



# Atlanta Crime & Covid

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Project 1

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Lisa Rios

October 27, 2020



## Atlanta Target store burned and fireworks were set off inside, officials said

The Target at Lindberg in Buckhead was damaged after downtown protests moved north.

## Coronavirus Lockdown May Spur Surge in Mental Illness, U.N. Warns

Childhood disease may also soar as the pandemic claims millions of indirect victims by blocking access to medical care.

The federal unemployment rate dropped in May for the first time since the coronavirus sent the economy into a tailspin, the strongest sign yet that the economic damage is bottoming out — although 21 million people remain out of work.

The economy gained 2.5 million jobs in May, the first time it has added jobs since tens of thousands of workers flooded back to jobs in restaurants, hotels and other businesses with the reopening of several states in mid-May.

The unemployment rate dropped to 13.3 percent from 14.7 percent. The positive news comes despite the fact that the Bureau of Labor Statistics said it had misclassified some workers in April and March. Without the error, the unemployment rate for May, down from 19.7 percent for April, the agency said.

Atlanta protests devolve into fireworks and fire at Target in

The New York Times

## Ahmaud Arbery's Killing Will Go to Grand Jury as Graphic Video Emerges

Mr. Arbery, 25, was killed after two men pursued him in a South Georgia neighborhood, a confrontation that was caught on video. A prosecutor said charges should be considered in the case.

## Protesters seek justice for death of George Floyd in Atlanta - May 29, 2020



## Lockdown Delays Led to at Least 36,000 More Deaths, Models Find

All 50 states have begun to reopen to some degree, but rules vary. Scientists say they see progress on the path to developing a vaccine.



# How has Covid affected crime rates in Atlanta?

## A comparison of May 2019 and May 2020



### Overall change

Is there an overall change in total crime rates?



### Top Crime Types

What are the top crime types in 2019 compared to 2020? Were there actually changes in crime types?



### Neighborhood & Zone

What trends are seen in crime rates and crime types per neighborhood? Zone?



### Unemployment

Is there a correlation between unemployment rates and crime rate/crime types in Atlanta?

Hypothesis: Negative correlation between covid rates and crime rates.



# Crime Types

**Larceny-Non Vehicle:** the unauthorized taking of another person's property with the intent to permanently deprive them of the use of the property without force

**Larceny-From Vehicle:** involves taking property from a vehicle without the use of force and/or breaking into a structure to do so

**Agg Assault:** an attempt to cause serious bodily harm to an individual with disregard for human life.

**Robbery:** takes property from the person or presence of the owner by either using force or by threatening the imminent use of force

**Auto-Theft:** the criminal act of stealing or attempting to steal a motor vehicle

**Homicide:** the deliberate and unlawful killing of one person by another; murder.

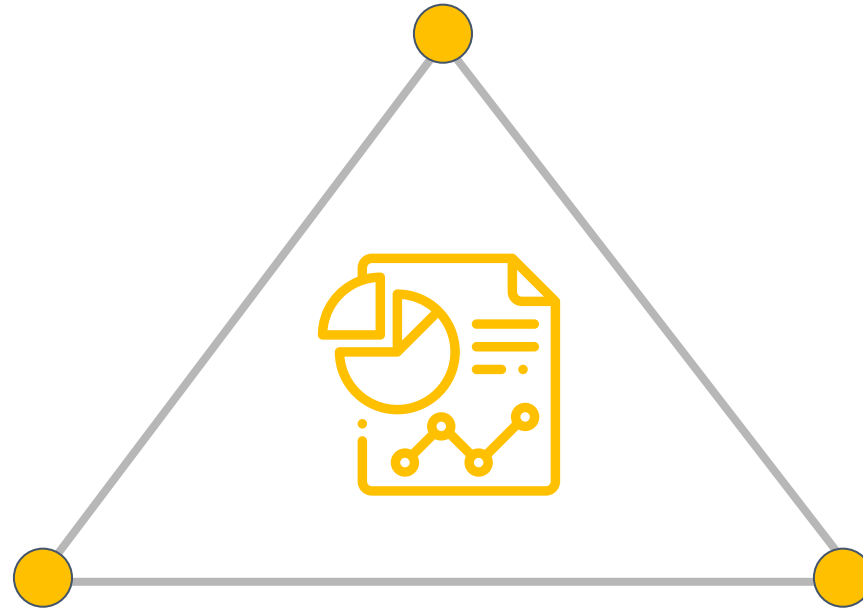
**Burglary:** intentionally enters a place without the consent of the person in lawful possession and with intent to steal or commit a felony

# Data Sources

Atlanta Crime Data: [Atlanta Police Department Open Data Portal](#)

Covid Case Data: [Atlanta Regional Commission](#)

Unemployment Rates: [U.S. Bureau of Labor Statistics](#)



\*All data in csv format

# Data Cleaning

```
jupyter Lisa_Project1 (autosaved)

File Edit View Insert Cell Kernel Widgets Help

[Icons] Run [Buttons] Code [Dropdown] [Keyboard]

32 #test print to confirm
33 zone6_total_crimes

Out[264]: UC2_Literal
AGG ASSAULT      18
AUTO THEFT       49
BURGLARY         37
HOMICIDE         1
LARCENY-FROM VEHICLE 199
LARCENY-NON VEHICLE 129
ROBBERY          12
Name: Report Number, dtype: int64

In [265]: 1 #Creating a new DF with all zones for 2019
2 all_zones_2019 = pd.DataFrame({"Zone1_19": zone1_total_crimes,
3                                "Zone2_19": zone2_total_crimes,
4                                "Zone3_19": zone3_total_crimes,
5                                "Zone3_19": zone3_total_crimes,
6                                "Zone4_19": zone4_total_crimes,
7                                "Zone5_19": zone5_total_crimes,
8                                "Zone6_19": zone6_total_crimes})
9
10 all_zones_2019.index.name = "Crime Type"
11
12 #remove NaN
13 all_zones_2019['Zone5_19'] = all_zones_2019['Zone5_19'].fillna(0)
14
15 all_zones_2019

Out[265]:
```

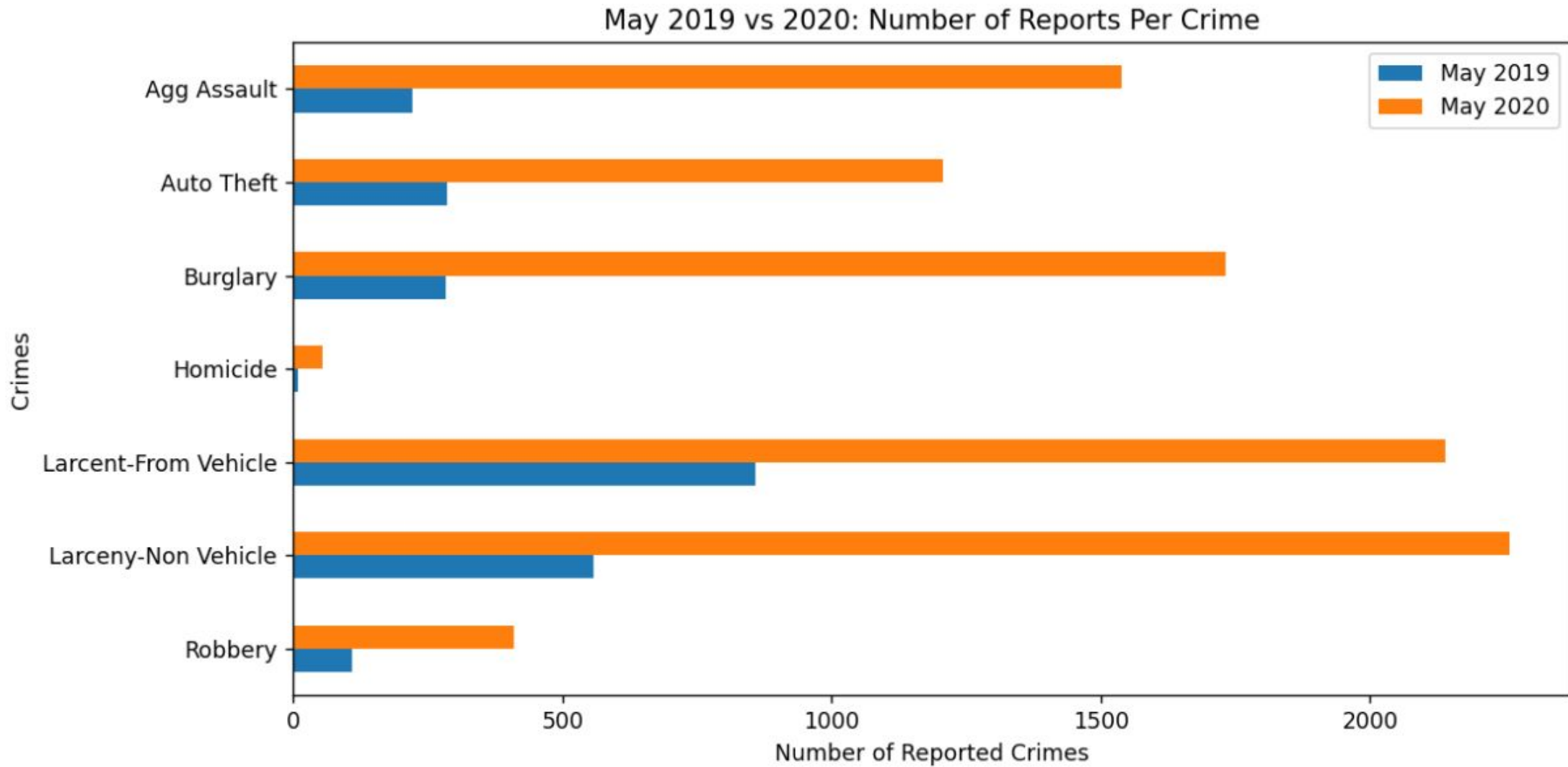
Out[7]:

	UC2_Literal	Report Number	Report Date	Location	Beat	Neighborhood	NPU	Lat	Long	Unnamed: 9
0	ROBBERY	191511609	05/31/2019	2423 MARTIN L KING JR DR NW	108	Florida Heights	I	33.75183	-84.46623	NaN
1	BURGLARY	191511253	05/31/2019	2031 CHICAGO AVE NW	107	Grove Park	J	33.76485	-84.45386	NaN
2	LARCENY-NON VEHICLE	191512118	05/31/2019	2045 DONALD LEE HOLLOWELL PKWY NW	107	Grove Park	J	33.77740	-84.45214	NaN
3	LARCENY-FROM VEHICLE	191510677	05/31/2019	3123 ELEANOR TER NW	112	Collier Heights	I	33.77746	-84.48870	NaN
4	LARCENY-FROM VEHICLE	191510516	05/31/2019	2707 DONALD LEE HOLLOWELL PKWY NW	113	Brookview Heights	G	33.77774	-84.47583	NaN

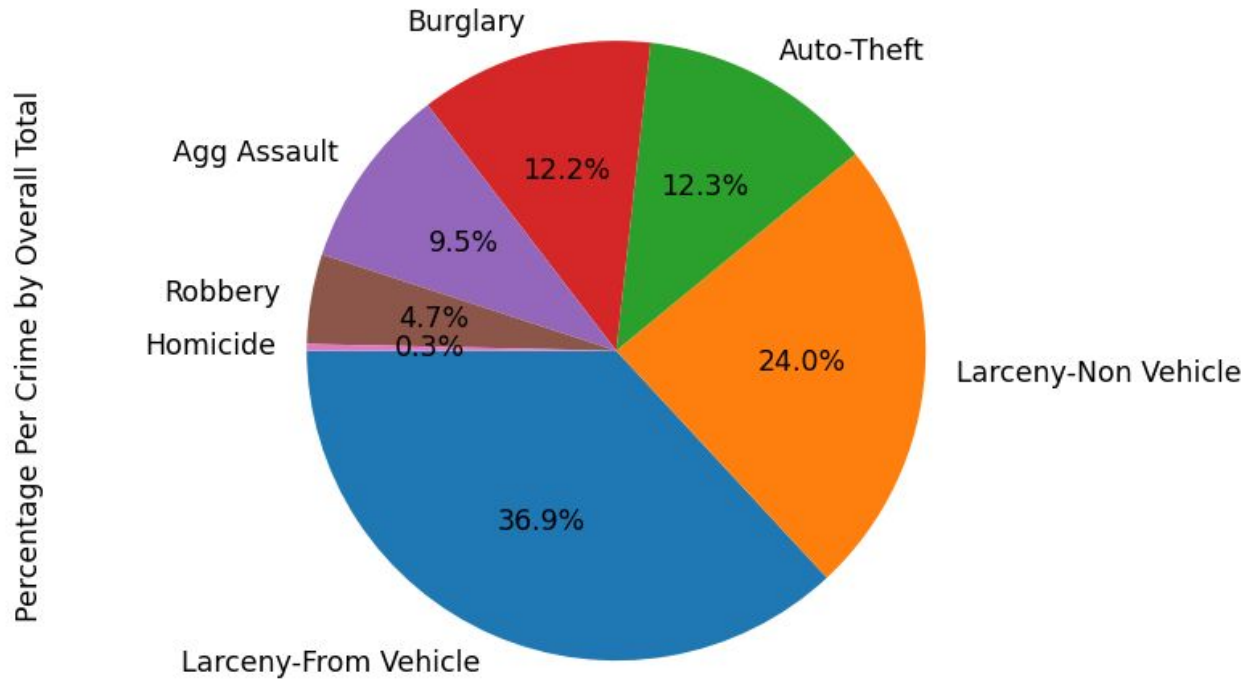
In [264]:

```
1 #groupby 2019 crime type
2 #zone1
3 zone1_2019 = zone1_may2019[['UC2_Literal']]
4 zone1_crime_type_2019 = zone1_may2019.groupby(['UC2_Literal'])
5 zone1_total_crimes = zone1_crime_type_2019['Report Number'].count()
6
7 #zone2
8 zone2_2019 = zone2_may2019[['UC2_Literal']]
9 zone2_crime_type_2019 = zone2_may2019.groupby(['UC2_Literal'])
10 zone2_total_crimes = zone2_crime_type_2019['Report Number'].count()
11
12 #zone3
```

## May 2019 vs May 2020: Number of Reports Per Crime



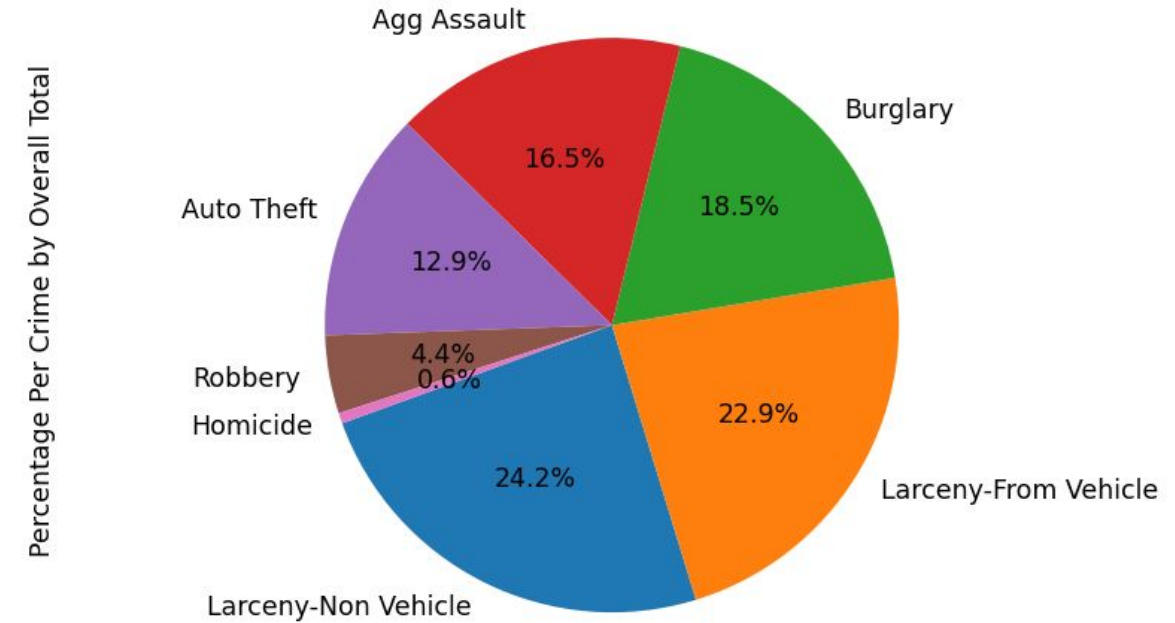
Percentage of Reports Per Crime- May 2019



Top 5 Crimes (by Number of Reports)

1. Larceny-From Vehicle 859
2. Larceny-Non Vehicle 559
3. Auto-Theft 286
4. Burglary 284
5. Agg Assault 222

Percentage of Reports Per Crime- May 2020



Top 5 Crimes (by Number of Reports)

1. Larceny-Non Vehicle 2259
2. Larceny-From Vehicle 2140
3. Burglary 1732
4. Agg Assault 1539
5. Auto Theft 1208



# Crime Rates by Zones in Atlanta

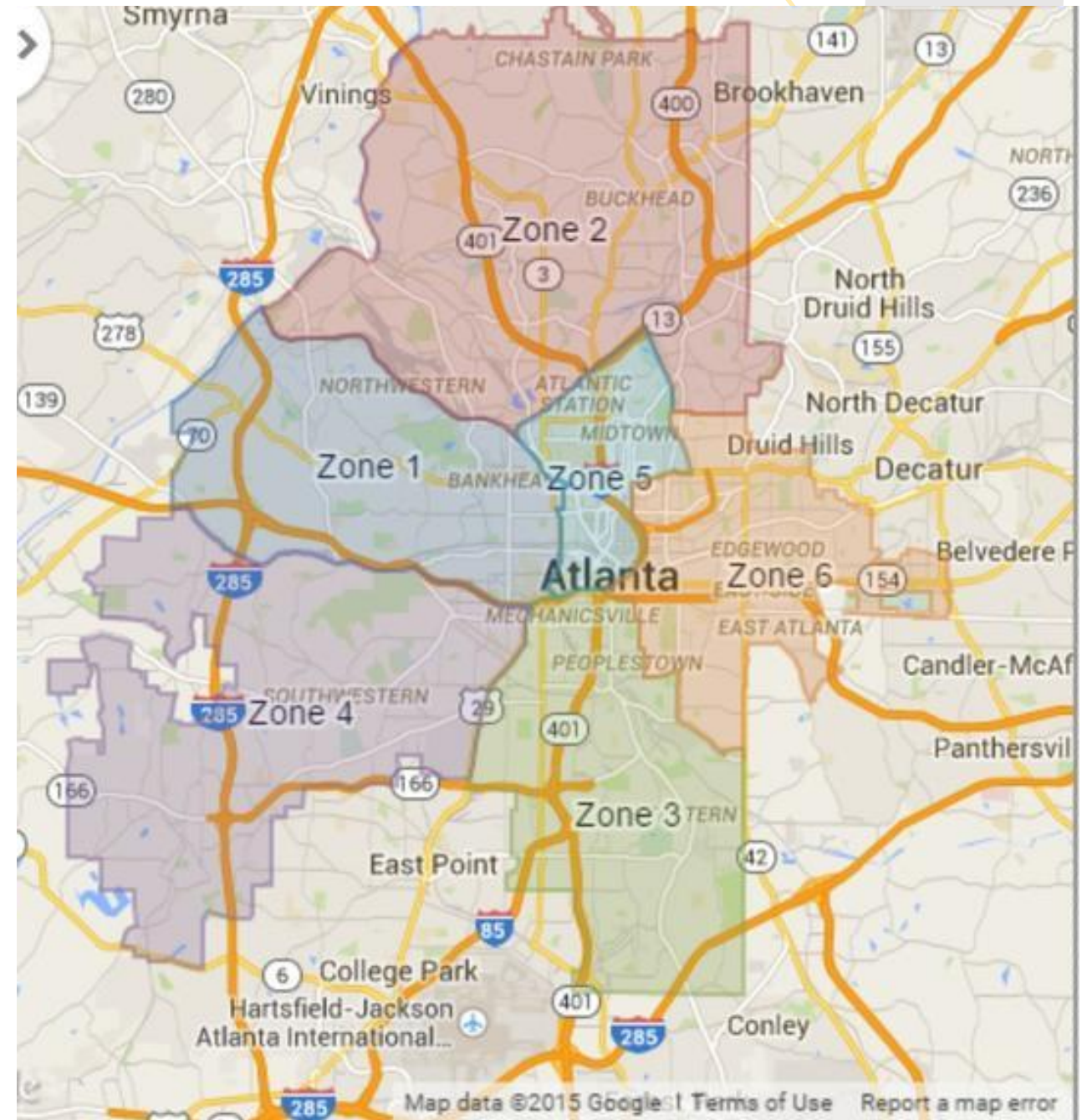
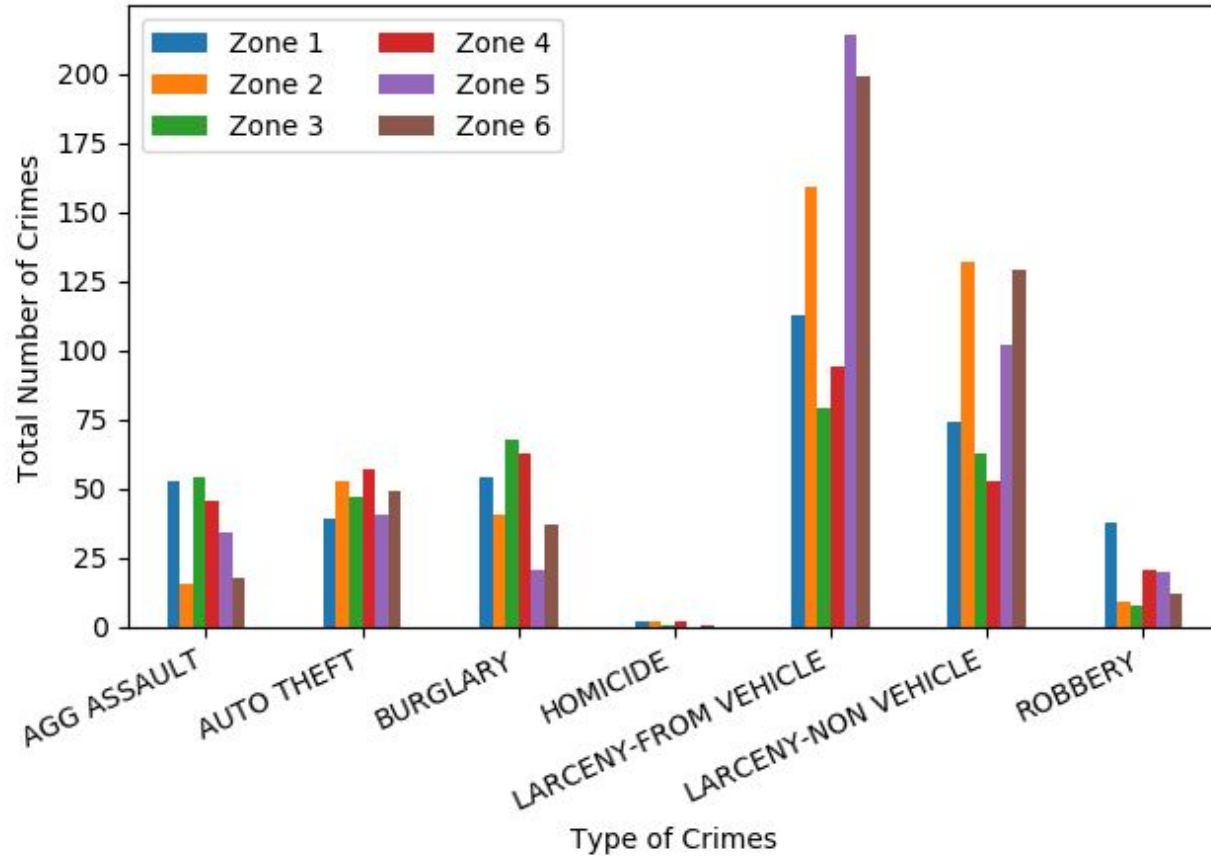


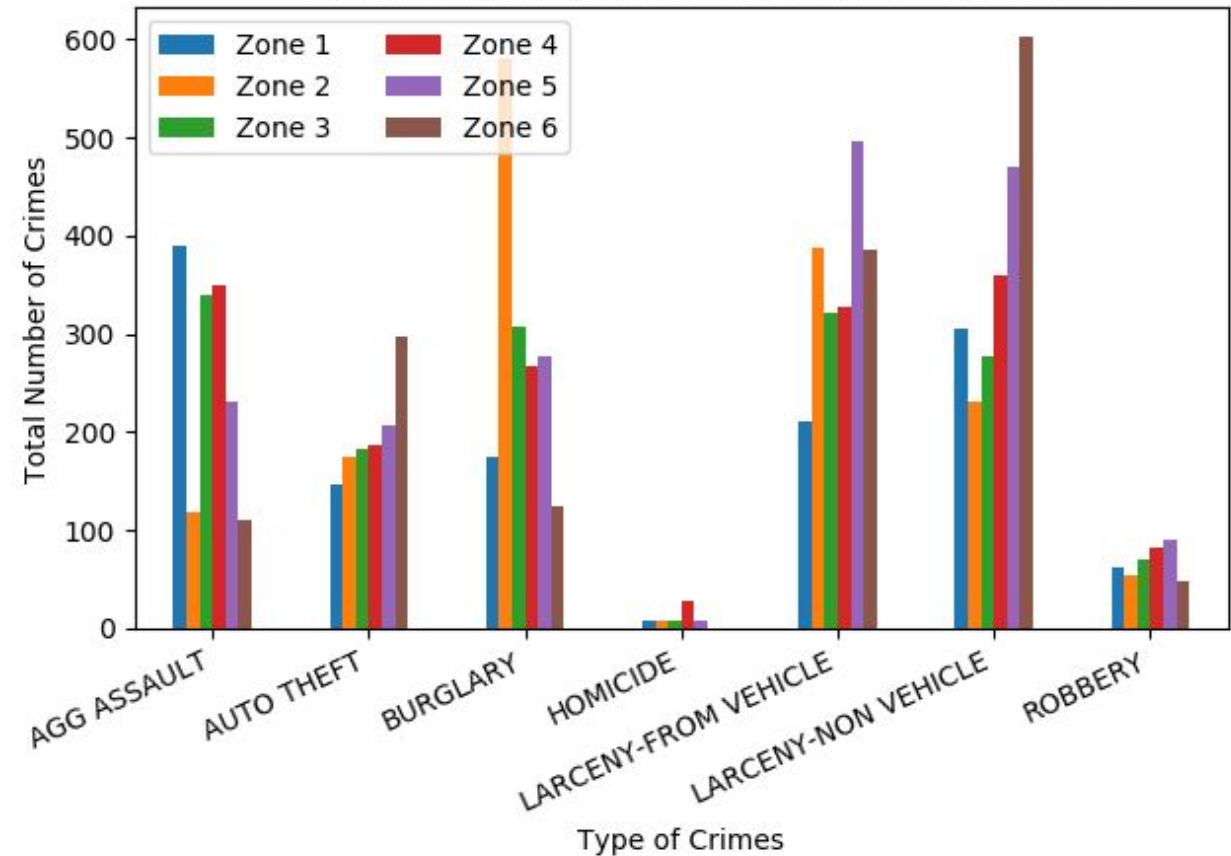
Photo source: <https://atlantafi.com/atlanta-six-zones/>

# Crime Rates by Zones in Atlanta

Total Number of Crimes per Zone in Atlanta May 2019



Total Number of Crimes per Zone in Atlanta May 2020

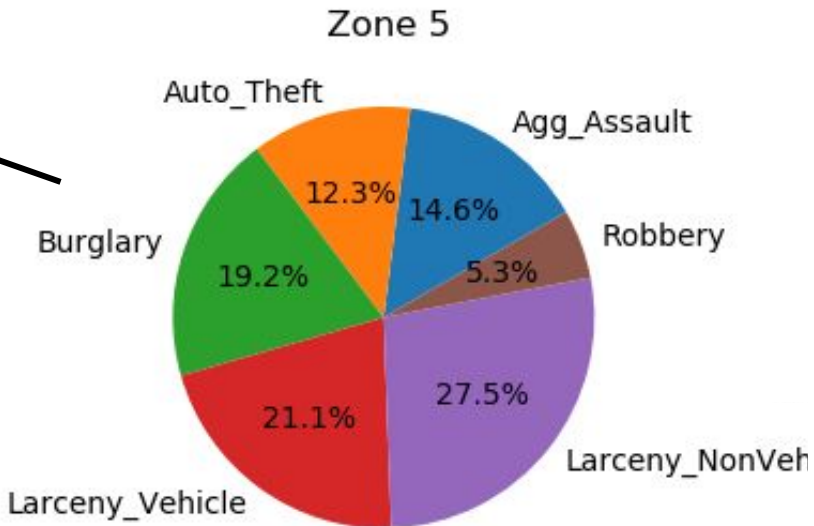
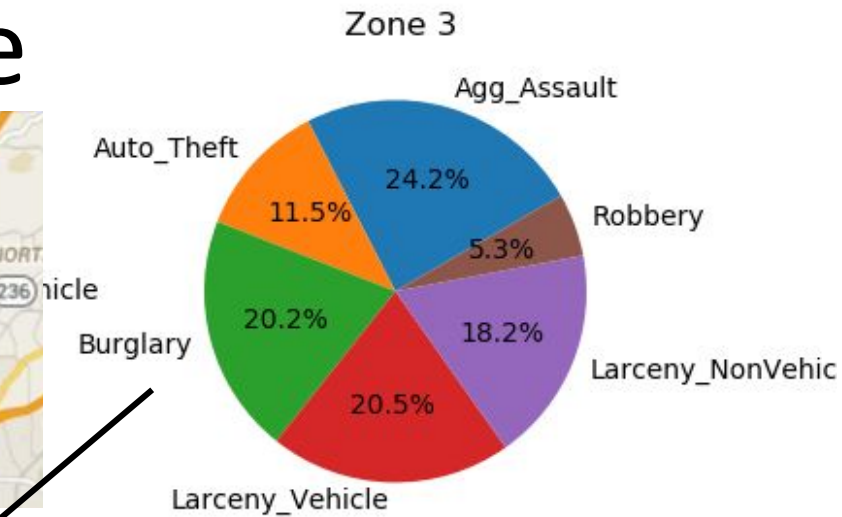
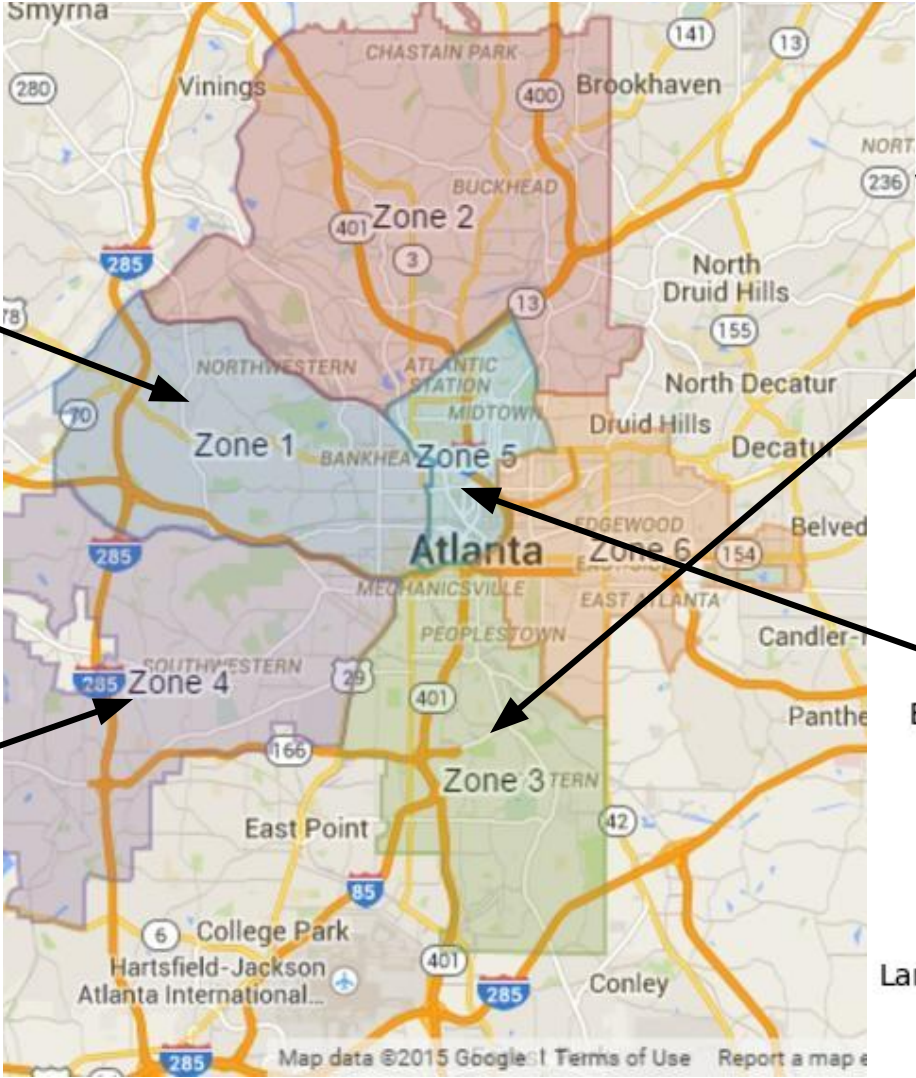
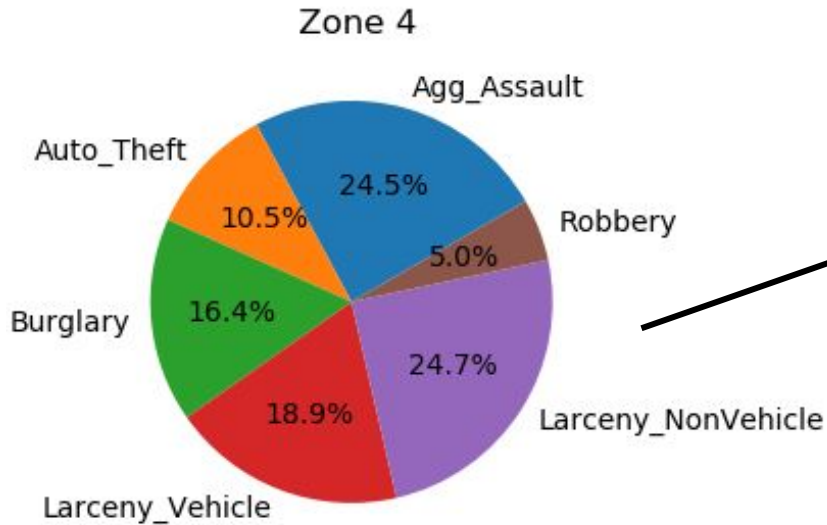
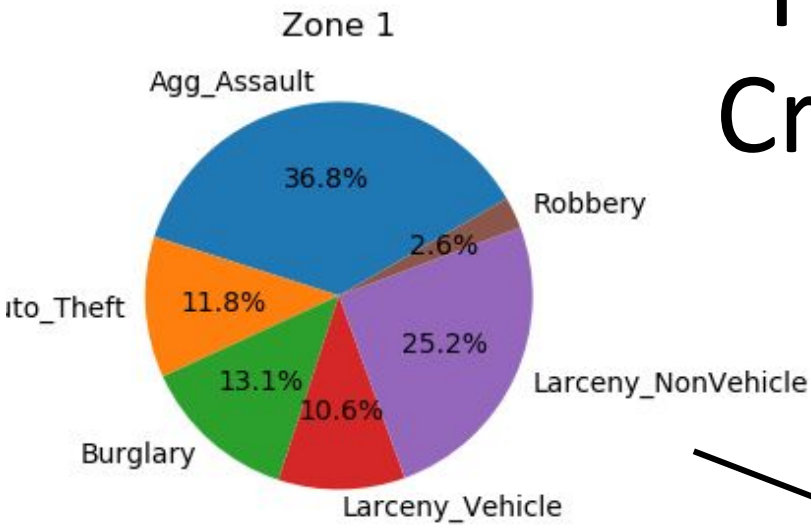


## Trends:

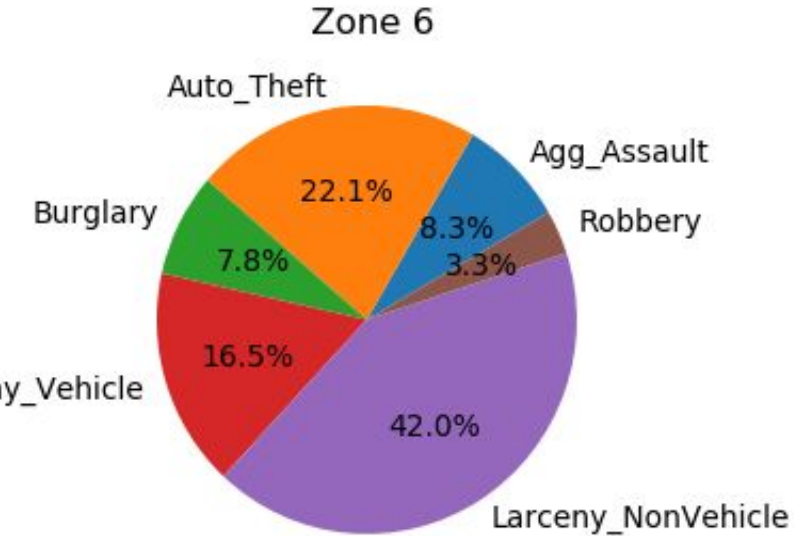
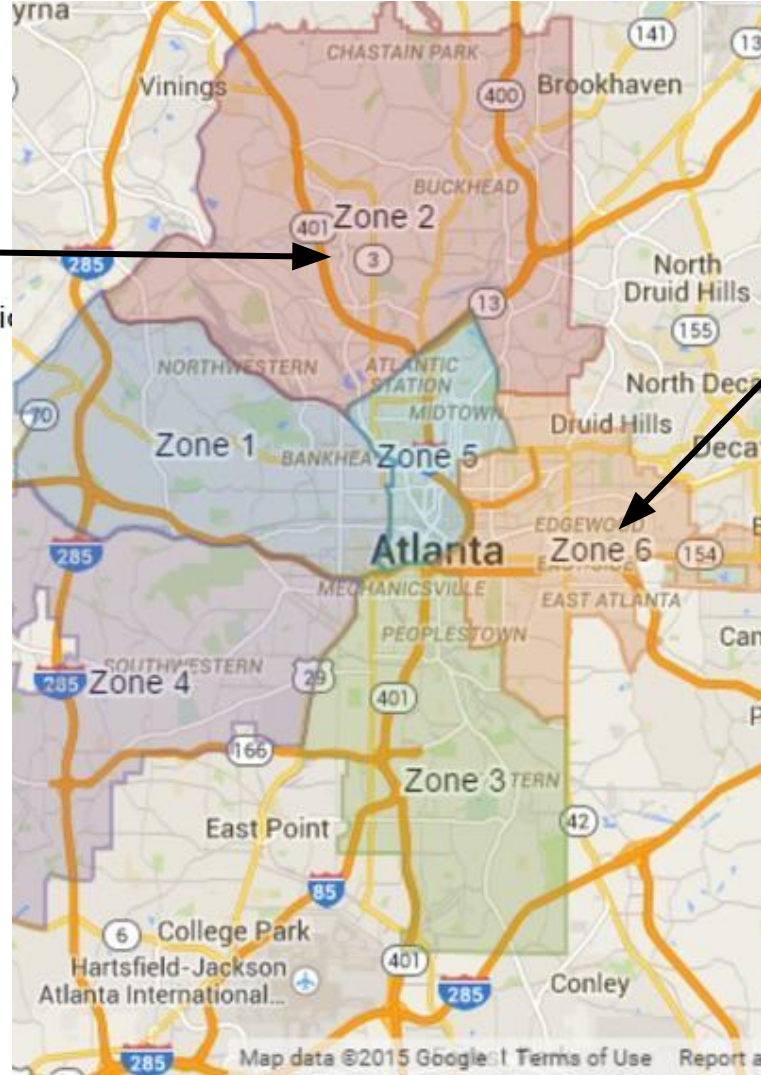
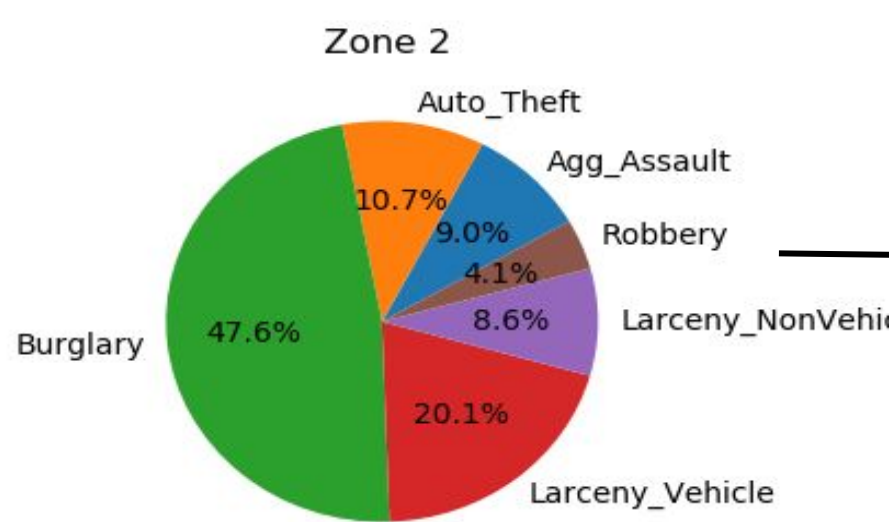
Overall increase in all crimes for all zones.  
Spikes in aggravated assault, burglary and larceny.



# Percent Increase of Crime Rates per Zone



# Percent Increase of Crime Rates per Zone



## Observations:

- Increase in all crimes, all zones
- Robbery = lowest % increase
- Specific crime type per zone
  - Zone 1 = highest aggravated assault
  - Zone 2 = highest burglary

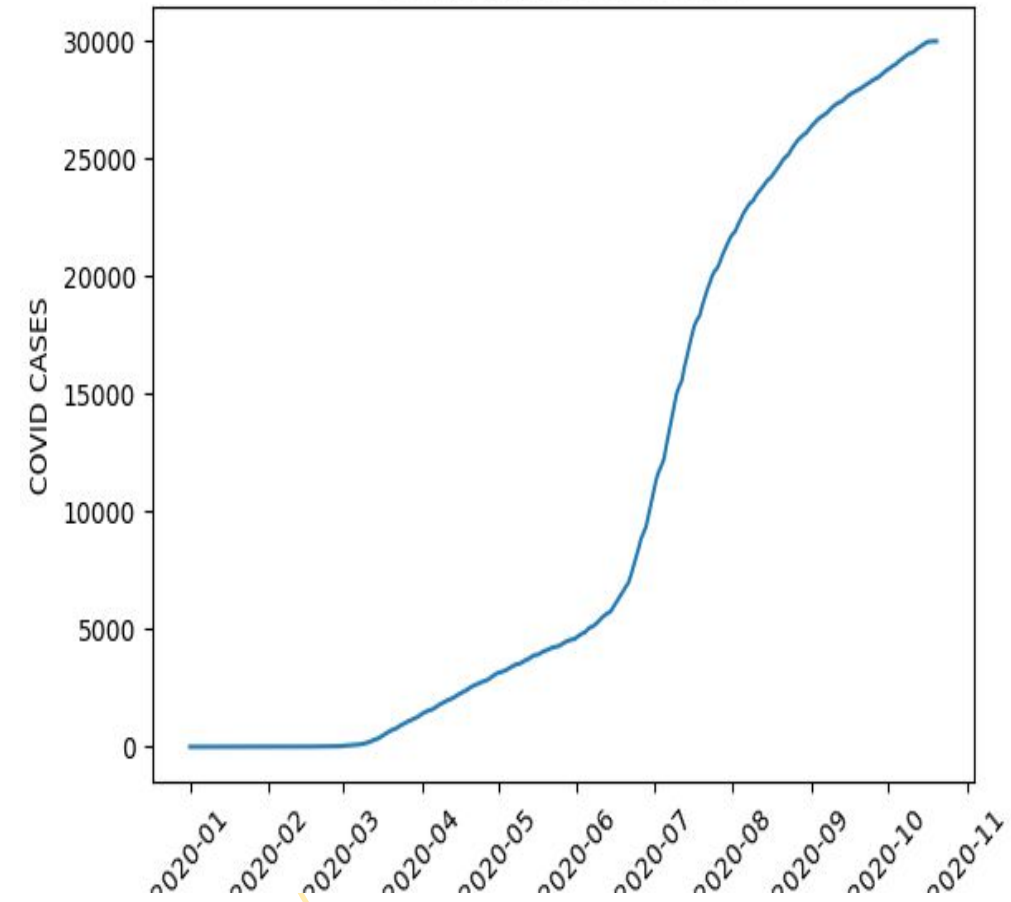
## Observations:

- Specific crime type per zone cont.
  - Zone 6 = highest Larceny (non vehicle)
- Larceny (non vehicle) around 20% except in Zone 2 (8.6%) & Zone 6 (42%)
- Zone 2: highest burglary, lowest larceny (non vehicle)
- Zone 6: lowest burglary, highest larceny (non vehicle)

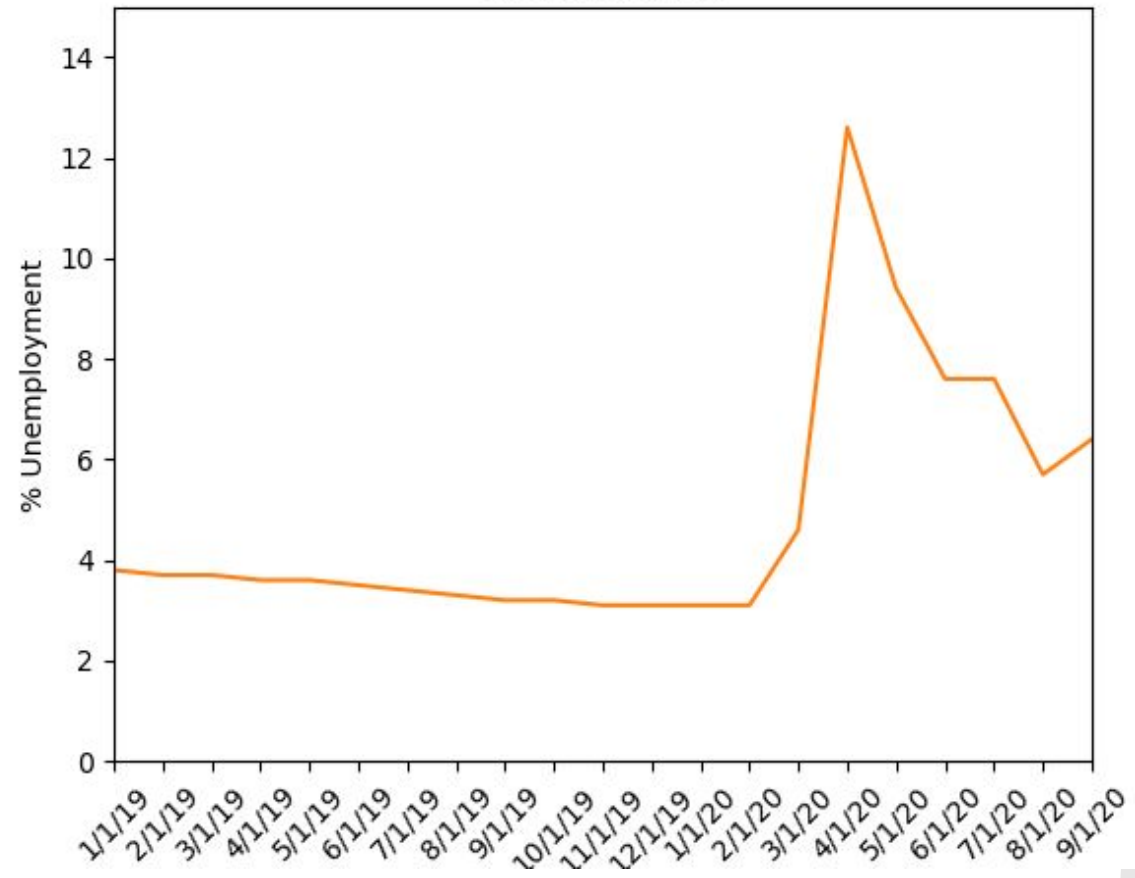


## Covid Cases vs Unemployment

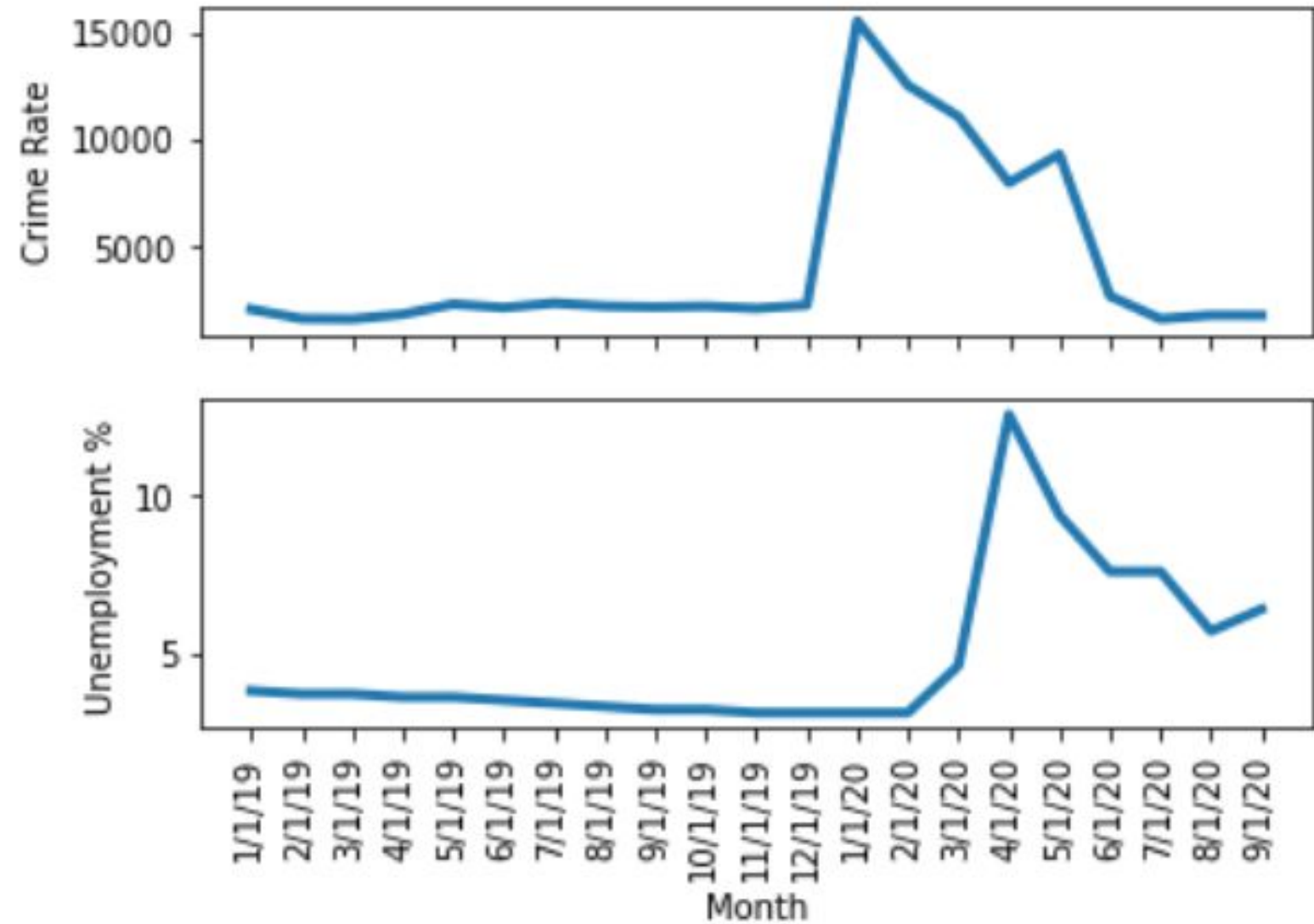
COVID in FULTON COUNTY



Unemployment



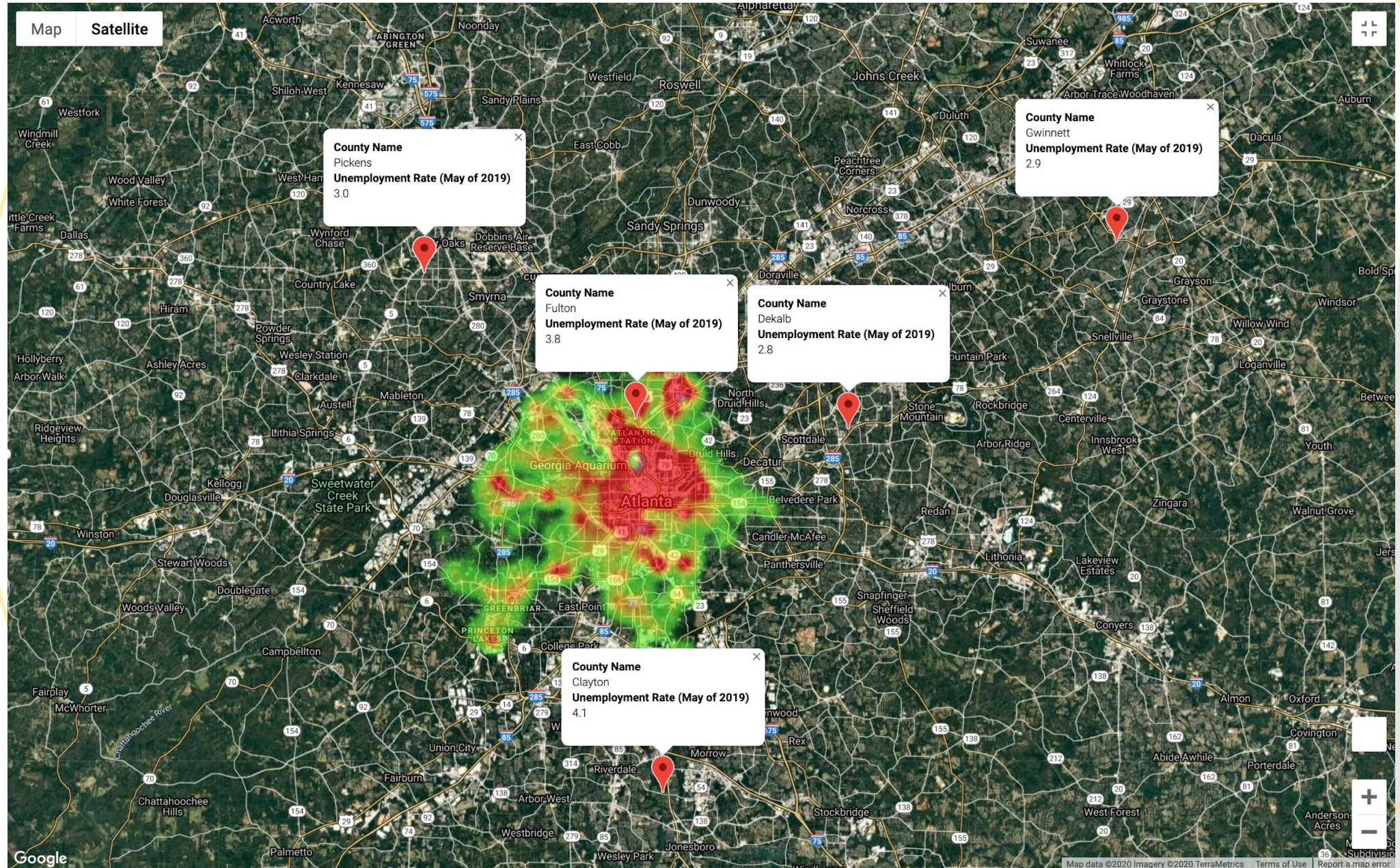
## Unemployment and Crime statistic 2019-2020



Unemployment  
and Crime

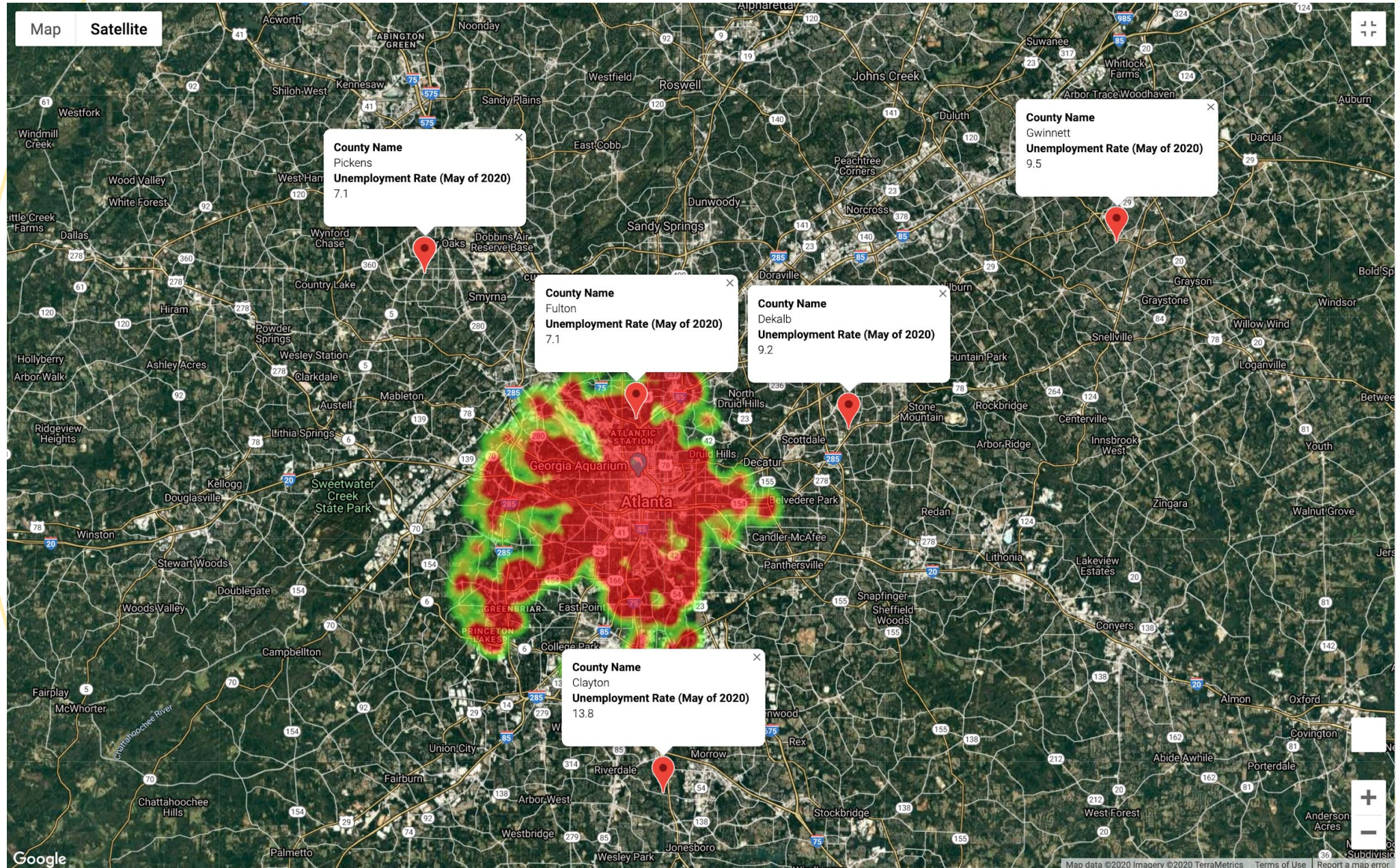


# Crime & Unemployment Statistics: May 2019





# Crime & Unemployment Statistics: May 2020







# Thank you!

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