Gentrification in Toronto: Understanding Economic and Demographic Shifts from 2006 to 2016

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GEOB 270
03/12/2019

Abstract

Gentrification, the process of developing traditionally lower income neighbourhoods for the benefit of middle and upper-class citizens, has been a prevalent issue in major Canadian cities. Often, lower income communities with a high percentage of ethnic minorities are pushed out of their neighbourhoods due to high rental and commercial land. In Toronto, Old Toronto consists of many neighbourhoods that have been historical landing points for immigrants (Chinatown, Gerrard India Bazaar, etc.) that researchers claim are now experiencing gentrification. Moreover, the feeling of "being gentrified" may be propagated by concentrations of specific institutions such as multinational corporations like Starbucks coffee shops. By comparing median income, median rental costs, and the percentage of ethnic minorities, we answer the question, **"How has Old Toronto experienced gentrification through economic and demographic shifts from 2006 to 2016?"** Through multiple map series of 2006 and 2016, we compare the median income, median rental cost of Old Toronto census tracts (CTs) and percentages of visible ethnic minorities by neighbourhood. We found that the Old Toronto became more diverse overall, but also more unequal impacting certain areas of the city.

Description of Project Scenario, Study Area and General Description of Data

Toronto is one of the most diverse cities in the world, with more than half of its residents being visible minorities as of the 2016 census (Statistics Canada 2016). Because Toronto is a very large city, we are studying the effects or purported effects of gentrification within the old municipal boundaries of Toronto. This will give us a better idea of gentrification within the central and more urban parts of the city. Gentrification is most typically analyzed in urban cores that see a relatively high change in primarily economic factors over time. It is contemporarily defined as "The reinvestment of capital at the urban centre, which is designed to produce space for a more affluent class of people than currently occupies that space" (Lees, Slater and Wyly 2013, 9). This can displace people who may not be able to afford living in the same parts of the city they lived in before.

Socio-economic forces that drive gentrification are usually intertwined with racial or ethnic differences which makes the study of ethnic change in city neighbourhoods important to analyze (Lees, Slater and Wyly 2013). In this project, our data stems from a comparison of two Canadian census datasets of 2006 and 2016 relating to median income, visible minority population, and average rental costs. We argue that these are factors which can best showcase the differences of gentrification. We are looking at two different levels of Old Toronto to better see the ground-level changes: CTs from Statistics Canada and the City of Toronto's demarcation of neighbourhoods. Thankfully, the City's neighbourhoods line up with CT boundaries which may contain up to four or five CTs within a certain neighbourhood.

Methodology

a. Acquire

We chose our sources with thought to how reliable the datasets about our subject of gentrification would be. The primary datasets come from five sources. Firstly, we compiled data from Statistics Canada, who assembled census data such as CT boundaries. We decided on the years 2006 and 2016, which allows us to analyze a ten year period. Secondly, we acquired data from CHASS from the University of Toronto, which synthesizes and spatialize census data. We explored different means of displaying the change of disparity between 2006 and 2016, and chose to use the average amount spent on rent and median income data. This shows the socio-economic levels amongst each CT for the years we observed. We also used the Abacus Dataverse which provided our boundary files for Toronto's former municipal boundaries, including Old Toronto, which was the area of interest. The City of Toronto's Open Data Catalogue was essential to our analysis, because it provides neighbourhood boundaries as well as specific demographic information broken down within the city about the different demographic data. We were specifically interested in ethnic origins and analyzing the changes between 2006-2016.

b. Parse Filter

While searching for data to include in the map series, we had to parse through much of Statistics Canada's datasets regarding Toronto. Additionally, we had to modify a large amount of the data, as our focus area was Old Toronto. We chose not to include the entire City of Toronto, which encompasses a significantly larger area due to amalgamation in the late 1990s. The University of Toronto provides generous amounts of information regarding neighbourhood boundaries, and also provides a shapefile. Alongside the shapefile, demographics regarding ethnic origins, languages, sex, and much more were included in the files available to us. We chose to display diversity by calculating the percentage of visible minority against non-minority population per neighbourhood. After this was completed, we proceeded to display our economic and demographic data in question in our first series of maps. This required a join between our tabular and spatial data like the Neighbourhoods and proportion of visible minorities. Our later series of maps denoted a step further where we unioned the different demographic factors to create a composite layer of gentrification forces.

c. Mine

While this analysis will better be visualized in our flowcharts (fig. 4 and 5), there were three main steps involved with the data. The first thing that we had to do was narrow down our data. As we were only looking at Old Toronto, we had to select by location and clip all of our information including the outlines of CTs and neighbourhood boundaries, to the Old Toronto shapefiles. Then for our median income maps we reclassified the income data, overlaying it into the CTs of Old Toronto. For our ethnic demography, since it was coming from different data sources we had to adjust the data into Toronto neighbourhoods and then join the information into our existing files.

d. Represent

Because our maps are showing changes between the 2006 and 2016 census, we wanted to show how different datasets (income, rent, ethnic groups) changed over time. As three different users using both QGIS and ArcGIS, we wanted to make the visual representation similarly, showcasing similar colour schemes and consistent information amongst different authors of each map. We also wanted to make sure that the information was concise by creating maps with manual breaks that would allow an easier way to compare the differences between time.

e. Table of dataset:

Original Dataset Names and New Names	**Vector, raster, or tabular**	**Key attributes**	**Source/Date Compiled**
Original: Number of after-tax income recipients aged 15 years and over in private households - 100% data (v1869) New name: med_income2016_CT_Join	Tabular	Median Income CT's (2016) → joined to Old Toronto CT's	University of Toronto (CHASS)
Number of after-tax income recipients aged 15 years and over in private households - 100% data (v1869) New name: med_income2006_CT_Join	Tabular	Median Income CT's (2006) → joined to Old Toronto CT's	University of Toronto (CHASS)
Original: Housing - Total Sex / Total - Tenant households in non-farm, non-reserve private dwellings - 25% sample data / Average monthly shelter costs for rented dwellings ($) New name: Avg_Rent2016_CT_Join	Tabular	AverageRental Cost CT's (2016) → joined to Old Toronto CT's	University of Toronto (CHASS)
Avg_Rent2006_CT_Join	Tabular	Average Rental Cost CT's (2006) → joined to Old Toronto CT's	University of Toronto (CHASS)

Original: Wellbeing-toronto-demographics New Name: Neighbourhood_Diversity_Join_2006	Tabular	Ethnic Demographics by Neighbourhood (2006) → parsed and only used Visible minority and non-minority population → joined to Toronto Neighbourhoods	City of Toronto Open Data
Original: Neighbourhood-profiles-2016-csv New Name: Neighbourhood_Diversity_Join_2016	Tabular	Ethnic Demographics CTs (2016) → parsed through data and used population of non-visible and visible minorities → joined to Toronto Neighbourhoods	City of Toronto Open Data
Lct_000b16a_e.zip New name: Toronto_CT	Vector	Census Tracts (Canada 2016) → clipped to Old Toronto	Abacus Dataverse
Lhy_000c16a_e.zip New name: rivers	Vector	Rivers	Abacus Dataverse
Lhy_000h16a_e.zip New name: great lakes	Vector	Great lakes	Abacus Dataverse
Former Municipality Boundaries Data.zip New: Old_Toronto	Vector	outlines the geographical area of the former six municipalities in the City of Toronto → clipped to old toronto boundaries	Open Data U of Toronto

Discussion and Results

Our results showed very distinctive changes to Old Toronto over the course of time between 2006 and 2016 census, that show some signs of gentrification and an overall increase in inequality.

In our first map series (fig. 1), by analyzing the proportion of ethnic minorities in Old Toronto over the two censuses we found that while the city overall was becoming more diverse, some neighbourhoods exhibited some changes that showed less visible minorities in some areas historically home to visible-minorities. This includes Kensington Market and Regent Park. Regent Park, the only neighbourhood with over 75% non-white population, population dropped over 10% within 10 years, showing signs of the neighbourhood losing a number of coloured residents. It is important to note that Regent Park historically has been home to the city's public housing projects, but also borders Cabbagetown, a neighbourhood which has been considered a "hip" area since the 1980s (Hackworth and Rekers 2005). The overall population of the neighbourhood also stayed relatively stagnant losing 200 people to 10,010 in 2016.

Other parts of the city and neighbourhoods also showed some changes with the percentage of visible minorities. The general trend was that the more historically whiter areas in the north and west parts of the city became more diverse with 9 neighbourhoods west of Yonge (the relative centre line of Old Toronto's neighbourhoods) increasing the amount of visible minorities. These typically happen on more peripheral neighbourhoods whereas the neighbourhoods in the centre have stayed relatively similar. While it can be hard to tell if there was simply displacement or more people coming into the city in general, it is interesting how the shifts and peripheralization of minorities has begun to unfold in Old Toronto.

We used CT divisions to display the information of the next two maps rather than neighbourhood boundaries. This is due to the accessibility of information about rental costs and income levels in Toronto. Between 2006 and 2016, the CT boundaries shifted slightly in some areas, as more divisions had been added to the 2016 census.

Our second series of maps shows the average monthly rental costs (fig. 2). In 2006 there are no areas in which the average rent exceeds $2161, though there are three CTs in 2016 that display this increase. In the waterfront areas and the downtown core, Old Toronto's rent dramatically increases as well. Almost all of Old Toronto experienced an increase of average rental costs, although the rest of the city experiences a less dramatic and gradual increase of average income. This is most noticeable in the center of the map, where areas that had lower cost of rent are replaced by higher costs of rent in 2016. Within Old Toronto, there are only five CTs that remain within the lower range of rental costs ($432-874) between 2006 and 2016, which includes the CTs located in the Regent Park neighbourhood mentioned earlier.

Lastly, we included a map series that observes the change of median income of households between 2006 and 2016 (fig. 3). We noticed that the 2016 CT's located in the central-northern neighbourhoods of Rosedale and Lawrence Park South display the highest observations of income levels. These neighbourhoods are also generally more white neighbourhoods (seen in fig. 1). We were surprised to observe that many areas of Old Toronto's income levels actually decreased after a 10 year period, rather than increase. In 2006, median income is fairly levelled out in comparison to 2016, where

median income is prevalently disparate in the city CTs due to large range between low and high income.

Within our map series, we expose gentrification at a neighbourhood and CT scale. In specific areas, people who make less money are pushed out of the way in order to make space for people who have a higher income and can afford increasing rental costs.

Error and Uncertainty

Notable sources of error and uncertainty include differences in area divisions between median income and average rental cost versus percentage of visible minority data. We were only able to acquire data about the average rental costs of living for 2006, though we had intended to use median data. This is because outliers may skew the data for rental costs in areas where there are extremely high occurrences or extremely low data points. While median income and average rental cost data was available at the CT division, data on the percentage of visible minority was only available at municipal neighbourhood level. Due to these discrepancies in the scale of data, our analysis of percentage of visible minorities is less precise. Therefore, it is more difficult to see direct correlations between median income and median rental cost, and percentage of visible minority.

While this source of error is primarily due to scale discrepancies, another tandem source of error was time constraint of this project. While census data for ethnicity exists for census tracts, the Canadian census does not have a compilation of visible ethnic minority. Moreover, Canadian census data has a large amount of categories for ethnicity identification. Therefore, given time constraints, it was difficult to compile all these categories into visible minority versus non visible minority. Given Toronto Open Data portal already had this compiled at the municipal neighbourhood level based on Canadian census data, it was more efficient to use Toronto Open Data. Additionally, while visible ethnic minority data is based on Statistics Canada data, there may exist classification error in the Toronto Open Data portal depending on their classification of visible ethnic minority.

In general with Statistics Canada, error may exist with people left out of the count due to travelling, illegal dwellings, refusal to participate, etc. Statistics Canada takes this into account by estimating a net 'undercoverage' rate for the urban region, but not for the city or Old Toronto specifically. This lack of undercoverage rate for Old Toronto is another source of error for median income, median rental cost, and visible ethnic minority datasets.

On another note, inflation is something to consider with median incomes, this was something that was not adjusted within our study, and while Canada has gone through a period of relatively low inflation over the past decade, there may have been some changes in purchasing power and income that our maps and results cannot account for. Lastly, when formatting the layers by re-projecting layers from a geographic coordinate system to NAD 1983 UTM Zone 17 projected coordinate system, may create distortion.

Further Research and Recommendations

Within our project, we attempted to cover the impacts of gentrification through a series of maps that displays economic and ethnic data. Of course, gentrification is a wicked problem that covers many facets. There are many reasons people approve of this phenomenon, and many reasons why many people do not condone it. Although we analyzed average rental costs, median income, and the proportion of visible minority to non-minority, there are many other factors that indicate gentrification is happening within city neighbourhoods. We focused intently on finding where the impacts of gentrification on lower-income coloured people occur. However, we did not pay attention to the local businesses and entrepreneurs that may have been pushed out of their traditional livelihoods. Further research on the modern and aesthetically fitting middle class businesses and transnational corporations could be achieved in order to produce more information about gentrification.

Looking ahead, some further research is needed in Canadian gentrification as a whole. There is a lot of discourse on various American cities' gentrification, but there is less scholarship about Canadian cities such as Toronto, Vancouver and Montreal. Based on our results, it is really important for cities like Toronto to reduce the displacement of people who are more affected by rental prices. Producing more information understanding the more detailed nuances of singular neighbourhoods or CTs may better produce policies that aim to reduce or stabilize rent within central cities. Given the minority population of Toronto actually increased in all parts of the city, it may be better to look at specific neighbourhoods that noticed a drop in visible minority population such as Parkdale or Regent Park. It also may be of use to research the housing types within Toronto too, to better see what types of housing are being built versus what type of housing should be built to better alleviate unaffordability.

A large component of understanding gentrification is seeing what is being upkept, and what is not, and understanding housing dynamics can help figure out how to make the city more accessible. At the end of the day a problem like gentrification is something that cannot be solved easily. But it requires the political will and a true understanding of what is happening at the street level to truly understand how to make a city like Toronto a more inclusive place.

Appendices:

Additional References

Hackworth, J., & Rekers, J. (2005). Ethnic packaging and gentrification. *Urban Affairs Review, 41*(2), 211-236. doi:10.1177/1078087405280859

Lees, L., Slater, T., & Wyly, E. (2013). *The gentrification reader* (1. publ. ed.). London [u.a.]: Routledge. Retrieved from http://bvbr.bib-bvb.de:8991/F?func=service&doc_library=BVB01&local_base=BVB01&doc_number=018874510&sequence=000002&line_number=0001&func_code=DB_RECORDS&service_type=MEDIA

Saunders, P. (2016, August 29,). How to understand gentrification *Forbes,* Retrieved from https://www.forbes.com/sites/petesaunders1/2016/08/29/understanding-gentrification/#52239eb835ec

Statistics Canada. (2016). Census profile, 2016 census. Retrieved from https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3520005&Geo2=PR&Code2=35&SearchText=toronto&SearchType=Begins&SearchPR=01&B1=All&TABID=1&type=0

ii. **Maps and figures**

Figure One:

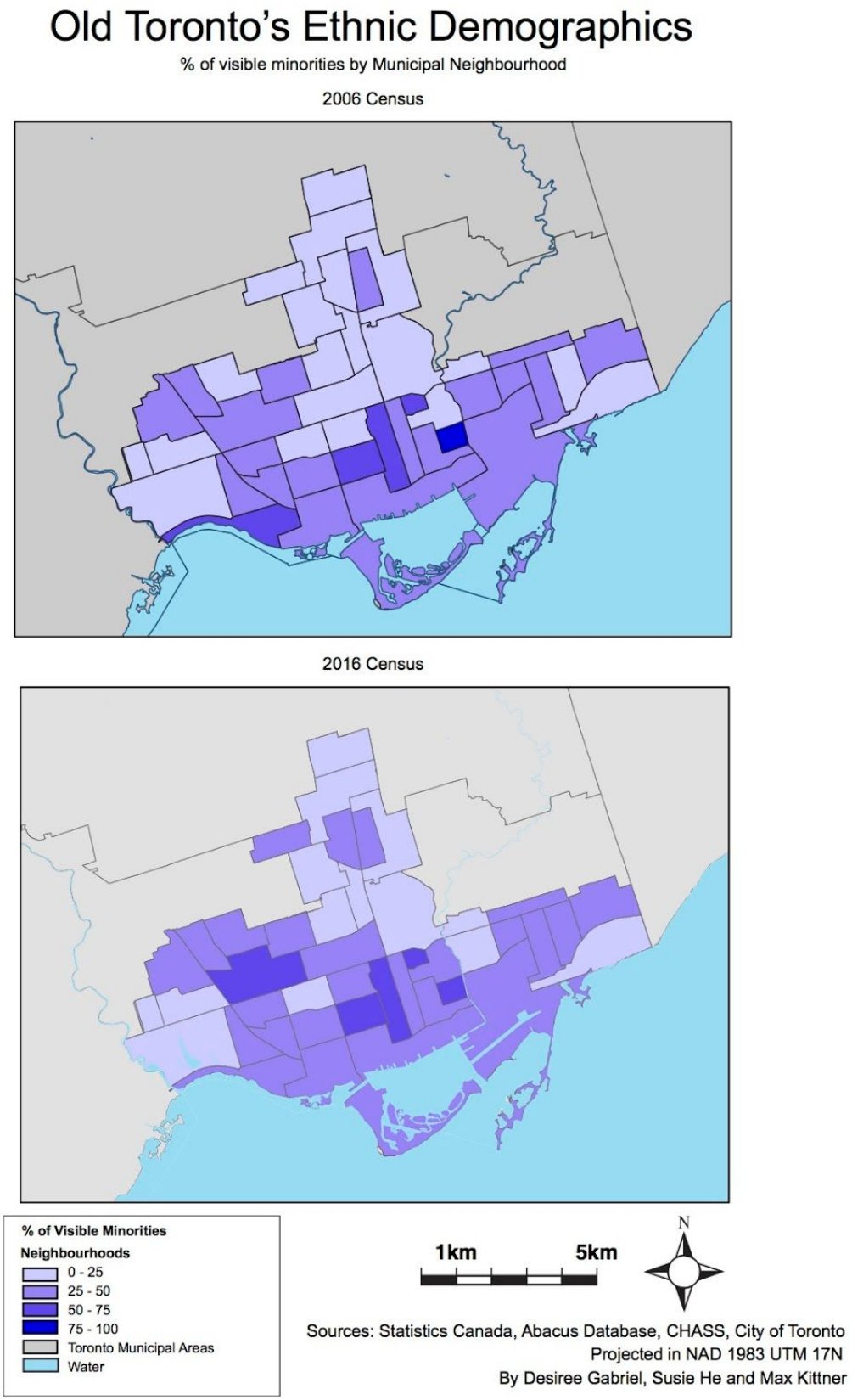
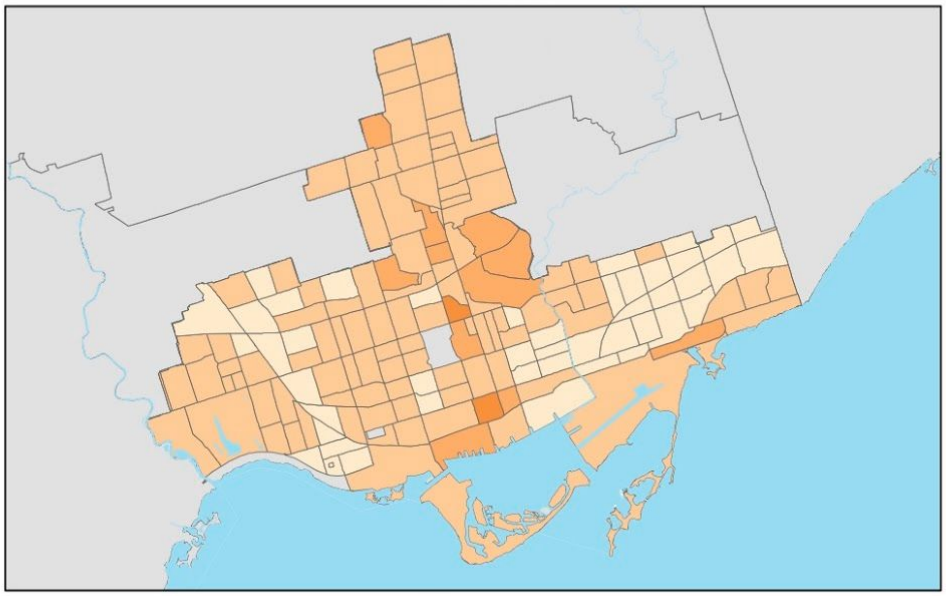


Figure Two:

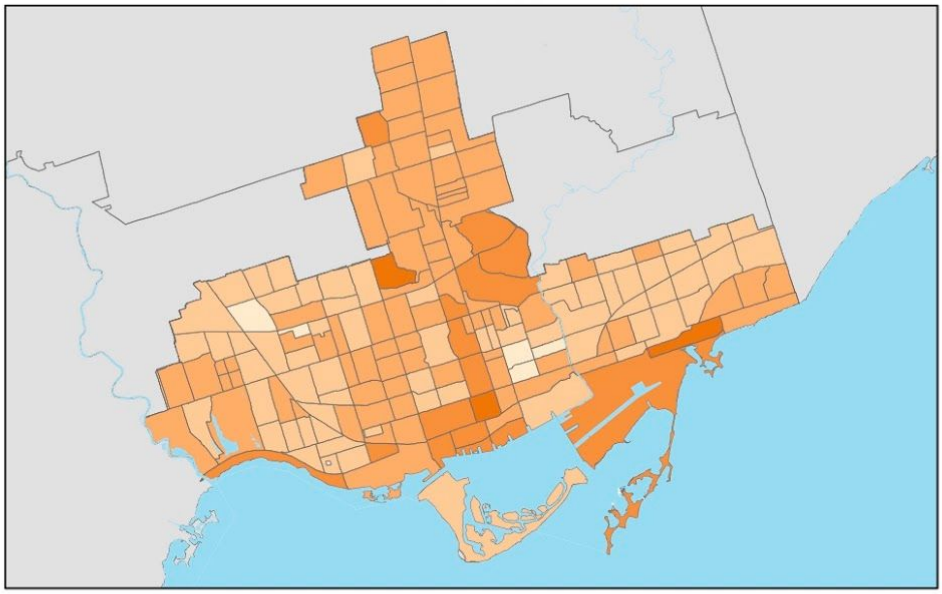
Old Toronto's Average Monthly Rental Cost

Average Monthly Rental Cost by Census Tract

2006 Census



2016 Census



Average Monthly Rental Cost ($)

Census Tracts

- 432 - 864
- 864 - 1296
- 1297 - 1728
- 1729 - 2160
- 2161 - 2692
- Water
- Toronto Municipal Area

0 1 2 3 4 Kilometers

N

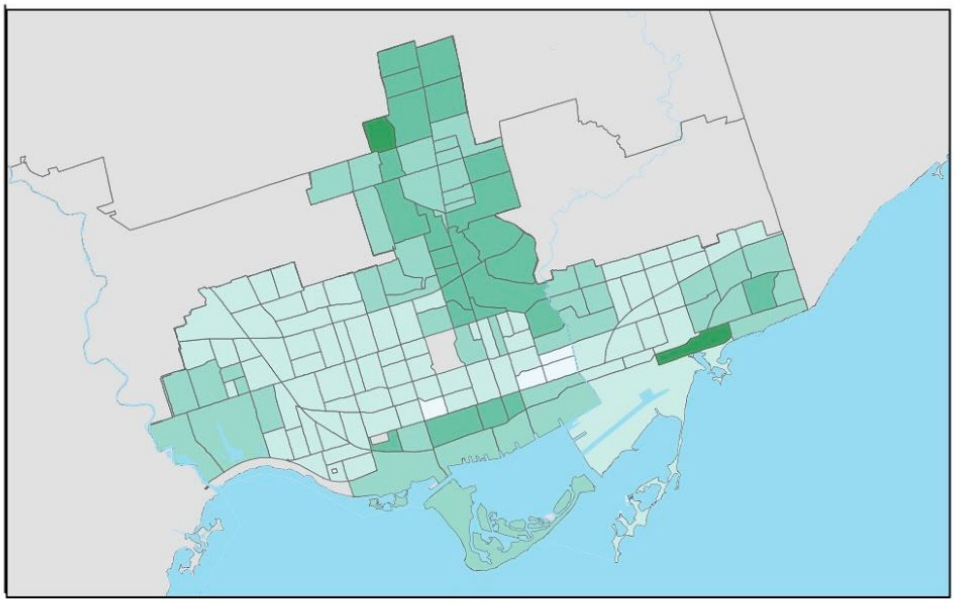
Sources: Statistics Canada, Abacus Database, CHASS, City of Toronto
Projected in NAD 1983 UTM 17N
By Desiree Gabriel, Susie He and Max Kittner

Figure Three:

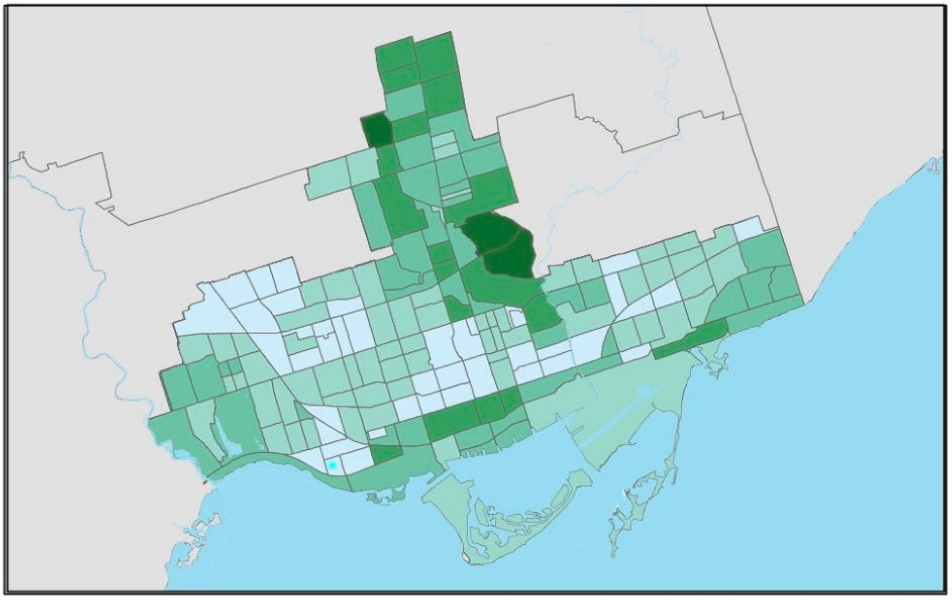
Old Toronto's Median Income

Median Income by Census Tract

2006 Census



2016 Census



Median Income ($)

Census Tracts

- 0.1 - 15000
- 15001 - 30000
- 30001 - 45000
- 45001 - 60000
- 60001 - 75000
- 75001 - 90000
- Water
- Toronto Municipal Areas

0 1 2 3 4 Kilometers

N

Sources: Statistics Canada, Abacus Database, CHASS, City of Toronto
Projected in NAD 1983 UTM 17N
By Desiree Gabriel, Susie He and Max Kittner

iii. **Flowcharts**

Figure Four:

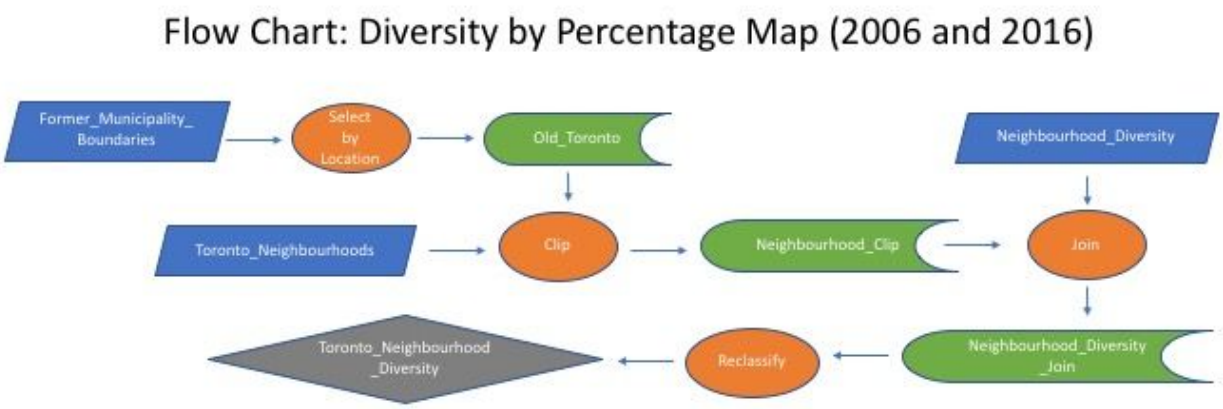


Figure Five: