A Shift In Toronto Construction Priorities Caused by the Pandemic*

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The city of Toronto had to redo their construction priorities as it's citizens were dealing with the COVID-19 pandemic. This report will analyze the shift in those construction priorities through a comparison of the amount of apartment buildings built from 2015-2022 and the amount of cycling paths built from 2015-2022. What was noted was a staggering drop in completed apartment buildings done during the pandemic and subsequently a rise of cycling paths completed during the pandemic. Another note was the massive decrease in finished cycling paths in 2022. To accomodate their quarantined citizens, the City of Toronto shifted construction focus from apartment buildings to cycling paths; encouraging an activity anyone could safely enjoy in isolation. However the end of the pandemic brought a reversal of the initial priority shift: There was drastically less cycling paths built in 2022 and from the amount of current condominium development applications, the City of Toronto seems to be refocusing on building large-scale housing.

1 Introduction

The COVID-19 pandemic shook the world to its core. The entire world had to rethink about how they went about their daily lives with social distancing, quarantining and work-from-home policies coming into the forefront. Cities all over the globe had to adjust their priorities to focus on the well-being of the citizens. The city of Toronto was no exception to this, and they had to adjust their priorities to focus on the nigh-impossible task of balancing the health of their citizens and dealing with the common problems that comes with being one of the biggest metropolitan cities in the world.

The population of Toronto has been steadily increasing over the years, with a combined 9.51% population growth over the last 8 years (*Toronto, Canada Metro Area Population 1950-2023*

*Code and data supporting this analysis is available at: https://github.com/thejasonminh/analysis_toronto_rentals_vs_rec

2023). How could a city readily house the vast number of new residents that were coming in year after year? The answer lies in the efficiency of large-scale apartment or condominium buildings. With a great number of floors and an even greater number of units per floor, these sky-piercing buildings are the answer to a growing population problem in a large city. However, during the pandemic, the amount of apartment buildings drastically decreased. Where did the construction go?

In the following paper, data from Toronto Open Data Portal (Gelfand (2022)) was used to analyze the amount of apartment buildings built from 2015 - 2022 with the amounts that occurred within pre pandemic, during the pandemic and post pandemic times noted carefully. The paper also used more data from Toronto Open Data Portal (Gelfand (2022)) to analyze the amount of cycling paths built from 2015 - 2022, with care taken to scrutinize the amounts built in the pre, during and post pandemic eras. The relationship between these two data sets is discussed to figure out where the pandemic construction effort went to.

The analysis will be carried out in R (R Core Team (2022)), with reliance on the tidyverse (Wickham et al. (2019)), the dplyr (Wickham et al. (2023)), the sf (Pebesma (2018)) and the janitor (Firke (2021)) libraries to carry out the data manipulation and cleaning. The figures in the paper will be generated using ggplot2 (Wickham (2016)).

The paper then discusses the shifting in priority of construction efforts for the city of Toronto based on the pandemic era. Before the pandemic, to accommodate an ever-rising population, the city of Toronto focused on building apartment complexes. During the pandemic, to accommodate the quarantined populated, the city of Toronto focused on building cycling paths. After the pandemic, the focus reverted back towards the ever-rising population with the existence of several approved and under-review applications of new apartment buildings.

2 Data

2.1 Apartment Buildings

To first investigate the amount of apartment buildings built, I obtained the data set "Apartment Building Evaluation" from the Toronto Open Data Portal (Gelfand 2022). This data set, provided by RentSafeTO, is refreshed daily provides thorough detail of each building as well as an overall evaluation score. A similar data set called "Apartment Building Registration" exists that was not used because that data set is refreshed monthly. However, the "Apartment Building Evaluation" data set potentially suffers from statistical bias, as scores are doled out on a 1 - 5 scale and the officers that conduct these evaluations can potentially have differing opinions from one another. Additionally, this data set does not cover any apartment buildings that aren't registered under RentSafeTO.

The relevant variables that the analysis is concerned with is the unique id, which acts as an individual counter for each apartment building, and the year built. Concerning the range of

years, 2015 was arbitrarily chosen as the lower range for the years for no reason. A similar analysis would've been conducted if 2014 or 2013 was used as the lower range. Figure 1 shows the number of apartments, or amount of unique id's, per year from 2015 to 2022.

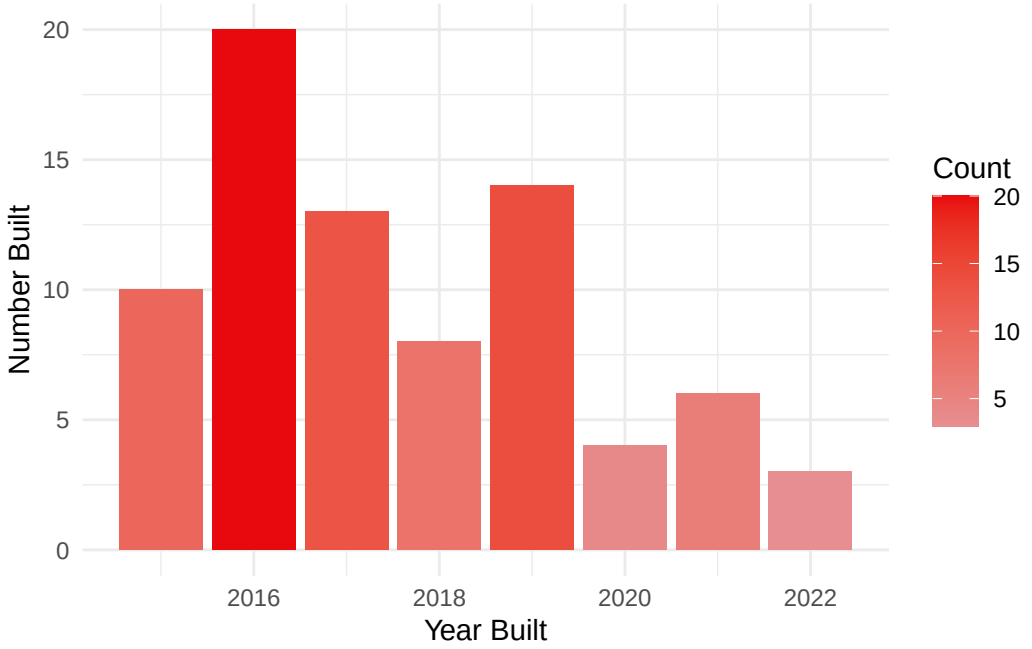

Figure 1: Number of apartments built from 2015 to 2022

From 2015 to 2019, there were 65 apartment buildings built in total. However, when the COVID-19 pandemic hit in 2020 the amount of apartment units built decreased heavily, with only 4 buildings built in 2020, 6 buildings built in 2021 and 3 buildings built in 2022.

2.2 Cycling Paths

To investigate the amount of cycling paths built from the same year range as the data set above, I pulled the "Cycling Network" data set from the Toronto Open Data Portal (Gelfand 2022). Transportation Services provides a data set that illustrates the existing network of cycling paths around the city, both shared and dedicated. Any similar data sets revolving around existing cycling networks have been retired. For example, the data set "Bikeways", which was dedicated to bike lanes, signaled bicycle routes and pathways, has been retired and integrated within the "Cycling Network" data set. It should be noted that this data set only focuses on dedicated, cycling-only paths. Any paths that is shared with pedestrians, like any sidewalk, is not considered.

Similar to the apartments data set, the variables of concern are the unique id and the year installed. To reflect the same amount of years as the apartments data set, the year range also

goes from 2015 to 2022. Figure 2 shows the graph that illustrates the number of cycling paths installed per year from 2015 to 2022.

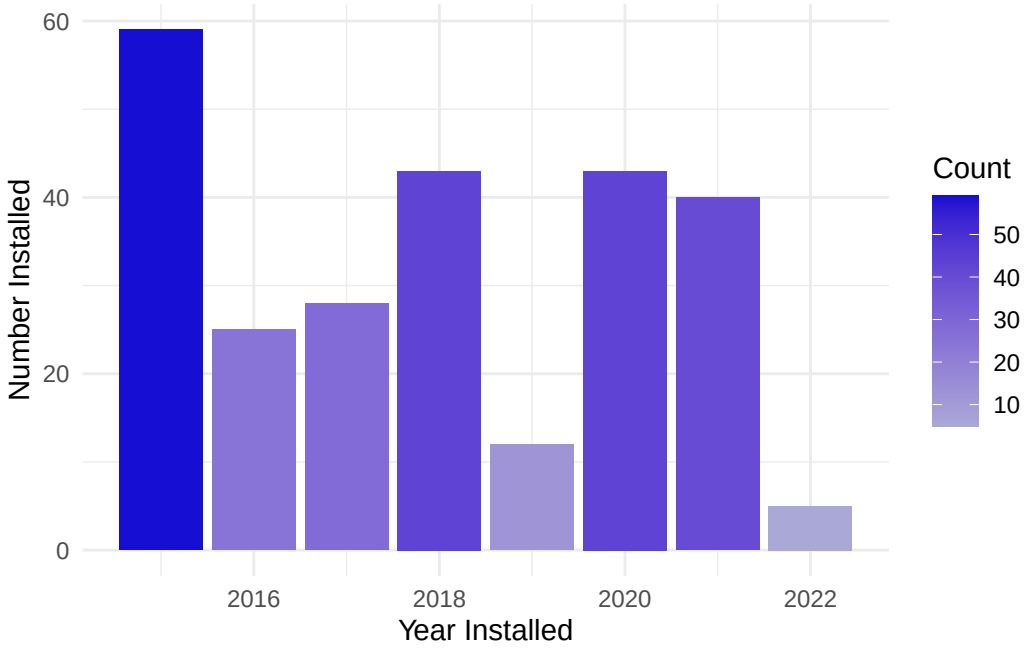

Figure 2: Number of installed cycling paths from 2015 to 2022

The pandemic years of 2020 and 2021 saw a high amount of cycling paths installed in comparison to 2019. The biggest thing to note however, is the dramatic drop off in cycling paths installed in 2022, which was also when the pandemic ended.

2.3 Condominium Applications

To investigate the amount of current condominium applications, I pulled data from the "Development Applications" data set from the Toronto Open Data Portal (Gelfand 2022). Published by City Planning, this data set covers all of the active and inactive community planning applications. While there were no similar data sets, there was ambiguity in the classification of application types. The ones of note are CD, which represents condominiums, and OZ, which represents official plan/rezoning. While CD represents ONLY condominiums, OZ represents anything that involves rezoning, redevelopment or a new construction. Under the OZ category, there are numerous entries detailing things as "townhouse dwellings", "X-storey buildings containing Y dwelling units", "Z-story mixed-use buildings" that all fall under the housing category. While the data will only analyze the CD category, I recognize that there are numerous more large-scale developments under the OZ category and as such, consider the numbers you will see in the CD category as a floor of the amount of large-scale housing development applications that exists.

The variables of note here are status type and count of each status type. From the status types, only "Refused" and "Closed" were taken out of the set. Figure 3 shows the count of how many applications there are that fall under each status.

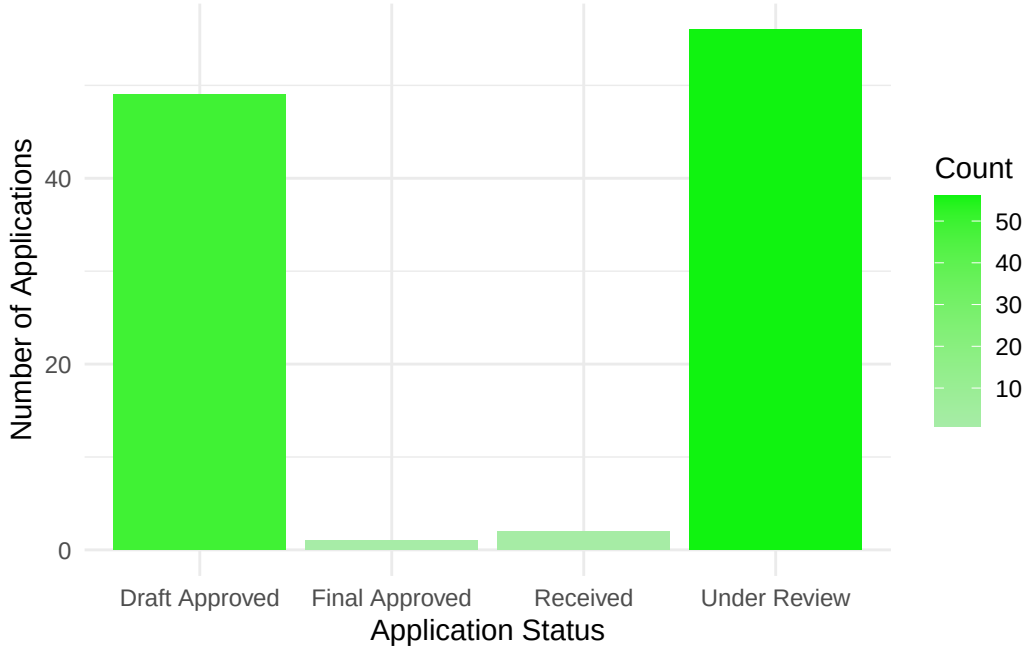

Figure 3: Number of applications per status category

The majority of applications fall under the "Draft Approved" category and the "Under Review" category. This means there are at least 50 new large-scale condominiums that will be built in the future.

3 Results

Figure 1 shows the big decrease in apartments built during the pandemic years. Clearly, the prioritization on accommodating new residents fell down the ladder during the pandemic years. Figure 2 shows that there was a big increase in cycling paths during the pandemic years in comparison to 2019. The data shows that building cycling paths for the current residents of Toronto became a higher priority for the city, but why cycling in particular?

As the population of Toronto has been steadily increasing, so too has interest in cycling. There was a record-breaking 23% jump in Bike Share users from 2020 to 2021 (Kalra (2022)) and 256 new cycling paths built from 2015 to 2022. There also has been a slow transition to having bike lanes on major roads. One of the biggest benefits of cycling, especially during the pandemic, is that its an activity that can be enjoyed whilst adhering to quarantine protocols, as you can

realistically practice social distancing whilst cycling. The city of Toronto realized this, and shifted their focus on building apartments to building new cycling paths. The effort that was put into construction was instead put into building cycling paths, with 43 new paths built in 2020 and 40 new paths built in 2021. Compare those numbers to the 12 new paths that were built in 2019.

However, since the end of the pandemic, the data shows that the prioritization of cycling paths has dramatically fallen down the ladder, with only 5 cycling paths installed in 2022. So where did the prioritization go again? The answer lies in Figure 3, where 50 applications for new condominiums have been approved, and even more applications are under review. The city seems to be preparing for a big influx of new residents. Where are these new residents coming from?

Punwasi (2023) tells us that while many Greater Toronto Area residents are fleeing, their numbers are being replaced by a record amount of immigrants. Another source of new residents are workers that once enjoyed the convenience of work from home that are now being forced to go back to the office. Lastly, another source of new residents are students: Universities are abolishing remote learning systems and welcoming back students to in-person learning. This means newly accepted students and students that were learning remotely in 2020 and 2021 are now having to find housing.

4 Conclusion

Before the pandemic, the city of Toronto was focused on building large-size apartment complexes to house the growing population. During the pandemic, the city of Toronto shifted their focus from apartments to satisfying the already-existing quarantined population by growing the amount of bike paths around the city. What about after the pandemic? We seem to be in the middle of another priority shift, with only 5 new bike paths built in 2022. From the 49 draft-approved apartment complex plans and the 56 other application under review (Gelfand (2022)), the city of Toronto seems to be putting its focus back on building apartment complexes for the ever-growing population.

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