Marketing Security Services for the Asheville, NC

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Problem

- Security Firm needs to develop a targeted marketing campaign in Asheville, NC

- Limited funds for marketing – needs to be effective

- Use data science to find locate businesses with a greater need for security

Background

- Asheville can be broken down into neighborhoods.

- Certain crimes are concentrated into neighborhoods.

- Locate businesses that are in these concentrated areas.
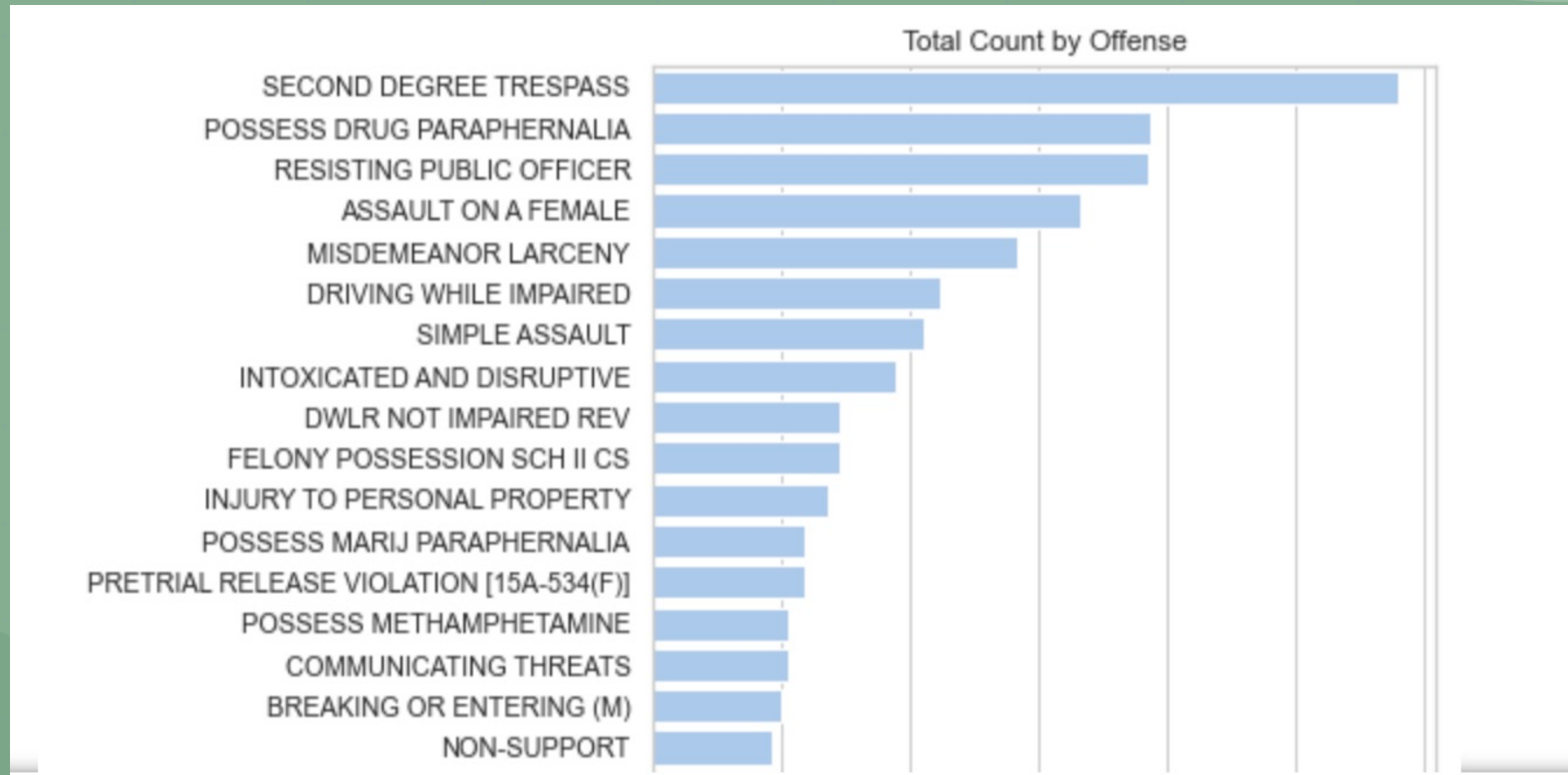
- Develop targeted marketing materials

Data

- Asheville city data from: https://data-avl.opendata.arcgis.com/.

- Venue/business data from: https://developer.foursquare.com/

- Assign each arrest to a neighborhood

- Find all venues in a neighborhood

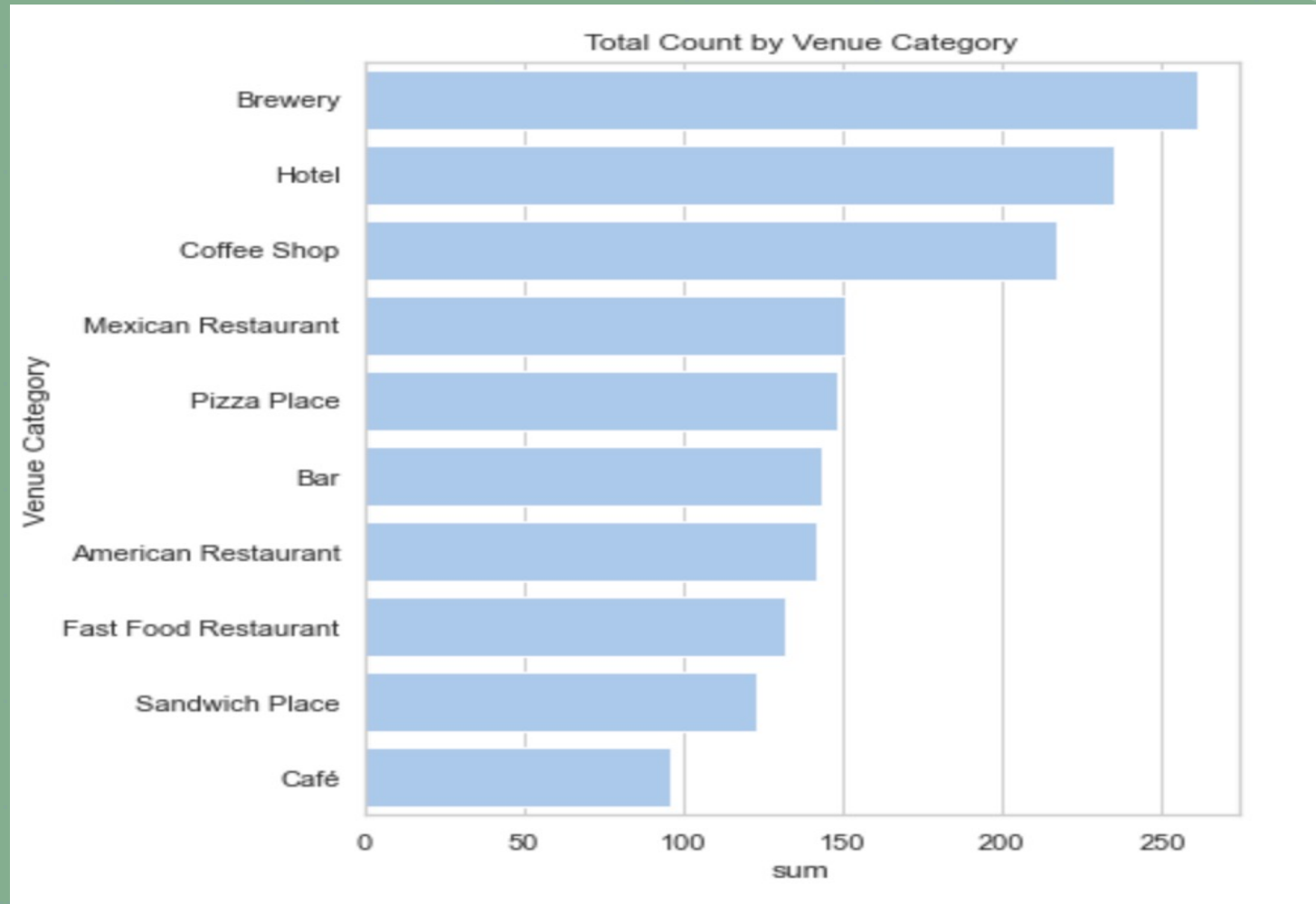- Identify clusters of like neighborhoods based on arrests and venues.

Methodology

- 58 Neighborhoods

- 9209 arrest since 2020

- 5465 venues in 251 categories

- K-mean clustering to identify groups of like neighborhoods

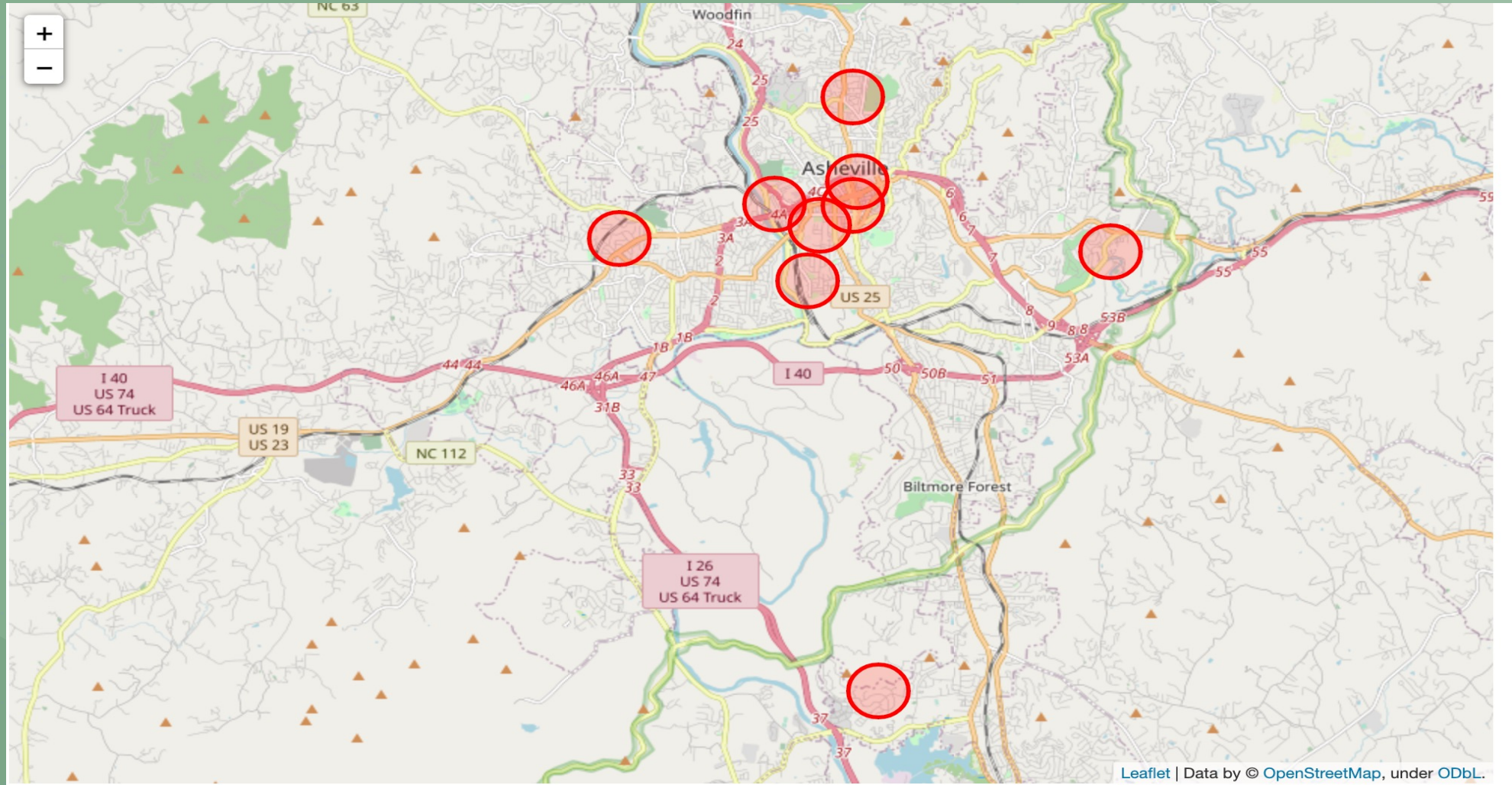- Identify key arrest types that would need increased security

Types of Arrests

Total Count by Offense

Types of Venues

Total Count by Venue Category

Cluster of like Neighborhoods

	Cluster Labels	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	1st Most Common Arrest	2nd Most Common Arrest	3rd Most Common Arrest
1	0	Altamont Apts	Hotel	Coffee Shop	Café	SECOND DEGREE TRESPASS	RESISTING PUBLIC OFFICER	POSSESS DRUG PARAPHERNALIA
2	0	Aston Park Tower	Brewery	Music Venue	Bar	SECOND DEGREE TRESPASS	RESISTING PUBLIC OFFICER	POSSESS DRUG PARAPHERNALIA
5	0	Biltmore Park	Rental Car Location	American Restaurant	Fast Food Restaurant	SECOND DEGREE TRESPASS	DRIVING WHILE IMPAIRED	DWLR NOT IMPAIRED REV
11	0	Downtown	Hotel	Coffee Shop	Brewery	SECOND DEGREE TRESPASS	RESISTING PUBLIC OFFICER	SIMPLE ASSAULT
15	0	Erskine-Walton	Coffee Shop	Dance Studio	Hawaiian Restaurant	SECOND DEGREE TRESPASS	RESISTING PUBLIC OFFICER	DWLR NOT IMPAIRED REV
21	0	Hillcrest	Shipping Store	Frozen Yogurt Shop	Hotel	SECOND DEGREE TRESPASS	POSSESS DRUG PARAPHERNALIA	RESISTING PUBLIC OFFICER
34	0	Norwood Park	Ice Cream Shop	Fast Food Restaurant	Breakfast Spot	SECOND DEGREE TRESPASS	INTOXICATED AND DISRUPTIVE	ASSAULT ON A FEMALE
44	0	View Point	Fast Food Restaurant	Thrift / Vintage Store	Diner	SECOND DEGREE TRESPASS	ASSAULT ON A FEMALE	POSSESS DRUG PARAPHERNALIA
46	0	Wilshire Park	Sandwich Place	Mexican Restaurant	Fast Food Restaurant	SECOND DEGREE TRESPASS	POSSESS DRUG PARAPHERNALIA	RESISTING PUBLIC OFFICER

Cluster Locations

Conclusion

- A cluster of like business near each other was identified in Asheville, NC

- The cluster was refined to include trespassing as the primary arrest type.

- A targeted marketing campaign can be developed around these businesses