

Preserving Vancouver's Heritage Sites

GEOB270 Final Project

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Abstract

This series of maps has been created to establish which heritage sites are at risk to urban development within Metro Vancouver's commercial districts and comprehensive development zones. This was carried out by combining layers of data that include zoning of commercial districts and comprehensive developments, the location of heritage sites, and population density in both 2011 and 2016. This can be used as a guide to government planning and preservation during future urban developments. The layers we have chosen to analyse also take into consideration changes in population densities between the years 2011 and 2016 in order to further identify which parts of Vancouver are experiencing the most growth. This analysis has also evaluated where errors and uncertainties may have arisen during the process of creating these maps. Furthermore, this report has discusses the need to take into consideration local contexts when carrying out further research and has made recommendation to consider the broader scopes of heritage sites.

Description of Research

Through their histories, heritage sites provide insights to our past and offer a glimpse of what our cities were once like (Ashworth, 2013). As a result, as cities such as Vancouver continue to grow, we need to be mindful of their preservation. Our project is thus focused on assessing which heritage sites within Metro Vancouver are located in areas that are likely to undergo development and hence which sites are at risk to being lost. The overlay of layers used in this analysis begin by displaying the various locations of primary, secondary and contextual heritage sites, and are then built upon to identify which heritage sites intersect with zones of

comprehensive developments and commercial districts, as well as areas that are experiencing changes in their population densities. Hence, we were able to produce maps that highlight these heritage sites that are at risk to development and recommend that their preservation be taken into consideration.

In this project, we have taken data from sources such as the City of Vancouver as well as the Vancouver Heritage Foundation in order to go beyond simply locating heritage sites of various importance. We have also taken into consideration the most recent 2016 data on comprehensive and commercial developments. Since this data was collected two years ago, this report also accounts for a slight growth in these zones by including a 100m buffer on all sides.

Overall, this report's analysis was limited to just the primary, secondary and contextually significant heritage sites within the Metro Vancouver area. We chose to focus on sites that fall within zones of comprehensive and commercial developments in order to make this a realistic project, and would make recommendations for further research to take into account other zones that are experiencing change as well as heritage sites that fall outside of the categories that we have chosen to focus on. Our data was collected from reliable data sources in order to improve the credibility of our project, which we will discuss further in the "Errors and Uncertainties" section of this report.

Methodology of the Analysis

Since our project is a secondary analysis, we began our maps by downloading data from various sources. Our 'Vancouver Shapefile' was taken from the G-Drive on the UBC server, whilst the remainder of our data was collected from open sources on the Internet (see Table A1

for an exact list). Before importing our data to ArcGIS, we used ArcCatalog to project our data onto the same projected coordinate system, and chose to use NAD_1983_UTM_Zone_10N for all shapefiles (Transverse Mercator projection).

To create our first map (Figure B1), we decided to focus our project on the Metro Vancouver area, and hence used the *clip* tool to trim both our Vancouver shapefile as well as Heritage Site data. In order to identify between the different Heritage Site VHR rankings, we used to attribute table to *select by attributes* our chosen 'A', 'B' and 'C' VHR rankings and *exported* these three categories as different layers, enabling us to assign different shades of blue whilst omitting mixed category sites (e.g. AB, BC). We then *renamed* the layers into appropriate names, and finalized by adding map elements (e.g. title, coordinate system, subtitle, legend, scale and North Arrow), which was also repeated for the following maps.

For our next map (Figure B2) we decided that it would be important to identify which areas are undergoing population growth as well as pressures from commercial districts and comprehensive developments. We *joined* population census data from 2011 and 2016 with the DA file, making it easier for analysis. We then *trimmed* our both population census data years to focus on Metro Vancouver, and imported a layer of zoning in Vancouver. Since we chose to compare data from two years, we needed to standardize our population legend. Thus, we converted our continuous data classification from *natural breaks* to *manual breaks*. We chose to base our categories from the 2011 census as the breaks occurred at distinctive points in the data. In order to ensure population change in 2016 was also included, we added a sixth class ranging from 4175 - 8778 (see Figure D1). By using the same classification method for both maps, we were able to depict how population increased throughout the census periods without influencing

audience perspective. Next, we *selected* commercial districts and comprehensive developments in the attribute table - due to its large potential for urban expansion - and once again *exported* these as separate layers. To do so, we input 'CATEGORY = ___' and then *created a new layer from selection* - this also removed attributes that were not needed. The resulting layers were then added into the Population 2011 and Population 2016 maps, and lowered in transparency for better visualization. These layers were included to indicate how population change and comprehensive/commercial layers affected heritage sites.

Finally, for our third map (Figure B3), we decided to combine aspects of both Figure B1 and Figure B2 to produce a comprehensive map of heritage sites that are at risk to zoning expansion. First, we included the original heritage sites layer into our dataset, and selected each individual class to *make selection into another layer* and resulted in 3 separate layers. We compensated for potential expansion of commercial districts and comprehensive development (as the data was published in 2016) by *generating a buffer* of 100m around each of these layers. To create this buffer, we selected *buffer* and chose the input features as comprehensive development/commercial districts layer, with the linear unit being 100m and dissolve type as 'ALL'. As a final step, we made use of the *intersect* tool by *selecting features from* the VHR in order to single out and select the heritage sites that were within the buffer and zoning districts. This was to refine the data so that viewers would be able to visualize the data easily. To execute this, we *selected by location* for each individual VHR class (we did 3 separate intersects for each class, as this would enable us to decide which classes to showcase). Then, those selections were created as a new layer via *make new layer with selection*. As a result, we had 3 separate layers per zoning district (3 for commercial development and another 3 for comprehensive

development), with a total of 6 intersected layers. For our final maps, we toggled on and off the different layers to produce two easily readable maps (see Figure D2).

For all of our maps, we chose colors that resemble certain themes (as per data representation and refining methods), i.e. population was selected as a gradient scale. We also avoided colors like green for zoning, in order to avoid connotations to forests. For more detail, refer to flowcharts in Appendix C.

Discussion and Results

According to the City of Vancouver shapefile that we downloaded, there are roughly 2,287 registered heritage buildings within the city (City of Vancouver, 2018). These sites are all at least twenty years old and are recognized for providing social context to their various communities. The Vancouver Heritage Register, which was first started in 1986, is tasked with the role of protecting buildings that provide historical value to Vancouverites, such as the Waldorf Hotel. The City has continued to update this database after the establishment of the Heritage Action Plan in 2014. Since then, it has been a lot more difficult for real estate developments to tear down heritage buildings. From a public survey in 2012 done by the Vancouver Heritage Foundation, 96% of the public believe heritage buildings contribute to their sense of place (Vancouver Heritage Foundation, 2012). However, these buildings often fall in the older area of Downtown Eastside (DTES), which is currently undergoing major urban renewal. Moreover, 76% of people also believe that heritage buildings are important for the city to grow sustainably. For a city that has a strong focus on sustainability initiatives, Vancouver is making every stride in recent years to redress communities that were mistreated in the past, yet as we

have just mentioned, these buildings often fall in the rapidly gentrifying areas of the DTES. Though the recent Northeast False Creek plan proposed in January 2018 had demonstrated strong involvement with Indigenous communities and inhabitants of this DTES community, we are interested in understanding the current overall planning strategies within the city of Vancouver to protect their heritage buildings. Therefore, we will be exploring the risk of potentially losing heritage buildings by analyzing the relationship between location, population density growth, and zoning districts.

For Vancouverites, there are significant landmarks such as the Waldorf hotel that provide historical value. In our first map (Figure B1), we have mapped the three classifications of heritage buildings made by the City of Vancouver. The first category ‘A’, which represents “Primary Significance”, is defined as a building that represents the best of a certain style (Vancouver Heritage Foundation, 2018), and could be associated with either a person or an event. The Livestock building in Hastings Park for example, is a place that marked the mistreatment towards Japanese Canadians during World War 2 (Nikkei National Museum & Cultural Centre, 2017). It had been used as an internment camp for Japanese women and children, and the conditions were horrendous as they were used to house livestock before Japanese people were forced to move in. In fact, it has been said that there were even feces and maggots left in their living quarters (Nikkei Japanese Center). Another building in this category is what used to be the Irving Hotel, which has since been converted to for the Portland Hotel Society (PHS) community services society. This initiative provides shelter for homeless and marginalized citizens of Vancouver’s DTES, and offers a wide range of services in order to help them get back on their feet.

The second category used for our Heritage Sites, 'B', defines "Secondary Significance". This category is similar to the category A, yet is a step down in importance and thus represents 'good' examples of a certain building style rather than 'the best' as are labelled 'A'. This includes commercial buildings such as the Guinness Tower which can be found downtown. This was built in 1967-69 and was one of the early modernist towers in Coal Harbour for its time (City of Vancouver, 2011). The third category 'C' relates to "Contextual Significance" and is defined as one that represents the buildings that contribute to the historical character of an area, usually found a group of buildings (City of Vancouver, 2018). An example of this would be the strip of hotels along Granville street, including Glenaird Hotel, Regal Hotel, Vogue Hotel, and Clifton Hotel.

According to the Vancouver Heritage Register, there shouldn't be a difference in treatment towards the different categories of heritage buildings (Heritage Action Plan, 2013). However, buildings listed in category A must go through with an independent consultant's report funded by the applicant. They are legally protected as a conservation area, though the City "can regulate its demolition, relocation and alteration" (Heritage Action Plan, 2013). Currently, the city has many institutional structures in place before a heritage building is set for demolition. They are to submit permits, development pro forma, and pay demolition fees for buildings built before 1940s.

To understand the conflict between heritage buildings and development, we began by looking at the population increase that occurred in Metro Vancouver between the years 2011 and 2016. We chose to compare these two years because they contain the most recent census data. We will be referring to local areas according to Figure A4. From Figure B2, we can see that the

Mount Pleasant local area had the highest population increase. For Strathcona, the increase is comparably moderate. When constructing our analysis, we chose to use manual breaks instead of natural breaks because we needed to way to standardize data from these two census years. We then chose to add a layer that incorporated zoning data in order to further understand areas that have had additional pressures for commercial developments on top of their current population growth. The two census years show similar results in that West Broadway, Kingsway, and Hastings Street are commercial districts. Comprehensive development has remained consistent covering most of the downtown and Shaughnessy neighborhood. In the table below, you can see the list of development plans that make up comprehensive development in Vancouver. As we can see from the map, the three districts that have the greatest areas of comprehensive development fall under the False Creek Official Development Plan, First Shaughnessy Official Development Plan, and Downtown District Official Development Plan. The term commercial development is defined as follows:

A development containing any number of buildings or uses or a combination of sites planned or developed in an integrated fashion and requiring special regulations with the approval of City Council.”

(City of Vancouver, 2017)

Out of the 2287 heritage sites in the City of Vancouver, there are 1048 of them that fall in either a comprehensive development or commercial district. There are more that fall in comprehensive development than commercial districts. The three main commercial districts are along West Broadway, Kingsway and downtown. Based on the 74 heritage sites that falls into the commercial district, 20 of them fall into the local area of Mount Pleasant. This is an area that

has the highest population density increase as well. After that, Fairview and Grandview-Woodland local area both have 11 heritage sites in their commercial districts. For Mount Pleasant and Fairview area, it has become increasingly commercialized. Just a drive down from Granville Street to Commercial Drive, both sides are filled with mid-rise and high rise office buildings. They contain a booming healthcare district because of the Vancouver General Hospital. This is a clear correlation between concentration of commercial activity and heritage buildings, which puts heritage buildings at risk.

However, if we take comprehensive developments into consideration, there are 974 heritage buildings that are affected. Most of them are in the Downtown and Strathcona local area, with 304 and 196 heritage buildings respectively. Moreover, Shaughnessy local area also has 90 heritage buildings. From the definition of Comprehensive Development above, the City of Vancouver is working to ensure the preservation of heritage buildings as they are important for providing cultural context to the history of the City. In the Downtown District Official Development Plan, they follow the guidelines set out by Vancouver Heritage Register strictly by setting aside funds for heritage amenity of \$925 per m² (City of Vancouver, 2017). In the Southeast False Creek Official Development plan, which contains part of Strathcona, they are taking the approach to retain heritage buildings such as the “Sawtooth” and Wilkinson Building to add “interesting variations to the plan”(City of Vancouver, 2017). Moreover, they will be reusing heritage buildings to prolong the sustainability of their historical context. Lastly, the First Shaughnessy area is recognized as a heritage conservation area. There is “a rich history that reflects the arrival of the Canadian Pacific Railway”(City of Vancouver, 2017). There had been some of Vancouver’s most power families that resided here even before the First World War. Some of the houses represent architectural styles such as British arts, Queen Anne Revival, and Colonial Revivals. The development strategy for this area is also to retain these heritage buildings to “promote excellence in architectural design”(City of Vancouver, 2017).

Despite the increasing population pressures and commercial activity in Mount Pleasant, Strathcona, Fairview, and Downtown district, the City of Vancouver is working strongly with the Vancouver Heritage Register and following the Heritage Action Plan to preserve the buildings. This data is beneficial for the City of Vancouver to understand the overall budget is needed to preserving and repurposing these heritage buildings.

Errors and Uncertainties

GIS is a model of reality, and hence error and uncertainty are not a question of ‘if’, but rather as a question of ‘how much’ (Sinton, 2015). As a result, when examining the overall quality and suitability of this project, it is important to take into account any uncertainties or possible errors that may have been introduced along the way.

Uncertainty can be defined as the “parameter, associated with the result of a measurement, that characterizes the dispersion of the values that could reasonably be attributed to the measurand” (National Institute of Standards and Technology, 2017) and hence we can view it as any factors which may affect our ability to trust and represent our reality. In addition, accuracy takes into account how the data is collected and the level to which it is error-free (Business Dictionary, n.d.). As a result, we can use errors and uncertainties to suggest how accurate our data is. When analyzing our data, we asked ourselves questions such as “is the data set complete?”, “what is the lineage?” and “is the data relevant to the project?” in an attempt to minimize our errors and uncertainties and only include data that is directly relevant to our aim. We also made sure to collect our data from reliable sources such as Statistics Canada in order to reduce the chances of error due to things like data entry.

Nevertheless, we have identified several sources of error and uncertainty. Firstly, since we compared population data between 2011 and 2016 for our maps found in Appendix B2, we chose to change our population classification method from natural breaks to manual breaks. This was due to the fact that the highest population density recorded in 2016 was twice the highest population density recorded in 2011, yet they were appearing on our map as the same dark red color. We thus decided to use the five natural breaks from the 2011 as our basis, and then add a sixth category to account for the higher numbers found in 2016. However, when we look at our maps, we can see that the Stanley Park area appears to be highly populated with 721-1080 people, yet as residents of Vancouver, we know that this area is made up of protected forests. This inaccurate representation of population would thus lead someone who is unfamiliar with Vancouver to assume that the area is densely populated, and this misrepresentation of reality is due to the high rise apartments found in Coal Harbour, which lay on the border between Coal Harbour and Stanley Park (Macdonald, 2005). Nevertheless, we have decided to ignore this problem due to the fact that there our final maps in section B3 of the appendix does not include any heritage sites at risk, since no commercial or comprehensive developments are taking place since the area is a protected forest.

Another source of uncertainty stems from a lack of available data. When downloading the layer for heritage sites in Vancouver, UBC's campus was not included. Interestingly, UBC has several preserved heritage sites, such as the Museum of Anthropology, which has long supported the legacies of Indigenous communities (Kwan, 2017). With UBC rapidly expanding its campus, this lack of data has limited our recommendations for heritage site preservation on campus and has thus added an element of uncertainty. In addition to this, we were also missing data for

commercial districts and comprehensive developments in 2011, and were only able to find data for 2016. As a result, whilst we were able to map the changes in population between these two years, we were unable to map changes within these zones and hence could not assess how rapidly (or slowly) these zones are changing.

Sinton (2015) makes the argument that if we fail to acknowledge the uncertainty and chose to ignore it, then we essentially promote the misuse of maps and undermine the credibility that they deserve. With such a large topic to explore, we have chosen to simply analyse a small part of it during this project. As a result, our errors and uncertainties are unintentional yet also unavoidable, and we have done our best to identify their occurrence.

Further Research and Recommendations

In light of our results, we have decided to make several recommendations for further research into the project. Firstly, we have chosen to narrow our focus to include just those heritage sites that fall within primary, secondary and contextually significant categories, yet the file that we downloaded included a far greater amount of data such as those that were a mix of both primary and secondary significance. Hence, we believe that it would be beneficial to expand any future analysis to include these heritage sites that are of mixed importance since there may be local and social contexts that surround them that are not accounted for on paper.

Moreover, we would also make recommendations to acquire data for missing areas such as that of UBC, since these areas of Vancouver are also home to important heritage sites that should be preserved during future developments. UBC currently has seventeen projects under construction (The University of British Columbia, n.d.) which include things like the

construction of additional sports complexes as well as the expansion of student residences in order to accommodate for its growing student body. As a result, we believe that any heritage sites that fall within the university parameters should be taken into consideration, and efforts should be made to secure their safety. If we were able to acquire this data, we would be able to visually identify which areas of campus are ‘hot spots’ for development, and be able to assess whether these developments are putting any heritage sites at risk.

Additionally, we would suggest that future research investigates which heritage sites have already been lost to urban development. As seen in Figure B3(i) and B3(ii), there is a large difference between the number of heritage sites that fall into commercial districts versus comprehensive development areas, with 75 and 974 respectively. As a result, it would be interesting to further investigate what has caused this difference and to analyse any information on their demolition.

References

- Ashworth, G. J. (2013). From history to heritage—from heritage to identity. *Building a new heritage: Tourism, culture and identity in the new Europe*, 13-30.
- Business Dictionary. (n.d.). What is accuracy? definition and meaning. Retrieved April 10, 2018, from <http://www.businessdictionary.com/definition/accuracy.html>
- City of Vancouver. (2012, January 20). C Commercial Districts. Retrieved April 10, 2018, from <http://vancouver.ca/home-property-development/c-commercial-district.aspx>
- City of Vancouver. (2013, February 13). Vancouver City Planning Commission. Retrieved April 10, 2018, from <http://vancouver.ca/your-government/vancouver-city-planning-commission.aspx>
- City of Vancouver. (2013). False Creek North Official Development Plan. 9 April 2018. Retrieved from <http://vancouver.ca/files/cov/false-creek-north-official-development-plan.pdf>
- City of Vancouver. (2017). Downtown Official Development Plan. 9 April 2018. Retrieved from <http://bylaws.vancouver.ca/odp/dd.pdf>
- Hastings Park 1942. (n.d.). Retrieved April 10, 2018, from <http://hastingspark1942.ca/>
- Jackson, B. (2013). *Heritage Assessment of the Waldorf Hotel - 1489 East Hastings Street* (pp. 1-10, Rep. No. 9939). Vancouver, British Columbia: City of Vancouver.
- Jackson, B., & Munro, K. (2013). *Heritage Action Plan to Update Vancouver's Heritage Conservation Program* (pp. 1-17, Rep. No. 10148). Vancouver, BC: City of Vancouver.

- Kwan, T. (2017, June 27). The federal government gives \$3 million to the Museum of Anthropology at UBC. Retrieved April 10, 2018, from <https://www.straight.com/arts/929621/government-canada-gives-3-million-museum-anthropology-ubc>
- Macdonald, E. (2005). Street-facing dwelling units and livability: The impacts of emerging building types in Vancouver's new high-density residential neighbourhoods. *Journal of Urban Design*, 10(1), 13-38.
- Munro, K., & D'Agostini, M. (2011). *1021 and 1055 West Hastings Street – 'The University Club' - Heritage Designation* (pp. 1-25, Rep. No. 9217). Vancouver, BC: City of Vancouver.
- National Institute of Standards and Technology. (2017, July 07). What is Measurement and Uncertainty? Retrieved April 10, 2018, from <https://serc.carleton.edu/sp/library/uncertainty/what.html>
- Nikkei Place. (n.d.). Retrieved April 10, 2018, from <http://www.nikkeiplace.org/>
- PHS. (2018). THE HISTORY OF PHS. Retrieved April 10, 2018, from <https://www.phs.ca/index.php/history-of-phs/>
- Sinton, D. S. (2015, September 09). Communicating with Maps Part 3: Considering uncertainty and error. Retrieved April 10, 2018, from <https://www.directionsmag.com/article/1205>
- The University of British Columbia. (n.d.). Projects Under Construction. Retrieved April 10, 2018, from <https://planning.ubc.ca/vancouver/projects-consultations/projects-under-construction>

Vancouver, C. O. (2012, September 12). Zoning district descriptions. Retrieved April 10, 2018,
from

<http://vancouver.ca/home-property-development/descriptions-of-zoning-districts.aspx>

Vancouver City Planning Commission. (2018). *2017 Report of Activities* (pp. 1-7, Rep.).

Vancouver, BC: City of Vancouver.

Vancouver City Council. (n.d.). Retrieved April 10, 2018, from

<http://council.vancouver.ca/20050301/ph3.htm>

Appendix A

Figure A1: Table of Datasets

Layer / datafile name	Source	Uses	Entity/data model	Attributes	Modifications
lct_000b16a_e.shp (Greater Vancouver.shp)	G:Drive (UBC), Metro Vancouver	Indicate Metro Vancouver areas and our study site	Vector Polygon	OBJECTID, Shape, DAUID, PRNAME, CDNAME, CSDTYPE, ERNAME, CMAUID, CMAPUID, CMANAME, CMATYPE, CTUID, ADAUID, OBJECTID, POP2016, POP2011, Shape_Length, Shape_Area	Clipped out project area according to Population Density (2011-2016) layers
Heritage Property Data.shp (Heritage Sites.shp)	City of Vancouver, 2015, Heritage Sites under A, B and C VHR classes	Determine the different heritage sites (according to VHR classes/ranking) that are most at risk, used to intersect with zonings (e.g. comprehensive development + commercial districts) and their buffers	Vector Points	ADDRESS, BUILDINGNAME, VHR, DESIGNATION, ZONING, LOCALAREA, STREET, STREET_NBR, LAND_COORD, HRA_HCC, LATITUDE, LONGITUDE	Selected by attribute A, B, C VHR classes, created a new layer from selection (a separate layer for each class), select features that intersect with layers (i.e. comprehensive development/commercial districts), create new layer from intersect selection

<p>Population and dwelling counts 2011 (Pop2011.shp)</p>	<p>Statistics Canada (Canadian Census Analyser - CHASS), 2011, Population Density (Dissemination Areas) census data</p>	<p>Used to generate comparisons in population change from 2011 to 2016, also indicates the potential risks of population change to heritage sites</p>	<p>Vector Polygon</p>	<p>OBJECTID, Shape, DAUID, PRNAME, CDNAME, CSDTYPE, ERNAME, CMAUID, CMAPUID, CMANAME, CMATYPE, CTUID, ADAUID, OBJECTID, POP2011, Shape_Length, Shape_Area</p>	<p>Classified symbology by manual breaks</p>
<p>Population and dwelling counts 2016 (Pop2016.shp)</p>	<p>Statistics Canada (Canadian Census Analyser - CHASS), 2016, Population Density (Dissemination Areas) census data</p>	<p>Used to generate comparisons in population change from 2011 to 2016, also indicates the potential risks of population change to heritage sites</p>	<p>Vector Polygon</p>	<p>OBJECTID, Shape, DAUID, PRNAME, CDNAME, CSDTYPE, ERNAME, CMAUID, CMAPUID, CMANAME, CMATYPE, CTUID, ADAUID, OBJECTID, POP2016, Shape_Length, Shape_Area</p>	<p>Classified symbology by manual breaks</p>
<p>Zoning.shp (Comprehensive Development.shp)</p>	<p>City of Vancouver, 2015, Comprehensive Development</p>	<p>Indicate the current existing comprehensive developments and its potential expansion (with a 100m buffer layer)</p>	<p>Vector Polygon</p>	<p>FID, Shape, Zone_Name, Category, Shape_Length, Shape_Area</p>	<p>Selected by attribute zoning areas (comprehensive development), create a new layer from selection</p>

Zoning.shp (Commercial Districts.shp)	City of Vancouver, 2015, Commercial Districts	Indicate the current existing commercial districts and its potential expansion (with a 100m buffer layer)	Vector Polygon	FID, Shape, Zone_Name, Category, Shape_Length, Shape_Area	Selected by attribute zoning areas (commercial districts), create a new layer from selection
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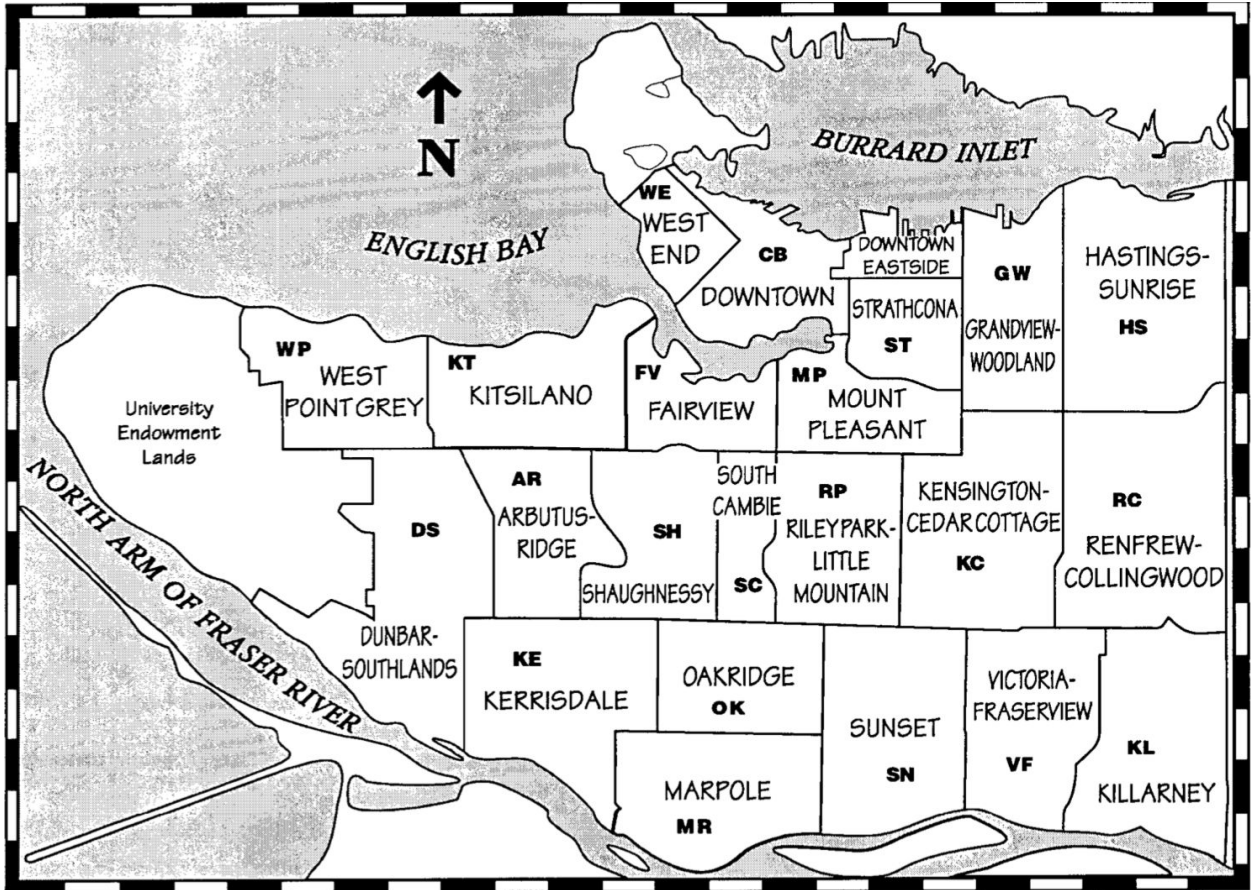
Figure A2: Table of Layers and their sources

Filename	Description	Data Source	G: Drive Folder Pathway	Search Terms
Greater Vancouver.shp	Greater Vancouver	G:Drive	G:\courses\g270\Lab_4_2015	N/A
Heritage Sites.shp	Existing Heritage Sites/Properties (under VHR ranking)	City of Vancouver	N/A	Preserved Heritage Sites, Heritage Property, Vancouver, VHR
Population_2011.shp	Population Density in 2011 (Dissemination Areas)	Statistics Canada (Canadian Census Analyser - CHASS)	N/A	Population and dwelling counts, CMA, DA, 2011
Population_2016.shp	Population Density in 2016 (Dissemination Areas)	Statistics Canada (Canadian Census Analyser - CHASS)	N/A	Population and dwelling counts, CMA, DA, 2016
Zoning (Commercial Districts).shp	Vancouver areas zoned for Commercial Districts	City of Vancouver	N/A	Zoning, Commercial Districts
Zoning (Comprehensive Development).shp	Vancouver areas zoned for Comprehensive Development	City of Vancouver	N/A	Zoning, Comprehensive Development

Figure A3: Table of Comprehensive Developments 2018

Area	Development Plan
BC Place/Expo	<ul style="list-style-type: none"> - False Creek North Official Development Plan - Southeast Granville Slopes Official Development Plan
Central Waterfront	<ul style="list-style-type: none"> - Central Waterfront Official Development Plan - Coal Harbour Official Development Plan
Downtown	<ul style="list-style-type: none"> - Downtown District Official Development Plan
Downtown Eastside/Oppenheimer	<ul style="list-style-type: none"> - Downtown Eastside/Oppenheimer Official Development Plan
False Creek	<ul style="list-style-type: none"> - False Creek Official Development Plan
First Shaughnessy	<ul style="list-style-type: none"> - First Shaughnessy Official Development Plan

Figure A4: Vancouver's Local Areas



(Source: Vancouver Heritage Foundation, 2017)

Appendix B

Figure B1: Heritage Sites in Metro Vancouver

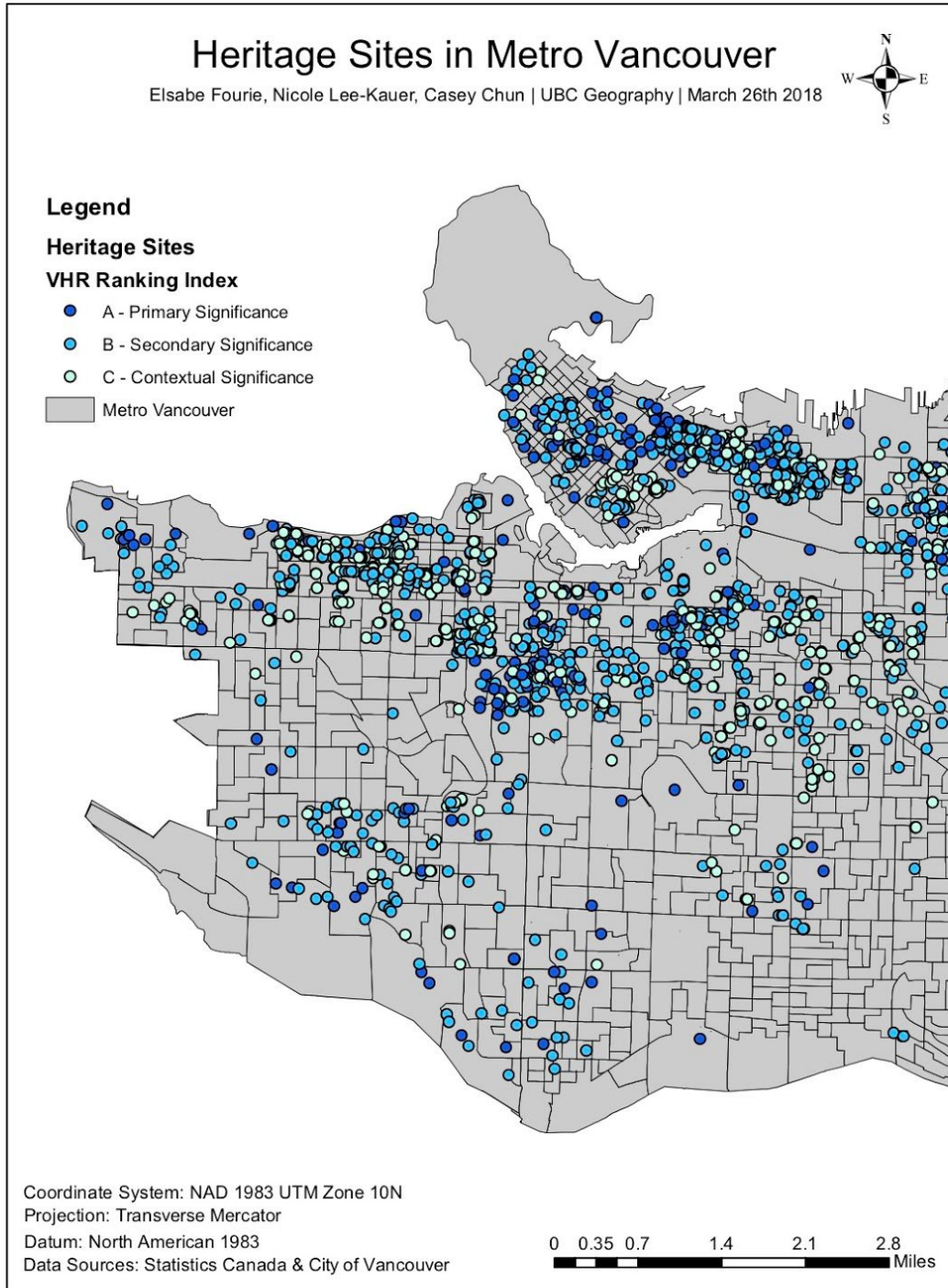
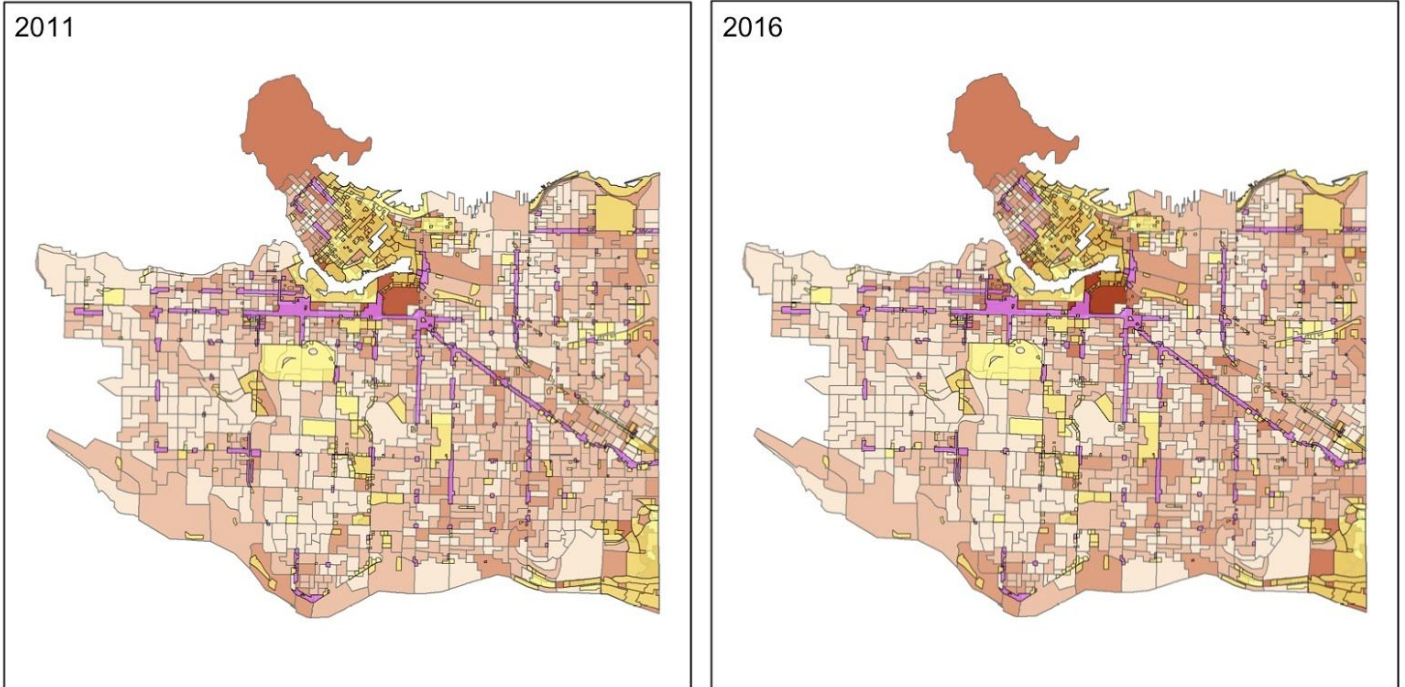


Figure B2: Change in Population Density & Zoning in Metro Vancouver from 2011 to 2016

Population Density & Zoning in Metro Vancouver (2011-2016)

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- Legend**
- Comprehensive Development
 - Commercial Districts
- Population**
- 186.000000 - 527.000000
 - 527.000001 - 721.000000
 - 721.000001 - 1080.000000
 - 1080.000001 - 1918.000000
 - 1918.000001 - 4175.000000
 - 4175.000001 - 8778.000000



Coordinate System: NAD 1983 UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983
Data Sources: Statistics Canada & City of Vancouver

Figure B3(i) : Risk Assessment of Heritage Sites within Commercial Districts

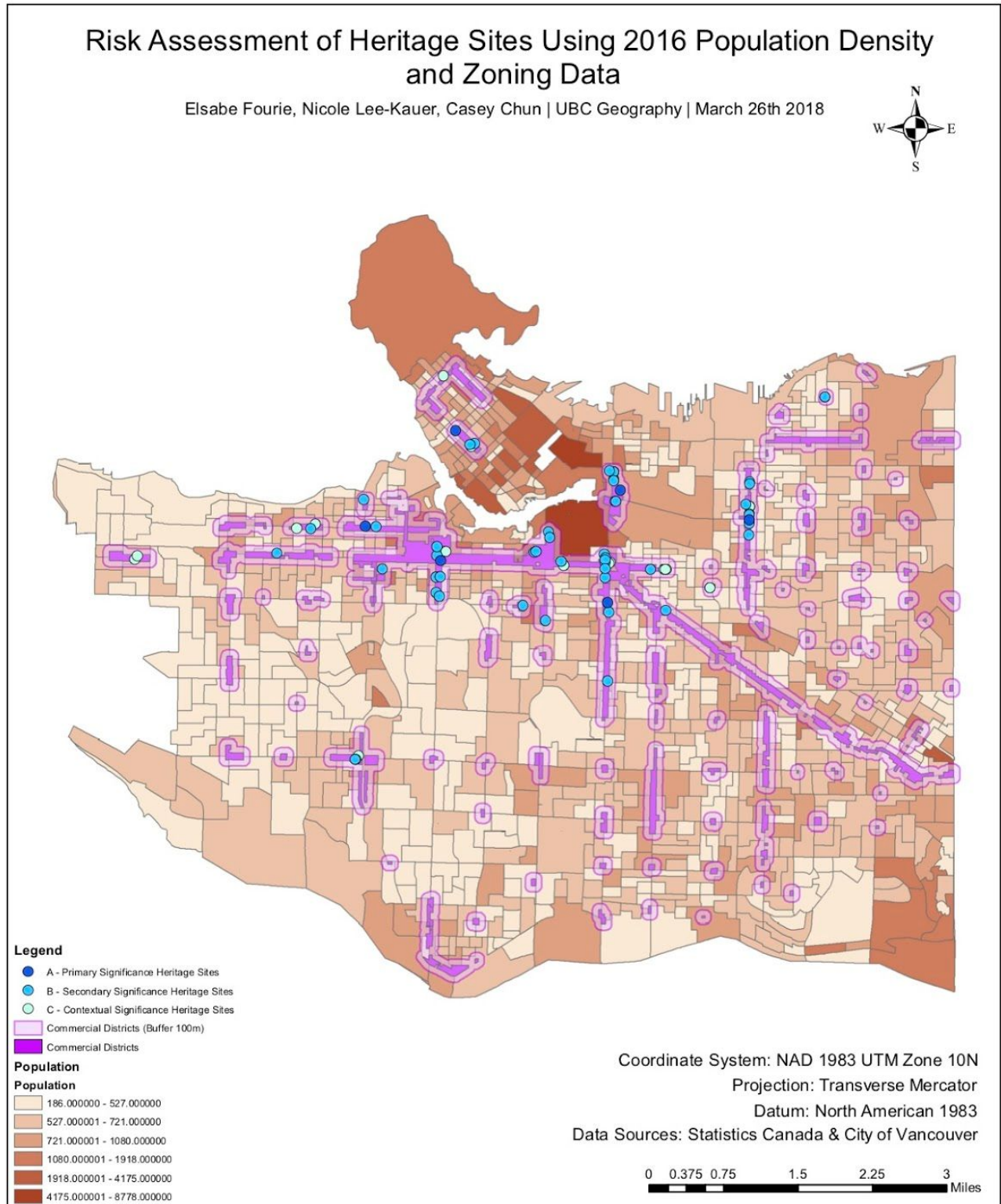


Figure B3(ii): Risk Assessment of Heritage Sites within Comprehensive Developments

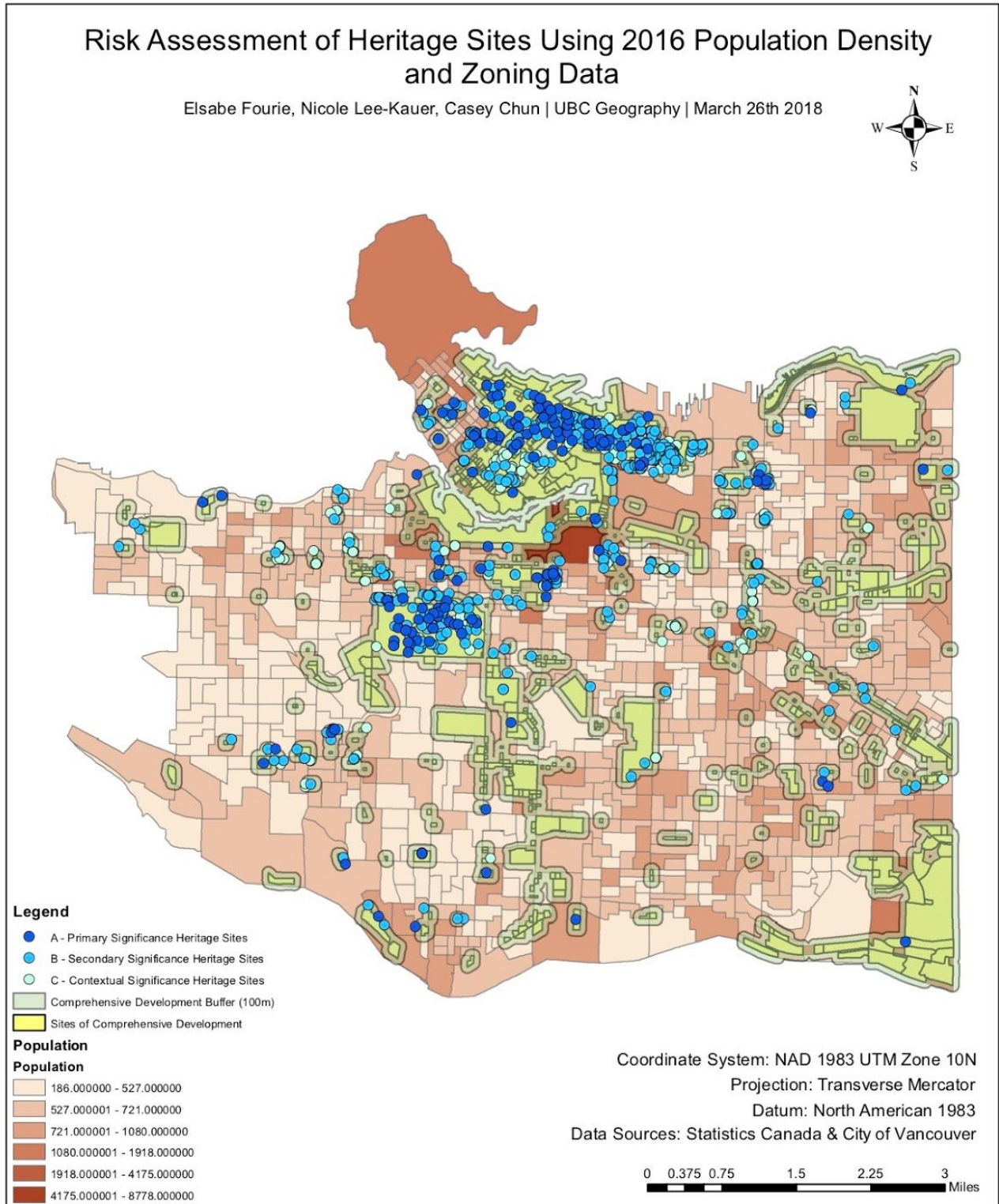
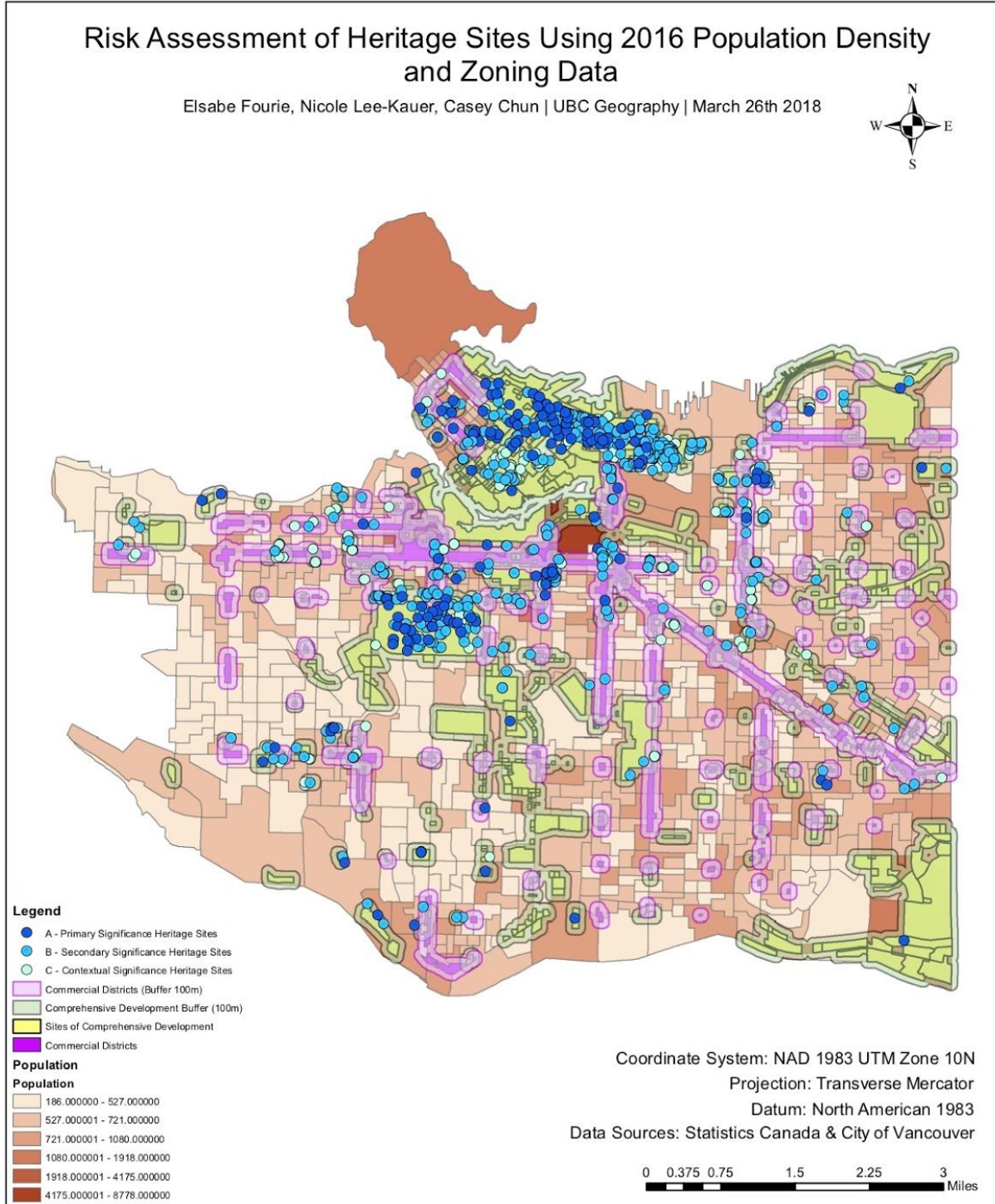


Figure B3(iii) : Risk Assessment of Heritage Sites within both Commercial Districts and Comprehensive Developments



Appendix C

Figure C1: Flowchart For Figure B1

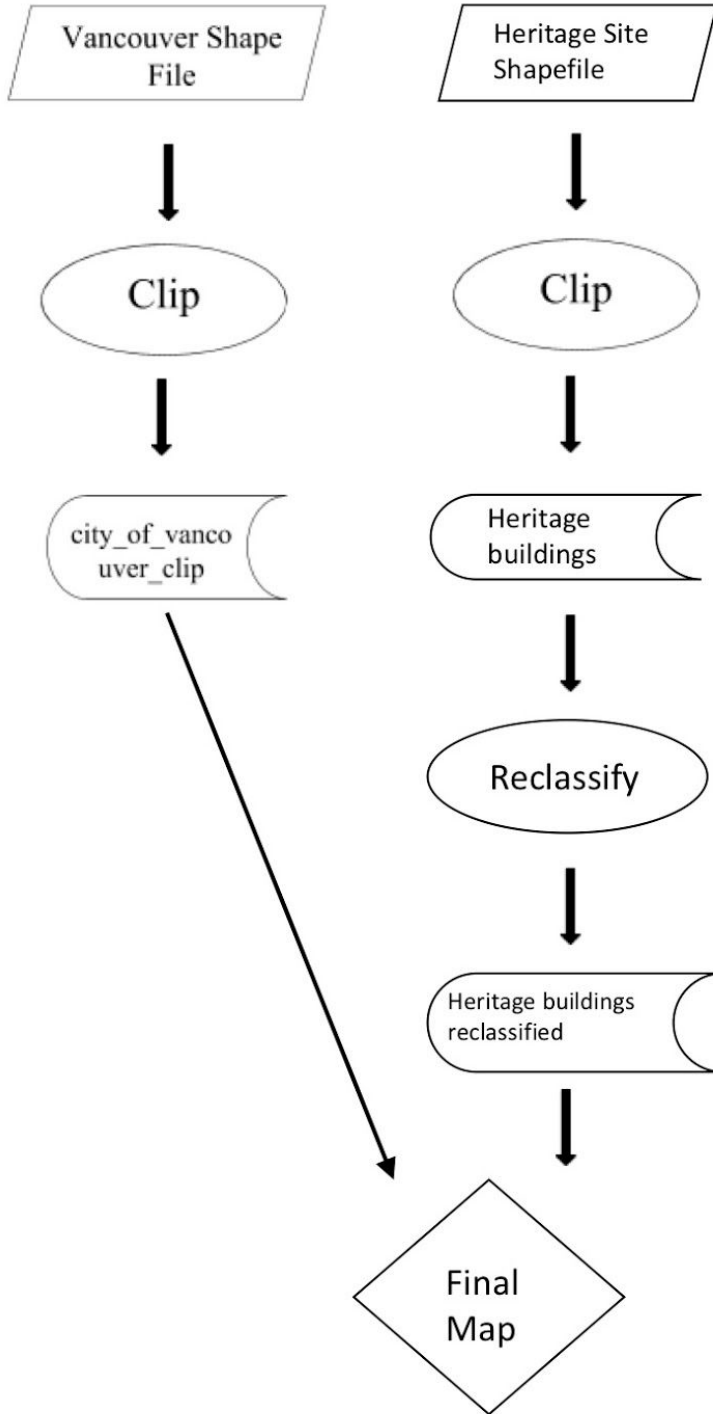


Figure C2: Flowchart For Figure B2

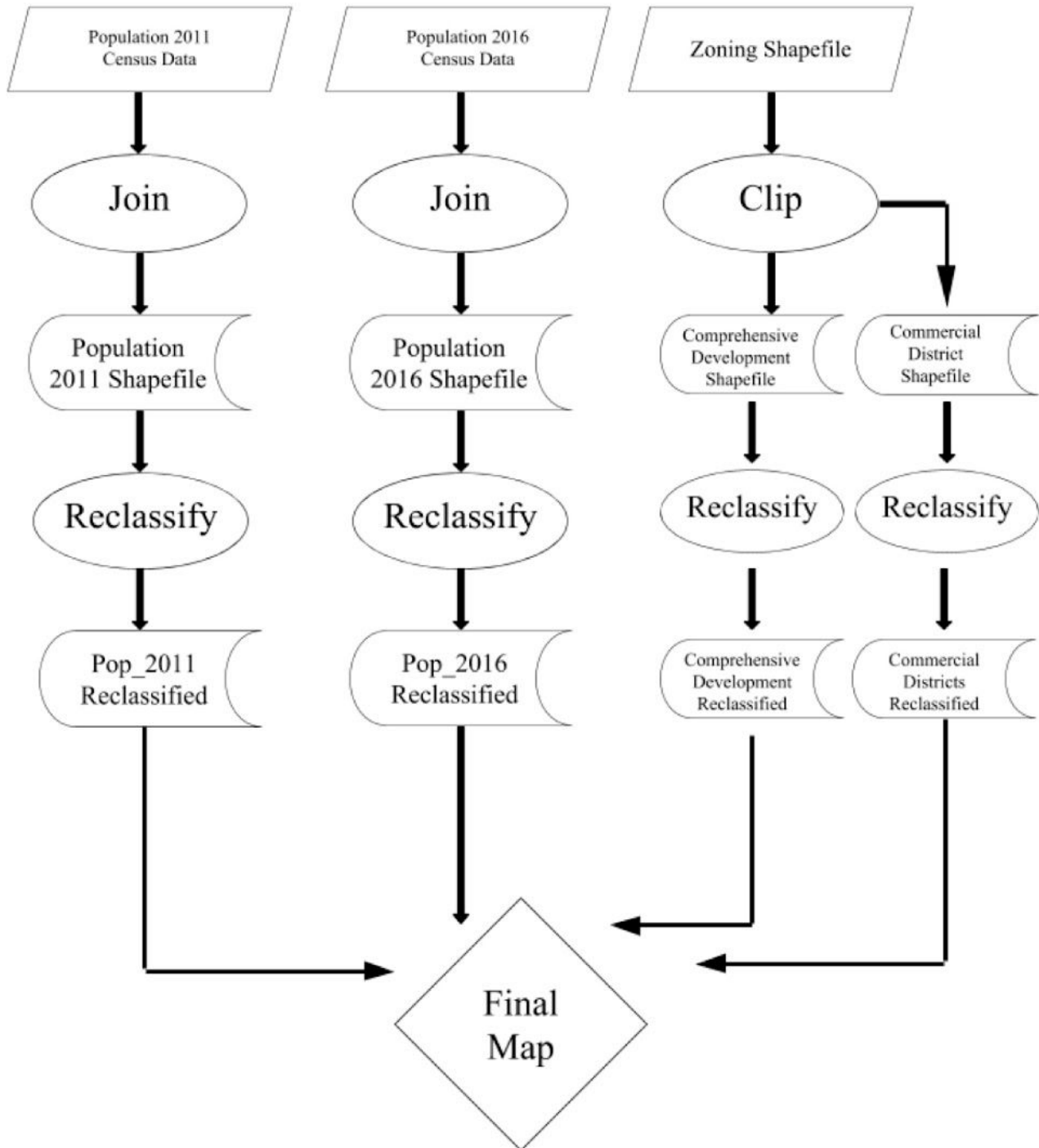


Figure C3: Flowchart For Figure B3 (i)

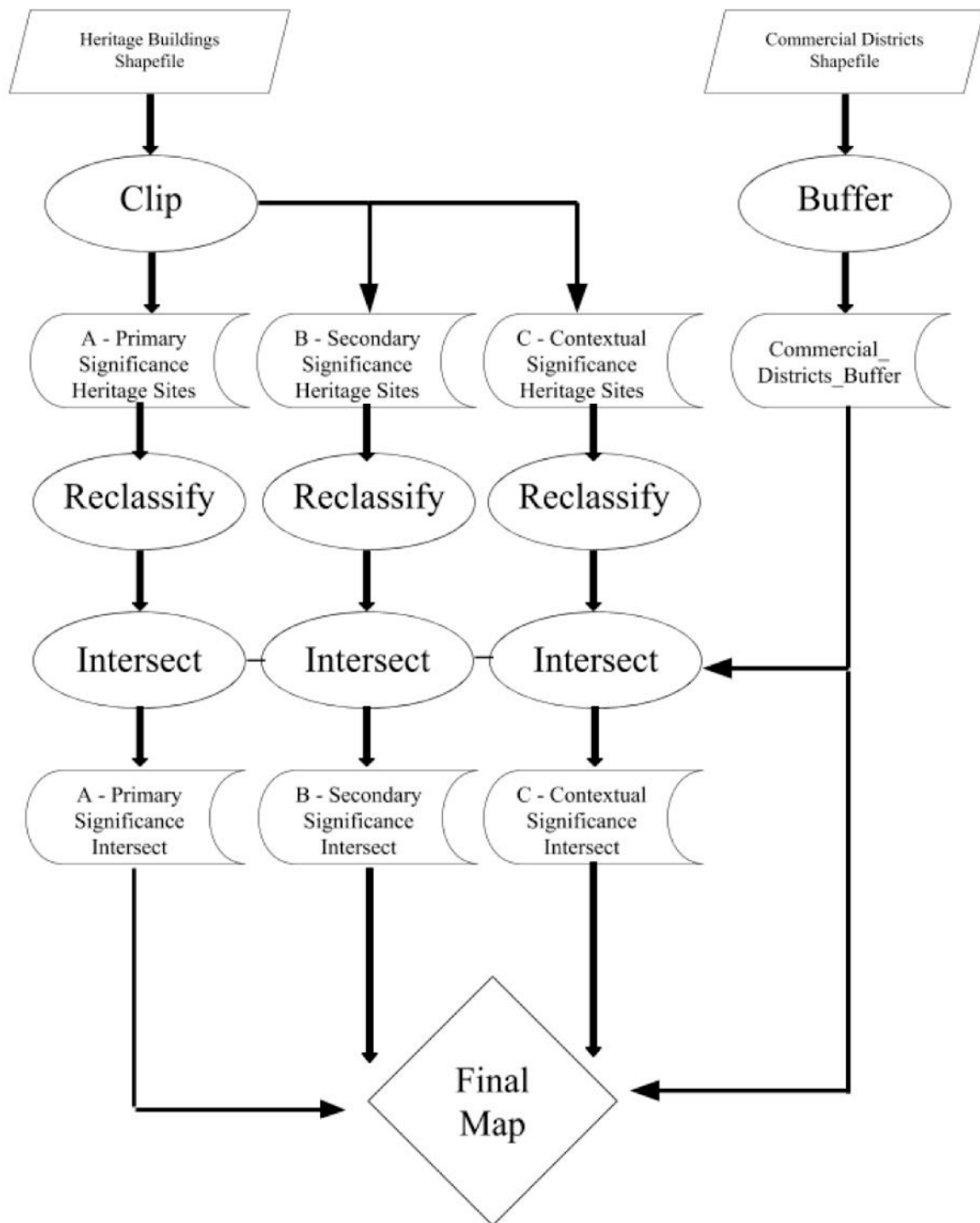
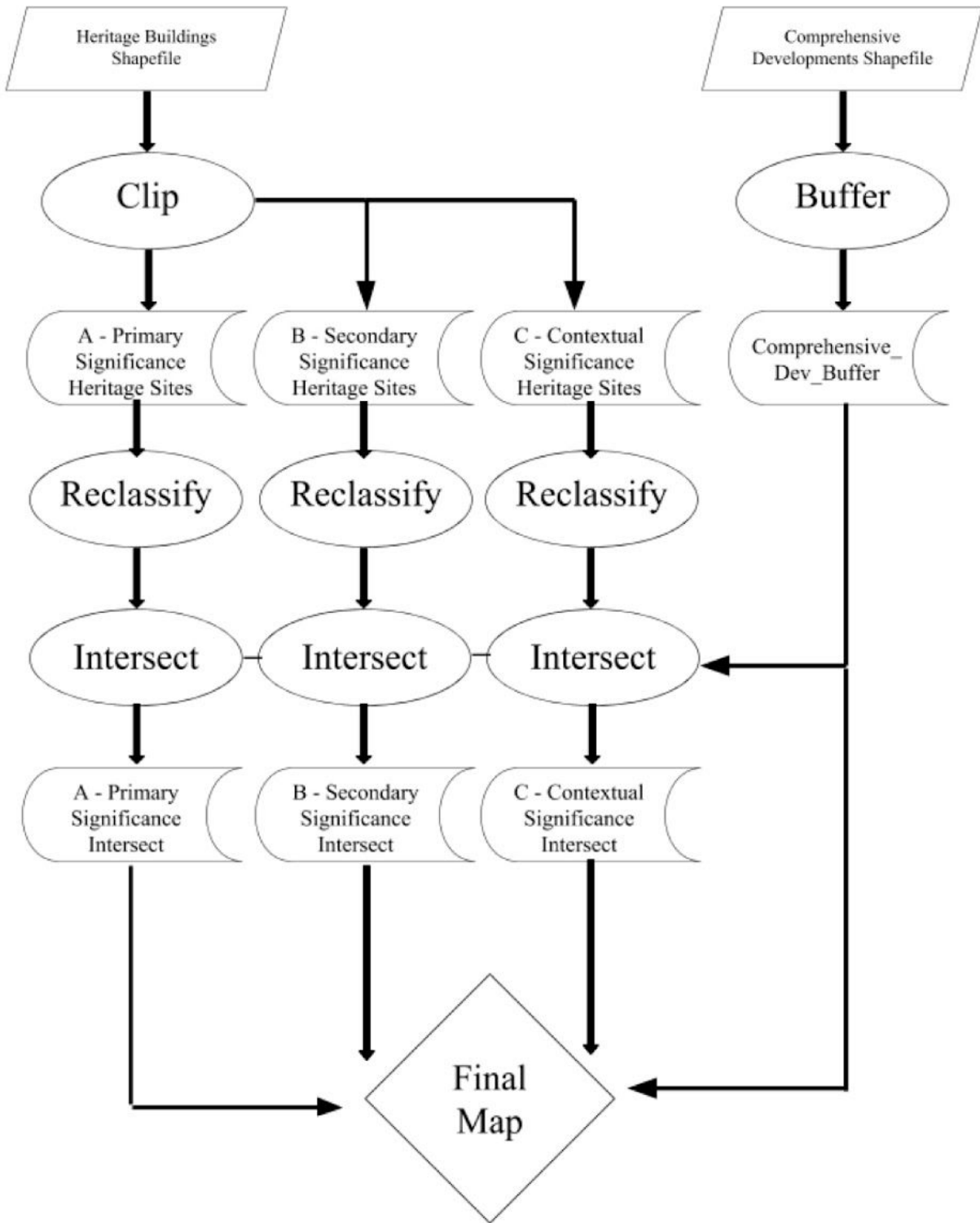


Figure C4: Flowchart For Figure B3 (ii)



Appendix D

Figure D1: Classification (Manual Breaks)

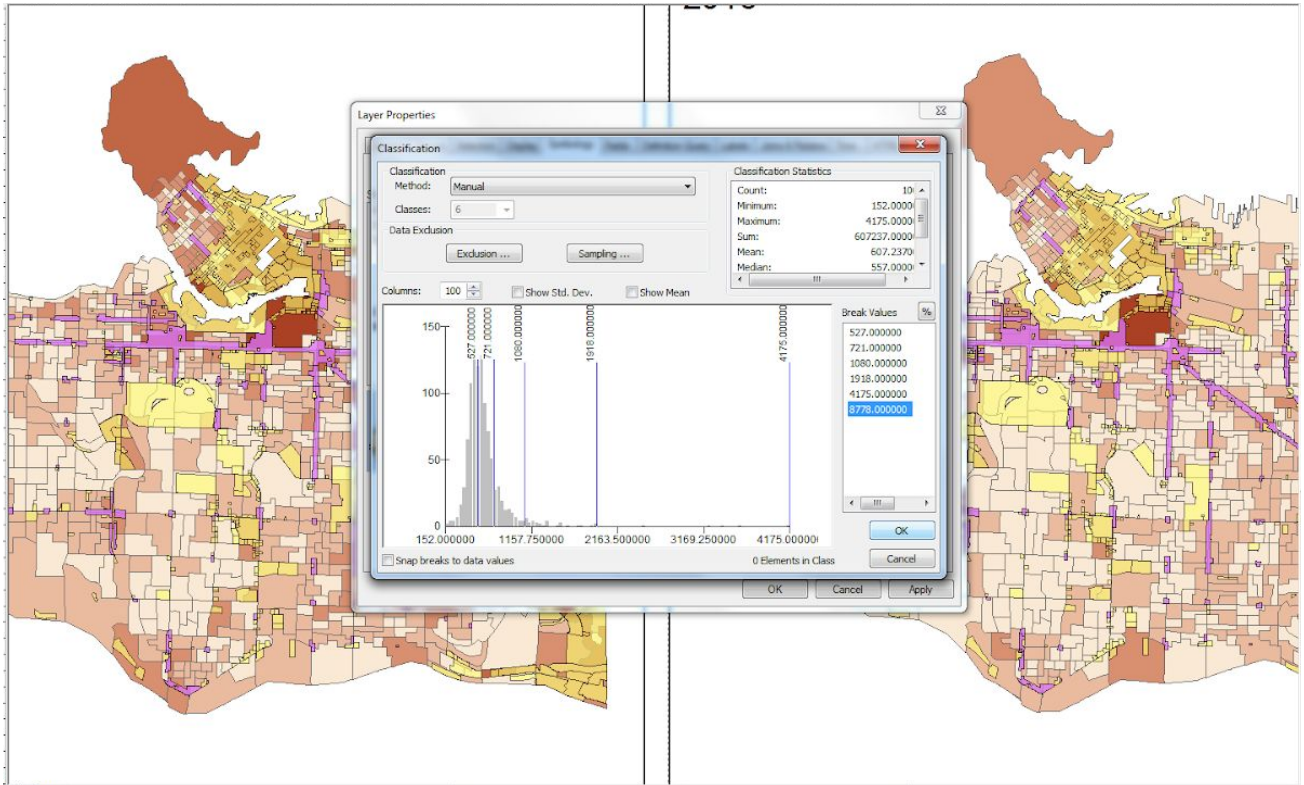


Figure D2: Toggling layers

