

How to Avoid Losing Your Bike to Thieves in Toronto

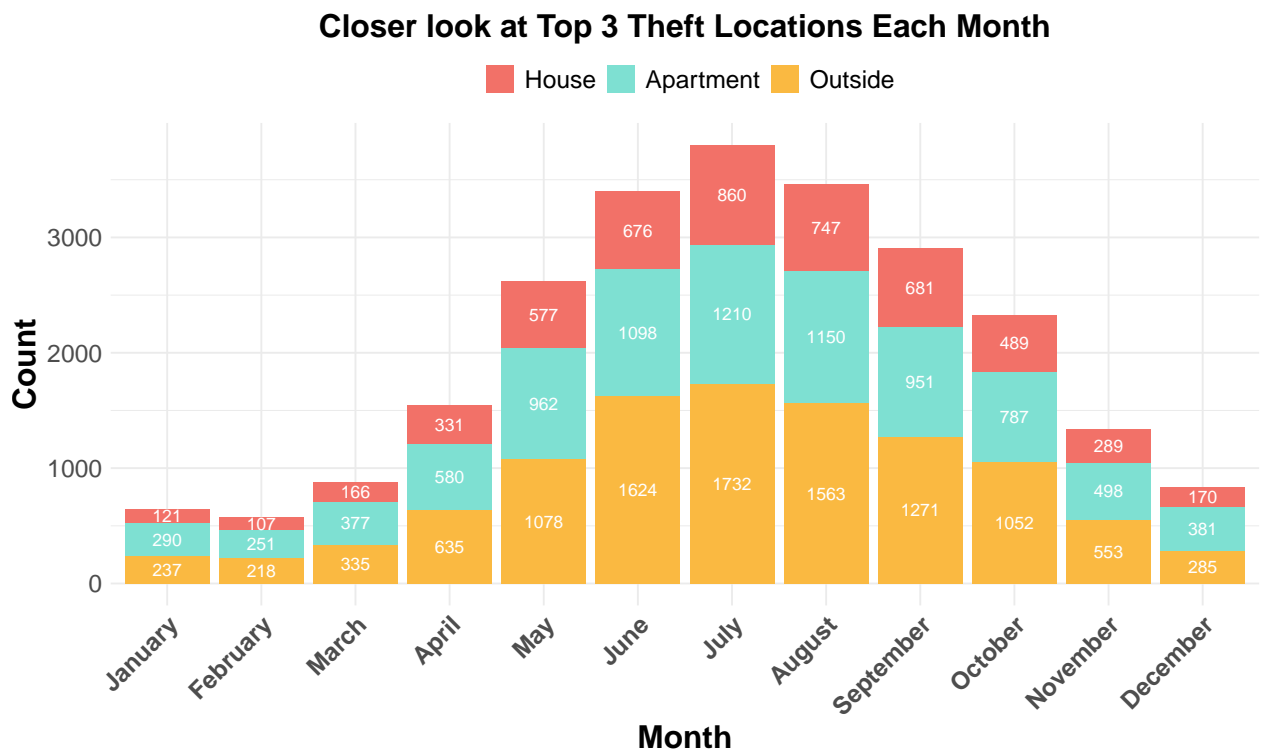
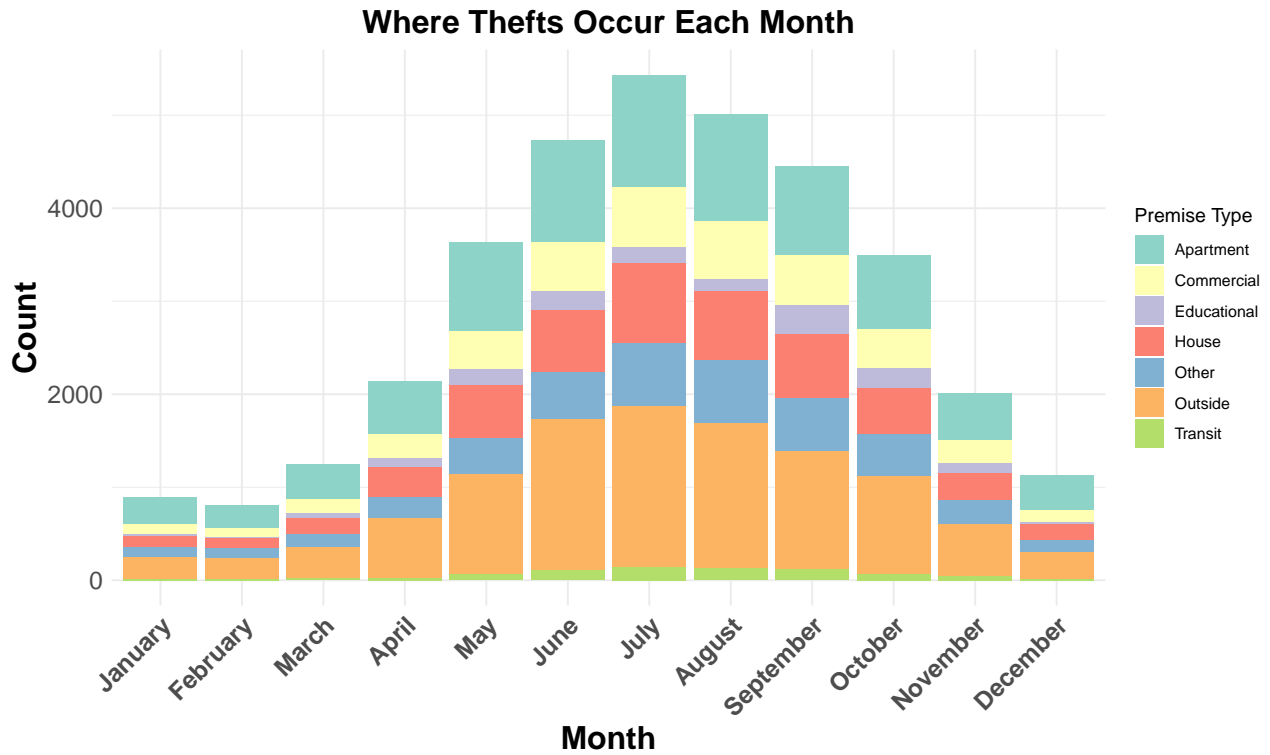
Zeeshan Gazi and Khushil Nagda

March 18, 2024

What happened to bikes in Toronto from 2014-2023?

Bike theft is a major issue in Toronto. It is not uncommon to see a bicycle wheel or lock just hanging on a sidewalk railing as you walk through the city. After all, all one needs to steal a bike is a bike cutter, hacksaw, or even an angle grinder which can be easily and discreetly stored in a backpack. Numerous victims report stolen bikes every year but there is not much being done to combat these crimes. Though the punishment of the thefts can mean time in prison, the amount of money that can be made from selling these stolen bikes and their parts are deemed to be worth it by these thieves.

The goal of this article is to delve deeper into the factors which impact the risk of bicycle theft in Toronto. These factors include: month, day of the week, time of day, location of bike, neighborhood, bike make, type, and lastly average price. The data that will be utilized is from the Toronto Police Service Public Safety Data Portal. This data contains over 34000 recorded bike thefts in the city of Toronto from 2014 to 2023, along with corresponding information. This article will break down this data into an informative analysis which will hopefully provide some meaningful insights to Toronto cyclists and those who are interested in purchasing a bike later on.



Seasonal Theft Counts of Top Three Locations

Premises Type	Season	Seasonal Count	Yearly Count	% of Yearly Count
House	Fall	1459	5214	28.00%
House	Spring	1074	5214	21.00%

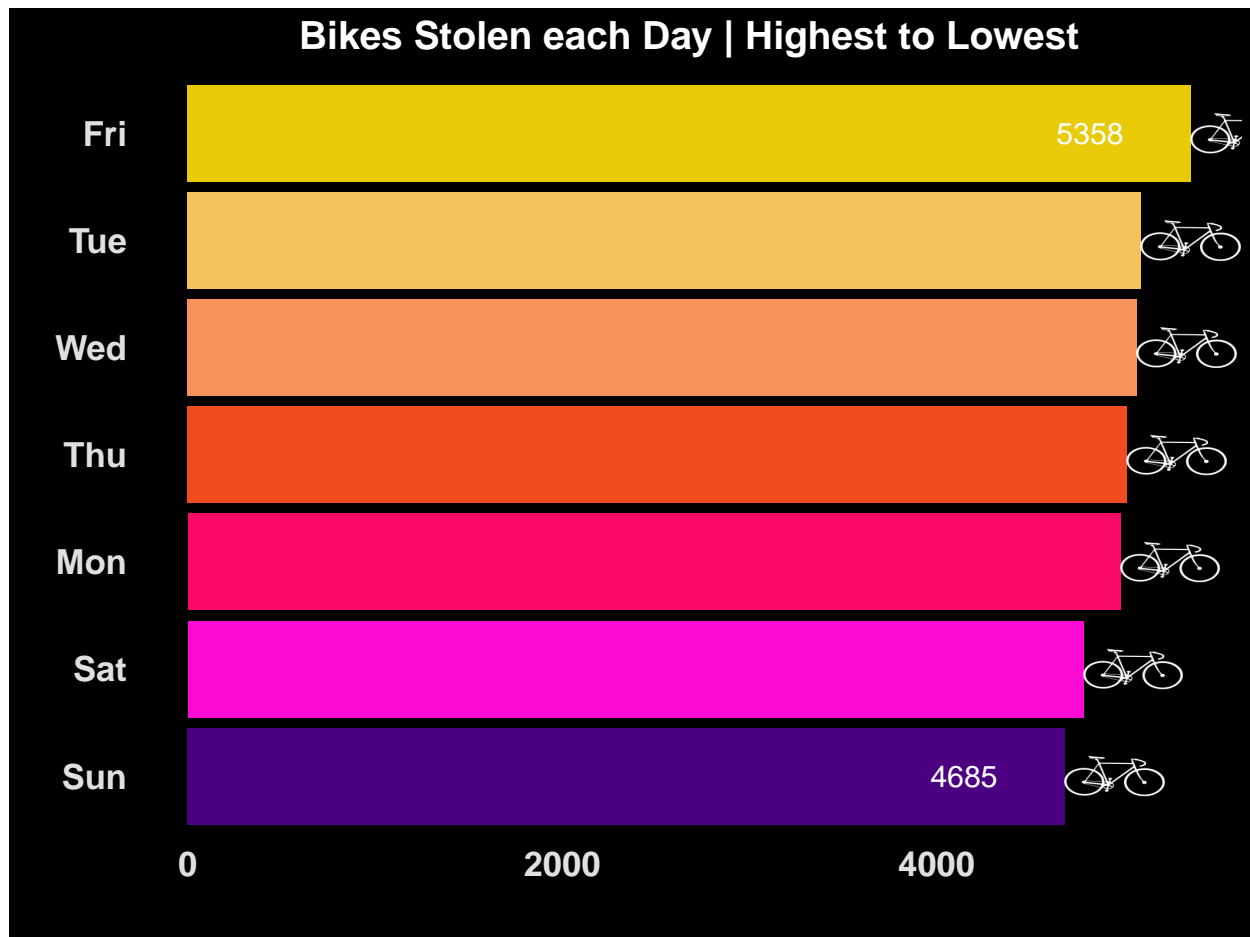
House	Summer	2283	5214	44.00%
House	Winter	398	5214	8.00%
Apartment	Fall	2236	8535	26.00%
Apartment	Spring	1919	8535	22.00%
Apartment	Summer	3458	8535	41.00%
Apartment	Winter	922	8535	11.00%
Outside	Fall	2876	10583	27.00%
Outside	Spring	2048	10583	19.00%
Outside	Summer	4919	10583	46.00%
Outside	Winter	740	10583	7.00%

Insight 1: Which Months and Where do Thefts Occur the Most?

Most thefts occur at residences, specifically apartments, and outside, and on the other hand the least thefts occur on the transit. Transit being the least common theft location makes sense since cyclists are most likely keeping an eye on their property such that it would not be stolen. However in apartments as well as outside, bikes are probably stolen because no one is keeping an eye. In apartments, there are bike storage which can be found in the parking lot inside or outside of the building. Once thieves are able to access these locations they can choose whatever bike they like since there are going to be more options than at a home. As long as the lock of the bike is breakable by a lock cutter, any bike is prone to be stolen. This also applies to bikes stored outside. If there is no one nearby during the weekdays, it is easy to break the lock and ride away quickly without being noticed.

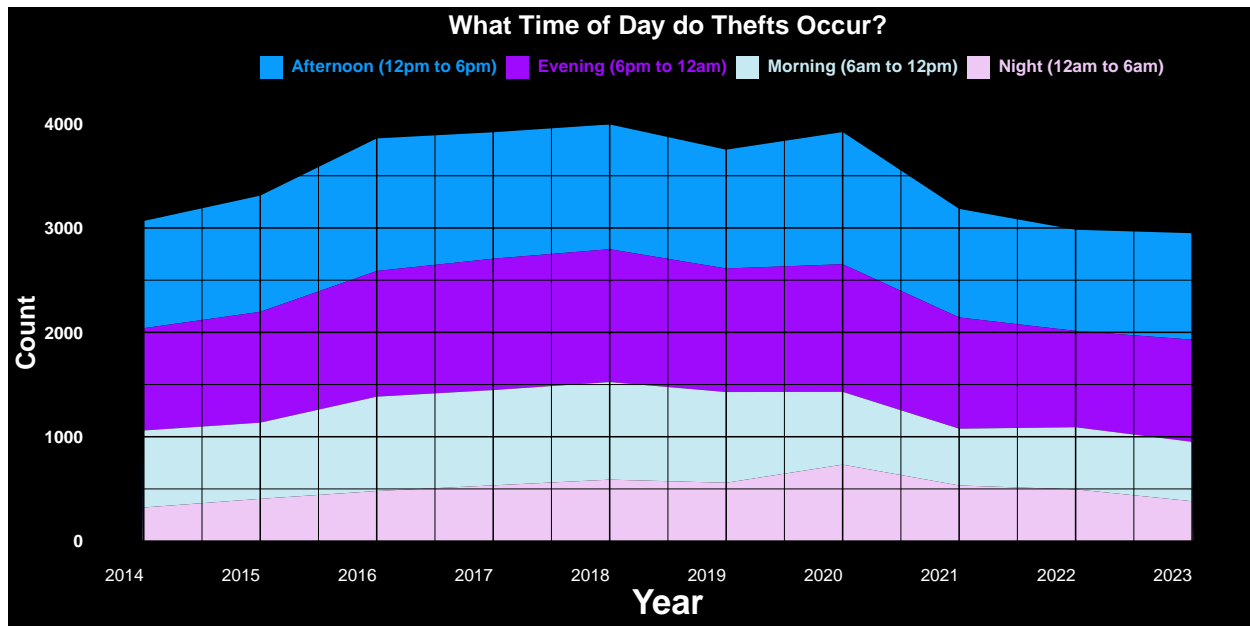
Another insight that can be taken from this graph is that thefts most commonly occur during July and the hotter, summer season. During the early spring, late fall, and winter, people do not tend to ride their bikes due to the weather, thus they keep it indoors, locked and properly stored. However, as the weather gets better, people start to take their bikes out more often and will tend to leave them outside when they are not at home. This causes thefts to be more easy and common.

Nonetheless, in order for the crime to go unnoticed this theft should occur during the afternoon and during the weekdays when everyone is busy and are not paying attention to their bikes whereabouts. The next section will delve deeper into this topic.



Insight 2: Which Day do Thefts Occur the Most?

Given this graph, it is evident that the weekdays experience the most thefts, specifically Friday while the weekend experiences the least thefts, specifically Sunday. Though there is a difference present between the weekdays and weekends, the difference between Saturday and Sunday is quite small, as well as the difference between Wednesday and Thursday for example. Therefore, it is important to understand what differentiates the weekend and the weekdays. One reason could be because people are at home or are not busy during the weekends, thus thieves do not want to be caught by people walking around whether at home or outside. During the weekdays, people are most likely to be at work and busy. As a result, there are less people paying attention to their bikes and less people catching a thief stealing a bike as well. In addition, as previously mentioned the thieves are most likely to attack during the afternoon, the next section will determine whether or not this is true.



Bicycle Thefts by Part of Day and Year
Data from 2014 to 2023

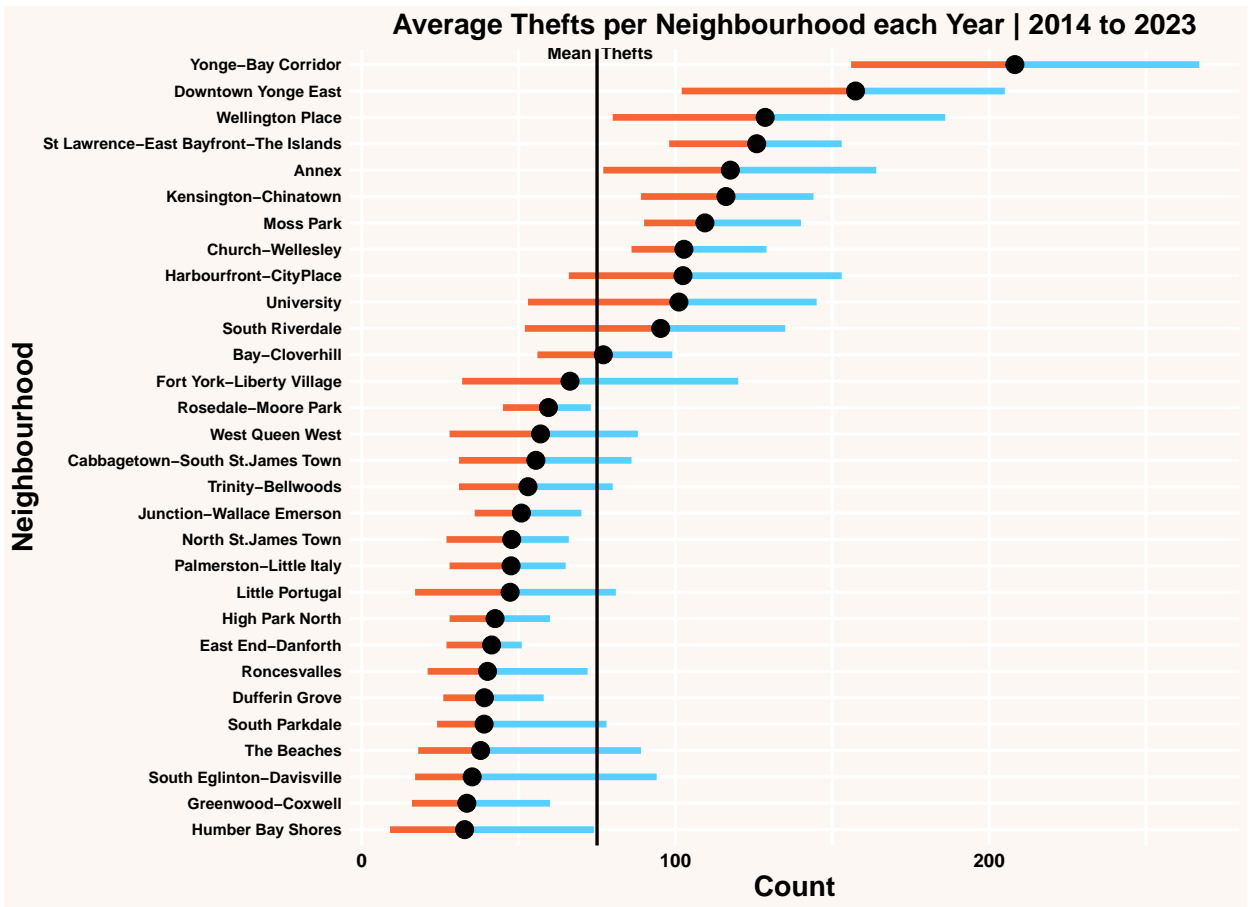
Year	Part of Day	Theft Count
2023	Afternoon (12:00-18:00)	1,020
2023	Evening (18:00-24:00)	979
2023	Morning (6:00-12:00)	569
2023	Night (0:00-6:00)	382

Insight 2b: Do Thieves Prefer a Certain Time of Day?

In 2023, thefts were considered to be similarly probable during the evening (18:00-24:00) and during the afternoon (12:00-18:00), as well as similarly probable during the night (0:00-6:00) and morning (6:00-12:00). These parts of the day can also be grouped by times when there is daylight (morning and afternoon) and where there is no daylight (night and evening). Given these two groupings, the count of thefts seems to be quite similar, indicating that there might not be specific preference by these thieves. Nonetheless, in 2023 the afternoon period experienced the most thefts as was predicted due to most people being occupied during those times.

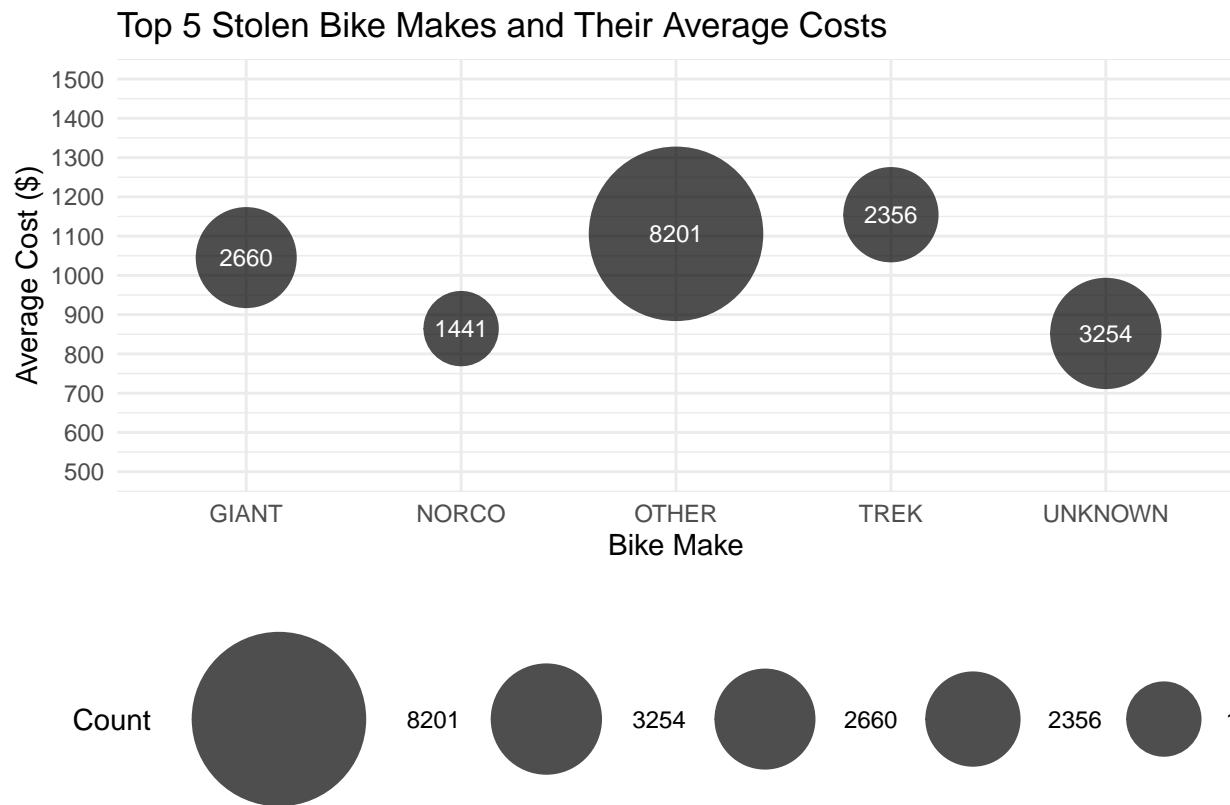
Another insight that is provided by this visualization is the number of thefts that occur per year. As of 2023, thefts have considerably decreased since the past 9 years. This is a positive sign for Toronto as it allows cyclists to be comfortable in purchasing and/or storing their bikes. The late 2010s experienced the most thefts which also represents the time during the pandemic. The reason for this could be because a lot of people decided to stay at home during the lockdowns and thus thieves took this as an opportunity to steal more since there would be less people outside to catch them.

Given these details, it is important to consider the neighborhoods in which these crimes occurred since it is evident that the presence of daylight does not really affect the probability of thefts. The next section will provide some more information on this matter.



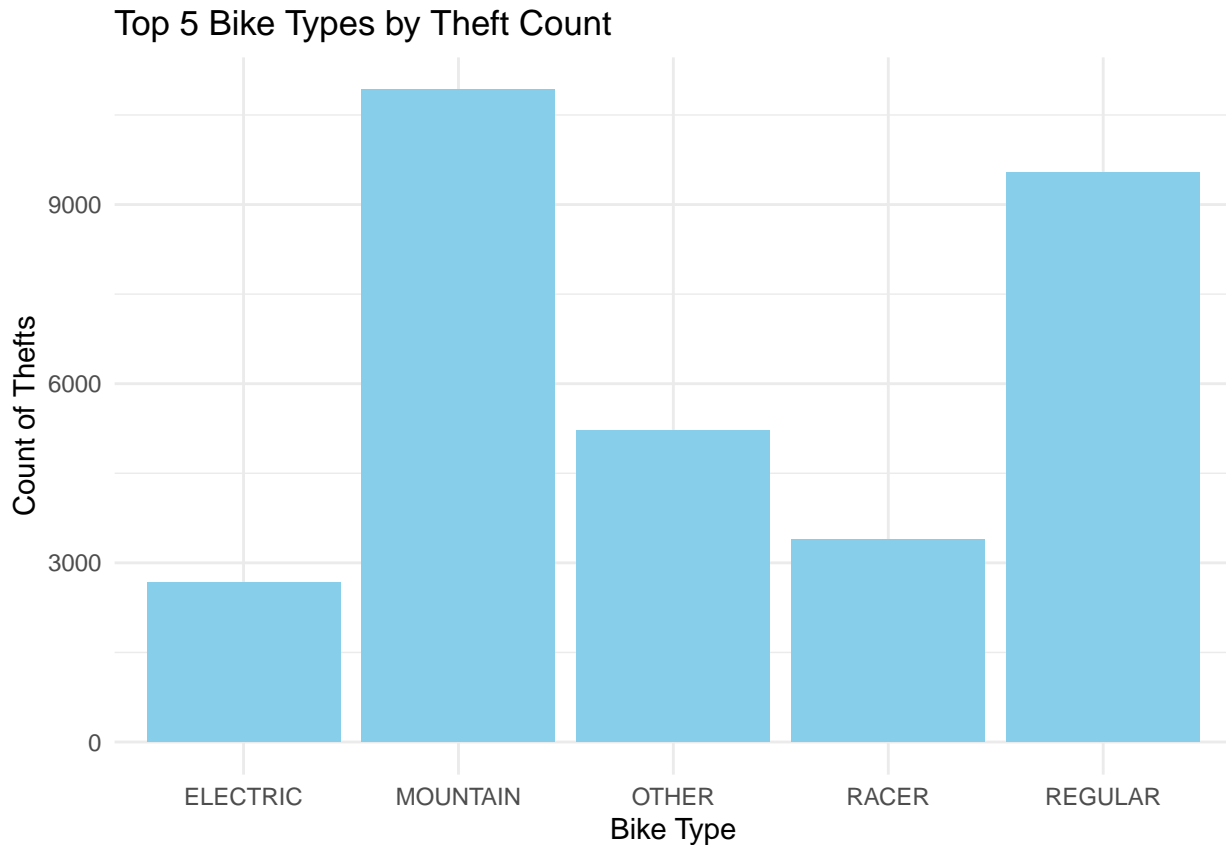
Insight 3: Where do Thieves Attack the Most?

Given this visualization it is evident that the Yonge-Bay Corridor experiences the most amount of thefts in Toronto, followed by Downtown Yonge East, Wellington Place, St. Lawrence-East Bayfront-The Islands, and Annex. What is common among these neighborhoods is the fact that they are all located in the south of the city in the heart of Downtown Toronto. All of these places are quite close to popular attractions including the CN Tower and Harbourfront. It is quite surprising that these locations are vulnerable to these crimes given the fact that these regions contain very high-end restaurants, hotels, and large corporation offices. However, since these areas are considered to be “rich” as a result of the high-end places in the neighborhoods, that could also suggest that the people also possess quite some money to spend on things such as bikes. Thus, thieves might consider these neighborhoods as ideal spots to steal high-end bikes as well. The next section will verify whether or not the bikes stolen are actually high value or not.



Insight 4: What is the Average Cost and Make of the Bikes Stolen?

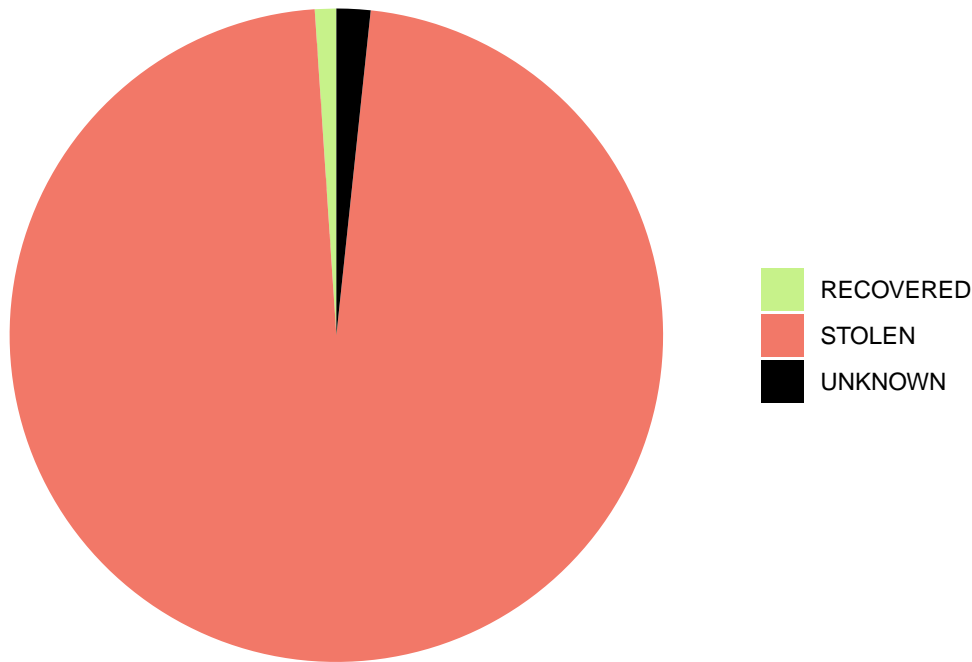
The most stolen bike brand is GIANT, of which 2660 of them were stolen. Among GIANT were other brands including NORCO and TREK which also experienced a considerable amount of thefts. One thing to note is the average cost of these bikes were all in a similar range of around \$1000. To put this into context, one of the cheapest bikes stolen was \$50, and one of the most expensive bikes stolen was \$10000. Therefore, on average the thieves are stealing bikes that are more expensive, which makes sense given the neighborhoods in which they are mostly being stolen from. However, it might also be important to note the type of bikes that are being stolen which will be explained in the next section.



Insight 5: What Type of Bikes do Thieves Prefer?

Thieves have most commonly targeted MOUNTAIN and REGULAR bikes compared to other types such as ELECTRIC and RACER. This makes sense given the previous graph which showed that the average cost of the bikes stolen was around \$1000. The prices of electric and racer bikes are much more than \$1000, thus it would not make sense for a lot of them to be stolen. Even though thieves might want to take a more expensive item, this is not always the case. One of the reasons is because the thieves do not always keep the bikes they steal. Instead the bikes are sold, or taken apart to sell in pieces. The odds of finding customers for pricey bikes are not common, thus it is ideal to steal bikes that are decently priced such that there are more customers willing to buy, and the thieves are able to make a good amount of money.

The Condition of Recovery



Average Bike Cost by Status

Status	Total Count	Average Cost (CAD)	Percentage (%)
RECOVERED	235	\$1,139.22	0.76
STOLEN	30541	\$1,048.94	98.65
UNKNOWN	183	\$1,069.44	0.59

Summary of Findings

To end off, this chart highlights the fact that most bikes that are stolen are never recovered. Assumptions such as very expensive bikes are more likely to be recovered due to the high value or the presence of a tracker can be made, yet further analysis shows the average price of stolen, recovered, and unknown status bikes are all relatively the same. Therefore, it is important to gather other information about these thefts such that proactive actions can be taken to avoid these crimes. This article has gathered the following information about the most common type of bike thefts from 2014-2023:

Day: Friday (Weekdays)

Month: July (Summer Season)

Time of Day: Anytime

Premises type: Apartment and Outside

Neighborhood: Yonge-Bay Corridor (Downtown Toronto)

Make: GIANT
Type: Mountain Average Cost: \$1086

Given these characteristics of the most common bike thefts, cyclists should take the necessary precautions to avoid these crimes. This could mean buying a better lock, or just being weary of the location of where the bike is stored and its security.

It is important for everyone to look into this data as cycling is a great way of commuting. It avoids using cars and public transit which are contributors to pollution and as the planet is being cared for, cyclists are able to enjoy some good exercise and fresh air while riding. The goal of this article is to not prevent people from buying bicycles but to promote an idea of increased awareness when storing and securing them.

To end off, even though this article provides a lot of useful information from the data provided by the Toronto Police Service, there is much more extra data that can be used to make this analysis more holistic. For example, analyzing the types of locks that were used to secure the bike can give more insights as to how easy or difficult the theft is, and how long it takes. The presence of security cameras could also play a role in the thieves inclination to commit a crime. If there are multiple thieves involved this could prevent bystanders from intervening. Thus, cyclists can do more research into finding out the best ways to stay safe from these unfortunate crimes.

Data: <https://data.torontopolice.on.ca/pages/bicycle-thefts>