Shared Pathway: Re-Imagining A Railway Corridor As A Destination In The Urban Landscape

by

Melanie Abbott

Submitted in partial fulfilment of the requirements for the degree of Master of Architecture

at

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DEDICATION

For Olivia, so that you may know that anything can happen, anything can be.

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ABSTRACT

This thesis is an exploration in redefining the existing railway corridor in downtown Halifax, Nova Scotia, to become a shared transit path as a mechanism to reinvigorate the urban fabric. Study of Halifax's urban landscape identifies key points of reconnection in the urban network, with particular focus on the bounded areas of the railway cut. Two sites, Flynn Park and the Oaks, are studied for their inherent contribution to the urban landscape, and their potential to engage the community, street and city dweller. Both sites provide public access to the shared transit path, and transform the interstitial land of the rail cut, currently derelict, to a place of civic importance. The redesigned sites work in synergy with the shared transit path not only by increasing physical and community activity in their respective sites, but also their role in revitalizing the link between the rail cut and the urban landscape.

ACKNOWLEDGEMENTS

I would like to thank the support staff for their diligence and positive outlook on life, work and architecture; I am certain that it was not only the defining piece of my of architectural education, but also that of my peers.

To the professors who are teachers first and foremost I thank you for your dedication, guidance and hard work.

To my friends, who have become my family, I thank you for your encouragement on the gloomiest of days and for reminding me that there's laughter yet to be had.

And finally to Shannon, for your patience and support when it was needed, and for teaching me perseverance, I thank you.

CHAPTER 1: INTRODUCTION

This thesis shows how architectural intervention might enable social interaction through the designed transformation of the railway cut within the Halifax peninsula. The existing peninsula railway cut, an underused element of infrastructure, is converted into a greenway that engages users through its program and accessibility. The architectural design strategy seeks to improve urban community while also making a positive impact on city culture and built environment by providing a new transit route, a place for gathering, and an alternate view of the urban landscape.

The initial analysis of the Halifax peninsula distinguishes the important elements of the urban setting within the urban core through the study of city image. With focus on how the peninsula has been used and perceived, key architectural strategies are uncovered to provide a means of site selection and transformation. Next, similar design projects in New York and Seoul are studied as a way of understanding how architectural articulation of the railway could create a strategy for urban park and pathway renewal, as well as iterate the importance of the rail line's regional asset and connection to bounding areas (Calthrope 2001). Further, these precedents create a framework addressing architectural elements connected to site access, public program, and seasonal dwelling.



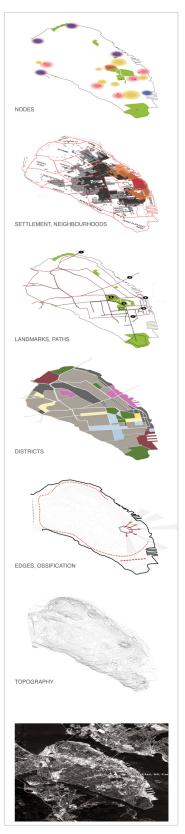
Halifax Peninsula as seen from Dartmouth waterfront

CHAPTER 2: DESIGN METHODOLOGY, THE PENINSULA'S URBAN FABRIC

City Image Reflection

If the places we spend our time shape who we become, and inversely, who we are shapes those places, then it would also seem that people are instrumental in atmosphere of place. Not only is the physical organization of the city and it architecture important to city form, but also the image of the city held by its dweller. Kevin Lynch, in *Image of the City*, demonstrates how habitants view city form by illustrating the mental maps of city dwellers (Lynch 1960, 2). The maps prove effective in relating an individual's perception of place and describe how people approach the city and interact with it (Lynch 1960,158). From his work one could conclude that should we ignore the perceptions of the habitants, we will not be able to truly understand the city or its needs.

Halifax is a city which, due to its comparatively small population, seeks to embrace the best of city amenities and the sense of community found in small towns. My understanding of the image of Halifax, and its existing and extinguished architecture, informs a way of working that first aims to identify key urban spaces within the Halifax peninsula that will positively contribute to the established sense of place and neighbourhood. Following the work of Lynch, key elements such as landmarks, paths, districts, edges, and nodes of the city serve as a markers for identifying key sites, and define areas currently underused, abandoned or vacant.



My image of Halifax Peninsula

Halifax Peninsula Urban Structure

Halifax was founded in 1749 by British military attracted to the peninsula's favorable location, specifically the large drumlin which provided a natural fortification continued by present day Citadel, with views to friends or foes entering the harbour. In 1996 the city of Halifax became a community within the Halifax Region Municipality (HRM), joining Bedford, Sackville, and the of city Dartmouth for a total population of 372,858 (Census Canada 2006). The peninsula holds historic Halifax and the urban core with approximately 58,000 people on the three kilometres wide, seven kilometres long piece of land. The original settlement of Halifax began on the base of the Citadel, and continues to this day to hold the core of HRM activities. Because of its historical significance this study will focus specifically on the Halifax peninsula.

Settlement and Neighborhood

Due to the rugged geological terrain the sprawl of the urban core has been slow. Initial developments were concentrated on the east side of peninsula near the harbour, but over time, with progressive construction the entire peninsula was developed.

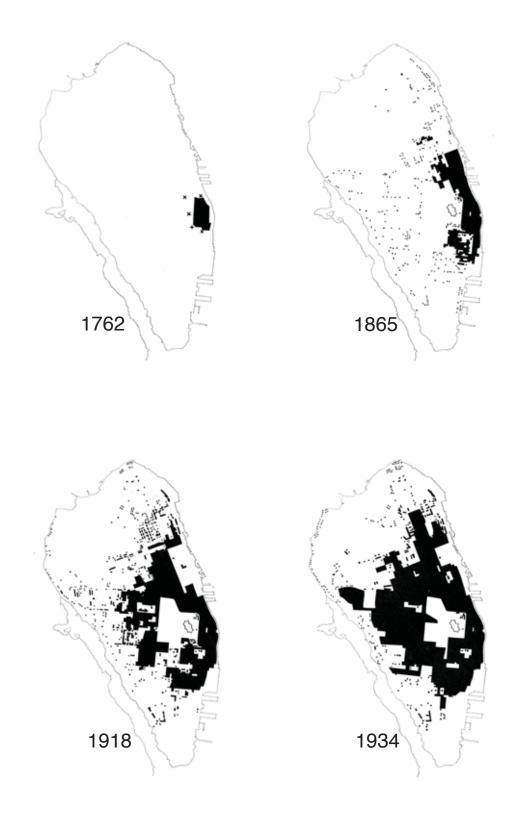
There are five entry points to the peninsula via the Mc-Donald Bridge (1), McKay Bridge (2), the Bedford Highway (3), the 102 Highway (4), and the Armdale Rotary (5). Due to HRM's urban sprawl in conjunction with the majority location of business and industry on the peninsula many people commute to work, which causes congestion at peak times.



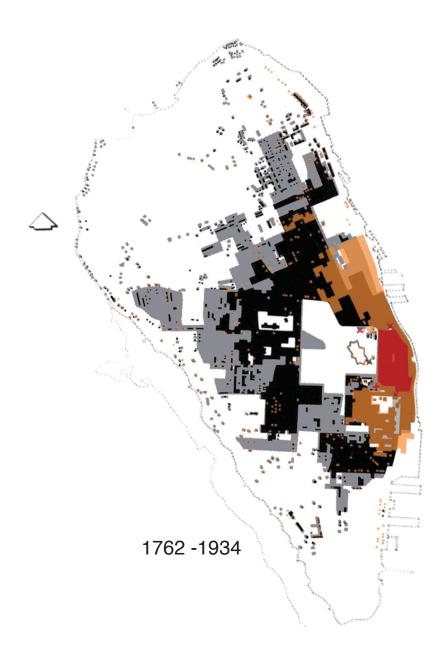
Halifax Regional Municipality, NS, seen with main road/highway overlay. (2007) Photograph from Google Earth.



Current developed Halifax peninsula. Entry to peninsula highlighted in red. The rotated grid shown in grey and black, with the intersection of the railway shown.



Growth of Halifax from 1762 to 1934. Clockwise from upper left: 1762 -initial settlement, 1865- pre Confederation, 1918 -after the Halifax Explosion, 1934- after World War I. Map series from Stephenson Report, derived from a series in the Nova Scotia Archives. (Stephenson 1957, 4).



Halifax Settlement and Growth.

Above composition compiled from all four maps. The white space at the centre is the marks area encompassed by the Halifax Commons and the Citadel. Today, the Citadel is a National Historic Site operated by Parks Canada, and the Common remains mostly an open piece of public land.

The peninsula derives its urban layout from an orthogonal grid of streets. The southern part of the peninsula is on the north-south axis, while the northern half, from North Street onward, is rotated 20 degrees. This rotation in the grid creates awkward intersections, confusing to residents and visitors.

Typically, homes are closely knit together on linear streets with house fronts facing one another. Backyards are fenced and clearly restate division of property and space. In 1917 the catastrophic Halifax Explosion on December 6th eliminated many of the north end buildings and neighbourhoods and reshaped the urban layout. In the aftermath of the explosion, city planner Thomas Adams, influenced by the Garden City movement, designed an area for 325 houses by architect George Ross of Montreal. The Hydrostone district is distinct from the typical Halifax housing layout. The ten rows of stone housing face onto a boulevards which serve as communal outdoor space for the neighbourhood. The backs of the houses are served by small lanes. The project According to an HRM citizen surwas criticized by the upper class residents of the South End for its extravagant building materials. The Hydrostone District is fitting with the tree lined streets which inundates the majority of the peninsula.

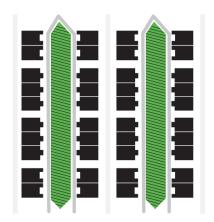
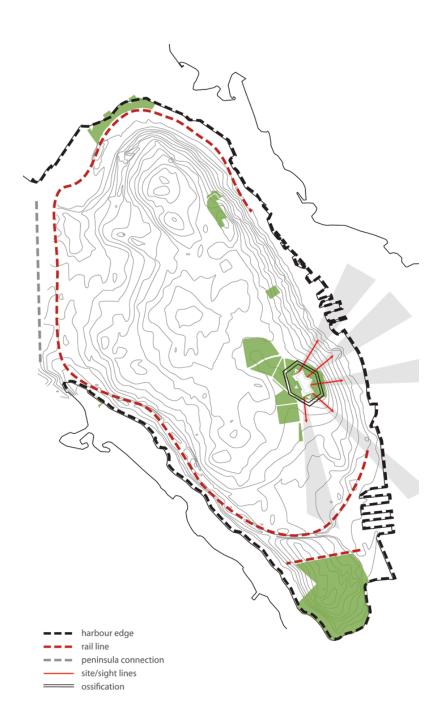


Diagram of the Hydrostone housing layout.

vey in 2002, 54% of urban residents rated access to natural, undeveloped green areas in their community at least 8 out of 10 in importance. This is higher than the rating given by suburban residents.



View down tree lined boulevard at Hydrostone; there are ten boulevards in total. According to Tony Hiss in The Experience of Place, "the hunger for trees is outspoken and seemingly universal" (Hiss 1990, 181)



Edges

Edge, the line between one place and another can be seen as a break or fragment, a place cut off from the whole. Interior and exterior. A place created by the edge is unique. As the urban core of Halifax is situated on a peninsula it creates a natural and large edge condition. The ossification of the Citadel site forces people to skirt around it or climb over this drumlin. The harbour and the NorthWest Arm have limited public interaction, held back by industry and wealthy estates.

Edges and Ossification

The 18 metre deep harbour which hugs the north-east side of the peninsula is both geographically and economically tied to the success of the city as it has fostered the growth of the city. As the world's second largest natural harbour Halifax has become a hub for the Atlantic provinces. As a result the coastal edge is partly consumed by shipyards, rail yards and a Canadian naval base, which consequently fracture the edge creating a wall to the general public by limiting interaction to the water on the north-east. The north-west side of the peninsula edge is held privately under residential ownership. The only access to the peninsula's edge is by three public parks and one boardwalk on the waterfront.

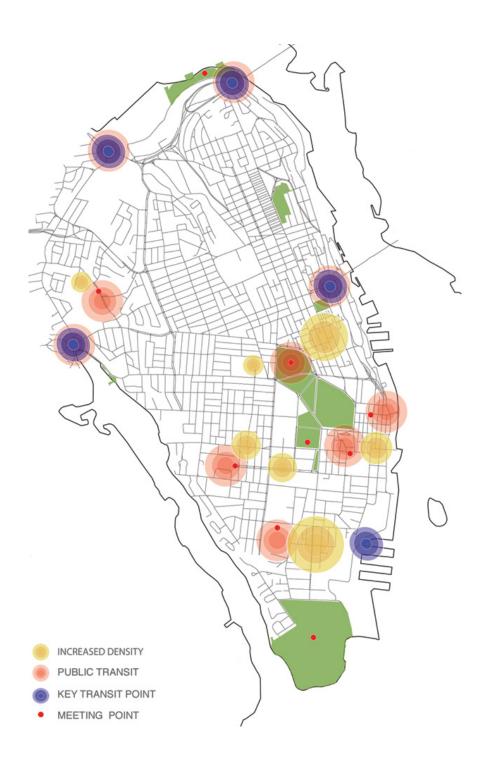
Entering Halifax from the airport via Dartmouth or sailing in from the Atlantic Ocean, you are met with two bridges that span a busy harbour and buildings that pepper the skyline. In the summer tall trees spill over most streets, as they blossom and fill pedestrian and vehicle view planes with green leaves. Conversely, the juxtaposition of the industrial area on the waterfront contradicts the picturesque urban landscape. No tree is tall enough to hide the unusual proximity of the residential and park areas to the grain elevators and cranes sitting on the harbour's edge. The monotony of the stacked cargo containers lining the edge create a cold introduction to the city and exemplify the disintegration of the edge. The railway line cuts through the south end of the peninsula and creates a hard line between Point Pleasant Park and the rest of the urban landscape. Creating a link with the edge would open up the spaces adjacent to it, with potential heal to the fractured land.



Halifax South End Terminal, From Marine World Database: Halifax.



View of the south end of peninsula, park on the left, industry on the right, seen in both pictures. (Huntley 2008)



Nodes

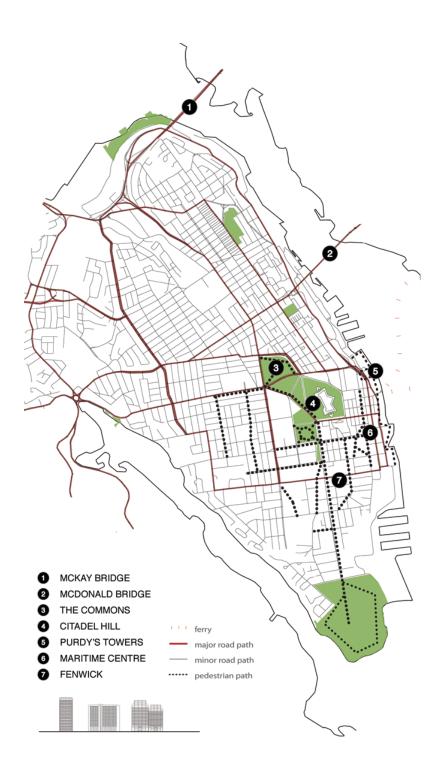
There are three major public transit hubs on the peninsula, the Ferry Terminal, Scotia Square, and West End Terminal, which act as key nodes for the remainder of the HRM. Other important nodes on the Halifax Peninsula are the Commons, Scotia Square, Spring Garden Road, West End Shopping Centre, Armdale Rotary, and Halifax Seaport.

Nodes

A node, according to Kevin Lynch, is a specific place or point of convergence of paths, or a break in transportation mode (Lynch 1960,72). It is also an area of concentrated use, such as a intersection or public square.

The peninsula has strong nodes in the south end near its five universities and downtown commercial areas. Traffic congestion, rising fuel prices and parking costs have further reinforced public transit nodes, as the city continues to develop key transportation hubs to support increasing demand. Areas or transition or gathering create opportunities either planned or unplanned, for neighbours, and the community to gather, thereby making them crucial for vibrant cities and healthy communities. Perhaps the most important node is the Halifax Commons which holds planned outdoor activities, major entertainment events, and impromtu gatherings.

Certain nodes serve working urbanites and HRM commuters, their vibrancy found only in the typical work week hours. In contrast, historic areas such as the Halifax Commons, Seaport, the Waterfront Boardwalk, Public Gardens and Point Pleasant Park, are strong nodes, crowded on any sunny day. From my observation, node importance increases in presence of tree leaves, and sun. As weather and temperature extremes are moderated by the ocean, outdoor nodes should provide shelter from elements such as snow, rain, wind and sun, on any given day. Providing a common design element related to seasonal variance would provide support to nodal points, and potentially create a link between these nodes and adjacent neighbourhoods.



Landmarks

Places of distinguished presence, whether due to historical significance or sheer size, become key to urban interactions. Landmarks allow visitors to decipher where they are when lost, and friends and colleagues set meeting times near them.

Paths

The peninsula's population includes approximately twenty-five thousand students, most of whom use public transit, bicycle, or walk to their destination. In the summer the path created by cruise ships entering the harbour is quite predominant. Like students, tourists, primarily use public transit or walk to their destination. As a result, most prominent walking paths originate in the south end, created by university users and tourists.

Major paths for the peninsula include Robie Street, Barrington Street, North Street, Quinnpool Road, Spring Garden Road, and Lower Water Street. Most major paths branch off or pass the Commons, restating the importance of the node -path relationship. One of the longest street in Halifax is Robie Street, which extends from the North End past the Commons, then terminates at the south end rail cut just before Point Pleasant Park. The South End, in particular the waterfront area, holds many key paths for downtown workers, tourists, and commuters. The addition of trucks seeking access to the Ocean Terminal and railway yard increases traffic and causes heavy wear and tear on roadways, which places further demands on road construction.

At peak times throughout the day the five entry/exit points to the peninsula are laden with traffic from urbanites and HRM commuters, increasing car paths throughout the peninsula. While this can be frustrating, a decrease in automotive use is not likely. Therefore, accessibility and flow of these paths at peak times must continue.



Cruise Shop Entering Harbour (Eastern Eyes 2011)





Typical views of the waterfront boardwalk in the warmer months.

Landmarks

Halifax has several historical landmarks including the Citadel National Historic Park, Grand Parade, the Old Town Clock, Pier 21, Public Gardens, the Commons, Point Pleasant Park. Military structures, in particular the Citadel, draw many tourists to the Halifax peninsula. Sitting high on the peninsula the Citadel offers a natural podium to view Halifax's urban layout, and is a strong reference point from other places in the city.

Most landmarks on the peninsula, in some way or an- Public Gardens Main Entry. other, share a relationship with the Citadel. The Maritime Centre's rotated building orientation, which stems from preserving sight lines from the Citadel, causes confusion as people are required to ascend or descend a flight of stairs to access the building.

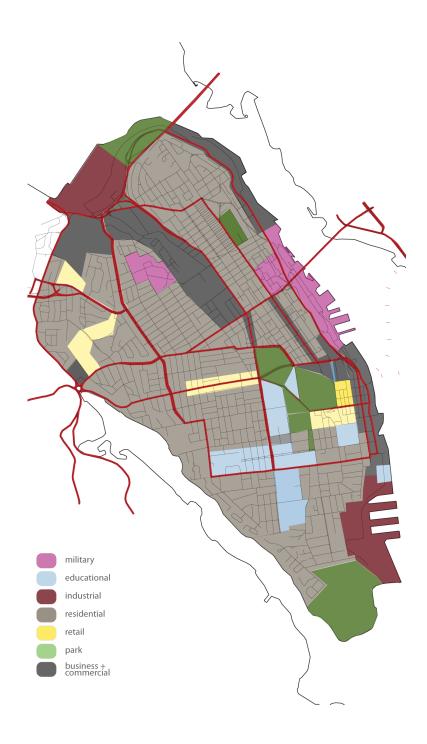
Even more unappealing is the tallest building east of Montreal -Fenwick Tower. The building, a notable landmark for its scale as well as an example of brutalist architecture, not fitting with low rise residential neighbours. Standing out from Halifax's urban forest in both height and material, its concrete landscaping is only overshadowed by urban myths of swaying too much and a swimming pool that if filled with water would collapse the upper floors (Schnare 2001). Both these tall buildings are by-products of the sight line restrictions implaced to preserve the Citadel Hill. Halifax

Landmarks become emblems for our cities. Unpleasant ones in particular provide evidence to the importance of what we build, where we build it: site selection, and why we build: program.





View of Fenwick from Citadel.



Districts

The so-called "downtown" contains mainly offices and businesses, but is not limited to that alone. Residences are dispersed throughout and are supported by schools, five universities: Dalhousie, Kings, Saint Mary's, Nova Scotia College of Art and Design, and Atlantic School of Theology, commercial businesses, and small neighbourhood parks.

Districts

District can be seen as the organizing character of city blocks. In larger cities its a clearly planned division of place which allows for a shift when entering and existing an area. In the case of the Halifax peninsula there is a slight imbalance of the distribution of space and organization not only due to the limits created by the Citadel, but also the industrial and commercial areas of the north and south, which push down into the heart of the peninsula intersecting surrounding residential neighborhoods.

The peninsula has a clear distinction of Downtown, North End and South End. The South End is considered a prime residential location for the middle class and students. The North End, in contrast, has been associated with poverty and crime. However, an increase in affordable housing, community programs, and students seeking lower living costs has shifted its image positively.

Lack of district identity can leave room for possible activities and buildings, but it can also cause confusion among residents about how to interact with that particular area in the city. For example, the public park that butts up against a heavy industrial area is confusing and also uninviting, seen at Point Pleasant Park and Seaview Park. A clear understanding of urban areas helps identify and formulate potential events or activities could take place, and at times dictates movements within the city. Places supported by appropriate programed spaces, and a mixture of people provide balance. The key architecture moves should foster a line of connection on the urban landscape, and link districts.

City Image Conclusion - Re-Imagining

For the purpose of the project there is an understanding that no location is experienced in isolation (Kahn 2005, vii). Therefore, the site considered is by this thesis is beyond traditional property lines to encompasses the entire Halifax Peninsula. The peninsula becomes the area of effect, influence, and control, and is used as a tool in interpreting areas of traditional sites for the value it brings to the surrounding area [Kahn 2005, xii]. Visualizing the larger whole provides opportunities to integrate community, relics places, and new structures as a mode of reclaiming the city for its residents.

Investigation into the Halifax Peninsula uncovered a number of interesting historical and architectural sites. (See Appendix B) Yet, the most interesting site to me exists in the fracture created by the railway line, which not only outlines most of the peninsula but also provides a level ground plane that cuts through the peninsula's rocky terrain. Prior to the Halifax Explosion rail traffic followed the northern shore toward downtown, parallel to North Street and Barrington Street. The rail line was re-routed to its present day route along the west side of the peninsula in part to relieve the increasing congestion created by the rail line, as well as a stimulus to provide a rebuilding project for citizens (MariNova 2006, 75) Current use of the rail line has declined and is now devoted to one overnight train to Montreal via Truro operated by Via Rail, and select cargo shipments from the Ocean Terminals and the South End Container Terminal.

The challenge of identifying sites, reveal how places are taken for granted and obscured from their historical con-



Urbanization of the city of Halifax by 1917. Rail infrastructure on the waterfront with the main rail station located near current day McDonald Bridge. Tram lines extend the length of peninsula, as well as west from the harbour (Roe Brothers).

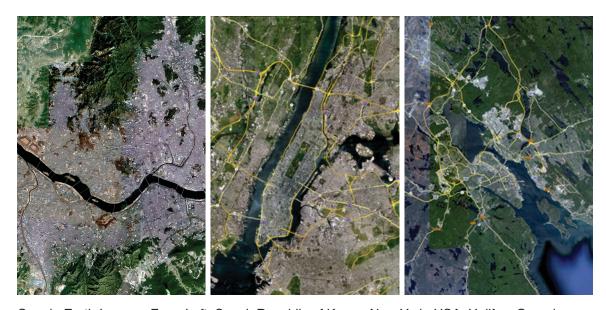
text over time, and provides a particular understanding of the people of Halifax. The intent of thesis is motivated by the architecture becoming a response, rather than a question on the urban landscape. Meaning, the site and its locale, determines the architecture.

While the connection of the railway to the Halifax port is still important, there is an opportunity to transform the declining use of the rail path into something spectacular by inviting different uses. With a little imagination a pedestrian friendly boulevard could be made, though currently seen as the railway. This would involve relocating VIA Rail, and the HOT-Rock Connecting track to a North Inland Terminal, and consolidating yard activities to the north end of Burnside Industrial Park (MariNova Consulting 2006. iv).

According to Peter Calthorpe in Regional City "People will claim no sense of ownership of the region as a whole if they do not feel connected strongly and positively to a healthy, diverse, and distinctive community of place" (Calthorpe 2001, 38). Instilling these characteristics (healthy, diverse and distinctive) in selected sites are important, and will aid in the creation and improvement of nodal development. The proposed architectural transformation then engages users, the neighbourhood and the urban community.

Transformations: Influences and Design Principles

The rail cut site was selected in recognition of the fracture it creates on the south end peninsula, the dwindling railway use, and the potential to improve movement within the urban core. The following projects serve as precedent for this thesis, chosen for exhibiting a strong path-node relationship. Both Seoul and New York City identified potential within an urban fragment, and illustrated the success of transforming a derelict space to bring value to society, ownership to actions and enjoyment of place.



Google Earth Images. From Left: Seoul, Republic of Korea, New York, USA, Halifax, Canada.

Cheong Gye Cheon, Seoul, South Korea

In 2002 I walked from Insadong Cultural Market to Myeong Dong Shopping district in downtown Seoul. My path was filled with flashy neon shop signs, chatty street vendors, and an abundance of pedestrians. Then, halfway to my destination, the voices, the vendors, the signs were all silenced. The street was lined with tall stoic buildings and was speared by a multilane highway. Gray, hard, depressive. People here moved quickly, eyes forward, no emotion.

Later, I discovered that the depressive area was rich with Korean history. Located in the central business district of downtown Seoul the highway covered a river known in Korea as Cheong Gye Cheon, a tributary of the larger Han River. During Joseon Dynasty, the Cheong Gye Cheon divided the city geographically and socially until the beginning of the 20th century. After the Korean war in 1953 people left their rural homes for the city; the river known throughout history as a gathering spot for washing among the poor soon became the centre of a shanty town and the new city residents that grew in its wings. With time and overuse the river became polluted and in 1958 the city, in its efforts to fix the aesthetic problem, covered the river with concrete. In 1976 an elevated highway was built over it, tucking it further out of memory.

Four years later I returned to the area and found the true spirit of place returned. The city had torn down the elevated highway and ripped up the asphalt and concrete that covered the river. The restoration process took a total of 2.5 years, resulting in a urban ecological path



Seoul's Pristine Stream Cheong-Gye Cheon History (Nat).





Cheong Gye Cheon before the 2002 restoration and after in 2005 (Linton 2009).



Infrastructure. Seoul tears down an urban highway and the city can breathe again (Nishioka 2011).

that spanning 6 km was and a community healed.

The project, developed by Seoul Metropolitan Government, includes a total of twenty-two bridges, twelve pedestrian and ten automotive, which cross over the path and provide access to City Hall, key city buildings, office towers, markets, and major tourist areas. There is a museum dedicated to the river's history, and a wall of hope for the future.

According to Seoul Municipal Development Institute (SMDI), since the project's completion the ambient air temperature of the downtown core surrounding the stream has been 3.3- 5.9°C lower (Kang & Cervero 2008, 34). While the heat island effect has diminished, bird species have increased from six to thirty-six. According to Lee, In Keun, the assistant mayor of Seoul, the city has become a "human oriented city" (Stein 2009).

The path provides an opportunity for pedestrians not only to break from the busy city street, but to engage in Korean culture by revisiting the history through the monuments and public art which have been strategically placed along the path. I have witnessed both children and adults jump playfully on the stepping stones in the river, evidence that the path has created an urban playground and relief in an overcrowded city.



Origin. Cheong Gye Cheon (Adams).



Places in Korea: Seoul's Cheong Gye Cheon Stream (Gl Korea 2007).



People interacting with the river (Hwayray).



Points of Entry Map of Cheong Gye Cheon (Seoul Metropolitan Facilities Management Corp.).

Lessons Learned from Cheong Gye Cheon

Environment

The transformation of road to stream shows the importance of environment in urban settings: average temperatures decreased approximately 5°C, bird species increased, air pollution from cars along corridor removed and reduced air temperatures. Small particle air pollution along the corridor dropped to 48 micrograms per cubic meter from 74. Relocation of heavy trucks associated with the rail cut could similarly improve the over all air quality and decrease traffic congestion and automotive emissions. Also its an opportunity to showcase its urban forest, as the rail cut is currently filled with green trees, birds and wildflower.

Refuge

Seoul provided relief from its urban environment, and gained a green space within the city. In Halifax, relief from urban environment would be a proactive measure, preserving space within the city as it continues to grow. Developments in progress such as the TD Building, South Park Condo's, and YMCA will increase density in the peninsula.

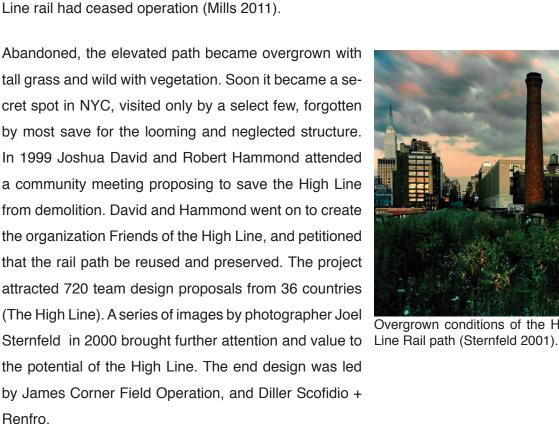
Culture

Aapproximately 90,000 people visit Cheong Gye Cheon daily, which clearly shows social transformation of the place. The rail cut path provides a unique view the city's layout and formation. Residents and tourists interested in Halifax history would see the rebuilding efforts of the Halifax Explosion. Further, it could offer pride of place, referencing balance of community, education and park.

High Line Park, New York, New York

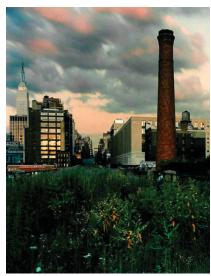
August 24th 2009, New York. The day is scorching hot and I have walked from Central Park to the meat packing district, stopping once for a cold drink, wishing I had worn more comfortable shoes. When I arrived at the High Line I am met with an oasis above the street, or a refuge for the tired.

The High Line was originally a freight rail path, lifted thirty feet above street level and stretching over the industrial lower west side of Manhattan. The 1934 rail system, which was intended to rid streets of the dangerous trains, connected directly to buildings, factories and warehouses. However the improvement of state highways in the 1950s led to an increased use of the trucking industry and a decline in rail use. By 1980s the High Line rail had ceased operation (Mills 2011).





Bell Telephone Laboratories. The High Line in Operation. Images & Video (High LIne).



Overgrown conditions of the High

The re-use of existing infrastructure enabled a richer experience than if the rail path had been removed. The overgrown vegetation was stripped back so that the structure could be reinforced for safe passage, and a new kind of park articulated. The park and the path, which motion the importance of the emerged threshold within the city.

The Highline park includes moveable and fixed sitting, special lighting, stairs and elevator access and features a rotation of public art. Future plans entail the inclusion of food vendors on and under the High Line.

In a city of ever changing faces, the built environment becomes the spirit of place and evidence of transformative possibility. Ascending the staircase to the path allows the user to shed one layer for another. The path weaves between buildings and provides users with an escape from the monotony of cars and navigating between the streets and crowds. It literally lifts you up. Moments to rest, soak up the sun, listen to music or stroll next to tall grass are discovered; for many a sanctuary outside their small apartment.



Aerial view of High Line Park (Diller Scofidio & Renfro).



Map of High Line Park (High Line Park).

Lessons Learned from High Line Park

Infrastructure

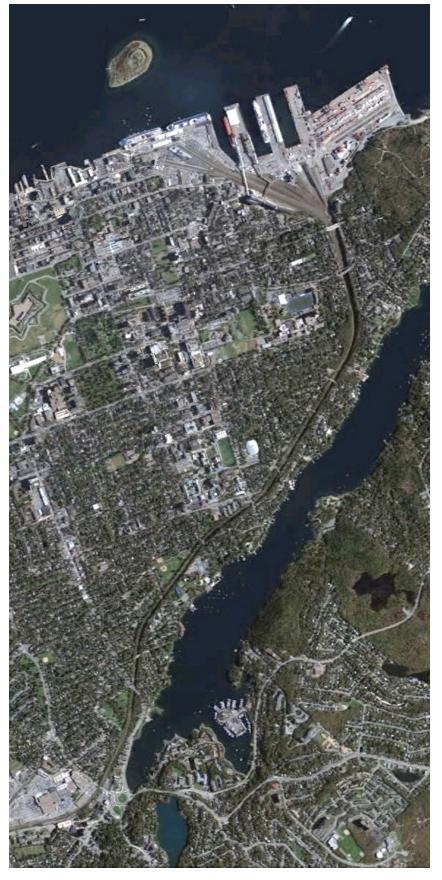
The existing rail was abandoned, wasted space within the city. Reusing the existing structure provided a new purpose the material and associated area. The transformation of the elevated railway track reinterprets the built environment, provide a unique showcase of the rail track and brings new meaning to city parks. Halifax: Similarly, Halifax rail cut has seen a decrease in use with the increase of trucking industry.

Public Space

The High Line provides an area of refuge in the city and promotes social interaction in the area, creating a node as well as a key path. The inclusion of ramps, staircases and elevators overcomes the difference in elevation and allows the park to be universally accessible and inviting. People are drawn to the space for the views, and stay for the opportunities created by benches, art installations, food vendors, and amphitheatre for social interaction.

Community

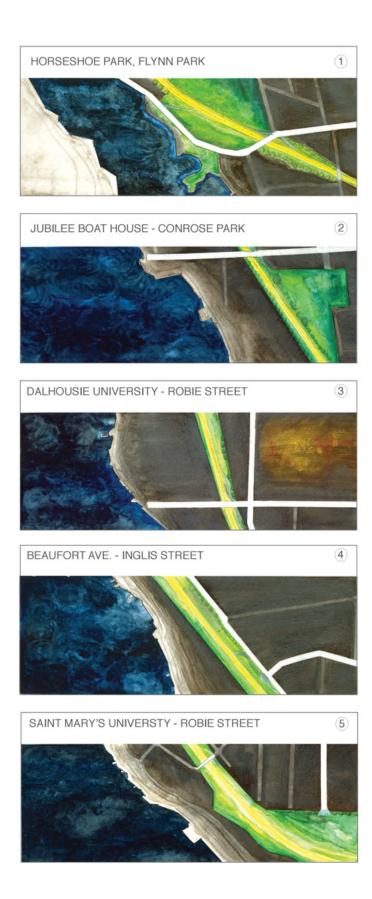
The High Line has created a new identity for neighborhood, one involving the importance of community, gathering and nature, while also bringing history of place to the forefront. Often places weak in history will try to identify their community as the biggest, strongest, or longest something. Halifax is a small, and young city, but has a rich history. The history of the place is linked in its community and its connection to the landscape. The rail cut offers an opportunity for gathering, and a link to the rest of the peninsula via shared path.



Halifax, Nova Scotia (Google Earth). Clear indication of the rail cut within the south west of the Peninsula.



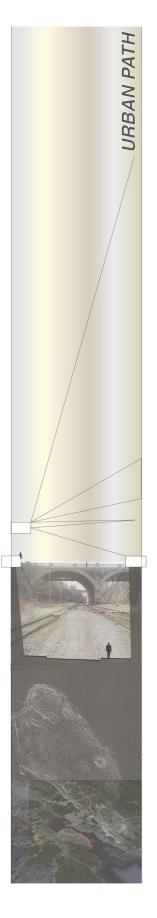
Initial impression of the Halifax Peninsula, close up of select rail cut sites. Watercolour. The path could potential extended around the entire peninsula if not for the Canadian Navy which occupies the harbour edge between the two bridges.



Conclusion: Lessons to Move Forward

The city of Seoul reclaimed a desolate space by peeling back a roadway, while the city of New York discovered a use for an abandoned infrastructure while preserving a moment of the past. Both sites consider threshold of city and path entrance, accessibility to the public and provide a programs unique to its neighborhood, addresses the need for rest, leisure activities, and respects the history of place. From the case studies the importance of six elements have been evident: environment infrastructure, refuge, culture, community, and public space. It is these elements which will be applied to the shared path.

The success of the rail cut path will be determined by the following design objectives: First, the architecture should improve the current site by providing comfortable spaces for social interaction and engagement of the urban landscape. The path should provide public access that is safe, easily accessible and inviting to people. The path should reinforce both node and path elements with the Halifax peninsula. Second the path should address the transition of neighbourhood to city in a realistic way by improving the current juxtaposition of the rail cut and residential areas, and improve the link between districts, and reinforce the identity of place. Third, the re-definition of the rail cut into a urban park path will have a positive impact on the physical environment.



CHAPTER 3: DESIGN



Halifax Peninsula with the current proposal for shared path.

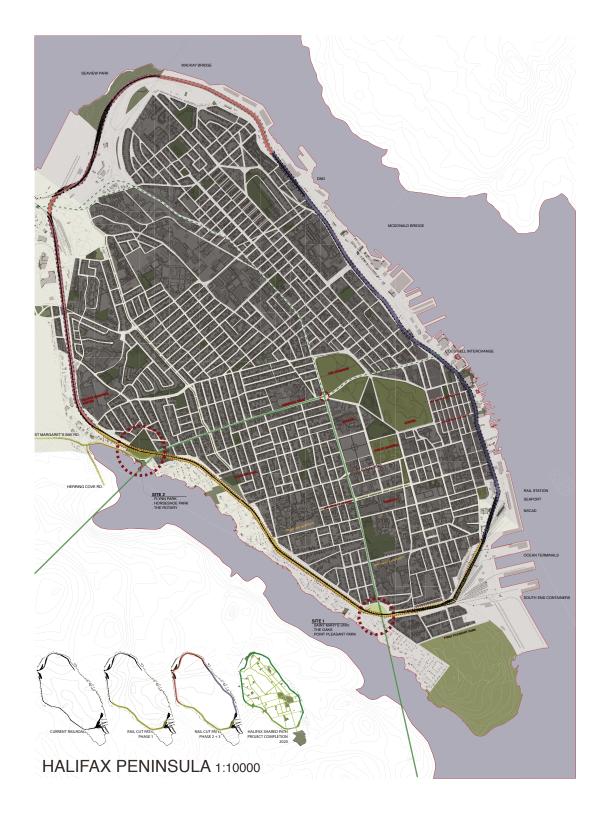
Introduction to Railway Re-development

The Greenway movement, which is the recovery of transport corridors for car free, safe, accessible routes for non motorized transit, continues to grow in North America and Europe. Halifax is a city filled with trees. From the original analysis of the Halifax Peninsula paths the current edge areas on the peninsula are often busy and limited by industry. The improvement of highway and trucking industry, in combination with air travel has decreased rail use on the peninsula, and consequently the use of the rail cut.

The rail cut, not unlike many residuals spaces found between old and new buildings, has become ignored. Lost. A void waiting for a new architectural life. Creating connections along the rail cut from the Armdale Rotary to Point Pleasant Park will begin to strengthen the edge for public by providing more areas of interaction, and a link to key areas in the city. Transformation of the negative space with stairways, ramps, lighting and groomed



Halifax Peninsula with the current location of the rail way line, and the proposed phases of the Urban Shared Path Project. The project completion of 2020 depicts the Peninsula as system of parks interconnected, one park large park.



Halifax Peninsula, showing the proposed Urban Path. The green path section highlights the rail cut. The red path highlights the north portion of railway, not cut into landscape. The blue portion encompasses the waterfront area, which is not connected to rail line currently, though historically this is where the railway was first located until the Halifax Explosion.

pathway invites use. Ease of access and view to the path becomes an extension of home. The path becomes a boulevard, connecting the city experientially and visually, creating a new image to the city.

Shared Path Strategy

The primary design transformations of the path focus on the key entry points the railway cut, between the rail station to the Saint Mary's University to Flynn Park adjacent to the Armdale Rotary, approximately three kilometres. The program of the path accommodates outdoor sporting activities such as soccer and basketball, and leisure activities such as reading and picnics. Balance comes from the access to the urban path, its continuity around the perimeter of the peninsula, and ease of movement from one place to another. The path provides a place for people to walk, run, or bike. As the rail cut is lower than street level access to the path necessitates the installation of ramps, stairs, elevator and service pavilions.

Various types of outdoor activities are supported by the urban path: necessary activities, optional activities, and social activities.

Necessary Activities: Traveling to and from work, school, running errands and other every day tasks. These activities occur regardless of outdoors conditions, and weather.

Optional Activities: Should infrastructure and weather conditions permit

Social Activities: are a result and depend on other people using the space. For example children at play, or neighbours talking; they require more than one person (Gehl 1987, 14).

General Path Design

The urban path/ shared path is a route free of motorized vehicles. The rail cut is ideally located away from the main streets, thereby provides separation of the shared path from the city streets and decreases incidents of collision. Further measures where path usage is higher, includes separation of the cycle path from pedestrian path to accommodate vulnerable users. This is done by creating a height difference between the cycle and pedestrian path, marking a white line of separation and by providing a material difference in the path (European Greenways Association 2000, 36).

The current condition of the rail is a level path with no landscaping. The narrowest path of the rail cut is approximately 38 feet, which enables the continuation of two distinct paths. The construction of the biking and walking path is similar to that of road pavement with a sub-grade, granular base. The walking/running finish material is a different colour and a low impact material which accommodate users such as the elderly, runners and children at play. Both the bike path and walking paths are three metres in width to allow for better flow of traffic of users, and minimal disturbance when maintenance is required.

ENTRY: RAMPS AND STAIRS GENERAL

-max slope 1:12, ideal 1:20

-grades exceeding 5% will require landing

-minimum landing length 1.5 metres

GENERAL SERVICES

- accessible washrooms,



Rail cut at widest point, looking east toward Halifax Harbour. Ocean Terminal in background.

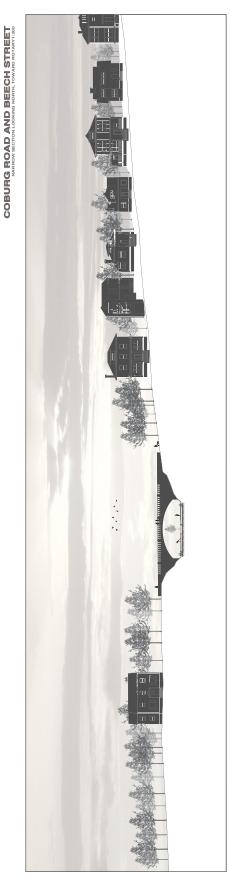


Railway looking west into the cut.

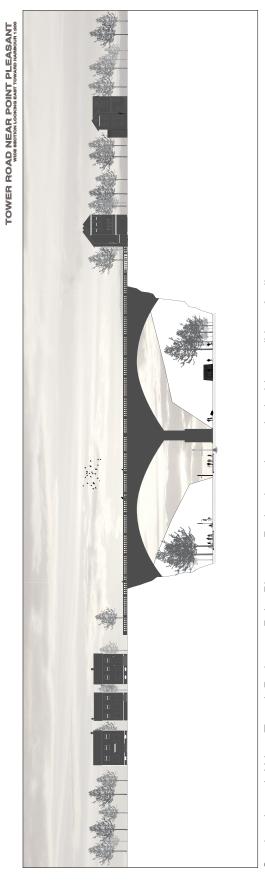
- drinking fountain,
- air pump,
- first aid kit and emergency line.

LIGHTS:

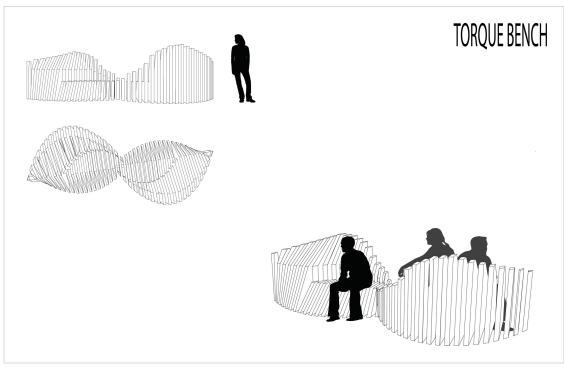
- The path shall be lit from dusk until dawn.
- Primary path lights are on all the time,
- Bounding paths light, seating lights, and service station lights are on only when the path is open from 6am- 12am.



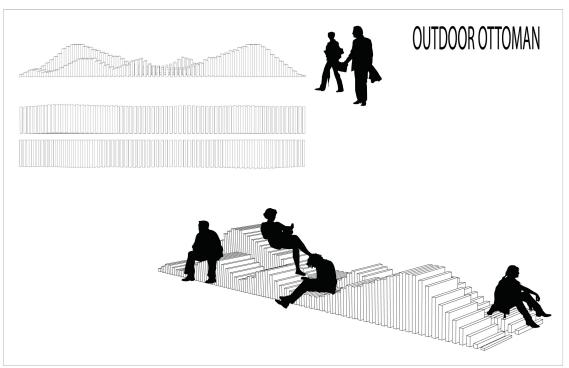
Section through Urban Transit Path at Coburg Road, general narrow condition of rail cut.



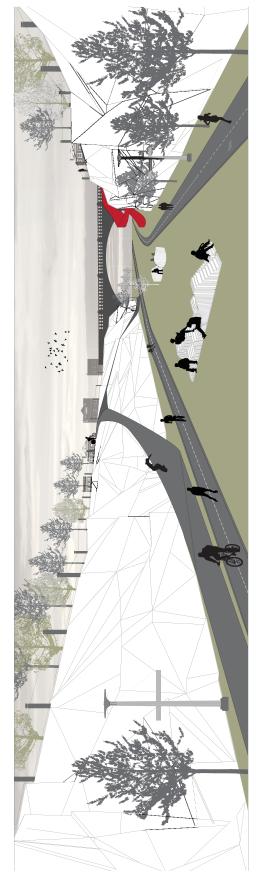
Section through Urban Transit Path near Point Pleasant Park, observing typical wide condition of rail cut.



Path Furniture



Path Furniture



Typical rail cut perspective view of urban transit path.

Selection of Points Along the Path

Points of Intersections vs. View Points

The rail cut begins at Point Pleasant Park and extend to Armdale Rotary. Along the path there are key moments of intersection with places and events happening in the city, which encourage interaction with the path. A variety of entry points along the rail cut allow users to experience their own relationship to the created path, to other users and to the city beyond.

Points of intersections

St. Mary's and Dalhousie Universities, Point Pleasant Park and residential pocket parks such as Flynn Park offer connections to the North West Arm. The end and start of the rail cut locations are also two key points of intersection.

View Points

Point Pleasant provides the most interesting area for views as it holds both the widest and deepest portion of the rail cut, which allows users to experience the extreme conditions of the path.

Site 1: The Oaks at Robie Street



Site Plan of rail cut, in yellow. Saint Mary's University is locate at the farthest block right of Robie Street. The Oaks is the green space south of both Robie and Saint Mary's.

Site Strategy

Robie Street ends in a vacant lot with no connection to community, street or city dweller. The last major point on Robie Street is Saint Mary's University. Here the line created by the end of the street becomes a zone of possibility. A transitional space where activities, which otherwise would be not be permitted or encouraged, could take place. By creating this freeze a third element can be created between two areas, where the side walk ends.



The end of Robie Street.

The proximity of Saint Mary's University to Point Pleasant Park is a favoured among students. The main entry to the university on Robie Street and the Loyola residence is near the Oaks site, making it a key access point to the shared path. People are drawn into the space, and each moment offered a new vantage point and possibility to act. The Oak site and the adjacent shared path provide areas for play, shelter, rest. Gathering encourages interaction and social activities, which increase the value of the path.

Bridge

Linking Robie Street to Point Pleasant Park is a key part in healing the fracture within the city as it continues a main path. The entry path flows easily into the bridge over the rail, and is intended for path users, which includes pedestrians, cyclists, and other non-motorized users.

The width of the bridge path, similar to the paths below will be three metres. The bridge will offer three rail heights to accommodate a variety of users: 1.4 metres for cyclists, 1.1 metres for pedestrians, and 0.8 metres for children. The structure is of steel with metal grate which allows light to pass below, and maintains the connection to ground.

The Lookoff is also a staircase and elevator tower directly adjacent to the bridge and building. It is a steel structure, partly enclosed with perforated screens to break the wind, but has open views into the path. It oscillates from exterior to interior blurring the distinction between the two as it you descend into the path.

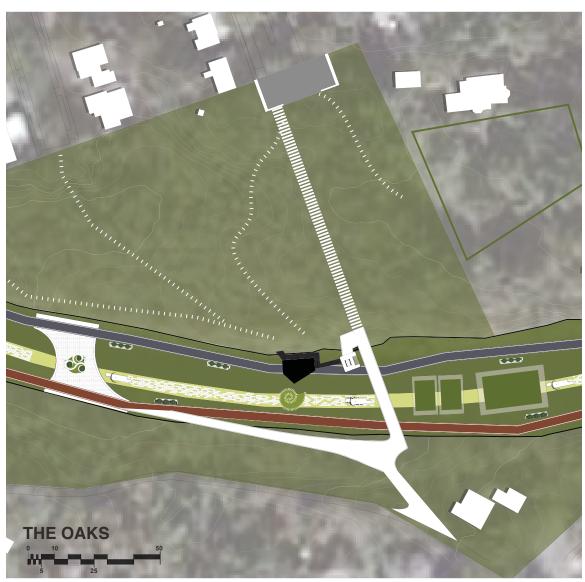




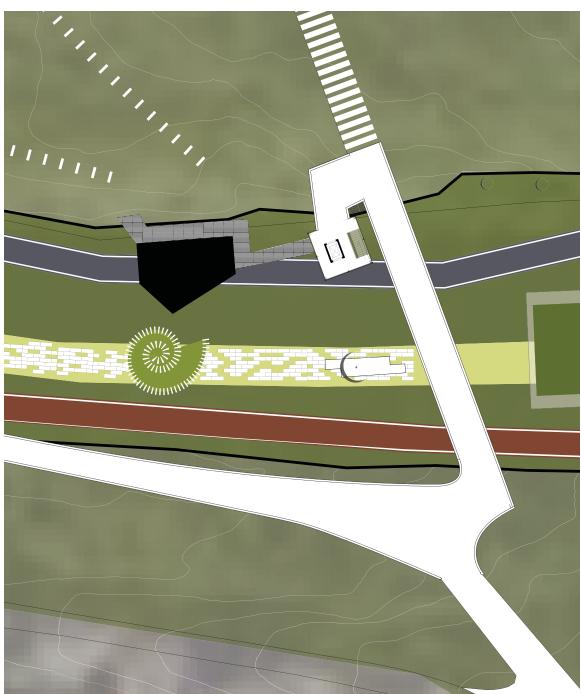
Edge of the Oaks land, above the rail cut.

Building

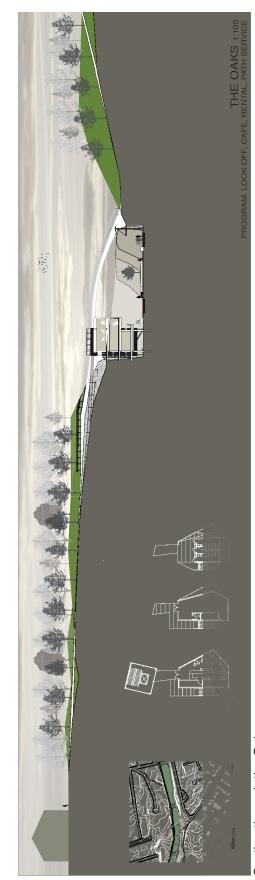
The building hovers above the path, becoming an extension, an arm, of the rocky edge and includes a cafe, bike shop and bathroom to service the area and path.



Site Plan of the Oaks



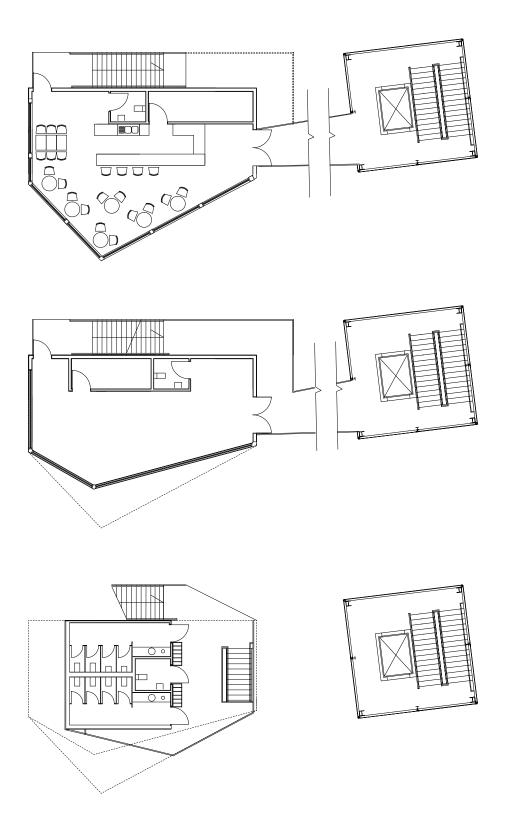
Site Plan of the Oaks



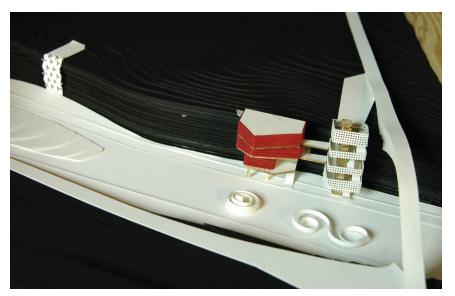
Section through the Oaks



Section through the Oaks.



Building Plan of the cafe, rental shop and washrooms.



Oaks Site Model.



Oaks Site Model.

Site 2: Flynn Park at Quinpool Road



Site Plan of rail cut, in yellow, bounded by Flynn Park to the North. Horseshoe Park is south of rail cut and road on waterfront.

Site Strategy

Flynn Park is primarily surrounded by middle class residences, with a few apartments nearby. As a pocket park, Flynn Park serves its neighbourhood, but is insignificant to the larger identity of the urban fabric. Seeing someone act is often a key factor in the motivation of others to act at well. By incorporating key elements in the urban path such as open areas for rest/picnic, meeting spot with benches, amphitheatre, ice rink, and bike rental, the quality of the space facilitates neighbouring use.



New entry created at north end of park.

Amphitheatre

The amphitheatre not only provides seating for special events, but also entices people to rest, picnic or simply circulate through outside event times. The grass terraces, provide soft areas for rest, while the retaining wall serve as benches to meet neighbours or simply a viewing point to the activities happening on the path below. The open area of Flynn Park, and the open space furniture, and building facilitate random meetings.

Ice Rink and Seasonal Activities

In the winter the amphitheatre stage becomes the platform for the ice rink. Seating to lace up skates, and tables for people watching is provided on the area between the embankment and stage. Storage for skates, and skate sharpening is provided under the stage/rink in the building below which serves not only as storage but as a rental shop. The view into the path from the seating will provides a great spot to watch people crossing country skiing, and snow shoeing in the winter months.

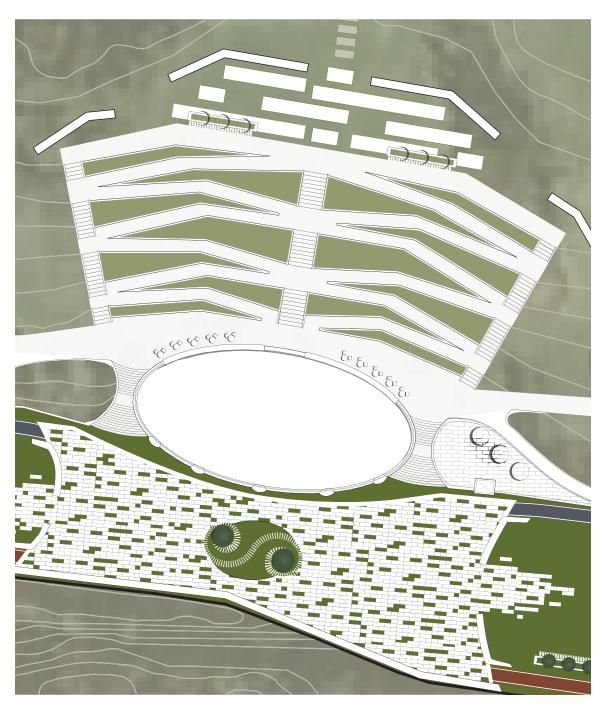
Services

Standard: As described in the general path overview

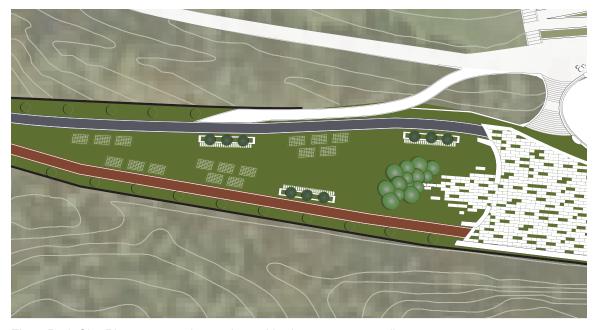
Site Specific: bike rental and repair shop, skate rental and repair/sharpening shop, cross country ski rental and repair, amphitheatre storage for props, set and are installations, and incidentals.



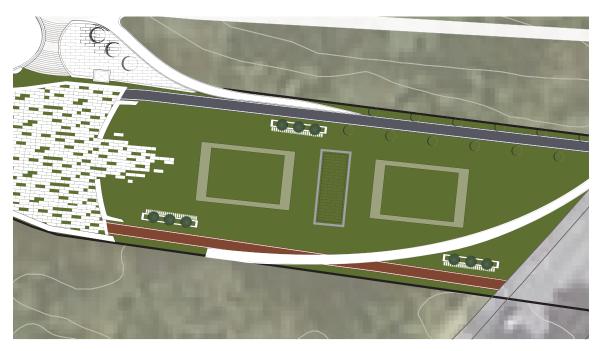
Site Plan, Flynn Park.



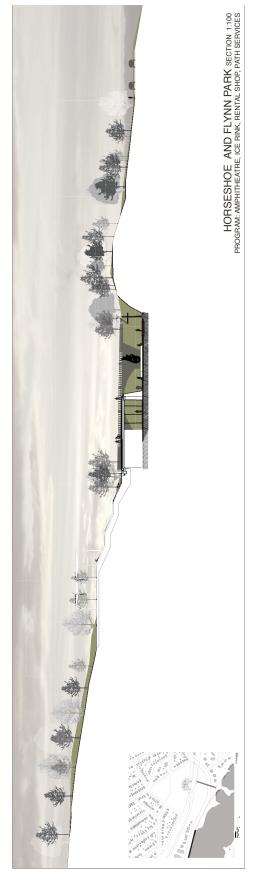
Site Plan of Amphitheatre.



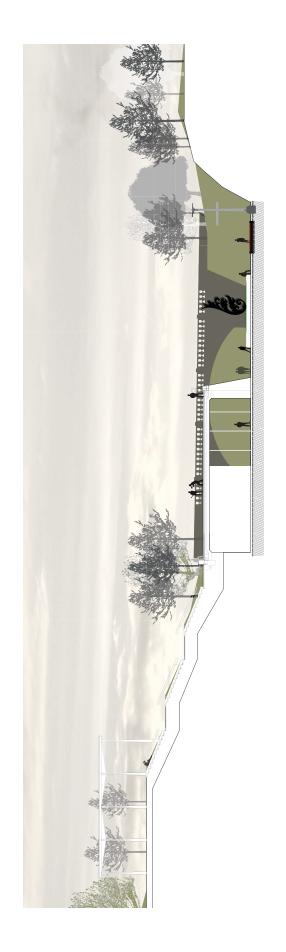
Flynn Park Site Plan: community garden, with playscape area adjacent.



Path, Playing fields.



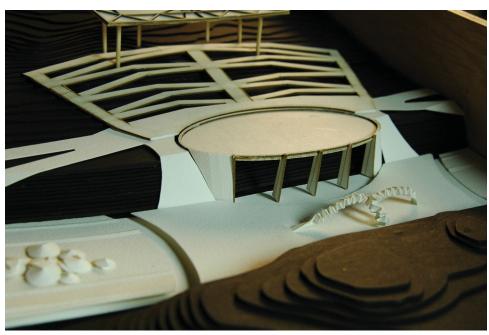
Section through Flynn Park.



Section through Flynn Park.



Flynn Park Site Model. View down to stage and ice rink.



Flynn Park Site Model. View to amphitheatre seating.

Project Outcome

The Urban Park Pathway provides opportunity for social gatherings, improvement of environment, and platforms for art installations. It evokes physical, and mental stimulation. It gives further identity to the corresponding neighbourhood mixing different kinds of people. The path reinforces the importance the edge, and movement in ground.

The more you break down a city into separate districts, focus seems less on the community, and more on the city. The less value the community has because their "parts", result in elements becoming easily replaced. Redefining the negative space allows this fragment to stitch its parts together. The urban core, now made whole, becomes the community. Further the application of the current proposal of the urban path could, twenty years from now, result in a network of interconnected shared pathways.

The creation of the path provides opportunities for linkages to the rest of the peninsula. Providing a shared path not only facilitates recreation use, but also alternate transit route for daily commute of university users, office personnel and others. Its successful use will one day promote further connections around the peninsula. With a more commanding edge attention shifts away from the centre point of the Citadel, the Commons and inner core toward the urban path and the inclusion of the entire peninsula. The next stage of development connects the path to the downtown business district, Halifax Seaport and MacDonald Bridge. The final stage links north entry points: Bedford Basin and the Mackay Bridge.

CHAPTER 4: CONCLUSION

Halifax, Nova Scotia 2020

A cool breeze blows in from the harbour while tourists meander along a three kilometre boardwalk taking in and adding to the vibrance of Halifax. Locals bike in from the shared path and join the summer festivities on the waterfront. Balance has come from the ease of access to the urban path, its continuity around the perimeter of the peninsula, and ease of movement from one place to another.

Being lost in a city can have a deeper, and more negative interpretation; just as people feel more comfortable when they know where they are in relation to visible and connecting nodes. landmarks, cities become more valuable when people use them together. A site such as the peninsula that sustains itself separate from the city grid is atypical, yet invaluable. Finding new use in a area such as the rail cut, increases heritage value. Fostering community creates connection to others, increases safety and decreases incidences of violence. Diversity of program allows inclusion and use of public space.



Halifax as a network of green path

APPENDIX A: AN IMAGE OF HALIFAX

An image of Halifax has been depicted in print matter (e.g. local newspapers, tourist brochures, maps), though one must step back from the individual impressions over time and thread the pieces together. In particular Halifax architecture, existing and proposed, has encountered fierce ideas and opinions on what the city might be, - a monument to history or a slave to skyscrapers. The image of Halifax is important in determining how people will respond to new urban developments. Providing a brief recent history of Halifax is necessary; addressing the city's image gives an understanding of its inhabitants, its buildings and the spaces between them, and how theses places are used.

To gain a better understanding of Halifax I went to the public archives and began exploring old newspaper articles, paying particular attention the headlines as an image portrayed to readers. The results of the article headlines organized below:

The 1960s: Looking for a vision/ defining a city.

Modern Shopping, Business Area Planned For South End". - "A sweeping redevelopment plan affecting three blocks along Spring Garden Road with provisions for the parking of 275 cars and introduction of two pedestrian shopping malls". The Mail Star. 30 Jan. 1960.

Many must live near downtown. The Mail Star. (Halifax) 6 Oct. 1961.

- Car Parks As First-Step Project "..the city must be redeveloped at higher densities to free land for open space and other public amenities" Shingler and Risdon, London Architects and surveyors.
- Downtown Exciting Urban Community Seen. "Halifax is a fortunate city having an unrivalled site, some

Headlines from Halifax Public Library Archives.

attractive buildings with considerable historical association and an opportunity... to weld all this into an exciting urban community... the city has no planning conception and this had led to great wastage of valuable land and loss of potentially great amenities and economically to the running down of the core" Architect James A. Roberts of Birmingham

- Many Must Live Near Downtown. "Downtown will thrive so long as it offers concentration convenience and accessibility, It must have concentration of buildings so that large number of organizations can be close to the centre of things, and to each other" Manthorpe, London Architect Redevelopment Plans Submitted. The Mail Star. (Halifax) 6 Oct. 1961.

Building Boom Hits Halifax Region. The Chronicle Herald (Halifax) 16 Apr. 1968: 8.

Headlines from Halifax Public Library Archives.

In 1963 Harbour Drive was proposed and approved. The plan was essentially a highway that followed the harbour's coastline and allowed connections to future main road improvements on the Halifax peninsula. The plan included potential improvements such as a third bridge from the south end of the peninsula to Shearwater and a bridge across the North West Arm to Bicentennial Drive. The project was halted when the Cogswell interchange was built and it became alarmingly clear to Halifax residents that the waterfront area would be drastically modified. In particular the current Historic Properties would have been demolished as would the upper class neighborhoods near Point Pleasant Park and the North West Arm. (Remnant of Harbourside Drive, Cogswell Interchange, the first fracture)

1970s: Construction Everywhere

"33- Storey Apartment Block Going Up Soon in Halifax." The Halifax Mail Star, 5 Jun. 1969: 1,8.

"New Apartment Building Puts Cap on Record Year."

Headlines from Halifax Public Library Archives.

The Halifax Mail Star 5 Jan. 1970: 8.

"Fenwick Towers Stalled By Financial Problems." The 4th ESTATE. 15 Oct. 1970.

"Halifax one of Fastest Growing, Exciting Cities." The Chronicle Herald [Halifax] 24 Dec. 1970:12.

"Apartment Construction Continues at Fast Clip." The Chronicle Herald [Halifax] 12 Jan. 1971: 6.

"NS Economy Makes Significant Advances." The Chronicle Herald [Halifax] 19 Jan. 1971:14.

"Fenwick a Death-Trap?." Dalhousie Gazette [Halifax] 22 Oct. 1971:10.

"From a possible 20 views, containing appropriate elements of water, aesthetic appeal and historical significance, 9 views were chosen. The nine view planes overlap to produce a panoramic effect, though not a continuous arc of view". "IN DOWNTOWN HALIFAX" Pacey, Elizabeth 15 Nov. 1973.

Headlines from Halifax Public Library Archives.

Revised Views By-Law drawn up by the City Planning Department in June 1973. Historic Properties Privateers Wharf, restored and redeveloped. Construction of Maritime Centre begins February 26th 1976, the plan was for 19 storeys, but only 12 are built. (*Halifax sight lines, Fenwick Tower; the second fracture.)

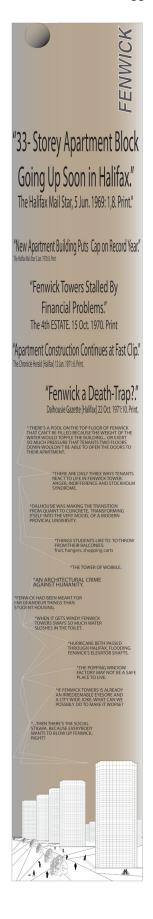
1980s: Great heights getting the better of us

"Construction Blues! The only place to go is up." 16 Feb. 1983

Housing Slump. Apartments/Condo with vacancies: Waterfront Place-Lower Water St., The Jubilee, Jubilee Road, Carriage Lane-Young Ave, Renaissance South, South and Barrington St. "A city's ever changing face." The Daily News, (Halifax) 13 Aug. 1985.

"Alderman Art Flynn called Tuesday for stricter development controls to protect residential home owners in Halifax, saying increased density in residential zones "is a real prostitution of the old city" The Halifax Mail Star. Oct 1987.

Headlines from Halifax Public Library Archives.



1990s: Cleaning House

"Growth Plan urged for downtown Halifax" The Daily News (Halifax) 12 Mar. 1992.

-"I believe that downtown Halifax is a stagnant economy, and it has been since the mid 1980s. I believe the problems are not recession-based. We have a stagnant economy that precedes the recession and will out live recovery" Bill Lydon, architect

"The city has invested little in its downtown in recent years even though the area accounts for fifty-two percent of tax revenue" Janice Manders, Halifax Business Commission. The Daily News (Halifax) 3 Nov. 1993.

Halifax's hurting downtown needs a fix up, report says. The Daily News (Halifax) 6 Feb. 1994.

Rotten at the core- Protesters seek cleanup from city hall. The Daily News (Halifax) 7 Apr. 1994.

"The view from Argyle street, of the wrecked back end of the old City Club. Downtown merchants say vacant lots like this should be turned into small parks... Can you imagine the different impression you would have of Barrington Street if the ...plywood barricade were removed from the old Birks site and that area filled in and grassed? Add a few benches and presto, instant transformation." -Greg Murphy, business owner on Sackville Street. "Downtown Disgrace." The Daily News (Halifax) 15 Jul.1994.

"Halifax has advantages larger cities can only dream of. Whether that potential is fully realized as a city depends to a great degree on not letting the automobile dictate the form of the city." -Ralph Surette. "Cars Drive Up Urban Sprawl" Halifax Chronicle Herald (Halifax) 5 Apr. 1997.

Headlines from Halifax Public Library Archives.

It is evident that the peninsula was beginning to become neglected as more places were left abandoned due to indecision. Public outcry on the derelict state of the downtown motivated changes and awareness of the neglected state. People, citizens, were ready for a change, and would not tolerate further neglect. (*shifting consumers + neglect, fourth fracture)

2000s: Re-establishing boundaries

"Halifax isn't anti-development; it's just that many of the projects that have come up to council lately don't live up to current planning rules". ... She wants to ensure that the city avoid eye sores such as the maritime centre, which she calls a "terrible mistake" -by sticking to the rules." Dawn Sloane, Council Member- by Stephanie Massinon, 5 Feb. 2007 The Daily News (Halifax).

"Halifax is one of the "top several cities in Canada in terms's of importance of heritage structures and length of history in the city. It's who we are, it's in our DNA" Andy Filmore, HRM by Design Project Manager February 20-26 2009.

"It's kind of bizarre that we have this infatuation with trying to preserve these buildings that, regardless of what we do, will fall down" Ezra Ederstein, Hollis Street Resident. 17 Sep. 2009

Headlines from Halifax Public Library Archives.

(The loss and gain of demolishing Heritage buildings in Halifax, a third fracture.)

Upcoming Projects of Controversy: Convention Centre on Argyle Street, which spans two blocks of land. Condo development of former St. Joseph's Church in North end. Projects not realized due to public opposition: Twisted Sisters, Tex Park Shops and Condos, Midtown Development, and Alexander Keith Brewery Development. Noteworthy architectural developments currently in progress: Halifax Central Public Library, and the Seaport Development (*Vacant lots, a fifth fracture).

APPENDIX B: SITES OF INTEREST

The first instance involves the disappearance of Freshwater Brook, a body of water which originated at the center of the Commons, the proverbial heart of the peninsula. This brook travels naturally south into the Halifax Harbour until its integration into a sewer line in late 1880s, modified by bricks and mortar. In recent years the brook has been infilled in way of infrastructure and building. Near Fenwick Street the brook has been made impossible to naturally daylight due to its running diagonally through residential properties -in one case under a building, and its varying depths and fill amount on top. One particular area at Queen Street is 14 metres underground. Today Griffin's Pond, located in Public Garden, is the only remnant of Freshwater Brook exposed.

SOUTH ST

SOUTH ST

REAL ST

REAL ST

RESHWATER BROOK SEWER REPLACEMENT

Freshwater Brook Sewer Replacement Map. Halifax Water.

The next site, involves the QEII Hospital east parking lot and its juxtaposition to Victoria Park. A plan view clearly shows how the bounding lines of the parking lot continue the east and west boundary lines of Victoria Park, and further provides an imprint of it connection to the Halifax Commons. Thomas Akins stated in *The History of Halifax City* that the path following Inglis Street, Tower Road, Pyke's Bride to Spring Garden Road "was a fashionable promenade for all classes on Sundays and holidays" (Akins 1885). Today the property outline contains traces of what was, and what could be again. Both the first and second example are similar in that both are paths of historical importance, erased by infrastructure.



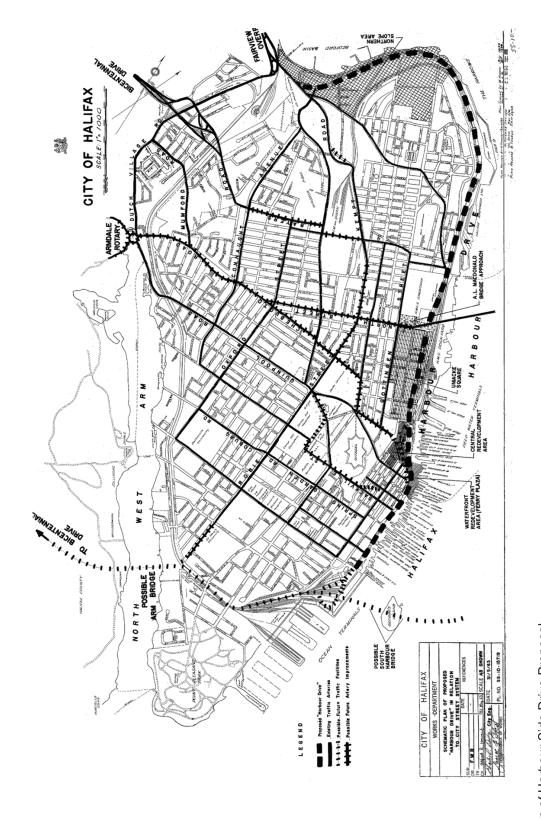


View of QEII Hospital with park, which would displace parking to the underground. Google Earth Images with overlay.

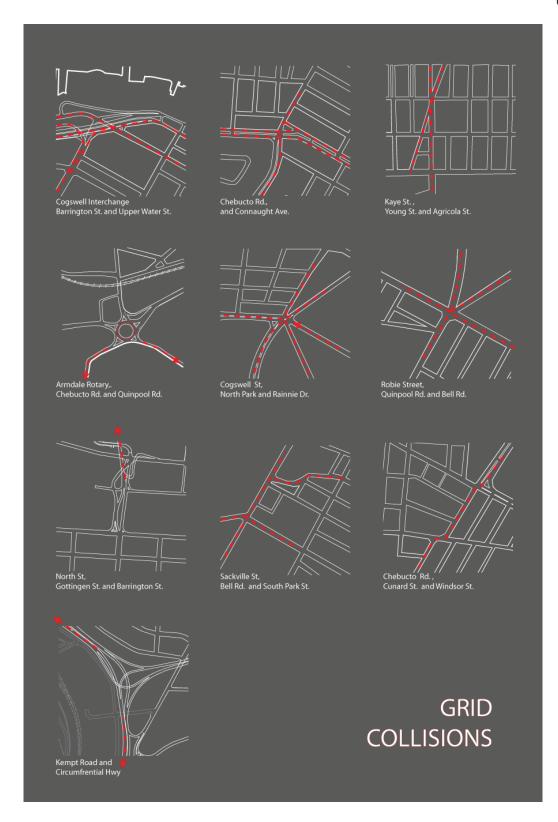
Third, the Harbour Side Drive Proposal of 1963 which essentially involved erecting a highway which would follow the peninsula's coastline. Harbour Side Drive would provide connections to future main road improvements on the peninsula such as a third bridge from the south end of the peninsula to Shearwater and a bridge across the North West Arm to Bicentennial Drive. The project was halted when the Cogswell interchange was built and it became alarmingly clear to Halifax residents that the waterfront area would be drastically modified. In particular the current Historic Properties would have been demolished as would the upper class neighborhoods near Point Pleasant Park and the North West Arm. Here a path that was motivated by the automobile goes against the interest of city residents.



Cogswell Interchange. Google Earth image with overlay.

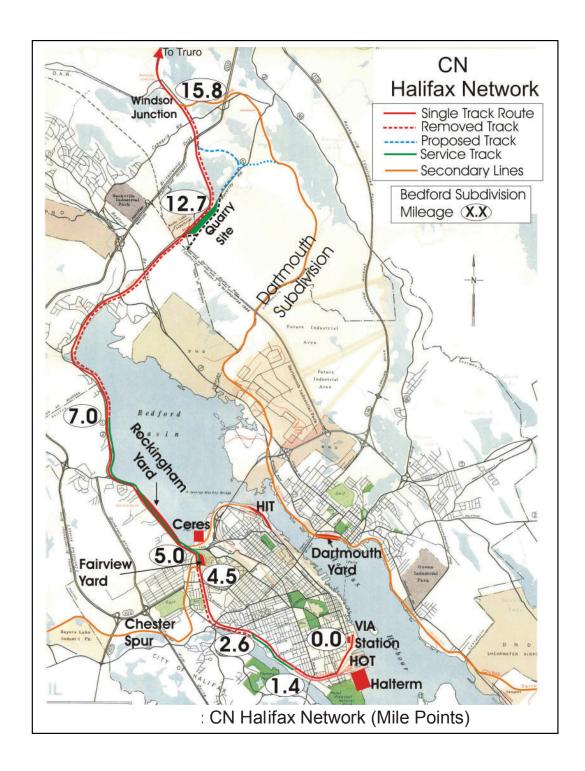


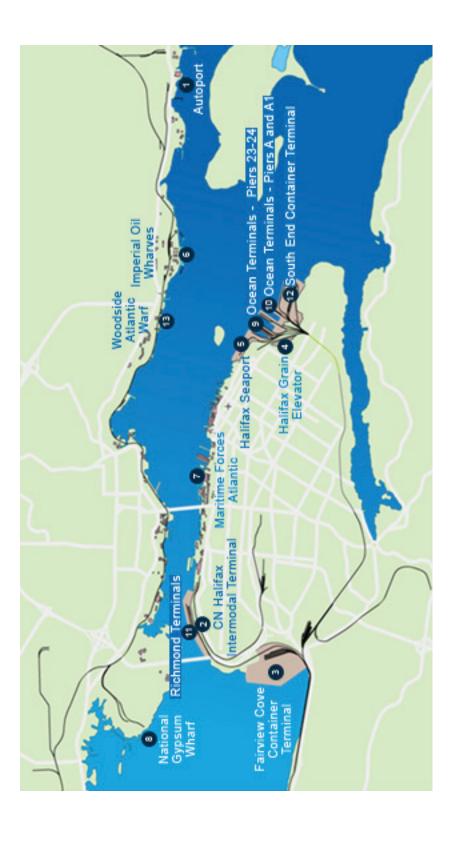
Plan of Harbour Side Drive Proposal



Grids collision attributed to the rotating grid which organizes the Halifax Peninsula.

APPENDIX C: CN HALIFAX NETWORK





1. Autoport, 2. CN Halifax Intermodal Terminal, 3. Fairview Cove Container Terminal, 4. Halifax Grain Elevator, 5. Halifax Seaport, 6. Imperial Oil Wharves, 7. Maritime Forces Atlantic, 8. National Gypsum Wharf, 9. Ocean Terminal- Pier 23-24, 10. Ocean Terminals Piers A and A1, 11. Richmond Terminals, 12. South End Container Terminal, 13. Woodside Atlantic Wharf Halifax Harbour Facilities (Image Map). Port of Halifax.

APPENDIX D: FUTURE URBAN PATH

Areas that the Urban Park Pathway in the future: First the North Edge: Halifax Shopping Centre, Bedford Basin entry area, Seaview Park and McKay Bridge. Second the Waterfront: DND, MacDonald Bridge, Cogswell Interchange, Seaport Development/NSCAD.

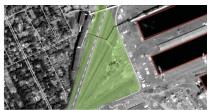
Halifax Seaport holds the Farmer's Market, Pier 22, and The proximity of Nova Scotia College of Art Design Port Campus, The location of the university is an untapped resource, which could be invaluable for the display of public art within the city or an installation of large scale art near the land surrounding grain elevator. In the warmer months many tourists arrive via cruise ship, and would be met with a unique experience: a showcase unique art from the university. This site becomes more important as an entry point to the path for tourists and locals, as well as the opportunity to integrate retail elements for cafe, bike rentals or cross country skiing in the winter.



Halifax Peninsula Shared Path Strategy. Google Earth Image with overlay.



Cogswell Interchange. Google Earth Image with overlay.

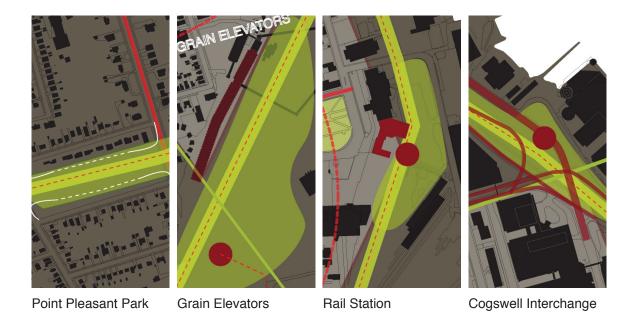


Grain Elevators Google Earth Image with overlay.

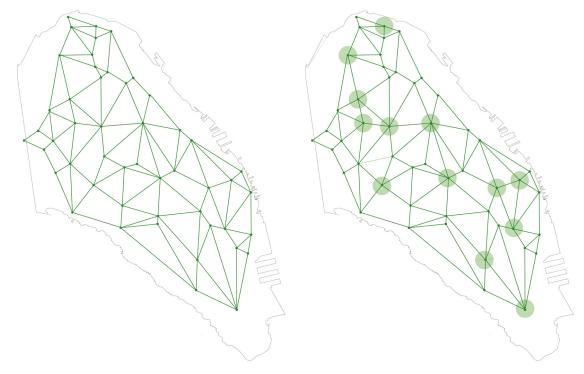


Saint Mary's University and Point Please Park Google Earth Image with overlay.



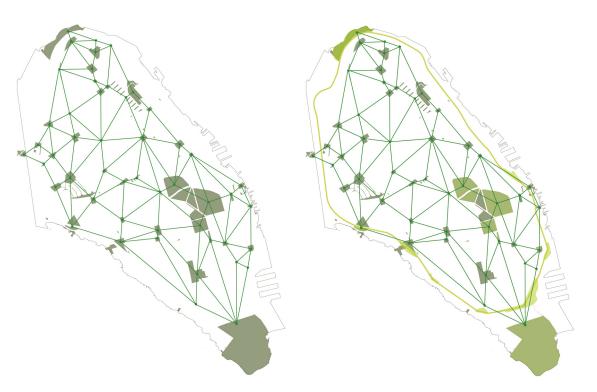


Points along the Shared Path from the Rotary to the Cogswell Interchange.



Park Linkages

Park to Path Collisions



Major urban parks

Network of parks, bounded by the Urban Path Parkway

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