A TRAIL OF TWO CITIES:
SUTURING TOGETHER CROWN AND TOWN

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A THESIS SUBMITTED TO THE FACULTY OF GRADUATE AND POSTDOCTORAL AFFAIRS IN
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARCHITECTURE

IN

AZRIELI SCHOOL OF ARCHITECTURE AND URBANISM

CARLETON UNIVERSITY

OTTAWA, ONTARIO

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[A Trail of Two Cities]

SUTURING TOGETHER CROWN AND TOWN

Acknowledgements

I would like to express my appreciation for my advisor, Janine Debanne, for her tireless efforts and guidance in assisting to bring this document to fruition. Her commitment and enthusiasm was truly unwavering throughout the process. Secondly, I would like to thank my friends and family for their love and support. I couldn't have done it without them.

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[Abstract]

As symbols of national identity that must simultaneously function as cities of everyday life, political capitals are pulled between opposing obligations. With the role of a nation's Capital comes the need for buildings of monumental significance, in particular, parliamentary precincts and related network of supporting administrative buildings. The presence of a federal seat of power within a city can result in a splitting of the city in two, whereby the formalistic buildings of government coexist alongside the informal city of the everyday, but without any meaningful connections. In many capitals, including Ottawa, the architectural languages of these two cities are in stark contrast. This thesis develops an architectural vocabulary to bridge together Ottawa's formal and informal realms within the downtown core. A kit of parts comprised of formal and casual architectural components, and a use-logic for how to deploy this kit, provides a strategy for overcoming the implied boundary between Ottawa's quotidian and capital realms.

[Introduction]

Throughout the 20th century, planners have taken a variety of approaches to the design of Capital Cities, from greenfield development of entirely new cities like Brasilia and Chandigarh, to elaborate re-workings of existing cities, like in the cases of Paris and Moscow. The capital city of Canada's neighbor to the south provides another example: the result of significant investment and the high point of an elaborate master plan, the monumental National Mall in Washington, D.C., exemplified the City Beautiful movement of the early 1900's. These designed capitals have in common the goal of giving built expression to national aspiration, for the world at large.

Other capitals, such as Ottawa, were established without the directives of an official master plan and followed a less formal process of formation. In Ottawa, the lack of planning and execution has resulted in a fragmented city in which the link between 'Crown' and 'Town' is tenuous.

As the Nation's Capital, Ottawa has seen substantial investment in institutions of National significance, including the many museums and galleries that encompass Ottawa's ceremonial route, Confederation Boulevard. The parks and pathways that line the Rideau Canal, and the city's waterways, greatly contribute to the city's beauty. The National Capital Commission (NCC) - a federal Crown corporation tasked with the planning of federal lands and stewardship of significant public places within the nation's capital - owns and manages most of these green spaces. The beauty and majesty of the NCC lands lie in stark contrast to the rest of the city - specifically the Central Business District (CBD) which extends immediately to the south of Parliament Hill, across Wellington Street. There exists, at present, virtually no connection or visual integration of the idealized and sublime Parliamentary precinct and grounds with the "ordinary" city beyond. Wellington Street acts as an implied boundary between the two realms. Sparks Street, Ottawa's main Pedestrian Plaza, lies one block

south of Wellington, and with its barren existence and inability to support urban life much beyond the lunch hour on weekdays, is a reminder of the disconnect between Ottawa's idealized and real worlds.

With the recent groundbreaking of a light-rail transit system (LRT) within Ottawa's downtown core (to be the largest investment in infrastructure in Ottawa's history) much attention has been paid to Ottawa's central business district. Central themes of discussion are the usability of the streets from a pedestrian perspective, and a stronger connection of the central city to Parliament Hill. In 2013, in light of the forthcoming LRT, the City of Ottawa released a comprehensive report entitled "Downtown Moves", which thoroughly analyzed the CBD in terms of pedestrian, cyclist, transit and vehicular flow. The report established a framework by which to categorize the streets as well as a design guideline and toolkit for future interventions within the city's centre. Thorough in its analysis and recommendations from an infrastructural perspective, the report analyses and

provides guidelines with regards to setbacks, street widths, building setbacks, lane designations (including bicycle lanes), and preferred use sequences and arrangements. The report's guidelines are largely dimensional, and do not provide a tangible architectural vocabulary and material palette for these infrastructural interventions.

This thesis will attempt to expand upon the findings presented in "Downtown Moves", and take them into built form, at the scale of the dweller, whether this dweller is solitary, or a member of a larger crowd. The thesis sets as its goal the establishment of a set of architectural concepts and principles to be applied to new and existing buildings within Ottawa's central business district. As opposed to a final design proposal, the thesis work is that of an exploration of a methodology by which the relationship between crown and town might be strengthened through a conceptual intervention into the existing urban fabric.

The exploration will take place in three different urban conditions. These include: remaining downtown un-built sites, pedestrian domains, and in particular, the Sparks Street Mall, and existing buildings for which new entrance foyers, new connections between city blocks, new above ground links, etc., will be envisioned.

The thesis work begins with a vacant parcel directly opposite Parliament Hill, at 90 Wellington Street, beside the iconic former US Embassy building, and moves southward from there, into the heart of the downtown. By examining key aspects that define Ottawa's architectural language and urban patterns, this thesis develops a systematized architectural vocabulary for downtown. The latter aims to provide a unifying language and material palette for future buildings as well as for interventions upon existing ones. The design proposal that forms part of this thesis, and presented in the Chapter titled "Architectural Proposition", is not to be evaluated as a definitive design conclusion. Rather, the kit of parts and assemblies shown in that Chapter are to be interpreted as

illustrations of a research method into the idea of linking town and crown in architectural terms. Specifically, the thesis searches for material strategies aimed at giving articulation and presence to paths and places in the ordinary city within the formal city. Conversely, the method searches for design strategies to "open up" the formal capital city so it can better receive everyday Ottawa. The language here developed is aimed at guiding interventions into Ottawa's urban fabric conceptually, so as to strengthen the relationship between town and crown.

Historical Context:

The unwanted Capital

[Ottawa: the unwanted capital]

Ottawa's origins began as a community of engineers, contractors and laborers involved in the construction of the Rideau Canal, which by 1827 had come to be known as Bytown. Growth in lumber trade in the 1850s had fueled economic development, and by 1855 the name Bytown had been changed to Ottawa following its incorporation as an official city. Ottawa was home to one of the largest milling operations in the world and its connection to the American Rail Networks established Ottawa as one of Canada's leading economic engines of its time.¹ Despite Ottawa's success as a city of industry, it was not the first choice as the capital of what was then United Canada.² Initially located in Kingston in 1841, the capital was moved to Montreal in 1844, to Toronto in 1849, and to Quebec City in 1851, due to disagreements among

political leaders about a permanent site for the seat of government. The decision was relinquished to Queen Victoria who, following a seventeen year process, declared Ottawa to be the official Capital of Canada in 1867. This was much to the dismay to those relocated to what was known as 'one of the roughest, booziest least law-abiding towns in North America'.³ Ottawa lacked all of the amenities found in any modern city of the time, including paved roads, sewers, gas lights, and piped water supply, and civic buildings. The bluff at Barrack's Hill became the new site for Parliament. A 'picturesque trio of Gothic Revival buildings', which later became known as "Westminster in the Wilderness," was built in 1859, at significant cost. The newly relocated politicians and civil servants isolated themselves to Barrack's Hill and hardly associated with the society beyond.⁴

¹"Ottawa." *The Canadian Encyclopedia*. Web. 24 May 2016.

²Boswell, Randy. "Before the Birth of a Nation Came the Birth of a Capital" *The Ottawa Citizen*, June 8, 2016 p. A9.

³Gordon, David L. A. *Planning Twentieth-century Capital Cities*, Page 151. 2004. Print.

⁴Vale, Lawrence J. *Architecture, Power, and National Identity*. P.71. New Haven: Yale UP, 1992. Print.

Figure 1 - view over downtown Ottawa circa 1860

Ottawa was one of few capital cities of the time that did not begin with an official plan. Rather, the city came into its shape through the haphazard siting of buildings independent of the surrounding context. The planning of the city remained largely in neglect until the 1890s when Prime Minister Wilfrid Laurier established the Ottawa Improvement Commission (OIC) with the intent of 'beautifying' the nation's capital and establishing Ottawa as the 'Washington of the North'.⁵ The OIC was responsible for cleaning up some of the industry along the Rideau Canal as well as initiated the

⁵Gordon, David L. A. *Planning Twentieth-century Capital Cities*. 2004. Print.

construction of many of Ottawa's parks and parkways. By the beginning of the 20th century, criticism of Ottawa's planning by the OIC had grown. This prompted the new Conservative Prime Minister, Sir Robert Borden, to establish the Federal Plan Commission; he retained Edward H Bennett of Chicago, author of the 1909 Plan of Chicago, to prepare a plan for Ottawa in the City Beautiful Style.⁶

Figure 2 - Edward H Bennett plan of 1916

⁶Gordon, David L. A. *Planning Twentieth-century Capital Cities*. 2004. Print.

The plan was to include comprehensive technical planning for infrastructure and zoning within the capital. Following its completion in 1916, it was quickly abandoned due to the government's preoccupation with the First World War and the great fire of Parliament in 1916. These consumed any budget the government had previously allocated to the city's revitalization efforts.⁷ One of Bennett's recommendations that did take effect was the enactment of the 110-foot building height limit aimed at protecting views the Parliament Buildings on the city skyline. This rule has shaped the skyline as it is known today, and is responsible for the mid-sized towers in the city's core.⁸ Several attempts to execute an official plan followed, including Jacques Gréber's comprehensive plan of 1938, under the commission of Prime Minister William Lyon Mackenzie King. The latter contained elements of Bennett's City Beautiful master plan, and guided important changes

including the removal of the railway from the downtown, and the establishment of river lined parkways and a greenbelt. However, Gréber's plan was not fully realized.

Today, Canada's capital continues to receive criticism for not being a grand enough capital city, for being uninteresting and lacking in vision. Andrew Cohen's recent article, "Ottawa is the worst capital city in the G7" is a case in point. Cohen argues that Ottawa is a city that lacks ambition and imagination. Cohen suggests that a bold approach is needed to re-imagine the future of the 'sleepy city' where nothing seems to happen.⁹ The initial disdain of the first political leaders who called Ottawa home seems to resonate over a century later in a city that has yet to embrace its role as Canada's Capital.

⁷ Padolsky, Barry. "Ottawa past & Present." *Holt Plan*. Web. 25 May 2016.

⁸Gordon, David L. A. *Planning Twentieth-century Capital Cities*. P.156. 2004. Print.

⁹ "Cohen: Ottawa Is the Worst Capital City in the G7." *Ottawa Citizen*. N.p., 2016. Web. 11 June 2016.

HISTORICAL CONTEXT

[Capital vs. Capitol]

Throughout the 20th century the number of capital cities worldwide increased dramatically from just forty in 1900 to over two hundred in 2000 due to the collapse of empires and the fragmentation of national states.¹⁰ The appropriate design and placement of the Capitol within the country for which it governs has long been a topic of debate. The integration of the formalistic aspects of the government institutions within the everyday affairs of the city have proven to be a challenge facing many capitals around the world. The responsibility for the Capital City to be a representation of the beliefs and views of the active government tend to result in a capitol, or capital district, that is symbolically removed from the city. What is more, because it is called to represent national identity in a formal manner, this seat of power, as a building or compound, often has trouble "fitting into" to the "real" city within which it is housed.

¹⁰Gordon, David L. A. *Planning Twentieth-century Capital Cities* 2004 (1: Ch.1) Print.

As Lawrence Vale, professor of urban design and planning at MIT writes in his work *Architecture, Power, and National Identity*: "These pressures have most often yielded capitol complexes which have denied cultural pluralism by emphasizing the iconography of the sponsoring elite and disfigured the legitimate promise of democratic government by giving premature prominence to fledgling institutions".¹¹

The tendency to separate the houses of government from the city - both physically and symbolically - stands in contradiction to the fact that they are publically owned buildings constructed with public funds housing publicly funded institutions. The implied hierarchy of the government over the city established through this separation fails to express the views of a democratic society. Vale writes: "First, it may be that the focus of a capitol complex in a democracy should be not a building but some other realm for public gathering and, second, it may be that the functional center of the capitol

¹¹Vale, Lawrence J. *Architecture, Power, and National Identity*. New Haven: Yale UP, 1992. Print.

complex, the legislative chambers, should not also be the ceremonial and symbolic centerpiece".¹² The concept of a highly formal and monumental designation for government institutions positioned in isolation from the city no longer reflects the views of contemporary society.

Vale goes further with his idea, advancing that separation of capitol (the governmental district) from capital (the city) may not necessarily be a result of a contemporary way of thought, but one that is established through centuries of refinement: "Many cities which have maintained their status as capitals over the course of many centuries have assimilated such buildings into diverse quarters of their urban fabrics. Where democracy has been long established, there is less need to symbolize it in some one prominent place. Instead, over time, the institutions of democratic government and the buildings housing aspects of national culture become dispersed across the

city".¹³ This integration of the capitol within the city is of particular interest to this thesis.

In the case of Ottawa, the positioning of the Parliament buildings atop a hillside bluff surrounded by water and enclosed by low stone walls and wrought iron fences is in the fashion of pre-modern western urbanism. With over a century since Parliament was first built, very little has been done to better incorporate them with the city beyond. This is not surprising, due to the precinct's position on the very northern edge of the city map.

Working with the existing location of Parliament with respect to the city, the objective of this thesis is to explore how the separation of town and crown might be overcome by way of an architectural language that could establish a dialogue between the two seemingly opposed entities.

¹² *ibid.* P.287.

¹³ Vale, Lawrence J. *Architecture, Power, and National Identity*. P.55. New Haven: Yale UP, 1992. Print.

Figure 4 - aerial view of Barrack's Hill

Figure 5 - view from Wellington Street of Queen's Gates in front of Parliament

CAPITAL CITY TOURISM:

Canada's gateway city

[Capital Responsibilities]

Capital cities have long been magnets to international visitors due to their cultural heritage and symbolic roles as global ambassadors of a country's identity. Capital cities such as Paris, London and Rome, represent the most frequently visited cities in the world. Capital cities perform a unique role in the operations of a day-to-day city and a symbolic role as the seat of power. They are also destinations for tourism. Political scientist Douglas Pearce writes of capital cities' destiny to be touristic: "Among the functions of the city. . . there is one that engenders large scale movements of tourists, that of being the capital. Such a city holds all the trumps: a hub and the gateway into the country; the best equipped city in all regards; for reasons of prestige the most carefully looked after city; the capital can only be a great tourist city".¹⁴

¹⁴Pearce, Douglas G. "Capital City Tourism." *Journal of Travel & Tourism Marketing* 22.3-4 (2007).

There exists a large pressure on capital cities to attract international visitors and to accurately reflect and represent the values and ambitions of the country at large. Tourism is a highly competitive industry, in which Canada is struggling to maintain a grasp on its share of the global market.

In 2014, Canada's tourism industry generated \$88.5 billion in economic activity and fostered 628,000 jobs across the country. Tourism represents more of Canada's GDP than agriculture, forestry and fisheries combined.¹⁵ However, Canada's tourism industry has experienced a steady decline in global interest over the past decade, falling from the 7th most visited country in the world in 2002 to the 18th in 2012, representing a reduction of roughly 4 million international visitors. This in spite of the fact that the global tourism market represents the fourth fastest growing export sector in the global economy, with over one billion

¹⁵"Canada and the Global Tourism Marketplace." *Tourism Industry Association of Canada*. Web. 25 Jan. 2016.

international travelers spending an estimated \$1 trillion in international economies this year. According to the Tourism Industry Association of Canada (TIAC), this drop in international interest is due to several factors, including high cost of travel within Canada, difficulties obtaining travel permits from certain countries, a lack of international presence, and a lack of destinations with international appeal.¹⁶

The fate of Canada's eroding tourism industry was further lamented by the Conservative Government's 20% cut in funding for national tourism marketing in the 2012 budget.¹⁷ If Canada is to maintain any sort of foothold in the increasingly competitive global market for tourism, attention must be paid to the need for new and innovative means of attracting global visitors to Canada, including the nation's Capital.

¹⁶ *The Canadian Tourism Industry*. Rep. no. Fall, 2012. Tourism Industry Association of Canada. Toronto: HLT Advisory, 2012. Print.

¹⁷ *ibid.*

The 'Bilbao Effect' is a term coined to describe the influx of tourism to a city after the introduction of a significant work of architecture. The term originated with the Guggenheim Museum in Bilbao Spain designed by 'Starchitect' Frank Gehry, completed in 1997. Tourism in Bilbao increased nearly 10-fold following the opening of the museum, accounting for over \$100 million in taxes for the regional government.¹⁸

However, the economic injection associated with the Bilbao effect also brings with it a tendency to gentrify. Pre-Guggenheim Bilbao and post-Guggenheim Bilbao are two different cities. The original city, its culture and traditions, are now harder to recognize. The scale and magnitude of a museum such as the Guggenheim in Bilbao is designed to attract international visitors who seek out their rich, globally recognized collections. (visitations are for funeral homes) Rarely do the collections of such museums include the

¹⁸ Plaza, Beatriz (2007): *The Bilbao effect* (Guggenheim Museum Bilbao). Published in: Museum News. American Association of Museums , Vol. 86, No. 5 (31. September 2007)

work of local artists. The new museum has a "Disney Land effect" on the local community. Like the theme park is to Orlando, the new museum stands in isolation from the city and culture in which it is located. Compounding the problem, such museums often act as cash cows vis-à-vis other (usually smaller, and local) art institutions in the same cities. The efforts and supports of local government tend to be directed primarily towards the elite museum, leaving little support for local endeavors.¹⁹

Perhaps Canada's destiny is not to produce spectacular singular buildings, but rather, to refine the very idea of the live-able, walk-able, cycle-able city. This refinement in the form of clear, legible connections between Ottawa's tourist attractions, would not only benefit residents of Ottawa, but visitors

as well. An architecture of connections and transitions, a built "trail of two cities", will make Ottawa both a noble capital and a great ordinary city, as will be seen further on.

¹⁹Michael, Chris. *"The Bilbao Effect: Is 'starchitecture' All It's Cracked up to Be? A History of Cities in 50 Buildings, Day 27."* The Guardian. Guardian News and Media, 2015. Web. 24 July 2016.

[Tourism Precincts]

A tourism precinct can be defined as a "distinctive geographic area within a larger urban area which is characterized by a concentration of tourist-related land uses, activities and visitation, within fairly definable boundaries".²⁰ A tourism precinct can be seen as a 'place-bound package' in which functionally associated services, attractions and facilities are spatially concentrated, thus creating a distinct 'zone' for a specific activity. The components of a tourist precinct are hotels, market places, shops and museums. Scale is critical to their success: the tourist precinct must be compact and able to be traversed by foot, with only essential vehicle traffic passing through it.²¹

As the Capital of Canada, Ottawa is home to many of the country's most visited attractions including the Parliament

²⁰ Hayllar, Bruce, Tony Griffin, and Deborah Edwards. *City Spaces Tourist Places: Urban Tourism Precincts*. Oxford, UK: Butterworth-Heinemann, 2008. Print: 107.

²¹ *ibid.*

Buildings, the National Gallery of Canada, the Canadian War Museum, the Canadian Museum of History and the Canadian Museum of Nature. Despite being centered around the downtown core of the city along Confederation Boulevard (the ceremonial route linking Ottawa and Hull), the attractions are widely dispersed - seven kilometers of distance link them -so walking between them does take time. The problem of distance is worse in winter months when cold temperatures add to the challenge of walking for long periods of time outdoors. The figure below shows the distribution of Ottawa's tourist destinations throughout the city:

Figure 6 - map showing tourist destinations in downtown Ottawa

Ottawa's tourist attractions are really only accessible by vehicle or public transit, which in most cases, as sociologist Christopher Krolikowski and Graham Brown explains in their book *City Spaces Tourist Places*, tourists typically do not have their own mode of transportation and lack of familiarity with local public transit systems means that they are less likely to use them.²² Krolikowski and Brown further explain that geographic separation between destinations results in "distance decay", whereby the greater the distance between tourist attractions, the less frequent the interactions generated.²³ Distance decay is an issue for the tourism industry as it represents a loss in potential revenues for the tourist venues.

²² Hayllar, Bruce, Tony Griffin, and Deborah Edwards. *City Spaces Tourist Places: Urban Tourism Precincts*. Oxford, UK: Butterworth-Heinemann, 2008. Print: 135.

²³ *ibid.*

[Clustering]

A method by which to combat the effects of distance decay is clustering, that is to say, "a concentration in space of at least one element of the tourist product and one or more supporting product elements."²⁴ Industrial zones and commercial districts employ this approach to planning and design: organizations that share a similar focus are concentrated in a particular geographic area. Each gains strength and potential for growth through proximity to similar entities. This same approach can be applied to tourist attractions within an urban setting. The grouping of tourist attractions into a relatively small geographic area has a greater impact than a more widely distributed precinct, as is the case in Ottawa. By establishing a more intimately scaled, walk-able tourist precinct, visitors are more likely to explore the area and take part in a greater variety of activities.

²⁴ *ibid.*

OTTAWA'S C.B.D:
an ongoing question for
planners

[Downtown Moves]

Ottawa's central business district [CBD] has been a challenging topic for urban planners for decades. Several studies have tackled the question of how to suture the downtown's disparate parts -- the Parliamentary Precinct, the business center, the cultural city, and the leisure and casual city - in a cohesive way. Between 2011 and 2013, the City of Ottawa conducted an urban design and transportation report called "Downtown Moves" that looked at various strategies to improve Ottawa's CBD to make pedestrian movement, public transit, cyclists and vehicles better coexist within the existing urban fabric. Undertaken by the City of Ottawa Planning Department as part of the design of a new master plan, the report built on the Downtown Ottawa Urban Design Strategy (2004), the Centertown Community Design Plan (2013), and the National Capital Commission's Plan for Canada's Capital.

The report focused on the integration of the new light rail transit system known as the *Confederation Line* which began

construction in 2013. An extension of the existing O-Train network, the \$2.1 billion dollar investment will represent the largest infrastructure project in Ottawa's history. The system will consist of thirteen new stations, three of which will be in the CBD, distributed along an east-west axis. The LRT is expected to be operational by 2018 and will have a dramatic effect on the city's existing urban infrastructure.

Today, approximately 2,600 busses carry nearly 40,000 commuters through the downtown core during weekdays. The number of downtown surface busses is expected to reduce to just 600 busses once the LRT is in operation.²⁵ Bus reduction will generate new urban spaces, in particular, spaces for new pedestrian-based programs in the city's core. The demand for space dedicated to pedestrian use will only increase once the LRT is in operation as drivers of private automobiles will likely take advantage of the LRT for a portion of their commute to the downtown core.

²⁵ Greenberg Consultants Inc. *Downtown Moves: Transforming Ottawa's Streets*. Rep. City of Ottawa, 2013. Print.

Figure 7 - map showing LRT path through downtown Ottawa

The City of Ottawa commissioned the "Downtown Moves" report in 2011 to assess the impact of the future LRT on the city's existing urban fabric. The report examined ways to integrate the LRT stations at street level and established a framework for identifying streets within Ottawa's CBD that will require a 'repurposing' once the bus transit system no longer occupies them. Through a series of public forums, workshops and group meetings with City staff, consulting teams and stakeholders, the report identified some residents' concerns about their current

downtown core. Recurring complaints included:

- Narrow sidewalks on many city blocks.
- A need for more access to midblock connections (ie arcades, passages, etc).
- A lack of 'life' along Sparks Street, Ottawa's only pedestrian street.
- A need for more green space within the city.
- A need for more north-south cycling routes.

The issues cited above will only become more critical after the completion of the LRT as the number of pedestrians utilizing the city's infrastructure will dramatically increase.

The downtown core of Ottawa represents only .01% of the entire city, yet accounts for 43% of the city's commercial office space and produces over 100,000 jobs. This is expected to increase 25% by 2031. Accounting for only 30km of streets, the CBD represents approximately 18% of the municipality's \$1.37 billion annual property tax revenue, which far outweighs

the revenues generated by any other parts of the city.²⁶

According to the 2011 Trans Origin-Destination Survey Report, of the roughly 80,000 people commuting into the downtown core during weekday mornings, only 38% use private automobiles while the remainder rely on public transit, cycling or foot.²⁷ Despite this, the space allocated to vehicles within the downtown core far outweighs that of sidewalks and dedicated routes for cyclists.

The number of people projected to utilize the three downtown stations is expected to reach 46,840 by the year 2021.²⁸ These figures do not account for the nearly 7.8

million tourists who visit the Nation's Capital on an annual basis, which will put further pressure on the city's inadequate pedestrian services.

Figure 8 - view of downtown street in Ottawa

²⁶ Greenberg Consultants Inc. *Downtown Moves: Transforming Ottawa's Streets*. Rep. City of Ottawa, 2013. Print.

²⁷ Kriger, David, and Carole Chartrand. *2011 NCR Household Origin Destination Survey*. Rep. Trans Committee. 2013 ed. Vol. January. N.p.: R.A. Malatest & Associates, n.d. Print.

²⁸ Greenberg Consultants Inc. *Downtown Moves: Transforming Ottawa's Streets*. Rep. City of Ottawa, 2013. Print.

[Design Framework]

With some streets measuring only 18m wide, Ottawa's downtown core has some of the narrowest streets in Canada.²⁹ At present, these streets support a complex program of sidewalks, bus stops/shelters, landscaping, public art, bicycle parking, vendor boxes, street lights, fire hydrants, parking and travel lanes, which are only to be further complicated with the introduction of the LRT system inasmuch as it will change and concentrate pedestrian flow. The scarcity of space available for the creation of pedestrian-oriented activities within Ottawa's downtown core yielded the need for a framework for decision-making with regards to design interventions.

The "Downtown Moves" report, completed in 2013, proposes a framework to divide streets within the downtown core into six categories based on function, characteristic and condition. The categories include the following:

- Business Street - High volume streets serving all modes of transport and acting as connecting routes to and from the central business district. Buildings along business streets are to be oriented to the street as in the case of the traditional office functions and large occupancies.
- Ceremonial Street - Streets of high importance and possess the highest standard of streetscape design and amenity. Characterized by wide sidewalks, customized finishes and distinctive lighting. Typically feature large institutional buildings set far back from the road.
- Downtown Neighborhood Street - Streets providing access to residential land uses. Typically include greenery along the right-of-way.
- Main Street - Streets providing access to shopping districts. Generally characterized by wider sidewalks, furnishings and enhanced finishes.
- Plaza Street - Pedestrian-oriented streets that feature distinct

²⁹ Greenberg Consultants Inc. *Downtown Moves: Transforming Ottawa's Streets*. Rep. City of Ottawa, 2013. Print.

finishes and furniture. Street facing buildings with active storefronts.

- Showcase Street - Streets with large sidewalks servicing a large number of pedestrians with pedestrian oriented services.

The following diagram from the "Downtown Moves" report interprets the above categorization as a coloured street map of Ottawa's downtown:

Figure 9 - map of street characterizations from the "Downtown Moves" report 2013.

The "Downtown Moves" report then establishes what are referred to as

"visions plans" which are guides that establish the priorities for each street identified in the map above. The vision plans take pedestrian mobility, urban design, public and open space, cycling mobility and transit/ vehicle mobility, all into consideration. They furthermore identify priorities, such as streetscapes within the downtown core which are represented in the following diagram:

Figure 10 - map of priority streetscapes from the "Downtown Moves" report 2013.

The report then suggests that the city make "vital moves" upon the urban fabric, which are to have the most impact on the

downtown. These “vital moves” are a number of critical areas requiring immediate intervention. The vital moves that are of interest to this thesis include the following:

- Integrate Town and Crown across Wellington Street - in order to establish a connection of Parliament with the City, an architectural relationship must be established between the two.
- Renew Sparks Street - serving as the immediate buffer between parliament and the city, Sparks Street is the first line of connection and should reflect the desired vision for the city.

The report establishes what it terms a “Street Design Toolkit” which provides design solutions to guide the planning and design for the streets involved, including criteria for the mobility of pedestrians, cyclists, transit and vehicles. The guidelines provide a thorough analysis of required sidewalk widths (pedestrian easements), building setbacks, street widths, sustainable planting, way finding

and accessibility for various types of streets as identified in the categorization framework. Some of the guidelines in the design toolkit that this thesis hopes to address include the following:

- **P6.5** - Implement pedestrian connections between and through buildings via development review and/or incentive programs.
- **P7.5** - Integrate space for outdoor cafes into the streetscape (allowing for the minimum sidewalk clearance). Outdoor cafes could be on temporary sidewalk extensions (in the parking lane) for the summer.
- **P8.4** - Introduce pocket parks and explore the possibility of temporary/seasonal open spaces to provide welcome relief and respite in downtown Ottawa. Quality open space will become increasingly important as downtown Ottawa intensifies.
- **P8.5** - Use a network of small open spaces in the right-of-way and mid-block locations to assist in

connecting the civic element of downtown Ottawa with the capital landscape of the Confederation Boulevard and the Parliamentary Precinct.

- **P8.8** - Design and animate public and open spaces to be useable and appealing in all seasons with carefully located wind screens and shelters, appropriate landscape features, festivals, markets, surface treatment and amenities.
- **P8.13** - Include elements in open spaces to activate the street edge, eg. outdoor cafes, pop-up patios, fountains, and public art.
- **P9.3** - Consider public art to add special identity to the public realm, with particular attention to using light to animate public space at night, especially in winter months.
- **P10.2** - Establish pedestrian priority at gateway and node sites, for example, by adding amenities for pedestrians and repaving the surface with different materials, bulb-outs

or colours, or by removing vehicular travel lanes or turn lanes.

This thesis hopes to address the goals identified above from the "Downtown Moves" report through an architectural intervention of Ottawa's CBD with a focus on Wellington and Sparks Street. The thesis will provide a framework, or 'kit of parts' for the architectural vocabulary that will attempt to address the issues with Ottawa's CBD, thereby providing an architectural solution to the issues identified in the report. Identifying an appropriate system by which this framework will take shape is of critical importance and will be discussed in the next section.

**BETWEEN INFRASTRUCTURE
AND BUILDINGS:**
in search of a vocabulary

[A Language for the Capital]

The upcoming transformation of Ottawa's CBD with the introduction of the light rail transit system brings with it a need and an opportunity to re-imagine the architecture of the urban fabric in such a way so as to establish a vocabulary that seams together the disparity between town and crown. The system on which the proposed vocabulary will be based takes its inspiration from two architectural movements of the 20th century: Metabolism and Structuralism. The approach these movements took in terms of an organizational system for urban planning strategies served as a point of reference for the solution this thesis proposes. These two movements are here briefly explored in terms of their systematic approach to urban design, and their inherent repeatability and adaptability, to the growth and evolution of urban fabrics.

[Metabolism]

The term Metabolism as it relates to Architecture originated in post-war Japan as an adaptive planning strategy in response to Japan's urban crisis. Based on an organic principle of the 'metabolic cycle' found in nature, the concept of Metabolism in urban planning prioritized program over plan in the belief that cities should be designed for continual regeneration by 'continuous replacement of parts'.³⁰ Metabolism strives to bring a sense of cohesion through a governing structure, referred to as a 'Mega structure' in which "all functions of a city or part of a city are housed".³¹ The mega-structure concept is based on the belief that diverse functions within a city may benefit from the concentration of these functions in one place, which is united by way of a 'frame' or 'skeleton'

³⁰Taylor, Jennifer. "Fumihiko Maki." *Architectural Design* 76.1 (2006): 18-9. Web. 5 June 2016.

³¹Maki, Fumihiko. *Investigations in Collective Form*. St. Louis: School of Architecture, Washington U, 1964. Print.

within which the functions may change with time. As shown, "...the element in mega-form does not exist without a skeleton. The skeleton guides growth and the element depends on it. The element of group-form is often the essence of collectivity, a unifying force, functionally, socially and spatially".³² The concept of a unifying architectural framework is partially in response to the architectural tradition of designing buildings in a 'one-off' fashion, resulting in 'an inadequacy of spatial languages that make meaningful environments'.³³

The goal however is not to create a homogeneity of architecture in cities, but rather to establish a consistent, comprehensible vocabulary within which elements of 'regional qualities' can be injected and made more clearly understood. The concept of Metabolism informs how this thesis explores the 'suturing' together of crown and town in Ottawa's central business district.

³²Maki, Fumihiko. *Investigations in Collective Form*. St. Louis: School of Architecture, Washington U, 1964. Print.

³³ibid

Figure 11 - Kisho Kurokawa, Agricultural City Project, 1961

[Structuralism]

Rooted in linguistic theory, structuralism influenced architecture throughout the 20th century. A "structuralist architecture" thus refers to an architecture that is concerned with structural relationships rather than fixed forms. As opposed to a specific set of rules by which to follow, Structuralism is more of an activity of shaping the human environment.³⁴ This activity typically involves two modes of operation - dissection and articulation - with the goal of reconstructing an object. Structuralist analysis extracts the essence of the object; the latter can then be reinterpreted and expressed in a new way. As literary theorist and philosopher Roland Barthes states in his essay *The Structuralist Activity* "...creation or reflection are not, here, an original 'impression' of the world, but a veritable fabrication of a world which resembles the

³⁴Valena, Thomas F., Tom Avermaete, and Georg Vrachliotis. *Structuralism Reloaded: Rule-based Design in Architecture and Urbanism*. Stuttgart: Edition A. Menges, 2011. Print.

primary one, not in order to copy it but to render it intelligible. Hence one might say that structuralism is essentially an *activity of imitation...*".³⁵ The process of dissection and articulation identifies the aspects of the object that, through abstraction and reinterpretation, can become more clearly understood as an individual entity rather than a component in a series of parts.

The Dutch architect, Aldo van Eyck, was influential in the structuralist movement and his work in urbanism is of particular interest to this thesis. Van Eyck was interested in a 'nonhierarchical development of cities' in which cities were to be designed to provide a basic framework within which the function and utility would be 'injected' by the users, as opposed to an over-arching master plan.

Aldo van Eyck reflected on the non-hierarchical city in the following way:

"So it's about the space's ability to be 'played' as an implicit quality of the

³⁵Barthes, Roland. *Critical Essays*. Evanston: Northwestern UP, 1972. Print.

city, in other words about more informal 'room' between formal designations. We find space for discovery and learning where things are not governed by clarity, such as in only partially defined or un-designed contexts. And this is without even considering obscure spots, abandoned buildings, forgotten corners, alleyways, buildings fallen into disuse whose original meaning is lost to us".³⁶

One of the ways in which Van Eyck realized his concept of activating the 'informal room' within cities was in the nearly 700 playgrounds he designed in Amsterdam between 1947 and 1978. Van Eyck's urban playgrounds were 'interstitial' in that they were 'inserted with the living fabric of the city'.³⁷ By weaving his playgrounds into the city, Van Eyck provides a common ground for citizens of all ages in which the use can be determined by the dwellers themselves.

³⁶"Aldo Van Eyck - The Playgrounds and the City." *Spaces In Between in Kiruna City Transformation*. 2014. Web. 26 May 2016.

³⁷ibid.

Aldo van Eyck's playground designs for the interstitial spaces of Amsterdam inspire the approach to the design of an architectural kit of parts for Ottawa's downtown, in particular, for its underused spaces.

Figure 12 - saffierstraat playground, Amsterdam 1951

ARCHITECTURAL**PROPOSITION:**

domesticating the formal
realm

[Design Proposition: Introduction]

To fulfill the vision of connecting the official city with the everyday city, this thesis begins at the foot of Parliament and moves southward. "A Trail of Two Cities" will thus focus on the connection between Wellington and Sparks Street. The thesis proposition expands on the "Downtown Moves" study of 2013. The thesis has selected some of the thirteen "vital moves" the report recommends, based on the criteria of suturing the formal and casual Canadian capital together.

The proposition revisits the megastructure, using a steel frame as its structuring device. In places the frame is clad in sandstone - a symbolic material referencing the Parliament buildings -- in places, in glass; in other places, it is exposed and skeletal. The frame also carries wood roofs, in other areas. In essence, the frame makes contact with the existing fabric and organizes new spaces of habitation and new connections. Unlike a continuous and cumbersome megastructure, however, this design follows a discreet logic, and is made of separate interventions conceived to make sense of already existing patterns and relationships in Ottawa's CBD. The interventions strive to heighten connectivity, and to expand program and

uses. This proposition does not aim to "correct" the flaws of the downtown, but rather, to set up the conditions for dynamic overlaps between all the layers that make up the city -- governance, symbolic representation, business, tourism, and every-day life.

Borrowing from metabolism, the general design strategy is infrastructural rather than a series of fully designed individual buildings and spaces. This thesis is about a logic, or a system that will be developed to guide future interventions. The proposition is thus conceived as a kit of parts, made up of (1) frame, (2) ground surface, (3) skins (both vertical and horizontal). These are arranged to support programs and uses, including sheltered gathering and waiting areas, bicycle parking lots, entrances into buildings, foyers leading to elevators or staircases, small cafés, seating areas, and gardens. Each intervention registers existing use and circulation habits and patterns, and makes sense of them. The system is nonetheless flexible and able to be reinterpreted, re-inhabited, over time.

The following section describes the kit of parts as a material assembly and as a logical system to guide interventions in the urban fabric.

[Design Tools: Steel Framework]

The proposition begins with a steel framework measuring 7.6m x 7.6m x 6m high which will become the common thread throughout the interventions. The dimensions of the framework were based on the width of the existing walkway to Parliament, which measures 15m in width. The dimensions of the frame is divisible from the walkway. The height of 6m allows for architectural modules to be inserted into the frame, which will be discussed below. The steel frame work is derived from the construction of symbolic architecture in Ottawa whereby the steel structure is concealed behind a veil of Nepean Sandstone masonry. The use of the steel suggest an 'exposing' of the concealed structure behind the formal facade of these buildings, implying that a more honest and transparent architecture become the basis of the vocabulary for the city.

Post-to-ground Connection Detail

Corner Connection Detail

Four-way/ Vertical Member Connection Detail

Three-way/ Horizontal Connection Detail

Five-way/ Member Connection Detail

The steel framework will be constructed of two cold rolled 'C' profile steel sections welded back-to-back with a reveal between within which steel plates forming various intersections can be bolted to create a variety of assemblies. The diagrams show the range of assemblies for the frames, from a three way to a five way connection detail. At the base of the frame, a concrete footing will be poured and a steel plate will extend onto which the frame will be bolted. The plate will allow for a variation in heights to accommodate inconsistencies in grade levels. The connection details demonstrate the ease of assembly, removal and modification of the frame to allow for future adjustments based on the changing needs of the city.

Foundation Plate

3-Way Plate

4-Way/Horizontal Plate

5-Way/Horizontal Plate

4-Way/Vertical Plate

The detail drawings above show the steel plates used at the intersections of the adjoining members. The plates allow for ease of assembly on site as no welding is required, as well as adjustment to varying conditions of grade heights.

[Design Tools: Inhabiting the frame]

The thesis then explored ways in which the frame could be inhabited and articulated through the manipulation of skins - both vertical and horizontal - and the ground plane. Based on the condition and intended outcome, the frame was then transformed with the integration of a 'design module' - either suspended from the frame or installed within - which establishes the program for the frame. The design modules are represented below.

[Design Tools: Regional Qualities]

Bank Street - Glebe

Preston Street - Little Italy

Somerset Street - China Town

Rideau Street - Market

Richmond Road - Westboro

Bank & Slater - Centertown

View over downtown Ottawa circa 1860

A visual study of Ottawa's urban patterns revealed a reoccurring characteristic of A-frame gable houses hidden within Ottawa's downtown core. These buildings serve as hidden relics of Ottawa's past and represent its transformation from a lumber town to a Capital City. This language of gable roofs will be injected into the framework as a regional quality unique to Ottawa.

[Design Proposition: Modules]

vendor node

gateway node

shelter node

eating node

staircase node

[Design Proposition: Urban Conditions]

The goal of the design portion of this thesis is to elaborate a kit of parts, where the parts are in fact specific and repeatable architectural elements and arrangements to be applied to different, but recurring downtown urban conditions. These conditions are: the un-built site, plaza streets and existing building interventions. There are therefore three main “parts” or architectural arrangements.

- **Un-built Sites**— the strategy for the un-built sites will be tested on the vacant property directly south of Parliament Buildings along Wellington Street in Ottawa's Parliamentary District. Wellington is one of the Ceremonial Streets in Ottawa.
- **Plaza Streets** —the strategy for the will be tested on Sparks Street, Ottawa's main Plaza Street one block south of Parliament Hill.

- **Existing Buildings** - the strategy for the will be tested at an existing street level building at 199 Queen Street in Ottawa's Central Business District. The street is to become a Showcase Street once the LRT is in operation.

[Un-built Site Intervention: 90 Wellington Street, Ottawa]

Within the kit of parts, the section corresponding to the un-built site category emerges from a schematic design for a prominent location at 90 Wellington Street, directly south of Parliament Hill. The site is a vacant parcel of land on which sits the former US Embassy, a building in the beaux arts style designed by Cass Gilbert (1932), and slated, at one time, to become the home of a National Portrait Gallery which was cancelled by the Conservative Government in 2006 and has since laid dormant. The thesis proposes to reinstate the Portrait Gallery as well as to provide a new permanent location for the Capital Information Kiosk, Ottawa's Tourism Information Desk. Currently located at 99 Wellington, Capital Kiosk had been relocated several times and has yet to claim a permanent home. The proposal for 90 Wellington hopes to address the goals outlined in Move 'G' in the Vital Moves section of the "Downtown Moves" report, specifically to "...thematically link Downtown Ottawa to

Confederation Boulevard and the Parliamentary Precinct".³⁸

³⁸ Greenberg Consultants Inc. *Downtown Moves: Transforming Ottawa's Streets*. Rep. City of Ottawa, 2013. Print.

[90 Wellington Street: Proposition]

The approach to the site is to extend the cobblestone walkway leading from Centerblock across Wellington so that it penetrates the urban fabric. The walkway is 15m in width and will become the width of an incision through an existing building located at 96 Sparks Street, which is in the direct axis of the walkway from Parliament. The incision will provide a through-way from Parliament to Sparks. The dimension of the walkway will set the grid module for a steel structure that will encase the site. The steel grid will be clad in materials found in Ottawa's monumental structures, including limestone and copper. The palette will inform the vocabulary used throughout the remaining interventions. The building will feature a 'Parliament Lookout' on the roof level which will be accessed from a set of stairs in the incision to Sparks Street. In this sense, the first, and larger, intervention, (at 90 Wellington) provides an architectural palette and syntax for the smaller and discrete interventions in the downtown fabric.

[90 Wellington Street: Proposition]

view of proposed incision through 96 Sparks
connecting north to Wellington Street

[Plaza Street Intervention: Sparks Street Mall]

The architectural intervention of Sparks Street aims to address the objectives outlined in the move 'E' portion of the Vital Moves section of the "Downtown Moves" report, specifically:

- Accommodating cycling on Sparks Street as a space shared with pedestrians;
- Promoting additional street-oriented uses and facades to animate the street'
- Providing additional on-street food vending, retail and entertainment opportunities; and,
- Extending the design features, quality and character to Queen Street and the North-South streets that connect them so that the area is perceived as a district, integrated with the Confederation Line.

Utilizing the steel framework and design modules described above, the intervention into Sparks Street is a network of zones, designed to promote outdoor activities in

both the summer and winter months. Gateway nodes are located at the entrances to Sparks off the adjoining streets, in this case Metcalfe and O'Connor. New incisions between Sparks and Wellington, to the north, and Queen Street to the south, will also be marked by the use of the gateway nodes and provide inter-block connectivity. Outdoor seating and vendor stands will promote street-based commerce and create an outdoor market for the summer months. Street art will display the work of local artists, on and within the frame and will be in the form of suspended art (laminated paintings, etc), sculpture and in the winter months - ice sculptures. The proposition includes housing *Winterlude*, Ottawa's largest winter festival, within the Sparks Street Mall to encourage activity in the winter months.

The design features used in the Sparks Street intervention will be reinterpreted and adapted to existing buildings in other parts of the CBD which will be discussed in the section below.

summer view looking east along sparks street

winter view looking west along sparks street

[Existing Building Intervention: 199 Queen Street, Ottawa]

The objective of the proposed Existing Building Intervention is to develop an architectural vocabulary to repurpose existing buildings in the downtown area into places of national representation and tourism attraction. The focus of the intervention will be on the following outcomes:

- Adapt the existing building facade to embody the desired architectural and material palette;
- Activate the ground space by establishing a connection of the building with the streetscape;
- Provide clear methods of identification of the building's function;
- Incorporate the necessary utilities of the street within the design (ie parking meters, hydrants, seating, etc).

The building selected for the intervention is located at 199 Queen Street in Ottawa's CBD and represents a typical lowrise

building in the area with little streetscape presence.

street view of existing building at 199 Queen Street

[Existing Building Intervention]

Axonometric of proposed intervention

street view of proposed intervention

[Material Analysis]

[Section & Elevation]

The proposed intervention into existing buildings is in the form of an extension of the building facade that encompasses the sidewalk, creating an exterior 'foyer' to the building. The frame is bounded by a limestone dividing wall which separates the sidewalk from the street and establishes a designated bike lane, including a stall for bike rentals. The wall becomes a planter bed to incorporate greenery into the downtown core. A copper-clad canopy is suspended from the steel structure and provides shelter in the winter months. A laser-cut steel screen provides visual information regarding the building's function and features patterns drawn from urban elements found throughout the downtown area.

FUTURE CONSIDERATIONS:

A 'Layered' approach

[Walking Journey]

As Ottawa's population continues to grow, the current urban infrastructure and dimensions (street and sidewalk widths notably) will likely prove inadequate to support a significant increase in pedestrian movement. The architectural proposition developed thus far is designed to respond to an immediate and short-term need for the Capital. However, a strategy for long-term growth will require a more thorough and significant intervention. This thesis proposition also imagines complexification and layering in the future.

The kit of architectural parts could therefore have a fourth part comprised of elevated elements such as bridges and raised paths. Ottawa would become a 'layered' city in which an elevated walking journey is introduced above the existing infrastructure. This would have the effect of creating a designated pedestrian environment transporting people through the depths of the city's centre. The pathway would connect to various points of interest, establishing a new

precinct above the existing city. The elevated pathway would be a mega-structural system and would provide multi-layered paths for pedestrians and cyclists. The system would connect existing buildings and new buildings, at strategic points where the downtown urban population requires and would use such above grade connections.

The walking journey focuses on the blocks flanking Metcalfe Street running south from Parliament and terminating at the Victoria Memorial Museum (VMMB). The distance measures 1.5km and would serve as a connection from Centertown to downtown, providing pedestrians with an alternate way of getting into the heart of Ottawa. Along the journey to Downtown would be points of interest including small cafes, rooftop gardens and connections to new buildings housing tourist attractions, including: a new Museum of Science and Technology (currently located on the east end of the city), a new Public Library and terminating at the new Portrait Gallery of Canada. During winter months, it is assumed that residents of Ottawa living in the south end of the city will utilize the proposed path to get to and from their homes to their offices in the CBD.

[Layering the City]

view of somerset & metcalfe

view of public library & roof garden

view of parliament look-out

[Urban Layers]

Longitudinal section cut through walking journey.

[Conclusion]

As a relatively new Capital, Ottawa will inevitably see significant changes to its downtown core, specifically as it relates to the connection with the parliamentary precinct. The intent of this thesis was to address the disparity between the 'Crown' and the 'Town' as it exists in Ottawa, in hopes of raising the question of how to go about suturing these two realms together through architecture. The thesis proposed an architectural vocabulary, or framework, by which to guide the interventions, combining elements of the 'casual' everyday city with the 'formal' symbolic capital. A material palette appropriate for each condition was identified that would respect the existing buildings in Ottawa and could 'marry' these two realms. The proposal is intended not as a final solution against which to be evaluated by design standards, but rather as an explorative tool used to provoke conversation on the tension that exists between crown and town in many capitals worldwide. The goal of this thesis was to explore alternative ways of enhancing a

nation's capital without resorting to the traditional approach of creating singular 'starchitect' buildings that could have the effect of diluting the existing culture. *A Trail of Two Cities* suggests that there could exist the potential for an architecture of 'suturing' the gap between the formal and informal realms of capital cities.

With the major investment in Ottawa's transit system currently underway, as well as the upcoming 150th anniversary of Canada's Confederation, the question of how to bridge together the boundary between Ottawa's quotidian and capital realms seems more relevant than ever.

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