

Project-2 Proposal

Data Nexus

2024-11-13

Project Proposal: Public Safety Awareness Campaign Based on Crime Data

Objective:

To develop an impactful public safety awareness campaign by analyzing crime data in Los Angeles from 2020 to the present. This campaign aims to educate residents on prevalent crime types, identify high-risk areas, and promote proactive safety measures to enhance community well-being and reduce incidents.

Description:

Using crime data provided by the LAPD, this project will analyze trends and patterns, focusing on common crime types and their geographical distribution. The insights will help shape an awareness campaign tailored to community needs, encouraging residents to adopt practical safety measures and fostering a collaborative relationship between the LAPD and the community.

Data Source

The dataset is sourced from the LAPD, covering reported crime incidents in Los Angeles from 2020 to the present. The LAPD crime data is available online and includes detailed, anonymized records of various crime types. Due to the transition to a new NIBRS-compliant Records Management System in March 2024, updates are provided bi-weekly.

Source: LAPD Crime Dataset - Los Angeles Open Data Portal.

1. Data Analysis for Awareness

- **Objectives:** Identify and understand the most common crime types and the neighborhoods most impacted. Analyze demographic factors to tailor the campaign for specific areas.
- **Process:**

```
# Load necessary package
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
## filter, lag
```

```
## The following objects are masked from 'package:base':
##
## intersect, setdiff, setequal, union
```

```
# Get a list of all CSV files in the directory
csv_files <- list.files(path = "Data/", pattern = "*.csv", full.names = TRUE)

# Read and combine all CSV files into one data frame
crime_data <- do.call(rbind, lapply(csv_files, read.csv))

# View the merged data
head(crime_data)
```

```
##      DR_NO Date.Rptd DATE.OCC TIME.OCC AREA  AREA.NAME Rpt.Dist.No Part.1.2
## 1 190326475    43891    43891    2130   7   Wilshire      784      1
## 2 200106753    43870    43869    1800   1   Central      182      1
## 3 200320258    44146    44139    1700   3  Southwest      356      1
## 4 211904005    44196    44196    1220  19   Mission     1974      2
## 5 210705560    44162    44162    1800   7   Wilshire      776      1
## 6 200412582    44083    44083     630   4 Hollenbeck    413      1
##      Crm.Cd      Crm.Cd.Desc      Mocodes Vict.Age
## 1      510      VEHICLE - STOLEN      0
## 2      330      BURGLARY FROM VEHICLE 1822 1402 0344      47
## 3      480      BIKE - STOLEN      0344 1251      19
## 4      624      BATTERY - SIMPLE ASSAULT      416      26
## 5      230 ASSAULT WITH DEADLY WEAPON, AGGRAVATED ASSAULT      1309 0400      31
## 6      510      VEHICLE - STOLEN      0
##      Vict.Sex Vict.Descent Premis.Cd      Premis.Desc
## 1      M      0      101      STREET
## 2      M      0      128      BUS STOP/LAYOVER (ALSO QUERY 124)
## 3      X      X      502 MULTI-UNIT DWELLING (APARTMENT, DUPLEX, ETC)
## 4      M      H      502 MULTI-UNIT DWELLING (APARTMENT, DUPLEX, ETC)
## 5      F      0      101      STREET
## 6      101      STREET
##      Weapon.Used.Cd      Weapon.Desc Status
## 1      NA      AA
## 2      NA      IC
## 3      NA      IC
## 4      400 STRONG-ARM (HANDS, FIST, FEET OR BODILY FORCE)      IC
## 5      307      VEHICLE      AA
## 6      NA      IC
##      Status.Desc Crm.Cd.1 Crm.Cd.2 Crm.Cd.3 Crm.Cd.4
## 1 Adult Arrest      510      998      NA      NA
## 2 Invest Cont      330      998      NA      NA
## 3 Invest Cont      480      NA      NA      NA
## 4 Invest Cont      624      NA      NA      NA
## 5 Adult Arrest      230      NA      NA      NA
## 6 Invest Cont      510      NA      NA      NA
##      LOCATION Cross.Street      LAT      LON Year
## 1 1900 S LONGWOOD      AV      34.0375 -118.3506 2020
## 2 1000 S FLOWER      ST      34.0444 -118.2628 2020
## 3 1400 W 37TH      ST      34.0210 -118.3002 2020
## 4 9000 CEDROS      AV      34.2336 -118.4535 2020
## 5 4500 LOMITA      ST      34.0452 -118.3351 2020
```

```
## 6
```

```
200 E AVENUE 28
```

```
34.0820 -118.2130 2020
```

```
# Get the dimensions and column names of the dataset  
dim(crime_data)
```

```
## [1] 990293      29
```

```
colnames(crime_data)
```

```
## [1] "DR_NO"      "Date.Rptd"    "DATE.OCC"     "TIME.OCC"  
## [5] "AREA"      "AREA.NAME"    "Rpt.Dist.No"  "Part.1.2"  
## [9] "Crm.Cd"     "Crm.Cd.Desc"  "Mocodes"      "Vict.Age"  
## [13] "Vict.Sex"   "Vict.Descent" "Premis.Cd"    "Premis.Desc"  
## [17] "Weapon.Used.Cd" "Weapon.Desc"  "Status"       "Status.Desc"  
## [21] "Crm.Cd.1"   "Crm.Cd.2"     "Crm.Cd.3"     "Crm.Cd.4"  
## [25] "LOCATION"    "Cross.Street" "LAT"          "LON"  
## [29] "Year"
```

Insights to Gather:

- Crime types with the highest incidence rates.
- Patterns of crime over time and by location.
- High-risk areas and times for specific crimes.

2. Campaign Development

- **Materials Creation:** Design accessible and informative materials such as flyers, social media graphics, and posters focusing on common crime prevention strategies.
- **Community Collaboration:** Partner with community leaders and local organizations to enhance reach and credibility. Materials will include crime prevention tips tailored to prevalent crime types and specific demographics.
- **Workshops:** Organize in-person and virtual sessions covering safety techniques and best practices, creating a platform for direct community engagement.

3. Engagement Strategies

- **Social Media:** Develop dedicated channels for sharing real-time safety tips, updates on recent incidents, and interactive content like quizzes and polls.
- **Community Feedback Mechanisms:** Establish feedback loops, such as online forms and QR codes on physical materials, allowing residents to report concerns, provide suggestions, and informally share safety-related experiences.

4. Feedback and Continuous Improvement

- **Data-Driven Adjustments:** Regularly analyze feedback and updated crime data to refine the campaign materials and engagement approach. This iterative method will ensure that the campaign remains relevant and impactful.
- **Ongoing Reporting:** Provide periodic reports summarizing campaign outcomes, community feedback, and any observable reductions in specific crime types.

Research Questions

Question 1: What are the most common types of crimes and high-risk areas in Los Angeles?

- **Variables:** Crime type, location, date, and time.
- **Plan:**
 - Clean and preprocess crime data, focusing on crime type, time, and location.
 - Perform trend analysis to reveal patterns over time and across neighborhoods.
- **Visualizations:**
 - A heatmap for spatial distribution of crime.
 - A time series chart for crime types by month or year.

Question 2: How can community engagement influence safety awareness and crime reduction?

- **Variables:** Crime incidence pre- and post-campaign, community engagement metrics.
- **Plan:**
 - Survey community members on campaign awareness and perceived safety improvements.
 - Compare crime rates in high-risk areas before and after campaign rollout.
- **Visualizations:**
 - Bar chart comparing reported crimes in key areas pre- and post-campaign.
 - Survey response visualizations to show campaign reach and impact.

Analysis Plan

Task	Status	Assignee	Due Date	Priority	Summary
Data Collection and Cleaning	Not Started		Week 1	High	Collect and clean LAPD data for analysis.
Crime Trends Analysis	Not Started		Week 1	High	Identify common crime types and locations.
Campaign Material Design	Not Started		Week 2	High	Develop digital and print materials.
Community Workshop Planning	Not Started		Week 3	Medium	Plan virtual and in-person sessions.
Feedback Mechanism Setup	Not Started		Week 3	Medium	Create channels for collecting feedback.

Task	Status	Assignee	Due Date	Priority	Summary
Campaign Rollout	Not Started		Week 4	High	Launch awareness campaign in target areas.
Impact Evaluation	Not Started		Week 5	High	Track crime rates and feedback post-launch.

Expected Outcomes

- **Increased Awareness:** Community members will gain knowledge of prevalent crimes and learn safety practices.
- **Crime Reduction:** The campaign may contribute to a decrease in frequently reported crimes in high-risk areas.
- **Improved Community Relations:** By actively engaging residents, the campaign fosters trust and cooperation with the LAPD.
- **Actionable Feedback:** Feedback collected from the community will support ongoing improvements and adjustments to the campaign.

This proposal presents a targeted safety awareness campaign that utilizes crime data to empower residents and promote safer neighborhoods. By fostering collaboration between the community and law enforcement, we aim to strengthen relationships and create a more informed and secure environment for all.