

2020 Crime Analysis

Kahlil Wehmeyer - Office of Strategic Initiatives

Goals

- Inform police strategy.
- Identify community needs.
- Develop a better understanding of where crime happens.

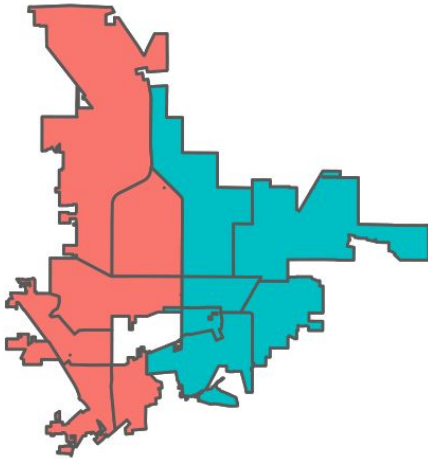
Crime Data

- Incident type
 - 212 Unique Types
- Report Date
- Offense Date
- Address
 - City
 - State
- Coordinates
 - Longitude
 - Latitude

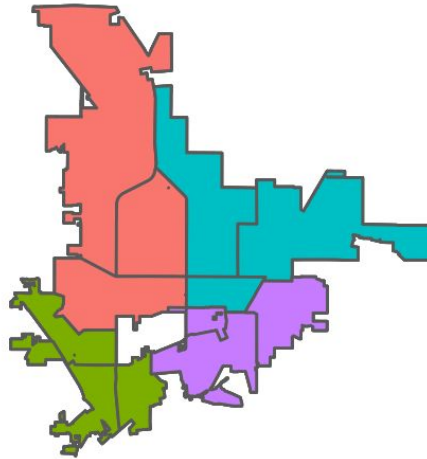
Incident Type	Report Date	Offense Date	Address	City	Longitude	Latitude
Death Investigation	2020-04-30 4:15:57	2020-04-30 3:06:00	200 BLK NW 29TH ST	GAINESVILLE	-82.366371	29.653797
Death Investigation	2020-04-30 4:15:57	2020-04-30 3:06:00	200 BLK NW 29TH ST	GAINESVILLE	-82.366371	29.653797
Stolen Vehicle (other)	2020-04-30 5:02:31	2020-01-03 12:00:00	2000 BLK SE HAWTHORNE RD	GAINESVILLE	-82.299137	29.647901
Stolen Vehicle (other)	2020-04-30 5:02:31	2020-01-03 12:00:00	2000 BLK SE HAWTHORNE RD	GAINESVILLE	-82.299137	29.647901
Theft Petit - Retail	2020-04-30 5:31:58	2020-04-30 4:04:00	1000 BLK SE 4TH AVE	GAINESVILLE	-82.312979	29.64823
Theft Petit - Retail	2020-04-30 5:31:58	2020-04-30 4:04:00	1000 BLK SE 4TH AVE	GAINESVILLE	-82.312979	29.64823
Dating Violence Simple Battery	2020-04-30 11:18:45	2020-04-30 11:18:44	3500 BLK SW 20TH AVE	GAINESVILLE	-82.373635	29.634198
Dating Violence Simple Battery	2020-04-30 11:18:45	2020-04-30 11:18:44	3500 BLK SW 20TH AVE	GAINESVILLE	-82.373635	29.634198
Information	2020-04-30 6:39:54	2020-04-30 6:39:53	3900 BLK NW 31ST TER	GAINESVILLE	-82.368723	29.688623
Information	2020-04-30 6:39:54	2020-04-30 6:39:53	3900 BLK NW 31ST TER	GAINESVILLE	-82.368723	29.688623

Police

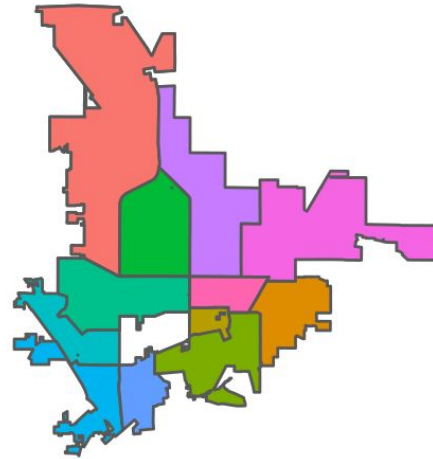
Districts



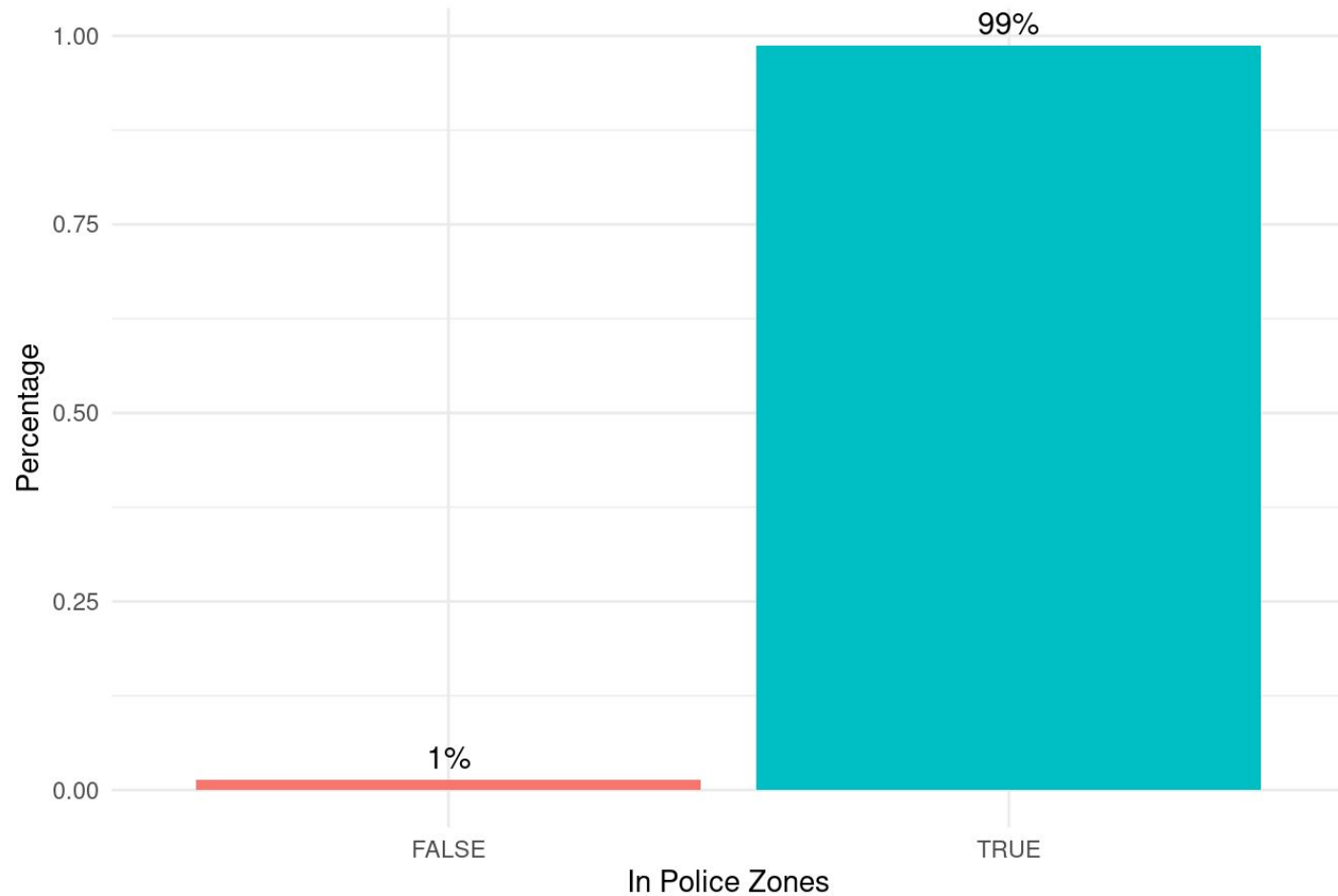
Sectors



Zones

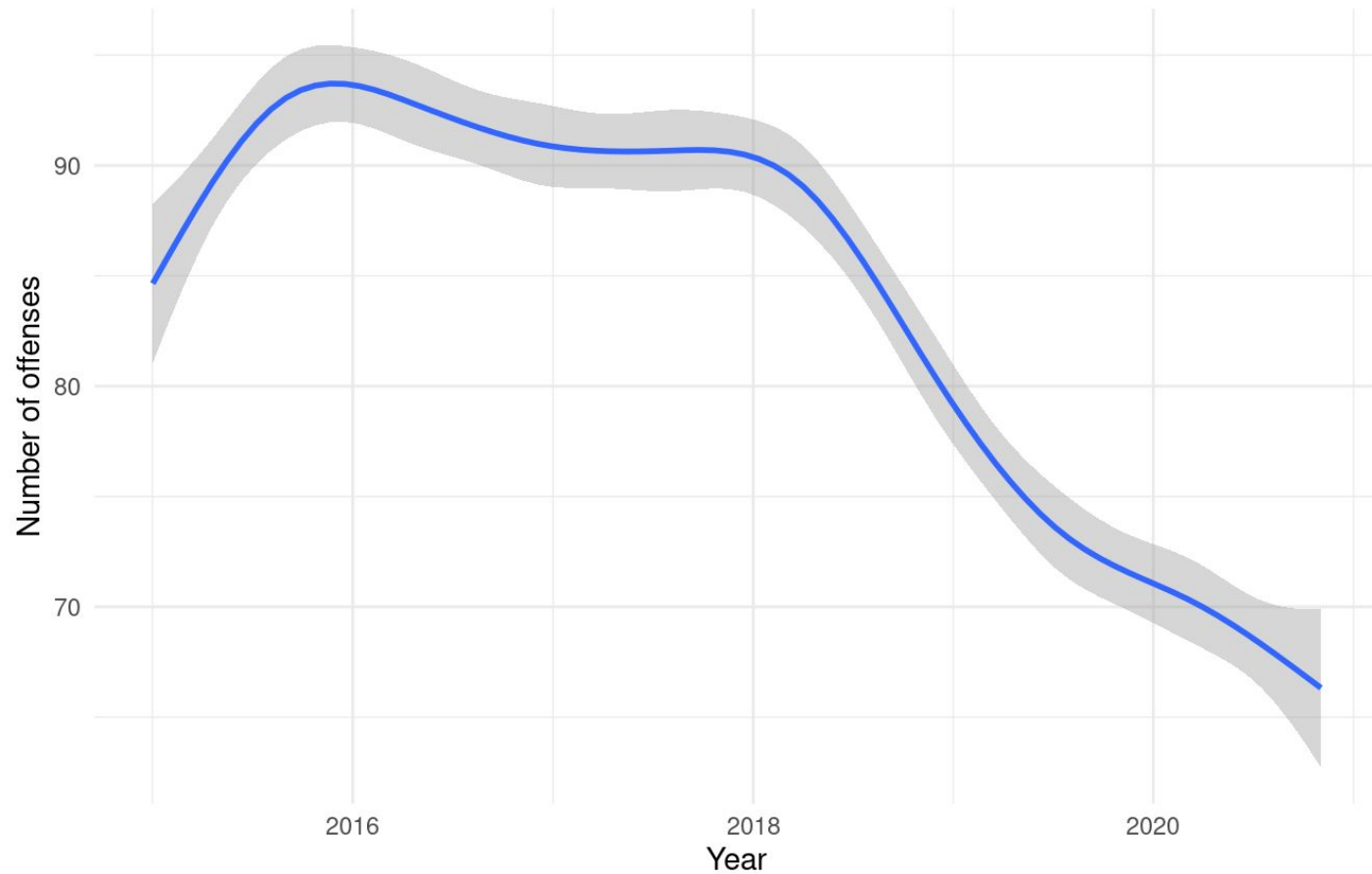


Percentage of Incidents That Occured Within Police Zones



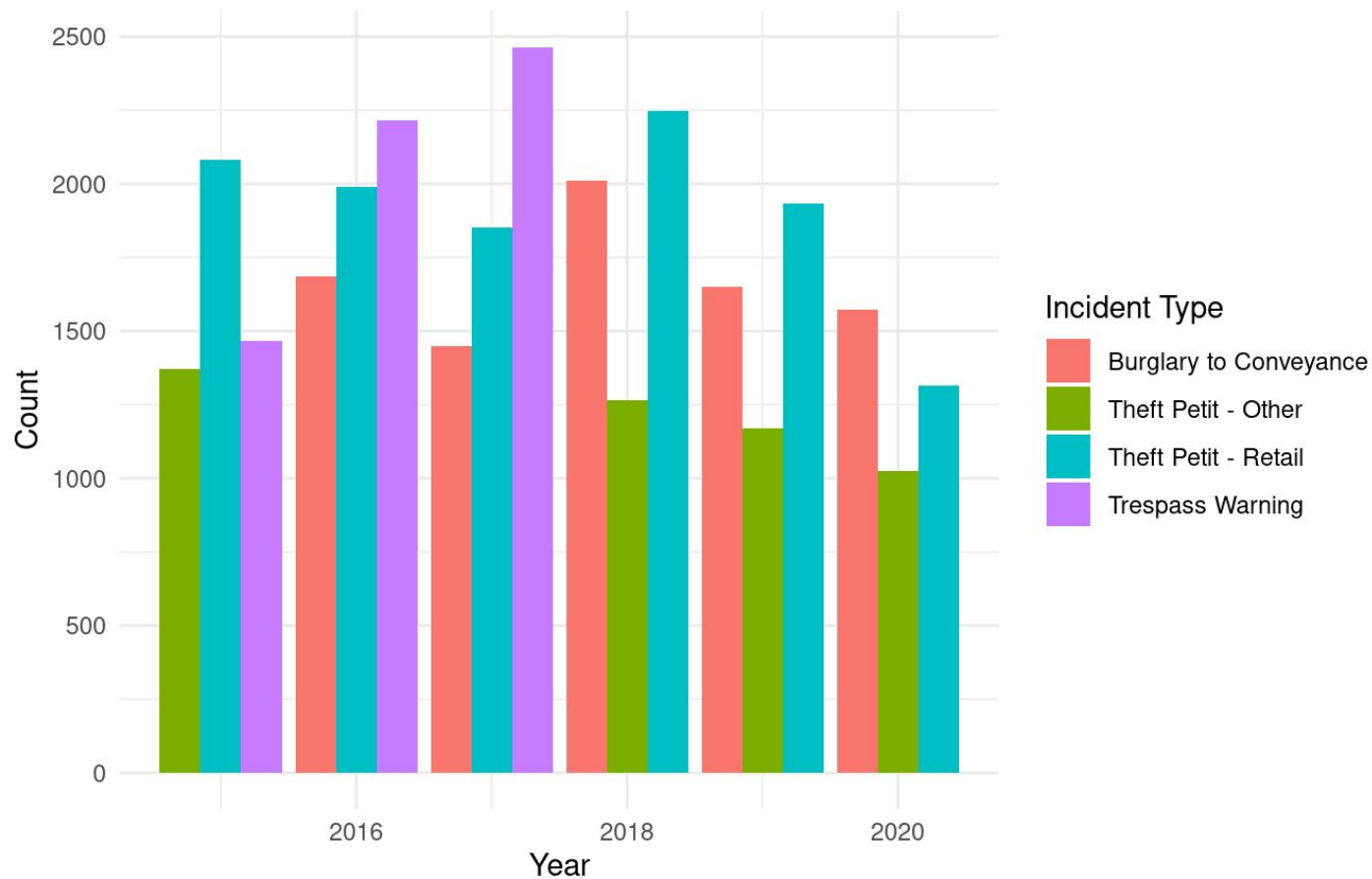
Offenses by Date

2015 - Present



Top 3 Incidents by Year

2015 - 2020

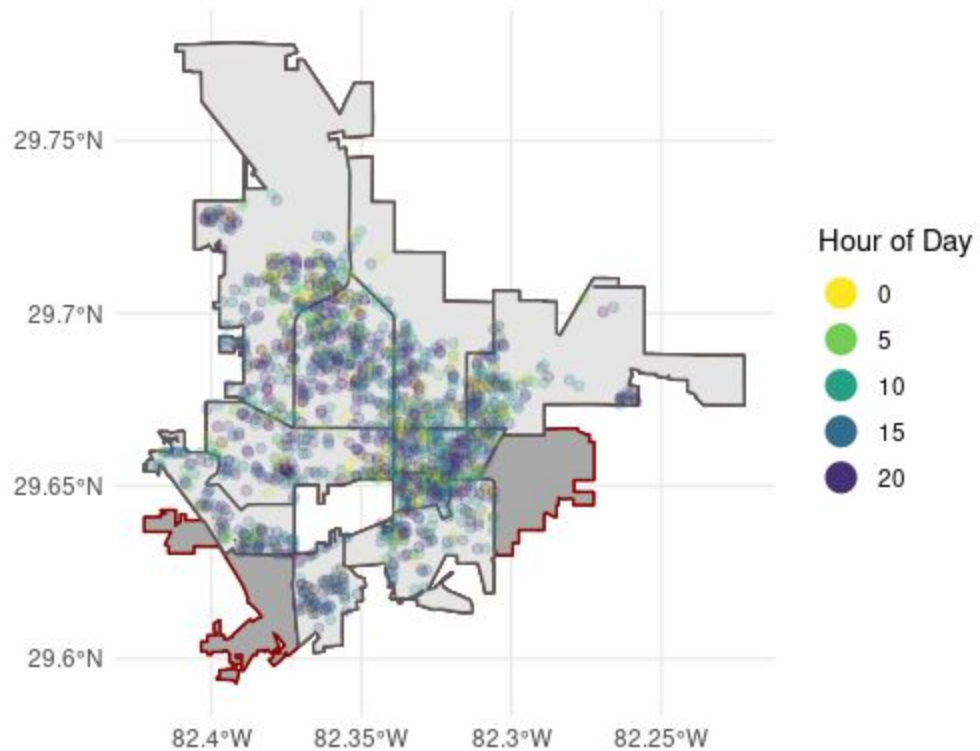


Heatmap of Most Prevalent Crimes



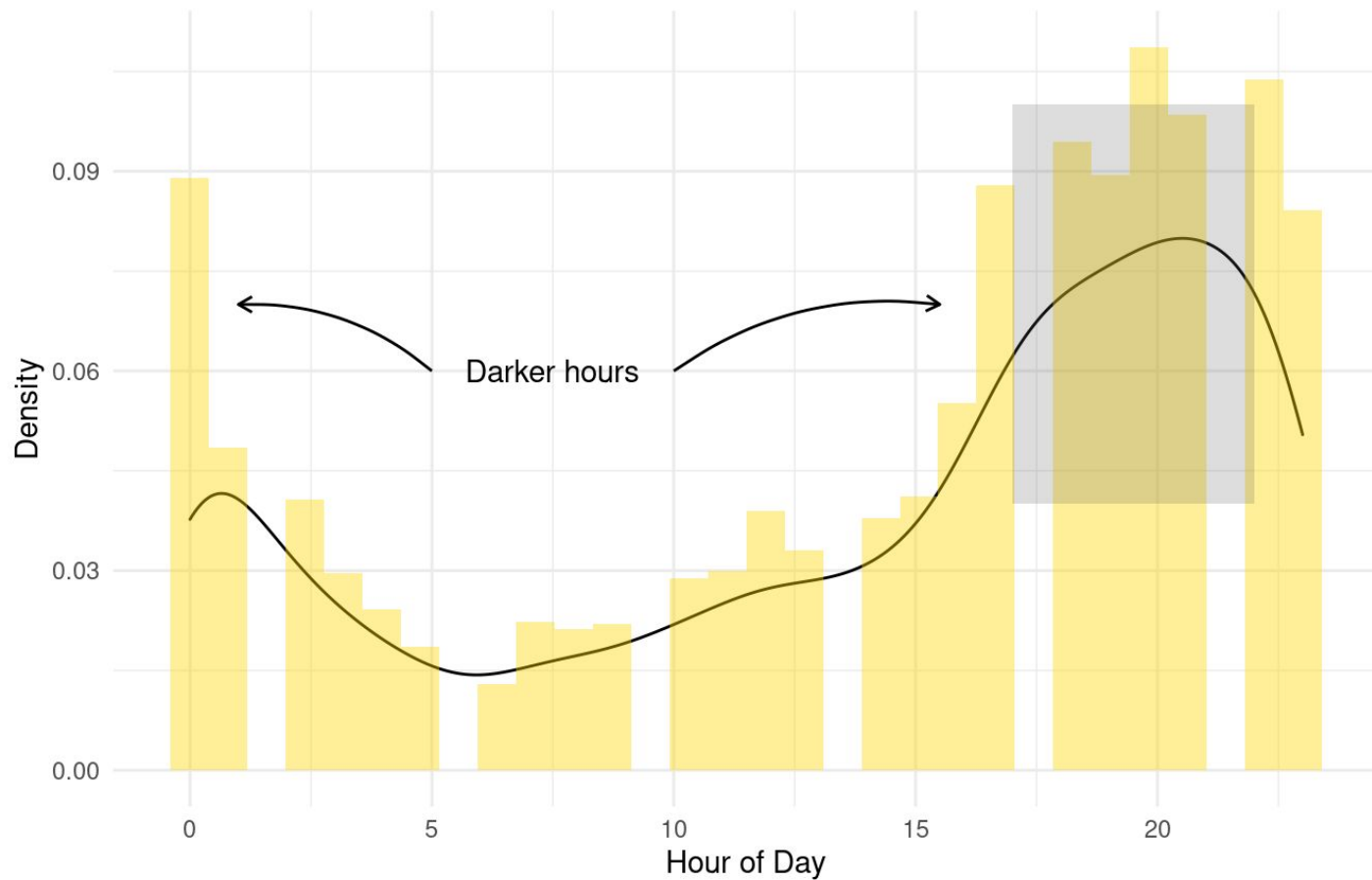
Heatmap of Crimes

Burglary of Conveyance | Excluding Echo and Juliet



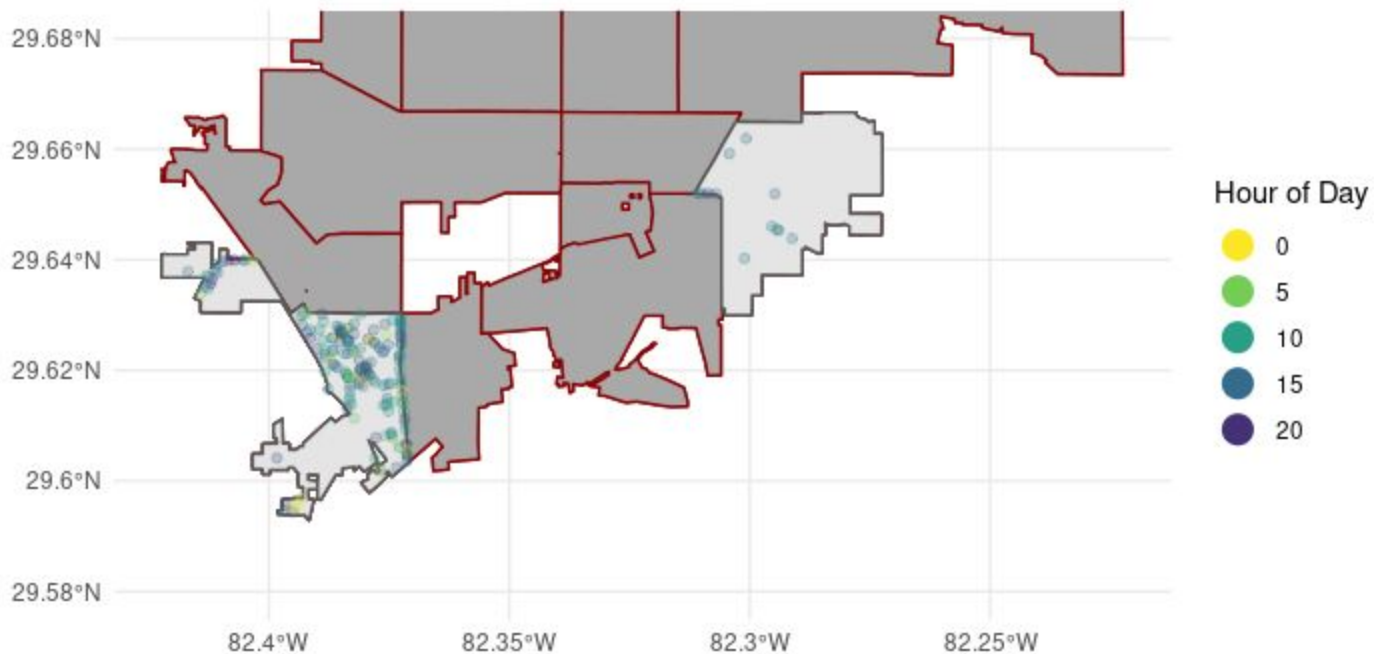
When do burglary of conveyances happen?

For all zones



Heatmap of Crimes

Theft Petit - Retail | Zones Echo and Juliet

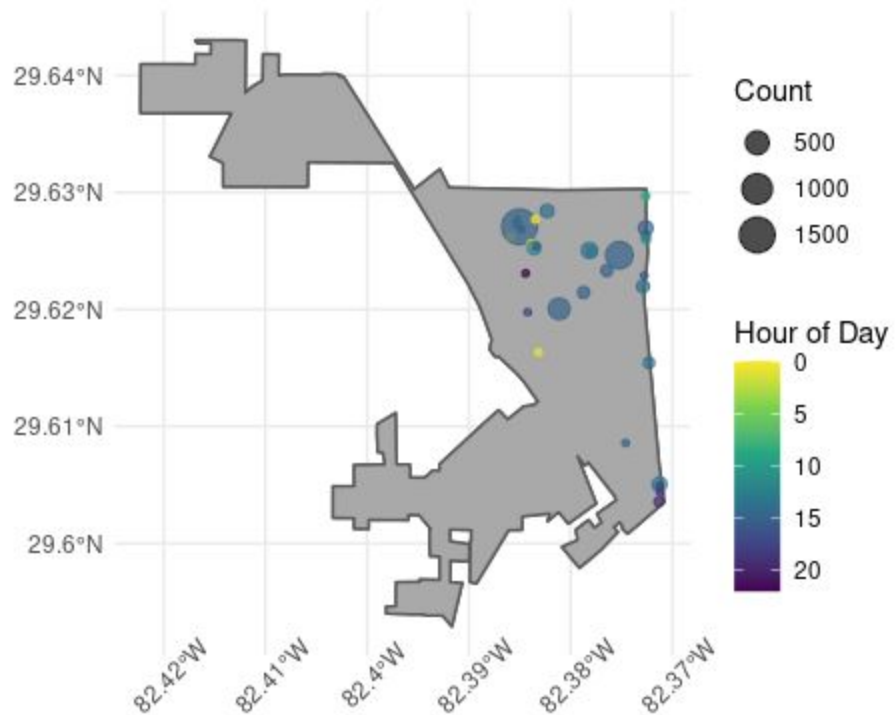


30%

Of all retail theft occurs in zone Echo.

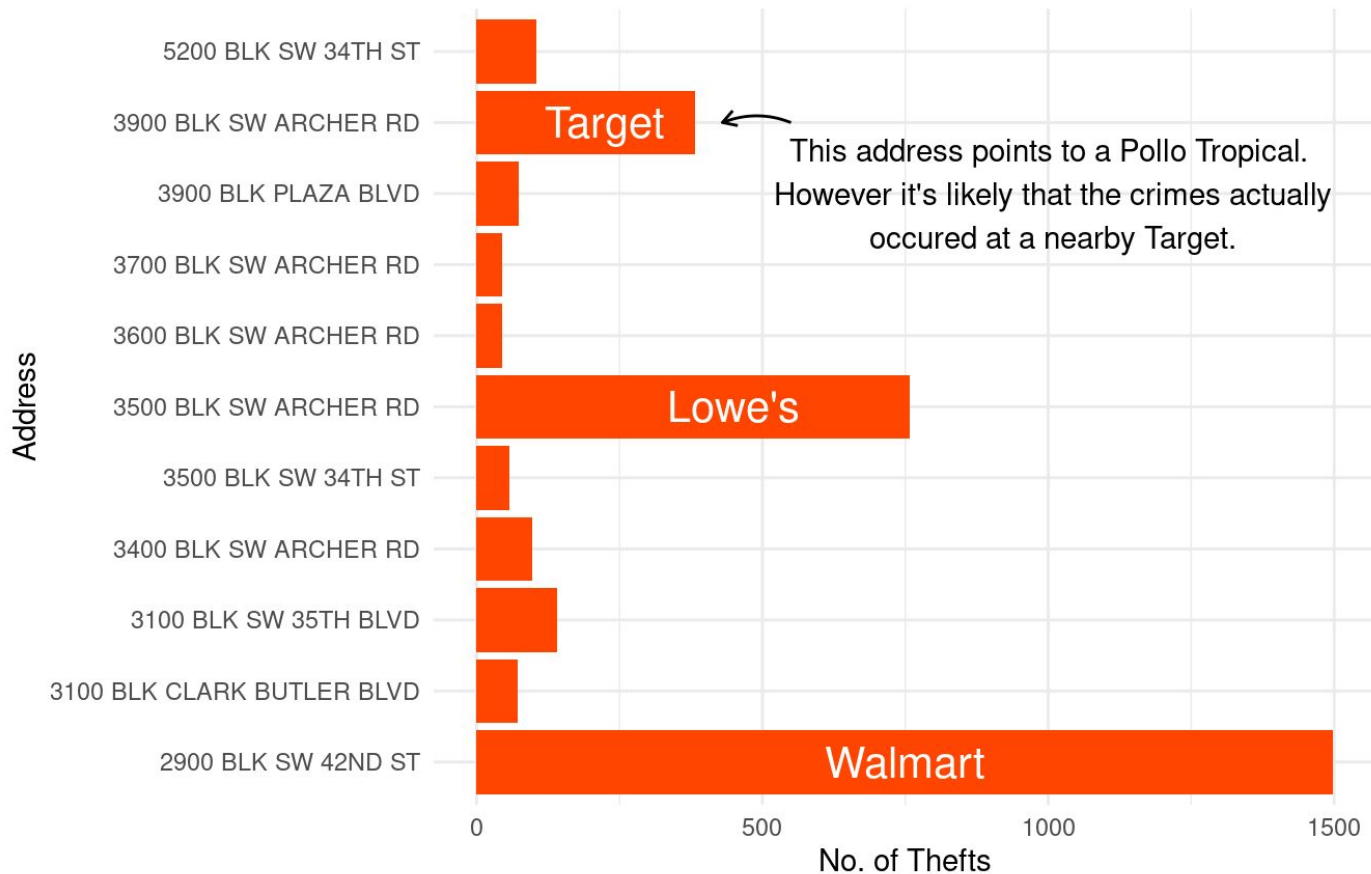
Hotspots for Zone Echo

Theft Petit - Retail



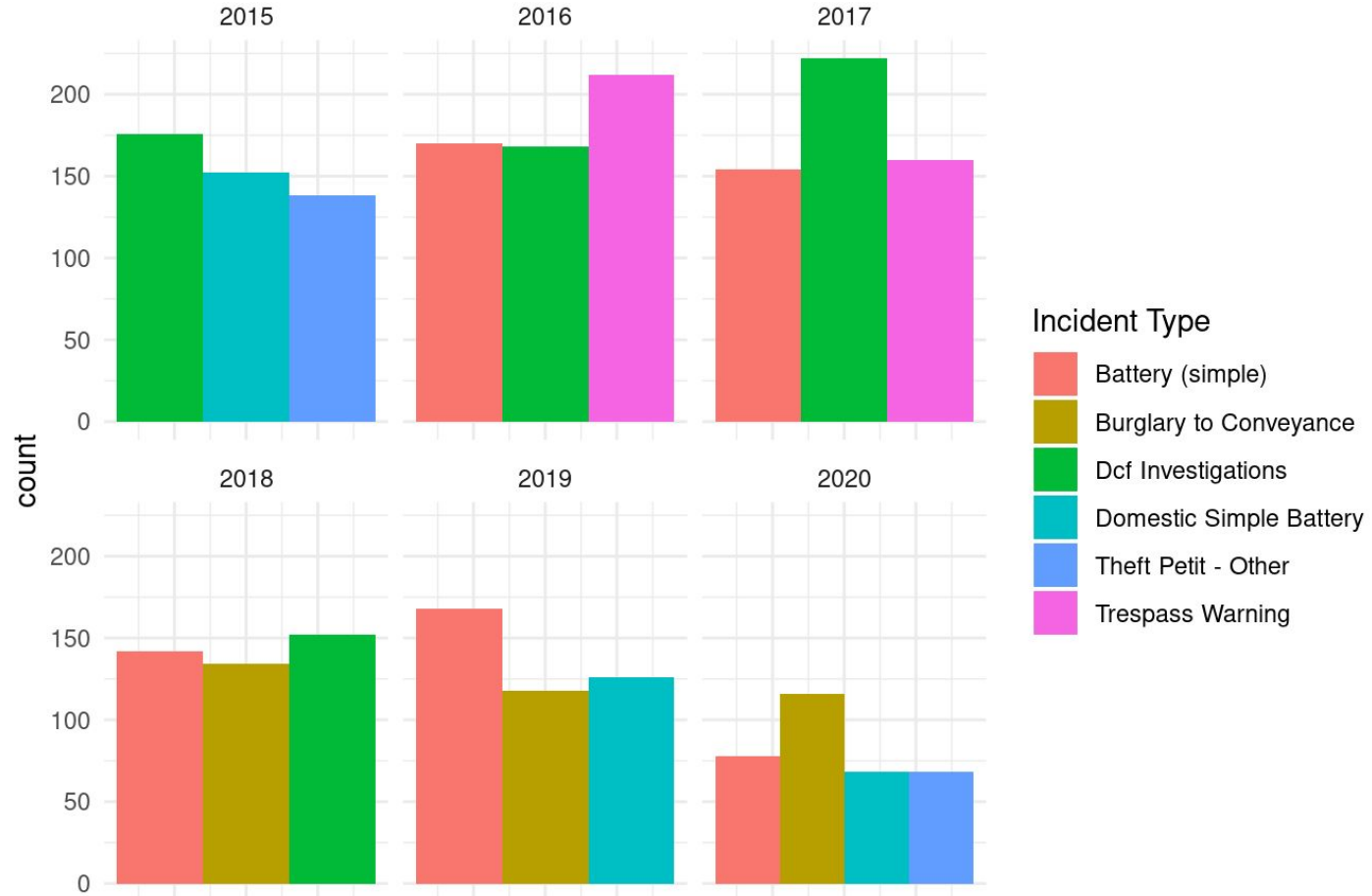
Theft Counts by Address

Zone Echo



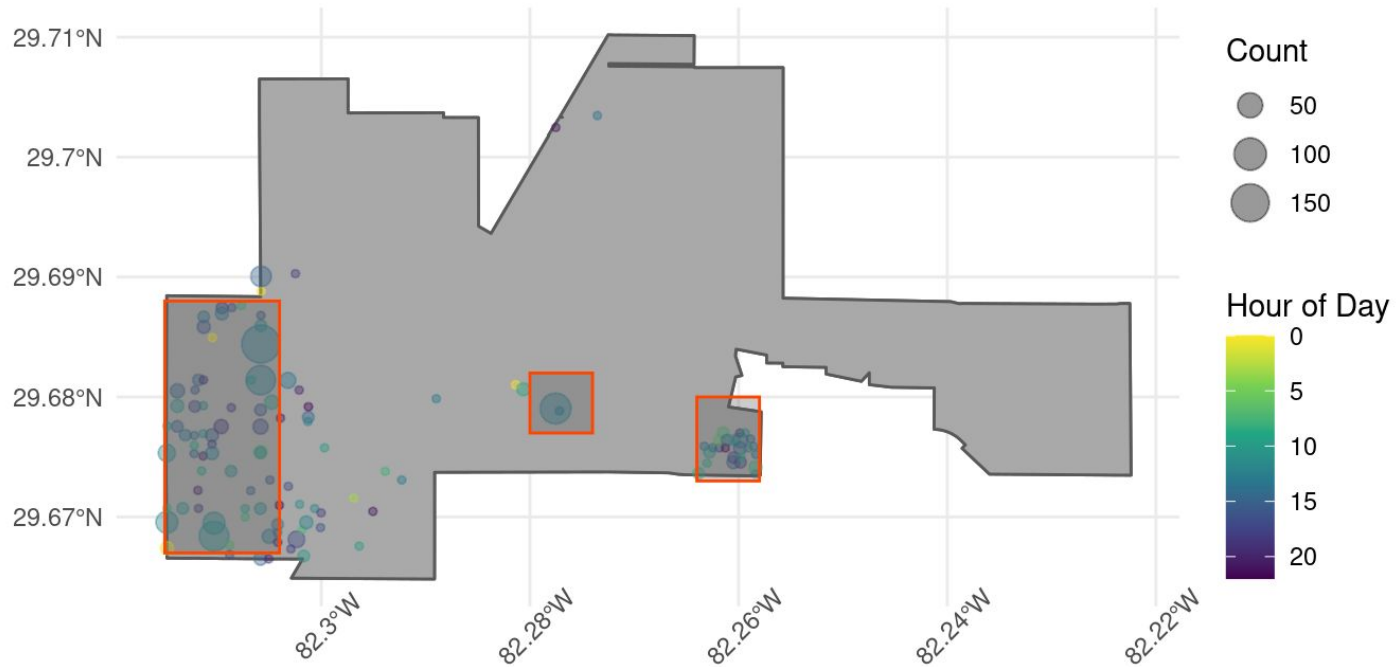
Zones were analyzed
independently.

Most Common Crimes | Zone Hotel

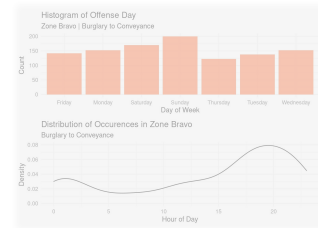
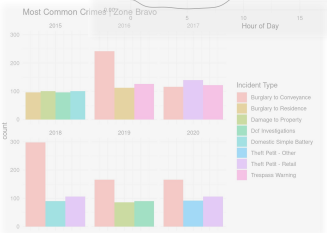
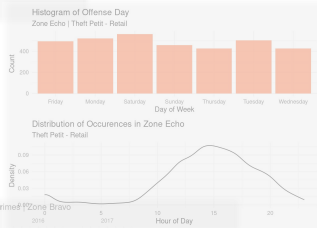
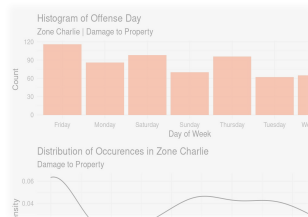
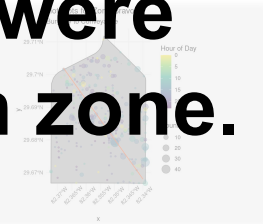
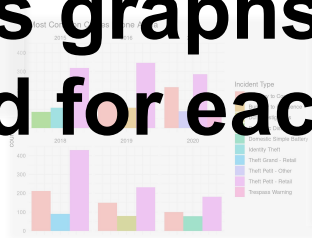
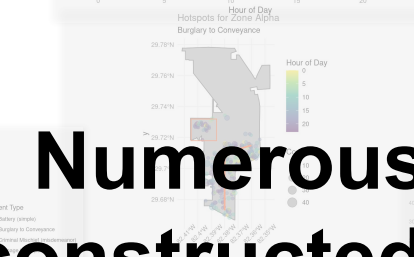
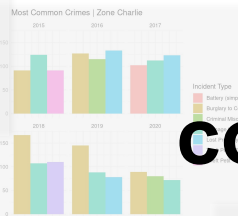
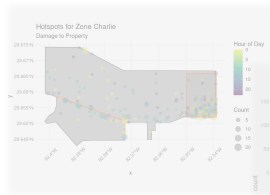
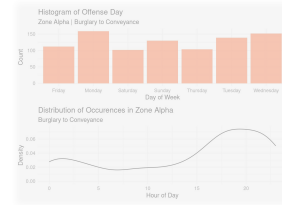
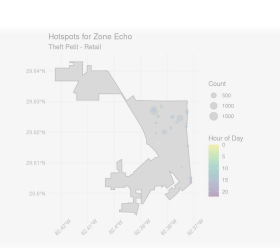
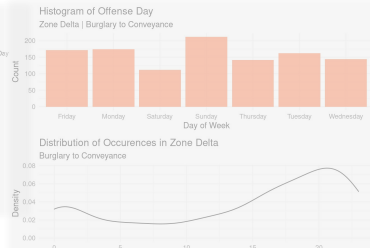
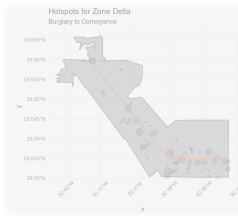


Hotspots for Zone Hotel

Dcf Investigations

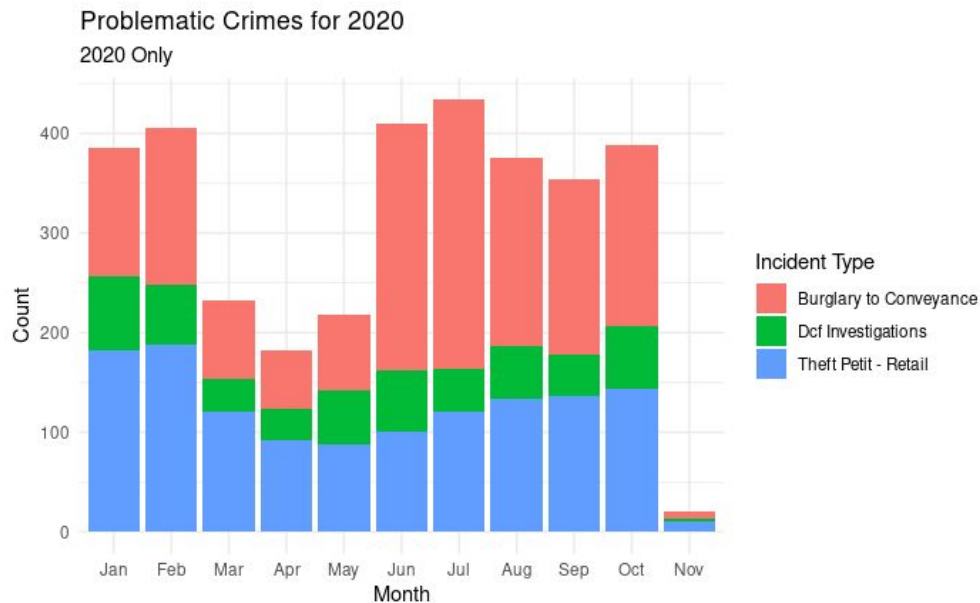


Numerous graphs were
constructed for each zone.



Conclusions

- Burglary to Conveyance
- DCF Investigations
- Retail Theft



Factors to consider

- Rioting and looting
- COVID-19 Unemployment

Further exploration

- Enhance police routes using street data
 - Plan precise routes and identify “hot” streets
- Research into causes of retail theft and prevention
- Forecast crime zones and areas for future police planning
 - Autoregressive distributed lag modeling and clustering models
- Use COVID-19 data to model changes in criminal behaviour

Questions?