



**SAN DIEGO STATE  
UNIVERSITY**

**GEOG594 Big Data Science and Analytics Platforms**

**Prof. Ming Tsou**

**Crimes in Los Angeles**

**Deepika Siriah**

**Rashmi Sawant**

**Shraddha Masuti**

## Contents

<b>1. Team members .....</b>	<b>2</b>
<b>2. Problem Statement.....</b>	<b>2</b>
<b>3. Literature Review .....</b>	<b>2</b>
<b>4. Database management and Data Process procedure .....</b>	<b>4</b>
<b>5. Results .....</b>	<b>5</b>
<b>5.1 Website Description .....</b>	<b>6</b>
<b>5.2 Published Data Analysis .....</b>	<b>7</b>
<b>6. Discussion.....</b>	<b>21</b>
<b>References.....</b>	<b>23</b>
<b>Appendix A: Detailed description of data set attributes .....</b>	<b>24</b>
<b>Appendix B: Crime type description removed since the description mentioned as attempt .....</b>	<b>26</b>
<b>Appendix C: Crime type description removed since the description was infraction/misdemeanor ..</b>	<b>27</b>
<b>Appendix D: Crime Type tagged as felony and used in the analysis.....</b>	<b>31</b>
<b>Appendix E: Website Pages .....</b>	<b>34</b>

## **1. Team members**

Shraddha Masuti, Rashmi Sawant, Deepika Siriah

## **2. Problem Statement**

Los Angeles is the second most populated city in the United States, it has a violent crime rate of 634.8 per 100,000 inhabitants. We can see the severity of the problem from the article in Los Angeles times which states that the crime rate in Los Angeles rose by 5% where on an overall state-level it fell by the same rate. The goal of this project is to determine the trends in crime, geographic location that has higher number of crimes and time of day where the maximum crime takes place that would help the Police department to implement preventive measures that would aid to minimize the crimes and increase awareness in people of Los Angeles.

## **3. Literature Review**

The population of Los Angeles has grown tremendously. According to United States census bureau, the population of L.A in July 2017 is approximately 3999759. (Quick facts, 2018). With the increase in the population the crime rate has also increased. Homicide report states that in past 12 months approximately 622 people were killed in Los Angeles county (L.A times, Dec 2018). There are 9 daily crimes for approximately every 100000 people. The victim rate is 1 in 31. As compared to the average crime rates in California, the crime rate in Los Angeles as increased by 12% and 20% higher than national average. If we specifically focus on violent crimes, Los Angeles has 69% higher violent crimes in comparison to average California and 99% higher than national average (Areavibes, 2018). Crimes have increased for various reasons drug use, homelessness, gangs, unemployment etc. Additionally, gender plays a vital role. Women in urban area are more prone to crimes than men due to financial dependency, less power in the society, less social control,

male violence threat etc. (Riger & Gordon, 1983). Los Angeles Police Department (LAPD) provides a crime data that reflects 8906 crimes from January 1, 2017 to December 1, 2017. Homeless people were the primary suspect of crime. The police records suggest that these suspect caused serious injuries like assaults (NBCLosAngeles, Eric Leonard, Dec 2018). Investigation officer reports five murder suicide cases related to Domestic Violence in the locations such as Pacific area, North Hollywood, Foothill, Devonshire and Mission area were reported in City of Los Angeles. The gang activities cases occurred in the 77<sup>th</sup> Area, Southeast area and Mission area. In partnership with Los Angeles Police department and housing authority of the city of Los Angeles, Community Safety Partnership Program (CSP) started in October 2011. The program helps to improve bond between Los Angeles housing community and Los Angeles Police Department (LAPD). The program consists of relationship-based model that includes education and problem solving. The police officers build relationship with resident and reduces community fear. This helps to provide community to pass crime information to law enforcement that aids to decrease violent crimes. The top weapons used by criminals were Handgun, cutting instrument, blunt instrument, rifle and assault weapons (Homicide Report, Charlie Beck, 2017). Los Angeles police department provides list of crime prevention tips on their website that such as VINE- Domestic violence program, violence in the family program, Battery women, domestic violence tips etc (LAPD, 2018). California's Juvenile Justice Crime Prevention Act helps to decrease crime and felony among at-risk young people. Whereas, California Highway Patrol aids in security, safety and service to people. Family Violence prevention fund aids to prevent violence within home (Networkofcare, 2018). Despite of Los Angeles being a great place to live, it still faces issues of different categories crime types. Hence there much to be analyzed on Los Angeles persistent criminal problems.

#### **4. Database management and Data Process procedure**

This dataset is available on <https://data.lacity.org/>. This website provides Open Data providing information, insights, and analysis about the city of Los Angeles. The website also has analysis and quick facts about Los Angeles. Below is the specific URL link of the data we selected for this project.

Link: <https://data.lacity.org/A-Safe-City/Crime-Data-from-2010-to-Present/y8tr-7khq/data>

The dataset is made of original crime reports which are reported at the time of incident. So, it is transcribed from paper reports and converted into dataset. The data is as accurate as in the database. This dataset is refreshed every week. So, we have a trending dataset since 2010 to till date. The original dataset contains 174223 rows and 26 columns. For detailed description of the attributes of the dataset refer Appendix A.

Before performing analysis, pre-processing and data cleaning of the dataset was performed using Tableau Prep and Excel. For the purpose of the analysis, the dataset was filtered for last three years, i.e. from 2015 to 2017. As a first step towards data cleaning, records with crime type description as “Attempt” were removed. Refer the complete list of crime type which was excluded in Appendix B.

Our dataset consisted records from all the types of crime, i.e. ranging from infraction to felony (life threatening crimes). So, we removed records with crime type description where severity of crime was infraction and misdemeanor. Therefore, crimes such as theft, contempt of court etc. were removed from the records (Refer Appendix C for complete list of types removed at this stage). For the list of crime types tagged as felony and considered in the analysis are listed in Appendix D.

Since these were typed crime records the description were very specific for each crime case record. To improve analysis and visualization crime types were grouped based on similar categories. Then, to perform analysis of distribution of crime across the day we created a new field “time of the day” using the existing field “time crime occurred” with four levels morning, afternoon, evening, and night. We tagged them as: Morning - 5am to 12pm, Afternoon - 12pm to 5pm, Evening - 5pm to 9pm, Night - 9pm to 5am.

Following to this, time taken to report a case was created using the fields date crime occurred and date crime reported. The time difference of date crime occurred, and date crime reported was taken in number of days. We also renamed the values in few columns to make it more meaningful and impactful. This was performed on field such as status of crime case and gender where IC - Investigation Continued, JA - Juvenile Arrest, JO - Juvenile Other, F - Female, M - Male, etc. Apart from this we had to change the format of longitude and latitude before importing the dataset in ArcGIS.

## **5. Results**

After, successful completion of data pre-processing and cleaning, the results of clean data were used for further analysis. The clean data was exported to CrimeDataAnalysis.csv file. Tools used for analysis were Tableau, ArcGis and CartoDB tools. To increase awareness among people and provide insights to police department, results were posted on

<https://geog594lacrimeanalysis.wordpress.com/> website. The website was made with the help of WordPress.

## 5.1 Website Description

The URL to the Los Angeles Crime Analysis website is

<https://geog594lacrimeanalysis.wordpress.com/>. The purpose of the website is to deliver insights that aids to reduce crimes in Los Angeles. The website consists of six menus namely, Home, Data Description, Video, Visualization, Contact us and About us. For the Web design screenshots refer Appendix E.

The home page describes the topic and goal of the project. i.e. determining the trends to help police department to reduce crimes in Los Angeles. When users click on Read more button, they can view a short introduction that describes the scenarios of crime in Los Angeles.

The data description page provides the short description of the selected data. It describes the total number of rows and columns present in the data set. Additionally, it consists the detailed description of all the attributes in the data set. Download button would help user to navigate to the data source link for downloading the data.

A short quick 3 mins YouTube video is available in the video page. The video gives a short overview of the reason for selecting the topic, problem statement and our analysis. This would save the users time to read through the website and help them to audio-visually gain a good understanding of the analysis. YouTube URL of the video is:

<https://www.youtube.com/watch?v=mD77-rKfkdQ>

The contact us page consist of contact information of our team. The details such as phone number, email address, office hours and address are available on this page. Additionally, user can view the geographical location of the office. This would provide user an easy medium to contact us for any additional information or feedback.

About us page comprises of detailed information of the team members. The information such as educational details, skillset, hobbies and passion of the team members is available on this page. Since, our team consisted of three members, the information of all the three members are available on this page.

Visualization page comprises the analysis results of the Los Angeles crime dataset. The analysis on data was performed with the help of Tableau, ArcGis and CartoDB tools. The page was divided into three sections. These sections are Trend Analysis, Geographic analysis and analysis of the top crime (i.e. Battery crime).

## **5.2 Published Data Analysis**

To understand and get insights on the data in all 360 degrees we have decided our analysis in two parts i.e. trend analysis and geographic analysis.

### **Trend Analysis**

All the trend analysis graphs and dashboards are developed in tableau. This analysis helps in understanding the crime trends and answer questions: 1. Understand the trend in crimes occurred every year in Los Angeles (from 2015 to 2017). 2. What is the most common type of crime? 3. Victims gender, age and status of crime association with the type of crimes and its numbers. 4. Comparison of gender based on types of crime. 5. What is the average time taken to report the crime? 6. At what time maximum crime have occurred?

### **Overall trends of crimes over the years in Los Angeles**

Below graph shows the overall trends of crimes of last three years (2015 to 2017). From the graph it is evident that in 2017 maximum crime have occurred in almost every month compared



to previous years. With every passing year crime cases have increased, and it is highest in 2017, i.e. the most recent year of analysis. This trend tells us the severity of the problem of increase in crime rate in Los Angeles over the years.

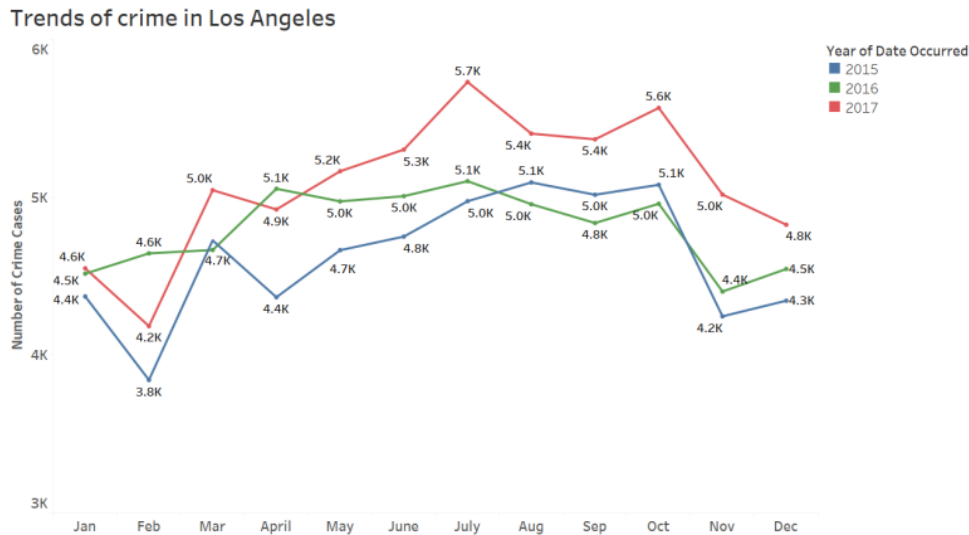


Figure 1: Overall trends of crimes over the years in Los Angeles

## Overview of Crimes in Los Angeles

To get the overview of crimes, have made a dashboard in tableau. This dashboard represents type of crimes, the demographics of the victim's age, and the status of the crime. Maximum crime observed are of battery, domestic assault, and assault in general. Overall age distribution of victims age across crimes shows that maximum crime occurred in the age group of 19-28 in the crime type domestic assault. We can filter on crime type, gender, age distribution to observe the trends across crime type and demographics of the gender. Using this dashboard, police department would know that on which age group and gender they should concentrate to reduce the particular crime. Additionally, it shows how many crimes are still pending to investigate so

that necessary action is taken.

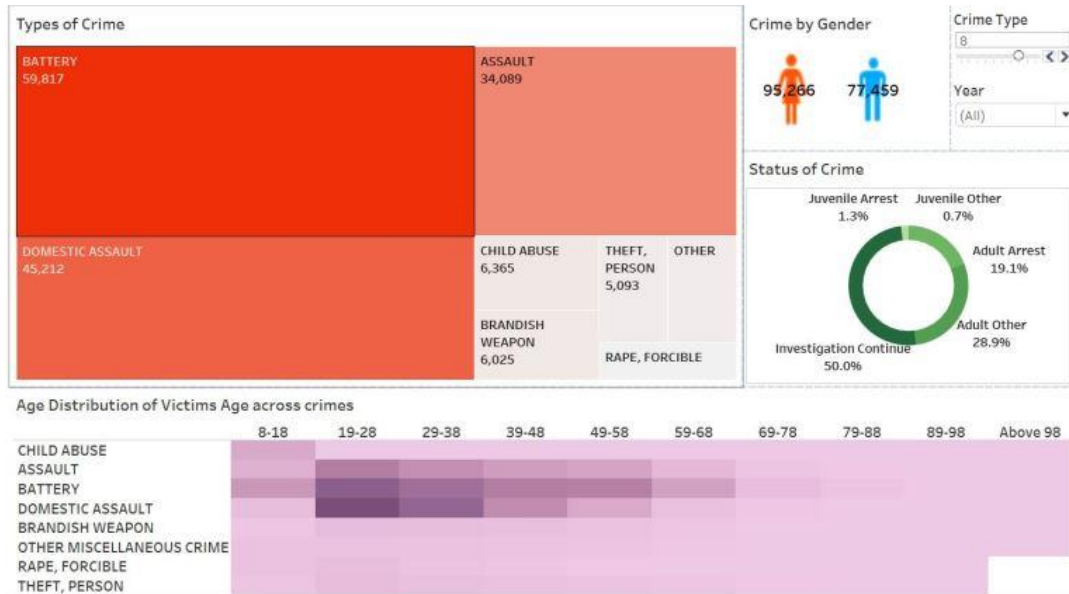


Figure 2: Overview of Crimes in Los Angeles

### Gender comparison across crime type

In the below graph, it can observe the total crime cases for male in blue and for female in red. The number of crime cases differs for different crime type. As observed, the female crime cases are highest for Domestic Assault crime whereas male crime cases are highest for Battery. The top three crime for both the genders is Domestic Assault, Battery and Assault. The total crime cases for male and female are equal for Battery crime. This would help the police department to focus on most dominant crimes specific to gender.

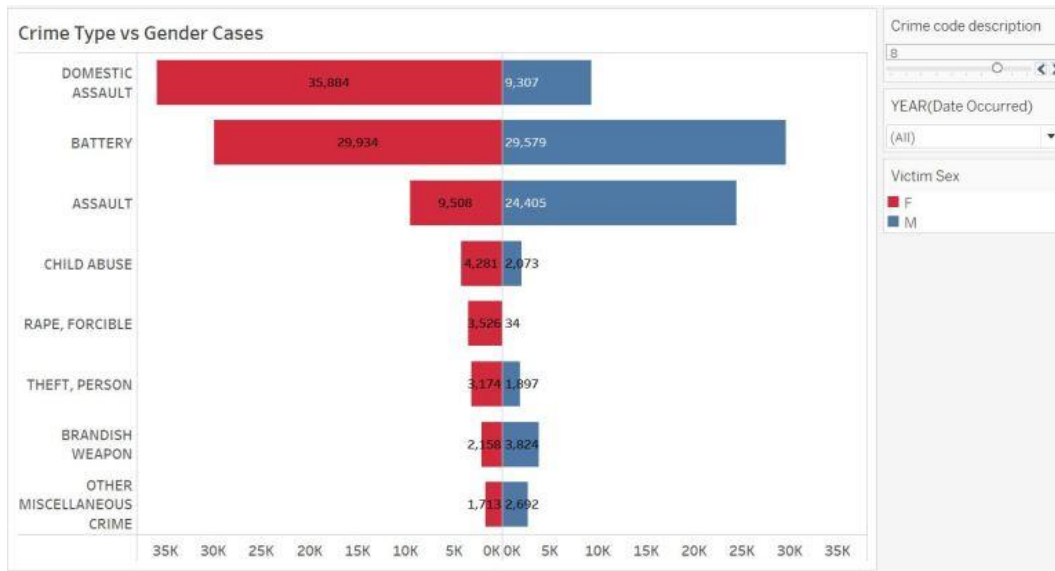


Figure 3: Gender comparison across crime type

### Average time taken to report for each type of crime

Here, it is seen that average time taken to report the crime based on crime type. This will help the police department of Los Angeles to create awareness about the importance of reporting crime as soon as possible. Maximum awareness is needed to report the sexual unlawful crime and human trafficking as per the below chart. For example: If a criminal is committing crime continuously, and if the report is registered then police department can investigate and catch the criminal to stop further crimes.

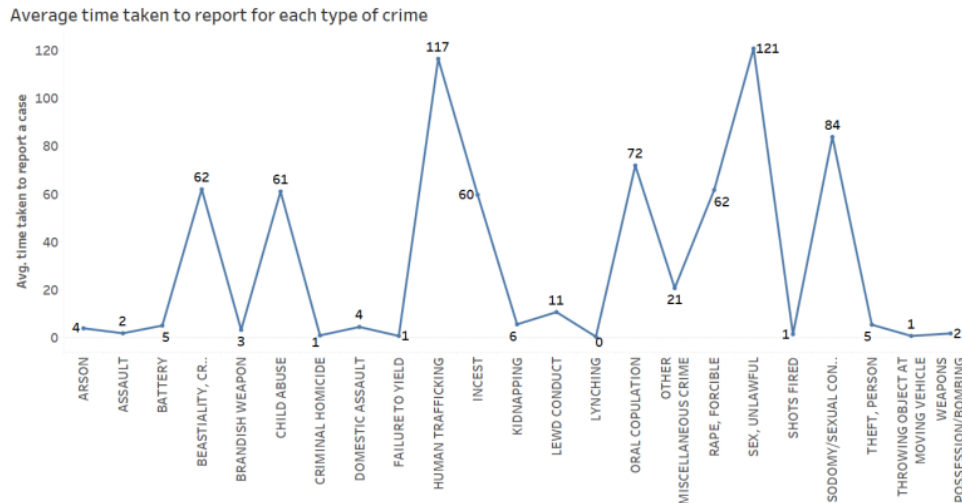


Figure 4: Average time taken to report for each type of crime

### Distribution of crimes during the day

This chart shows that maximum crimes occurred at what time of the day i.e. morning, afternoon, evening or night. Maximum crimes are occurred at night. So, the people of Los Angeles should be cautious while commuting at night. Additionally, Los Angeles police should be more alert and do the patrolling at night in every 2 hours to reduce the chances of crime.

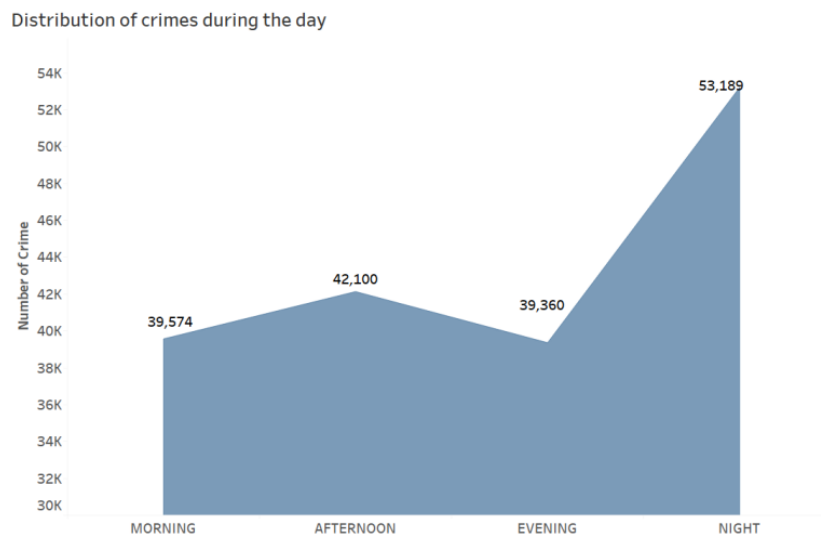


Figure 5: Distribution of crimes during the day

## **Insights of the trend analysis**

From the analysis on the dashboard and graphs, it can be concluded that crimes have been rising over the years. The highest number of crime cases are in battery, domestic assault, and assault in general. One can assess the demographics of victims across crime type. Time taken to report a crime type will help the police department to create awareness. Below are the insights from the above charts:

1. It is observed that maximum crimes are occurred in the months of July, Oct, April.
2. Except for the months of February and April in every month number of crimes in 2017 have increased.
3. The distribution across gender for battery is almost equal, in the age group of 19-58.
4. For domestic assault maximum crimes are occurred with females, in the age group of 19-38.
5. In general assault, maximum number victims are males, in the age group of 19-38.
6. For forcible rape crime, maximum crimes are occurred on females i.e. 3,526 and while in males it's just 34.
7. For all other crimes, in general maximum crime occurred in the age group is 19-48.
8. Overall, maximum crimes have happened with females compared to males.
9. Overall, average time taken to report the crime case are on higher end in the crimes related to forcible sexual acts and child abuse.
10. Maximum crime has occurred during night i.e. 9:00 pm to 5:00 am.

## **Geographic Analysis**

Geographic Analysis focuses on areas where the crimes takes place. The latitude and longitude data provided in the data set aids to gain insight of the crimes in the specific geographic location. All the geographic analysis is performed using CartoDB and ArcGIS tool. ArcGIS tools can be used to perform proximity analysis, perform overlays by adding layers etc. on geographic locations by means of interactive maps whereas Carto DB is a open source platform that gives key insights of the underlying location. We had linked every image of the result in Geographic analysis is linked to the respective ArcGIS online sharing page. User can zoom-in the details to view the details specific locations. For our analysis, we have focused on what time of the day crimes occur (i.e morning, after noon, evening and night) and areas in Los Angeles where maximum crimes takes place.

## **Crimes During the Day**

The below map is created using CartoDB online tool. We can see the exact location of the crime and time of the day it has occurred. The time of the day field in the data is categorized into four types namely, morning, afternoon, evening or night. The four categories are represented in four colors. Filters can be selected or deselected by clicking on the select box in the label. This would help to select a particular category or combination of categories. Yellow color represent morning, purple color represents evening, red color represents night and afternoon is represented with the help of green color. If users zoom -in the visualization, they can find the exact location where the crime has occurred. This would make people aware about the time and location of crime. This would aid them to take preventative actions. This would help police department to analyze duration and location of the crimes. They can be proactive and take preventive measure such as patrolling to avoid crime.

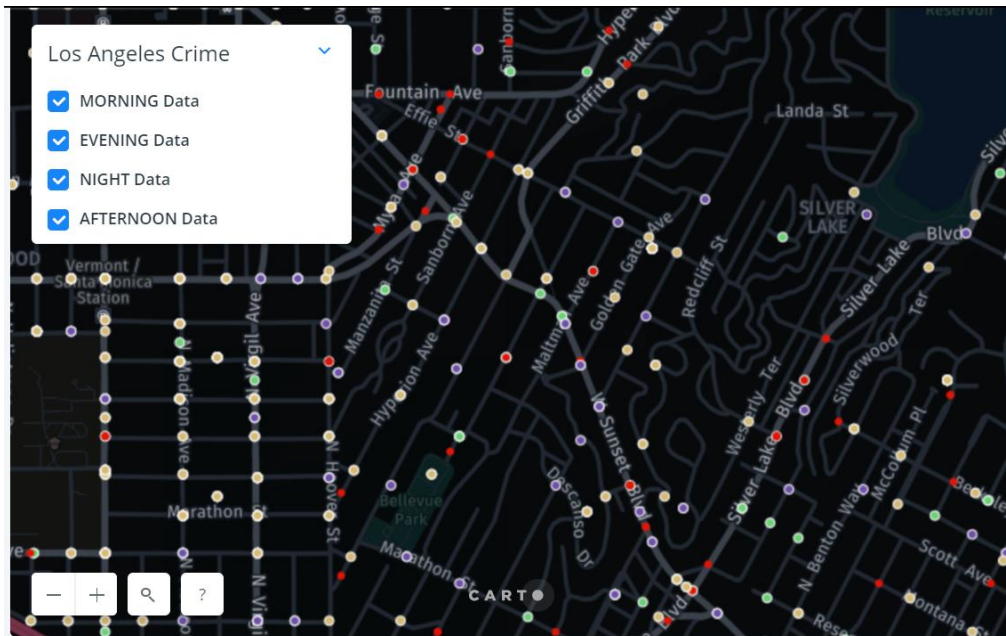


Figure 6: Detailed representation of crimes occurred during the day

Below is the filtered representation of crime during the day. As observed, the crime intensity is higher in night compared to other time of the day. Hence, we can say that maximum crimes occurred at night.



Figure 7: Crimes in Morning

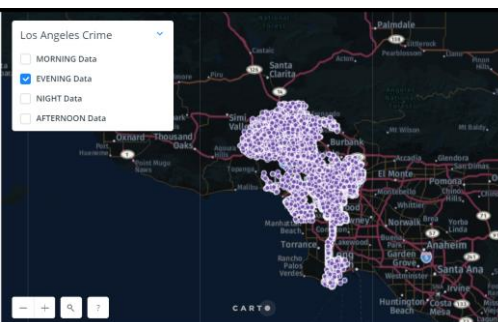


Figure 8: Crimes in Evening

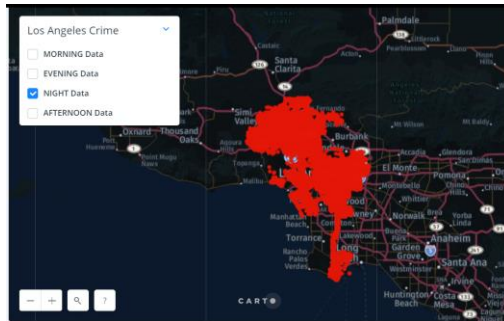


Figure 9: Crimes at night



Figure 10: Crimes in Afternoon

### Crime Areas in Los Angeles.

Furthermore, we analyzed the area that has maximum occurrence of crime. This analysis was performed with the help of ArcGIS tool. The heat map was created using DR number, longitude and latitude fields. The heat map represents the locations in Los Angeles that has maximum number maximum crimes. The yellow color represents maximum number of crimes have occurred in that area. The color changes as the intensity decreases. Blue color represents less crime areas. The heatmap will guide to focus on crime centric areas. On zooming the high crime areas, user can gain insights about the specific locations that has maximum number of crimes. For example, in our analysis, after zooming map, we observe that Chick Hearn, Wall Street, Hubbard crimes has maximum number of crimes. This will aid police department to know the exact areas that has maximum number of crimes. This information would be useful to take preventive measures to reduce the crime rate in Los Angeles.



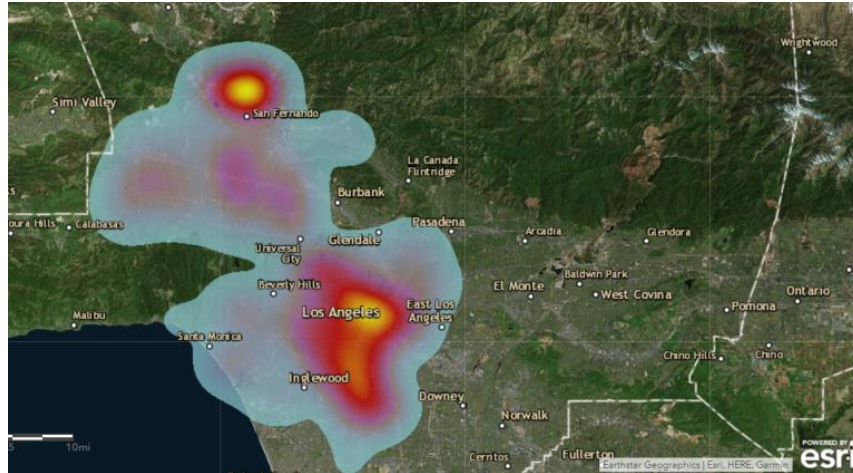


Figure 11: Crime areas in Los Angeles.

As observed in Trend Analysis section of website, the top four crimes in our data set are battery, domestic assault, assault in general and child abuse. Hence, we have analyzed the areas of top four crimes for visualization. We filtered the above heat map in ArcGIS tool based on crime type. Below is the heat map of crime areas of top four crime types in Los Angeles. As observed in map below, battery has high intensity. Hence, it is highest occurring crime, whereas the area covered decreases for domestic assault, assault and child abuse.

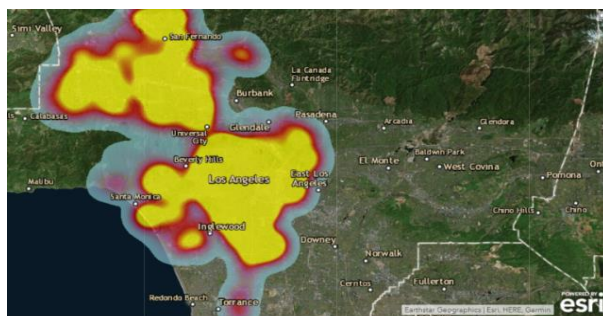


Figure 12: Battery Crime areas in LA

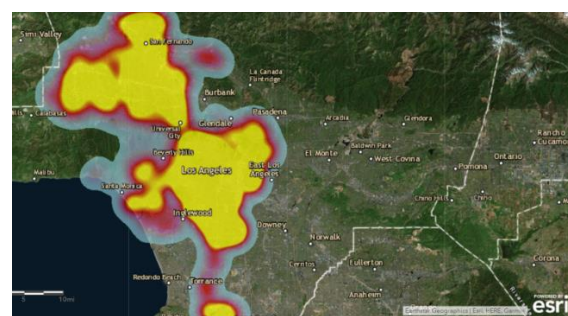


Figure 13: Domestic Assault Crime areas in LA

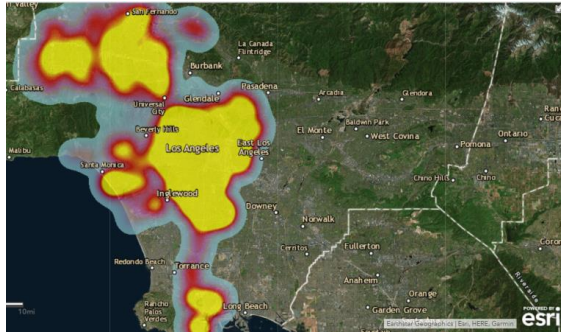


Figure 14: Assault Crime in Los Angeles.

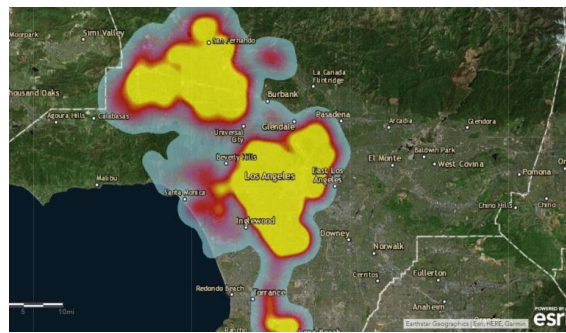


Figure 15: Child Abuse Crime in Los Angeles.

If user zooms in the high crime intensity areas (yellow color), below are the areas that has maximum number of crimes specific to its type.

Crime Type		Areas with high crimes
1	Battery	Hollywood, Mac Arthur Park
2	Domestic Assault	Hillcrest drive, Los Angeles downtown
3	Assault in general	Venice, Hollywood
4	Child Abuse	Hollywood, Los Angeles downtown

Thus, the above heat map would help the police department to reduce crimes by focusing on most dominant areas, the type of crime in the area and crimes in specific duration of the day. From analysis, we can say that Los Angeles downtown, Hollywood and Mac Arthur Road are most dominant crime areas. This would help them to be alert, well-informed, areas to focus and take preventive measure to reduce those crimes. The preventive measures could be estimating the strength of police force and weapons required for the area. These estimates could be performed by understanding the crime type, intensity of crime, need of patrolling and spread awareness among people.

## **Battery Crime Analysis**

As per results of trend and geographical analysis, it is observed that battery crime is highest in Los Angeles. Hence, the third section of visualization consist analysis of the topmost crime i.e. Battery crime. In this section, we furthered our research to understand the factors that results in high rate of battery crime. The heat map Geographic analysis aids to understand the areas of high battery crime. One of the features of ArcGIS tool is overlay i.e. user can add layers to the map. These layers can be uploaded or extracted from Atlas map. For our analysis, layers such as United States Population density and average income are added to the heat map of battery crime. These layers will help to understand the effects of Population density and average income on high crime areas of Battery crime.

### **Population Density in areas that are affected by Battery Crime.**

ArcGIS tool is used to add layer called “Population Density in United States”. To perform the analysis on Battery crime, heat map plotted in geographical analysis for Battery crime analysis was used and population density in united states layer was added to it. This resulted in heatmap can be used to analyze the Battery crime prone areas and population density in the areas where the crime occurrence is maximum. In the below map, as the population density increases, the color changes from yellow to dark orange. Below are the results of the Heat map.

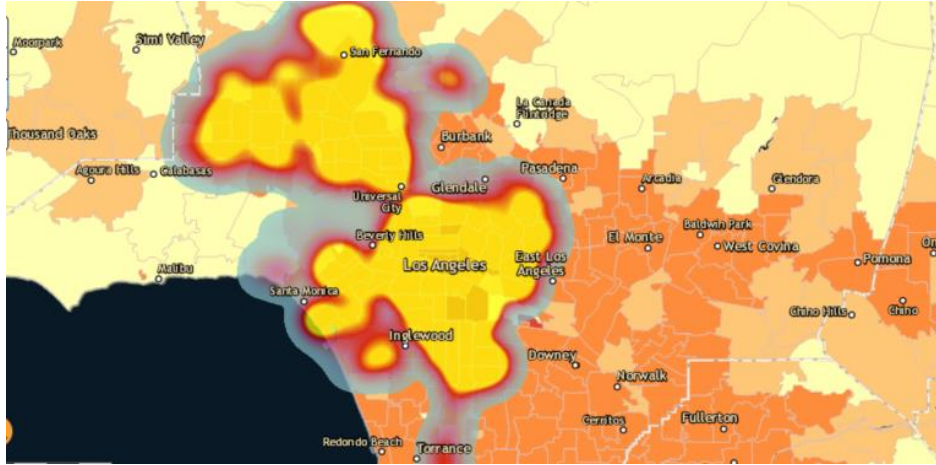


Figure 16: Population Density in areas that are affected by Battery Crime.

When the visualization is zoomed-in on the specific location (i.e. block) with high Battery crimes (yellow color on heat map), population density of the crime block can be determined. For our analysis we focused on Hollywood area and found details of the block that has highest battery crimes. After clicking on the population density of the area surrounding the block, we can say that population density in the area is approximately 40000 per sq mile whereas the national population density is 94. Hence, we can conclude that the battery crimes take place in the areas where the population density is high. Please refer the below results:

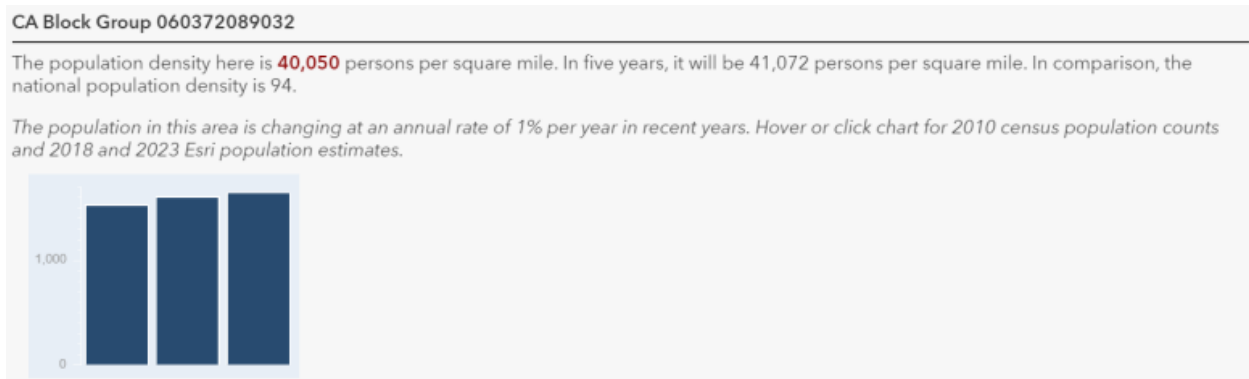


Figure 17: Population density of the block in Hollywood area

### Average Income in areas that are affected by Battery Crime.

ArcGIS tool assists to add layer called “Median Household income in United States” from atlas layers option. To perform the analysis on Battery crime, heat map of Battery crime prone areas available in the geographical analysis section is used and median household income layer is added to it. The resulted heatmap reflects the dominant Battery the crime prone areas and average income of those areas. Below are the results of the Heat map.

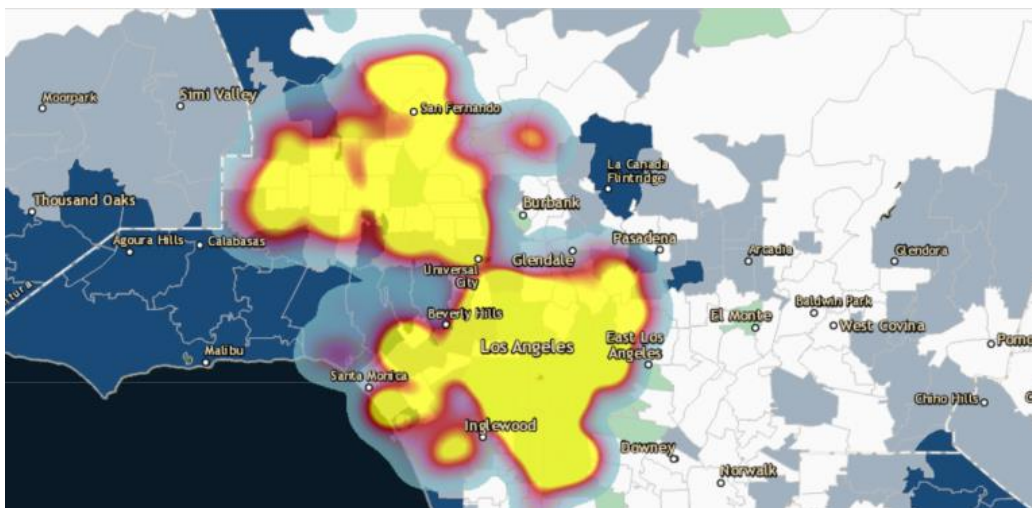


Figure 18: Average Income in areas that are affected by Battery Crime

When the visualization is zoomed-in on the specific location (i.e. block) with high Battery crimes (yellow color on heat map), average household income of the crime block can be determined.

For our analysis, we focused on Mac Arthur area and found average household income details of the block that has highest battery crimes. After clicking on the average household income areas surrounding the block, we can say that median household income in the area is approximately between \$29000 to \$30,000 whereas the average national income is \$58100. Hence, we can conclude that battery crimes take place in the areas where the average income is low. Please refer the below results:

The median household income here is **\$29,996**. In comparison, the national median household income is \$58,100.

Income varies by age. Hover or click chart to view median household income by age of householder.

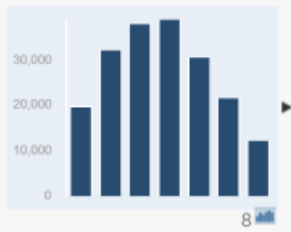


Figure 19: Median Household income by age in battery crime area.

Therefore, from the above analysis we can conclude that battery crime takes place in the areas where the average income is low and population density is high compared to national average household income and population density. Hence, the police department can focus on similar areas that has low income and high density to reduce crimes in Los Angeles.

## 6. Discussion

The detailed analysis shows that average income, population density, age and gender influence the rate and type of crime happening in Los Angeles. Major areas of highest number of crimes are Los Angeles downtown, Hollywood and Mac Arthur Road. Police department of Los Angeles can utilize our dynamic visualizations and deep analysis insights to take proactive and preventive steps in the direction of crime rate reduction. The police should increase the patrolling rate like every two hours at night as the maximum crime are occurred during the night.

Additionally, police should take efforts in creating more awareness in the people of Los Angeles about crime like what types of crime are occurred in which region and mostly during which time, what preventive steps are to be taken by them to avoid being a victim to any type of crime.

As seen in analysis, domestic violence is one the top type of crime, despite people being more educated than before. Factors such as women financially depending on the others especially their



partners, not being aware about the human rights, less social status leads to be a domestic violence victim. Various programs must be initiated to empower women's status in the society and to bring awareness their equal rights to reduce the domestic violence rate. Child abuse also being one of the top crimes, programs must be organized to make adults realize about what children go through psychologically when they are victim of child abuse. Moreover, the police should collaborate with the schools to educate about child abuse for children so that they know how to vocalize if they the victim. This will help in bringing awareness and seriousness of the child abuse offence and reduce the crime. Various self-defense drives must be organized for free for public of Los Angeles so that they can defend themselves from criminals and not be a victim. The overall visualizations and analysis provide deep insights from every dimension of the data. This will help police department of Los Angeles to take various steps like mentioned above. This is the small effort to help the community to reduce the severe crimes in Los Angeles and be a minute part of the effort in saving lives.

## References

Area Vibes (2018), “Reported Annual Crime in Los Angeles.”

<https://www.areavibes.com/los+angeles-ca/crime/>.

Leonard, Eric (2018), “Homeless Crime Jumps Nearly 50 Percent in Los Angeles” Los Angeles

Times, <https://www.nbctvlosangeles.com/news/local/LAPD-Reports-Spike-in-Homeless-Crime-502407861.html>.

Easter, Makeda (2017), “Crime rates down in California, up in L.A. County, during period of

criminal justice reform” Los Angeles Times, <https://www.latimes.com/local/lanow/la-me-crime-trend-study-20171204-story.html>.

Marantos, Jeanette (2017), “The Homicide Report” Los Angeles

Times, <http://homicide.latimes.com/>.

Riger, S & Gordon, M. T. (1983). “The Impact of Crime on Urban Women. Issues in Mental

Health Nursing”, 5, 139-156.<https://doi.org/10.3109/01612848309009437>.

Beck, Charlie (2017), “Homicide Report 2017”, [http://assets.lapdonline.org/assets/pdf/2017-](http://assets.lapdonline.org/assets/pdf/2017-homi-report-final.pdf)

[homi-report-final.pdf](http://assets.lapdonline.org/assets/pdf/2017-homi-report-final.pdf).



## **Appendix A: Detailed description of data set attributes**

1. DR Number : Division of Records Number: Official file number made up of a 2 digit year, area ID, and 5 digits.
2. Date Reported : Date when crime was reported MM/DD/YYYY.
3. Date Occurred : Date when crime occurred MM/DD/YYYY.
4. Time Occurred: Time when crime occurred (In 24 hour military time.)
5. Area ID: The LAPD has 21 Community Police Stations referred to as Geographic Areas within the department. These Geographic Areas are sequentially numbered from 1-21.
6. Area Name: The 21 Geographic Areas or Patrol Divisions are also given a name designation that references a landmark or the surrounding community that it is responsible for. For example 77th Street Division is located at the intersection of South Broadway and 77th Street, serving neighborhoods in South Los Angeles.
7. Reporting District: A four-digit code that represents a sub-area within a Geographic Area. All crime records reference the “RD” that it occurred in for statistical comparisons.
8. Crime Code : Indicates the crime committed. (Same as Crime Code 1)
9. Crime Code Description :Defines the Crime Code provided.
10. MO Codes: Modus Operandi – Activities associated with the suspect in commission of the crime. See attached PDF for list of MO Codes in numerical order.
11. Victim Age: Age of the victim (Two character numeric)
12. Victim Sex : F – Female M – Male X – Unknown
13. Victim Descent: Descent Code: A – Other Asian B – Black C – Chinese D – Cambodian F – Filipino G – Guamanian H – Hispanic/Latin/Mexican I – American Indian/Alaskan

Native J – Japanese K – Korean L – Laotian O – Other P – Pacific Islander S – Samoan  
U – Hawaiian V – Vietnamese W – White X – Unknown Z – Asian Indian

14. Premise Code: The type of structure, vehicle, or location where the crime took place.
15. Premise Description: Defines the Premise Code provided.
16. Weapon Used Code : The type of weapon used in the crime.
17. Weapon Description: Defines the Weapon Used Code provided.
18. Status Code : Status of the case. (IC is the default)
19. Status Description : Defines the Status Code provided.
20. Crime Code 1 : Indicates the crime committed. Crime Code 1 is the primary and most serious one. Crime Code 2, 3, and 4 are respectively less serious offenses. Lower crime class numbers are more serious.
21. Crime Code 2 :May contain a code for an additional crime.
22. Crime Code 3 : May contain a code for an additional crime.
23. Crime Code 4 :May contain a code for an additional crime.
24. Address :Street address of crime incident rounded to the nearest hundred block to maintain anonymity.
25. Cross Street :Cross Street of rounded Address.
26. Location: The location where the crime incident occurred. Actual address is omitted for confidentiality. XY coordinates reflect the nearest 100 block.

**Appendix B: Crime type description removed since the description mentioned  
as attempt**

<b>Crime Code Description</b>
ATTEMPTED ROBBERY
BIKE - ATTEMPTED STOLEN
BUNCO, ATTEMPT
BURGLARY FROM VEHICLE, ATTEMPTED
BURGLARY, ATTEMPTED
DISCHARGE FIREARMS/SHOTS FIRED
DISHONEST EMPLOYEE ATTEMPTED THEFT
KIDNAPPING - GRAND ATTEMPT
LYNCHING - ATTEMPTED
PICKPOCKET, ATTEMPT
PURSE SNATCHING - ATTEMPT
RAPE, ATTEMPTED
SHOPLIFTING - ATTEMPT
THEFT FROM MOTOR VEHICLE - ATTEMPT
THEFT FROM PERSON - ATTEMPT
THEFT PLAIN - ATTEMPT
THEFT, COIN MACHINE - ATTEMPT
TILL TAP - ATTEMPT
VEHICLE - ATTEMPT STOLEN

**Appendix C: Crime type description removed since the description was  
infraction/misdemeanor**

<b>Crime Code Description</b>
ABORTION/ILLEGAL
BIGAMY
BIKE - STOLEN
BLOCKING DOOR INDUCTION CENTER
BOAT - STOLEN
BRIBERY
BUNCO, GRAND THEFT
BUNCO, PETTY THEFT
BURGLARY
BURGLARY FROM VEHICLE
CHILD ABANDONMENT
CHILD NEGLECT (SEE 300 W.I.C.)
CONSPIRACY
CONTEMPT OF COURT
CONTRIBUTING
COUNTERFEIT
CREDIT CARDS, FRAUD USE (\$950 & UNDER
CREDIT CARDS, FRAUD USE (\$950.01 & OVER)
CRIMINAL THREATS - NO WEAPON DISPLAYED

CRUELTY TO ANIMALS
DEFRAUDING INNKEEPER/THEFT OF SERVICES, \$400 & UNDER
DEFRAUDING INNKEEPER/THEFT OF SERVICES, OVER \$400
DISHONEST EMPLOYEE - GRAND THEFT
DISHONEST EMPLOYEE - PETTY THEFT
DISRUPT SCHOOL
DISTURBING THE PEACE
DOCUMENT FORGERY / STOLEN FELONY
DOCUMENT WORTHLESS (\$200 & UNDER)
DOCUMENT WORTHLESS (\$200.01 & OVER)
DRIVING WITHOUT OWNER CONSENT (DWOC)
DRUNK ROLL
EMBEZZLEMENT, GRAND THEFT (\$950.01 & OVER)
EMBEZZLEMENT, PETTY THEFT (\$950 & UNDER)
EXTORTION
FAILURE TO DISPERSE
FALSE IMPRISONMENT
FALSE POLICE REPORT
FIREARMS RESTRAINING ORDER (FIREARMS RO)
GRAND THEFT / AUTO REPAIR
GRAND THEFT / INSURANCE FRAUD
ILLEGAL DUMPING

INCITING A RIOT
INDECENT EXPOSURE
LETTERS, LEWD
LETTERS, LEWD - TELEPHONE CALLS, LEWD
PANDERING
PEEPING TOM
PETTY THEFT - AUTO REPAIR
PICKPOCKET
PIMPING
PROWLER
PURSE SNATCHING
RECKLESS DRIVING
REPLICA FIREARMS(SALE,DISPLAY,MANUFACTURE OR DISTRIBUTE)
REPLICA FIREARMS(SALE,DISPLAY,MANUFACTURE OR DISTRIBUTE)0132
RESISTING ARREST
ROBBERY
SHOPLIFTING - PETTY THEFT (\$950 & UNDER)
SHOPLIFTING-GRAND THEFT (\$950.01 & OVER)
STALKING
TELEPHONE PROPERTY - DAMAGE
THEFT FROM MOTOR VEHICLE - GRAND (\$400 AND OVER)
THEFT FROM MOTOR VEHICLE - PETTY (\$950 & UNDER)

THEFT OF IDENTITY
THEFT PLAIN - PETTY (\$950 & UNDER)
THEFT, COIN MACHINE - GRAND (\$950.01 & OVER)
THEFT, COIN MACHINE - PETTY (\$950 & UNDER)
THEFT-GRAND (\$950.01 & OVER)EXCPT,GUNS,FOWL,LIVESTK,PROD
THEFT-GRAND (\$950.01 & OVER)EXCPT,GUNS,FOWL,LIVESTK,PROD0036
THREATENING PHONE CALLS/LETTERS
TILL TAP - GRAND THEFT (\$950.01 & OVER)
TILL TAP - PETTY (\$950 & UNDER)
TRAIN WRECKING
TRESPASSING
UNAUTHORIZED COMPUTER ACCESS
VANDALISM - FELONY (\$400 & OVER, ALL CHURCH VANDALISMS)
VANDALISM - FELONY (\$400 & OVER, ALL CHURCH VANDALISMS) 0114
VANDALISM - MISDEAMEANOR (\$399 OR UNDER)
VEHICLE - STOLEN
VIOLATION OF COURT ORDER
VIOLATION OF RESTRAINING ORDER
VIOLATION OF TEMPORARY RESTRAINING ORDER

## Appendix D: Crime Type tagged as felony and used in the analysis

Crime Code Description
ARSON
ASSAULT WITH DEADLY WEAPON ON POLICE OFFICER
ASSAULT WITH DEADLY WEAPON, AGGRAVATED ASSAULT
BATTERY - SIMPLE ASSAULT
BATTERY ON A FIREFIGHTER
BATTERY POLICE (SIMPLE)
BATTERY WITH SEXUAL CONTACT
BEASTIALITY, CRIME AGAINST NATURE SEXUAL ASSLT WITH ANIM0065
BOMB SCARE
BRANDISH WEAPON
CHILD ABUSE (PHYSICAL) - AGGRAVATED ASSAULT
CHILD ABUSE (PHYSICAL) - SIMPLE ASSAULT
CHILD ANNOYING (17YRS & UNDER)
CHILD PORNOGRAPHY
CHILD STEALING
CRIMINAL HOMICIDE
CRM AGNST CHLD (13 OR UNDER) (14-15 & SUSP 10 YRS OLDER)
CRM AGNST CHLD (13 OR UNDER) (14-15 & SUSP 10 YRS OLDER)0060
DRUGS, TO A MINOR



FAILURE TO YIELD
HUMAN TRAFFICKING - COMMERCIAL SEX ACTS
HUMAN TRAFFICKING - INVOLUNTARY SERVITUDE
INCEST (SEXUAL ACTS BETWEEN BLOOD RELATIVES)
INTIMATE PARTNER - AGGRAVATED ASSAULT
INTIMATE PARTNER - SIMPLE ASSAULT
KIDNAPPING
LEWD CONDUCT
LEWD/LASCIVIOUS ACTS WITH CHILD
LYNCHING
MANSLAUGHTER, NEGLIGENT
ORAL COPULATION
OTHER ASSAULT
OTHER MISCELLANEOUS CRIME
RAPE, FORCIBLE
SEX, UNLAWFUL
SEX,UNLAWFUL(INC MUTUAL CONSENT, PENETRATION W/ FRGN OBJ
SEX,UNLAWFUL(INC MUTUAL CONSENT, PENETRATION W/ FRGN OBJ0059
SEXUAL PENETRATION W/FOREIGN OBJECT
SEXUAL PENTRATION WITH A FOREIGN OBJECT
SHOTS FIRED AT INHABITED DWELLING
SHOTS FIRED AT MOVING VEHICLE, TRAIN OR AIRCRAFT

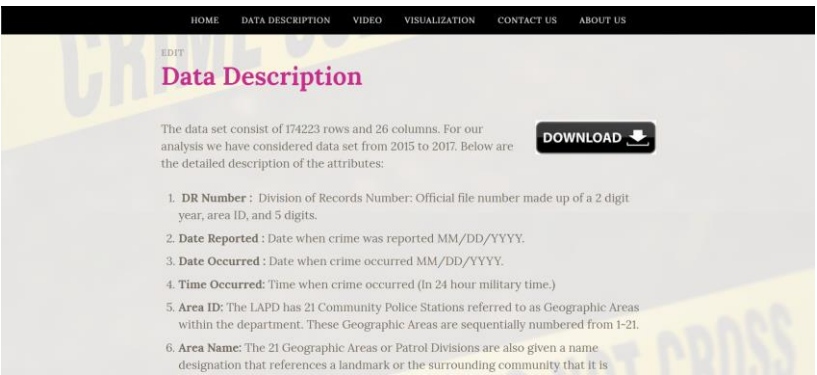
SODOMY/SEXUAL CONTACT B/W PENIS OF ONE PERS TO ANUS OTH
SODOMY/SEXUAL CONTACT B/W PENIS OF ONE PERS TO ANUS OTH 0007=02
THEFT, PERSON
THROWING OBJECT AT MOVING VEHICLE
WEAPONS POSSESSION/BOMBING

# Appendix E: Website Pages

Home page:



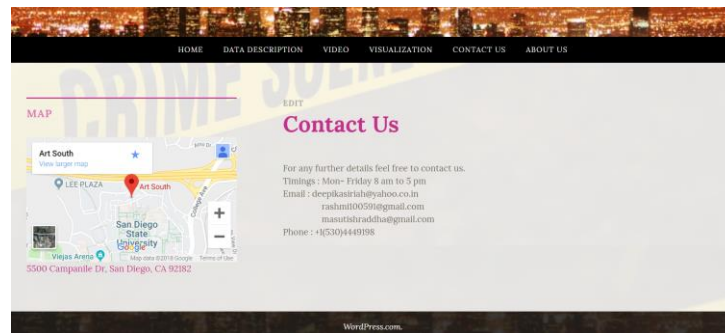
Data Description:



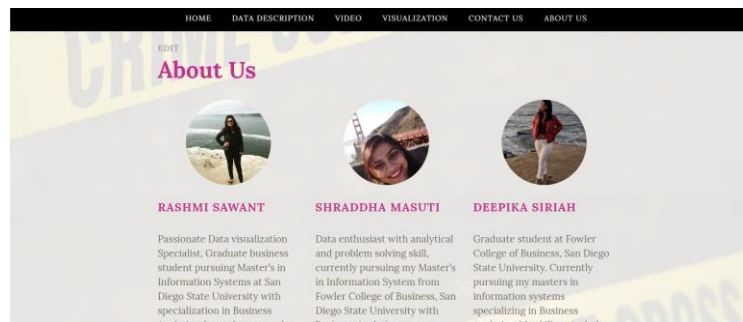
Video:



## Contact Us:



## About Us:



## Visualization:

