Department of Computer Science

Project Report

Submitted to:

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Submitted By:

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Project Title:

Crime analysis of the city of Los Angeles aka Hollywood.

Statement of Problem:

With the rise of crime in the city of **box office** tourists are hesitant when traveling to Los Angeles. I will be analysing the past data of LA to find insights from the crime-reported data.

Introduction:

In this project, I used Excel to prepare the data for visualization and Power BI to find useful insights from crime-reported data I applied different visualizations to uncover hidden insights that might help the authorities prevent future crimes.

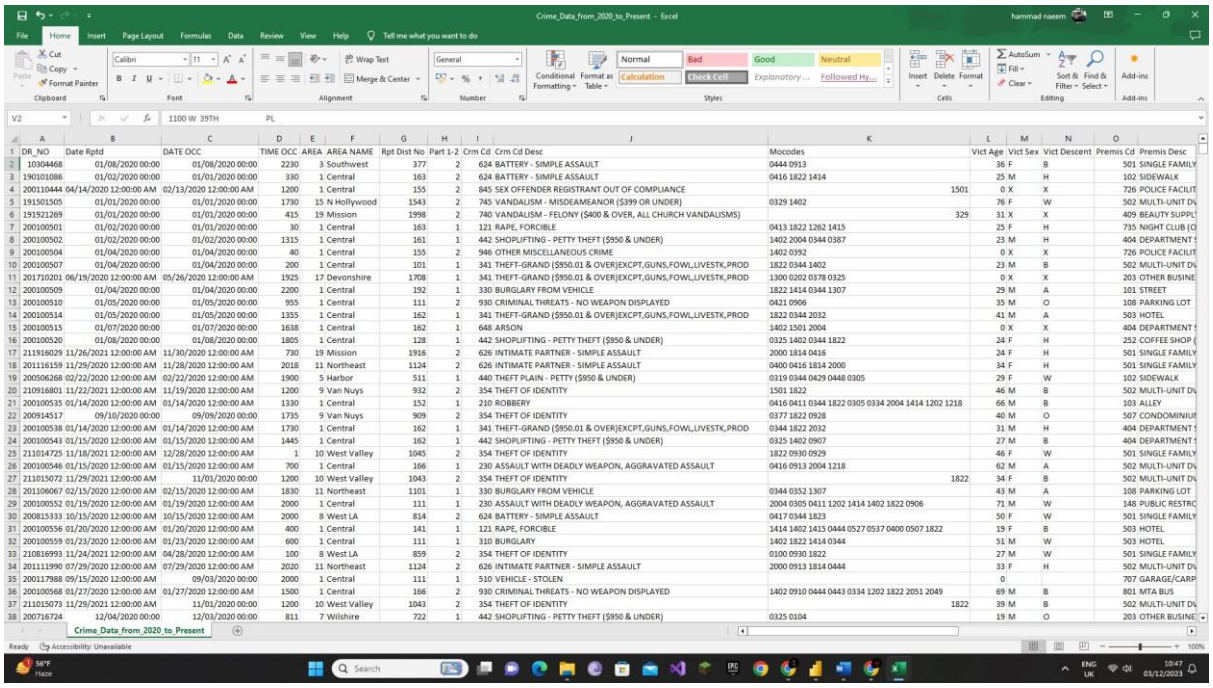
Data Preparation:

The data that I selected was gathered from LAPD radio comms and Investigation done by them after the crime was reported, some missing values could not be imputed because that could be counted as tampering with the crime scene so I removed them i.e., the Location of crime and time, etc.

The data contains crimes reported from 2020 to the present. It has a total of 829779 entries each having the following columns;

- Crime ID
- Date Reported
- Date Occurred
- Time Occurred
- Area
- Area Name
- Reported District
- Part 1 2
- Crime Code
- Crime Code Description
- Mocodes
- Victim Age
- Victim Sex
- Victim Description
- Premises Code
- Premises Description
- weapon
- weapon Description
- Status
- Status Description
- Crime Code 1
- Location
- Cross Street
- Latitudes

- Longitudes.



DR_NO	Date Rptd	DATE OCC	TIME OCC	AREA	AREA NAME	Rpt Dist No	Part 1-2	Crm Cd	Crm Cd Desc	Mocodes	Vict Age	Vict Sex	Vict Descent	Premis Cd	Premis Desc
10304468	01/08/2020 00:00	01/08/2020 00:00	2230	3	Southwest	377	2	624	BATTERY - SIMPLE ASSAULT	0444 0913	36	F	B	501	SINGLE FAMILY
190101086	01/02/2020 00:00	01/01/2020 00:00	330	1	Central	163	2	624	BATTERY - SIMPLE ASSAULT	0416 1822 1414	25	M	H	102	SIDEWALK
200110444	04/14/2020 12:00:00 AM	02/13/2020 12:00:00 AM	1200	1	Central	155	2	845	SEX OFFENDER REGISTRANT OUT OF COMPLIANCE	1501	0	X	X	726	POLICE FACILIT
191501505	01/01/2020 00:00	01/01/2020 00:00	1730	15	N Hollywood	1543	2	745	VANDALISM - MISDEAMEANOR ($399 OR UNDER)	0329 1402	76	F	W	502	MULTI-UNIT DV
191921269	01/01/2020 00:00	01/01/2020 00:00	415	19	Mission	1998	2	740	VANDALISM - FELONY ($400 & OVER, ALL CHURCH VANDALISMS)	329	31	X	X	409	BEAUTY SUPPLY
200100501	01/02/2020 00:00	01/01/2020 00:00	30	1	Central	163	1	121	RAPE, FORCIBLE	0413 1822 1262 1415	25	F	H	735	NIGHT CLUB (O
200100502	01/02/2020 00:00	01/02/2020 00:00	1315	1	Central	161	1	442	SHOPLIFTING - PETTY THEFT ($950 & UNDER)	1402 2004 0344 0387	23	M	H	404	DEPARTMENT S
200100504	01/04/2020 00:00	01/04/2020 00:00	40	1	Central	155	2	946	OTHER MISCELLANEOUS CRIME	1402 0392	0	X	X	726	POLICE FACILIT
200100507	01/04/2020 00:00	01/04/2020 00:00	200	1	Central	101	1	341	THEFT-GRAND ($950.01 & OVER)EXCPT,GUNS,FOWL,LIVESTK,PROD	1822 0344 1402	23	M	B	502	MULTI-UNIT DV
201710201	06/19/2020 12:00:00 AM	05/26/2020 12:00:00 AM	1925	17	Devonshire	1708	1	341	THEFT-GRAND ($950.01 & OVER)EXCPT,GUNS,FOWL,LIVESTK,PROD	1300 0202 0378 0325	0	X	X	203	OTHER BUSINE
200100509	01/04/2020 00:00	01/04/2020 00:00	2200	1	Central	192	1	330	BURGLARY FROM VEHICLE	1822 1414 0344 1307	29	M	A	101	STREET
200100510	01/05/2020 00:00	01/05/2020 00:00	955	1	Central	111	2	930	CRIMINAL THREATS - NO WEAPON DISPLAYED	0421 0906	35	M	O	108	PARKING LOT
200100514	01/05/2020 00:00	01/05/2020 00:00	1355	1	Central	162	1	341	THEFT-GRAND ($950.01 & OVER)EXCPT,GUNS,FOWL,LIVESTK,PROD	1822 0344 2032	41	M	A	503	HOTEL
200100515	01/07/2020 00:00	01/07/2020 00:00	1638	1	Central	162	1	648	ARSON	1402 1501 2004	0	X	X	404	DEPARTMENT S
200100520	01/08/2020 00:00	01/08/2020 00:00	1805	1	Central	128	1	442	SHOPLIFTING - PETTY THEFT ($950 & UNDER)	0325 1402 0344 1822	24	F	H	252	COFFEE SHOP (
211916029	11/26/2021 12:00:00 AM	11/30/2020 12:00:00 AM	730	19	Mission	1916	2	626	INTIMATE PARTNER - SIMPLE ASSAULT	2000 1814 0416	24	F	H	501	SINGLE FAMILY
201116159	11/29/2020 12:00:00 AM	11/28/2020 12:00:00 AM	2018	11	Northeast	1124	2	626	INTIMATE PARTNER - SIMPLE ASSAULT	0400 0416 1814 2000	34	F	H	501	SINGLE FAMILY
200506268	02/22/2020 12:00:00 AM	02/22/2020 12:00:00 AM	1900	5	Harbor	511	1	440	THEFT PLAIN - PETTY ($950 & UNDER)	0319 0344 0429 0448 0305	29	F	W	102	SIDEWALK
210916801	11/22/2021 12:00:00 AM	11/19/2020 12:00:00 AM	1200	9	Van Nuys	932	2	354	THEFT OF IDENTITY	1501 1822	46	M	B	502	MULTI-UNIT DV
200100535	01/14/2020 12:00:00 AM	01/14/2020 12:00:00 AM	1330	1	Central	152	1	210	ROBBERY	0416 0411 0344 1822 0305 0334 2004 1414 1202 1218	66	M	B	103	ALLEY
200914517	09/10/2020 00:00	09/09/2020 00:00	1735	9	Van Nuys	909	2	354	THEFT OF IDENTITY	0377 1822 0928	40	M	O	507	CONDOMINIUM
200100538	01/14/2020 12:00:00 AM	01/14/2020 12:00:00 AM	1730	1	Central	162	1	341	THEFT-GRAND ($950.01 & OVER)EXCPT,GUNS,FOWL,LIVESTK,PROD	0344 1822 2032	31	M	H	404	DEPARTMENT S
200100543	01/15/2020 12:00:00 AM	01/15/2020 12:00:00 AM	1445	1	Central	162	1	442	SHOPLIFTING - PETTY THEFT ($950 & UNDER)	0325 1402 0907	27	M	B	404	DEPARTMENT S
211014725	11/18/2021 12:00:00 AM	12/28/2020 12:00:00 AM	1	10	West Valley	1045	2	354	THEFT OF IDENTITY	1822 0930 0929	46	F	W	501	SINGLE FAMILY
200100546	01/15/2020 12:00:00 AM	01/15/2020 12:00:00 AM	700	1	Central	166	1	230	ASSAULT WITH DEADLY WEAPON, AGGRAVATED ASSAULT	0416 0913 2004 1218	62	M	A	502	MULTI-UNIT DV
211015072	11/29/2021 12:00:00 AM	11/01/2020 00:00	1200	10	West Valley	1043	2	354	THEFT OF IDENTITY	1822	34	F	B	502	MULTI-UNIT DV
201106067	02/15/2020 12:00:00 AM	02/15/2020 12:00:00 AM	1830	11	Northeast	1101	1	330	BURGLARY FROM VEHICLE	0344 0352 1307	43	M	A	108	PARKING LOT
200100552	01/19/2020 12:00:00 AM	01/19/2020 12:00:00 AM	2000	1	Central	111	1	230	ASSAULT WITH DEADLY WEAPON, AGGRAVATED ASSAULT	2004 0305 0411 1202 1414 1402 1822 0906	71	M	W	148	PUBLIC RESTRO
200815333	10/15/2020 12:00:00 AM	10/15/2020 12:00:00 AM	2000	8	West LA	814	2	624	BATTERY - SIMPLE ASSAULT	0417 0344 1823	50	F	W	501	SINGLE FAMILY
200100556	01/20/2020 12:00:00 AM	01/20/2020 12:00:00 AM	400	1	Central	141	1	121	RAPE, FORCIBLE	1414 1402 1415 0444 0527 0537 0400 0507 1822	19	F	B	503	HOTEL
200100559	01/23/2020 12:00:00 AM	01/23/2020 12:00:00 AM	600	1	Central	111	1	310	BURGLARY	1402 1822 1414 0344	51	M	W	503	HOTEL
210816993	11/24/2021 12:00:00 AM	04/28/2020 12:00:00 AM	100	8	West LA	859	2	354	THEFT OF IDENTITY	0100 0930 1822	27	M	W	501	SINGLE FAMILY
201111990	07/29/2020 12:00:00 AM	07/29/2020 12:00:00 AM	2020	11	Northeast	1124	2	626	INTIMATE PARTNER - SIMPLE ASSAULT	2000 0913 1814 0444	33	F	H	502	MULTI-UNIT DV
200117988	09/15/2020 12:00:00 AM	09/03/2020 00:00	2000	1	Central	111	1	510	VEHICLE - STOLEN		0			707	GARAGE/CARP
200100568	01/27/2020 12:00:00 AM	01/27/2020 12:00:00 AM	1500	1	Central	166	2	930	CRIMINAL THREATS - NO WEAPON DISPLAYED	1402 0910 0444 0443 0334 1202 1822 2051 2049	69	M	B	801	MTA BUS
211015073	11/29/2021 12:00:00 AM	11/01/2020 00:00	1200	10	West Valley	1043	2	354	THEFT OF IDENTITY	1822	39	M	B	502	MULTI-UNIT DV
200716724	12/04/2020 00:00	12/03/2020 00:00	811	7	Wilshire	722	1	442	SHOPLIFTING - PETTY THEFT ($950 & UNDER)	0325 0104	19	M	O	203	OTHER BUSINE

Methodology:

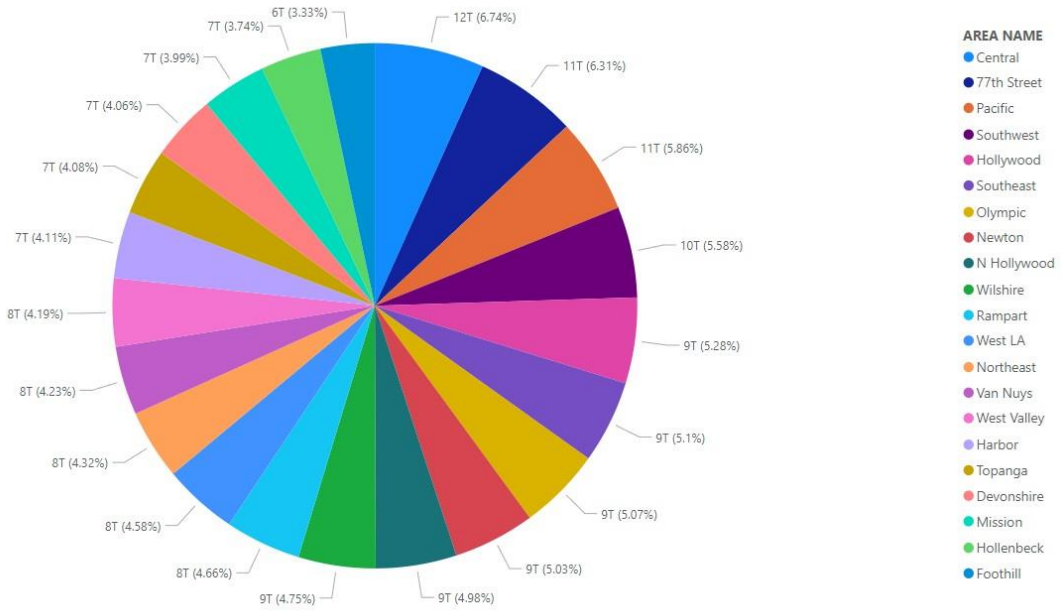
I employed data-cleaning methodologies using Excel, I removed the missing values and converted all the date and time data to the same format. The redundant values Ire also checked and removed using this method

Select Home > Conditional Formatting > Highlight Cells Rules > Duplicate Values.

After The data was cleaned and ready to be visualized so that synthesis could be formed, I used Power BI to visualize data.

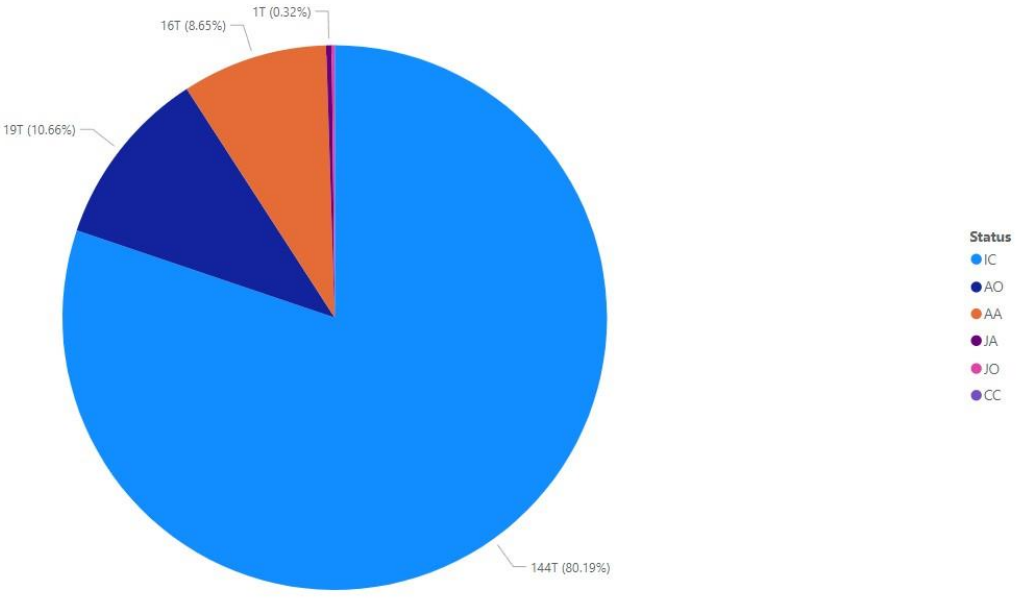
The insights that were uncovered by me are as follows.

Results:

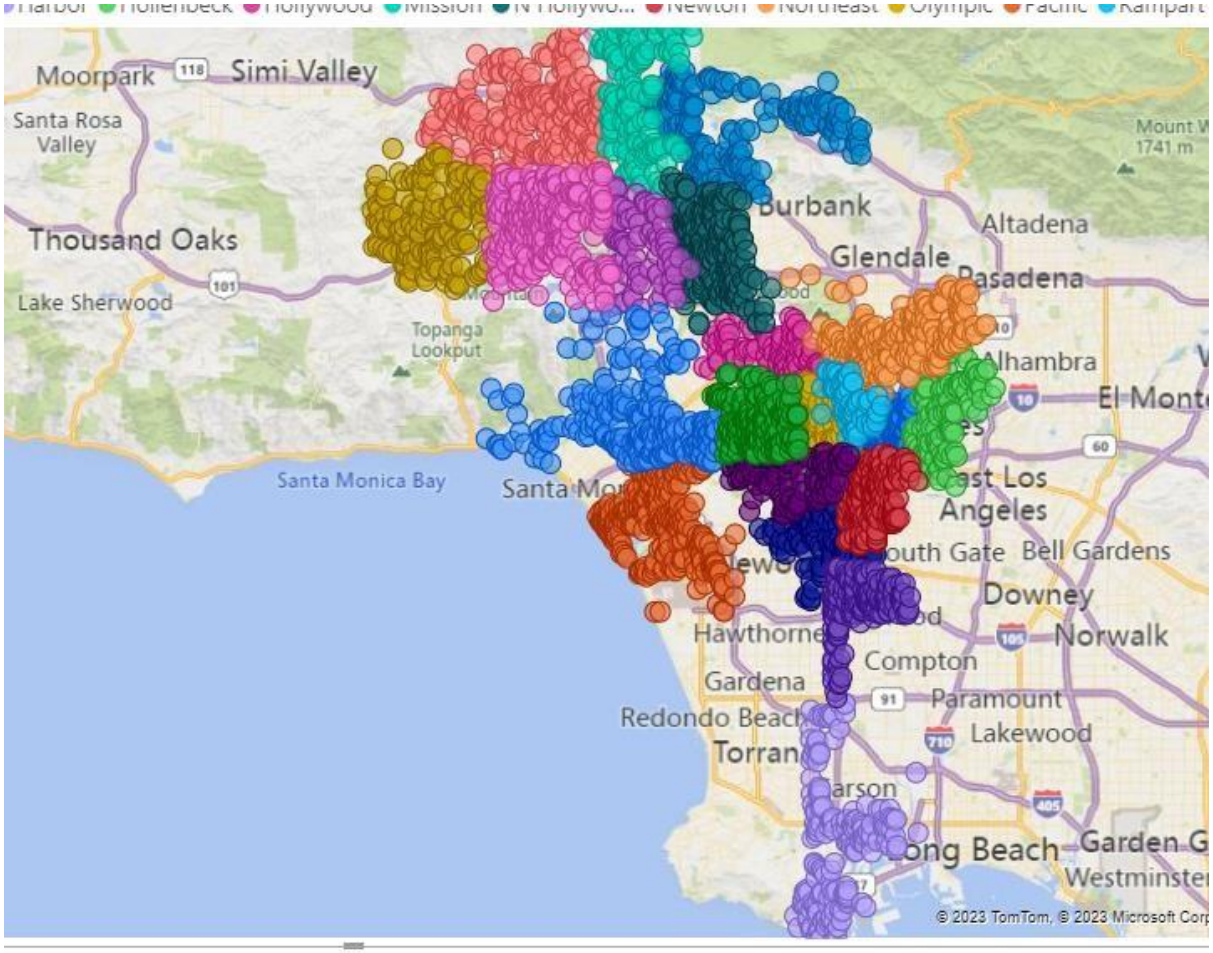


In this pie chart, it was observed that the top 3 crime-occurring areas were

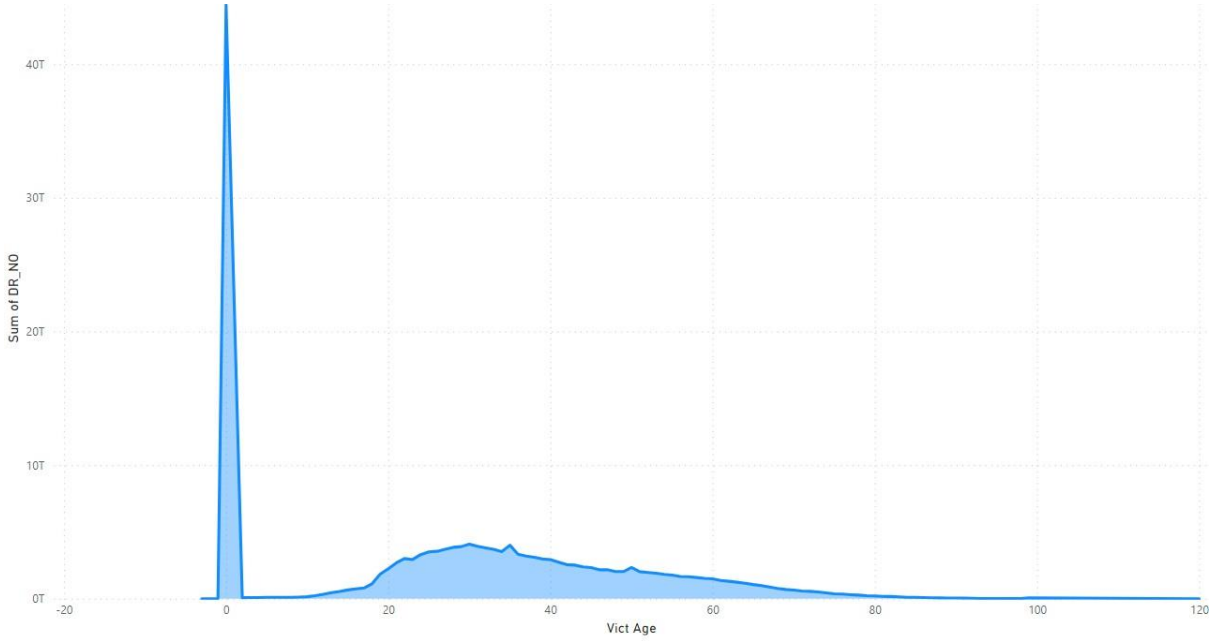
- Central
- 77th Street
- Pacific



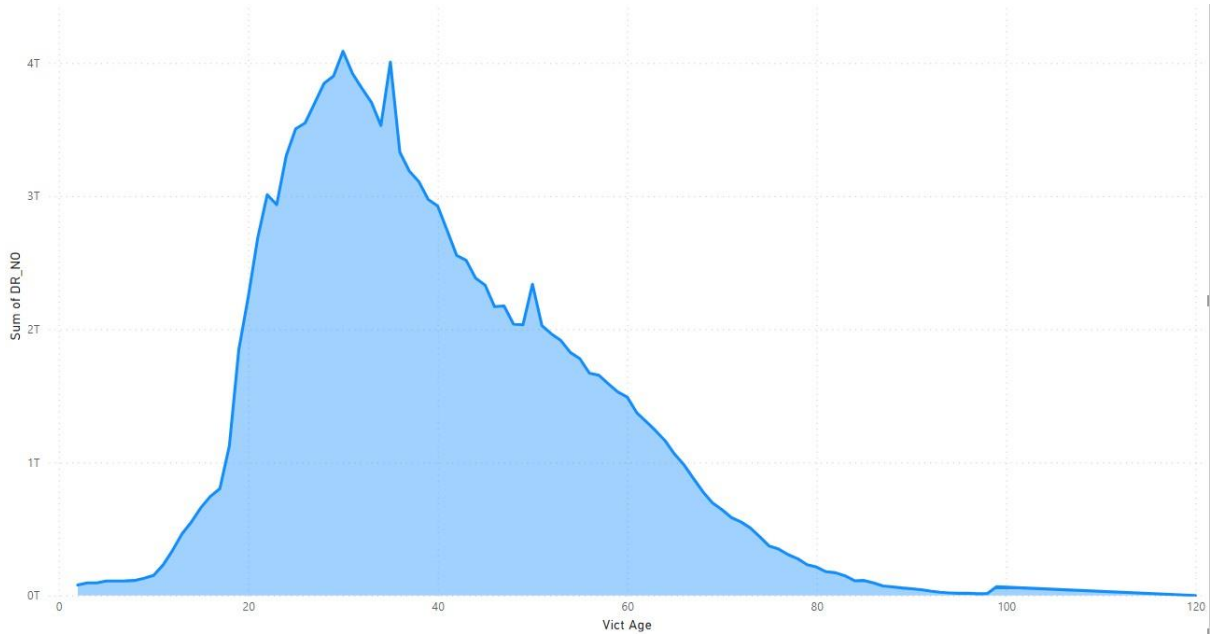
It was observed that 80 percent of crimes were of status IC which means investigation Continued.



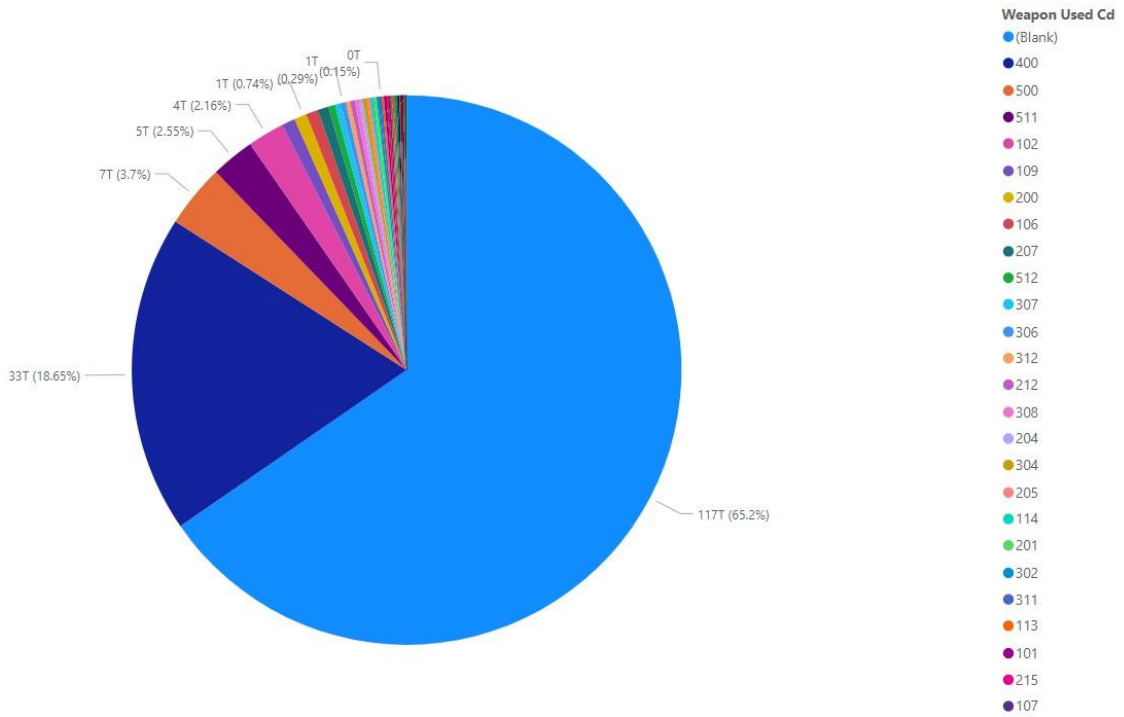
Above is a map visually showing areas with the most reported crimes and it is conspicuous that Central, 77th Street, and Pacific have the highest crime rate.



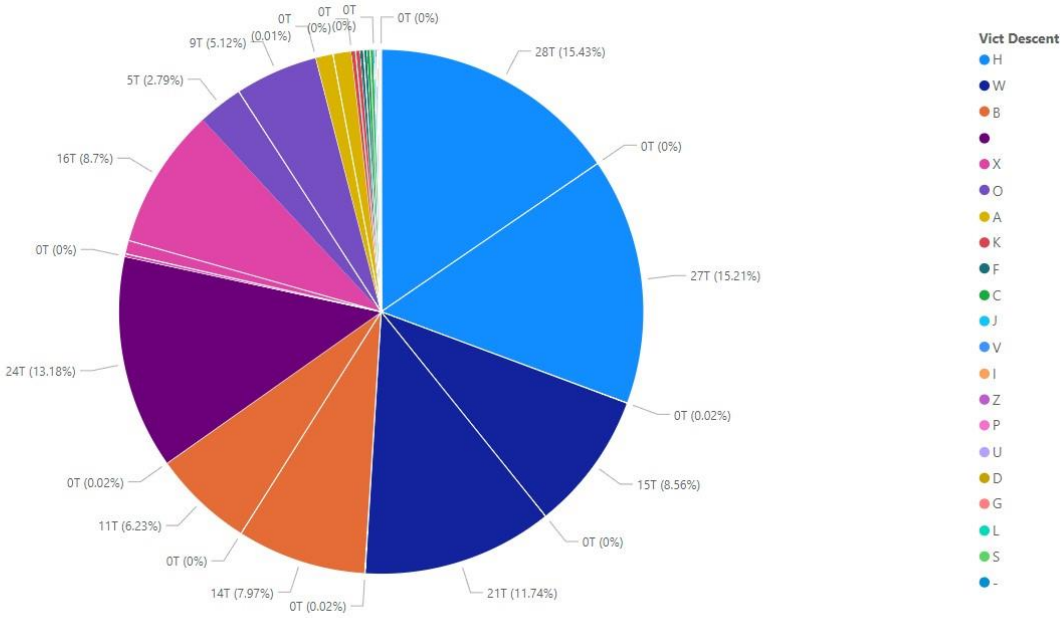
The above graph shows which age group has the most victims and it shows the majority of victims are of age 0 which cannot be right so to fix it I applied a filter to remove 0 age values.



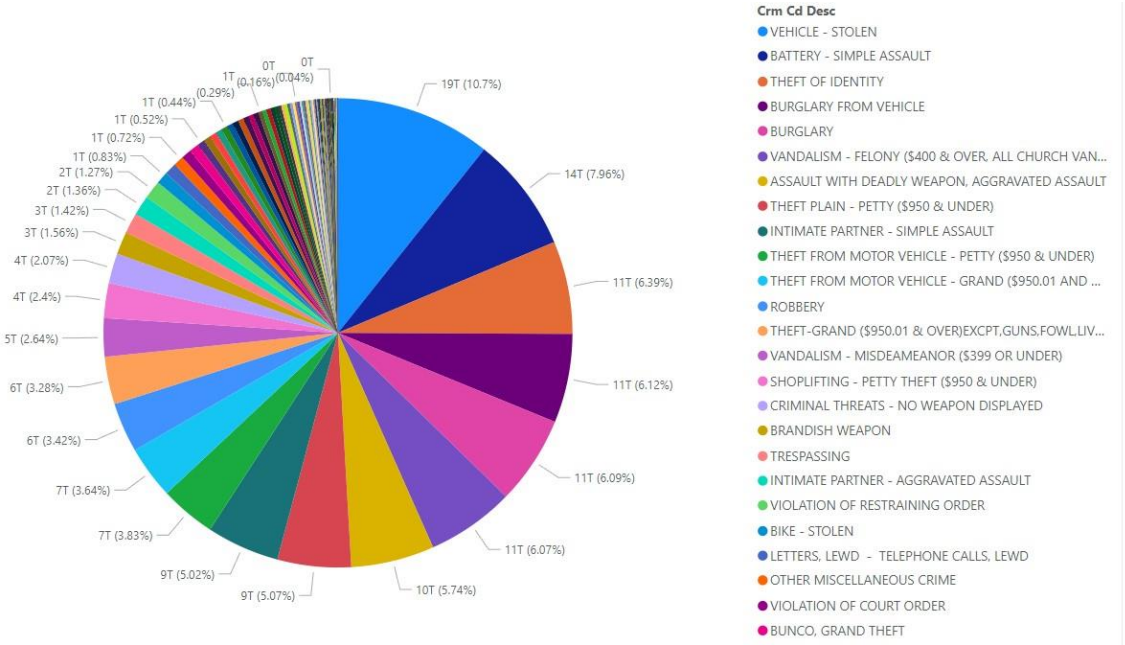
Now it tells a more believable story. The maximum number of victims lie between the ages of 30 and 60 but most of them are near 30.



The above pie chart visually shows which weapon was used in most crimes and 65 percent of reports say there was no weapon involved and 18.65 percent of crimes were abetted by the weapon 400 (Strong arm).



This pie chart shows that the majority of victims are Female and Hispanic and the other majority is Male and Hispanic along with female, male, and white. So, it can be deduced that Hispanics and whites are the most susceptible people to crimes in LA.



This pie chart shows the top 3 most occurred crimes Ire;

- Vehicle Theft
- Battery (simple assault)
- Theft of identity

Recommendations:

Based on the above findings I would recommend an undercover police operation to arrest the culprits and since most of the victims are Hispanics and whites a white or Hispanic cop would be best suitable for the job at hand. The police could rig a susceptible car and arrest the culprits red-handed and this needs to happen multiple times not once.