# Engagement & Voting Stations in the City of Calgary 2017 Elections

**A.** Scenario

- What kind of company are you working for?

City of Calgary (Government)

- What is the problem your boss asked you to solve for?

My boss has requested I investigate community engagement in the 2017 City of Calgary elections for the office of mayor. Furthermore, I have been asked to find out the effectiveness of advance voting stations, as compared to other voting station types, but especially regular voting stations. They are attempting to determine whether implementing advance voting stations is useful for increasing engagement considering many people would rather avoid long lines for voting. Additionally, they are attempting to encourage young people to participate in the democratic process through the use of available data and transparency.

- Who are the third party individuals?

My audience in this particular problem would be the general public, the average Joe, who would be interested in learning about their community's engagement in the city elections. In addition, city officials in charge of running the election would be interested in learning the results of the advance polling stations in order to allow for better decision making when running future elections. The benefit of displaying voter turnout for communities is an exercise to encourage more people to go out and vote.

**B.** Obtaining Data

The dataset used in this project was the "2017 Official Election Results by Voting Station" obtained from the City of Calgary website under the Open Calgary portal.

The reason this particular dataset was chosen is due to it's immediate availability from the City of Calgary "Open Calgary" portal. Furthermore, the dataset used is from an official source with authority on the matter, the official source being the City of Calgary itself.

This dataset is made available by the City of Calgary for any and all interested parties seeking information regarding the 2017 election. Open Calgary is an initiative by the City of Calgary to allow open data available for use by interested parties for the sharing of information.

According to the City of Calgary:

"Open Calgary is your gateway to The City of Calgary's open data portal and citizen dashboard. In the spirit of openness, accountability, and transparency, Open Calgary was created to facilitate the sharing of information, spark innovative ideas and foster a sense of collaboration among citizens."

Source

To obtain the dataset:

1. Click the link from the **Open Calgary** page
2. Click the “Download” button
3. Choose the preferred file format (e.g. CSV, JSON, XML)

This use of the dataset does not violate any copyright law or ethical code. Any personal information, and logos or symbols of the Information Provider (City of Calgary) have not been used.

This use of the dataset follows the Calgary.ca and Open Data “Terms of Use”:

- **Calgary.ca Terms of Use**
- **Open Data Terms of Use**

**C.** Cleaning Data

This dataset obtained from Open Calgary does not require any cleaning.

The dataset is considered clean as there was no visible leading or trailing whitespaces in the entries. Furthermore, the dataset did not contain duplicates in the entries.

At first glance, it might seem that certain voting stations such “Mount Royal University” are recorded multiple times but this is due to the many different candidates running for the office of mayor. Hence, the multiple different entries present under, for instance, “Mount Royal University” are due representing many different candidates. Moreover, the dataset itself does not contain erroneous data nor is there any inconsistencies, whether in form of incorrect formatting or outright blank columns in certain records.

The specific tool used to view, sort, and clean the data is OpenRefine, formerly known as Google Refine.

In order to make sure that the dataset obtained does not contain any dirty data, first and foremost, I would use the “Trim leading and trailing whitespace” function in order to make sure, as the name of the function implies, there isn’t any unnecessary whitespace in the entries. Moreover, for columns which contain principal words, whether it’s names of people or location, to use the transform “To Titlecase” function for consistency’s sake.

In addition, in the chance there are multiple entries that are similar but not recorded in the same manner, the “Cluster and Edit” function is paramount to obtain a consistency in the data. This function would serve you well to gather all entries that look similar to each other, and most importantly, you would be able to enter the new desired cell value.

**D.** Visualizing Data

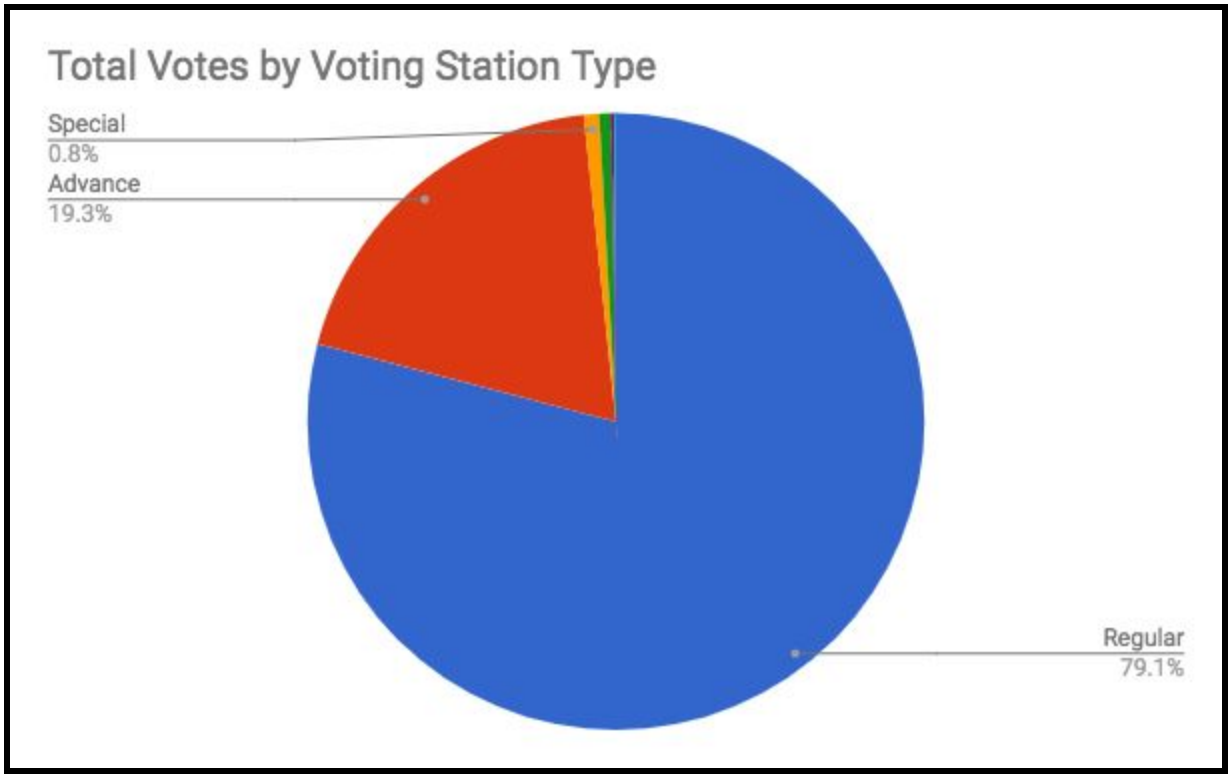


**Figure 1.1**

The voter turnout in the City of Calgary 2017 elections for the office of mayor was 387,583 people out of 666,663 eligible voters.

Source

From 666k voters, 19.3% submitted their vote through the advance voting stations. This is significantly higher than the previous election in 2013. This demonstrates the usefulness and need for more options being available for voters to be able to submit their vote. Long queues and wait times are very common during election day. Many have expressed their frustrations with long wait times, and the availability of more advance voting stations to accommodate a voter's unpredictable schedule and location within the city.

Source

Figure 1.1 demonstrates the popularity of the advance voting stations in the city as compared to the many different types of voting stations. There was a total of 7 different types of voting stations, which were the following:

1. Regular
2. Advance
3. Hospital
4. Special
5. Mail-In
6. Travelling
7. Outside Separate

Out of all 7 types, the regular voting station, found in designated locations on election day, is traditionally the most popular type. But, the second most popular is the advance voting station type which is growing in popularity and demonstrates a growing need for increased availability to reduce strain on couriers on election day.

The pie chart displayed in Figure 1.1 is convenient since it clearly displays the leading type of voting station. But it simultaneously shows that a hefty chunk is taken up by the advance voting station, display its impact loud and clear. This is most useful for city officials to make appropriate decisions for future elections yet to come.

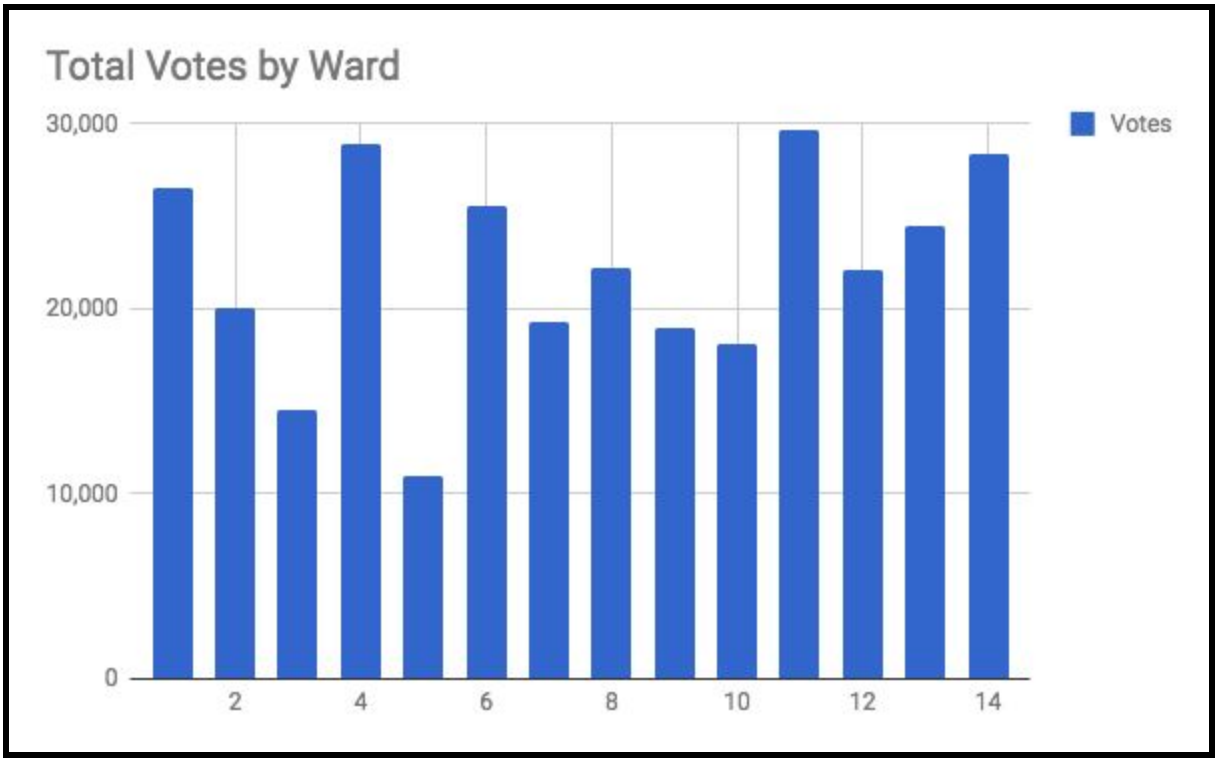


**Figure 1.2**

Figure 1.2 displays the total number of votes from each of Calgary's 14 wards within the city. As the chart displays, there are wildly different voter turnouts from each ward in the city. In the extremes, amongst the leading communities for voter turnout are Ward 11 and Ward 4. In addition, amongst the lower end of extremes, the lowest number of voters are that of Ward 5 and Ward 3.

In this particular situation, context can be crucial as the size of the community by population can play a large factor in determining an explanation as to why certain communities have a massive number of voters compared to others.

This particular chart can prove useful to both city officials and residents of those particular communities. City officials are given data to explore into further depth why voter turnouts in certain areas are considerably lower compared to most. Amongst those reasons can be, whether or not enough voting station were available in those areas, whether voting stations in those communities were understaffed compared to most, and as a result leading to more voters walking away due to the longer lines.

On the other hand, the chart is beneficial for the residents of the community to learn about their engagement in city elections and overall impact. This is helpful as the more politically active in the community can use these numbers to learn why voter turnout was low and raise their concerns and issues to the city in order for city officials to better accommodate them in future elections.

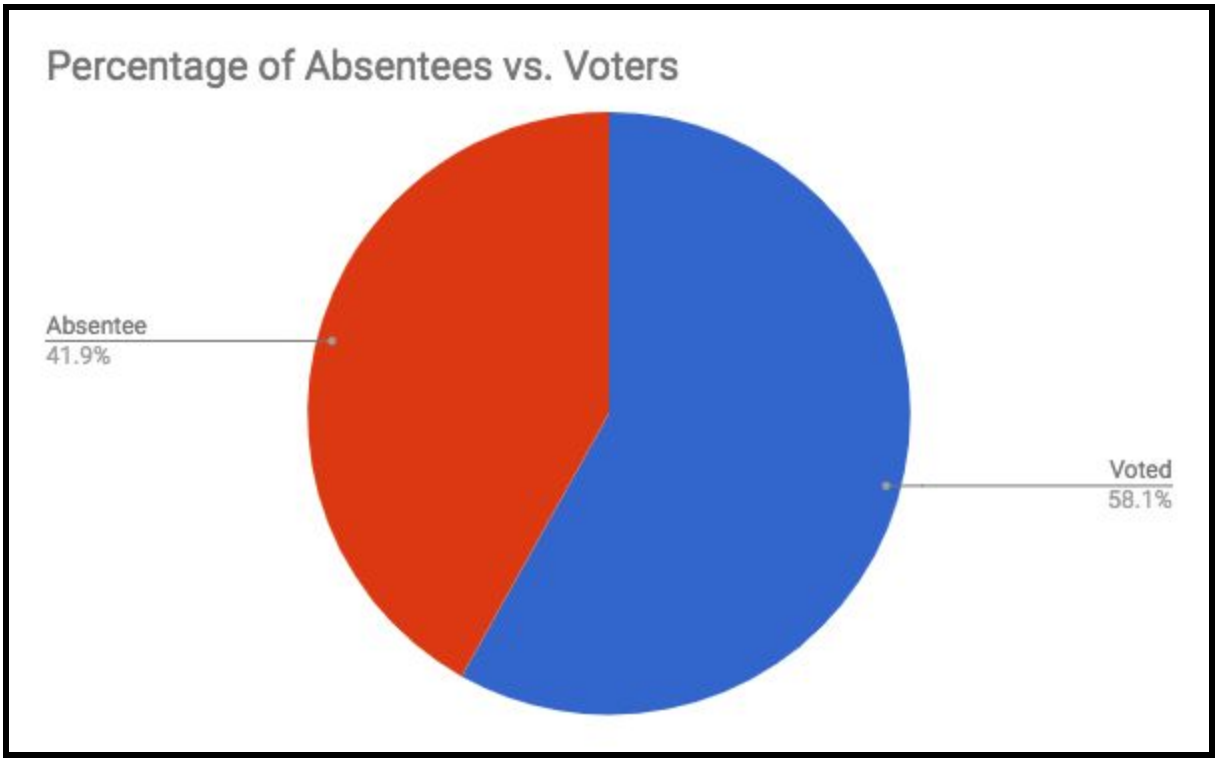


Figure 1.3

Finally, Figure 1.3 shows the percentage of Calgarians that voted vs the percentage of absentees who were eligible but did not cast their votes. A voter turnout of 58.1% is impressive and displaying such a number can only but help motivate more people to participate in the democratic process.

This simple pie chart serves as an excellent tool to show that more Calgarians are becoming increasingly politically active and can only motivate those who did not vote to cast their ballots in the future. In realistic terms, it is very naive to expect and attempt to achieve a voter turnout of 100% of the population. Yet, you can strive to increase the total number of participating voters and showing these numbers can only create an effect where an increasing amount of people view it as their civic duty to vote.

## References


1. Official Results - General Election 2017
2. 2017 Official Election Results by Voting Station
3. Election Results by Voting Station
4. Election Results by Ward
5. Election Results by Ward and Voting Station
6. Elections Calgary - When/Where do I vote?
7. Calgary.ca Terms of Use
8. Open Data Terms of Use
9. Metro News Article - “Calgary Vows to Tighten Up Municipal Election Problems”