

Tori Stoner  
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## **Using time-series data to analyze crime trends in Los Angeles from 2020 to 2024**

Los Angeles is the second largest city in the United States. Home to over 3.80 million residents and one of the most popular cities to visit in the United States, analyzing crime trends can help three different groups of people. Politicians and activists, tourists and the tourism industry, and residents can all benefit from understanding which factors contribute to an increase in crime rates and which areas of Los Angeles have high crime rates.

It is also significant to analyze crime rates from 2020 to 2024 specifically because these years included many significant events such as the Covid-19 pandemic and the Black Lives Matter movement. In addition, crime rates can be impacted by seasonal factors such as whether or not children are in school and tourism.

Analyzing the changes in crime trends over time and the impact of seasonal fluctuations will provide a better understanding of crime as a whole, specifically in Los Angeles. It will give an overview of the impact of significant cultural events and could be used to take preventative measures to decrease crime rates. A predictive model can also be created to identify which variables contribute to high crime rates and how different variables interact. This model can ultimately guide policy makers to make informed decisions about what steps to take to limit crime in Los Angeles.

Policymakers in Los Angeles want to better understand crime rates and how they have changed over time. They want to keep their residents and visitors safe and want to analyze data to make informed decisions about what laws to implement or change to limit crime. They want you to use data science to better understand the crime trends from 2020 to 2024 to see if crime rates are increasing and form conclusions about why crime rates have increased or decreased.

### **The Deliverable**

More specifically, Policy makers in Los Angeles want to better understand crime fluctuations and which factors most lead to increased crime rates. This task requires an initial analysis of past crime rates to make informed predictions about future crime rates and a comparison of different models to understand the impact of seasonal fluctuations on crime rates. In addition, a predictive model should be created to understand the interaction between variables and understand which factors will contribute to future crime rates. The deliverable should include a description of crime trends from 2020 to 2024, highlighting any increases during significant cultural events. A hypothesis or explanation of why crime trends have fluctuated should be included to help inform policy makers about why the data demonstrates these trends. It should also incorporate a description of which variables most predict crime rates in Los Angeles and suggestions for policy makers to limit crime rates. The final deliverable should include general statistics, graphs that can easily be understood by policymakers, and a thorough description of what conclusions the analysis provides. The data is available in this [repository](#) and includes additional references about crime rates in Los Angeles, models that can be used in the analysis, and general information about the variables in the dataset.