COVID-19 Effect on Crime Rates

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New York

- The State of New York
  - Fourth most populated state within United States
  - Dense and populated counties induce petty crime and assaults
  - Crime record are logged in as 2019 as opposed to 2020
    - Since the year 2020 is still ongoing, crime data from 2020 are logged in the database of 2019.
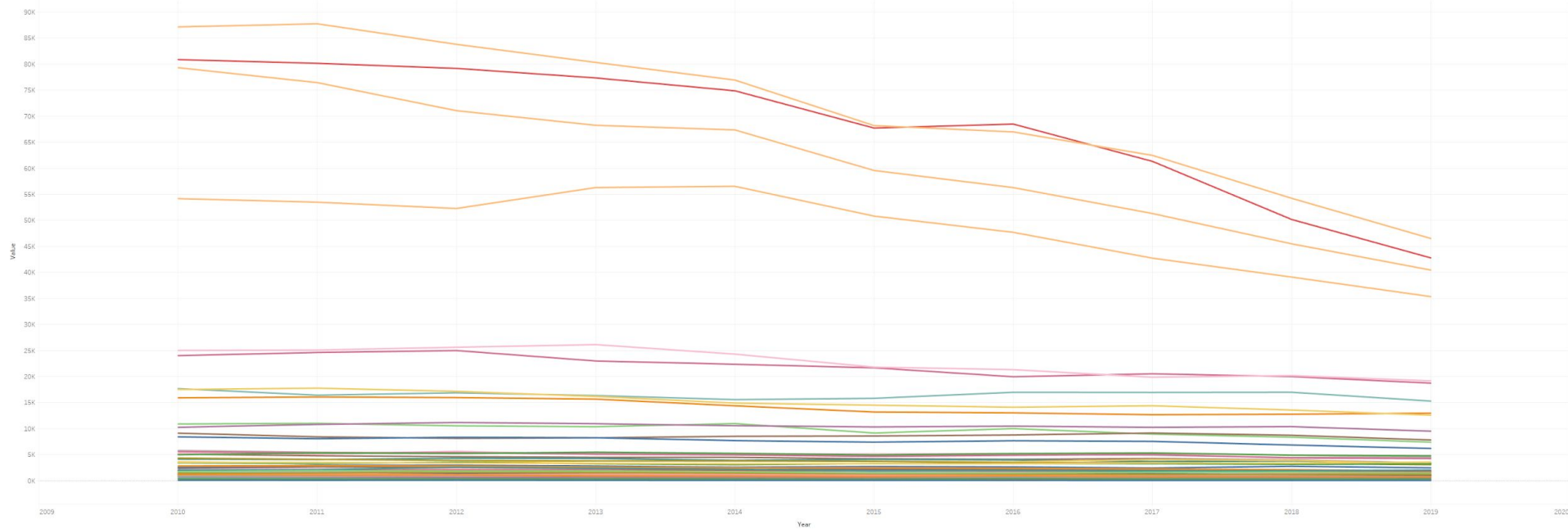 - Focus on dense counties where COVID-19 is heavily present.

New York's 62 Counties & their total crimes

New York's Total Crimes

Measure Names | Felony Total | Misdemeanor T.. | Total Arrests

State of New York
Total Crime
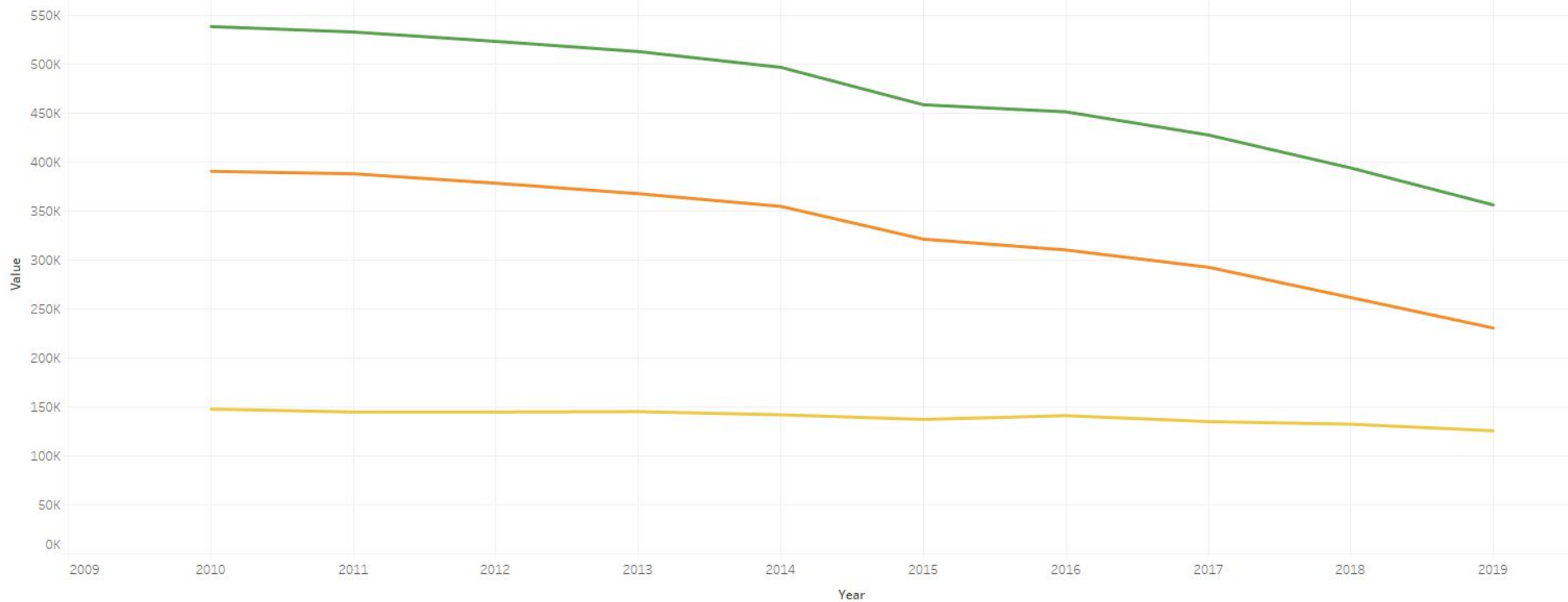
State of New York's types of Crimes
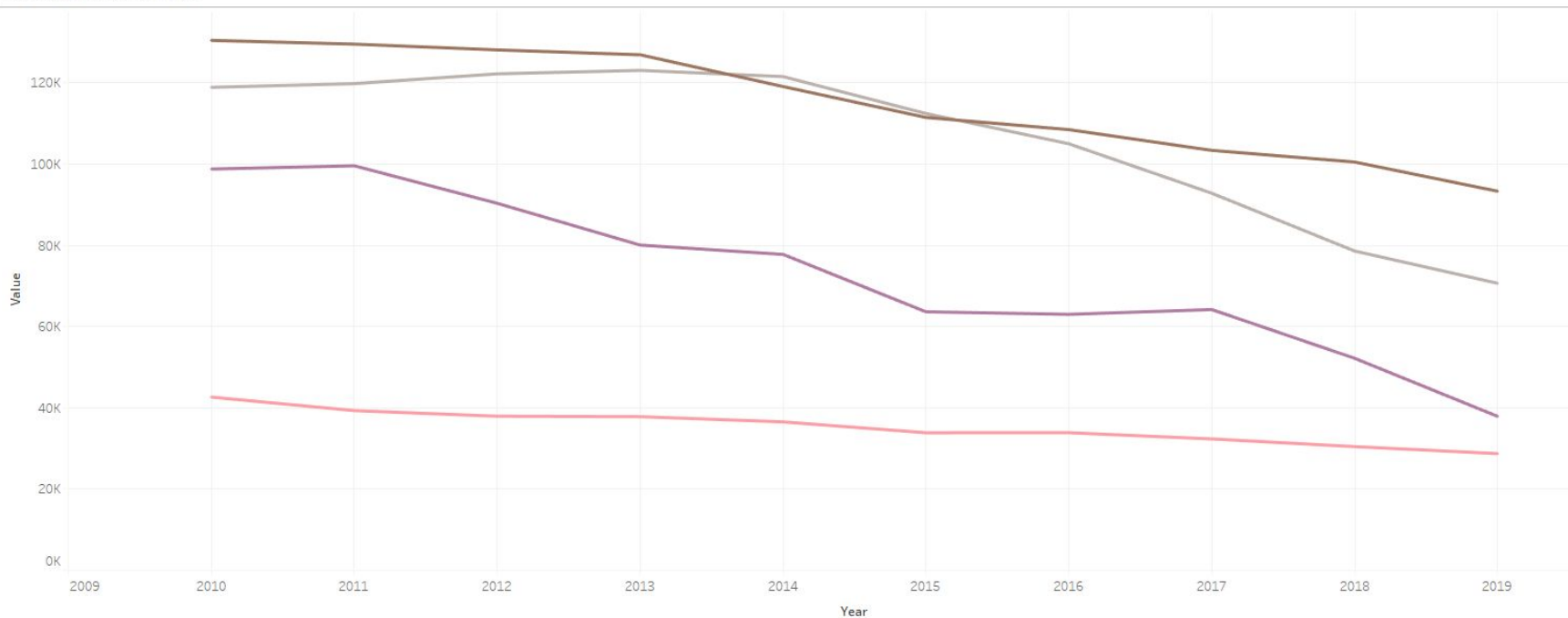
New York Statistics

TRENDS OBSERVED

- Decrease in crime rates
  - COVID-19
  - Government Relief Funds
  - Support Programs
  - Economic situation
- Most concentrated types of crime
  - Misdemeanor crimes
- Strong correlations between crime in wealthy and non wealthy counties

IMPORTANT DATA

- 62 Counties with completely different socio-economic standings
- COVID-19 & statistics from previous diseases.
  - Zica, Swine Flu, Ebola, etc...
- Historical Events
  - Market crash of 2008, Depression periods, Presidential Elections, etc...

Assumptions and Recommendations

Assumptions

- Gather trends from previous diseases and historical events to map predictions for future after COVID-19.
- Governmental programs to help with COVID relief staying in place and ending.
- Crime rates continuing along projected trend line.

Recommendations

- Increase in misdemeanor crime awareness and training for how to handle it.
- Introducing public and private programs to help with the recovery of economic impact and COVID relief.

California - Counties

- California Statistics
  - Most populous state at 39,512,223
  - Major metropolitan counties such as LA are where most crime is located
  - 58 Distinct Counties in California
- Research Factors
  - Focus on LA since it is the most populous hub for all Californians
  - Focus on Counties with high amounts of COVID-19 Cases
  - Separated Crime into 4 distinct categories: Other, Violent, Sex, Property, and Drug
- Trends Found
  - Crime across the state have decreased significantly since the 80's and continued its downward trend prior to COVID-19
  - Property and Violent crimes remain the most prevalent
  - "Other" offenses have been increasing prior to COVID-19
  - LA remains a prime metropolitan area and is thus a major place of origin for most crimes

County

	Los Angeles County	San Bernardino County	San Diego County

Violent

Los Angeles County:
28,865
28,251
36,250
64,790
45,254
37,964

San Bernardino County:
8,901
8,133
8,474
8,400
9,151
10,002
8,184
5,255
3,652
3,395

San Diego County:
8,573
8,769
10,182
10,192
11,452
11,600
5,594
5,391

Property

Los Angeles County:
20,213
38,343
38,439
79,564
69,045
72,305

San Bernardino County:
7,310
9,799
10,359
11,817
10,332
9,665
11,348
10,705
7,761
7,453

San Diego County:
4,140
6,122
8,337
10,815
10,350
10,642
15,132
16,040
12,428

F Drugoff

Los Angeles County:
33,244
48,411
48,161
69,667
61,035
29,319

San Bernardino County:
2,519
10,064
8,793
10,537
8,635
10,225
6,290
5,523
1,809

San Diego County:
2,094
8,855
9,504
10,318
10,367
9,883
11,483
12,966
5,030

F Sexoff

Los Angeles County:
2,109
2,215
2,117
2,385
2,247
1,403

San Bernardino County:
544
714
824
835
617
515
468
496
262

San Diego County:
294
472
604
820
610
797
1,126
559
401

F Allother

Los Angeles County:
18,166
24,928
15,291
18,571
13,326
21,273

San Bernardino County:
5,088
4,278
7,675
6,685
4,168
3,524
2,477
2,037
1,390

San Diego County:
6,763
7,298
5,652
5,647
4,816
3,248
3,208
3,193
2,868
2,489
2,904

California - Counties (Continued)

Covid-19 within counties

- More cases on average along Southern California

- Population density

  - plays a significant role in determining risk and spread

  - affected by geographical space resulting in concentrated areas

Assumptions based on regional influence

- regions aligned near state borders

  - limited treatment centers and staffing

  - take on increased number of case traffic due to inbound patients
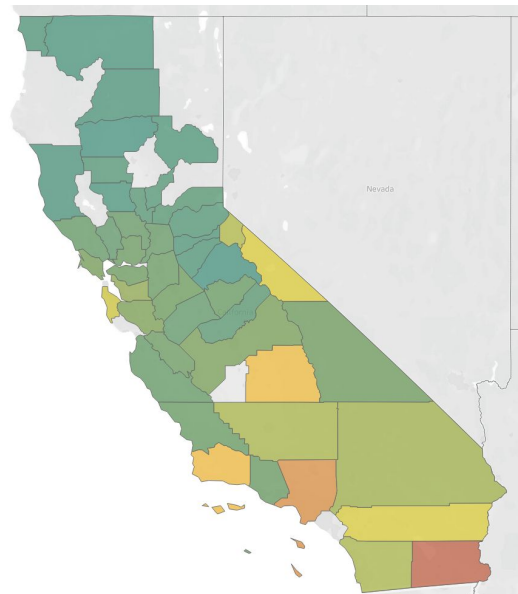
California- LA Statistics

- Types of Crimes Model
  - Data from Jan 2020- mid April 2020
  - Top three crimes committed
    - Simple battery assault- 4697
    - Burglary from vehicle- 4674
    - Stolen vehicle- 4087
  - General trend of decreasing crimes with few exceptions
  - Simple battery assault
    - Jan- 1498
    - Feb- 1444
    - March- 1329
  - Increase in stolen vehicles and assault on an intimate partners directly related to stay at home orders

State of California, Los Angeles
Total Crimes
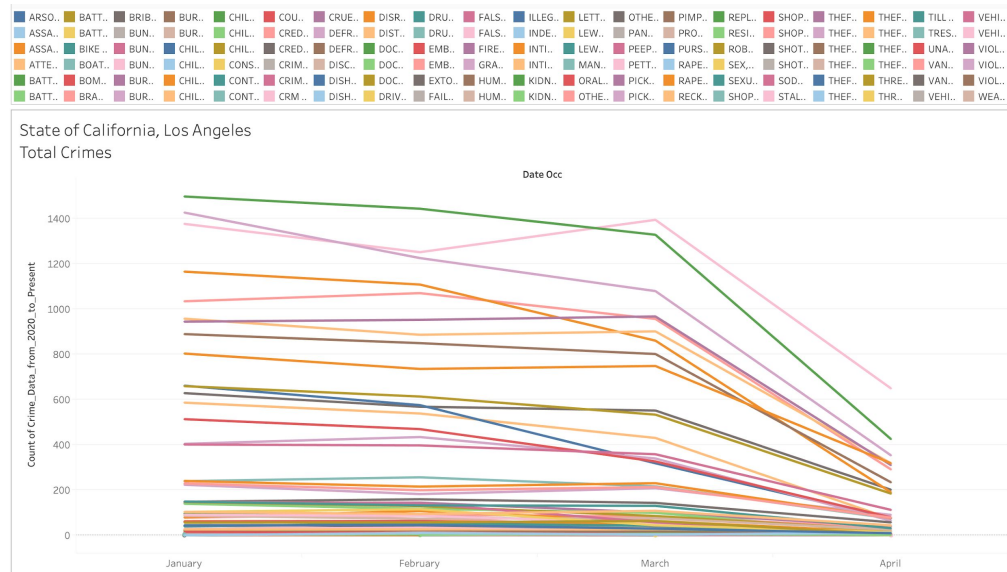
California- LA Statistics(Continued)

- General Model
  - Generalized types of crimes broken into categorize:
    - Property crime- 33,685
    - Violent crime- 8761
    - Sex crimes- 1,500
    - Drug crime- 18
    - Other crime- 4,236
  - Property crime increase because either increase in type of crime or crime not affected by pandemic
    - Restaurants left unprotect
    - Cybercrimes unaffected
  - Barely any drug crimes
    - Hard to purchase
    - People less likely to leave home
  - Every category seen decrease in activity

Pie Chart of types of LA Crimes
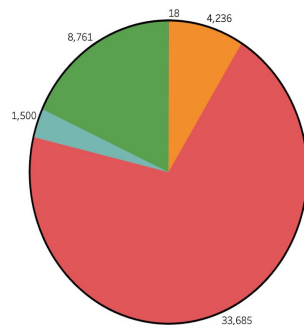
Crime Type
- Drug
- Other
- Property
- Sex
- Violent

SUM(Arrests)
48,200

Potential Solutions

1. The police department can issue reminders to local residents to take preventative measures both for their vehicles and property via newsletters, online article publications, amber alert notifications, APB broadcasts, etc.
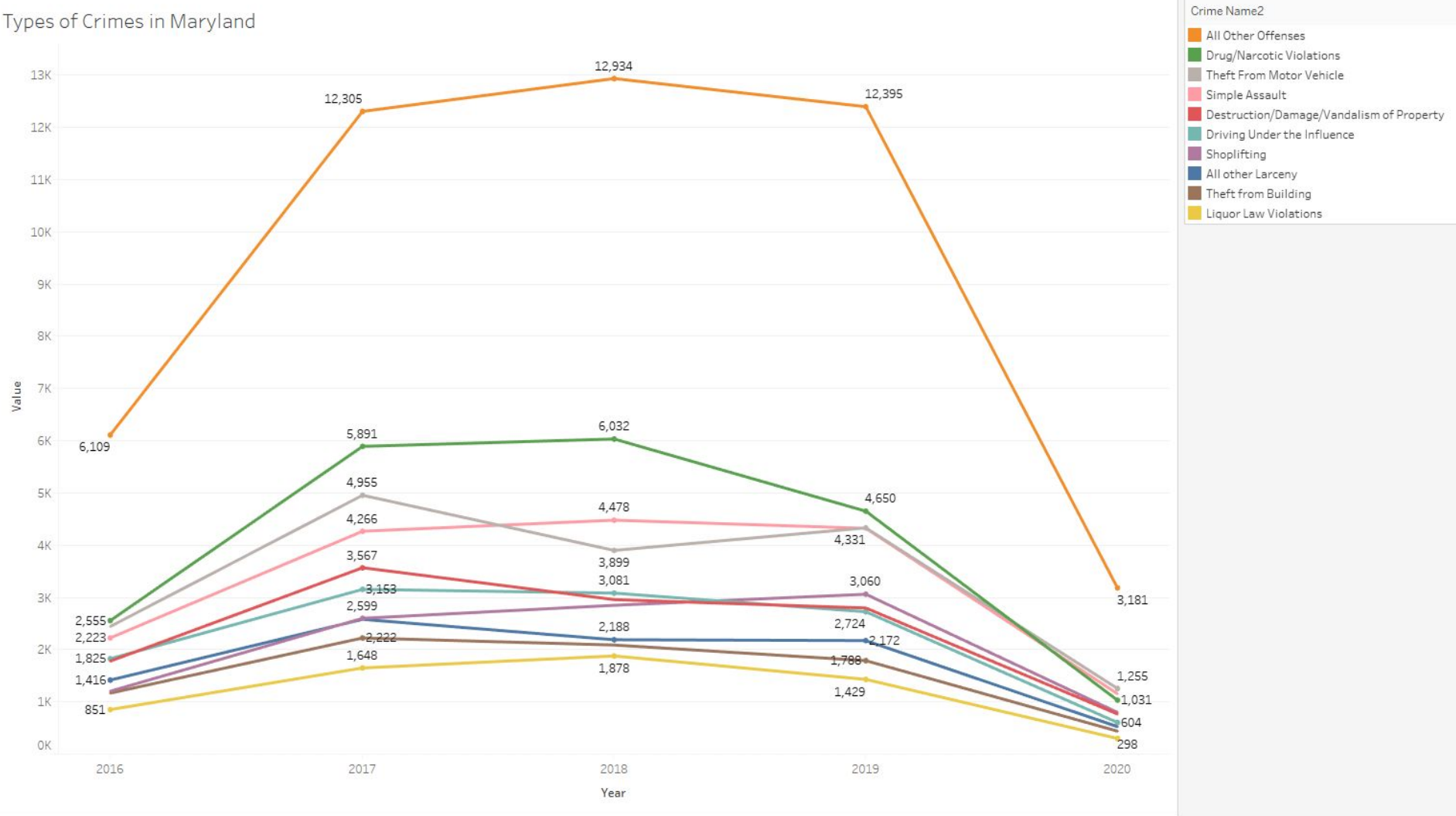2. Police could create an escalation protocol where there are different levels depending on the severity of the protesters. It can be broken down into five levels where one receives the least amount of police attention and five receiving the most. Level one is a peaceful protest. Level two is they have potential to harm. Level three the protesters are agitated. Level four is where the protestors will harm people. Level five is where people will riot.
3. Since many of the crimes decreasing are Drugs, sex, and Other. Law enforcement should prioritize focus on investigations regarding Violence and Property related crimes, since many leads regarding the other types of crimes will be lowered in priority due to a lack of human interaction.
4. Police could send patrols to areas where theft is likely to occur. They could find these areas by looking at previously collected data or be sent to neighborhoods with either no garages or large numbers of cars on the streets.
5. Specified training to appropriate response in domestic cases for both police dispatchers and officers alike. This should feature pertinent advice from the dispatcher to the caller to defuse or handle the situation in the best possible scenario leading up to the arrival of first-responders at the scene.

Maryland

- State of Maryland
  - Nineteenth most populous state in the United States with 6 million people
  - Sixth most number of people per square mile
  - 24 total counties within Maryland
- Research factors
  - Focused on the counties with the highest number of COVID-19 cases and crime rates
  - Separated crime into 4 major categories: Drug, Theft, Assault, and Other
- Trends found
  - There has been a decrease in all types of crime following the COVID-19 outbreak
  - Drugs and Theft continue to be the most common crimes
  - Counties with the biggest populations were most affected by COVID-19

Types of Crimes in Maryland

Legend (Crime Name2):
- All Other Offenses
- Drug/Narcotic Violations
- Theft From Motor Vehicle
- Simple Assault
- Destruction/Damage/Vandalism of Property
- Driving Under the Influence
- Shoplifting
- All other Larceny
- Theft from Building
- Liquor Law Violations

Y-axis (Value): 0K, 1K, 2K, 3K, 4K, 5K, 6K, 7K, 8K, 9K, 10K, 11K, 12K, 13K

X-axis (Year): 2016, 2017, 2018, 2019, 2020

Data labels:

All Other Offenses: 6,109 (2016), 12,305 (2017), 12,934 (2018), 12,395 (2019), 3,181 (2020)

Drug/Narcotic Violations: 2,555 (2016), 5,891 (2017), 6,032 (2018), 4,650 (2019), 1,031 (2020)

Theft From Motor Vehicle: 4,955 (2017), 3,899 (2018), 4,331 (2019), 1,255 (2020)

Simple Assault: 2,223 (2016), 4,266 (2017), 4,478 (2018)

Destruction/Damage/Vandalism of Property: 1,825 (2016), 3,567 (2017), 3,081 (2018), 2,724 (2019)

Driving Under the Influence: 3,153 (2017)

Shoplifting: 2,599 (2017), 3,060 (2019)

All other Larceny: 1,416 (2016), 2,188 (2018), 2,172 (2019)

Theft from Building: 2,222 (2017), 1,788 (2019), 604 (2020)

Liquor Law Violations: 851 (2016), 1,648 (2017), 1,878 (2018), 1,429 (2019), 298 (2020)

Total Crime in State of Maryland

Legend (City): SILVER SPRING, GAITHERSBURG, ROCKVILLE, GERMANTOWN, BETHESDA, MONTGOMERY .., TAKOMA PARK, POTOMAC, CHEVY CHASE, DERWOOD

| City	2016	2017	2018	2019	2020
SILVER SPRING	9,982	20,067	19,696	18,857	4,723
GAITHERSBURG	4,292	8,255	7,782	7,425	1,950
ROCKVILLE	3,886	8,048	7,703	7,357	
GERMANTOWN	2,883	5,601	5,829	4,834	1,310
BETHESDA	1,902	3,909	3,593	3,411	
MONTGOMERY ..	1,043	1,935	1,613	1,546	
TAKOMA PARK					
DERWOOD	464	904	901	890	412
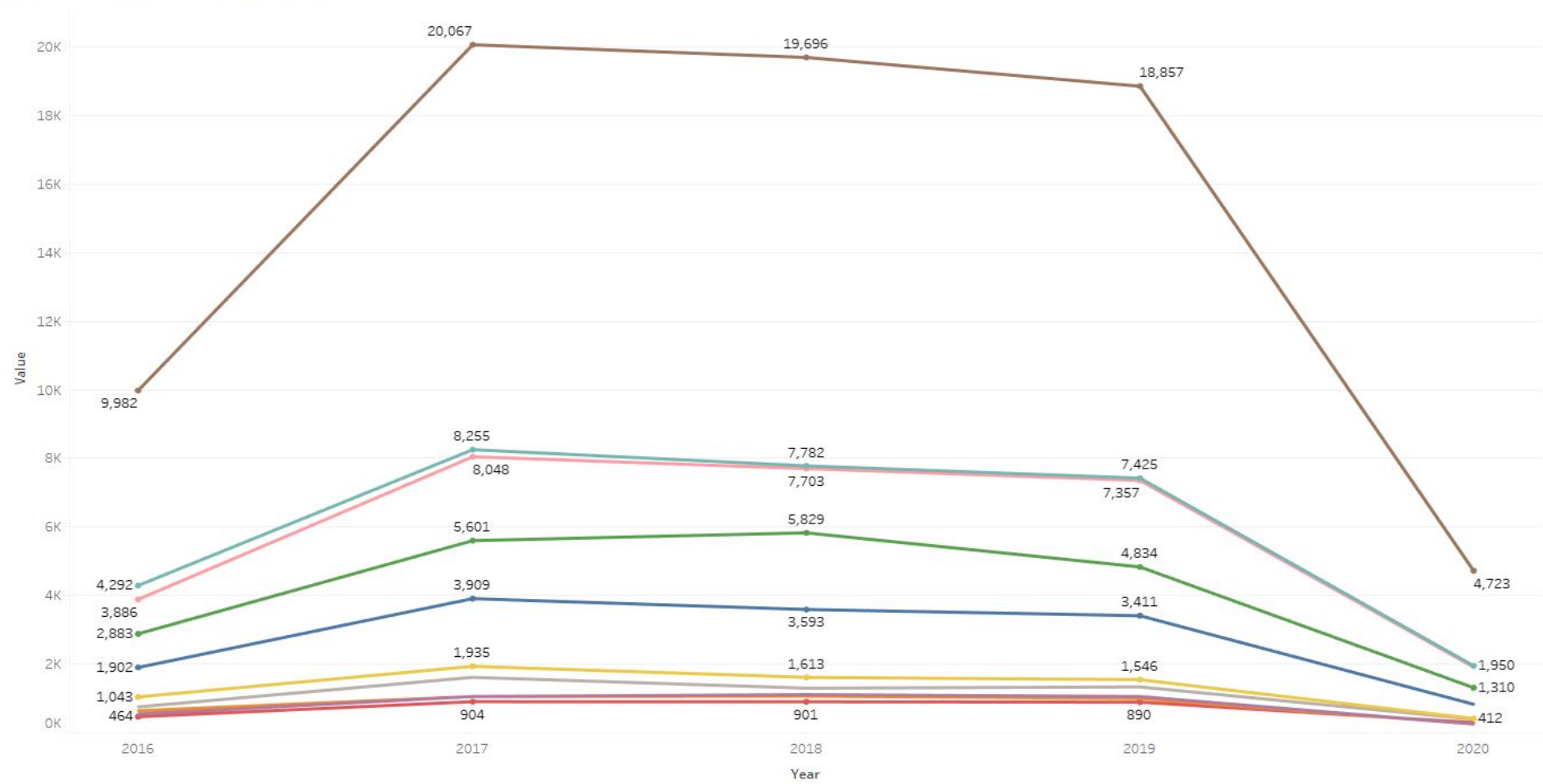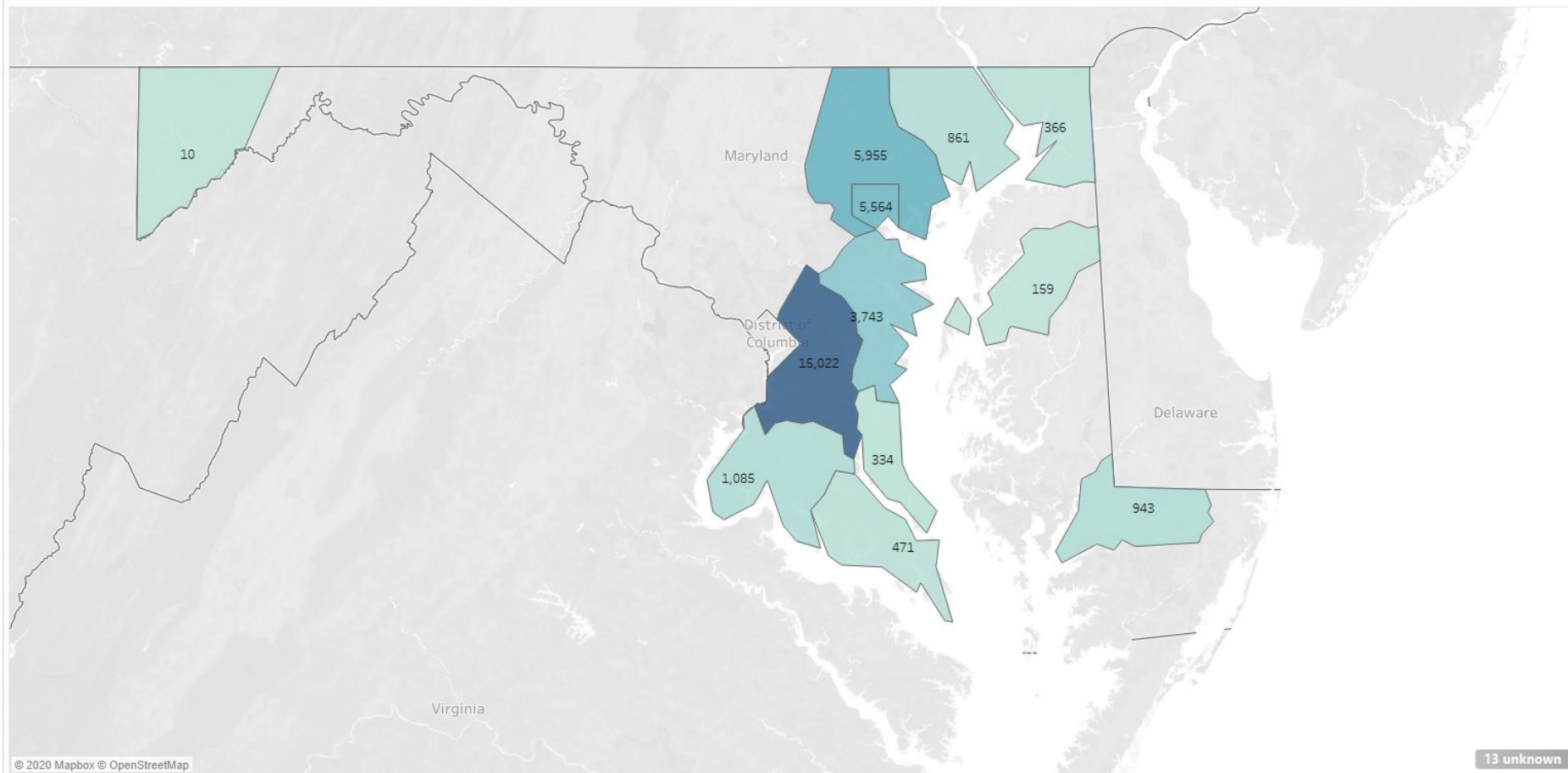
Maryland

COVID-19 Cases

- Most cases lie along the border of Maryland
- This is also where most of the population of Maryland lies
  - COVID-19 spreads quickly in population dense counties

Assumptions based on trends

- Crime rates have decreased because the populous counties have high cases of COVID-19
- Counties near the border have a higher risk of being exposed to people with the virus crossing state borders
- Governmental programs are helping with COVID relief with people staying inside
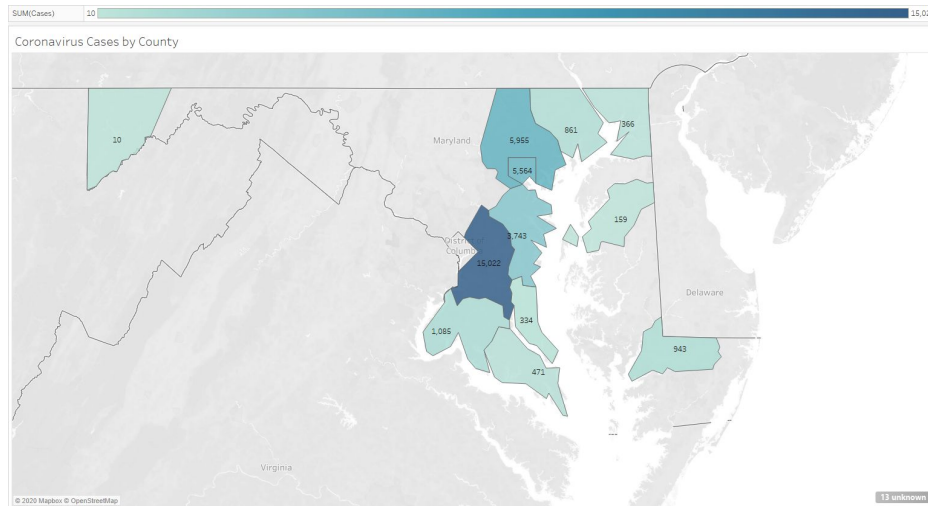
Conclusions and Recommendations

Conclusions:

- Maryland's crime rate went down because of the fear of contracting COVID-19 virus

Recommendations:

- Increase relief and clinical efforts for families in need of support
- Educate people on the seriousness of COVID-19 and how it can be stopped
- Fortify the law enforcement for the safety of the public

Thank You!