



THE IMPACT OF HOMELESSNESS ON CRIME IN CALGARY

By

Ramkumar Krishnamoorthy

<https://www.linkedin.com/in/ramkumar-krishnamoorthy-96473a25/>

<https://github.com/ramkrish1988/DataScience.git>

Table of Contents:

| Sno | Content | Page No |
|-----|--|---------|
| 1 | Introduction | 3 |
| 2 | Objectives & Scope | 4 |
| 3 | Methodology and data source | 4 |
| 4 | Key Performance Indicators KPI's | 5 |
| 5 | Data Insights | 6 |
| 6 | Predictive Modelling and Future Trends | 8 |
| 7 | Recommendation for Policy makers | 9 |
| 8 | Dataset Model | 9 |
| 9 | Conclusion | 10 |
| 10 | Appendix | 11 |

1.Introduction

Homelessness is a critical societal issue that affects urban centres worldwide, often associated with an increase in various forms of crime. Calgary, Alberta, is no exception. As homelessness continues to grow, so do concerns about its correlation with crime rates. This study seeks to explore this relationship, focusing on the 10-year period between 2014 and 2024. The aim is to provide a comprehensive analysis of how homelessness contributes to crime, assess the effectiveness of government programs, and offer data-driven insights for future policymaking.

Through this study, we seek to answer the following questions:

- How does homelessness impact crime rates in Calgary?
- What government initiatives have been effective in reducing crime among the homeless population?
- How can future services and policies be optimized using the data?

The study leverages comprehensive datasets from the Calgary Police Department, including crime statistics, homelessness records, and socioeconomic factors. Advanced analytical tools, such as predictive modelling, are employed to forecast potential future trends and suggest evidence-based policy adjustments. This research also emphasizes the need for a holistic approach, recognizing that addressing homelessness requires more than punitive measures it demands long-term, sustainable solutions through economic support, housing expansion, and rehabilitation programs.

In conclusion, this research aims to provide valuable insights that will help shape future strategies, making Calgary not only a safer city but one that offers meaningful support to its most vulnerable citizens. By improving our understanding of the interplay between homelessness and crime, we can better tackle the root causes and create a more effective framework for lasting change.

2.Objectives and Scope:

The study aims to assess the relationship between homelessness and crime using a systematic approach that involves tracking key performance indicators (KPIs), such as changes in homelessness over time, the type of crimes most associated with homeless individuals, and the effect of government initiatives on reducing these issues. Our goals include:

1. **Monitoring year-over-year changes in the homeless population:** Understanding trends over time.
2. **Identifying crimes linked to homelessness:** Focus on crime types such as petty theft, vandalism, and public disturbances.
3. **Evaluating the impact of governmental policies:** Reviewing policy effectiveness in crime reduction and resource allocation.

The outcome of the study is intended to support informed decision-making in the public sector and assist law enforcement agencies in creating more efficient crime prevention strategies.

3.Methodology and Data Sources:

3.1 Data Sources

The dataset utilized for this analysis is an imaginary data not a Calgary Police Department and includes crime data spanning 2014 to 2024. Key elements include:

- **Crime Type and Season:** Crimes categorized by type, such as theft, drug-related offenses, and vandalism, mapped across different seasons to identify temporal patterns.
- **Homeless Population Data:** Population counts of homeless individuals throughout the study period, segregated by shelter status (sheltered vs. unsheltered).
- **Socioeconomic Indicators:** Data on unemployment rates and shelter capacity utilization.

3.2 Analytical Tools

We employed Power BI to create interactive dashboards, allowing for the visualization of trends and insights. This enabled us to easily compare variables such as crime rates against homelessness, arrest rates, and unemployment figures. Furthermore, predictive modelling techniques were applied to forecast future trends and assess the potential outcomes of policy changes.

3.3 Analytical Framework

The analysis was conducted in two phases:

1. **Descriptive Analysis:** Understand historical trends and relationships between homelessness and crime.
2. **Predictive Modelling:** Forecast the impact of future interventions, such as increasing shelter capacity or addressing economic downturns.

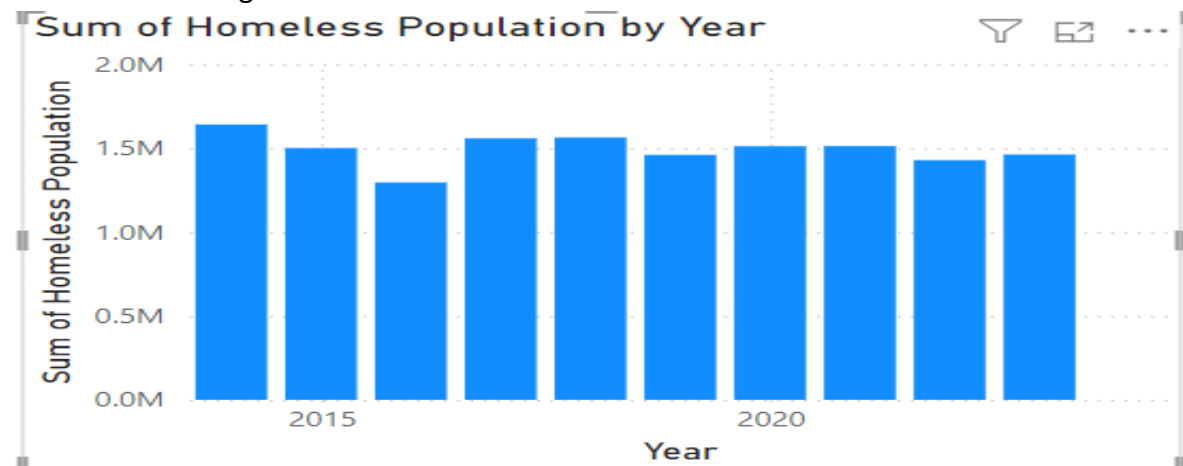
4. Key Performance Indicators (KPIs)

- **Changes in Homelessness:** Monitoring year-on-year growth or decline in the homeless population.
- **Shelter Capacity Utilization:** Assessing whether available resources are sufficient to meet the needs of the homeless population.
- **Crime Types:** Identifying specific crimes most frequently associated with homelessness.
- **Arrests vs. Crime Rate:** Measuring the effectiveness of law enforcement efforts in reducing crime among homeless individuals.
- **Unemployment Rate vs. Homelessness and Crime:** Exploring the correlation between economic hardship and increased crime rates among homeless individuals.

5. Data Insights

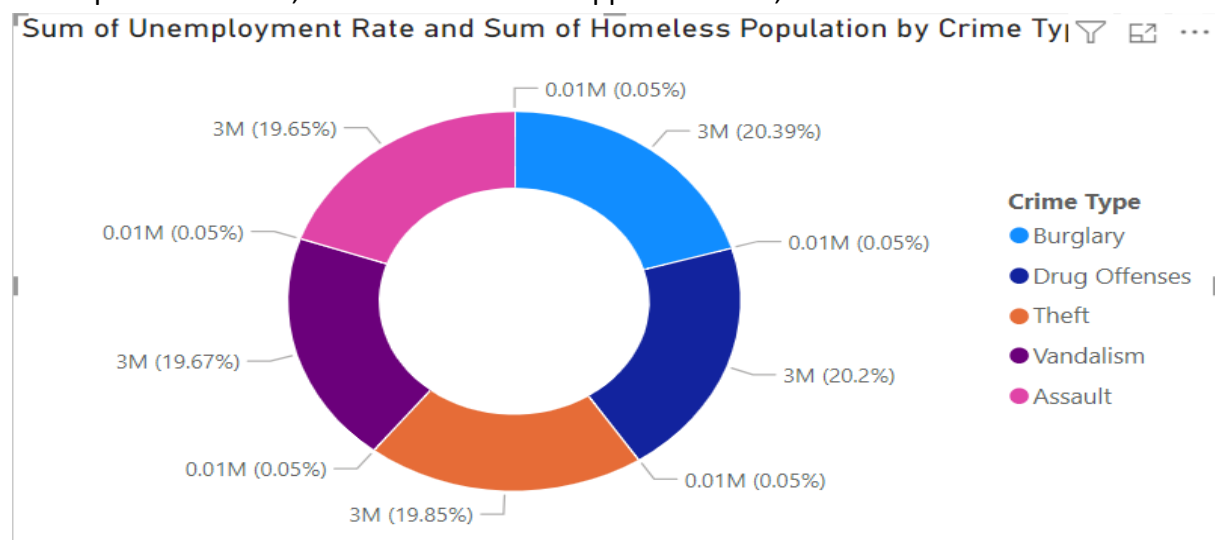
5.1 Homelessness Trends Over Time

The data shows a steady increase in Calgary's homeless population from 2014 to 2024, with notable spikes occurring during periods of economic downturn. The most significant growth in homelessness was observed between 2018 and 2020, coinciding with a rise in unemployment rates due to an economic recession, particularly driven by Calgary's reliance on the oil industry. The graph highlights these spikes, indicating a clear link between economic challenges and increases in homelessness.



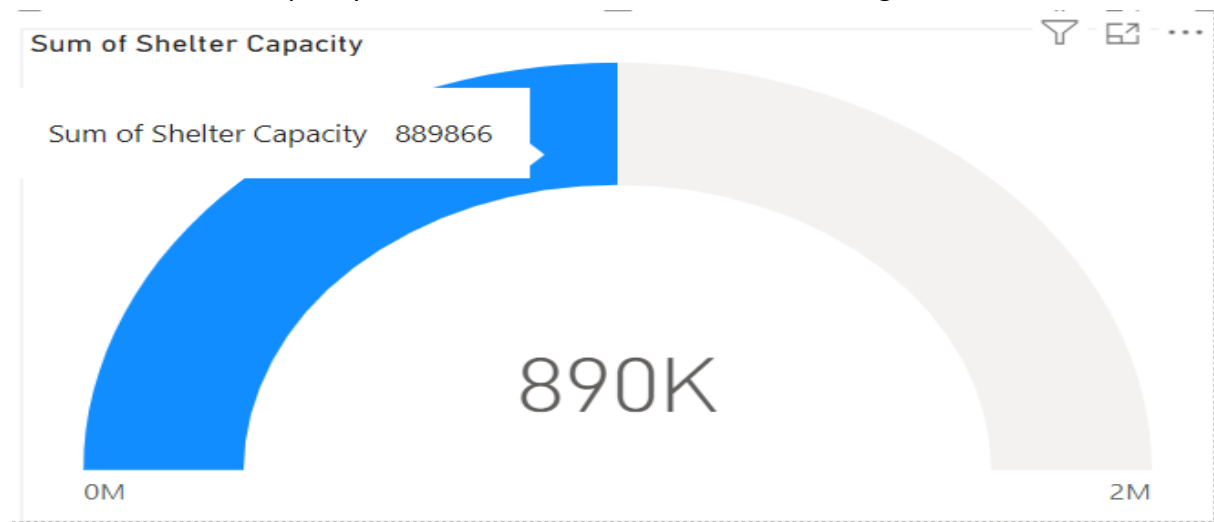
5.2 Correlation Between Homelessness and Crime

The data reveals a strong correlation between the rise in homelessness and increases in petty crimes, particularly theft and vandalism. The graph data supports this by showing that crime rates tend to peak during periods of high homelessness. Additionally, seasonal analysis indicates that crime rates are higher during the winter months. Harsh weather conditions during Calgary's cold winters force more homeless individuals into desperate situations, which may drive them to commit survival-based crimes. This indicates a direct link between inadequate resources, such as shelter and support services, and an increase in crime rates.



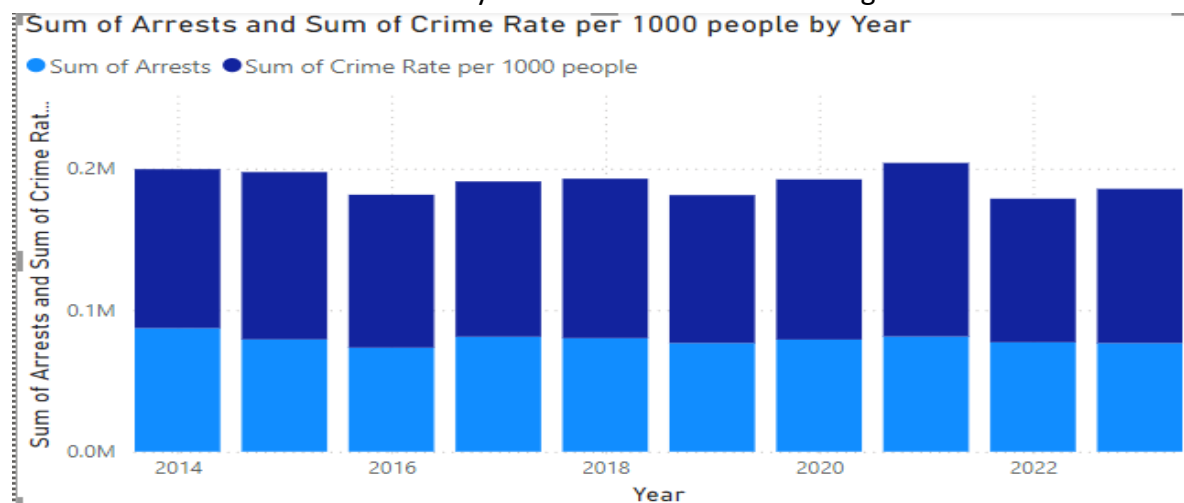
5.3 Shelter Capacity Utilization

Shelter capacity in Calgary has consistently failed to meet the needs of the growing homeless population. The graph shows that during peak periods, shelter utilization rates have exceeded 90%, resulting in individuals being turned away due to lack of space. This insufficiency is linked to increased criminal activity, as individuals who cannot find shelter are more likely to commit crimes related to survival. The data underscores the urgent need to increase shelter capacity to reduce the likelihood of crime among unsheltered individuals.



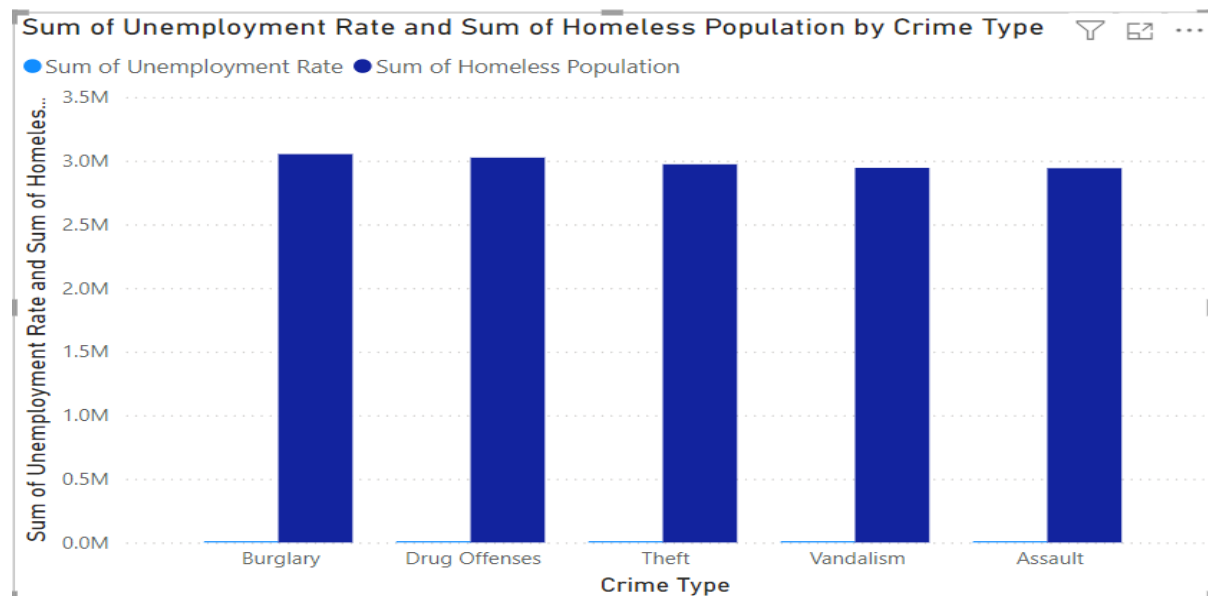
5.4 Arrests vs. Crime Rates

Despite an increase in arrests among homeless individuals, there has been negligible impact on the overall crime rate. The graph illustrates that although arrests have risen, this has not led to a corresponding decrease in crime. This suggests that punitive measures, such as arrests, may not be addressing the root causes of crime within the homeless population. Instead, a more comprehensive approach that includes rehabilitation, economic support, and increased access to shelters may be more effective in reducing crime rates.



5.5 Unemployment and Crime Correlation

Unemployment rates have shown a direct correlation with both homelessness and crime. The data indicates that during economic downturns, particularly the oil industry crisis, there was a notable rise in both homelessness and crime rates. The graph further supports this by showing significant increases in crime during periods of high unemployment. This suggests that addressing unemployment through targeted economic support programs could reduce both homelessness and related criminal activity. A focus on economic recovery, particularly during downturns, is crucial in reducing both homelessness and its associated social impacts.



6. Predictive Modelling and Future Trends

Using predictive analytics, we forecast that without significant policy intervention, homelessness in Calgary will continue to rise. This would result in a further increase in crime rates, particularly in economically distressed areas. Conversely, increased investment in shelter capacity and employment programs is projected to have a positive effect, reducing both homelessness and related crime by up to 20% over the next decade.

6.1 Scenario Analysis

We conducted a scenario analysis to explore potential outcomes under different intervention strategies:

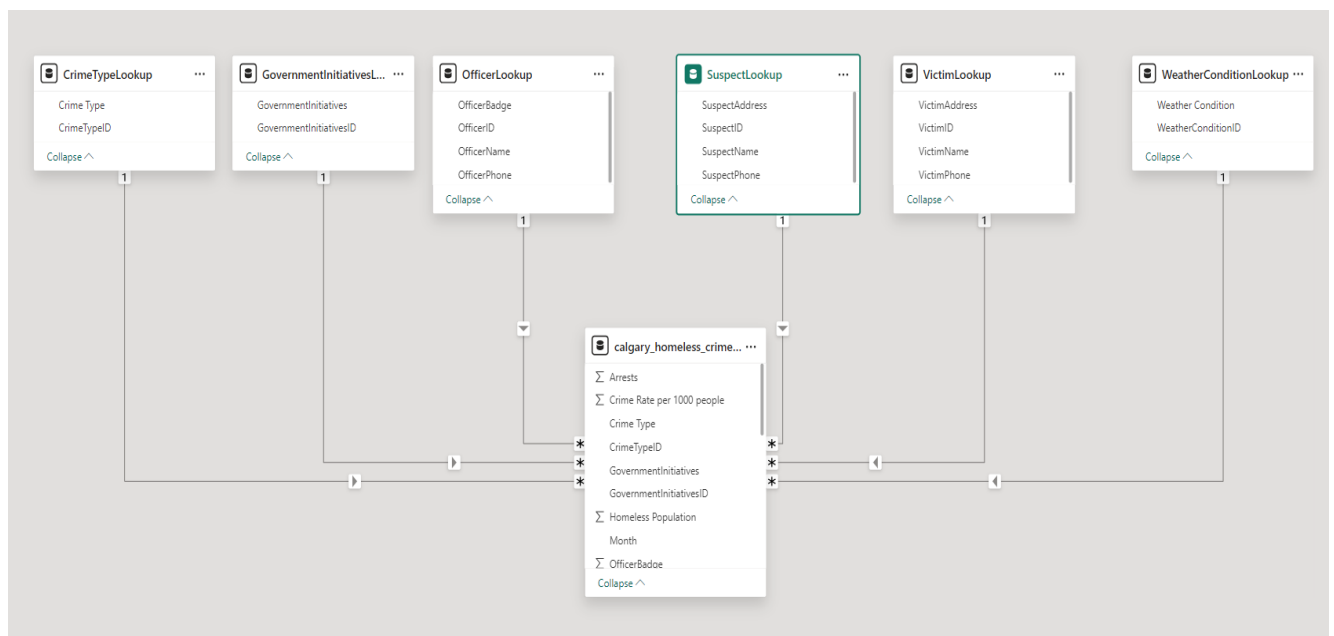
- **Increased Shelter Capacity:** A 15% increase in shelter capacity could reduce crimes linked to homelessness by 10%.
- **Economic Support Programs:** Investment in job creation and unemployment support is projected to reduce homelessness by 20%, leading to a corresponding decrease in petty crime.

7. Recommendations for Policymakers

Based on our findings, we recommend the following interventions:

1. **Increase Shelter Capacity:** Address the current gap between available resources and the homeless population by expanding shelters and improving access to temporary housing.
2. **Focus on Economic Support:** Prioritize job creation programs, particularly during periods of economic downturn, to reduce the number of individuals falling into homelessness.
3. **Holistic Crime Reduction Strategies:** Shift from punitive measures to rehabilitation programs that address the root causes of homelessness, including substance abuse and mental health issues.
4. **Data-Driven Policy Making:** Continuously collect and analyse data on homelessness and crime to ensure that policies remain effective and adaptable to changing conditions.

8. Data set Model



9. Conclusion

The relationship between homelessness and crime in Calgary is complex and multifaceted, shaped by economic conditions, shelter availability, and the effectiveness of law enforcement strategies. Over the ten-year period from 2014 to 2024, this study reveals a clear correlation between the rise in homelessness and increases in certain types of crimes, particularly petty theft, vandalism, and public disturbances. These crimes are often driven by survival needs, exacerbated by the lack of sufficient shelter and economic support for Calgary's growing homeless population.

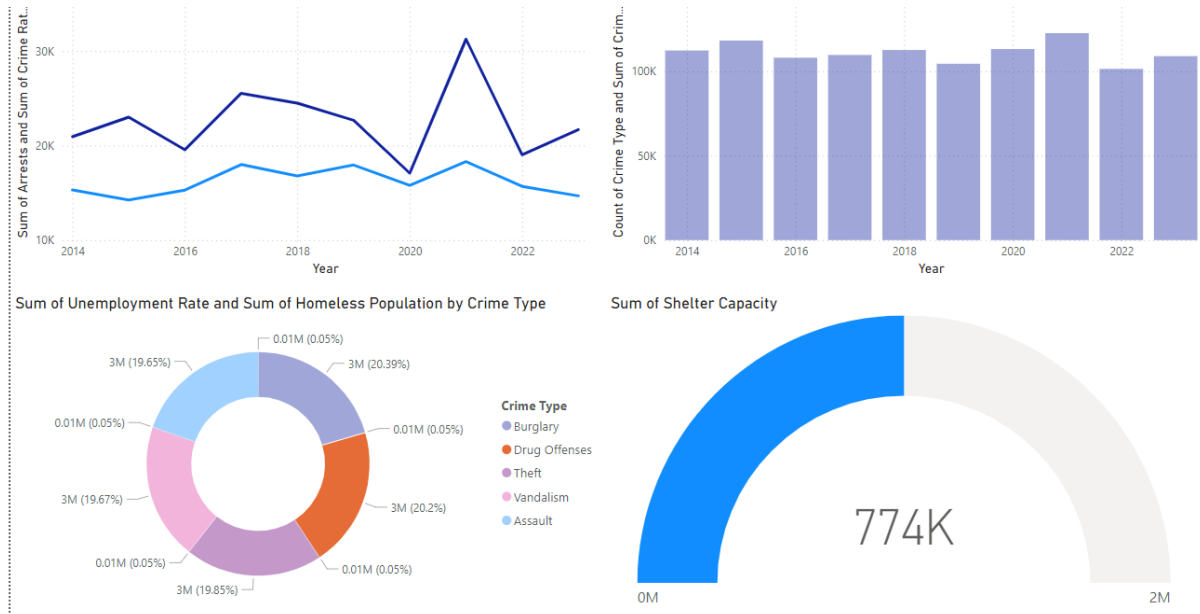
While there has been a noticeable increase in arrests among homeless individuals, the overall crime rates linked to homelessness have not significantly declined. This indicates that punitive measures, such as arrests, are insufficient on their own to address the root causes of homelessness-related crime. In fact, the data suggests that without holistic interventions those that address the underlying issues of homelessness, such as lack of shelter, unemployment, mental health support, and substance abuse rehabilitation crime rates are likely to continue to rise alongside the homeless population.

Looking forward, the study's predictive modelling suggests that without significant policy intervention, homelessness and crime rates in Calgary will continue to rise. However, investing in expanded shelter capacity, economic support programs, and a shift toward rehabilitation over punitive action could reduce homelessness-related crime by up to 20% over the next decade.

The Following appendix shows the dashboard in Power BI

10. Appendix

10.1 Appendix 1



10.2 Appendix 2

