APPENDIX A:
SUMMARY OF RELEVANT POLICIES

The Project Team analyzed the relevant federal, provincial, multi-jurisdictional, and municipal policies with regard to their level of support for a redevelopment of Confederation Heights into a dense, mixed-use, transit-oriented federal employment node. This appendix ranks and summarizes the level of support provided by each relevant policy. Policies are grouped in tables according to their level of jurisdiction.

Table A-1 identifies and defines the levels of support that have been conceived for the purposes of this exercise.

Table A- 3: Classification of Policy Support for Redevelopment

Level of Support	Classification Definition
Strong Support	Policy supports transit-oriented intensification of the site according to his long-term vision
Moderate Support	Policy generally supports redevelopment of the site according to the identified vision, with some discrepancies
Weak Support	Policy supports redevelopment of the site in part, but less so than desired as per the vision
No Support	Policy does not support the redevelopment and/ or intensification of Confederation Heights
N/A	Policy does not apply to the redevelopment and/ or intensification of Confederation Heights

Table A- 4: Federal Policy Analysis

Author	Policy Title (Year)	Support for Redevelopment
National Capital Commission (NCC)	*Horizon 2067: The Plan for Canada's Capital – Public Consultation Report (2012)*	**Strong Support** Support for a more vibrant capital, sustainability, public and active transportation, and greater connectivity between federally owned sites and surrounding fabric.
	Plan for Canada's Capital (1999)	**Strong Support** Support for current federal campuses to be further integrated with adjacent communities and public transit, and for denser mixed-use redevelopment of both federal and surplus lands
	Capital Urban Lands Plan (2015)	**Strong Support** Support for the National Capital Region to become a more vibrant, livable region, which includes the improvement of accessibility and integration of federal employment sites into the region's fabric. Confederation Heights is designated as a "major federal employment area," which encourages well-designed, mixed-use intensification.
	Confederation Heights Sector Plan (2000)	**Moderate Support** Support for a mix of housing types, intensification, limited surface parking, and mixed-use development where appropriate in location and scale. The plan also encourages better connectivity with transit and active transportation networks, as well as an increase in internal roads and access points to parcels from major roads. The plan also supports large open spaces, including along major thoroughfares – and retaining the scenic vistas provided by current development. Moreover, the plan is somewhat protective of heritage features. Lastly, the plan supports the continued use as Riverside Drive, Heron Road, and the Airport Parkway primarily for through traffic.
	Definition and Assessment of Cultural Landscapes of Heritage Value on NCC Lands (2004)	**N/A** No opposition to redevelopment per se, but warns that future development must take into account for the natural, linear landscape significance of the Rideau River and its surrounding lands (such as Riverside Drive).
	National Interest Land Mass (NILM)	**N/A** Lands along the shoreline of the Rideau River to the west and north of Confederation Heights are designated as National Interest Land Mass (NILM), but the study site itself does not currently hold this designation.
	Updated NCC Policy for Parkways (Draft, 2014)	**Moderate Support** No position on redevelopment of Confederation Heights specifically, but priority is placed along active transportation opportunities along Airport Parkway. It also reminds readers of the importance of visual landscapes along parkways.

Table A-2 Continued

Author	Policy Title (Year)	Support for Redevelopment
Public Services and Procurement Canada (PSPC)	*Workplace 2.0 Fit-Up Standards (2012)*	**N/A** No specific position on redevelopment of Confederation Heights, but implementation of these standards may reduce federal office space requirements.
Parks Canada	*Directory of Federal Heritage Designations*	**N/A** No specific position on overall redevelopment of Confederation Heights, but three on-site buildings (Tupper, Tilley, and CBC (Edward Drake) Buildings) are listed in the directory. Their heritage must be taken into account.
Treasury Board of Canada Secretariat	*Policy on Management of Real Property (2006)*	**N/A** No specific position on overall redevelopment of Confederation Heights, but encourages sustainable property management. It also offers policy direction regarding heritage, outlining that Parks Canada must be consulted prior to determining the fate of the Tupper, Tilley, and CBC (Edward Drake) Buildings. The policy also indicates that surplus properties should not be kept by the government.

Table A- 5: Provincial Policy Analysis

Author	Policy Name (Year)	Support for Redevelopment
Province of Ontario	*Provincial Policy Statement (2014)*	**Strong Support** Support for greater accommodation of active transportation and public transit, as well as employment areas and mixed-use development. The PPS also encourages intensification and redevelopment of existing neighbourhoods as the best way to provide additional housing stock. Its support for heritage conservation may limit the scale of redevelopment.

Table A- 6: Multi-Jurisdictional Policy Analysis

Author	Policy Name (Year)	Support for Redevelopment
NCC City of Ottawa City of Gatineau	*Sustainability and Resilience Plan (2012)*	**Strong Support** Support for active transportation and public transit, regional ecological health, and energy efficiency through intensification.
	Energy and Emissions Plan (2012)	**Strong Support** Support for mixed-use development, improved design, higher residential density, and reducing distances between origin and destinations.
	Risk Prevention and Mitigation Plan (2012)	**Strong Support** Support for better housing affordability through a more compact urban form and reduced infrastructure costs, better stormwater management of the watershed, and public and active transportation.

Table A- 7: Municipal Policy Analysis

Author	Policy Title (Year)	Support for Redevelopment
City of Ottawa	**Zoning**	
	City of Ottawa Zoning By-law No. 2008-051 (2008)	**Strong Support** Support for higher density use, a diversification of uses (including residential, recreational, arts & culture), and transit-oriented uses. Support for further intensification.
	Official Plan	
	City of Ottawa Official Plan (2003)	**Strong Support** Support for development as a strategic location within the rapid-transit network and a focal point for activity, while creating linkages to the lands designated Major Open Space. Confederation Heights is designated as a Major Employment Node and is set to continue as such.
	Confederation Heights Secondary Plan (2003)	**Strong Support** Support for redevelopment of site as an identifiable, compact, mixed-use Primary Employment Centre, with a mix of employment uses, as well as major open areas (greenspace) and low- to high-rise (up to 12 storeys) residential development.
	Master Plans	
	Transportation Master Plan (2013)	**Strong Support** Support for development of complete streets, walkable infrastructure, cycling infrastructure, and TOD.
	Ottawa Cycling Plan (2013)	**Strong Support** Support for development of linkages, improved cycling connectivity, and focus on creating linkages for cyclists to travel to Light Rail Transit and Bus Rapid Transit.
	Ottawa Pedestrian Plan (2013)	**Strong Support** Support for development of complete streets, pedestrian routes, and improved linkages to encourage active transportation within the City - especially in areas that have currently missing links - and in Transit Oriented Development areas. There is a strong emphasis on improving accessibility, creating year-round pedestrian access to areas, and encouraging sustainable, non auto-oriented transportation, which will ultimately lead to more complete communities. Increased connections must also be implemented across significant natural and built barriers.
	Greenspace Master Plan (2006)	**Moderate Support** Support for creating linkages between residential areas, open spaces and leisure lands to ensure usability and enjoyment of these lands by residents of Ottawa. The Plan seeks to fulfill the goal of establishing 2.0 hectares of park or leisure land and 4.0 hectares of total greenspace for every 1000 residents in a new community.

Table A-5 continued

Author	Policy Title (Year)	Support for Redevelopment
City of Ottawa	**Design Guidelines**	
	Transit Oriented Development Guidelines (2007)	**Strong Support** Guides design review for transit-oriented development. Also guides preparation of community design plans or secondary plans to achieve appropriate and well-designed TOD projects in the City.
	Strategic Plans	
	Residential Land Strategy for Ottawa, 2006-2031	**Strong Support** Support for development as a TOD and Key Transfer Station between the north-south LRT and BRT lines. This site is considered to be a post-2031 target due to the uncertainty caused by the site being a government office node. The target density is 200 people and jobs per hectare.
	City of Ottawa Strategic Plan 2015-2018	**N/A** Supports city-wide planning and development initiatives, including the completion of the first phases of Ottawa's Light Rail Transit system, and establishes a plan for the current council term. The Plan does not specifically outline development goals for Confederation Heights.

APPENDIX B: STAKEHOLDER RELATIONSHIPS

Table B- 1: Redevelopment relationships based on interests, resources, and action channels

Actors	Interests	Resources	Action Channels
Federal			
Aboriginal Communities	• Interest in underutilized crown land	• Local knowledge • Acess to court challenges	• Public consultations
Canada Post	• Retain the existing building and office space	• Land leased	• Public consultations
Canada Revenue Agency (CRA)	• Retain the existing building and office space	• Land leased	• Public Consultations
Communications Security Establishment (CSE)	• Opposes residential development near its offices and prefers not to have an O-Train stop located adjacent to its locations	• Land leased	• Public consultations • Political influence
Health Canada	• Focus on health and safety risk reduction • Enforces health regulations • Promotes disease prevention and enhances healthy living		• Public consultations • Political influence
National Capital Commision (NCC)	• Protect and enhance City and NCC lands as reflections of the Nation's Capital identity • Scenic views • Design excellence • Connections to parks • Preservation of existing green space/natural heritage • Encourages mixed-use development	• Planning and development expertise • Significant land ownership	• Tripartite Committee • Land use planning approvals on federal land • Political influence
Parks Canada – Mooney's Bay	• Protect and present natural and cultural heritage • Foster public understanding, appreciation and enjoyment	• Land ownership • Parks management expertise	• Development partnerships • Policy development • Political influence

Table B-1 Continued

Actors	Interests	Resources	Action Channels
Public Services and Procurement Canada (PSPC)	• Manage and maintain diverse real estate portfolios • Provide comprehensive services for federal departments and agencies • Maintain Confederation Heights as an employment node • Downsize required office space per employee (Workspace 2.0) • Enhance the retail use of Confederation Heights • Consider residential uses in surplus areas	• Custodian and Occupant • Significant land ownership • Financial knowledge and expertise • Political influence	• Land use planning implementation • Development partnerships
Provincial			
Ministry of Transportation	• Maintain and/or increase mobility efficiency	• Political influence	• Development partnership • Legislative policies
Ministry of the Environment and Climate Change	• Interest in environment affairs • Protect and preserve natural heritage features	• Political influence	• Development partnership • Legislative policies
Municipal			
City of Ottawa, Planning & Growth Management Services City of Ottawa, Real Estate Partnerships & Development Office	• Implement Official Plan, existing secondary plan, and future master plan • Maximize property tax revenue	• Planning expertise • Municipal authority for policies, plans and regulations • Some land ownership in the study area	• Create and enforce policies • Budget processes • Build, upgrade and maintain infrastructure of the site
City Council	• Protect or enhance quality of life of residents • Increase mobility options and access to transit • Minimize negative traffic impacts • City-wide employment rates (job creation)	• Representation in City Council • Local knowledge • Consultation with Ward residents	• Planning Committee votes • City Council approval

Table B-1 Continued

Local			
Actors	**Interests**	**Resources**	**Action Channels**
OC Transpo	• Relocate O-Train station • Increase ridership • Maintain or increase mobility efficiency • Keep costs and fares low • Maximize return on land	• Transportation panning expertise • Municipal implementation strategies	• Budget processes • Build infrastructure • Public consultations
Brookfield High School	• Commercial and retail development • Traffic impacts • Local residential interests	• School board funding • Volunteer groups	• Public consultations • Parent associations
Carleton University	• Transit ridership and accessibility • Pedestrian and vehicular connectivity • Student housing options	• Land ownership	• Build, upgrade and maintain infrastructure at the boundary of the study area • Public consultations
Community Associations	• Protect and/or enhance existing amenities and open spaces • Maintain and/or increase value of land • Impacts on surrounding neighbourhoods • Traffic impacts	• Local knowledge	• Media outlets • Public consultations

APPENDIX C:
PRECEDENT CATALOGUE

LIST OF PRECEDENTS

TRANSIT-ORIENTED DEVELOPMENTS

A Transit-Oriented Development (TOD) is a transit-supportive, mixed-use form of development that is designed to make the area surrounding transit stations more user-friendly. Successful implementation of a TOD relies on a mix of densities and land uses to create vibrant communities that encourage freedom of transit choice and use. A typical TOD development is focused within a 400 m radius of either a Bus Rapid Transit (BRT) or Light Rail Transit (LRT) station and concentrates higher densities at or near the station. A TOD seeks to maximize the performance of urban spaces through the use of existing infrastructure and efficient land use. When properly implemented, a TOD can act as a mechanism for economic revitalization of previously underutilized areas.

RELEVANCE TO CONFEDERATION HEIGHTS

Confederation Heights represents a unique opportunity to implement a TOD within Ottawa. Many of the factors for success already exist at Confederation Heights, including the Confederation LRT Station, Heron Transitway Station, several large federal employers and the availability of ample open space for infill development. The NCC's *Capital Urban Lands Master Plan* lists Confederation Heights as a Major Federal Employment Area. As per the NCC plan, this designation calls for development of compact, mixed-use employment centers around rapid transit stations.[1] TOD examples offer important lessons for Confederation Heights, pertinent to land uses and configurations around transit stations.

LIST OF CASE STUDIES

In-depth analysis of case studies proves valuable in application to establishing practical development strategies. For the purpose of this plan, twenty case studies of successful TOD implementation plans were examined. Of these twenty, four examples were then chosen for in-depth analysis. The selected cases were chosen based on the following criteria where possible: similarity in site area; award-winning plans; positioning within the rural to urban transect area (i.e. T3, T4); geographic location; and similarity in transit types.

01. Southeast False Creek, Vancouver, BC
02. Brentwood Station, Calgary, AB
03. Del Mar Station, Pasadena, CA
04. South Waterfront District, Portland, OR

05. Bethesda Row, Bethesda, MD
06. Buena Park Center, Santa Monica, CA
07. Central Park Station, Denver, CO
08. Centre Commons, Portland, OR
09. Collingwood Village, Vancouver, BC
10. Cornell, Markham, ON
11. Downtown Markham, Markham, ON
12. Fruitvale, Oakland, CA
13. Le Breton Flats, Ottawa, ON
14. Lindbergh Station, Atlanta, GA
15. Metropole, Ottawa, ON
16. Orenco Station, Portland, OR
17. Rockville Town Square, Rockville, MD
18. The Bridges, Calgary, AB
19. The Equinox, Toronto, ON
20. Westbrook Station, Calgary, AB

LESSONS FOR CONFEDERATION HEIGHTS

Pedestrians First: Provide short, safe and continuous routes designed for the local climate and respect the human scale.

Complete the Grid: Restore the street system within the site and reconnect to the surrounding areas where possible.

Mixed Uses: Encourage a transit-supportive mix of residential, retail and employment space while limiting non transit-supportive uses.

Increase & Transition Density: Focus highest densities around the transit station while ensuring density steps down moving farther from the station.

Manage Parking: Consider reduced parking requirements, on-street parking, and limit or eliminate surface parking lots.

Consider Phasing: Consider development phasing, as TOD implementation and completion can span over decades.

Southeast False Creek, Vancouver, BC[2]

Brentwood Station, Calgary, AB[3]

Del Mar Station, Pasadena, CA[4]

South Waterfront District, Portland, OR[5]

SOUTHEAST FALSE CREEK, VANCOUVER, BC

Image C-1: Rendering of Southeast False Creek, Vancouver, BC [9]

Previous Site Use	Industrial
Current Site Use	Residential/Mixed-Use
Developer	Millennium Water, City of Vancouver
Year Built	2008-Present
Development Horizon	10-20 years
Gross Site Area (Ha)	32.4 Ha
Floor Area Ratio (FAR)	2.03 (Gross)
Gross Residential Density (UPH)	154.3 UPH
Building Typology	Townhouse, Mid-Rise
Transportation Type	Skytrain/Future LRT
Parking	1.25 to 1.5 per unit
Non-Residential Space	26,509 m^2
Residential Space	630,707 m^2
Projected Population	12,000 to 16,000

The Southeast False Creek neighbourhood in Vancouver, British Columbia is a transit-oriented complete community located on the southeastern shore of False Creek. The site features the redevelopment of former public and private industrial lands and sets international standards for green development. The area contains approximately 20 hectares (50 acres) of land owned by the City of Vancouver, along with 12 hectares (30 acres) of privately owned lands. Established as a mixed-use community, Southeast False Creek is slated to provide residential accommodations to between 12,000 to 16,000 people, with a total of 5000 residential units by the year 2020.[6] Southeast False Creek has excellent public transit services considering its strategic location between two Skytrain stations, Olympic Village Station on the Canada Line to the west and Main Street Station on the Expo/Millennium Line to the east. A key element of the design is the inclusion of an LRT right-of-way along 1st Avenue, which once operational, will ensure that Southeast False Creek becomes Vancouver's most successfully transit-oriented neighbourhood.

Included in the design is: a community centre; an elementary school; a spiritual centre; a boating facility; a grocery store; childcare facilities; and 10 hectares of parkland. Further, Southeast False Creek was divided into several distinct neighbourhood precincts based on historic patterns and purposes. The use of these precincts is a good example of phasing, with development beginning on city-owned land at the centre of the area for the 2010 Winter Olympic Village. Southeast False Creek also exemplifies excellent street network restoration, whereby the existing road network to the south of the development was extended northwards into the site.[7] The redevelopment also focused on quality place making, which included the retention of the Salt Building and its conversion into a brew house with an adjoining public square.[8]

LESSONS FOR CONFEDERATION HEIGHTS

- Offer an excellent mix of transit-supportive uses, thereby allowing residents to live, work and play within the same neighbourhood. This new community should stand out and a significant amount of community facilities and amenities should be added to the area.

Image C-2: Condominium complex with ground-floor retail [10]

- Encourage place-making by strengthening the connection between people and shared places by promoting improved urban design and the creation of public spaces.

Image C-3: Olympic Village Square: An excellent example of place-making [11]

- Complete the grid by restoring the street network within the site and reconnect it to the surrounding areas when possible. Consider phasing development in the planning stages as TODs may take several decades to be fully built out.

Image C-4: Map illustraing the extension of the grid street network [12]

BRENTWOOOD STATION, CALGARY, AB

Image C-5: Rendering of Brentwood Station, Calgary, AB [16]

Previous Site Use	Commercial/ City Park 'n' Ride
Current Site Use	Residential/Mixed-Use
Developer	Metropia, City of Calgary
Year Built	2011-Present
Development Horizon	20-30 years
Gross Site Area (Ha)	35.6 Ha
Floor Area Ratio (FAR)	Res. 2.5-8.0, Com. 2.5-6.0
Gross Residential Density (UPH)	88.4
Building Typology	High-rise
Transportation Type	Light Rail Transit
Parking	N/A
Non-Residential Space	56,711 m^2 (Retail), 113,440 m^2 (Office)
Residential Space	272,248 m^2
Projected Population	11,072

The Brentwood Station Area Redevelopment Plan is located in the City's northwest, approximately 6.2 km from Downtown Calgary. The area is centred around the Brentwood C-Train LRT Station and is an important shopping destination and employment node within the City of Calgary. The University of Calgary, University Innovation Park and the Foothills Medical Centre are located within close proximity. Similar to Confederation Heights, the area was previously dominated by surface parking lots. While this presented challenges, it also offered a wealth of redevelopment opportunities due to the opportunity for infill development.[13]

The Brentwood Station Plan aims to convert the area from one dominated by surface parking lots, into a mixed-use transit-supportive urban village surrounding the LRT station. The plan is an exemplary model for implementing the conversion from an overabundance of parking, to a vibrant, mixed-use TOD. Brentwood Station manages parking by mandating that 75% of required commercial/retail parking be accommodated in underground or structured parking lots. At Brentwood Station, larger "super blocks" and surface lots were divided to introduce an integrated street network.[14]

The Brentwood Station area is divided the area into several precincts, which serve different functions within the site and help to distinguish overarching uses. Of the major precincts, the Retail Village will provide a commercial hub and mixed-use residential, office and retail opportunities within one area. The Transit Hub precinct will surround the LRT station and feature the highest densities. The plan effectively clusters density close to transit, by mandating that the highest densities occur in the Transit Hub Land Use Precinct surrounding the LRT station. Brentwood Station transitions density downwards to better integrate with surrounding communities. The plan also includes different building types, ranging from low- to high-rise. The City used the redevelopment of Blakiston Park as a catalyst for the development of the entire station area, which demonstrated to developers that the City was a committed partner in redevelopment plan initiatives.[15]

LESSONS FOR CONFEDERATION HEIGHTS

- Plan for mixed-use development by encouraging a transit-supportive combination of residential, retail and employment space while limiting uses that are not transit-supportive.

Image C-6: Restaurants: An example of transit-supportive uses [17]

- Increase and transition density by focusing the highest densities around the transit station while ensuring that density steps down as development moves further from the station.

Image C-7: Example of increased height and density around Brentwood Station [18]

- Develop parks and other public infrastructure as a way to encourage the redevelopment of the area (which can be achieved by the Municipal government).

Image C-8: Blkiston Park: Used to encourage future development [19]

DEL MAR STATION TRANSIT VILLAGE, PASADENA, CA

Image C-9: Aerial Image of the Del Mar Station Transit Village, Pasadena, CA [23]

Previous Site Use	Train Station/ Santa Fe Depot
Current Site Use	Mixed-Use
Developer	Urban Partners, LLC / Urban Partners
Year Built	2007
Development Horizon	N/A
Gross Site Area (Ha)	1.46 Ha
Floor Area Ratio (FAR)	5.9 (Gross, est.)[22]
Gross Residential Density	40.5 (units per hectare)
Building Typology	Varied: Residential buildings are mid-rise; station building is low-rise
Transportation Type	Light Rail Transit
Parking	1,200 stalls (all underground); 600 dedicated to transit users
Non-Residential Space	1858 m^2 (Retail)
Residential Space	347 Units
Projected Population	N/A

Del Mar Station is located in Pasadena, California, along the Gold Line of the Los Angeles Country Metropolitan Transportation Authority ("Metro") rapid transit system. The station was built in 2003 as the Gold Line was extended through the area. The Del Mar Station Transit Village is an excellent example of a TOD that brings residents close to an LRT station. The LRT line passes directly through one of the new buildings that comprise the complex.

Metro encourages the creation of transit-oriented communities in the vicinity of its stations and transit corridors. Del Mar was developed as a result of Metro's Joint Development Program, in which Metro collaborates with developers to build TODs on its properties. The Join Development Process includes community consultations that help form Development Guidelines, which will guide the creation of the TOD in terms of land uses, density, and integration with active transportation opportunities and the surrounding community.[20]

For this project, Metro initially sold the property to a private developer. Key features include retrofitting the former Santa Fe train depot into a restaurant, as well as the provision of 21 affordable housing units, which represents over 15% of the total residential stock offered in the development. Open spaces, both private and public, are also provided throughout the site.[21]

As well as being an LRT station, Del Mar connects travelers to several local and rapid bus routes. Pedestrians are prioritized, as vehicle access is restricted to the perimeter of the site. Rooms for cyclists to stow bicycles also encourages active transportation. In addition, 600 underground parking stalls are reserved for transit users, allowing Del Mar to also function as a park-and-ride for the local population. These features make for a well-rounded TOD.

LESSONS FOR CONFEDERATION HEIGHTS

- Consider the provision of affordable housing near transit stations, similar to the housing stock that the Del Mar TOD has offered. The provision of affordable housing units will contribute to making Confederation Heights a more well-rounded complete community.

Image C-10: Example of affordable housing options at the station [24]

- Concentrate density immediately surrounding the transit stations to provided more people with a close connection to rapid transit. The LRT and BRT Stations are important features at Confederation Heights and increased use should be encouraged.

Image C-11: Example of highest densities and connections to transit [25]

- Provide ground floor retail space near the station and offer unique amenities to draw various demographics to the site. This retail space will be beneficial for employees on the site and future residents, while also encouraging outside visitors to use the site's amenities.

Image C-12: Example of pedestrian-only spaces and floor-floor retail uses [26]

SOUTH WATERFRONT DISTRICT, PORTLAND, OR

Image C-13: Aerial Image of South Waterfront District, Portland, OR [30]

Previous Site Use	Industrial
Current Site Use	Residential/Mixed-Use
Developer	Portland Development Commission
Year Built	2004-Present
Development Horizon	20-30 Years
Gross Site Area	56.7 Ha
Floor Area Ratio (FAR)	7:1, 8:1, 9:1 (Max)
Gross Residential Density	52.9 (units per hectare)
Building Typology	High-Rise
Transportation Type	Light Rail Transit (Streetcar)
Parking	Total of 12,000 off-street. Res: 1.7/ dwelling unit. Office 2.4 /1000 square feet of space up to 3.4
Non-Residential Space	106,834m^2 (Phase 1)
Residential Space	3,000 Units (Phase 1)

The South Waterfront District lies directly south of Downtown Portland, Oregon and is situated on land bounded by the Willamette River to the east and the Interstate 5 freeway to the west. The area was previously home to many light and heavy industries and in recent years most of the buildings on site had become vacant. Under the South Waterfront Plan, the goal is to accommodate roughly 3,000 residential units and 10,000 jobs on the site by the year 2019. A minimum of 788 of the residential units will be affordable housing. In order to achieve these housing goals, tools such as tax abatements, zoning code incentives and agreements with the private sector were used.

The development features an office and research area towards the north and also along the western edges at the adjoining freeway. These employment uses act as a buffer between lands considered less desirable for residential development. Residential development is located in the southern portion of the site and along the Willamette River to the east. Retail is also included along three of the primary east/west streets along with some existing industrial uses to the south.[27]

South Waterfront has building heights of between 125 to 250 feet, in certain places this is stretched to 325 for buildings that demonstrate design excellence. A new zoning code for the area mandates that buildings along prominent streets must feature ground floor retail, office, or residential uses. To encourage density, the new zoning by-law mandates that the site have one (1) unit of required residential development for every 305 m^2 (1000 ft^2) of the site area. The maximum FAR for the site was set at 7:1, 8:1 and 9:1 for certain areas where FAR bonuses were given. Building developers were eligible to receive FAR bonuses if they provided amenities including: affordable housing; larger units (3+ bedrooms); eco-roofs; or, water features in their building.[28]

The plan also successfully integrates the site with the nearby Willamette River and the new Willamette River Greenway. Extending into the site from the riverfront are three distinct park corridors that offer a connection between residents and the river.[29]

LESSONS FOR CONFEDERATION HEIGHTS

- Consider incorporating employment or uses, such as campuses or offices, as a buffer between the site and busier streets or freeways, which allows for residential uses in quieter and more desirable areas. Confederation Heights features prime developable land along busier streets that would be appropriate for mixed-use office and commercial uses, while other areas at the site's periphery would be more appropriate for primarily residential uses.

Image C-14: Conceptual design for institutional campus to act as a buffer [31]

- Place pedestrians first by providing short, safe and continuous routes which are designed for the local climate and respect the human scale. When developing Confederation Heights, smaller block sizes should be considered to ensure increased walkability, while also incorporating pedestrian and cycling connections to existing and future Multi-Use Pathways.

Image C-15: Example of pedestrian connections to residential areas [32]

- Connect the development to the riverside park system by designing fingers of green to enter the site and integrate it with the parkland. A keyhole may be created to form a defined gateway into the site as well as the NCR, via built form and natural landscape features.

Image C-16: Example of a woonerf, keyhole and integrated natural features [33]

EMPLOYMENT AREA / CENTRES

Employment areas are often located on a regional transit system and/or major arterial roads, featuring an established hub and spoke pattern to connect the area from the downtown or an airport. As of late, employment areas are adding a mixed-use component, while focusing on the pedestrian realm, which includes providing efficient and safe multi-modal transit and emphasizing walkability. In a best case scenario, an employment centre will capture the value of the station, following municipal government recognition of the opportunity to invest in infrastructure improvements and private sector assistance in redevelopment. Public-Private Partnerships are an effective strategy to engage the public, create a collaborative vision, and encourage urban integration of the area.

RELEVANCE TO CONFEDERATION HEIGHTS

Confederation Heights is designated Primary Employment Area by the City's Official Plan, and Major Federal Employment Area by the NCC. The PPS describes an employment area as "clusters of business and economic activities including, but not limited to, manufacturing, warehousing, offices, and associated retail and ancillary facilities".[34] Existing policy is supportive of a mixed-use employment zone, while density and height increases near stations are currently being implemented in the NCR (i.e. the Tunney's Pasture Master Plan). Confederation Heights will face major challenges ahead with the reworking the existing major arterial road network to accommodate for a multi-modal transportation and pedestrian friendly environment, but realizing the long-term benefits of such improvements is key.

LIST OF CASE STUDIES

Policy is important for establishing a common long-term vision, however case studies can alleviate some uncertainty and provide historical evidence of best practices and implementation strategies. For the purpose of this plan, twenty case studies of successful employment centres were chosen for further analysis. The cases chosen were selected based on the following criteria where possible: location to the downtown; existing rapid transit; land ownership; presence of government office buildings; government involvement; mixed uses; and, placemaking.

01. Rosslyn Station Area, Arlington County, VA
02. Baltimore State Center, Baltimore, Maryland
03. The Yards, Washington, DC
04. Tunney's Pasture, Ottawa, ON

05. Biogen Idec Campus, San Diego, CA
06. Broadway Tech Center, Vancouver, BC
07. Capital Area East End Office Complex, Sacramento, CA
08. Commerce Valley Business Park, Markham, ON
09. Discover Place, Burnaby, BC
10. Harbor Bay Business Park, Alameda, CA
11. Harbourside Business Park, Auckland, New Zealand
12. Lancaster Corporate Centre, Kitchener, ON
13. Metro Office Park, San Juan, Puerto Rico
14. Tyson East- Tyson Corner Arlington County, VA
15. Research and Technology Park, Waterloo, ON
16. Stockley Park, London, United Kingdom
17. Technology Square, Cambridge, MA
18. Technopole Angus, Montreal, QC
19. The Branches, Reston, VA
20. University Town Center, Prince George's County, MD

LESSONS FOR EMPLOYEE CENTRE/AREA

Capture the Value of the Station: Encourage the removal of maximum density and height restrictions within a designated "central area" surrounding the station. site plan control can be used to ensure the vision is maintained and the flexibility is given to the process to create new designs and heights to contribute to a dynamic skyline. The absorption rates, rents, property values, and taxes when applicable were found highest within close proximity of the station.

Connect and Catalyze: Connect to the surrounding neighbourhoods through improved transit networks and reconfigure the internal street system to accommodate a continuous flow to and from the station. The additional users to the area and the improved street network will catalyze the need for retail at grade and also attract private interest for hotels and more employment opportunities.

Placemaking: Provide a signature feature, such as a gateway to the site or a key hole to create new enhanced views and vistas. Highlight existing natural areas of importance and plan for improved connections to these areas. Consider new heights and the opportunity for attracting new company headquarters and ho hotels. Also consider entrances from other main hubs, including airports or institutions.

Vibrant Communities: Create a place to work, live, and play which engages both daytime and nighttime populations (18-hour a day destination). The introduction of the commercial component to create a better sense of place and contribute positively to the office dominated area. Encourage retail to spill out on to sidewalks to mimic downtowns. Precedents reveal a need to introduce a residential component, but still remain as an employment centre.

Rosslyn, Arlington County, VA[35]

Baltimore State Center, Baltimore, MD[36]

The Yards, Washington D.C[37]

Tunney's Pasture, Ottawa, ON[38]

ROSSLYN STATION AREA, ARLINGTON COUNTY, VA

Image C-17: Rendering of Rosslyn Station Area, Arlington County, VA [46]

Previous Use	Predominantly pawn shops and car dealership
Current site Use	Mixed-use Employment Center
Developer	Multiple – Private, Public, Partnerships
Year Built	Redevelopment began in the 1960s
Development Horizon	25-year Realize Rosslyn Sector Plan (2015)
Gross Site Area	RMSA 121 ha (300 ac.) RCDD 24 ha (60 ac.)
Floor Area Ratio (Gross)	>10
Gross Residential Density	RMSA – 8031 Units/121.4 UPH
Transportation Type	Below Grade Metro (Heavy)
Parking	Average: 1.2 spaces/ 305 m^2 (1000 ft^2)

Located directly across the Potomac River from Georgetown and Washington D.C, the Rosslyn Metro Station Area is an example of a thriving Employment Centre. In 1979, Rosslyn Station opened and became a catalyst for new ideas and new approaches to planning and development. County planners and officials recognized the opportunity to reimagine how to create communities and provided the "Early Visions" of the Rosslyn Station Area. They were promoting pre-Smart Growth principles to revitalize the struggling business area and reduce the dependence on cars.[39] Initial visions called for maximizing density and height of any new construction within close proximity of the station. The highest density area or the "bullseye" would be concentrated within walking distance (400 m) of the Metro Station.

Special districts with new zoning were created to ensure adequate density targets were met and height tapered down from the station. A mixed-use approach coupled with a common design criteria aimed directly at the pedestrian environment to ensure an active, vibrant core and to promote Rosslyn's Circle as an architectural and natural gateway. The long-range vision would connect the existing residential neighbourhoods to public transportation, jobs, schools, parks, shops, amenities and services.[40]

The Rosslyn Station Area Addendum (1992) first began with an intensive inventory and analysis of existing conditions regarding the retail sector, the pedestrian and vehicular circulation systems, and the form and character of buildings in Rosslyn. Through an intensive inventory of existing conditions, the Addendum confirmed a number of liabilities including a disjointed pedestrian system, minimal retail presence, and poor connection to the adjacent residential areas. Some of the objectives include: creating a central place to serve as the heart of Rosslyn; improving access to the Potomac River (separated by arterial roads); enhancing the entries and exits; emphasizing multi-modal approaches to transportation; and, developing an office inventory which is more cosmopolitan and competitive.[41]

The goal of this long-range vision was to create a vibrant place to live, work and play, with regional and national headquarters of major corporations, featuring superior architecture and comfortable surroundings for human activity.[42] In 1996 the "C-O" Rosslyn designation was established for the Rosslyn Coordinated Development District where building heights were given a maximum height of 91.5 m (300 feet) and a Floor Area Ratio (Gross) of 10.0, but would follow under the site plan approval process.[43]

The Rosslyn Sector Plan (2015) is a long range plan for the Rosslyn Coordinated Development District (RCDR) over the next 25 years that focuses on the immediate surroundings of Rosslyn Station and Central Place. Branding the project as “Realize Rosslyn”, the plan highlights certain areas that would either require improvement or redevelopment.[44] This would include amending the General Land Use Plan (GLUP), the Zoning Ordinance for implementation, the Master Transportation Plan, as well as securing greater public control over property intended for public use. The Rosslyn Sector Plan is directly aimed at improving the pedestrian and public realms. One of the first visions to create a complete community that was realized was to balance residential development with office space. Today, the retail at grade and the office and residential towers are continuing to transform the area from both skyline and street-level perspectives. Building heights are now surpassing 300 feet while creating placemaking opportunities at the human scale[45].

LESSONS FOR CONFEDERATION HEIGHTS

There are strong similarities in land size, location to the capital, and natural surroundings between Rosslyn and Confederation Heights. In both cases, the auto-oriented framework creates a non-pedestrian friendly environment, a decline in local retail, and the severing of access to the riverfront as well as to the surrounding residential communities. When Rosslyn opened its station in 1979, site plan control and special zoning provisions were implemented to concentrate higher density development closer to the station. This district allowed increased flexibility for developers in terms of density and height, but was also prescriptive to ensure new development benefited the area at street level (at human scale).

Image C-18: Similar building styles may be converted from office to residential uses [47]

Image C-19: A public observation deck can provide new views and vistas [48]

Image C-20: Station entrances can offer vibrant spaces for public activities [49]

- Capture the value of the station via higher absorption rates, higher tax returns, higher property values, and increased returns on investment.
- Create a district of 400 m around the station by enforcing site plan controls, new zoning designations, providing incentive to developers, and ensuring new development is at a human scale (by encouraging animated walls, retail at grade, continuous building frontage, and stepbacks after podium level).
- Establish the “centre” and improve the integration to the corridor by creating a sense of place within the 400 m to promote a stage for all human activities, and establishing a main street (esplanade) for safe pedestrian and cyclists.
- Create an Implementation Matrix that outlines actors, funding, and the temporal categories (immediate, short range, long range, and ongoing) for developments including monuments, sidewalks improvements, or property consolidation.

BALTIMORE STATE CENTER, BALTIMORE, MD

Image C-21: Rendering of Baltimore State Center, Baltimore, MD [55]

Previous Use	State Employment Center (single use)
Current Site Use	Phase I Mixed-use Development & State Employment Center
Developer	Ekistics LLC, public, private, partnerships
Construction Commencement	2016
Development Horizon	20-years
Gross Site Area	11.3 ha (28 acres)
Gross Residential Density	132.74 UPH
Transportation Type	Metro (below grade)
Total Office Area	195,100 m^2 (2,100,000 ft^2)
Total Retail Area	24, 620 m^2 (265,000 ft^2)

The site, located at one of the most active transit nodes in Baltimore is a multi-phase effort to transform an aging group of state government offices into a "diverse landscape of building types, uses, and public spaces" over the next ten years.[50] The project will continue to house State agencies, but it will be mixed with new retail and housing choices. Metro and Light Rail stations are on the site and connect to the International Airport. The site is surrounded by a number of diverse neighbourhoods rich in cultural history and a number of public institutions such as the University of Baltimore and the University of Maryland Medical System.

The State Center began by using a transparent and all-inclusive format called CityScaping. The process included input from a citizen-led neighbourhood alliance where residents, employees, and other businesses had the opportunity to participate and share their voice to influence the planning process. The Public-Private Partnership is centred on the principles of Integrated Product Delivery (IPD) model where the shared values of diversity, inclusion, transparency, and prosperity are the backbone of the project and the impetus for redevelopment.[51]

Towards the middle of twentieth century, the area now known as the "State Center" became a "classic well-intentioned but ultimately ill-fated renewal project" where housing, shops and churches were cleared to make way for the State office complex.[52] The project completely removed connectivity to the surrounding communities.

The State Center Project is intended to transform the entire section of the City from a non-productive area to a driver of economic growth that benefits all communities. The State made a strong commitment to the City that the State Center Project would have no net negative impact on the amount of State Office space in the CBD where it is already the single largest tenant.[53] The State explored options to renovate the deteriorating building by pouring hundreds of millions of State capital dollars, but found that it would retain the status quo. They found the best option was to leverage the State's office tenancy at the site to "create a privately finance, mixed use, TOD that provided office space to the State while bringing economic vitality to the surrounding area".[54]

LESSONS FOR CONFEDERATION HEIGHTS

Similar to the State Center, Confederation Heights has the opportunity to provide the City with additional tax revenue, while supporting much needed infrastructure improvements. If PSPC was willing to introduce Tax Increment Financing (TIF) for infrastructure upgrades, the “halo effect” centering on the station would provide the framework for private sector investment opportunities. Since PSPC is the majority land owner the next step could be a Request for Proposal (RFP) to help create a vision that would benefit a Federal Employment Centre. This creative and competitive process can produce award winning designs or ensure the vision of the NCC and the PSPC is realized.

- Focus on the economic benefits PSPC can provide for the City as a whole through the generation of additional tax revenue, creation of temporary and permanent employment, and the long-term benefits of creating a connected and accessible community where residents can live, work and play both during the day and the night.

- Transform the existing site to create connections between existing communities and become a major gateway to the Trillium Line, Bus Rapid Transit System, and existing roads. Through an RFQ and/or a Request for Proposal, PSPC and the NCC could create the next award winning development plan, comparable to Tunney’s Pasture.

- Establish interesting keyholes or gateways through building massing and architectural design strategies. Views and sightlines should be planned to enhance the areas built and natural features.

Image C-22: Pedestrian-first environments can create vibrant spaces to interact [56]

Image C-23: Example of a signature building that frames new views [57]

Image C-24: Example of massing that respects the pedestrian realm [58]

THE YARDS, WASHINGTON, D.C.

Image C-25: Rendering of The Yards, Washington, D.C. [63]

Previous Use	Navy & Industrial Yards
Current site Use	Mixed-Use Federal Employment Center
Developer	Forest City Dev., private, public, partnerships
Construction Commencement	2007
Development Horizon	2014 expected completion date
Gross Site Area	Southeast Federal Center Area (44 acres) The Yards Park (6 acres)
Gross Residential Density	Approx. 157 UPH
Transportation Type	Metro Below Grade
Total Office Area	167,225 m^2 (1,800,000 ft^2)
Total Retail Area	27,870 m^2 (300,000 ft^2)
Total Residential Area	510,970 m^2 (5,500,000 ft^2)

The Yards is a mixed-use development on the Anacostia River waterfront in Washington D.C. and is located at the center of the Capitol Riverfront Business Improvement District. In 2004, the industrial land was annexed by the Washington Navy Yard and the General Services Administration (GSA)[59]. Through a Public-Private Partnership the site has undergone extensive environmental remediation. The GSA allowed the land to be leased, sold or co-developed to or with private development companies.[60] The District Government, the General Services Administration (GSA), and Forest City Washington development company worked with the public and issued RFPs from developers to initiate a revitalization plan.

The 44-acre development leverages the existing and expanding transportation network around the site, which has the capacity to support a dense, mixed use development and a reduction in overall parking spaces. At full build-out the site will feature 510,970 m^2 of retail residential and recreational uses including 2,700 residential units, 167,225 m^2 of office space and 27,870 m^2 of retail, restaurants and services.[61]

The Yards focuses on creating the traditional street, where trees provide shade and retail opens up directly onto sidewalks bringing life to the area on an everyday basis. Cafes and restaurants are designed to spill out onto outdoor terraces. The Yards will mimic that of a busy downtown but envisions itself as a lifestyle center. The Washington Department of Transportation has since relocated to Yards and employment and office space continue to be a major driver for future infill.

Unlike traditional timelines for development projects the public space or the “Yards Park” was first. The Yards Park provided a “nexus between the river, active and passive recreation, commercial interests and local residents”.[62] The Yards Park can be seen as the cultural anchor to area, considering an educational center provides visitors to the park the chance to learn history of the site as well as the importance of protecting the natural ecosystem of the Anacostia River. The Yards Park is a bio-retention area and controls storm water runoff of the development from entering into the fragile river system.

LESSONS FOR CONFEDERATION HEIGHTS

- Consider the establishment of Vincent Massey Park as one of the cultural anchors for Confederation Heights; however, connectivity should be drastically improved. The Yards Park is promoted as the one of the major natural gems of the area and is an example of a sustainable design and an innovative use of space.

Image C-26: The Yards park acts as a cultural anchor and bio-retention area [64]

- Consider the opportunity to create a central community where stores and cafes spill out onto the traditional street network, mimicking a vibrant downtown, to fulfill the “lifestyle” component at Confederation Heights. The Yards is attempting to become a cultural center and an 18-hour destination as well as a place to live, work, play.

Image C-27: Example of a “lifestyle” component to development and a cultural centre [65]

- Implement competitive design processes as a key way to increase the benefit to the community as well as maximize the use of space. The Yards architectural and design standards were increased through a competitive process for a master plan. The area can leverage existing transit networks to support higher density and a mix of uses that can entice the private sector to engage in development.

Image C-28: Example of adaptive reuse of heritage buildings [66]

TUNNEY'S PASTURE, OTTAWA, ON

Image C-29: Concept Map for Tunney's Pasture, Ottawa, ON [72]

Constructed	1950s
Owner / Operator	PSPC
Transit Type	Bus Rapid Transit (BRT) and future Light Rail Transit (LRT)
Daily Transitway Ridership (2014)	240,000 each weekday (includes all 57 transit stops)
Site Size	490,000 m^2 (5,274,316 ft^2)
Station Parking	3,207 Spaces (surface parking)
Land Uses	Mixed Use (Office/Retail), Commercial, Industrial, Residential

Tunney's Pasture is a major employment centre located within Ottawa, Ontario, southwest of the City's downtown and parliamentary precinct. Currently, the site features nineteen buildings, the majority of which are federal government buildings under the custody of Public Services and Procurement Canada (PSPC). As a major federal employment centre, the site accommodates approximately 10,000 employees within various departments, including: Health Canada; Statistics Canada; National Defence; Library and Archives Canada; and Measurement Canada.[67]

The site was developed as an employment centre during the 1950s and 1960s following the release of the 1950 Gréber Plan. Since then the site has experienced a wave of new development which took place during the 1970s and consisted of high-rise office towers with large setbacks and ample surface parking[68].

By 2011, PSPC collaborated with a number of stakeholders and design teams to create a Master Plan for Tunney's Pasture that called for new high-rise buildings, commercial and residential mixed-uses, greater pedestrian connectivity, and placemaking features. Released in 2014, the Master Plan focused on a 25-year development period which aims to achieve a doubling of federal employees (from 10,000 to 20,000) and the addition of approximately 1,000 residential units to the site. These goals were well-received and regarded as being achievable given the site's accessibility via by Sir John A. Macdonald Parkway.[69]

Parkway and the OC Transpo Transitway, which will be converted into a light rail transit (LRT) line in the coming years.[70] With a number of guiding principles, the award winning Tunney's Pasture Master Plan seeks to transform the site from a traditional employment centre to a mixed-use neighbourhood, founded upon best practices for TOD and complete neighbourhoods.[71]

LESSONS FOR CONFEDERATION HEIGHTS

- Improve both internal and external connectivity within the site, which is crucial for the entire community. Internal flow of cyclist and pedestrian movement and the convenience or desire to attract outside visitors is important when considering redevelopment of Confederation Heights.

Image C-30: Maps demonstrating pedestrian and cyclist connections [73]

- Maximize development potential by focusing on infill development, while engaging public support by creating massing models and renderings. Tunney's Pasture contains large office buildings with large tracts of open space being underutilized as a result of surface parking, large setbacks, and large open spaces.

Image C-31: Example of infill development on underutilized space and parking lots [74]

- Incorporate the distinct federal identity at Confederation Heights, reflected in built form, monuments, and natural features. The Tunney's Pasture Master Plan provides feasible development options for taking advantage of the site's location and appropriateness for TOD. The grand entrance to the site celebrates a federal presence and provides a large public space for variety of activities.

Image C-32: Example of a public park used to anchor the station to other development [75]

TRANSIT STATIONS / MOBILITY HUBS

In best practice, a transit station becomes a multi-purpose destination in and of itself, rather than merely a transfer point. Located close to or within the station should be a mixture of transit-supportive uses and amenities that add to the overall experience of those using the site. Successful stations allow for safe and easy pedestrian connections that limit grade separations between the station and surrounding areas. Safety is enhanced through Crime Prevention Through Environmental Design (CPTED) principles, including use of natural lighting and continuous sightlines. Stations should provide weather protection via covered areas, awnings or creative landscaping. They should also feature infrastructure that respects all modes of transportation, including installation of cycling facilities or drop-off locations for cars and taxis.[76]

With a transit station at the centre of the site, streets, public spaces and amenities in the immediate vicinity become important within a mobility hub and feature a concentration of employment, retail and residential amenities. Transit users, pedestrians and cyclists are prioritized by creating seamless connections between all forms of transportation. Ultimately, the area around the transit station should become the focal point of development and community activity.[77]

RELEVANCE TO CONFEDERATION HEIGHTS

Confederation Heights presents the opportunity to create a unique sense of place surrounding both the LRT and BRT Transit stations. These areas serve as a single-purpose federal employment node. Confederation Heights should be redeveloped to remain an employment node; however, additional uses should be incorporated to cater to new users of the site, while creating vibrant, safe and well-connected amenities that contribute to a sense of community.

LIST OF CASE STUDIES

A total of twenty case studies were examined and ranked in order of most relevant to Confederation Heights. Of these cases four were chosen for further examination based on the following criteria where possible: stations that serve as destinations; similar modes of transportation (BRT & LRT); integration of multi-modal transportation; similar location within the transect area (i.e. T3, T4); and, geographic location (within Canada).

01. Mockingbird Station, Dallas, Texas
02. Commercial-Broadway Station, Vancouver, BC
03. Village de la Gare, Mont-Saint-Hilaire, Quebec
04. Target Field Station, Minneapolis, Minnesota

05. Atocha Intercambiador, Madrid, Spain
06. Bergamot Station, Santa Monica, CA
07. Brentwood Station, Burnaby, BC
08. Changyang Station TOD, Beijing, China
09. Gresham Central Transit Station, Portland, OR
10. Kingston Downtown Transfer Point, Kingston, ON
11. Kipling Station, Toronto, ON
12. Montmorency Station, Laval, QC
13. Rosa Parks Transit Station, Detroit, MI
14. Station Park, Farmington, UT
15. Surrey Central, Surrey, BC
16. The Hub, St. Paul, MN
17. Transbay Transit Center, San Francisco, CA
18. Transit Mall, Portland, OR
19. Union Station, Denver, CO
20. Westlake Link Station, Seattle, WA

LESSONS FOR TRANSIT/MOBILITY HUBS

Create a Destination: Treat the station as an important public space that can serve multiple purposes.

Provide Amenities: Concentrate amenities including food, retail and other services, both within the station and in the immediate area for convenience and to ensure sustained activity throughout the day.

Seamless Travel: Ensure that connections between various modes of transportation are seamless and effortless for transit users by providing pedestrian, cyclist, transit rider and drop off spaces that are in close proximity to one another.

Pedestrian Comfort: Limit vertical connections and ensure weather protection that respects the local climate.

Integration: Ensure that transit users have short and direct connections to a pedestrian friendly environment directly adjacent to the station that offers no obstructions (i.e. parking lots).

Mockingbird Station, Dallas, TX[77]

Commercial Broadway Station, Vancouver, BC[79]

Village de la Gare, Mont St. Hilaire, QC[80]

Target Field Station, Minneapolis, MN[81]

MOCKINGBIRD STATION, DALLAS, TX

Image C-33: Aerial Image of Mockingbird Station, Dallas, TX [87]

Built	1997
Transit Type	Light Rail Transit
Estimated Number of Daily Riders	3500-4000
Implementation Agency	Dallas Area Rapid Transit
Parking	735 Spaces
Retail Component	Adjacent (Not in Station)
Public Amenities	Public Art
Weather Protection	Covered Outdoor Station

Mockingbird Station is located in Dallas, Texas, and acts as a major transit hub owned and operated by Dallas Area Rapid Transit (DART).[82] Completed and opened in 1997, the station provides access to three light rail lines: the red line, blue line, and the orange line. These lines provide efficient transit connections to nearby residential neighbourhoods, commercial and retail development, office buildings, and the Southern Methodist University.

The completion of the station led to the development of a master plan for the surrounding site. This plan laid the groundwork for a 4 hectares (10 acres) urban village that called for complementary uses to the existing light rail transit (LRT) station. It was assumed that Mockingbird Station's strategic location along Highway 75 and Mockingbird Lane would ensure the site could achieve high density and large daily volumes of pedestrian traffic.[83]

As expected, the high residential density already surrounding the station helped spawn and support a number of commercial and retail developments that began to take place during the early 2000s[84]. These projects were headed by private sector investment and displayed immediate signs of success following their completion. This combination of high residential density, retail and commercial expansion, and accessible public transportation, helped establish Mockingbird Station and its surrounding area as a successful (TOD).[85]

Not only did the site provide a successful model for TOD, but it also represented the first ever TOD in Texas.[86] The site is located approximately 6 kilometres north of the City's downtown, making it a good example of successful TOD and urban place-making within a suburban setting.

LESSONS FOR CONFEDERATION HEIGHT

- Provide efficient transit connection to the surrounding area including commercial, retail and residential development.

Image C-34: Example of commercial opportunities within close proximity to the station [88]

- Draw upon the site's potential to become a mixed-use transit hub containing office, commercial, retail, and residential land uses.

Image C-35: Example of station that attracts major office employment opportunities [89]

- Use the surge of redevelopment around the station to rejuvenated the area by increasing the value of the land as well as adding millions to the local tax base, thus providing an example of the economic benefits to be reaped through TOD.

Image C-36: Retail opportunities can contribute to the station as a destination [90]

COMMERCIAL-BROADWAY STATION, VANCOUVER, BC

Image C-37: Aerial Image of Commercial-Broadway Station, Vancouver, BC [93]

Built	1985-2002
Transit Type	Skytrian
Estimated Number of Daily Riders	90,000 Skytrain & 60,000 Bus
Implementation Agency	BC Transit/Translink
Parking	None
Retail Component	Yes
Public Amenities	Public Art
Weather Protection	Covered Outdoor Station

Commercial-Broadway Station is a busy transit hub located at the intersection of various modes of transportation. It is the junction between two SkyTrain rapid transit system lines: the Expo Line and the Millennium Line. This hub is the result of a 2009 merger between two different stations, one for each line: Commercial Station for the Millennium Line, and Broadway Station for the Expo Line. Commercial-Broadway Station also acts as a transfer station for the busy 99B rapid busway and the #20 bus line. The station is currently estimated to handle roughly 90,000 SkyTrain passengers and 60,000 bus passengers per year.[91] In addition to its transit connections, the station contains a ground floor with a fast food restaurant, a pharmacy, and a coffee shop.

A number of upgrades have recently been implemented to the Station, with more to come in the next few years. A development guide called the Commercial-Broadway Transit Village Plan was created in order to transform Commercial-Broadway Station into a more ecologically sound and energy efficient site with increased transit ridership and positive integration into the neighbourhood.[92]

Improvements that have already been completed include the installation of glass walls to heighten visibility and security, and the creation of a new entrance that will surely enhance accessibility to the station. Future improvements will centre on the need to decrease congestion and bottleneck choke points in the station. For instance, a new platform will be installed to allow passengers to enter and exit the train at the same time: one platform is reserved for embarking, while the other is used for disembarking. This measure will help decrease the length of time that a train spends at a station. The upgrades will also provide a new bicycle storage area and additional retail space.

LESSONS FOR CONFEDERATION HEIGHTS

- Encourage improvements to the transit hub to augment the efficiency and performance of the station, while contributing positively to the local neighbourhood through placemaking, building an identity, and further integration into the surrounding community. Density opportunities near transit is encouraged.

Image C-38: Example of height and density supported within close proximity to the station [94]

- Consider the safety and security of the station's passengers when implementing upgrades. Currently, there is a sense of isolation at Confederation Station, therefore, focus on safety and the pedestrian realm should be at the forefront of importance.

Image C-39: Cross-section of new safety and security measures [95]

- Encourage a decrease in parking availability to instead shift focus away from the automobile, thereby creating increased focus on the transit station.

Image C-40: Example of increased efficiency resulting in increased transit use [96]

VILLAGE DE LA GARE, MONT-SAINT-HILAIRE, QC

Image C-41: Transit Station at Village de la Gare, Mont-Saint-Hilaire, QC [100]

Built	2002-2012
Transit Type	Commuter train to Montréal Regional bus service from Mont-Saint-Hilaire to the train station
Estimated Number of Daily Riders	1,416
Implementation Agency	Collaboration between the municipality (Mont-Saint-Hilaire), the metropolitan transit authority (Agence Métropolitaine de Transport, or AMT), and a private developer
Parking	837 Stalls
Retail Component	None
Public Amenities	None
Weather Protection	Enclosed Waiting Area with Open Air Platform

The Village de la Gare is the first TOD initiative in the province of Québec. Located roughly 40 kilometres from downtown Montréal in the suburb of Mont-Saint-Hilaire, a town located near a large mountain that has been designated as a UNESCO Biosphere Reserve. A new railway station was built in 2001 for the following year's extension of commuter rail service to Mont-Saint-Hilaire, on the site of a large tract of land along the rail line that was owned by a private developer, Groupe CBL. The transit authority and the Town of Mont-Saint-Hilaire negotiated to buy the plot of land for the new railway station and adjoining parking. The developer also agreed to build a transit-oriented neighbourhood around the new railway station over a ten year period, providing 1,000 residential units within 750 m of the station. The community also includes commercial spaces, a primary school, open space, and good pedestrian and cycling connectivity. The project was planned to be phased over ten years, which allowed for minor adjustments as time went on, if required.

A master plan was also developed to guide development along transit-oriented guidelines. These included a mix of housing types, greater densities closer to the station, and improved sidewalks that would encourage walking. Design standards were also set in place to encourage active transportation, preserve the view of the nearby mountain, and respect the historical character of the community. Moreover, the master plan called for parking standards of 1.5 spaces per residential unit, shared parking spaces for the train station and a nearby commercial centre, and the installation of bicycle racks at the station.

Early results show promising signs. A 2008 study indicated that almost 50% of the Village's residents used public transit to get to their destination.[97] While most of the residents surveyed appeared to have frequently used public transit before moving to the Village, automobile use for work trips nonetheless decreased by 10%. In addition to the LRT line and safe, well-designed pedestrian connectivity, the Village probably also benefited from the connectivity between the Town and the station provided by the regional bus service.[98]

LESSONS FOR CONFEDERATION HEIGHTS

- Implement design standards that ensure good pedestrian experiences and a strong pedestrian realm, which is currently lacking at Confederation Heights. Groupe CBL ensured that the development would be within 750 m of the railway station, with the densest residential units located closest to the station.

Image C-42: Example of increased density within close proximity of the station [101]

- Ensure that the redevelopment of Confederation Heights takes appropriate measures to protect viewpoints and highlight the presence of natural landscapes, comparable to those implemented for mountain views at Village de la Gare.

Image C-43: Representation of the importance of views and vistas for placemaking [102]

- Consider a phasing and implementation plan for Confederation Heights, considering the size and magnitude of this redevelopment. The phasing of the project was viewed as a cautious approach to an ambitious project that represents roughly 30% of Mont-Saint-Hilaire's developed area. The regional bus agency provided good transit connectivity between the Town and the station. Improved connectivity between various modes of transportation must be considered for Confederation Heights.

Image C-44: Example of the development phasing plan [103]

TARGET FIELD STATION, MINNESOTA, MN

Image C-45: Aerial Image of Target Field Station, Minnesota, MN [111]

Built	2009 (Opened: 2014)
Transit Type	Light Rail Transit & Commuter Rail
Estimated Number of Daily Riders	500 trains arriving and departing each weekday
Implementation Agency	Metro Transit
Parking	268 Stalls
Retail Component	None
Public Amenities	1000 Seat Amphitheatre & Video Board
Weather Protection	Covered and Enclosed Waiting Areas with Heating on Demand

Target Field Station is located in Minneapolis, Minnesota, and acts as a multi-modal rail station that provides both light rail transit (LRT) and commuter train services.[104] The station is located in the City's Warehouse District along the northwest periphery of the downtown area and is surrounded by a number of interstate highways (I-394 and I-94), interchange ramps and arterial roads (Olson Memorial Highway and 7th Street).

Construction for the station began in 2009 and was completed and opened in 2014 under the ownership and operation of Metro Transit.[105] New connections are proposed for the near future; however, the station currently acts as the terminus for the three lines that it services: the Blue Line (LRT), Northstar Line (commuter rail), and the Green Line (LRT).[106]

The station's construction coincided with the development of Target Field Stadium, the City's most recent baseball stadium to be constructed for hosting the Minnesota Twins (MLB) among other major sporting clubs.[107] As expected, the new station helped to dramatically relieve traffic congestion on game days following the stadium's opening day in 2010.[108]

The success of the Target Field Station as a transit hub is primarily a result of its location and design. The station provides an urban to suburban connection via the commuter train, while linking various urban areas of the city through the LRT lines and interconnected bus transit lines.[109] The station itself was designed with an open space concept containing numerous place making features, such as an amphitheatre and a large outdoor television screen. Additionally, a number of green elements have been integrated into the site, including an intricate rain water recapturing system, a lawn of various native grasses, and a heated pedestrian square that eliminates the need for salt and plowing during the winter months.[110] All of these site features help establish an identity for the site, as they draw in commuters to area not only for events being held at Target Stadium, but also for transitional activities in between commutes.

LESSONS FOR CONFEDERATION HEIGHTS

- Establish the station as a destination by making it an important public space that can serve multiple purposes. Though Confederation Heights will remain a Federal Employment Node, mixed-uses should be incorporate to create a dynamic and complete community.

Image C-46: Demonstration of safe and well-lit connections to and from the station [112]

- Ensure that transit users have short and direct connections to a pedestrian-friendly environment directly adjacent to the station. Existing conditions at Confederation Heights are not conducive to pedestrian connectivity; therefore, decreased block sizes should be encouraged.

Image C-47: An amphitheatre at the station provides a cultural anchor [113]

- Use the location, design, and added connectivity of the station to help rejuvenate the area's identity and use it to spawn new investment and development in nearby neighbourhoods.

Image C-48: A station can act as a catalyst for investment and development [114]

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APPENDIX D: GUIDING PRINCIPLES

Guiding Principles	Purpose	Strategy
Effective Connectivity 	Encourage transit-supportive land uses to facilitate multi-modal transportation options and ease mobility within the site and to surrounding communities	Confederation Heights should concentrate on transit-oriented design to encourage connectivity via LRT from the site to the broader City context. The existing street network should be reconfigured to reduce dependency on the automobile, calm traffic and animate the area through street-level activity. The NCC's Multi-Use Pathways (MUPs) and greenspace networks should be integrated and augmented to encourage recreational uses and daily transportation by pedestrians and cyclists alike. By creating new connections via MUPs to Carleton University and surrounding neighbourhoods including Brookfield, Riverside Park, Alta Vista-Billings Bridge, the site will be better integrated for all users.
National Identity 	Maintain and enhance the legacy of the National Capital Region by creating iconic spaces and promoting Confederation Heights as an architectural and natural gateway	New development should be focused on creating a strong sense of place that reflects the National Capital identity. As a federal employment node, Confederation Heights should demonstrate architectural excellence, incorporate iconic monuments, and respect existing built and natural heritage by enhancing view corridors. Iconic views should be established by concentrating landmark buildings along arterial corridors including Bronson Avenue and Heron Road. Monuments should be strategically located to enhance the public realm at key hubs of activity, such as the LRT station and various central urban plazas.
Complete Community 	Foster a diversity of housing, employment and recreation options to create a vibrant, pedestrian-oriented and healthy community with a strong sense of place	Confederation Heights should cater to a multitude of demographics and focus on a vibrant "18 hour" work-live-play environment. As a complete community featuring a mix of uses, the site should provide a variety of housing opportunities, public and private office spaces, and retail and commercial spaces, in an efficient and compact built form. A pedestrian-oriented street network should focus on the public realm, human scale and Crime Prevention Through Environmental Design (CPTED) principles. Development should be functional, universally accessible and respectful of a community atmosphere while reflecting good urban design.
Sustainability 	Promote best practices considering the four pillars of sustainability: economic growth, environmental preservation, social equity and cultural integrity in order to meet the needs of present and future generations	Confederation Heights should make efficient and mindful use of the lands by strategic disposal of certain blocks and intensification of the core area surrounding the transit station. The site should encourage various public and private sector employment options, incentivizing development and achieving long-range density and employment targets. Greenspace and Environmental Protection Areas should be enhanced, when possible, and protected. Appropriate and effective stormwater management features including ponds, bio-swales, permeable paving and green buffers should be incorporated upon development of the site. To encourage social equity, the site should include a mixture of housing type and tenure, with a range of affordability to accommodate diverse populations. Canada's diverse cultures should be recognized throughout the site to reflect the Nation's unique identity.

Guiding Principles	Purpose	Strategy
Regard for Policy 	Respect existing federal, provincial and municipal policies, guidelines and documents while maintaining the flexibility to accommodate for future policy directions	Existing policy directives and guidelines from all levels of government should be respected and acknowledged for proposed development on the site. Proposals for new development as well as those requiring amendments will comply with formal planning approvals processes.
Quality Built Form 	Encourage compact built form with pedestrian-oriented scale and massing that incorporates appropriate density to support a mix of uses respecting the character and natural topography of the site	The site should concentrate highest massing and density at the core, centred near the future Confederation Station and create a vibrant, mixed-use office, institutional and commercial corridor connecting the LRT and BRT stations. Massing should taper down in height and be designed to achieve transitions that respect surrounding residential neighbourhoods and historic viewsheds. Buildings should be designed at human scale with appropriate podiums and setbacks to encourage street level pedestrian activity with transparent, well-animated facades. To animate the street and continue focus on the pedestrian realm, built form should be strategically designed to hide laneways and surface parking lots mid-block in locations where establishing underground parking is not possible. Focus should be placed on excellence in design, architecture, facades and materials, and incorporation of Leadership in Energy and Environmental Design (LEED) certified buildings. Designated and listed heritage buildings should be considered, respected and/or retrofitted for new use where appropriate when redeveloping the site.

APPENDIX E: BUILDING DATA

DENSITY SPREADSHEET

To calculate relevant measures of density and other information regarding the conceptual designs, several assumptions were made. These assumptions are outlined in Table E-1.

Two scenarios are presented; the first includes the re-purposing of the Tupper Building as a residential building; the second includes the replacement of the Tupper Building. The complete data tables, and a summary table are included herein.

Table E-1: List of assumptions for density calculations for the proposed conceptual design

Category	Assumptions	Reference
Residential	80 m^2/ unit 20% of GFA is consumed by services and common space	BC Housing. (2014). *BC Housing Design Guidelines and Construction Standards 2014*. Retrieved from http://www.bchousing.org/resources/Partner_Resources/Construction_Standards_Procurement/Design_Construction_Standards/BCH_Design_Guidelines_and_Construction_Standards.pdf
	2.4 people per household	Statistics Canada. (2011). *Household size, by census metropolitan area.* (2011 Census) (Ottawa-Gatineau, Kingston, Peterborough, Oshawa, Toronto). 2011 Census of Population and Statistics Canada catalogue no. 98-313-XCR. Retrieved from http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/famil122c-eng.htm
Office requirement	14 m^2 per office space	Public Works and Government Services Canada. (2012). *Government Of Canada Workplace 2.0 Fit Up Standards*. Retrieved from https://buyandsell.gc.ca/cds/public/2013/07/24/eca34fffc77113b8f3f89360169bfa75/workplace_2_0_manual.pdf
Parking requirement:	1 space for every 150 m^2 for office 0.75 space per dwelling unit	Ottawa, City of. (2015). *City of Ottawa Zoning By-law, Section 101 – Minimum Parking Space Rates*. Retrieved from http://ottawa.ca/en/residents/laws-licenses-and-permits/laws/city-ottawa-zoning-law/minimum-parking-space-rates-sec-101
	40 m^2 (gross) per parking space	Marshall, David. (2009). *Getting the Most Out of Your Dollar*. Parking Today. Retrieved from http://www.parkingtoday.com/articledetails.php?id=733

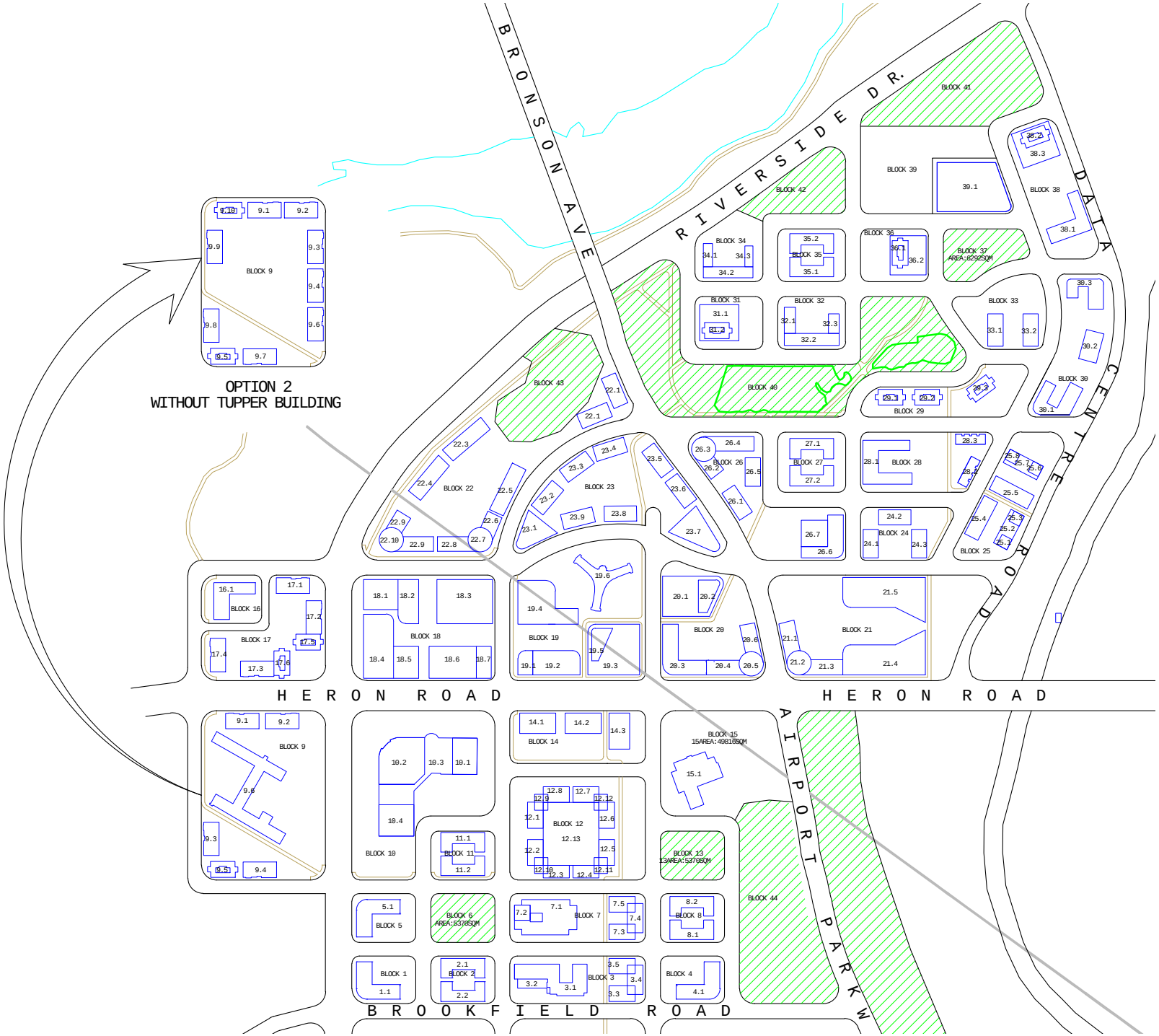

Figure E-1: Site map with corresponding building numbers to the tables herein

Table E1: Density Spreadsheet for Design Concept 1, with a portion of the Tupper Building Repurposed

Precinct	Block Area (m^2)	Building	Building Footprint (m^2)	Storeys	Total Gross Floor Area (m^2)	Block Coverage	Floor Space Index (FSI)	Land Use	Office	Residential	Institutional	Commercial	Arts/Culture	Recreation	Open Space	Parking	Office (#employees)	Residential (# dwelling units)	Number of Residents
B	5370	1.1	1716	14	24024	32%	4.5	Mixed Use 2	12,012	9,610	1,201	1,201	0	0	0	152	601	96	231
B	5370	2.1	1182	10	11820	22%	4.4	Mixed Use 2	5,910	4,728	591	591	0	0	0	75	296	47	113
B		2.2	1182	10	11820	22%		Mixed Use 2	5,910	4,728	591	591	0	0	0	75	296	47	113
B	11372	3.1	2584	9	23256	23%	3.8	Mixed Use 2	11,628	9,302	1,163	1,163	0	0	0	147	581	93	223
B		3.2	519	2	1038	5%		Mixed Use 2	519	415	52	52	0	0	0	7	26	4	10
B		3.3	594	8	4752	5%		Mixed Use 2	2,376	1,901	238	238	0	0	0	30	119	19	46
B		3.4	746	13	9698	7%		Mixed Use 2	4,849	3,879	485	485	0	0	0	61	242	39	93
B		3.5	594	8	4752	5%		Mixed Use 2	2,376	1,901	238	238	0	0	0	30	119	19	46
B	5370	4.1	1716	6	10296	32%	1.9	Mixed Use 2	5,148	4,118	515	515	0	0	0	65	257	41	99
B	5370	5.1	1716	14	24024	32%	4.5	Mixed Use 2	12,012	9,610	1,201	1,201	0	0	0	152	601	96	231
B	5370	0	0	0	0	0%	0.0	Open Space	0	0	0	0	0	0	5,370	0	0	0	0
B	11372	7.1	2985	10	29850	26%	4.9	Mixed Use 2	14,925	11,940	1,493	1,493	0	0	0	189	746	119	287
B		7.2	417	15	6255	4%		Mixed Use 2	3,128	2,502	313	313	0	0	0	40	156	25	60
B		7.3	594	8	4752	5%		Mixed Use 2	2,376	1,901	238	238	0	0	0	30	119	19	46
B		7.4	746	13	9698	7%		Mixed Use 2	4,849	3,879	485	485	0	0	0	61	242	39	93
B		7.5	594	8	4752	5%		Mixed Use 2	2,376	1,901	238	238	0	0	0	30	119	19	46
B	5370	8.1	1182	10	11820	22%	4.4	Mixed Use 2	5,910	4,728	591	591	0	0	0	75	296	47	113
B		8.2	1182	10	11820	22%		Mixed Use 2	5,910	4,728	591	591	0	0	0	75	296	47	113
C	37125	9.1	905	6	5430	2%	1.8	Residential	0	5,430	0	0	0	0	0	41	0	54	130
C		9.2	905	6	5430	2%		Residential	0	5,430	0	0	0	0	0	41	0	54	130
C		9.3	905	8	7240	2%		Residential	0	7,240	0	0	0	0	0	54	0	72	174
C		9.4	905	10	9050	2%		Residential	0	9,050	0	0	0	0	0	68	0	91	217
C		9.5	740	30	22200	2%		Residential	0	22,200	0	0	0	0	0	167	0	222	533
C		9.6 (Existing)	4184	4	16736	11%		Residential	0	16,736	0	0	0	0	0	126	0	167	402

Precinct	Block Area (m^2)	Building	Building Footprint (m^2)	Storeys	Total Gross Floor Area (m^2)	Block Coverage	Floor Space Index (FSI)	Land Use	Office	Residential	Institutional	Commercial	Arts/Culture	Recreation	Open Space	Parking	Office (#employees)	Residential (# dwelling units)	Number of Residents
A	33825	10.1 (Existing)	1573	12	18876	5%	2.8	Mixed Use 1	16,988	0	944	944	0	0	0	113	849	0	0
A		10.2 (Existing)	3476	12	41712	10%		Mixed Use 1	37,541	0	2,086	2,086	0	0	0	250	1,877	0	0
A		10.3 (Existing)	3255	3	9765	10%		Mixed Use 1	8,789	0	488	488	0	0	0	59	439	0	0
A		10.4	1939	12	23268	6%		Mixed Use 1	20,941	0	1,163	1,163	0	0	0	140	1,047	0	0
A	5370	11.1	1182	11	13002	22%	4.8	Mixed Use 1	11,702	0	650	650	0	0	0	78	585	0	0
A		11.2	1182	11	13002	22%		Mixed Use 1	11,702	0	650	650	0	0	0	78	585	0	0
A	24660	12.1	594	5	2970	2%	2.8	Mixed Use 1	2,673	0	149	149	0	0	0	18	134	0	0
A		12.2	594	5	2970	2%		Mixed Use 1	2,673	0	149	149	0	0	0	18	134	0	0
A		12.3	594	5	2970	2%		Mixed Use 1	2,673	0	149	149	0	0	0	18	134	0	0
A		12.4	594	5	2970	2%		Mixed Use 1	2,673	0	149	149	0	0	0	18	134	0	0
A		12.5	594	5	2970	2%		Mixed Use 1	2,673	0	149	149	0	0	0	18	134	0	0
A		12.6	594	5	2970	2%		Mixed Use 1	2,673	0	149	149	0	0	0	18	134	0	0
A		12.7	594	5	2970	2%		Mixed Use 1	2,673	0	149	149	0	0	0	18	134	0	0
A		12.8	594	5	2970	2%		Mixed Use 1	2,673	0	149	149	0	0	0	18	134	0	0
A		12.9	378	10	3780	2%		Mixed Use 1	3,402	0	189	189	0	0	0	23	170	0	0
A		12.10	378	10	3780	2%		Mixed Use 1	3,402	0	189	189	0	0	0	23	170	0	0
A		12.11	378	10	3780	2%		Mixed Use 1	3,402	0	189	189	0	0	0	23	170	0	0
A		12.12	378	10	3780	2%		Mixed Use 1	3,402	0	189	189	0	0	0	23	170	0	0
A		12.13 (Existing)	6201	5	31005	25%		Mixed Use 1	27,905	0	1,550	1,550	0	0	0	186	1,395	0	0
B	5370	0	0	0	0	0%	0.0	Open Space	0	0	0	0	0	0	5,370	0	0	0	0

Precinct	Block Area (m^2)	Building	Building Footprint (m^2)	Storeys	Total Gross Floor Area (m^2)	Block Coverage	Floor Space Index (FSI)	Land Use	Office	Residential	Institutional	Commercial	Arts/Culture	Recreation	Open Space	Parking	Office (#employees)	Residential (# dwelling units)	Number of Residents
A	12600	14.1	1302	14	18228	10%	4.3	Mixed Use 1	16,405	0	911	911	0	0	0	109	820	0	0
A		14.2	1302	14	18228	10%		Mixed Use 1	16,405	0	911	911	0	0	0	109	820	0	0
A		14.3	1302	14	18228	10%		Mixed Use 1	16,405	0	911	911	0	0	0	109	820	0	0
A	23311	15.1 (Existing)	2782	3	8346	12%	0.4	Mixed Use 1	7,511	0	417	417	0	0	0	50	376	0	0
C	5120	16.1	1536	5	7680	30%	1.5	Residential	0	7,680	0	0	0	0	0	58	0	77	184
C	16440	17.1	905	5	4525	18%	3.8	Residential	0	4,525	0	0	0	0	0	34	0	45	109
C		17.2	905	5	4525	18%		Residential	0	4,525	0	0	0	0	0	34	0	45	109
C		17.3	905	5	4525	18%		Residential	0	4,525	0	0	0	0	0	34	0	45	109
C		17.4	905	5	4525	18%		Residential	0	4,525	0	0	0	0	0	34	0	45	109
C		17.5	740	30	22200	14%		Residential	0	22,200	0	0	0	0	0	167	0	222	533
C		17.6	740	30	22200	14%		Residential	0	22,200	0	0	0	0	0	167	0	222	533
A	26600	18.1	1833	5	9165	7%	5.2	Mixed Use 1	8,249	0	458	458	0	0	0	55	412	0	0
A		18.2	1598	5	7990	6%		Mixed Use 1	7,191	0	400	400	0	0	0	48	360	0	0
A		18.3	4339	6	26034	16%		Mixed Use 1	23,431	0	1,302	1,302	0	0	0	156	1,172	0	0
A		18.4	3399	10	33990	13%		Mixed Use 1	30,591	0	1,700	1,700	0	0	0	204	1,530	0	0
A		18.5	1411	9	12699	5%		Mixed Use 1	11,429	0	635	635	0	0	0	76	571	0	0
A		18.6	2658	9	23922	10%		Mixed Use 1	21,530	0	1,196	1,196	0	0	0	144	1,076	0	0
A		18.7	838	28	23464	3%		Mixed Use 1	21,118	0	1,173	1,173	0	0	0	141	1,056	0	0

Precinct	Block Area (m^2)	Building	Building Footprint (m^2)	Storeys	Total Gross Floor Area (m^2)	Block Coverage	Floor Space Index (FSI)	Land Use	Office	Residential	Institutional	Commercial	Arts/Culture	Recreation	Open Space	Parking	Office (#employees)	Residential (# dwelling units)	Number of Residents
A	31037	19.1	640	28	17920	2%	4.1	Mixed Use 1	16,128	0	896	896	0	0	0	108	806	0	0
A		19.2	2031	9	18279	7%		Mixed Use 1	16,451	0	914	914	0	0	0	110	823	0	0
A		19.3	4632	7	32424	15%		Mixed Use 1	29,182	0	1,621	1,621	0	0	0	195	1,459	0	0
A		19.4	3524	7	24668	11%		Mixed Use 1	22,201	0	1,233	1,233	0	0	0	148	1,110	0	0
A		19.5	901	24	21624	3%		Mixed Use 1	19,462	0	1,081	1,081	0	0	0	130	973	0	0
A		19.6 (Existing)	1553	8	12424	5%		Mixed Use 1	11,182	0	621	621	0	0	0	75	559	0	0
A	19050	20.1	3882	5	19410	20%	4.8	Mixed Use 1	17,469	0	971	971	0	0	0	116	873	0	0
A		20.2	901	24	21624	5%		Mixed Use 1	19,462	0	1,081	1,081	0	0	0	130	973	0	0
A		20.3	2069	7	14483	11%		Mixed Use 1	13,035	0	724	724	0	0	0	87	652	0	0
A		20.4	892	7	6244	5%		Mixed Use 1	5,620	0	312	312	0	0	0	37	281	0	0
A		20.5	804	30	24120	4%		Mixed Use 1	21,708	0	1,206	1,206	0	0	0	145	1,085	0	0
A		20.6	834	7	5838	4%		Mixed Use 1	5,254	0	292	292	0	0	0	35	263	0	0
A	36064	21.1	903	5	4515	3%	3.0	Mixed Use 1	4,064	0	226	226	0	0	0	27	203	0	0
A		21.2	804	30	24120	2%		Mixed Use 1	21,708	0	1,206	1,206	0	0	0	145	1,085	0	0
A		21.3	978	5	4890	3%		Mixed Use 1	4,401	0	245	245	0	0	0	29	220	0	0
A		21.4	4742	8	37936	13%		Mixed Use 1	34,142	0	1,897	1,897	0	0	0	228	1,707	0	0
A		21.5	4742	8	37936	13%		Mixed Use 1	34,142	0	1,897	1,897	0	0	0	228	1,707	0	0

Precinct	Block Area (m^2)	Building	Building Footprint (m^2)	Storeys	Total Gross Floor Area (m^2)	Block Coverage	Floor Space Index (FSI)	Land Use	Office	Residential	Institutional	Commercial	Arts/Culture	Recreation	Open Space	Parking	Office (#employees)	Residential (# dwelling units)	Number of Residents
D		22.1	872	6	5232	2%		Mixed Use 3	2,616	1,831	262	0	523	0	0	31	131	18	44
D		22.2	872	6	5232	2%		Mixed Use 3	2,616	1,831	262	0	523	0	0	31	131	18	44
D		22.3	1338	6	8028	3%		Mixed Use 3	4,014	2,810	401	0	803	0	0	48	201	28	67
D		22.4	1227	6	7362	3%		Mixed Use 3	3,681	2,577	368	0	736	0	0	44	184	26	62
D		22.5	1391	6	8346	3%		Mixed Use 3	4,173	2,921	417	0	835	0	0	50	209	29	70
D	40432	22.6	534	6	3204	1%	1.5	Mixed Use 3	1,602	1,121	160	0	320	0	0	19	80	11	27
D		22.7	804	6	4824	2%		Mixed Use 3	2,412	1,688	241	0	482	0	0	29	121	17	41
D		22.8	829	6	4974	2%		Mixed Use 3	2,487	1,741	249	0	497	0	0	30	124	17	42
D		22.9	833	6	4998	2%		Mixed Use 3	2,499	1,749	250	0	500	0	0	30	125	17	42
D		22.10	804	6	4824	2%		Mixed Use 3	2,412	1,688	241	0	482	0	0	29	121	17	41
D		22.11	497	6	2982	1%		Mixed Use 3	1,491	1,044	149	0	298	0	0	18	75	10	25
D		23.1	1393	6	8358	5%		Mixed Use 3	4,179	2,925	418	0	836	0	0	50	209	29	70
D		23.2	872	6	5232	3%		Mixed Use 3	2,616	1,831	262	0	523	0	0	31	131	18	44
D		23.3	872	6	5232	3%		Mixed Use 3	2,616	1,831	262	0	523	0	0	31	131	18	44
D		23.4	872	6	5232	3%		Mixed Use 3	2,616	1,831	262	0	523	0	0	31	131	18	44
D	26080	23.5	872	6	5232	3%	2.2	Mixed Use 3	2,616	1,831	262	0	523	0	0	31	131	18	44
D		23.6	872	6	5232	3%		Mixed Use 3	2,616	1,831	262	0	523	0	0	31	131	18	44
D		23.7	1899	6	11394	7%		Mixed Use 3	5,697	3,988	570	0	1,139	0	0	68	285	40	96
D		23.8	872	6	5232	3%		Mixed Use 3	2,616	1,831	262	0	523	0	0	31	131	18	44
D		23.9	872	6	5232	3%		Mixed Use 3	2,616	1,831	262	0	523	0	0	31	131	18	44
D		24.1	765	9	6885	10%		Mixed Use 3	3,443	2,410	344	0	689	0	0	41	172	24	58
D	7826	24.2	765	9	6885	10%	2.6	Mixed Use 3	3,443	2,410	344	0	689	0	0	41	172	24	58
D		24.3	765	9	6885	10%		Mixed Use 3	3,443	2,410	344	0	689	0	0	41	172	24	58

Precinct	Block Area (m^2)	Building	Building Footprint (m^2)	Storeys	Total Gross Floor Area (m^2)	Block Coverage	Floor Space Index (FSI)	Land Use	Office	Residential	Institutional	Commercial	Arts/Culture	Recreation	Open Space	Parking	Office (#employees)	Residential (# dwelling units)	Number of Residents
D	13515	25.1	225	16	3600	2%	3.0	Mixed Use 3	1,800	1,260	180	0	360	0	0	21	90	13	30
D		25.2	550	5	2750	4%		Mixed Use 3	1,375	963	138	0	275	0	0	16	69	10	23
D		25.3	225	16	3600	2%		Mixed Use 3	1,800	1,260	180	0	360	0	0	21	90	13	30
D		25.4	1140	9	10260	8%		Mixed Use 3	5,130	3,591	513	0	1,026	0	0	61	257	36	86
D		25.5	1140	9	10260	8%		Mixed Use 3	5,130	3,591	513	0	1,026	0	0	61	257	36	86
D		25.6	225	16	3600	2%		Mixed Use 3	1,800	1,260	180	0	360	0	0	21	90	13	30
D		25.7	550	5	2750	4%		Mixed Use 3	1,375	963	138	0	275	0	0	16	69	10	23
D		25.8	225	16	3600	2%		Mixed Use 3	1,800	1,260	180	0	360	0	0	21	90	13	30
D	17754	26.1	872	7	6104	5%	3.5	Mixed Use 3	3,052	2,136	305	0	610	0	0	36	153	21	51
D		26.2	534	7	3738	3%		Mixed Use 3	1,869	1,308	187	0	374	0	0	22	93	13	31
D		26.3	805	20	16100	5%		Mixed Use 3	8,050	5,635	805	0	1,610	0	0	96	403	56	135
D		26.4	1097	7	7679	6%		Mixed Use 3	3,840	2,688	384	0	768	0	0	46	192	27	65
D		26.5	765	8	6120	4%		Mixed Use 3	3,060	2,142	306	0	612	0	0	36	153	21	51
D		26.6	1703	10	17030	10%		Mixed Use 3	8,515	5,961	852	0	1,703	0	0	101	426	60	143
D		26.7	1225	5	6125	7%		Mixed Use 3	3,063	2,144	306	0	613	0	0	36	153	21	51
D	7200	27.1	1211	14	16954	17%	4.7	Mixed Use 3	8,477	5,934	848	0	1,695	0	0	101	424	59	142
D		27.2	1211	14	16954	17%		Mixed Use 3	8,477	5,934	848	0	1,695	0	0	101	424	59	142
D	12909	28.1	2439	10	24390	19%	3.3	Mixed Use 3	12,195	8,537	1,220	0	2,439	0	0	145	610	85	205
D		28.2	501	18	9018	4%		Mixed Use 3	4,509	3,156	451	0	902	0	0	54	225	32	76
D		28.3	501	18	9018	4%		Mixed Use 3	4,509	3,156	451	0	902	0	0	54	225	32	76
E	9898	29.1	740	25	18500	7%	5.6	Residential	0	18,500	0	0	0	0	0	139	0	185	444
E		29.2	740	25	18500	7%		Residential	0	18,500	0	0	0	0	0	139	0	185	444
E		29.3	740	25	18500	7%		Residential	0	18,500	0	0	0	0	0	139	0	185	444
D	13957	30.1	1689	14	23646	12%	4.0	Mixed Use 3	11,823	8,276	1,182	0	2,365	0	0	141	591	83	199
D		30.2	960	14	13440	7%		Mixed Use 3	6,720	4,704	672	0	1,344	0	0	80	336	47	113
D		30.3	1294	14	18116	9%		Mixed Use 3	9,058	6,341	906	0	1,812	0	0	108	453	63	152
E	6300	31.1	740	5	3700	12%	6.2	Residential	0	3,700	0	0	0	0	0	28	0	37	89
E		31.2	1754	20	35080	28%		Residential	0	35,080	0	0	0	0	0	263	0	351	842

Precinct	Block Area (m^2)	Building	Building Footprint (m^2)	Storeys	Total Gross Floor Area (m^2)	Block Coverage	Floor Space Index (FSI)	Land Use	Office	Residential	Institutional	Commercial	Arts/Culture	Recreation	Open Space	Parking	Office (#employees)	Residential (# dwelling units)	Number of Residents
E	6300	32.1	525	14	7350	8%	2.6	Residential	0	7,350	0	0	0	0	0	55	0	74	176
E		32.2	1164	5	5820	18%		Residential	0	5,820	0	0	0	0	0	44	0	58	140
E		32.3	364	9	3276	6%		Residential	0	3,276	0	0	0	0	0	25	0	33	79
E	9146	33.1	872	10	8720	10%	1.9	Residential	0	8,720	0	0	0	0	0	65	0	87	209
E		33.2	872	10	8720	10%		Residential	0	8,720	0	0	0	0	0	65	0	87	209
E	7235	34.1	372	14	5208	5%	1.8	Residential	0	5,208	0	0	0	0	0	39	0	52	125
E		34.2	957	5	4785	13%		Residential	0	4,785	0	0	0	0	0	36	0	48	115
E		34.3	308	9	2772	4%		Residential	0	2,772	0	0	0	0	0	21	0	28	67
E	6300	35.1	1182	9	10638	19%	3.4	Residential	0	10,638	0	0	0	0	0	80	0	106	255
E		35.2	1182	9	10638	19%		Residential	0	10,638	0	0	0	0	0	80	0	106	255
E	6300	36.1	740	5	3700	12%	6.2	Residential	0	3,700	0	0	0	0	0	28	0	37	89
E		36.2	1754	20	35080	28%		Residential	0	35,080	0	0	0	0	0	263	0	351	842
E	6292	0	0	0	0	0%	0.0	Open Space	0	0	0	0	0	0	6,292	0	0	0	0
D	13062	38.1	1700	12	20400	13%	3.4	Mixed Use 3	10,200	7,140	1,020	0	2,040	0	0	122	510	71	171
D		38.2	740	20	14800	6%		Mixed Use 3	7,400	5,180	740	0	1,480	0	0	88	370	52	124
D		38.3	1754	5	8770	13%		Mixed Use 3	4,385	3,070	439	0	877	0	0	52	219	31	74
E	40651	39.1	5793	6	34758	14%	0.9	Recreational	0	0	0	0	0	34,758	0	0	0	0	0
E	21989	0	0	0	0	0%	0.0	Open Space	0	0	0	0	0	0	21,989	0	0	0	0
E	19103	0	0	0	0	0%	0.0	Open Space	0	0	0	0	0	0	19,103	0	0	0	0
E	7853	0	0	0	0	0%	0.0	Open Space	0	0	0	0	0	0	7,853	0	0	0	0
D	13374	0	0	0	0	0%	0.0	Open Space	0	0	0	0	0	0	13,374	0	0	0	0
B	26505	0	0	0	0	0%	0.0	Open Space	0	0	0	0	0	0	26,505	0	0	0	0
TOTAL					**1710556**				**956,576**	**564,574**	**66,927**	**46,134**	**41,586**	**34,758**	**105,856**	**10,611**	**47,829**	**5,646**	**13,550**
%									52.7%	31.1%	3.7%	2.5%	2.3%	1.9%	5.8%				

Table E2: Density Spreadsheet for Design Concept 2, with the Tupper Building Removed. This table only shows the affected precinct/block/buildings by the change, along with the totals of the site as a whole

Precinct	Block Area (m^2)	Building	Building Footprint (m^2)	Storeys	Total Gross Floor Area (m^2)	Block Coverage	Floor Space Index (FSI)	Land Use	Office	Residential	Institutional	Commercial	Arts/Culture	Recreation	Open Space	Parking	Office (#employees)	Residential (# dwelling units)	Number of Residents
C	37125	9.1	905	6	5430	2%	2.5	Residential	0	5,430	0	0	0	0	0	41	0	54	130
C		9.2	905	6	5430	2%		Residential	0	5,430	0	0	0	0	0	41	0	54	130
C		9.3	905	8	7240	2%		Residential	0	7,240	0	0	0	0	0	54	0	72	174
C		9.4	905	10	9050	2%		Residential	0	9,050	0	0	0	0	0	68	0	91	217
C		9.5	740	30	22200	2%		Residential	0	22,200	0	0	0	0	0	167	0	222	533
C		9.6	905	6	5430	2%		Residential	0	5,430	0	0	0	0	0	41	0	54	130
C		9.7	905	6	5430	2%		Residential	0	5,430	0	0	0	0	0	41	0	54	130
C		9.8	905	6	5430	2%		Residential	0	5,430	0	0	0	0	0	41	0	54	130
C		9.9	905	6	5430	2%		Residential	0	5,430	0	0	0	0	0	41	0	54	130
C		9.1	740	30	22200	2%		Residential	0	22,200	0	0	0	0	0	167	0	222	533
C	5120	16.1	1536	5	7680	30%	1.5	Residential	0	7,680	0	0	0	0	0	58	0	77	184
C	16440	17.1	905	5	4525	18%	3.8	Residential	0	4,525	0	0	0	0	0	34	0	45	109
C		17.2	905	5	4525	18%		Residential	0	4,525	0	0	0	0	0	34	0	45	109
C		17.3	905	5	4525	18%		Residential	0	4,525	0	0	0	0	0	34	0	45	109
C		17.4	905	5	4525	18%		Residential	0	4,525	0	0	0	0	0	34	0	45	109
C		17.5	740	30	22200	14%		Residential	0	22,200	0	0	0	0	0	167	0	222	533
C		17.6	740	30	22200	14%		Residential	0	22,200	0	0	0	0	0	167	0	222	533
Total					**1,737,740**				**956,576**	**591,758**	**66,927**	**46,134**	**41,586**	**34,758**	**105,856**	**10,815**	**47,829**	**5,918**	**14,202**
%									51.9%	32.1%	3.6%	2.5%	2.3%	1.9%	5.7%				0

APPENDIX F:
DESIGN CHARETTE

WHAT WE HEARD

CONNECTIVITY

- Improve pedestrian and cycling (Multi-Use) pathways;
- Establish linear grid networks;
- Bury the OC Transpo O-Train line;
- Create smaller blocks with proper street networks;
- Tame the existing road network; and,
- Explore opportunities for pedestrianized zones with the automobile at the periphery.

IDENTITY, VIEWS & GATEWAYS

- Create National Capital landmarks;
- New buildings north of the existing CBC building should have a view corridor towards Parliament (Downtown Ottawa);
- Establish gateway of office buildings along arterials and LRT line;
- Establish Airport Parkway as a major gateway and "condensed representation of Canada"; and,
- Use tall buildings as a "key hole" gateway into the City.

INTENSIFICATION

- Orient mixed-use development around the transit station;
- Locate transit-oriented development and station adjacent to the CBC Building; and,
- Establish the appropriate areas for taller buildings.

MIXED-USES

- Incorporate commercial uses that satisfy residents' and workers' needs (i.e. Grocery stores);
- Develop Brookfield Road as a transitional mixed-use area;
- Create mixed-use Tupper Building with identity as a potential office space for high-tech start-ups;
- Establish an area for civic spaces; and,
- Encourage the incorporation of knowledge-based industries.

RESIDENTIAL USES

- Orient residential areas at high points on the site as well as close to the Rideau River;
- Explore opportunities for car-free residential zones; and,
- Place residential uses closer to amenities.

HERITAGE

- Preserve landscape context to show representation of buildings in their time (i.e. "tower in the park"); and,
- Establish creative adaptive re-use of heritage buildings (i.e. Tupper Building and the incorporation of knowledge-based industries).

Figure F-1: Site Plan for Confederation Heights based on compiled Design Charette drawings

APPENDIX G: PRESENTATION Q & A

Following the Project Team's Presentation in Ottawa, ON, December 14, 2015, a question and answer was held to illicit insight from the project stakeholders and industry professionals. The following is a list of questions and the Project Team's answers:

Q Did the project team consider the provision of schools on site to accommodate the added residential density?
(Question by a City of Ottawa staff member)

A The proposed Precinct E, Riverdale Village, is the area that would assume the largest amount of residential development. This location was strategically chosen as the ideal area for institutional uses given its proximity to the RA Centre, the residential density proposed for the Precinct, the ample amount of nearby greenspace, and the grid of local pedestrian-friendly streets that help to naturally calm and prevent through traffic.

Q What measures were taken to ensure the site would become more pedestrian-friendly?
(Question by an NCC planner)

A Site observations revealed a significant need for increased connectivity both within and to the site. To achieve a more efficient and well-connected pedestrian network, the project team focused on the following: transformation of existing informal pathways; developing catwalk and pedestrian priority road crossings that allow for seamless uninterrupted travel; sense of place and safety; the development of direct pathways leading to the transit stations; and, the creation of formal pathways that connect the site to adjacent neighbourhoods and greenspaces.

Q What is the surrounding context of the site, and are the boundaries seamless?
(Question by a PSPC staff member)

A The side is bound by greenspace and the Rideau River along the west and north, then by Riverside Park to the south and Alta Vista-Billings Bridge to the east. A major consideration during the visioning process was how to best integrate the south and eastern boundaries of the site with the adjacent neighbourhoods. This process focused on increased connectivity and the addition of complementary land uses (i.e., mixed-use retail and residential), which would provide a seamless buffer between the areas.

Q Did the project team consider capacity requirements and retention pond locations for stormwater management?
(Question by a planner in the private sector)

A Stormwater management was outside the scope of the visioning process; however, the process for addressing stormwater management was explicitly outlined in the final report, so as to provide a clear idea of necessary studies and infrastructural work that would require attention during early phasing and implementation.

Q There are a lot of planned mixed-use office and commercial spaces, but did the project team consider mixed-use residential and commercial spaces on smaller building footprints?
(Question by a City of Ottawa staff member)

A Mixed-use residential and commercial was considered during the conceptual layout of land uses. To provide for flexibility in the vision, these areas were assigned a general zoning of mixed-use. The location of residential and commercial land uses was based on a number of factors, with the main driving force being the lands most suitable for strategic disposal.

Q How were the NCC's significant views and vistas addressed in the conceptual design process?
(Question by an NCC planner)

A Existing views and vistas identified as significant by the NCC were considered throughout the conceptual design portion of the visioning. The project team ensured that landscape views of Downtown Ottawa and the Gatineau Hills were preserved along Bronson Avenue, and that where possible, new views of national identity and natural heritage were created (i.e., Keyhole entrance along Airport Parkway; animated streetscapes along Heron Road, Riverside Drive, and Bronson Avenue; panoramic views of the Rideau River and the National Capital Region from office and residential towers; etc.).

Q With considerably more users on site, has the project team considered ways to deal with added pressure on surrounding greenspaces (i.e., Mooney's Bay, Hog's Back Park, Vincent Massey Park, Sawmill Creek)?
(Question by an NCC planner)

A The project team addressed this matter by ensuring that each precinct on the site contained local greenspaces that would help provide a sense of place and pride for nearby residents and users. Additionally, connectivity between precinct greenspaces was prioritized by providing logically located pedestrian pathways based on efficient and aesthetically pleasing routes.

Q Commercial vitality is often regarded as a measure of success for mixed-use centres. Has the project team considered ways to strategically locate and orient commercial buildings so as to increase their competitiveness with nearby mixed-use nodes such as Bank Street and Lansdowne Park?
(Question by a City of Ottawa staff member)

A The vision addresses this matter by focusing on the principles of mixed-use complete communities and high density transit-oriented developments. The project team expects that new commercial uses in Confederation Heights will not detract from nearby commercial centres, as it will mostly serve to properly accommodate the demands of the site's increased employee and resident populations.

Q What are the economics of the site, and are they feasible?
(Question by a Canada Post staff member)

A A pro forma analysis was not within the project's scope; however, this project's the general approach would be to begin with immediate strategic disposal of surplus lands that could quickly attract residential development with a high return that could generate significant capital to initiate the project.

Q Was Carleton University consulted during the stakeholder analysis? As a large post-secondary institution located close to the site, the housing and potential workspace needs of the school may be of value when considering building repurposing and a target demographic for residential development.
(Question by a PSPC staff member)

A This was outside of the project's scope; however, it is anticipated that any redevelopment plan for Confederation Heights will require a number of partnerships with public and private entities, including Carleton University.

ADDITIONAL COMMENTS

COMMENT: The City of Ottawa rarely makes major changes to its existing road network. It is therefore important to consult the City early in the visioning process so that it has ample time to prepare and perform necessary due diligence (i.e., funding allocation, Council support, etc.).
(Comment by a City staff member)

COMMENTS: The vision is very ambitious, especially since the only change on site since the completion of the original Secondary Plan for Confederation Heights is the addition of the Canada Post buildings and the related parkade. That said, it is important to consider future trends and changes in lifestyle, such as: the implementation of Workplace 3.0 standards; the autonomous automobile; market and land value changes; increased LRT and BRT ridership; changes to the size of the federal government; etc.).

APPENDIX H: ETHICS REVIEW

GENERAL RESEARCH ETHICS BOARD (GREB)
RESEARCH ETHICS APPLICATION SHORT FORM
FOR STUDENT COURSE-BASED RESEARCH ONLY

1.	**Name of Student:** John Caldwell, Nicolas Church, Jessica D'Aoust, Brad Holmes, Joe Lefaive, Noorali Meghani, Graeme Muir, Yi Qin, Michael Schmulevitch, René Tardif, Barrett Wagar **Student Numbers (in order of names listed above):** 10161435, 10160864, 10142644, 06232236, 06235550, 10158183, 10160874, 10154868, 10147158, 10160470, 10124886
2.	**Name of Course:** SURP 824 – Land Use & Real Estate Project **Professor:** Dr. David Gordon
3.	**Title of Study:** A New Vision for Confederation Heights **Purpose of Study:** The purpose of this workshop course is to prepare a new vision to transform Confederation Heights, a neighbourhood in Ottawa, from a car-dominated office campus to a mixed-use, sustainable, transit-oriented development. Confederation Heights is a major federal employment node and is located beside the Rideau River, just south of Ottawa's core. The site's owner, Public Services and Procurement Canada (PSPC), desires to redevelop the area to create a leading-edge mixed-use environment not unlike the one proposed in the award-winning Tunney's Pasture Master Plan that was recently produced. Ultimately, the team will create a development plan which meets the needs of the PSPC and can serve as a framework for revisiting plans for the area that have been produced by the National Capital Commission (NCC) and the City of Ottawa. In consultation with the site's main stakeholders, the team will produce this vision through the analysis of existing conditions, including a SWOC analysis; the examination and synthesis of best practice precedents for mixed-use transit-oriented developments; a conceptual plan for Confederation Heights; financial analysis of the redevelopment; and broad implementation strategies. (Information taken from the course syllabus)

4. **Method of Collecting Data: (if applicable, attach sample of questionnaire or other data collection instruments). Check all that apply.**

- ■ Interviews
- □ Focus Group Interviews
- □ Questionnaires (In Person)
- □ Questionnaires (Web-based)
- □ Questionnaires (E-mail attachment)
- □ Experiments (mainly in lab)
- □ Other_____

- □ Observation
- □ Naturalistic Observation
- ■ Audio Recordings
- □ Video Recording
- □ Photographs
- □ Archival

5. **Explain your methodology in greater detail.**
Our project team will collect data through interviews (likely conducted via telephone) with representatives of the site's major stakeholders. Their answers to our questions will help us gain a better understanding of the context and features of our study area. The audio of these interviews will be recorded so that we may not miss or forget any information that is passed along to us.

6. **How many research participants?** Approximately 10.

7. **Does your research involve persons or groups made vulnerable by situation or circumstances?** Yes or **NO. Check boxes that are applicable:**

- □ mental or physical disabilities
- □ people lacking the capacity to give consent
- □ other
- □ children
- □ the elderly
- □ First Nations, Inuit, Metis

If Yes, please explain:

8. Is institutional approval required? (e.g., schools, hospitals, prisons) Yes No
If Yes, please explain:

9. **Are there any risks to your participants? Yes □ No ■**
Please identify them.

- □ Questions about sensitive or personal issues
- □ Economic risk
- □ Psychological or emotional risk
- □ Social risk
- □ Economic risks
- □ Physical discomfort/risks
- □ No known risks

If any risks, explain them and how you plan to minimize them.

10.	**How will you protect participants' confidentiality or privacy (e.g., Are data made anonymous, unidentified)? Who will have access to data containing personally identifiable information?** Participants will only be identified through their title with their organization (for instance, "Planner, NCC"). If they prefer, they may also be identified simply as an employee of the organization. Only the project team and the research supervisor will have access to these files.
11.	**Will the data be collected and stored in a secure manner?** Yes ■ No □ (e.g., password protected file; locked office or storage, encryption, etc.)? **If No, please explain:**
12.	**Do the LOI and consent form reflect this?** **Yes ■ No □** **If no, please explain:**
13.	**What, if any, are the limitations on participants' ability to withdraw from the study? Do the LOI and consent form reflect this?** There are no limitations on the participants' ability to withdraw from the study; they are free to stop the interview at any time and may also request to have their data removed from the research after the interview is completed.
14.	**Does your research involve deception of the participants?** **Yes ■ No □** **If Yes, please explain method of debriefing:**
15.	**Will participants receive compensation or a gift?** **Yes ■ No □** **If Yes, please explain:**

STUDENTS: Attach your 1) Letter of Information and Consent Form; 2) Questionnaires or data collection materials; and 3) all other materials (recruitment, debriefing).

Instructor's Decision: Approved _____ **Date**_____

Resubmit _____ **Date**_____

Instructor's Signature_____ **Date**_____

This application short form can be used by an instructor once the course-based assignment has been cleared by the Unit REB or GREB. (All documents must be sent to GREB for yearly audit)

LETTER OF INFORMATION FOR INTERVIEW PARTICIPANTS
"A NEW VISION FOR CONFEDERATION HEIGHTS"

This research is being conducted by John Caldwell, Nicolas Church, Jessica D'Aoust, Brad Holmes, Joe Lefaive, Ali Meghani, Graeme Muir, Yi Qin, Michael Schmulevitch, René Tardif, and Barrett Wagar (hereafter referred to as the project team) under the supervision of Dr. David Gordon, in the Department of Geography and Planning at Queen's University in Kingston, Ontario.

What is this study about? The purpose of this research is to gain a better understanding of the features and context of the Confederation Heights neighbourhood in Ottawa. The project team will produce a redevelopment vision for the site in consultation with major stakeholders. The plan will seek to transform the major federal employment node into a leading-edge, mixed-use, transit-oriented development. There are no known physical, psychological, economic, or social risks associated with this study.

Is my participation voluntary? Yes. You are free to decide whether or not you will participate in this study, as well as the degree to which you will do so. Although it be would be greatly appreciated if you would answer all material as frankly as possible, you should not feel obliged to answer any material that you find objectionable or that makes you feel uncomfortable. You may also stop your participation in the interview at any time, for any reason, without consequence. You may choose to refrain from answering a particular question, or may also request to be completely withdrawn from the study.

How will I be participating in this study? If you consent to participate in our research, a member of the project team will be conducting one interview with you. During this interview, you will be asked questions concerning your experience and understanding of Confederation Heights. The interview will last roughly 30 to 45 minutes and, with your permission, will be recorded electronically.

What will happen to my responses? We will keep your responses confidential. Only experimenters will have access to this information. Interview recordings will be kept on a personal computer with password protection, and any notes taken of the interview will also be kept in a locked office. Furthermore, any hard copies such as notes will be destroyed upon completion of the research.

Will I be compensated for my participation? No monetary or other compensation is being offered in exchange for your participation in this study.

What are the risks and benefits associated with my participation in this study? We do not expect there to be any major risks associated with this study. You may refrain from answering a question at any point in time. Your presence in the final report will be made anonymous; we will use your professional title or simply identify you as an employee of the organization you are working for when referring to you. At any point during the study, you have the right to request that your involvement in this research will be terminated, at which point the project team will refrain from using information that you may have previously provided.

Your participation in this study will result in one indirect benefit. Your professional opinion will help the project team's research and improve its vision for Confederation Heights. This plan will possibly help guide future policy regarding Confederation Heights and therefore assist in the redevelopment of the site into a more livable neighbourhood.

Will I be able to access the study's findings? When the research is complete, the final report will be available through the Queen's University Geography and Planning website, at http://www.queensu.ca/geographyandplanning/graduate-planning/project-courses.

What if I have concerns or questions? Any questions about study participation may be directed to Jessica D'Aoust, the project team manager; Dr. David Gordon, the research supervisor; or Dr. Patricia Collins, Geography and Planning Unit Research Ethics Board, Queen's University at (613)-533-6000 ext. 77060. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081.

Thank you. Your interest in participating in this research study is greatly appreciated.

This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen's policies.

Jessica D'Aoust
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VERBAL CONSENT FORM FOR INTERVIEW PARTICIPANTS
"A NEW VISION FOR CONFEDERATION HEIGHTS"

Spoken Script:

You have been asked to participate in a research study conducted by the project team (John Caldwell, Nicolas Church, Jessica D'Aoust, Brad Holmes, Joe Lefaive, Ali Meghani, Graeme Muir, Yi Qin, Michael Schmulevitch, René Tardif, and Barrett Wagar) from the Department of Geography and Planning at Queen's University and supervised by Dr. David Gordon.

1. I have read the Letter of Information and have had any questions answered to my satisfaction.
2. I understand that I will be participating in the study called A New Vision for Confederation Heights. I understand that this means that I will be asked to engage in an interview that will take approximately thirty to forty-five minutes.
3. I understand that my participation in this study is voluntary and I may withdraw at any time. I understand that every effort will be made to maintain the confidentiality of the data now and in the future. Only the project team and the research supervisor will have access to this area. The data may also be published in professional journals or presented at scientific conferences, but any such presentations will be of general findings and will never breach individual confidentiality. Should you be interested, you are entitled to an electronic copy of the findings.
4. I am aware that if I have any questions, concerns, or complaints, I may contact the project team manager Jessica D'Aoust; daoust.j@queensu.ca; project supervisor and Director of the School of Urban and Regional Planning, Dr. David Gordon (613-533-6000 ext. 77063); gordond@queensu.ca; Patricia Collins, Geography and Planning Unit Research Ethics Board, Queen's University (613-533-6000 ext. 77060); patricia.collins@queensu.ca; or the Chair of the General Research Ethics Board (533-6081) at Queen's University.

By verbally consenting, I give permission to be recorded by the researcher with a digital recording device.

By verbally consenting, I request that the final copy of the results be emailed to me at the following address _____.

By verbally consenting, I request to be made anonymous and referred only by my professional title. I understand that this may not keep my identity confidential.

By verbally consenting, I agree to be contacted for follow-up questions. I understand that I may decline these requests.

By verbally consenting, I give my consent that the information collected in this study may be used in the future research of the student researcher.

I verbally consent to the above statements and freely consent to participate in this research.

Interview script

First of all, thank you for agreeing to participate in this interview. I really appreciate you taking the time out of your schedule to speak with me.
Our project is a partnership between Queen's University and the City of Ottawa. We are creating a vision for the redevelopment of Confederation Heights. The final product of this is a presentation and a report that will be given to the NCC, PSPC, and stakeholders. You will be invited to this event and we hope that you will be able to attend.

1. Do you have any issues or concerns that are related to Confederation Heights overall?
2. Do you have any ideas or suggestions related to Confederation Heights that you would like to share at this time?
3. What could be some local or specific community, business or institutional initiatives that would need to be considered in more detail through the course of this study?
4. What are your thoughts on transit oriented development?
5. What, if any, comments do you have to make regarding heritage in the study area?
6. What other area stakeholders that I could/should contact for an interview?
7. Are you familiar with the recently produced Tunney's Pasture Master Plan? If so, what features (if any) of the Plan would you recommend we take into consideration when producing a new vision for Confederation Heights?
8. How do you envision the connectivity between the major transportation corridors on this site? (e.g., CN Rail, O-Train rail, Airport Parkway, Heron, Riverside)
9. What specific types of investment would you like to attract? (institutional, public, private, residential, etc.)
10. Do you have any knowledge of current development activity in the area?
11. What are some of the key opportunities or constraints in the area?
12. What are the key types of issues you have encountered in the area in terms of policy? (e.g., what is the extent of variances granted)
13. Do you foresee any policy changes in the future?
14. Do you have any other closing comments, ideas or suggestions that you would like to share?