme, but its relation to the street is intended to guide users through its porous ground floor and activate the space surrounding the building.



Located in proximity to both industry and private housing, the *binder* intervention embeds the formerly isolated Keith neighbourhood within the park scheme, acting as a gathering space for local residents.. Sitting at the far east of the port park, the massing of this building supports future continuation of the public path beyond the site.



### ***Programme***

There are prosperous communities surrounding the HPA site that rely on a groupings of programme to inspire activity, but growth of the mono-purpose industrial condition has evicted community programmes from the industrial area. To combat the lack of diversity in both economy and activity, multiple cultural centre programmes are proposed in four buildings along this stretch of waterfront, for the reintegration of public use to this space. Programmes of work, play, and learning elements exist in each proposal to provide essential community programme and create a new waterfront culture.

These overlapping programme elements are intentionally broad-reaching, with the aim to serve as many different types of users as possible. Also, many of the proposed uses are meant to be interpreted as open programme, meaning they are adaptable to change of use over time, which could create new and exciting relationships throughout the buildings. Mainly, the three intended user groups are nearby residents, industrial workers, and tourists. Therefore, programmes have been chosen which provide amenities to each of these groups equally and create interaction between them, unseen in the current condition.

As well, the broad spectrum of public use can provide a continuous flow of activity, no matter the time of day or year. For example, the pool and market programmes are envisioned as centres for lunchtime or break activities for the industrial workers, when nearby residents are typically away at work. When the workday ends, the users of this space rotate, as local residents return and activate the

community programmes. This counterbalance of primary-use-mixing in each building is an essential for this proposal to bring continuous use and activity to the waterfront:

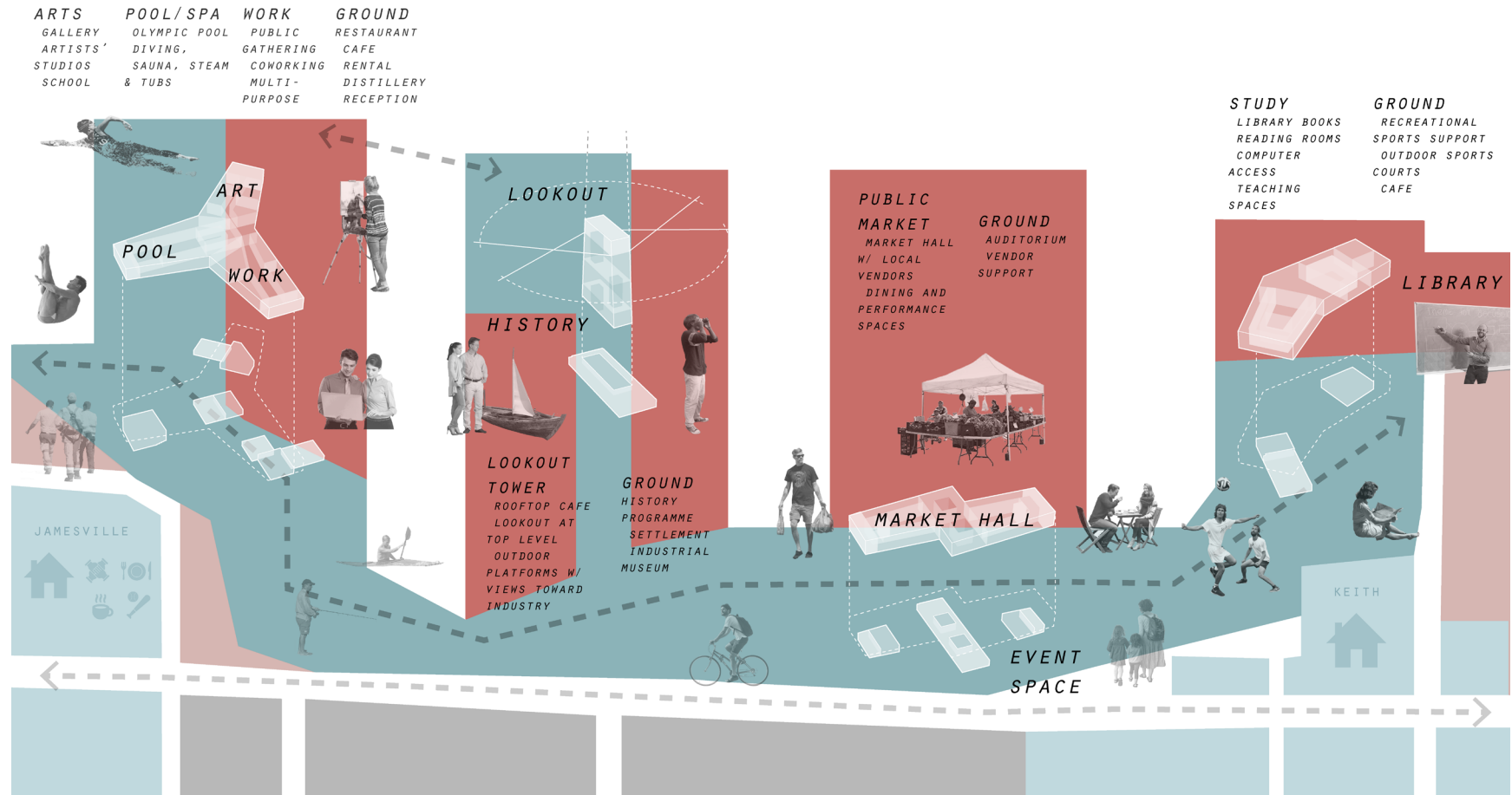
- The furthest west intervention, the community hub, combines three large amenity programs. A public pool provides an escape from working conditions for industry and a retreat for residents alike. It also connects the community to water in a physical sense, since swimming in the harbour is not yet possible. A working arts programme places the creation of art in direct access to the inspiring view of industry. Also, a community co-working space visually connects the site to the more urban downtown offices, creating different types of working environments in the industrial context.

- The second west intervention in this scheme is the lookout. A gathering space is placed atop a 30m tower, providing perspective on the scale and activity across the entire waterfront from a single viewpoint. At the ground floor, a historical programme speaks to industries past, present and future.

- The third intervention hosts an open concept market hall on its second floor, providing food service year-round, for both industrial and residential users, and hosting community-building market events.

- The fourth intervention, in connection with the Keith residential neighbourhood, is known as the study. This building houses library functions, with large spaces of public gathering and learning, solidifying the neighbourhood in the park scheme and ultimately reconnecting it with the rest of the city through public space.

# PROGRAMME



Programme diagram for the proposed port park. Each intervention has specific amenities to provide the new community as a whole, offering recreation, learning, food services and unmatched industrial experience to the mixed landscape.

### ***Elements and Materials***

The environment surrounding industry in Hamilton is less contaminating and hostile as it was previously, but still comes with levels of pollution from shipping methods (in combustion engines), the creation of steel and through airborne particulates from the movement of goods. In efforts toward more sustainable cities, these physical effects on local and global environments should be mitigated. Especially in proposing increased levels of public activity, proposed building elements and materials can provide a buffer to these effects, using manufactured or natural materials that work towards local remediation.

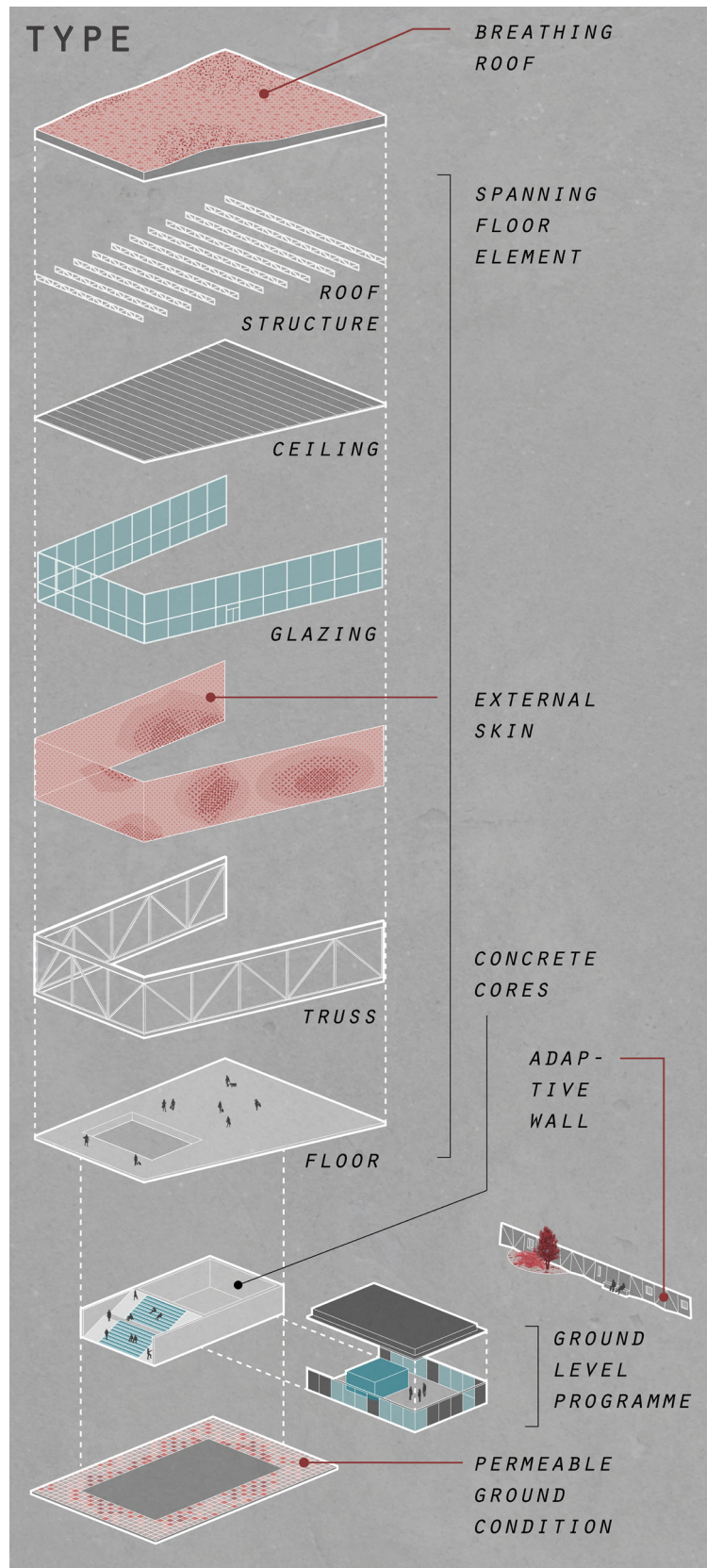
Secondly, elements proposed in this thesis create a material juxtaposition, by working with found materials in different ways than in their industrial context. Elements like concrete and steel are used to push these industrial traditions of enclosed working space in a more social environment, reinterpreting elements like large-scale steel trusses, concrete supporting walls for providing access, and panelized sheet metal.

Lastly, materiality emphasizes the social spaces inherent in this thesis. For example, the use of glass as a mode of transparency, to allow connection between different programmed spaces, and as an attractor of use, putting interior movement on display allows the proposed buildings to inspire activity in a generally opaque area. Materials also demarcate spaces through this design, as interior courtyard spaces employ more tactile materiality than others areas. Therefore, through the manipulation of materials, perceivable divisions of space are mitigated while also enhancing the inherent publicness of the project.

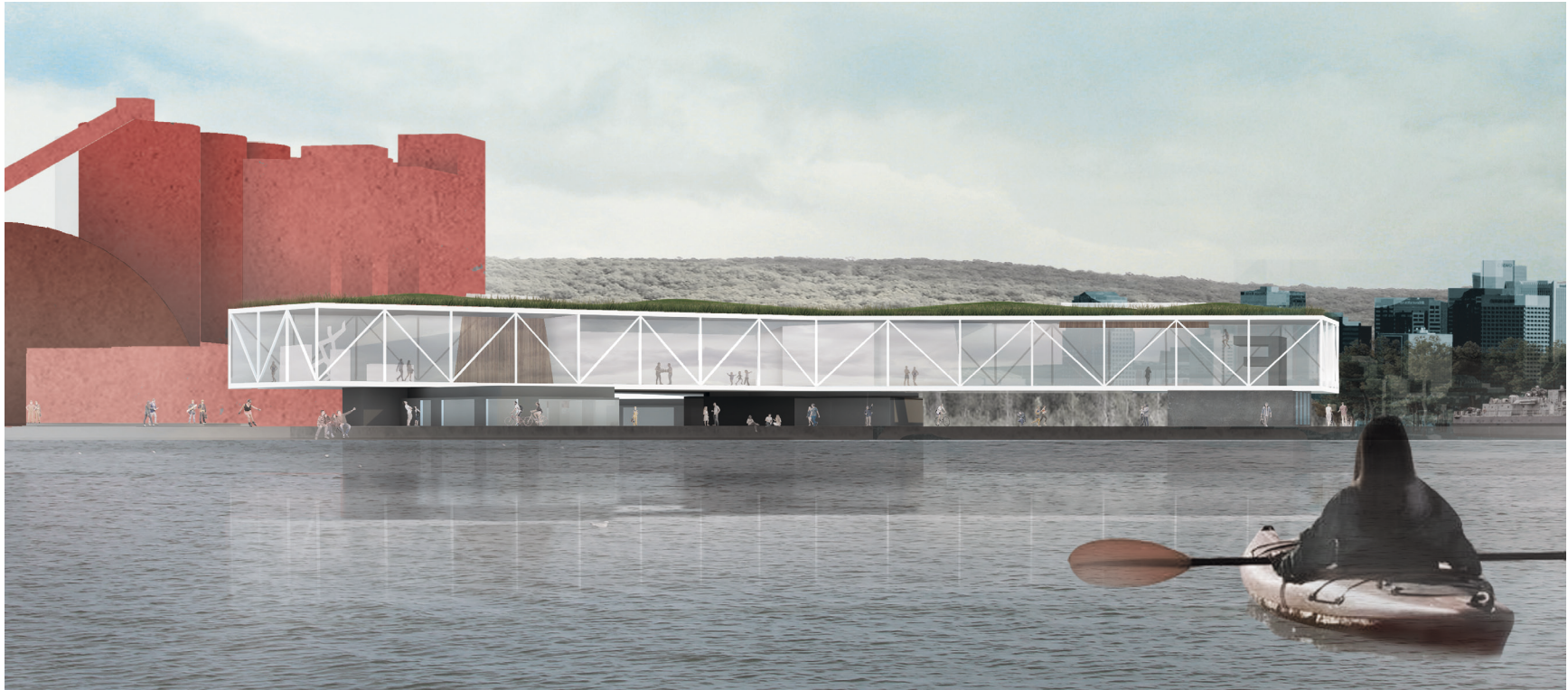


The following is a list of the developed architectural tool kit employed in this thesis:

- 8m square trusses create a spanning floor element that hosts the community programme on the second floor of each building.
- Concrete cores support the spanning floors while providing access through public stairs and elevator cores.
- Ground-level program is housed in a lighter, panelized metal construction that adjoins to the concrete cores in small dimensions and connects to ground level plazas.
- The breathing roof employs a specific mix of grasses, used to absorb airborne particulates while also combatting pollutants through phytoremediation.
- An external skin alters the environmental experience of the buildings. Perforations vary in size across the facade, blurring the structure and revealing views based on perspective. The skin also breaks down airborne pollutants through a coating of titanium oxide, a compound activated by sunlight that attacks nearby carbon-monoxide and nitrous-oxide particles.
- Harsh concrete slabs are replaced with permeable ground cover to address ground surface run-off, through a mix of pavers, natural elements and more tactile materials in outdoor seating areas.
- And, in cases of a secure border between public and industrial use, an adaptive wall is proposed with pass through, seating and planting elements on either side, changeable to evolving relationships between uses.



Architectural tool kit, adapting found industrial elements to serve public functions and provide environmental buffers.



Kayaker in the Hamilton Harbour, observing the active community hub building. An artists' gallery, inspired by the industrial activity it is perched above, and the Olympic pool fill the upper floor with visible activity while the public gathers in the ground floor plazas to experience the water, as Hamilton had in the far-removed past. Still, the wheat mill produces its regular daily yield and the city centre is active in the background. This building has merged those two, formerly disparate worlds.





A bulk storage ship being loaded by the neighbouring wheat mill, while residents and tourists take in the amazing scale and work that happens in this part of the city. Most visitors come for the restaurant, the pool, or the galleries in the community hub building, while others simply take in the views and relax at the waterfront, and there are always some industrial workers present, usually catching a break.





Plaza space between the wheat mill and community hub building is an active public gathering space, with food trucks often setting up shop, families enjoying the area and programme spill-out from the distillery and bar. The adaptive wall at the east side provides places to rest and get a glimpse into the industrial activity beyond.

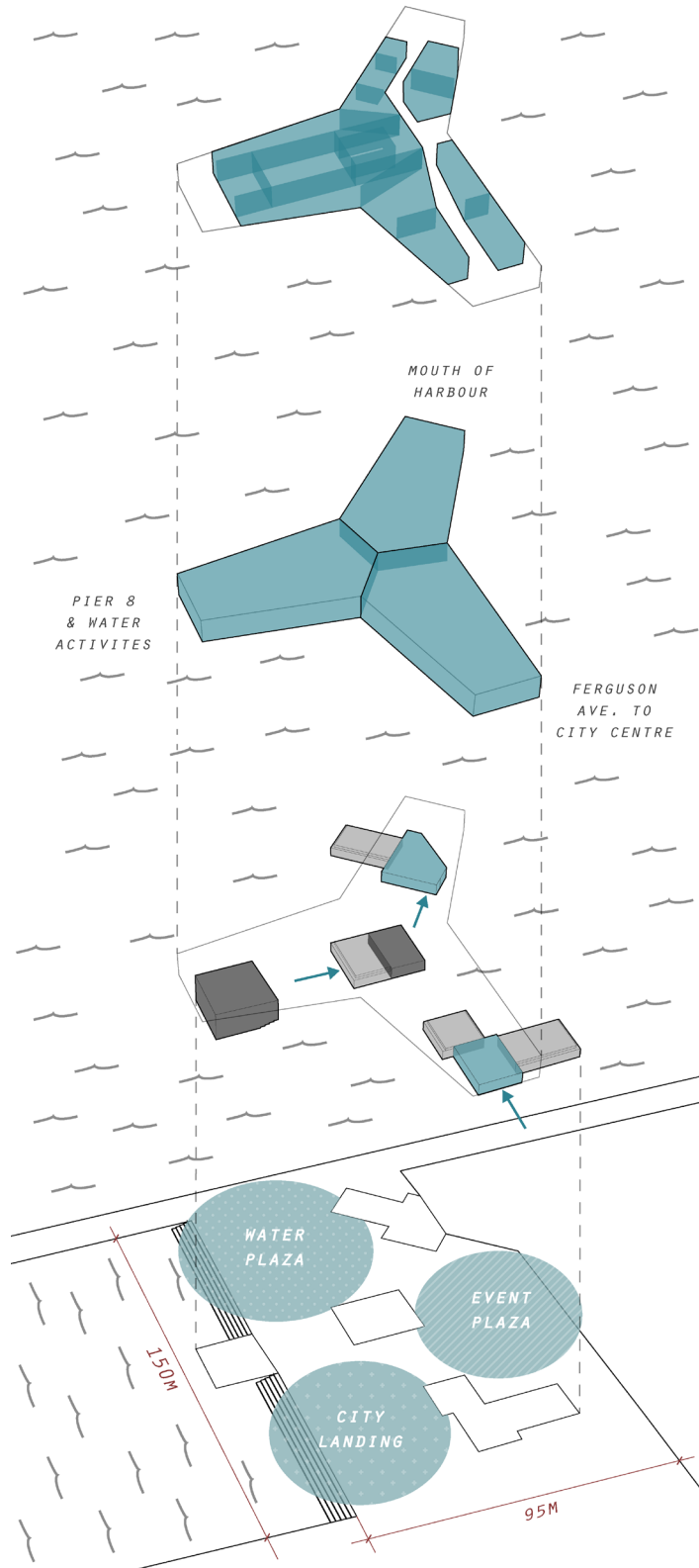
### ***Building Design***

In developing a building design on this large industrial plot, much thought was given to its organizational structure. Many iterations were explored in terms of building makeup, whether separated, contained, raised or designed as a wall. The culminating building design, developed as the community hub, employs a three-prong (winged) approach to organization on the site. This has multiple benefits towards the success of a public building in such a different, industrial context, but it is acknowledged that a multitude of diverse strategies could be upheld in this condition and contribute to a successful mix or uses. The five main advantages to this approach are:

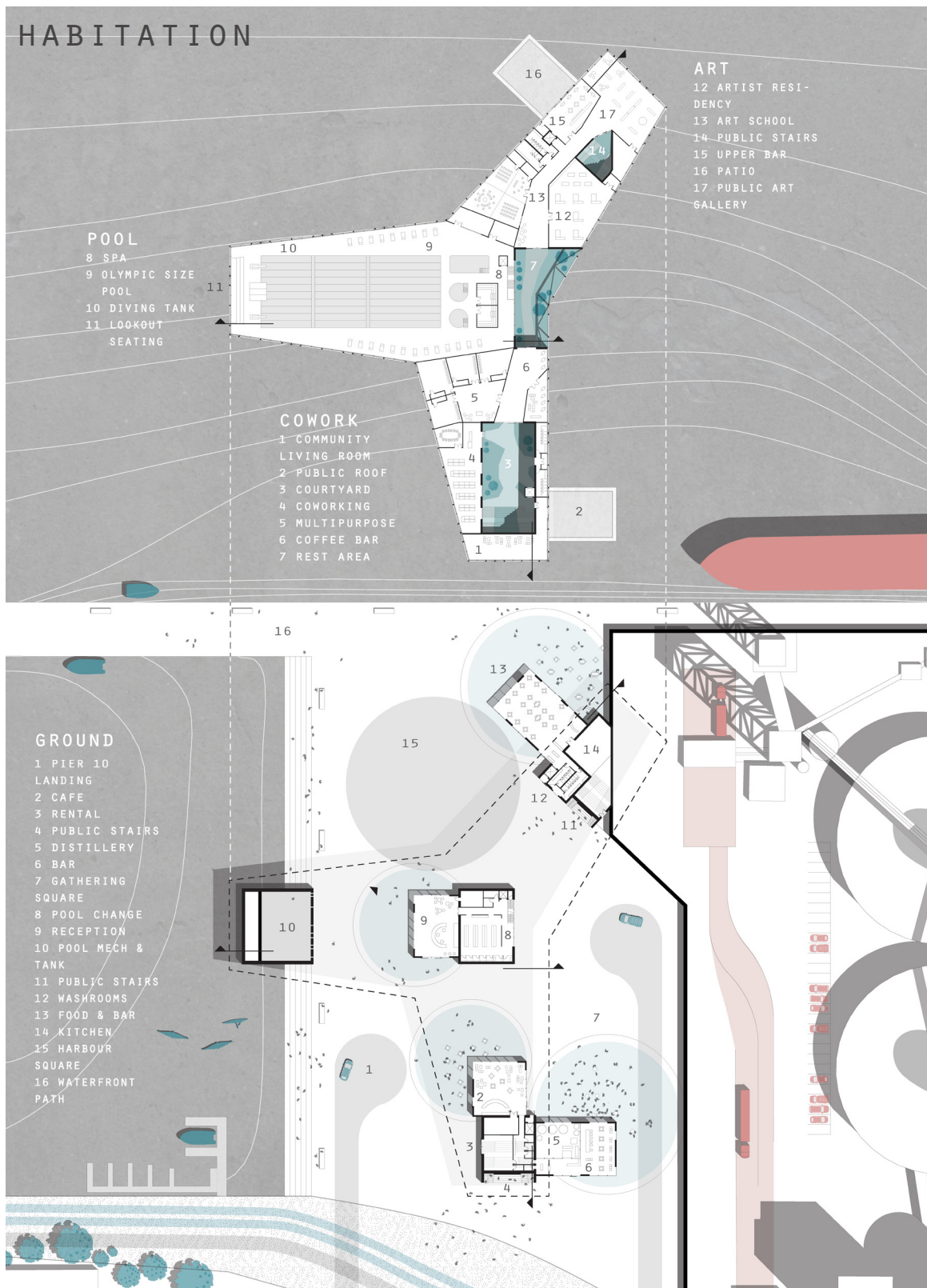
- The division of the large industrial plot (150x100m) by the wings of the building created smaller organizations of space, plazas, to provide zones of differing public experience. These are known as the water plaza, city landing and the event plaza, all host to a different range of activities.
- Elevating the interior public space allowed the ground condition to be as free as possible, and the cores which support the spanning floor allow for the different uses in each plaza, spilling out and providing main access to the public spaces of the building above.
- The height gained in raising the second floor also meant that all interior public spaces will have extended views, whether to the city, public waterfront or industrial zone, to ground this building in its local context by visual stimulation and ability to oversee and experience the inner workings of the active industrial port.

- Organizing the programme into three parts allowed each to be deliberate in how massing ties into the city around the. For example, the co-working office connecting visually to the downtown core of business activity, the pool hovering out over water activities in the Pier 10 inlet and the art wing perched just slightly into the industrial plot adjacent and having views out to the ship movement and entry into the harbour.

- The connection of having all programme housed in one single building, on the second floor, allows for an overlap of types of programmes and users to interact with each other throughout the day, connecting in major gathering places throughout, and to also provide activity in the building, through different activities at different times of day, and to ensure the building is providing amenity constantly to the neighbourhood.

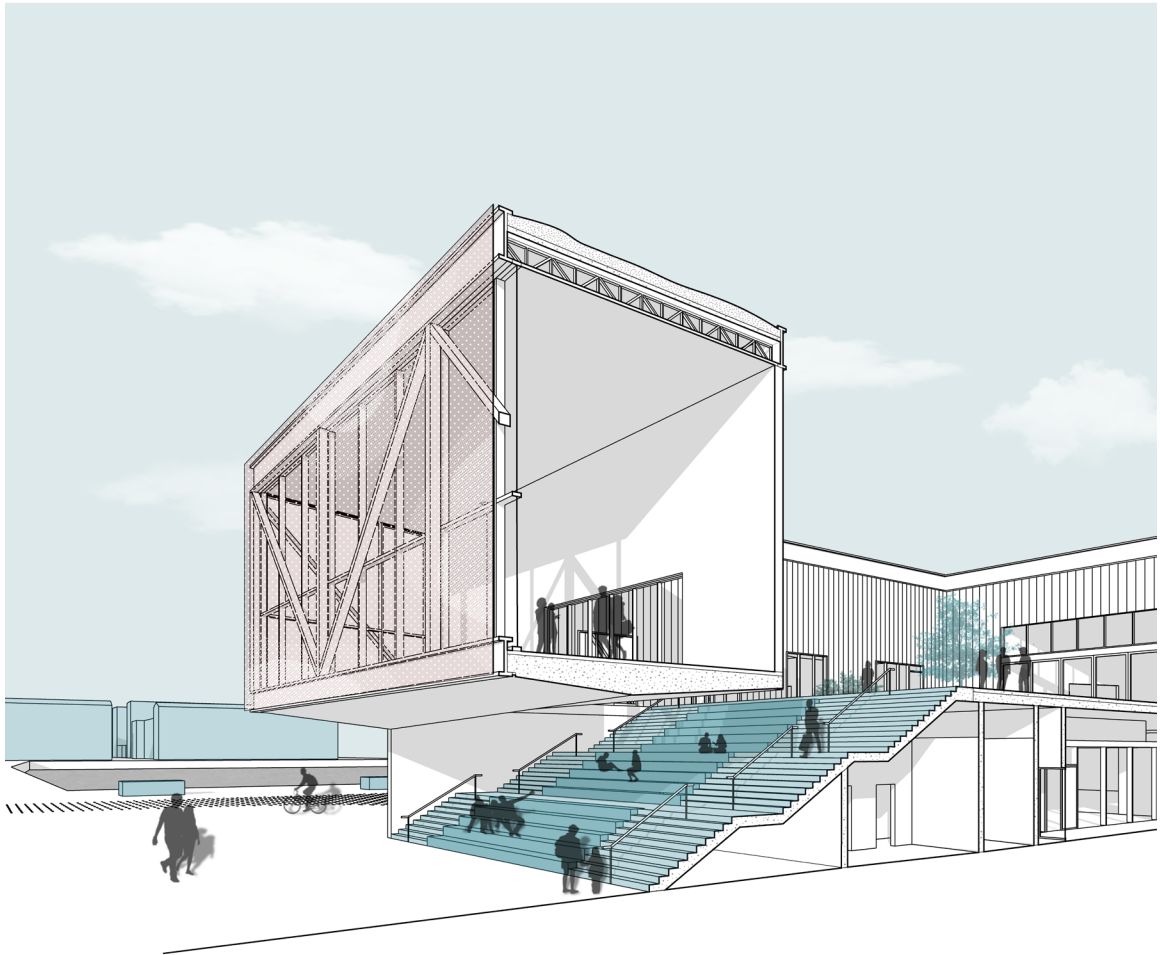


Highlighting benefits of winged approach: large site division into zones, multiple points of entry, connecting building massing to outward views, and overlapping programme and open public spaces on second floor.

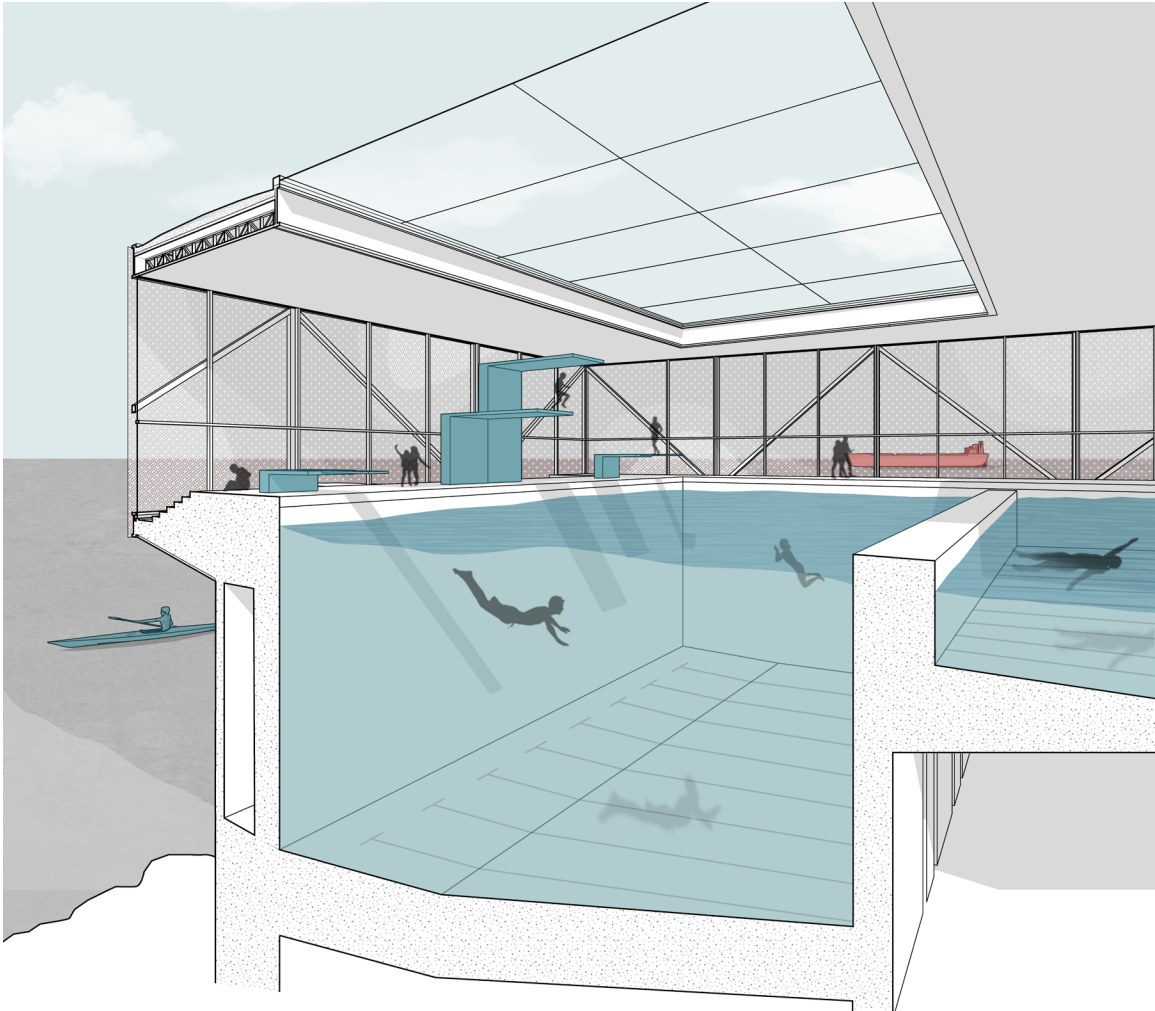


Building Site Plan, Neighbour (Community Hub).

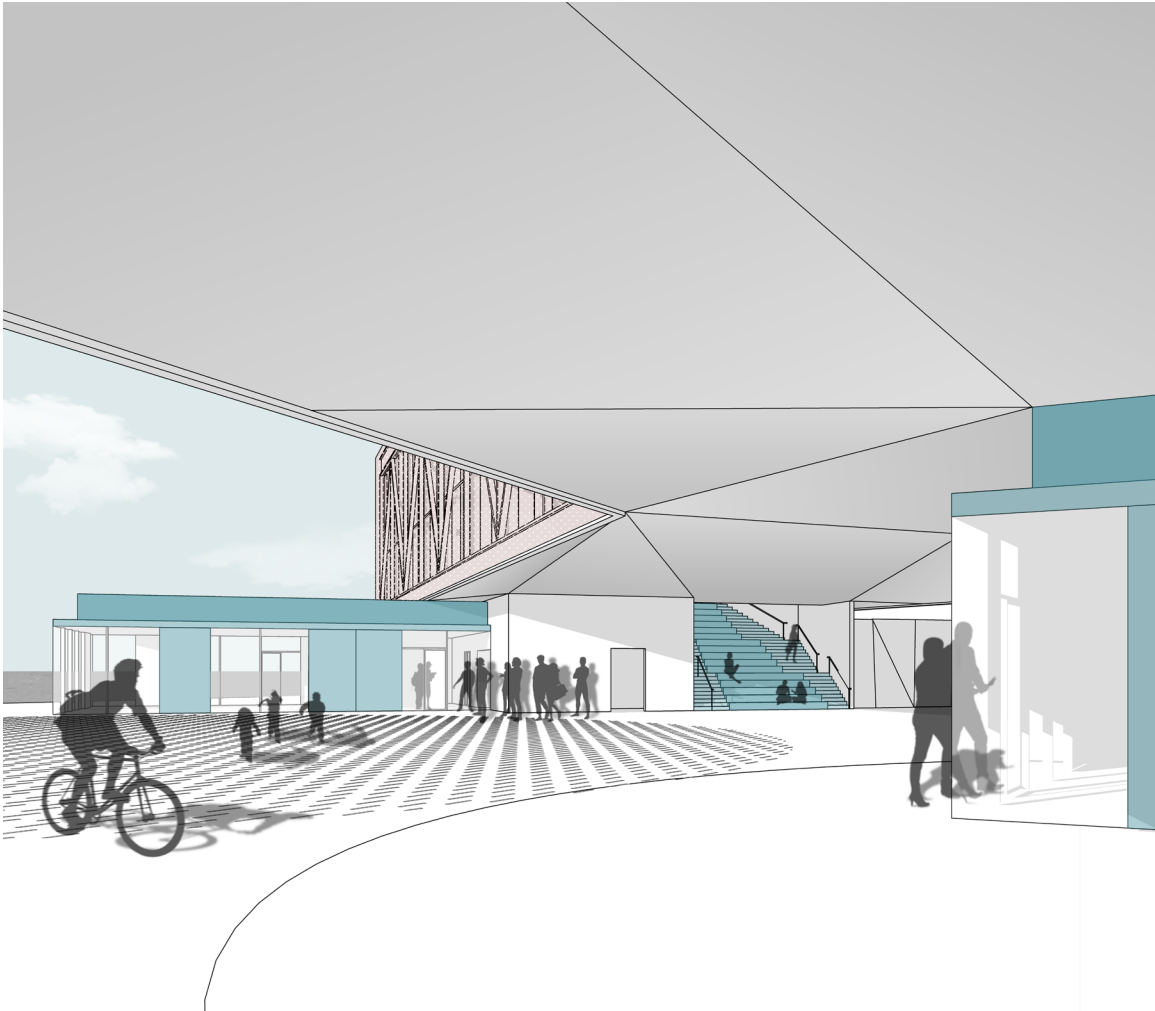




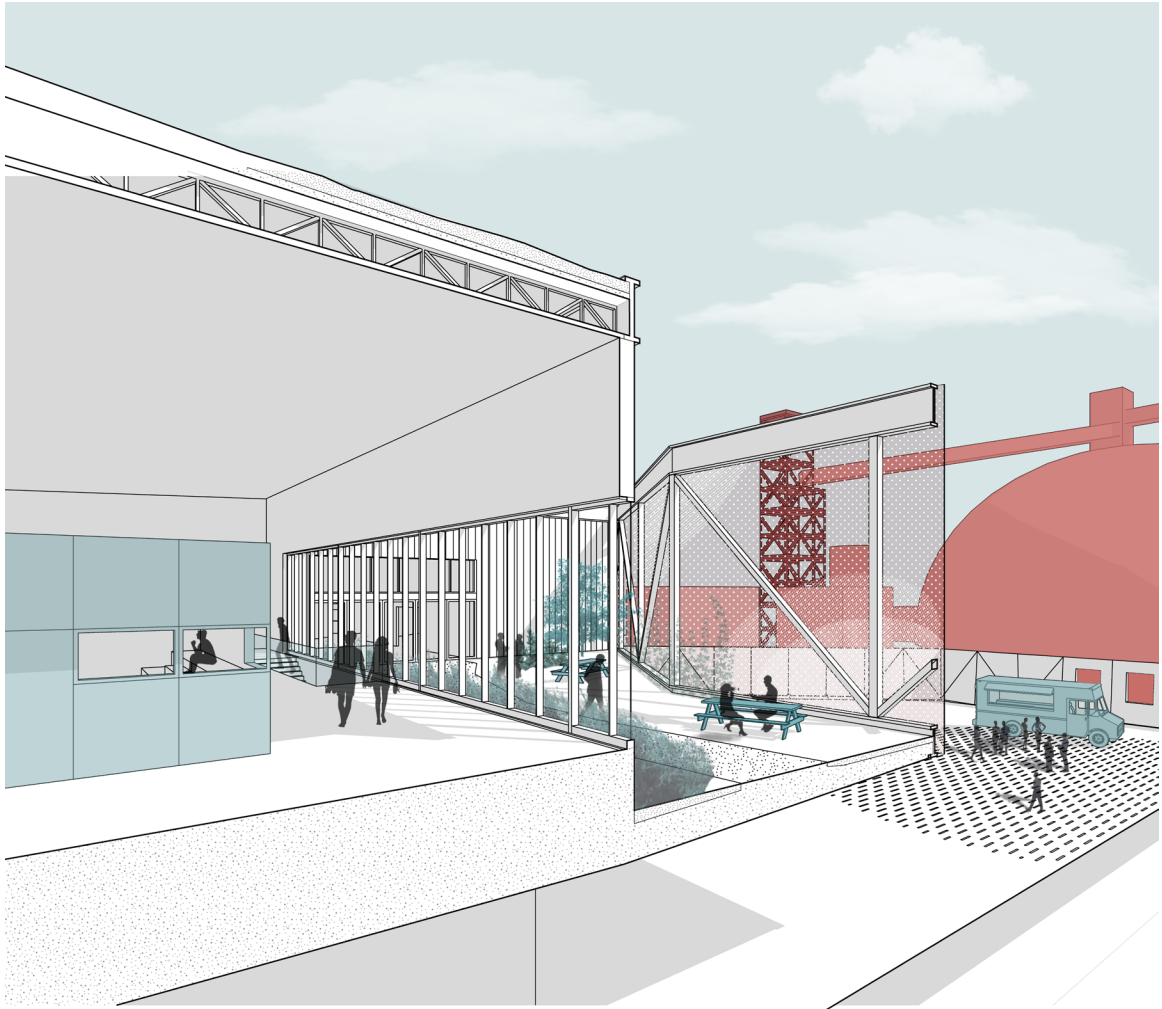
At the main entry, the proposal reaches out towards Hamilton's city centre, while multiple levels of public gathering overlap. In the community living room, an entrepreneur hosts a small conference to grow his company on the cantilevered second floor, with a view back towards the city over the port park. Next door, in the upper courtyard, other tenants mingle with the flow of public visitors to the building, and below the public stairs host a complete mix of Hamiltonians, some resting from the recreational waterfront path, reading or gathering with friends under the cover of the upper floor.



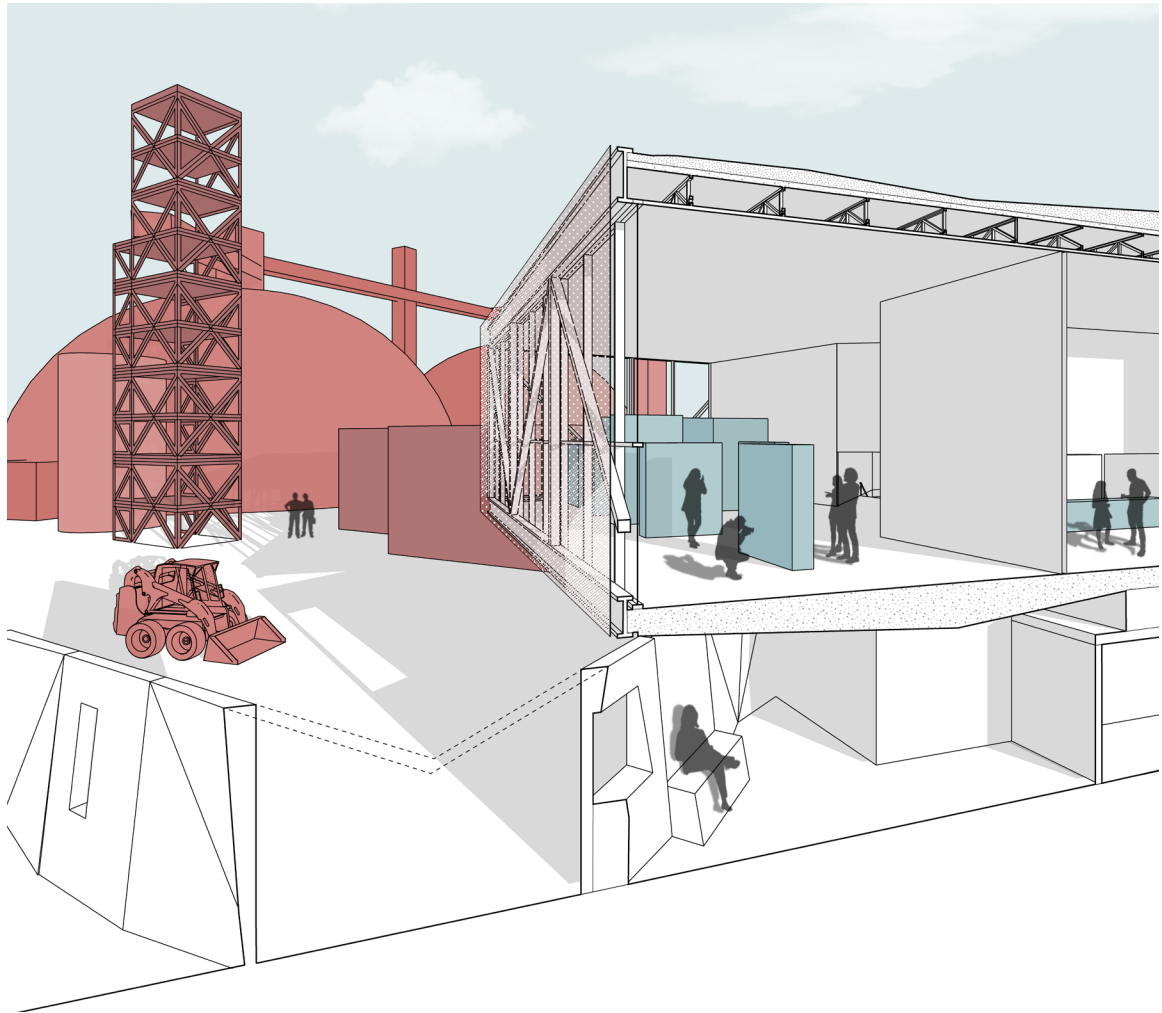
Swimmers, divers and spa visitors have expansive views out towards the water from the pool area, cantilevered out over the Pier 10 inlet to the west of the site. A few people rest in the tiered seating section at the buildings edge, overlooking the personal watercraft beneath, while the diving tank is active with jumpers. Parents keep watch from the far side, while busy tanker traffic moves across the harbour and lap swimmers get in their daily workout.



Underneath the canopy of the second floor, the ground is an activated surface, connecting to many public programmes. Bikers glide through in their work-out routine to experience the waterfront and children play in the plazas, all while the restaurant opens up for a busy night of service. Artist residents and passersby inhabit the public stair, waiting for the night exhibition to begin and the pool lobby is in a constant state of turnover.

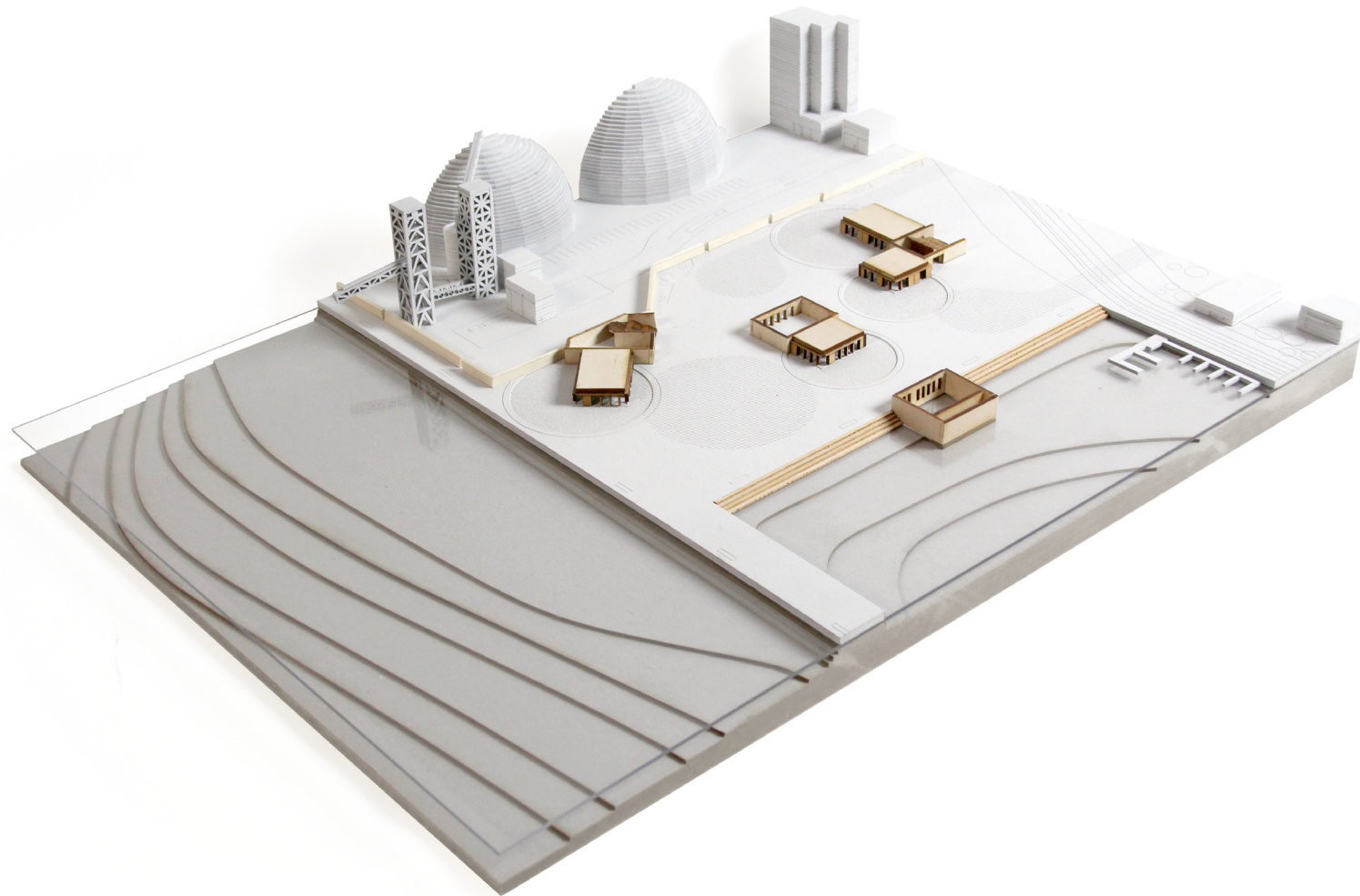


In the open-air central courtyard, a mix of all building programme is present, looking out over the bustling ground floor activities and through the industrial tanks of the wheat mill next door. The warm and relaxing environment of the spa is evident, and inspires a similar care-free attitude of the workers, artists and public visitors in the outdoor room, but the exciting ring of the food truck and a line forming brings everyone attention to the ground level.

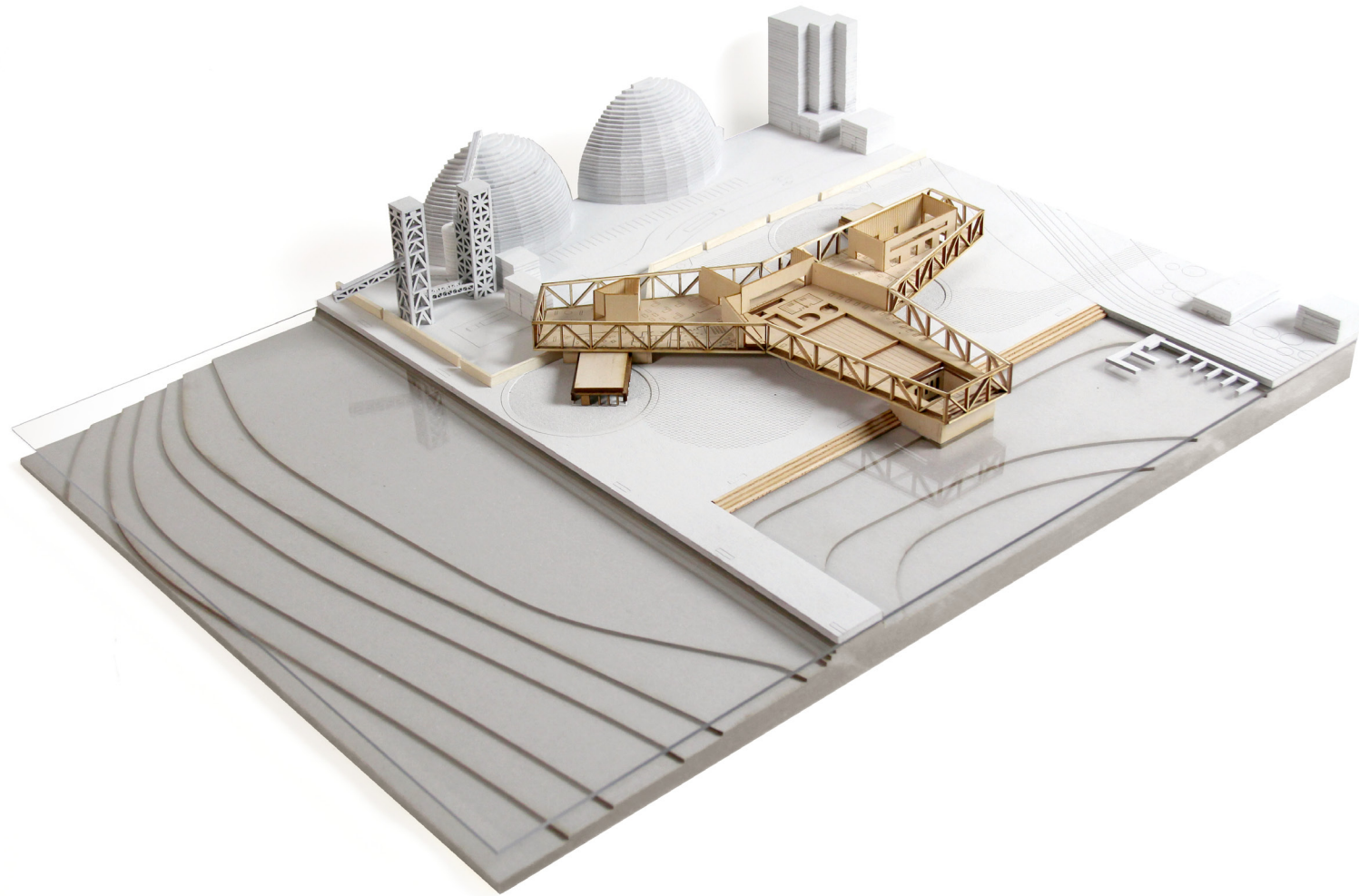


Artists are often inspired when working in such close context to industry, as the building pushes the boundary so far to actually reach into the industrial space. The gallery work on show is reflective of this altered relationship, and many Hamiltonians come to experience it up close. While this high-level creative media is shared, the active wheat mill does not falter as work continues and they prepare for their next delivery of product.

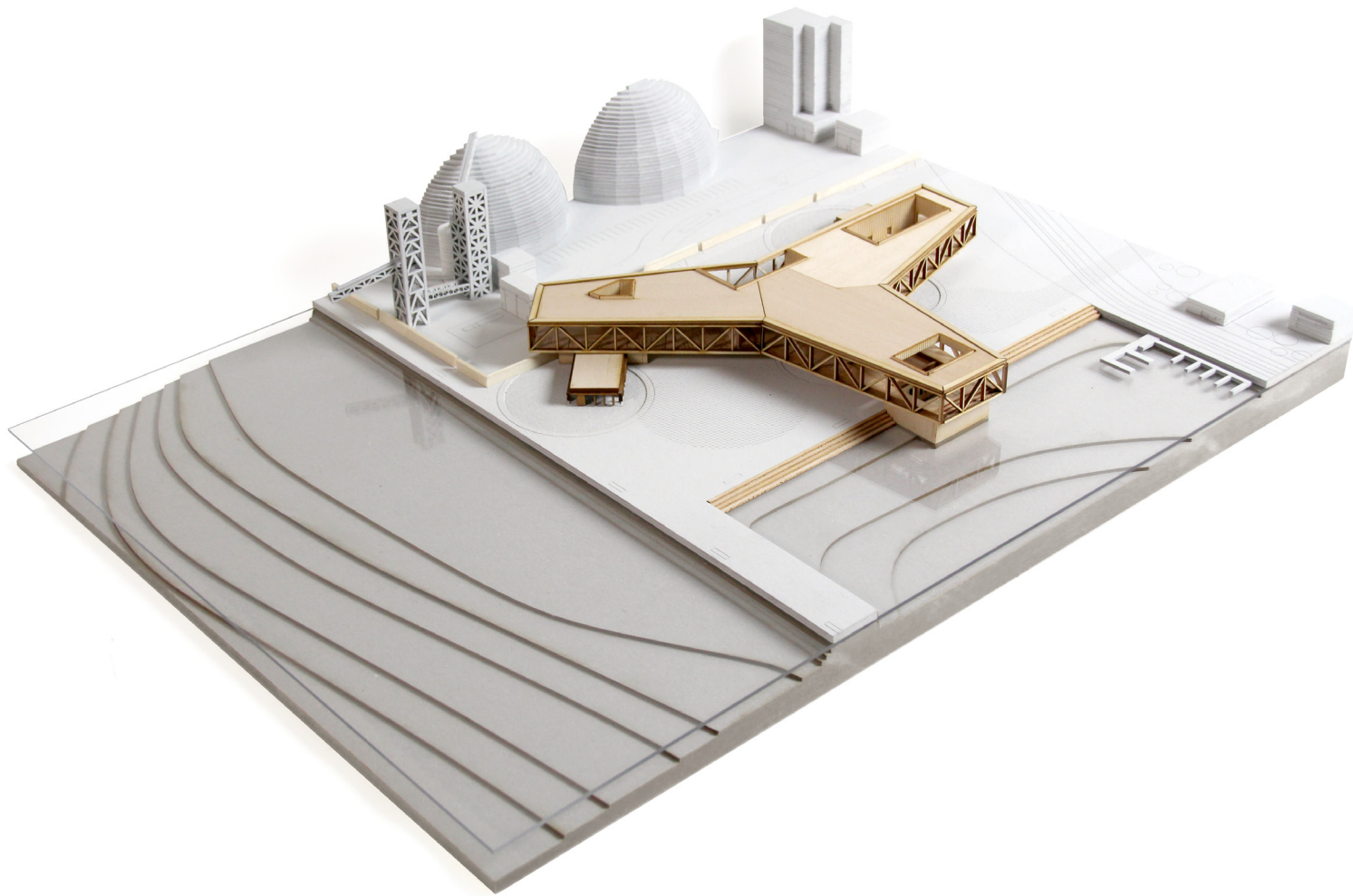




Project site model, showing ground floor configuration. Existing elements are coloured in grey, darker underwater and lighter for above ground. The four separated areas of ground floor programme each provide entry and support spanning floors above.

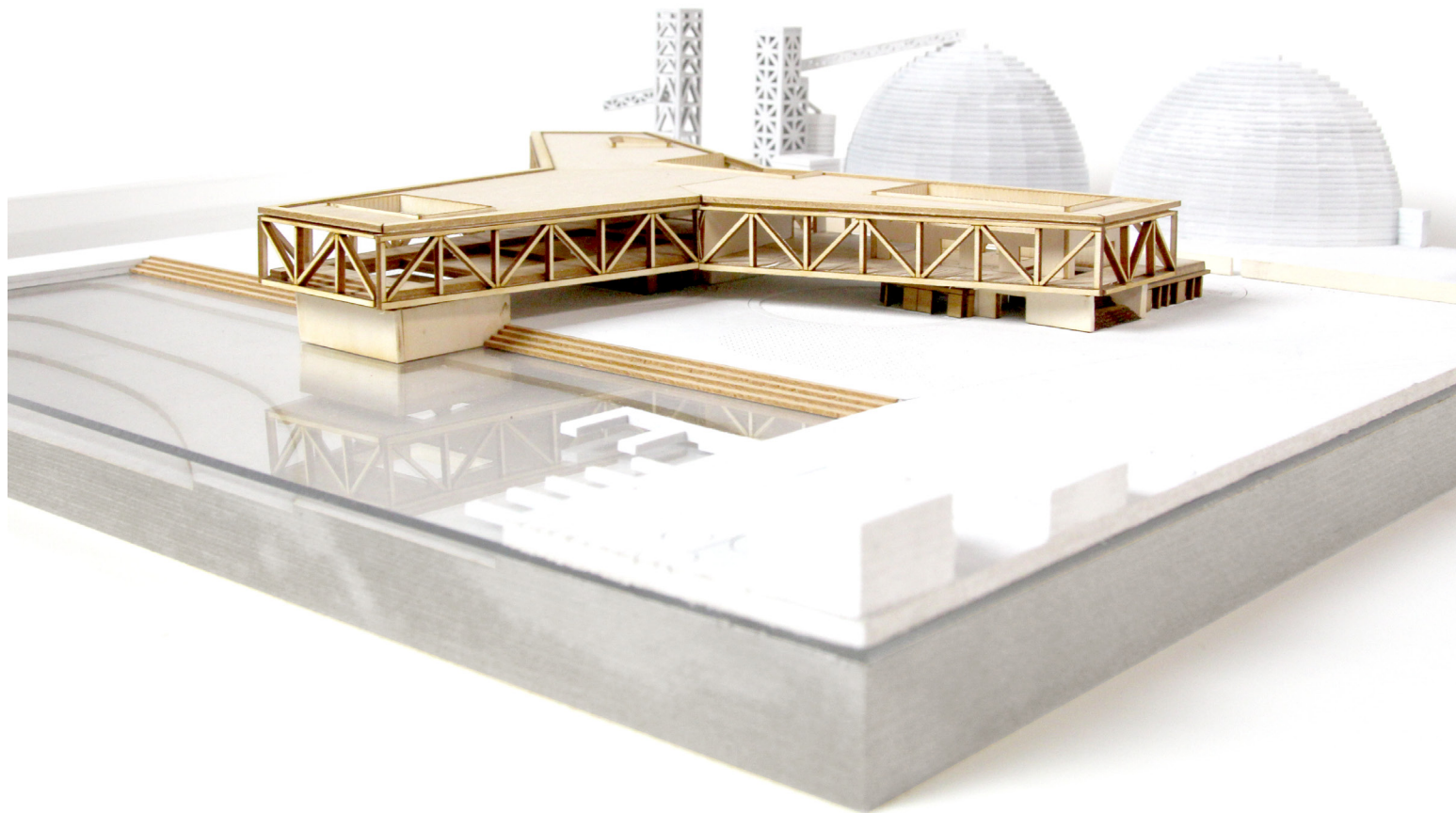


Project site model, with upper floor massing added to show separation of spaces. Exterior truss structure allows for large open spaces inside, and each massing arm provides a gathering space at its end, connecting to a site outwards in the city.



Project site model, complete construction shown. Openings in the roof plane coincide with public gathering spaces throughout the building, some open-air, exterior courtyards and some climate controlled. Massing is seen to push limits in its relationships, leaning into the industrial plot, connecting out over the inlet to the right, and peering back towards the city centre at the top.





Building model. View from the city side of site, showing public spaces and entrance to the building on the right, and the proposed plazas on the left which connect to water activities and further activity along the Hamilton harbour.

## CHAPTER 7: CONCLUSION

The root of this work comes from understanding the current conditions of Hamilton's waterfront, disadvantaged from industrial land ownership and without public connection to the harbour. Understanding how a connection to water can enhance the cityscape, this thesis looks to balance waterfront use and remedy some of the negative effects of Hamilton's gated, single-use waterfront through instillation of public space and creation of a new relationship between city and industry.

This landscape is extremely implicated in terms of industrial control. For example, Hamilton Port Authority's mandate is to promote port development and maintain economic growth for its stakeholders, without mention of relation to city or public spaces. Therefore, it is the responsibility of architects and urban designers to, through design proposals, speak out against these forces in favour of a healthier and more livable waterfront condition. This is not only for the benefit of the current conditions of Hamilton, but to enhance the livability of the city into the future.

Specifically, this thesis aims to demonstrate how Hamilton can reconnect with its harbour by rethinking the strong divide between city and industrial spaces at the water. This idea applies to other port cities as they look to recover from the industrialism of the past century by regrowing public space within existing constraints, and creating a more connected city where waterfronts belong to the public.

Through an understanding of cultural context in Hamilton's industrial past and knowledge gained from case studies in many capacities surrounding



the topic, the proposed architectural design demonstrates that thoughtful interaction of public space, within the industrial realm, can create a powerful relationship that works to mitigate harsh thresholds and environmental conditions in this landscape. The very nature of industrial waterfronts as being '*other*' should not deter the city from growing within that area, as all developments should aim to consider their wider influence on the city. Therefore, this thesis shares the possibilities brought on through an untraditional mix of use in the waterfront setting, breaking the traditional zoning ideology in favour of a more spontaneous and shared waterfront.

A few key elements guided development in designing for this condition; ultimately, the defining steps included: placing public space at the waterfront as an urban right; reorganizing strict industrial ownership of port land; reconnecting urban pathways and park spaces; using building placement to push boundaries of traditional industrial relationships; through massing, altering border conditions to create interaction between industry and public spaces; introducing a multiplicity of overlapping use to activate the site for all users continuously; and adapting found building elements to public use with environmental buffers to remediate negative industrial conditions.

As applicable to other port cities looking at this unbalanced condition, this project can be seen as a seed for further growth of Hamilton's shared waterfront condition. Ultimately, it is an idea towards the evolution of cities, connecting across divisive elements, building upon historical relationships, and towards urban design that benefits all demographics equally.

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