EFFICIENT TRAVEL FOR THE FLÂNEUR
INTERMODAL STATION AND CENTRAL LIBRARY FOR OTTAWA

by

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A thesis submitted to the Faculty of
Graduate and Postdoctoral Affairs
in fulfillment of the requirements
for the degree of

Master

of

Architecture

Carleton University
Ottawa, Ontario

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ABSTRACT

The proposed expansion and long-awaited light rail connection to the Ottawa Macdonald–Cartier International Airport offers the opportunity to create a practical and symbolic transportation node within Canada's capital city. Overlooking the majestic Ottawa River, Bayview Station occupies an almost barren site, detached from its context and making a subpar connection between the east-west bus and north-south O-Train routes. A proposed Intermodal Station at Bayview will not only unify these lines, but promises to organize a multifaceted social and cultural landscape for persons arriving to the City from afar and for commuting residents, alike. At the shoreline of the Ottawa River, immediately flanking the Central Business District, the axial termination of the Prince of Wales Bridge -- Bayview Station -- becomes a fundamental mediator between Ottawa and Gatineau. The programmatic pairing of Intermodal Station and Central Ottawa Library intertwines the paths associated with, respectively, efficient travel and wandering, opening a space to reflect on the dual nature of urban movement.

Figure 01 - Node connecting West, East, North and South

ACKNOWLEDGEMENTS

I hereby give warm thanks to the following people for their continuous support, guidance, and encouragement in both academic and personal level.

My mom Iordanka Guenova, father Ivan Kourtev, and sister Lubomira Kourteva.

My advisor Janine Debanne, professor Greg Andonian, and director Jill Stoner for their creative ideas, always pushing this thesis to reach higher potential.

and

My close friends from the graduating class of 2016.

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INTRODUCTION

Figure 03 - Existing view of Bayview Station

"The key word for transportation in the 21st century is 'choice.'" Anthony Foxx (b.1971)

"Flâneurs ignore the rush hour; rather than hurrying off somewhere, they hang around. Their very being is a demonstration against the division of labour. They demonstrate the resistance of the daydreamer to the rise of industry and commerce." ¹

One of the reasons that cities are energizing is that one can move through them in many different ways. Choices of how to move, and how fast, are fundamental to the richness of urban experience. What makes one's experience through the city more exciting and creative is when one's travel paths intersect with places and activities. When one moves through a series of opportunities and choices, one's path becomes a sort of creation in and of itself. An intermodal station is a paradigmatic urban space in this very sense: there, the city dweller makes choices about travel, movement and destinations, or about pausing, shopping and meeting. The intermodal's role -- as organizer of urban travel and as social condenser -- endows it with a primary position in any city's urbanity. It is a place where life is invented, where the traveler can become a *flâneur*. The design of an intermodal station invites a response that deals with efficiency and the impulse to wander at the same time. This thesis addresses this question through architecture.

By definition, an intermodal station is a station that organizes two or more methods or modes of transportation therefore combining the strengths and weaknesses of the various transportation options. The goal of modern intermodal stations is to reduce the dependence on the automobile and to provide alternate transportation methods for public transit. Light Rail and a regional Railway typically anchor these stations, while other road networks for busses, trams, bicycles, and taxis plug in to them. Historically, intermodal stations included passengers switching from carriages to ferries at a river's edge, and eventually to Tram lines. They also establish vital connections to underground networks such as subways or metros. As buildings providing shelter, intermodal stations expend the subways' protected realm to an above-ground realm where transitions to other transportation modes can conveniently be made.² Today intermodal hubs feature park-and-ride and other various connections to the airport, thus expanding their field of action and influence to distant suburbs. This creates a node of activity and connection within the city.

¹ Seal, Bobby. *Baudelaire, Benjamin and the Birth of the Flâneur*, 14/11/2013 Psychogeographic Review
Available from: <http://psychogeographicreview.com/ baudelaire-benjamin-and-the-birth-of-the-flaneur/>

² In Lisbon, The *Vermelha* (purple) line, has access to the downtown core and all adjacent *suburbs*, to the '98 Expo site, and airport. Technically if you were travelling you do not need to exit the subway tunnels.

In Ottawa's context, the intermodal station is a very interesting topic. In a city like Ottawa, the planned expansion of the Light Rail Transit will offer quick transportation from western suburbs such as, Kanata, to eastern ones like Orleans, all the way to the downtown core. When paired with the Bayview site, a symbolic geographical hinge between city and river, the project becomes yet more charged. The question of an intermodal station in Ottawa offers the potential to connect the Ottawa Macdonald–Cartier International Airport to Gatineau, Québec, (via the unused Prince of Wales Bridge), thus opens onto broader questions of symbolic territory in the national capital. This is all the more interesting in the present day, as the growing city faces the legacy of discordant narratives of city development, notably the question of vertical density versus horizontal sprawl. Bayview Station is an opportunity to present a strong statement about the Canadian Capital's vision for how to shape cities in general terms, and therefore can serve as a model for other cities. The intermodal station becomes a locum for multiple narratives, social groups, and experiences which are collagistic and layered.

Figure 04 - The Flâneur

CHAPTER 1

BAYVIEW STATION AS HINGE

Figure 05 - Bird's eye view of the City of Ottawa, 1876

In very general terms, this thesis proposes to explore the urban fabric as a network of connections, suggesting that an intermodal station act as the nexus of these connections. The choice of site is therefore crucial. This chapter examines the Bayview Station as an urban and symbolic hinge in the city of Ottawa.

1.1 Bayview Station: A Geographical Hinge

The station that exists today is the link between the east-west Transitway bus and the north-south O-Train line. There is a single pedestrian/bicycle path that leads towards the river from either transport. Currently it is hard to change from O-Train to bus. A new intermodal station that will connect the O-Train, the new LRT line, various busses, taxis, and bicycles, will be a natural evolution of the site. However, as outlined in the abstract, the site is an important node within Ottawa's urban fabric and needs to be addressed as much more than a transit hub. The connection and re-discovery of the Ottawa River will be one of the most important aspects to the building's program. As we'll see, beyond any program, the site itself is a sort of *geographical hinge*.

The now abandoned Prince of Wales Bridge to the north was built in 1880 and named after Albert Edward, Prince of Wales. This bridge connected the Canadian Pacific railway passenger trains heading to Hull, Gatineau while crossing Lemieux Island. The last train to cross the bridge was on July 26, 2001. During the same year the O-Train Bayview Station was completed. Note that Québec-Gatineau continued to use the first span on the north side to switch into the Eddy plant in located in Hull until that plant closed in October 2007.³ Today, greenery has buried the history of the land and there is little trace of the once industrial era. An important element on site is the Trans Canada Trail that runs parallel to the River's edge. It is constantly used by joggers, cyclists and the flâneur.

Across the Ottawa River is the city of Hull, historically significant as a place of rich history. A number of match factories and artefacts still stand today like the E. B. Eddy buildings (1883–1940), the Théâtre de l'Île (1889), the Château d'eau (1902–1910) and La Fonderie (1942–1943). It was at the beginning of the 19th century that Philemon Wright founded his settlement, and later the E.B. Eddy company was established, creating the matches, sawmills, and pulp and paper mills. These became a major factor in the economic development, and Philemon Wright and Ezra Butler

³ "Significant Dates In Ottawa Railway History," last modified January, 2016, Available from: <http://www.railways.incanada.net/candate/ottawa.htm>

Eddy designated as historic persons. The city of Hull was “the cradle of this region’s European settlement, the Hull sector started in 1800—26 years before Bytown (Ottawa) was founded.”⁴ The Chaudière Falls are located here and have been considered sacred ground to the Aboriginal peoples for thousands of years. Today this site is considered as a condominium development and remains a highly controversial topic. This thesis aims to connect the two cities facing each other across the river.

Bayview station is located in Mechanicsville, West of the Central Business District, between LeBreton Flats and Tunney’s Pasture, and North of the neighbourhoods of Chinatown and Little Italy. The site is bounded by the Ottawa River to the north, Albert Street to the south, Bayview road to the west, and Preston Street to the east. Mechanicsville is also neighboured by Hintonburg, one of Ottawa’s first industrial suburbs accessed by streetcar. Near the end of the 19th century, Mechanicsville was a working class neighbourhood for the Chaudière Falls lumber mill and railway workers. Around the 1870s land in the area was acquired to develop the Canadian Pacific (CP) and Canadian National (CN) railways. The railway has played a dominant part in the life of this neighbourhood.⁵ The site was dominated by a roundhouse, built in 1911, that acted as the centre of employment for many CP railway workers. Nepean Bay as it exists today extended further South into Mechanicsville until it was filled in by the National Capital Commission (NCC) between the late 1940s and 1960s in order to build the Ottawa River Parkway. Therefore, geographically, the site of the Bayview station, nestled between land and water, its once again a sort of topographical hinge.

Figure 06 - Path, O-Train and Bridge

Figure 07 - Connecting the two provinces

⁴ Ville de Gatineau, http://www.gatineau.ca/portail/default.aspx?p=histoire_cartes_statistiques/patrimoine#3

⁵ Vanessa Worell, “Inhabiting the Transitional - A Transit Hub for Ottawa’s Bayview Yards” (M.Arch thesis, Carleton University, 2011).”

The site as hinge has since evolved: the introduction of diesel engines in 1955 meant fewer workers were required, and job cuts followed at the roundhouse. In preparation for the construction of the Ottawa River Parkway, the NCC removed derelict industrial buildings from the area, including the defining railway structure. The roundhouse continued functioning until 1966 and for a short time thereafter was occupied by a building supplies company; it was finally demolished in 1968, the same year that saw the completion of the Ottawa River Parkways. The Tom Brown Arena was built shortly thereafter in roughly the same location.⁶

1.2 Bayview Station as Historical Hinge

A new intermodal station at Bayview is an opportunity to suture together the past and the present. Indeed, located just west of LeBreton Flats, the station will necessarily be part of a rejuvenation of LeBreton Flats. The latter, a once vibrant working class neighbourhood razed in 1960 as part of urban renewal efforts, has stood in isolation from Ottawa's urban fabric for decades.⁷ Phil Jenkins' book *An Acre of Time* documents the razing of LeBreton Flats in detail. The book tells the story of a piece of land that measures approximately an acre (or 4,000 square meters) and illustrates a historical timeline and layers on that parcel. He describes history as a 'cat's cradle of intersecting lives. With hindsight, it seems some lives were born to intersect, while others had intersections thrust upon them. The moment when one way of life crosses another can be a blessing or a curse, a tragedy or a comedy, a win or a loss...' ⁸

Bayview station will produce a suture in the fabric between the lost neighbourhood and a new one to come. Before the recent present, though, we turn to the distant past. The land that is currently home to Bayview Station is imbued with indigenous memory.

1.3 First Settlers

Evidence from dug artefacts suggest that portions of Québec and Ontario were occupied by small groups of hunters as early as 9000 B.C. Important Laurentian sites have been discovered in the Ottawa Valley, particularly on Morrison and Allumettes Island (north of Pembroke, Ontario). One site on Morrison Island revealed about 2,300 artefacts of stone, bone, antler and native copper. This

⁶ John Leaning, "Hintonburg & Mechanicsville A Narrative History" (Hintonburg Community Association, Ottawa, 2003), 11.

⁷ Ottawa: Past & Present. Available from: <http://www.pastottawa.com/quartier/lebreton/>

⁸ Phil Jenkins, *An Acre of Time* (Toronto: Macfarlane Walter & Ross, 1996), 88.

discovery showed that the island was occupied by Laurentian people by c.3300 B.C.⁹ Europeans arrived in the area in 1603 originally settling along the river for ease of transportation and way of life. The French settler Samuel de Champlain employed the Ottawa River to explore Canada. Contact with the indigenous groups came famously in June, 1613 when Champlain met Tessouat, the Algonquin chief of Allumettes Island. As the French expanded on North American soil, most natives became their allies against British colonies. Once the British defeated the French in North America, and due to increasing European settlement, the Algonquin's rights and territory became greatly threatened.

Figure 08 - Chaudière Falls in its Primitive State

Figure 09 - 1930's Oil Painting of an Indian Petun (Tobacco) Sacrifice

By 1985, the Algonquin population in Ontario and Québec was estimated at roughly 5,000. Today, many Algonquins live on ten reserves (nine in Québec and one in Ontario). Efforts, including architect Douglas Cardinal's appeal to the Ontario Municipal Board, to return the lands occupied to fall on deaf ears as developers propose to build on the site. "Our sacred place has been disfigured... sacred places are very important to our people, they define us and explain who we are... they define to our nations the sacredness that is in this world."¹⁰ Architect Douglas Cardinal recently reflected: "Everybody has an embassy here in Ottawa, but there's no place for first nations in our capital and there should be ... The islands — and particularly the spectacular Chaudière Falls... It shouldn't be a bunch of private condos or anything else. It should be for all the public, all the people of Canada, to come and see those falls (to) which all the First Nations used to come."¹¹ We will revisit this important position in Chapter 5: *The Design Proposition*.

⁹ Peter Hessel, *The Algonkin Tribe* (Amprior: Kichesippi Books, 1987), 7.

¹⁰ Leveller Staff "Anishnabe Push Back To Defend Chaudiere Falls Sacred Site" *The Leveller*, Vol.8, No.3 - November/December 2015.

¹¹ Pearson, Matthew, "Architect Douglas Cardinal files OMB appeal over Domtar Development", *The Ottawa Citizen*, Dec. 9, 2014.

1.4 Reading the Site: Important Design Cues

Algonquin Elder Albert “South Wind” Dumont, stated in 2013 “Water, even when quiet and not stirring, still contains life. The spiritual messages of the wise moon are reflected on its mirrored surface. The birds go to it to bathe. It quenches the thirst of the bear. Water sings! It brings out songs from us. Where water is silent, power remains. But where it roars is the place where the spirits of the river gather.”¹² Albert, a poet, storyteller, and traditional teacher, dedicates his life to promoting Aboriginal spirituality and healing. He is an advocate of Aboriginal human rights and was born in traditional Algonquin territory called *Kitigan Zibi*. He is also part of the Algonquin opposition concerning the highly commercialized development at Chaudière Falls -- the Zibi Windmill project. Refer to Appendix A for plans to this project.

Figure 10 - Ottawa's Three Rivers

Ottawa is located in a key location where three rivers meet: Ottawa, Gatineau, and Rideau. Water and rivers are defining elements of Ottawa's topography and history. That buildings that have the opportunity to make connections to Ottawa's rivers should do so is obvious. The Bayview site provides such an opportunity and this thesis seizes upon it.

¹² Albert Dumont. *The Kettle of Boiling Waters: Chaudière Falls, Algonquin Territory*, Available from: <http://albertdumont.com/the-kettle-of-boiling-waters-chaudiere-falls-algonquin-territory/>

“The Algonkin Indians were the original inhabitants of the Ottawa Valley on both sides of the Ottawa River - in the Provinces of Ontario and Quebec. Their domain for thousands of years before Europeans arrived in North America was a vast territory that stretched from the present city of Montreal almost to Lake Nipissing, from the Rideau Lakes to the headwaters of the Ottawa River.”

¹³ As we will see in Chapter 5, the extension of the intermodal station's realm across the river is one way of reasserting the unity of the territory, and its Algonquin past.

The Ottawa River was the primary access waterway for the Anishinabeg, who lived on both its shores. The Anishinabeg controlled the passage along the Ottawa River, allowing, in certain strategic points, passage in exchange for goods. This river played a crucial role in the trade and settlement history of the Outaouais region, as a main access way leading to Upper Canada, and west, all the way to the Great Lakes. The Ottawa River was traveled, valued, and used, by Indigenous populations first but also, by all of the explorers thereafter, fur traders, *coureurs de bois*, and military persons, from the region's earliest history until the construction of the railway. ¹⁴ The Ottawa River was hence the transitway and sacred water for the Anishinabeg, crucial trading link between Europeans and Indigenous populations, access into the continent for European explores and missionaries, and later carrier of the lumber industry's logs. The Ottawa River has performed a formative role in the site's history, memory, and geography. ¹⁵ Artists such as A.Y. Jackson, a member of the Group of Seven, captured some valuable imagery of the working river. The great Ottawa River has a powerful history, yet its most recent incarnation as a leisure shore, devoid of a 'working' mission, remains to be fully understood. The river's identity is merely an obstacle to cross. The Algonquin culture gives a great importance to nature and water. They believe that spiritual power existed in the sun, fire, the sea, the cardinal points, rocks, plants and animals. Today the new dam and proposed Zibi Development still fail to provide the necessary memory to the Algonquin community. ¹⁶ Today, the Ottawa River is home to various activities and groups like kayakers and cyclists that use the edge as an intimate experience of the river. But to many, the river is merely a view or a brief glimpse from the Sir John A. MacDonald Parkway. This thesis aims to acquaint the Ottawa population with the great river.

¹³ Hessel, *The Algonkin Tribe*, 1.

¹⁴ Pierre-Louis Lapointe, "L'Outaouais, revu et corrigé," *Continuité*, n° 69, 1996, p. 15-19.

¹⁵ Morrison, J. *Cultural Heritage*, Logging in the Ottawa Valley - The Ottawa River and the Lumber Industry. Available from: <http://www.ottawariver.org/pdf/09-ch2-7.pdf>

¹⁶ Morrison, J. *Cultural Heritage*, 2.3.2 *The Algonquin Sense of Place*, 21.

1.5 Programmatic Hinge

As intermodal station, Bayview Station will welcome a myriad of events and activities for the commuters passing through it. “Efficient Travel for the flâneur” alludes to the precision of an intermodal station and to its programmatic complexity. In this section, we study how to formulate an apt program to welcome both precise “destination exchanges” and spontaneous spaces for pause, participation, wandering, or fulfilling quotidian obligations for example buying groceries on the way home.

Figure 11 - Penn Station

Figure 12 - A Soviet 'Palace of Culture'

In order to find a suitable program for this project, two buildings were initially examined. The original Penn Station in New York. Penn Station represented the height of the urban transportation hub design with various program elements that included a library branch. In addition to the monumental character of the spaces, inside Penn Station, the station offered an incredible range of amenities. Through the loggia at the end of the arcade, passengers could enter the main waiting room, a formal dining room accommodating 500 people, or a lunch room and coffee shop. From the main waiting room, passengers could proceed to the ticket office, parcel rooms, lavatories, baggage check, and separate gentlemen's and ladies' waiting rooms. An emergency hospital was located on site, as well as facilities for funeral parties and a system for transporting the departed. The fourth floor was reserved predominately for railroad employees. Apart from this, it housed an assembly hall, lecture rooms, billiards room, bowling alley, and gymnasium.

The program includes outdated spaces such as the Men's Smoking Lounge and the Telephone Booths that are incorporated nevertheless as a Chaise Lounge and Charging Stations, respectively.

Some elements such as the Barber and Flowershops (Fleurist) retain function and are included as are. Shops (Boutiques) are provided as well as a space for Track View, as inspiration from the original Penn Station. There are various hobby studios, similar to the Palace of Culture program including dance, music, and recording. This complex program assures that there is something for everyone who chooses to visit Bayview Station. This brings us to the element of naming the program spaces. A system, illustrated in Chapter 5, uses three languages for designation: English, French, and Algonquin. For example the main waiting area is labelled Central Waiting Area / Halle de pas Perdus / babamadizwin. These three different ways to express one thing speak to the complexity of our urban fabric and alludes to the three groups living in Canada's Capital.

This thesis proposes that Bayview Station become a *palace of culture* similar to the examples built in the Soviet Union. The soviet Palace of Culture, is a building that contains several cultural programs such as cinema and or concert halls, lecture halls, dance studios for folk, ballet and ballroom, various do-it-yourself hobby studios, for example amateur radio, theatre, musical studios, and many more. The participants of these social groups are subdivided by age of participants, from children to retirees. A public library may sometimes have been housed as well. Usually these hobby studios were free of charge. After the dissolution of the Soviet Union, the financial system of these building changed and visitors would pay a small price to use the spaces. A Palace of Culture was therefore called a *club*, but this did not mean that it was membership-based.¹⁷ It is important to note that these types of places were meant to offer something to everyone, of different social stratas. They provided cultural outlets and were therefore places of education.

¹⁷ John Dewey, *Impressions of Soviet Russia and the Revolutionary World* (New York: New Republic Inc., 1929), 87.

CHAPTER 2

SITE INHABITED OVER TIME: A HISTORY OF VISIONS

Figure 13 - Overlay of Gréber Plan on top of Existing Photograph

2.1 A Brief Visual Timeline

We will now examine the various buildings on site, and proposals starting at the turn of the 20th century. The two recent proposals by the City of Ottawa presented at the War Museum have also been included because this thesis directly contradicts those, and presents a third fictional option.

1901 - This figure shows a 1901 fire insurance plan overlay on top of a 1944 aerial photograph. It is interesting to see how the planned grid intersects with the organic flow of the existing Ottawa River edge. The north-south connection is also curvilinear, the place of the O-Train line built some 100 years later. Note the man-made grid connecting with the fluid nature of the River's edge.

1944 - In the 1940s, the Canadian Pacific Railway was still in full swing. Although slowly declining the important urban artefacts located on site were in operation including: the Bayview Yards, the Roundhouse, the Prince of Wales Bridge, and LeBreton Flats just east of the site. Napoleon's *Continental Blockade* of 1806 resulted in Canadian lumber trade because the British Empire required a steady source of wood. Lumber mills were established and still existed well into the turn of the 20th century, as noted in the previous chapter. By 1900, with steel becoming the preferred material in ship building, the lumber industries began to decline. It was in 1908 that the current Chaudière dam was built to harvest the awesome power of the falls into resource. It was put into operation two years later in 1910. It could be argued that this dam, or cage, placed upon this powerful section of the Ottawa River, sealed the fate of the Algonquin's right to land ownership.

Gréber's 1950 Plan of Ottawa - The Gréber Plan, or General Report on the Plan for the National Capital (1946–1950), was an urban plan developed in 1950 by Jacques Gréber for the Federal District Commission of Ottawa, Ontario, Canada.

Its main components were:

1. planning the region as an integrated system
2. making the Capital symbolize the whole country
3. relocating the rails from central Ottawa
4. improving transportation
5. decentralizing government offices
6. creating a scenic parkway system and restoring shorelines
7. creating the National Capital Greenbelt
8. expanding Gatineau Park (formed in 1938) ¹⁸

Note that Gréber recognized the current location of Bayview Station as an important urban node. He planned a roundabout of grand scale that connected to the Ottawa River, and a shoreline for public use. 'It is hard to miss the 1950 plan's open space network. The parkways are magnificent, with wonderful views along the Ottawa River and Rideau Canal.

Figure 14 - 1944 Aerial View of Railroad Tracks

Figure 15 - 1950 View of Gréber

¹⁸ "Plan for the National Capital - General Report," last modified July 17, 2006, Available from: <https://qshare.queensu.ca/Users01/gordond/planningcanadascapital/Gréber1950/index.htm>.

The Greenbelt and the many parks built by the NCC and its predecessors contribute to an attractive capital for visitors and a high quality of life for its residents.’¹⁹ Gréber saw a car-dependant future for Ottawa and thus only general concepts from his proposal have been adopted for this thesis. The footprint of his grand scheme, re-emerges from the ground to shape design decisions illustrated in Chapter 5.

¹⁹ David Gordon, *Analysis of the Gréber Plan*

1965-1976 - The period between the 60s and 70s brought drastic changes to the site. Nepean Bay was filled in, the Roundhouse and LeBreton Flats were demolished and the once glorious Railway network was officially dead. The barren land that exists today has only evolved slightly from this demolition of key artefacts.

1976 - Apart from the Transitway that currently runs east-west, the site has remained as it was nearly forty years ago. The only element from the 1950s Gréber Plan to manifest was the scenic parkway built along the Ottawa River and named the Ottawa River Parkway. All other artefacts relating to the railway system have been erased.

2011 - Plans from the City of Ottawa to revitalize the area have been in the works for some time. However, it was in 2011 that a finalized plan was presented. These plans included an expanded Tom Brown arena, a New Urbanism type development, and the proposed LRT station.

2.2 City of Ottawa Proposals

Back in 2005, the City of Ottawa issued the results of a planning study of the Bayview Yards area. The proposal was a newly designated mixed-used centre, with high to medium density residential buildings as well as a mixed use civic facility, and a proposed national/government facility. The proposed barcelona-like courtyard housing overlaid on top of LeBreton Flats resulted in only one building before the masterplan was put on hold. The proposal also includes two 32 storey office towers on an unused parcel of land between Albert Street and the current City Center building. This thesis takes into consideration parts of this proposal, it also rejects the majority of the plans in favour for a horizontal/sprawl design strategy in order to reclaim the land between Albert Street and the Ottawa River. The intermodal station and library will become a focal point and anchor for the neighbourhood.

The city approved plan lists several programmatic elements including 1,600 residential units and 30,000 square metres of commercial and community facilities on the City-owned Bayview Yards property.²⁰ They recognize that the most important planning initiative is the proposed Light Rail Transit station. However the most recent design does not connect the Ottawa River in any way. It serves solely as a transfer point for the east-west and north-south transports. This is almost identical to what exists today in a more glorified manner.

Figure 16 - Two Proposed Office Towers

Figure 17 - Rendering of Proposed LRT Station

²⁰ Worrell, "Inhabiting the Transitional."

This thesis does not explore a large-scale masterplan but rather encourages organic horizontally oriented proposals that will echo it. For instance similar in character residential units can be proposed west at the current location of the Bayview Yards. They will be similar in character, extending, and almost touching the Ottawa River.

In early 2016, two new radical proposals have been issued by the city of Ottawa concerning the development of LeBreton Flats east of Bayview station. Both of these proposals are vastly overscaled and provide little open space for people within the clutter of buildings. Refer to Appendix B for a brief description. This thesis proposes a fictional and alternate third proposal that paves the way for future development on the site. Note that the two towers for commercial purposes will be kept. The intention is to turn the other towers, on their sides, and encourage the horizontal aspect. The main design concept is about reclaiming the ground, and lifting the cultural component above. The proposal then advocates less density on site, and opens the building to the landscape and reclaims the edge of the Ottawa River.

2.3 Existing Obstacles

The site's topography is quite steep and most of it is hard to access on foot. One of the main challenges is the series of roadways that form a continuous barrier, an edge, that is almost impenetrable by horizontal movement. For example, the path that leads you to the Trans Canada Trail is beneath the Sir John A. Macdonald Parkway and forms the only glimpse at the Ottawa River. One of the main design objectives for this thesis will be the creation of a single pedestrian plane, with the existing road and proposed LRT and O-Train lines either above or below. This separation of transit modes is a key component to the building. The Sir John A. Macdonald Parkway is one of the few manifestations of 1950's Gréber Plan, and was meant as a scenic route for the car tourist. However today, in a pedestrian and cyclist oriented transit, this is a problem. Therefore the continuous ground plane, which is essential, will provide the much needed strong connection between the new intermodal station, the proposed library within, and the Ottawa River.

Apart from the Sir John A. Macdonald Parkways, there are two other roads that span above the existing O-Train station and tracks. These are the current Transitway and Albert Street. The Transitway Bridge is inaccessible to pedestrians due to the high speed and volume of the east-west busses, and Albert Street is only crossable at certain points where traffic signals are placed. The first time I went on a site visit, I found it hard to cross Albert Street and this made my journey

toward the River unpleasant. The proposed design for the transit hub will make these connections easier and will open this area up at grade, so that pedestrians can access the site with ease from any direction.

Figure 18 - View of Bus Transitway

Figure 19 - Existing Jog/Cyclist Path

The defunct and disused Prince of Wales Bridge becomes a key artifact in rejuvenating this site and connecting the North and South portions of the Ottawa River. The City of Ottawa has in fact purchased the Prince of Wales Bridge, along with the remaining CP rail line, with plans to re-use it for the O-Train but no current progress has been made. The NCC has also expressed interest to use the bridge as a pedestrian/cyclist passageway, or even as a rapid bus transit route connecting Gatineau to Ottawa. There have been several proposals for the bridge to re-open and are pedestrian/cyclist oriented, however there has not been anything official. This thesis proposes an O-Train extension towards Hull, Gatineau via this bridge and creating a stop called *Allumettes* that mirrors Bayview Station.

The above looks back over a series of historical layers and events on the site. These layers are at present latent within the site, but the site awaits renewal. A new development on this site offers the opportunity to capture collective memory and attempt to remember things past. This thesis therefore pursues the design of an intermodal hub as a geographical hinge between past and present. The following chapter establishes a list of projects that are taken into consideration in order to finalize an eventful program within and organization of the proposed building.

CHAPTER 3

INTERMODAL STATIONS AS URBAN GENERATORS

Figure 20 - People Mover

The following three projects were chosen because of the important principles they encompass. This thesis proposes placing all program under one roof, an indoor city complete with a series of winter gardens, a free ground plane for public use, and a long horizontally oriented passage leading towards the Ottawa River.

3.1 Indoor City

Under the Same Roof

Paul Mui Kui Chen & Benny Lee Chiu Ming, Hong Kong (2016)

This intermodal hub, named *Under the Same Roof* set to be completed in 2016, won first prize in the competition with its large, naturally daylit facility. An indoor winter garden also acts to replenish the air with fresh oxygen improving the air quality within. Algae tubes mounted on the roof utilize sunlight to create even more oxygen. Meanwhile natural ventilation is facilitated through the stack effect and operable panels to release air and exhaust.²¹ This precedent is important because this thesis will explore the idea of all program under one roof and various advanced building systems to its full potential thus providing a pleasant experience for the users.

Figure 21 - Plan of the Transportation Hub

Figure 22 - Interior Perspective of Waiting Area

One of the current problems of Bayview Station is the disconnect between the O-Train and Transitway bus. Placing all program under one roof suggests a building that provides shelter all

²¹ Bridgette Meinhold, "Hong Kong Transportation Hub Actually Improves Air Quality, May 18, 2010. Available from: <http://inhabitat.com/sprawling-green-roofed-transportation-hub-for-hong-kong/>

year around -- an important design decision concerning Ottawa's harsh winters. The series of winter gardens will be incorporated within the building as vertical circulation and to always provide visual greenery to the occupants. Examples of integrated indoor garden and commercial use, like Commerzbank, demonstrate "a good example of how natural ventilation can be incorporated in a building to even enhance its architectural beauty."²² The psychological advantage of being surrounded by constant plants has been proven over and over in work environments and also translates into a pleasant journey on the way to work or to the library. "[Today] sustainable design considers the overall work environment. There's more emphasis on making sure employees have greater access to daylight, as well as to areas conducive to collaboration... it's becoming more about the employee, instead of just the architecture."²³ The *flâneur* thus strolls around the building and can sit by a tree, or wander through the indoor forest, or drink a cup of coffee in a very tranquil setting while in close proximity to the urban centre.

²² Interview and tour of building with Building Manager, Peter Muschelknautz on August 2nd, 2000. Commerzbank Tower - Frankfurt, Germany

²³ Kroll, K. Study Links Green Buildings and Employee Productivity, December 2010

3.2 Urban Passage

Biblioteca Vasconcelos

Alberto Kalach, Mexico City (2007)

Biblioteca Vasconcelos, covers roughly 38,000 square meters of space, and is dedicated to philosopher José Vasconcelos. This project integrates a public library with a botanical garden. Once again, we have an integration with an indoor garden. The building is located downtown at the Buenavista train station where three methods of public transportation meet: the metro, the suburban train, and the metrobus. The heavy concrete structure seems to lighten because of the glazed skin enclosing the building. The interior void is reserved for program that requires low lighting, whereas the perimeter is reserved for reading spaces. Similar organization around a linear path will be provided in the proposal.

This library/transit hub is part of a series of modern interventions, just as the new proposal in Calgary for a Library sitting on top the LRT line. The intermodal hub is directly combined with the library program because of its easily accessible nature. Biblioteca Vasconcelos is organized around a centre lane and features Mexican artist Gabriel Orozco's Ballena (Whale) sculpture. "The Botanical Garden houses a comprehensive array of Mexico's endemic flora. Culture and nature, often on opposing sides, form a unity in which the visitor can reconcile their co-existence."²⁴ The longitudinal plan and industrial aesthetic make this library a necessary precedent for this thesis.

Figure 23 - Interior View

Figure 24 - Floor Plan Showing the Horizontal Movement

²⁴ Vasconcelos Library / Alberto Kalach, *ArchDaily*, December 27, 2010.
Available from: <http://www.archdaily.com/98584/vasconcelos-library-alberto-kalach>

3.3 Free Ground Plane

São Paulo Museum of Art

Lina Bo Bardi, São Paulo (1968)

São Paulo Museum of Art (MASP), has a form recalling Structuralism and frees the ground plane, creating an important gathering space. Half the program is buried underground and the rest is raised above grade. “As the project evolved, it became increasingly clear that her vision for the museum would not belong to the politicians and the city’s cultural elite. She would instead attempt to cater to the populist view that the museum and the site on which it stood should belong to the people and the city” The freeing of ground plane, and raising cultural activity above is a key component in the design of this thesis and a necessary political statement. Herman Hertzberger noted that, “when underneath the building, you feel absolutely no sense of oppression due to the immense presence above you.” ²⁵

Figure 25 - Exterior View

Figure 26 - Section Showing The Free Ground Plane

Linda Bo Bardi, a *Structuralist* architect, questioned the role of structure in importance and articulation of circulation space. Other names like Aldo van Eyck, Herman Hertzberger, and Cedric Price blurred the line between inside and outside. For instance, Hertzberger believed that the architect's role was not to provide a complete solution to a problem but to instead create a spatial framework to be eventually filled in by the users. “A clear spatial structure or infrastructure

²⁵ Herman Hertzberger, *Space and the Architect: Lessons in Architecture 2* (Rotterdam: 010 Publishers, 2000), 106.

promises durability, and because of it makes more space in which to capitalize on the need for change,"²⁶ Naturally this type of non-defined composition relied on the need for reciprocity with the inhabitants. This reflects a desire for flexibility and the possibility of change characteristic of the Structuralists' work. This multi-functional space, relates to the Piazza dell Ragione from Aldo Rossi's book *Architecture and the City* except in this case the form and function were conceived together. Ideally the built form proposed in this thesis could change program if required in the future, keeping the original shell.

²⁶ Hertzberger, *Space and the Architect*, 176.

CHAPTER 4

THE INTERMODAL STATION: AN IDEAL PLACE FOR A LIBRARY

Figure 27 - The Collective Memory of the Site

"The library is the temple of learning, and learning has liberated more people than all the wars in history." Carl Thomas Rowan (1925 - 2000)

In order to turn Bayview Station into an urban oasis and a place that offers something to everyone, it is important to de-centralize the centre of Ottawa that is currently enclosed by the Confederation Boulevard. The project proposes to load the Main branch of the Ottawa Central Library on top of the inter-modal transportation hub. As one of the last urban refuge for all classes the library is necessary in securing social diversity on site, and democratic accessibility. The library will be easily accessible for visitors coming from all cardinal directions.

Figure 28 - Expansion of Confederation Boulevard

4.1 The Dynamic Hinge

The proposed intermodal transit hub acts as a dynamic hinge between the history of the site, the city to the south, the river to the North and library. Visitors and travelers alike flow through the building in many ways. They are on a journey. They either use the dynamic transit hub as a destination, to travel to work, school, or airport, or become engaged with the static elements of the Library. The transitional spaces such as cafes, galleries, and the gardens aid in the journey and provide the much needed richness. The dynamic richness of a transit hub, recalls an airport. The journey has easy navigation, for the journey to take place.

This thesis combines the Bayview intermodal transit hub with a proposed location for a new central library for Ottawa. The expansion of this branch away from the Confederation Boulevard enlarges the centretown circle, creates a de-centralized centre, and ensures that all commuters and non-commuters alike have access to knowledge and the resources provided within. This includes Québec residents, those who live in Kanata and Orleans, as well as the ones coming from the airport. Thus, the site in question will bridge a number of existing and emerging communities in Ottawa. Here a keynote speaker could arrive at the airport at 4p.m., take the O-Train to Bayview Station, have a coffee, deliver a speech at 7p.m. and directly return to the airport, without the hassle of traffic.

4.2 The Static Hinge

The proposed library expansion will be approximately 10,000 sq.m. The public library is the last refuge for all social classes and it is here that the G7 will rub shoulders with the lower middle class and even homeless people. It is a place for all ages and a place for learning. Within the resource department will be a section dedicated to Francophone literature and culture, including magazines that are not to be found anywhere in the Nation's Capital, even the airport!

An article in the newspaper *The Ottawa Citizen* writes that the new and relocated Main Branch should take an example from the Montreal's Grande Bibliotheque. Design strategies include, location, increased space for exhibitions, genealogy space, and innovative architecture. The Library in Montreal is built directly on top of the existing subway line on Boulevard Maisonneuve Est. The reality is that the winters in Montreal and Ottawa are harsh, therefore a connected system of transit lines that could shelter you from the weather for all seasons is a major reason why Bayview Station would be the perfect location for the Ottawa Public Library main branch. "In Montreal, people who lived farther away didn't complain about distance, as long as they had subway access" ²⁷

Figure 29 - Library of Babel (Left) and Google Data Centre Server Space (Right)

²⁷ Mahoney, "How to make New Library the Capital's Guggenheim," A3.

Currently, the City of Ottawa is searching for a new home for the central library's Main Branch and has commissioned functional studies while looking at various downtown sites. The main library branch will bring a specific urban identity to the site and create a focal point that encourages public transit to and from the neighbourhood. The library typology is changing and modern libraries become hubs for information and recreation, and above all a meeting place suitable for social interactions. By adding and incorporating a diversity of programs which would be shared with the transit hub, the main library branch will become a landmark anchor for the community to strengthen its presence. Taken into consideration is the Helsinki Library Competition, titled 'The Heart of the Metropolis' and this thesis uses majority of the program elements outlined within. See Appendix B for further reference.

An important element will be the relocation and expansion of *The Ottawa Room*. The Ottawa Room provides visitors with a centralized information resource about Ottawa and surrounding areas, both past and present. This helps preserve Ottawa's written heritage for researchers and for residents with a passion for local history. This unique collection brings together printed documents about Ottawa, important municipal documents, including current and past city by-laws, and a broad selection of historical and literary works by Ottawa authors. The collection will include over 15,000 items that can be consulted free of charge. A library is a public resource and should cater for everyone including the homeless, the under-employed as well as youth (young children - teens), school/day groups, retired individuals, scholars, families and individuals from all income groups. The various programs and the connection to each other will be further explored. There will also be a space dedicated to Algonquin history, a language centre, and storytelling space. This space extends and bleeds over on the ground plane, and that in itself serves as a dedication to public space.

CHAPTER 5

DESIGN PROPOSITION: THE PEOPLE MOVER

Figure 30 - Concept Showing Movement through the Building

As discussed above, a central goal in this thesis proposal is to reinforce Algonquin memory. While raising the cultural aspect of the project above grade, a ground place continuum extending over the Ottawa River and into Hull is possible. The proposition thus lifts all buildings above ground on piloti, leaving the site clear and open. Second, the proposition calls for the reactivation of the Prince of Wales Bridge linking Ottawa, Ontario, and Gatineau, Québec, and for an intervention on the North shore of the Ottawa River. The proposition is thus linear, and places two parks and two buildings in conversation across with each other. As passengers on the O-Train cross over the bridge, they would have a rare unobstructed view of the River. Their movement would also signal a continuity of territory that defies provincial borders.

5.1 The Site in the Future

We know that the Transitway is going to be transformed into the future east-west LRT line. This platform will be housed in the southern portion of the proposed building. As discussed earlier, the Bayview site has a long history of transportation activity, from the old Ottawa West train Station and CP/CN railways and railyards, to the modern day O-Train station and Transitway. It therefore forms a natural node, and a hinge between the past and future development of the City of Ottawa. This intermodal station will create a much needed connection to the airport, while reinforcing the one with Carleton University and creating a link to Gatineau and the Université du Québec en Outaouais (UQO). It will be a comfortable space to study, to visit the Library, or to take a leisure break. It will provide a key destination point for the north-south O-Train line that will also connect the provinces of Ontario and Québec.

The node will further connect Kanata to the west and Orleans to the east. As a focus on transit-oriented development the station becomes a transformation point for the site, bringing people there at all times of the day, inspiring both new construction and densification through decentralization. The hub becomes a strategic tool for the urban plan in that the site will be transformed by it. This thesis does not propose a masterplan but rather a building that will influence future development.

5.2 Horizontality

One of the initial design moves was the need for a continuous path from the intermodal transit hub to the garden and library above. This creates three distinct planes of activity. The O-Train line remains as is and continues north via the Prince of Wales Bridge toward Québec. This is Level -1. At grade, or Level 0, we find the garden and the reclaimed horizontal plane that leads towards the Ottawa River's edge. Above this we find the raised Transitway and proposed east-west LRT line as Level 1. Proceeding northward, one finds that the Sir John A. Macdonald Parkway is submerged to allow freedom at grade. Level 0, or the ground plane, is the important public level. Here Albert Street, vehicular traffic, pedestrians, and busses meet to enter the building at grade. A grand entry to either the north-south or east-west tracks. Here is also one of the many ways to penetrate the building and enter the Library. The first winter garden is placed here and is always in view to the commuter. Next we have Level 1, that is the current transitway raised above grade to create the continuous ground plane, and to create the uninterrupted LRT east-west connection possible. Here commuters from Kanata and Orleans meet and enter the Library, or continue north-south.

Figure 31 - Reclaiming the horizontal plane

The library will therefore begin on level 1, and more private rooms and spaces will be located on upper floors. This strategy will combine the garden with a long continuous building that terminates within the River's edge before continuing north towards Gatineau. The project has a station on the side of Gatineau and reuses the existing tracks providing a connection to Chaudière Falls and the proposed Zibi Development.

We saw that the history of the Bayview site is heavily associated with the history of the Aboriginal peoples of Canada. As the Prince of Wales Bridge is brought back to life connecting Ottawa and Gatineau, a continuous horizontal plane of uninterrupted space is created. It is this public layer, or Level 0, that is dedicated to the Algonquin community. While the program happens above, at grade, we are united with the landscape. The present state contours are preserved to the best of the design ability and serve to free this land. This *carpet or memory* joins the two halves divided by the border at Lemieux Island and connect the Ottawa River. The *flâneur* now explores inside, and outside the building, choosing to either engage or remain impartial.

5.3 Reference to Airport

The connection to the airport and notion of the *people mover* gave way to the design of moving walkways that will take the visitor from the LRT and O-Train platforms down towards the garden, library and always in view of the water. This metaphorically provides the connection between the Ottawa Macdonald–Cartier International Airport and Bayview Station.

This distinct horizontal plane will provide something for all visitors. The library portion will be organized around these walkways for ease of stack access. Along the way one will have the option of exploring one of the indoor gardens or relax at one of the cafes. The library stacks extend in the vertical dimension so that they are always present. Today moving walkways are used in airports, museum exhibits, zoos, theme parks, theatres, and public transport. In Toronto, a walkway connected two long spans between subway stops from 1978 to 2004.

Figure 32 - Moving walkways throughout the building connect the hub with the library

5.4 The Warehouse

Since the beginning of the industrial revolution, warehouses were a dominant feature of an urban landscape. Among the common types of warehouse, the Railway warehouse is intriguing to this thesis because they were built adjacent to transit hubs. “The first railway warehouse to be built was at the terminus of the Liverpool and Manchester Railway, directly opposite the passenger platform.”²⁸ The warehouses, themselves, transcend time and their functions albeit altered become fascinating urban artefacts like Palazzo della Ragione in Padua, Italy surviving different generations.

Figure 33 - Mies van der Rohe, proposal for the Chicago Convention Hall

²⁸ Manchester Warehouses, Available from: <http://www.revealinghistories.org.uk/why-was-cotton-so-important-in-north-west-england/places/manchester-warehouses.html>

Data warehouses, a term given to computing, is therefore an allegory for what a library is today. If the image shown in [Figure 34] had contained an endless stacks of books - then it becomes a warehouse for knowledge, or a Library. The multi-modal station is a large infrastructural building and because of this, the question of a coherent structural system needs to be asked. Structure has historically been the guiding formal element of transportation buildings because of long roof spans, and extended horizontal spaces. The question is whether to expose this aspect or choose to hide it. This thesis will look at a way of exposing it in bare minimum. Hence, alluding to the short-lived *Structuralist* movement.

Figure 34 - Stacking Room at an opium factory

DESIGN DRAWINGS

"QUE RESTE-T-IL DE LUI DANS SA TEMPÊTE BRÈVE ?
 QU'EST DEVENU MON COEUR, NAVIRE DÉSERTÉ ?
 HÉLAS ! IL A SOMBRE DANS L'ABÎME DU RÊVE !"
 - ÉMILE NELLIGAN

A place for contemplation.. it was important to establish a direct visual and physical connection from Ottawa to Gatineau with the proposed building that is thus separated into two parts forming one continuous shed.

Conceptual model showing the dock, and O-Train link directly connecting the two provinces. It is essentially one continuous building rather than two halves. The free ground plane is clearly shown here, with the building containing the program above.

Site Plan of Bayview Station (Ottawa side). Existing and proposed paths, intersect and penetrate the building at different points allowing freedom of movement.

Site Plan of Allumettes Station (Gatineau side). Similar to its southern counter-part, the plan sits lightly on the existing terrain, allowing the existing paths and O-Train tracks to penetrate and intersect with it.

The shed on the Gatineau side, provides the O-Train station *Allumette*, the direct extension to Bayview. Here, similar amenities are provided such as coffee shops, the theatre, and restaurant. The majority is however public and ‘free’ space for rent. Contained here is also a maker space.

Section Thru Intermodal Station showing the elevated LRT line, and O-Train connection below. The existing transitway bridge will become a pedestrian/cyclist road running parallel to Albert Street.

Typical section thru the Library. This section shows the public wandering through the public ground floor, and in this case, stopping at the Farmer's Market. To the right, is the O-Train en route to Gatineau, between the Elm Tree corridor.

In order to create the continuous ground plane, the Sir John A. MacDonald Parkway had to be sub-merged. There is a short tunnel thus created that briefly hides it from public view before it re-emerges to the existing bridge over the O-Train tracks.

View of the free ground plane. The path leads directly to the River's edge.

View of Transcanada Trail, leading to the Building.

View of the library, people mover and louvre system.

An updated map of Ottawa's Transit Routes including the Airport, Bayview, Allumette, and Zibi.

CONCLUSION

What started as a simple idea of a keynote speaker arriving at the Ottawa Macdonald–Cartier International Airport, taking the O-Train to Bayview Station, delivering a lecture and returning on the very same day became a project that questions the very identity of the Nation's Capital. The reconnection to the Ottawa River, intermodal station, and central library are the design solutions to the question of Bayview Station. The LRT link, and expanded O-Train line should be seriously examined by the City of Ottawa.

A horizontal sprawl must be integrated into the future planning, or else a great opportunity will be lost to connect North, South, West and East, and to act as a mediator between Ottawa and Gatineau.

The *flâneur* is thus in need for efficient travel, and wishes to wander this urban oasis.

Figure 35 - The Thinker

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APPENDICES

Appendix A - Zibi Development

"William Commanda, also known as Grandfather Commanda, was an internationally recognized Algonquin elder, spiritual leader and promoter of environmental sustainability... whose vision for the lands is widely quoted by opponents of the project. [He] wanted to see the area around the falls and Victoria Island returned to its natural state under the stewardship of the Algonquin people. He worked with First Nations architect Douglas Cardinal and the National Capital Commission to design an aboriginal centre on Victoria Island and a place to celebrate peace and bring people together."¹

Zibi, is a highly controversial project by Windmill Developments. Estimated at a cost of \$1.2 billion, it is promised to be one of the most sustainable communities not just in Canada, but in the world. The project although promises to build a centre for Algonquin history, still fails to provide a public space for the citizens of Ottawa.

¹ Payne, Elizabeth. *A User's Guide to the Islands*. *Ottawa Citizen*. Available from: <http://ottawacitizen.com/news/local-news/a-users-guide-to-the-the-islands-the-falls-zibi-and-the-windmill-development>

Appendix B - City of Ottawa: Two New Proposals

Project title: Canadensis Lebreton (Re-Imagined)

The first proposal aims to turn the site into a giant circus introducing ridiculous program such as an Automotive Museum, that reflects on Ottawa's long tradition in automotive design, and an Aquarium that is badly wanted by the citizens of Ottawa. The scale alone makes this author wonder if it was all a joke in order to favour the second proposal.

Project title: IllumiNATION LeBreton

This is the winning proposal by RendezVouz LeBreton Group (RLG) for the development of the area. Although not as extreme as the previous work, it nevertheless over-populates the site, and places high-rise blocks where this thesis proposes a horizontal sprawl.

Appendix C - The Heart of the Metropolis

Another important precedent to consider in regards to the Library is the Helsinki Library competition titled 'The Heart of the Metropolis'. The question is how to create a modern library, integrated with a garden, and connected to the inter-modal station. This is an excerpt from the Helsinki Central Library Architectural competition, that was scheduled 2012-2013:

"... the widespread view among the general public was that there was lacking a library suited to the scale of the city centre, a meaningful place for reading culture and literature. The need for a Central Library is based on the one hand on the strategic principles of developing the wellbeing of the citizens, urban fabric and competitiveness, and on the other hand on the changes that have taken place within the field of library operations. The new Central Library supports the objectives set out in the city's strategy programme. It enforces learning, skills, personal cultivation and culture as a basis for welfare and competitiveness."² The idea is very similar, and much of the library program elements described in this competition brief will be reinterpreted and placed into this thesis proposal. Additional program will be added accordingly.

studio at Library 10, Helsinki City Library

chess at Rotterdam Public Library

6 Room programme

* NOTE:

The room programme must be read in parallel with the competition programme sections 3.2 "Operational objectives", 3.4.1 "Building design guidelines: General", and 3.4.2 "Design guidelines for spaces and spatial groups".

Main lobby and central public service spaces		1150
Lobby functions	- draught lobbies - pram/pushchair parking facility, approx. 40 m ² - lockers (50-100 pcs) - space reservation for a cloakroom (approx. 550 persons) Distributed throughout the building; disabled WC (2 pcs per floor); baby care room 20 m ²	160
Public toilets		250
Public services	- Reception and information point + control room, total 40 m ² - Client service point + separate work space, total 40 m ² - Client photocopying, print-out and scanning point, 20 m ² - Self-service returns automat - Connected to returns automat room - "Book bar", approx. 20 m ² - Reservations pick-up area, 50 m ²	170
Meeting and lounge area		440
Stage	Performance technology (sound and lighting)	30
Pop-up info spots (space reservation)		100
Events spaces		1570
Cinema	Ind.: machine room, 40 m ² . Silent air-conditioning.	490
Multi-purpose hall		350
Furniture and stage prop storage		150
Lobby areas	Open foyers that can be separated off from the lobby areas - cinema foyer, 150 m ² (incl. VIP area, 50 m ²) - multi-purpose hall foyer, 125 m ² Serves all performance spaces, lockers, separate kitchenette, 2 WCs + 2 showers Good AV + IT equipment	40
Back stage		200
Living lab		120
Library exhibition space		180
Releasable exhibition space		40
Spaces for external service providers		840
Café	Ind.: Kitchen 30 m ² + staff social spaces, approx. 15 m ² , possibility for separate use Ind.: Cloakroom (unsupervised) and WCs, in total approx. 20 m ² ; kitchen approx. 90 m ² ; catering manager workspace plus staff social spaces approx. 25 m ² , possibility for separate use Men's and women's separate changing and washrooms and sauna + lounge/cooling off area, possibility for separate use	200
Restaurant		300
Public sauna		240
Reservation for commercial premises (e.g. bookstore)		100
The collections area and spaces linked to it		2780
Library collections area		1600
Fixed client-service point	Collections area, 1 per floor - client service point (2 staff + 2 clients) - separate work space, approx. 15 m ² (work points for 2 persons) - local storage point, approx. 5 m ² Distributed through the collections area, 4 pcs à 60 m ² Distributed through the collections area and other parts of the building, 9-12 pcs, approx. 50 m ² 3-6 pcs, e.g. à 90 m ² and 30 places	140
Interactive spaces		240
Lounges, "oases"		500
Quiet areas		300

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Learning and doing		2040
"Childrens' World"	Incl. fixed client service point à 30 m ² (see Collections area) and lightweight construction "Childrens' World" performance space (performance technology) à 8-10 m ² , workpoints for 2 persons - work points, total approx. 350 m ² - fixed client-service point à 30 m ² (see: collections area) + laptop lending point - photocopying, print-out and scanning point, 20 m ² AV equipment, computers TV studio lighting, sound-system	600
Workrooms (for clients)		150
Personal office area (for clients)		400
Music, recording and video studio		100
TV and radio studio		60
Digital-physical workshop, "fab lab"		100
Listening, viewing and games room		230
Teaching, group work and meeting spaces		400
Staff facilities		430
Office facilities	- pigeon holes + staff personal storage cart "parking area" approx. 36 m ² - meeting rooms, 3 x 12-20 m ² + 1 pc à 45 m ² - 4 workspaces approx. 10 m ² - open workpoints for 15 persons, inbetween them a 'team area', in total 120 m ² - quiet space, 2 x approx. 7 m ² Easily accessible to all staff Separately for men and women, ratio approx. 1:1 Approx. 1 WC à 3 m ² / per floor; additionally in connection with the office facilities 3 WCs, 1 of which is an disabled WC	300
Staff lounge		50
Changing and washrooms		50
WCs		30
Library logistics and library material handling facilities		480
Library collections storage	Partly mobile shelving, can be situated in the basement Connected to the self-service return automat and 'book bar' in the main lobby, and further to the library material handling facilities	200
Returns automat room		80
Library material handling	Connected to the returns automat room as well as the service and loading area	200
Service spaces		710
IT and other equipment areas	On different floors	60
Building management monitoring and server room	Approx. 10 servers, control room, can be placed in the basement- Cleaning centre (can be situated in the basement, near a lift) à 50 m ² , as well as cleaning cupboards, approx. 10 pcs à 3 m ² , distributed through the building	50
Cleaning facilities	Connected to the service and loading area	80
Refuse store	Also an external connection, can be located in the basement	60
Building maintenance store	Access for a delivery van, free height of at least 4,5 m.	40
Service and loading area	Preferably on ground level, with door directly out	400
Distribution substation	Situated in connection with the excavated underground parking area	20
Civil defence shelter	Approx. 7 % gross floor area, of which the spatial requirement for the AC machine room is approx. 1000 m ² , not included in the room programme area	
Technical spaces		
Space reservations required for the City Centre tunnel	Shafts 2 pcs à 20 m ² (extract and fresh-air intake) and reservation for a stair connection, not included in the room programme area	
Programme floor area in total (m ²)		10 000

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