



Assignment 1

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Brief about Analysis

The evaluation results of homicide in three significant Canadian provinces during the course of the previous 10 years, from 2011 to 2021, are presented in this paper. The federal police of Canada continue to prioritize internal security, and this research examines several facets of the rise in homicide cases in the three provinces that were the focus of this analysis, namely Ontario, Alberta, and Manitoba. The number of offenses recorded on the Stats Canada website served as the methodology for this research. The review focused on four main issues: crime rates in the subject provinces for the previous ten years, the province's most violent cities, any relationships between juvenile and adult homicide cases, and projections of crime rates for the following year.

Justification for Tool Used in Analysis

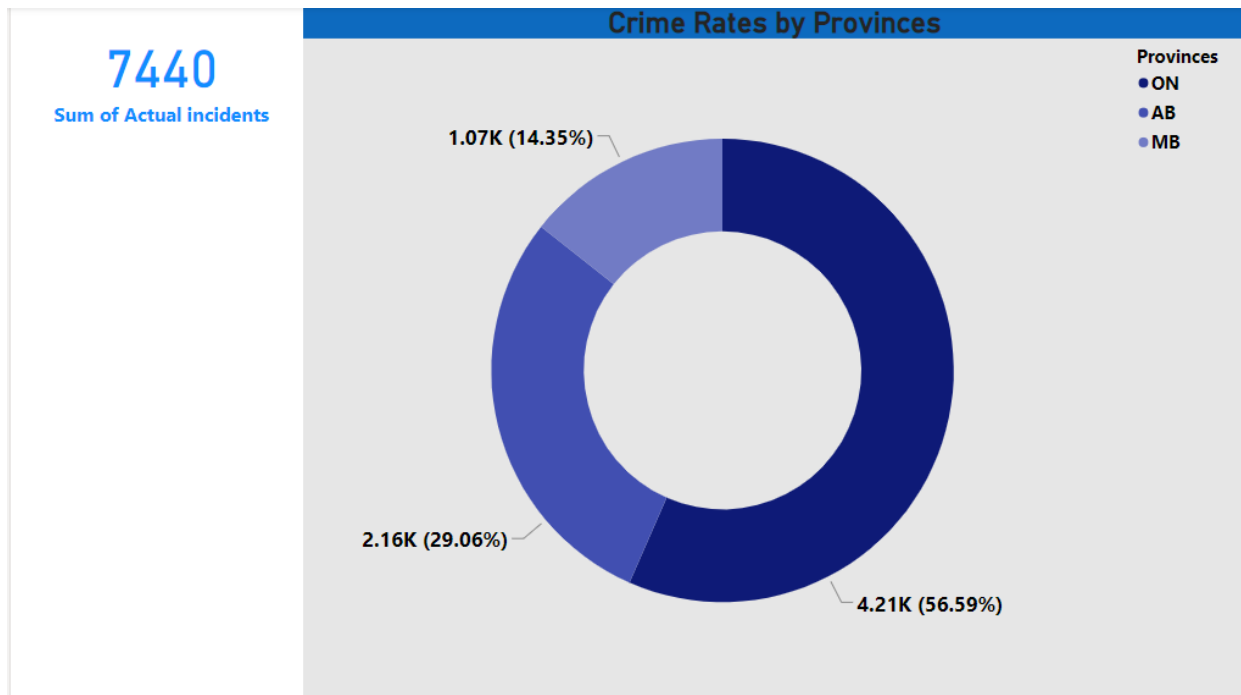
It was vital to use a technology that enables the necessary information to be gained in order to advise the best conclusions because we were using the data for several datasets for three main Canadian provinces over the past ten years. In order to create simple and comparable graphics from this data, Power BI enabled us to consider each component as a whole.

Visualization Approach

In order to read the data, assess the variables that would be necessary to get the intended outcome, and provide the necessary visualizations, we utilized the metadata. In order to visualize the data and reach a conclusion while working with a sizable number of real datasets of homicide cases for the three major provinces, we used power query to remove any extraneous columns and transform the statistics needed for our analysis evaluation approach to different columns. We were given information about this specific crime rate for more than 20 years from the Stats Canada website. We have to remove the years prior to the last decade to make the study more pertinent to our research.

Report Findings

1. We have compared the homicide rates in Ontario, Alberta, and Manitoba in the graph below. As we can see, these provinces have reported a total of 7440 homicide events. The biggest number of homicides, 4.21 K, are reported in Ontario. That represents almost 57% of all instances, with Manitoba coming in at 14% and Alberta at 29%.



2. We have compared the number of homicides in the top three cities in Ontario, Alberta, and Manitoba in the graph below. As we can see, Toronto, the Peel Regions (Mississauga and Brampton), and the capital city Ottawa are the top cities in Ontario. The top three cities in Manitoba are Winnipeg, Thompson, and the outlying areas of Island Lake. The top three cities in Alberta are Edmonton, Calgary, and Maskwacis. The top three cities across all provinces are Toronto (703 cases), Winnipeg (302 cases), and Edmonton (336 cases).

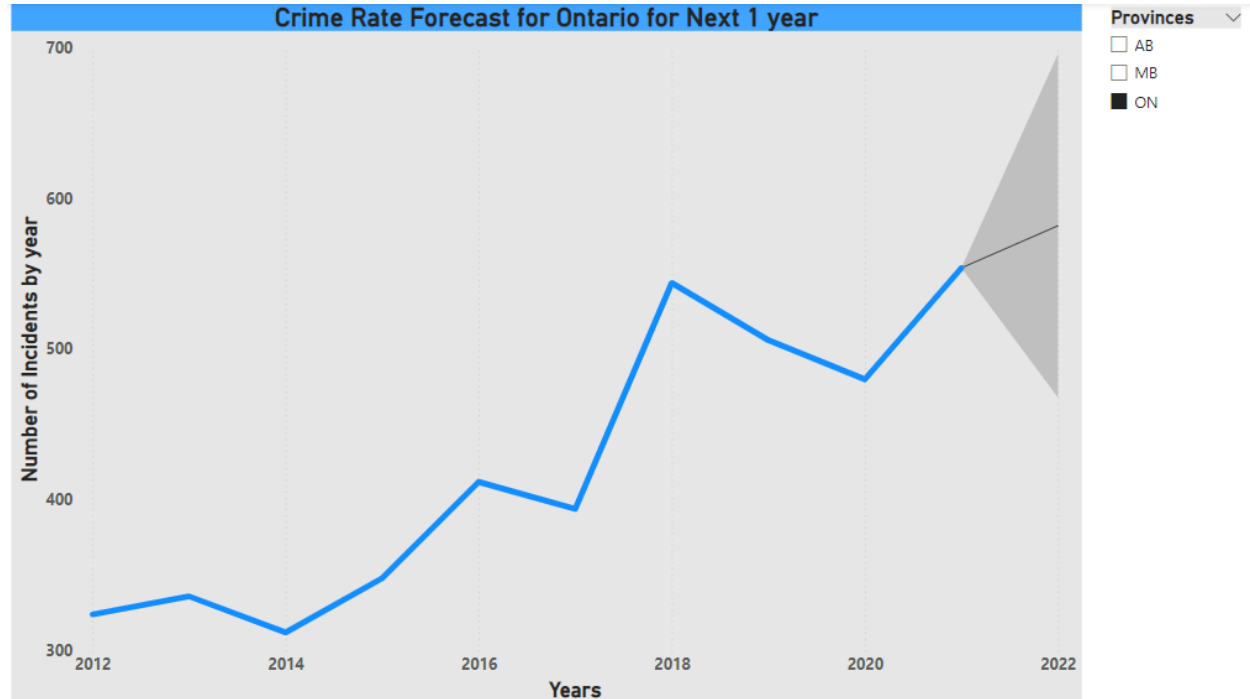
Crime Rates for top three Cities by Provinces

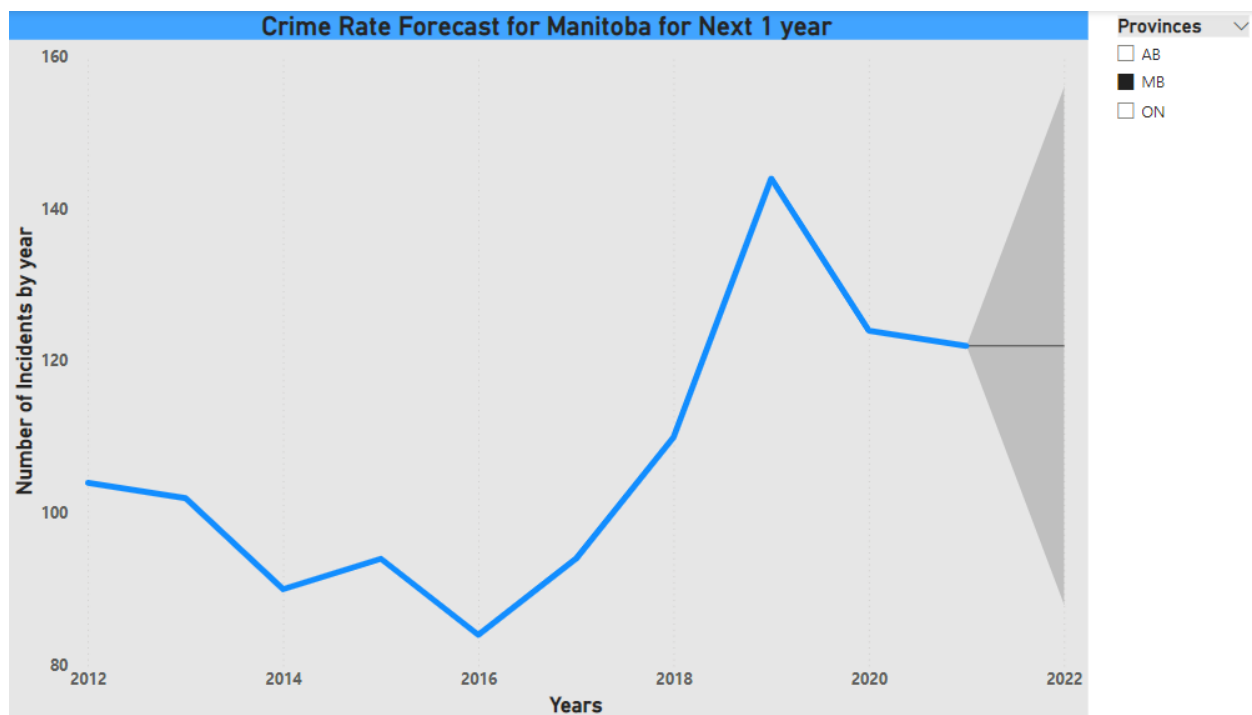
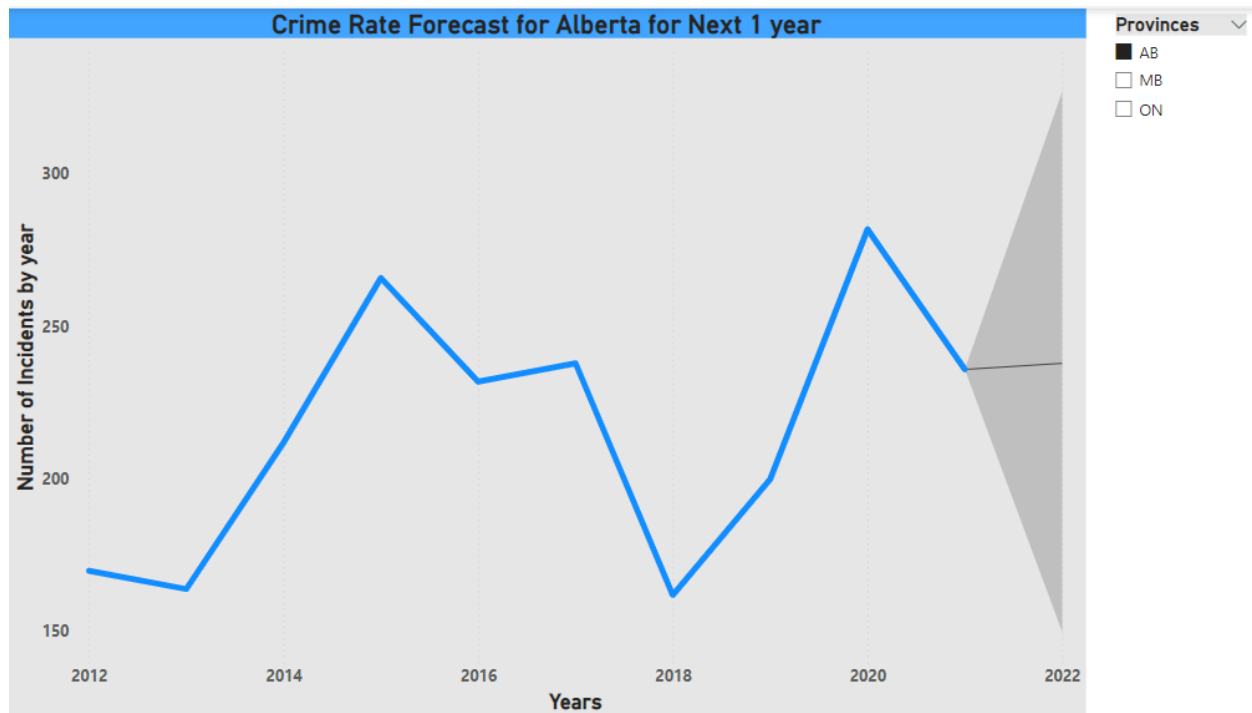
Provinces	GEO	No of Incidents
ON	Toronto, Ontario, municipal [35304]	703
ON	Peel Region (Mississauga/Brampton), Ontario, municipal [35041]	163
ON	Ottawa, Ontario, municipal [35010]	120
MB	Winnipeg, Manitoba, municipal [46064]	302
MB	Island Lake, Manitoba, Royal Canadian Mounted Police, rural [46829]	17
MB	Thompson, Manitoba, Royal Canadian Mounted Police, municipal [46774]	15
AB	Edmonton, Alberta, municipal [48033]	336
AB	Calgary, Alberta, municipal [48014]	259
AB	Maskwacis, Alberta, Royal Canadian Mounted Police, rural [48942]	31
Total		1946

3. The crime rates for homicide in the top cities and these provinces do not directly correlate, as seen in the table below. For these three provinces' top two cities, we can observe that crime rates are rising, whereas in the third city, they are falling. Compared to other cities in the other two provinces, Thompson in Manitoba has a higher percentage of negligent cases.

Prov	GEO	Sum of Actual incidents	Correlation
ON	Peel Region (Mississauga/Brampton), Ontario, municipal [35041]	163	0.86
ON	Toronto, Ontario, municipal [35304]	703	0.43
ON	Ottawa, Ontario, municipal [35010]	120	-0.53
MB	Island Lake, Manitoba, Royal Canadian Mounted Police, rural [46829]	17	0.90
MB	Winnipeg, Manitoba, municipal [46064]	302	0.69
MB	Thompson, Manitoba, Royal Canadian Mounted Police, municipal [46774]	15	
AB	Edmonton, Alberta, municipal [48033]	336	0.66
AB	Calgary, Alberta, municipal [48014]	259	0.46
AB	Maskwacis, Alberta, Royal Canadian Mounted Police, rural [48942]	31	-0.27
Total		1946	0.85

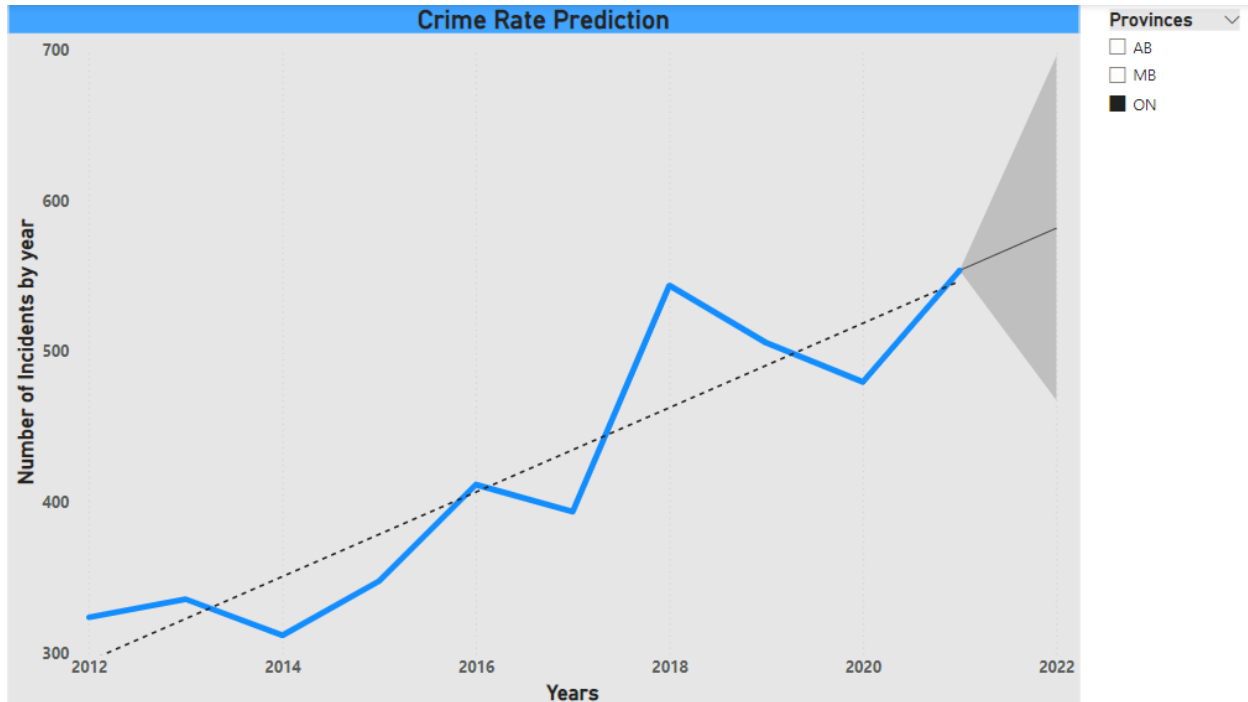
4. Homicide cases will rise in Ontario over the course of the coming year, whereas they will rise in Alberta and Manitoba at a slower rate, as we have predicted using our Power BI tool.

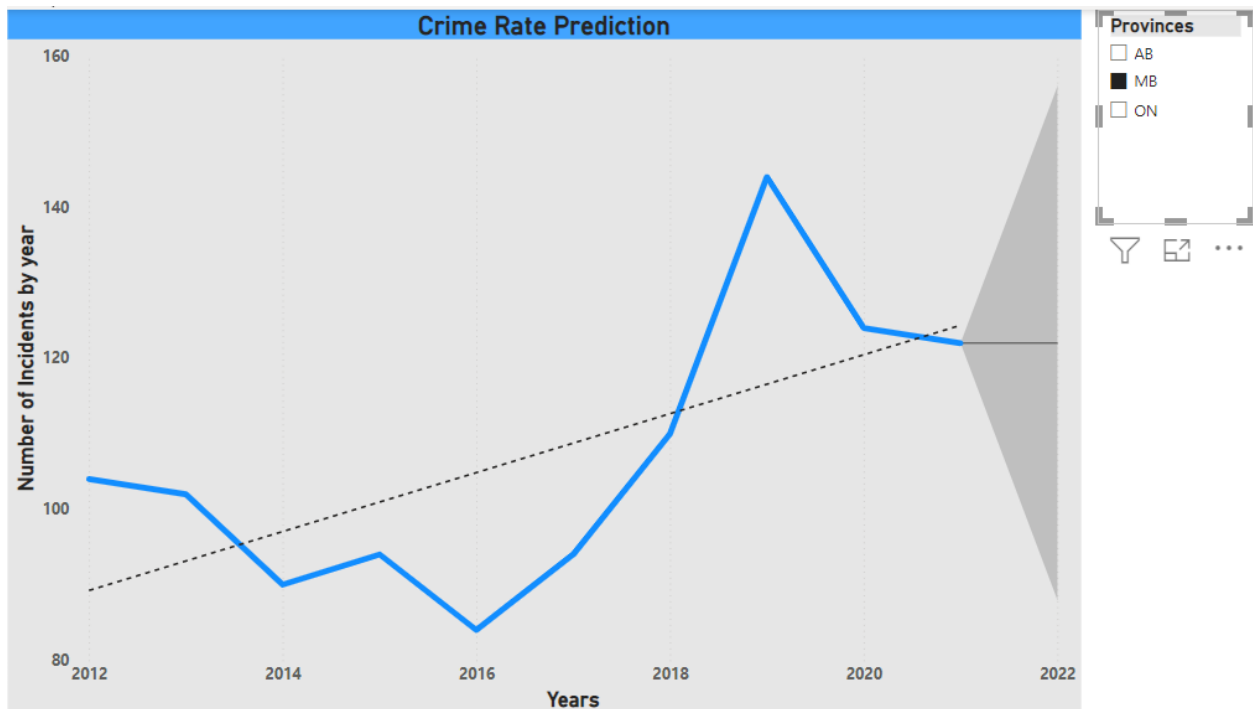
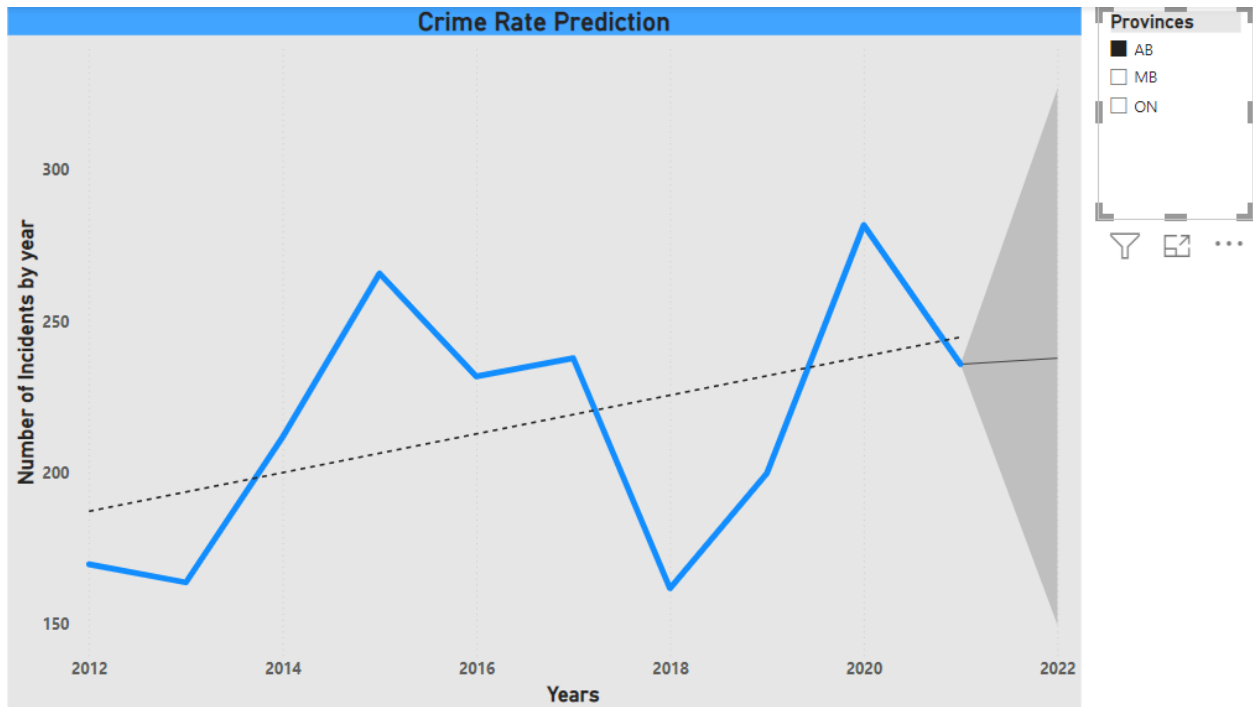




Crime Rate Prediction

We can see from the trend over the last ten years that there have been an increasing number of homicide cases. In this province, the number of homicides has not significantly decreased. We have also witnessed a jump in incidents in the years 2015 and 2020, after which we are witnessing a downward tendency in this crime in Alberta. The crime rate in Alberta is rising, but not as much as it is in Ontario. With the exception of 2018, when it began to rise once more and peaked in 2019, Manitoba's homicide crime rate had been on the decline up to that point. Now, however, it has practically reached a static level.





Conclusion

We can conclude by saying that, as a result of our visualizations, we have observed that, in comparison to the other two provinces, Toronto has higher homicide crime rates than the other two. In order to reduce crime rates in these cities, the Canadian Federal Police Department should concentrate on high-alert cities like Toronto, Mississauga, and Brampton. They may concentrate on further lowering the trend in the other two provinces because it is not rising.