VCR

Violent Crime Reduction
Small Rural Tribal

Small Departments, Big Insights:

Crime Analysis

February 5, 2025

FY 2023 Small and Rural Violent Crime Reduction Program

JSS
JUSTICE & SECURITY STRATEGIES

OVERVIEW

1. Introductions & Principles

2. The Importance of Crime Analysis

3. Simple Tools & Techniques

4. Implementing Crime Analysis

5. Questions

6. Closing Remarks

AGENDA

Presentation

Introductions

- **Presenters:**
  - Ms. Anna Goedert - JSS, Senior Data Scientist
  - Mr. Mike Green - JSS, Project Lead
  - Mr. Bob Haas – JSS, Senior Police Advisor

- **Special Guest:**
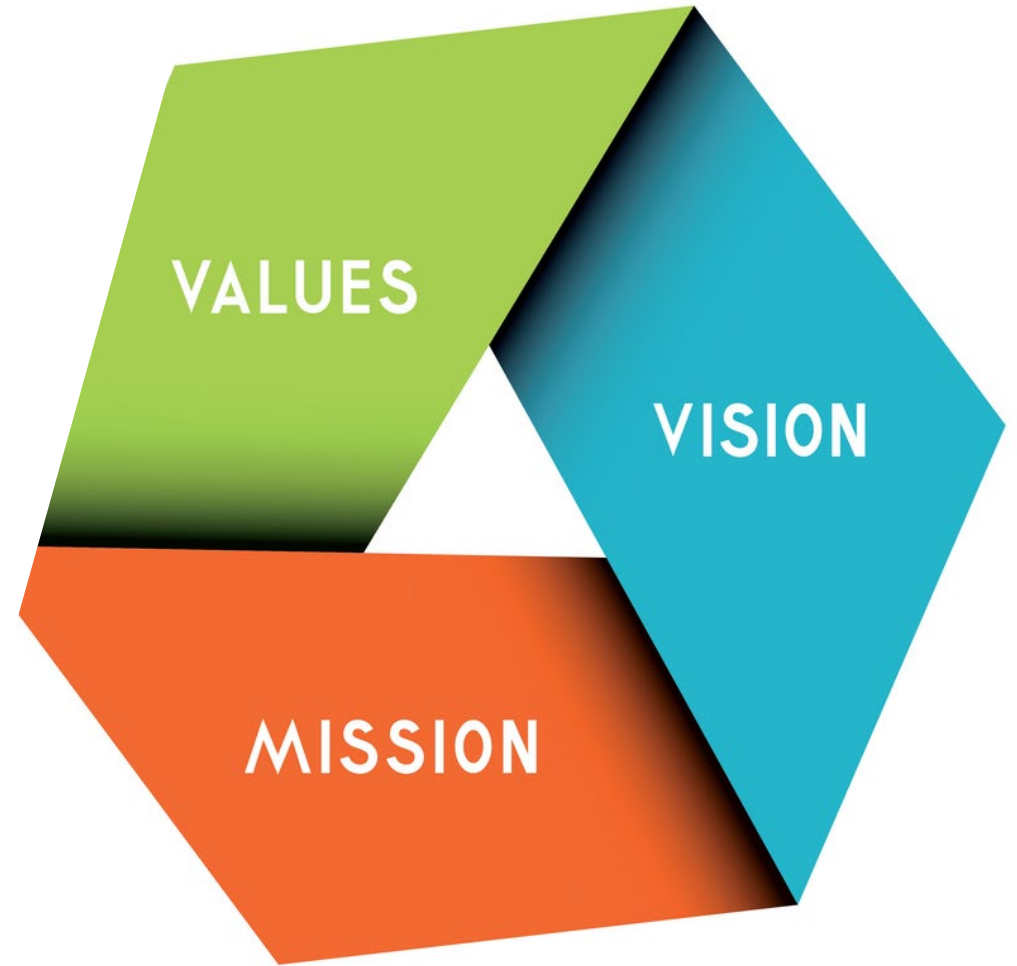 - Chief Steve Lowell - Oneida Police Department

JSS Guiding Principles

Customer-Focused

Ease of Use

Leverage Technology

Data-Driven

VALUES

VISION

MISSION

Why Does Crime Analysis Matter?

- Support investigations by identifying and connecting patterns

- Identify trends – emerging hotspots or recurring offenders
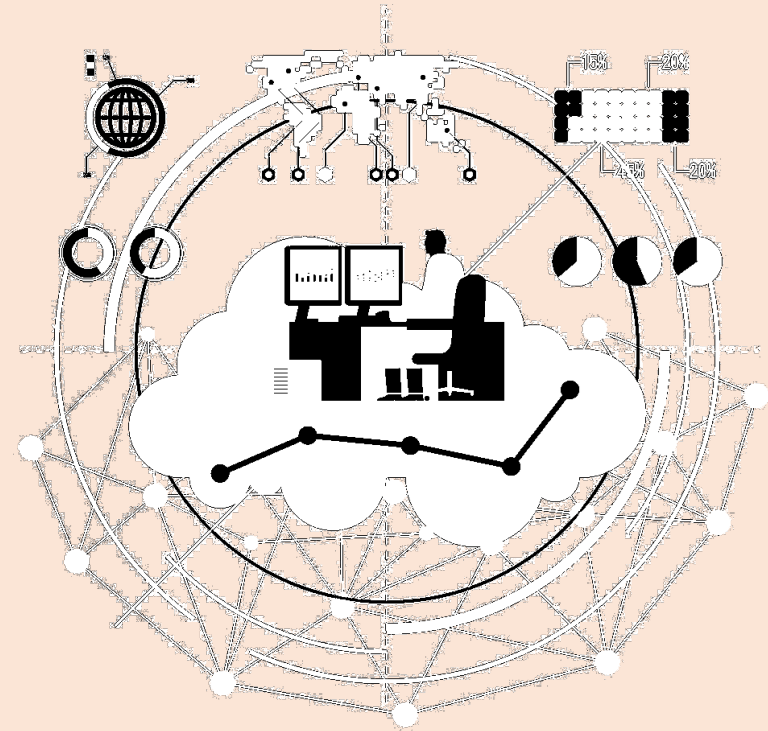
- Enhance community safety by focusing on resources

Common Misconception:

- Require advanced software or dedicated analyst

Key:

- Simple, Straightforward, & Scalable

Accessible Tools

Microsoft Excel
- Understand your data
- Easy Visualization

Open-source GIS tools
- Map your incidents
- Find Hotspots

Dashboards
- Complex Visualization

Test Data Set

1000 Data Entries

A mix of civilian reported crimes and officers

Data from 2019-2024

Incident_ID	Location	Crime_Type	Severity	Date	Year	Time	Reported_By	Arrest_Made	Latitude	Longitude
INC-0001	Downtown	Assault	High	1/1/2019	2019	4:17	Officer C	TRUE	29.1887422	-82.10354818
INC-0002	University	Violent Crime	Medium	1/3/2019	2019	1:03	Civilian	FALSE	29.194982	-82.0975153
INC-0003	Downtown	Theft	High	1/5/2019	2019	17:18	Officer A	TRUE	29.1837496	-82.1295361
INC-0004	Downtown	Assault	Medium	1/7/2019	2019	22:08	Officer B	FALSE	29.2072301	-82.10040523
INC-0005	Downtown	Violent Crime	Medium	1/9/2019	2019	20:55	Officer C	TRUE	29.18707896	-82.14016826
INC-0006	Shopping Mall	Theft	Low	1/11/2019	2019	15:06	Officer A	FALSE	29.20047782	-82.13798416
INC-0007	Residential Area	Theft	Low	1/14/2019	2019	0:36	Officer C	FALSE	29.18521646	-82.13426857
INC-0008	Park	Burglary	High	1/16/2019	2019	9:30	Officer C	FALSE	29.18591778	-82.13595356
INC-0009	Shopping Mall	Fraud	Low	1/18/2019	2019	15:28	Officer C	FALSE	29.18980953	-82.14225312
INC-0010	University	Drug Offense	High	1/20/2019	2019	10:11	Officer C	FALSE	29.19379324	-82.11722392
INC-0011	Shopping Mall	Assault	Medium	1/22/2019	2019	1:16	Civilian	FALSE	29.18814227	-82.10242149
INC-0012	Downtown	Theft	Low	1/25/2019	2019	15:07	Officer A	TRUE	29.19039191	-82.14367176

Practical Technique 1 – Hotspots and Trends
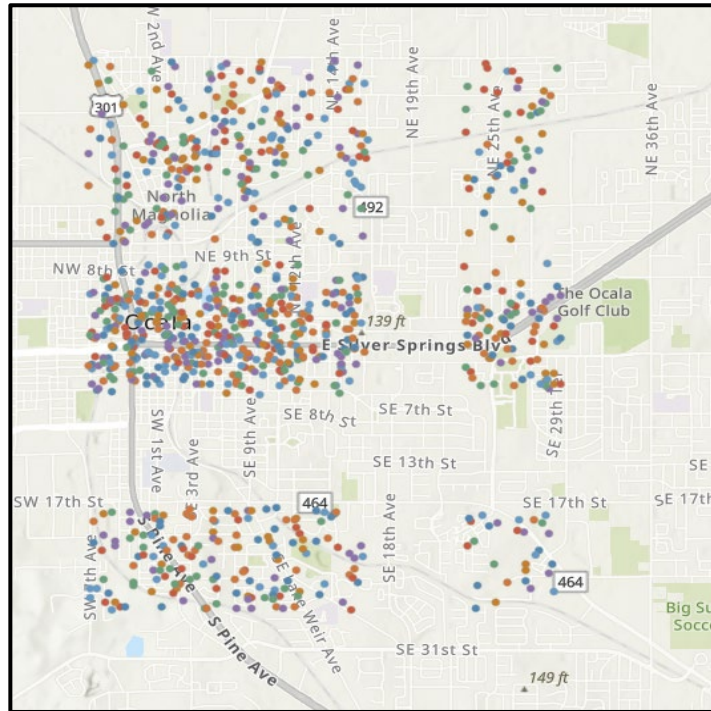
All Crime across all 6 years
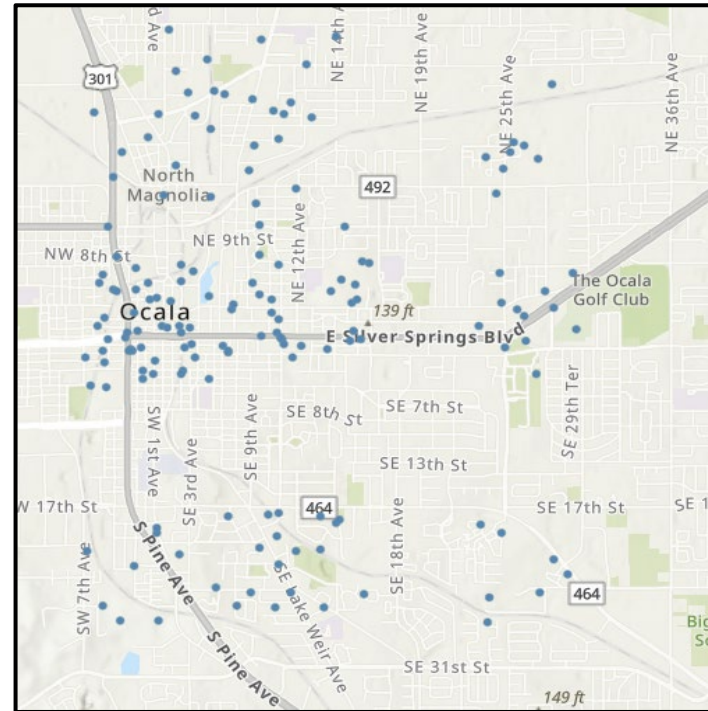
All Drug Offenses

All Assaults

Legend:
- Drug Offense
- Fraud
- Theft
- Burglary
- Vandalism
- Violent Crime
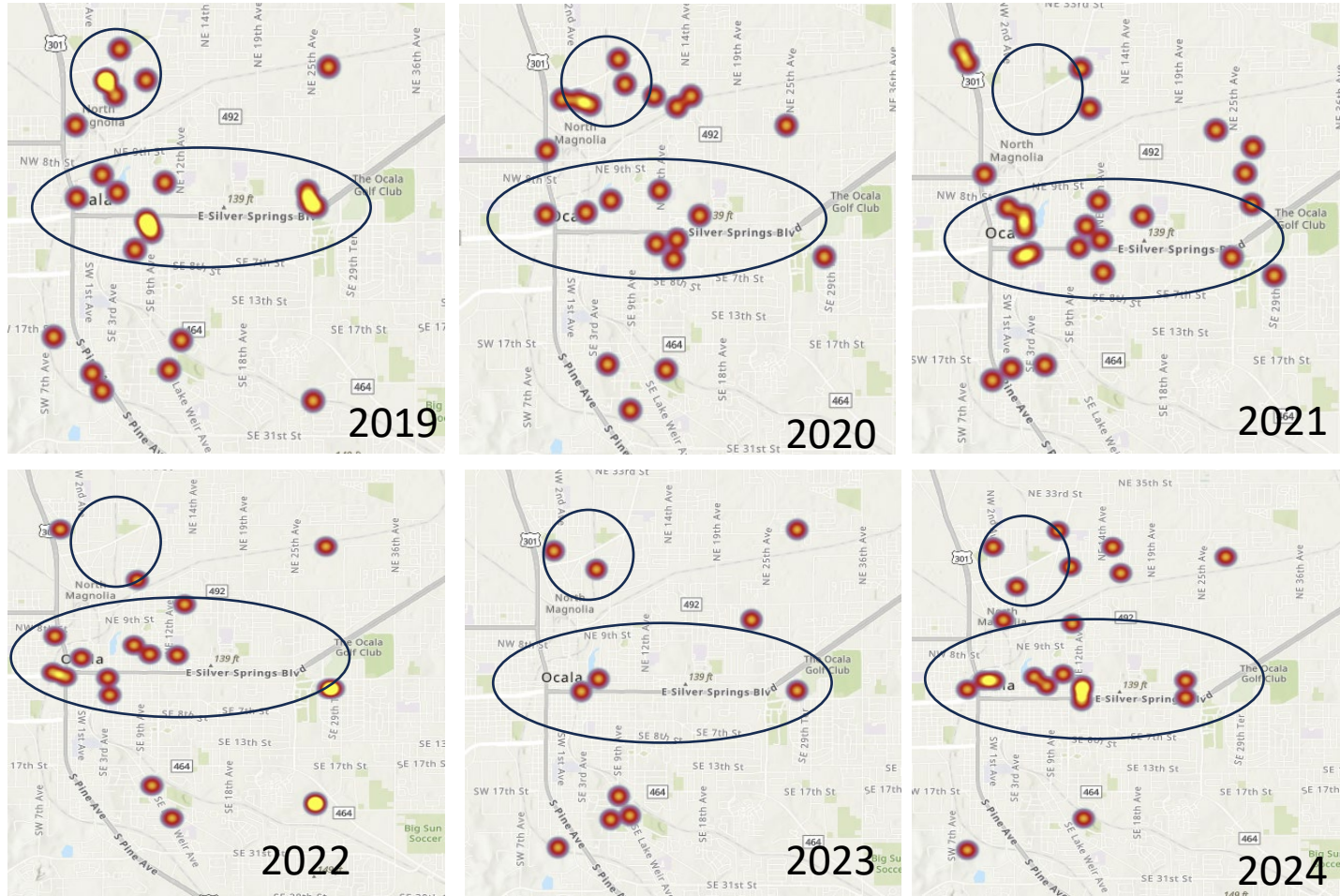- Assault
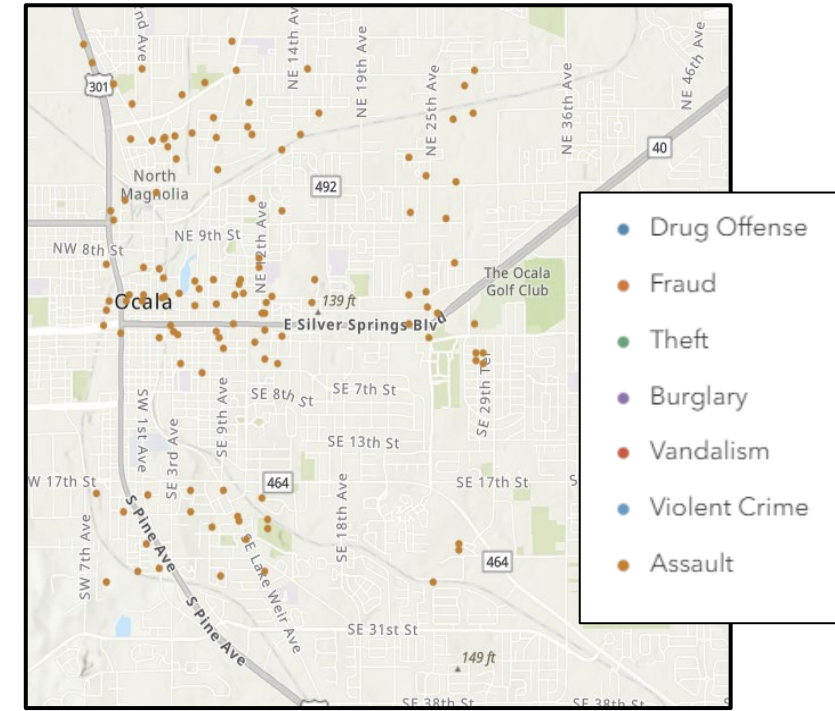
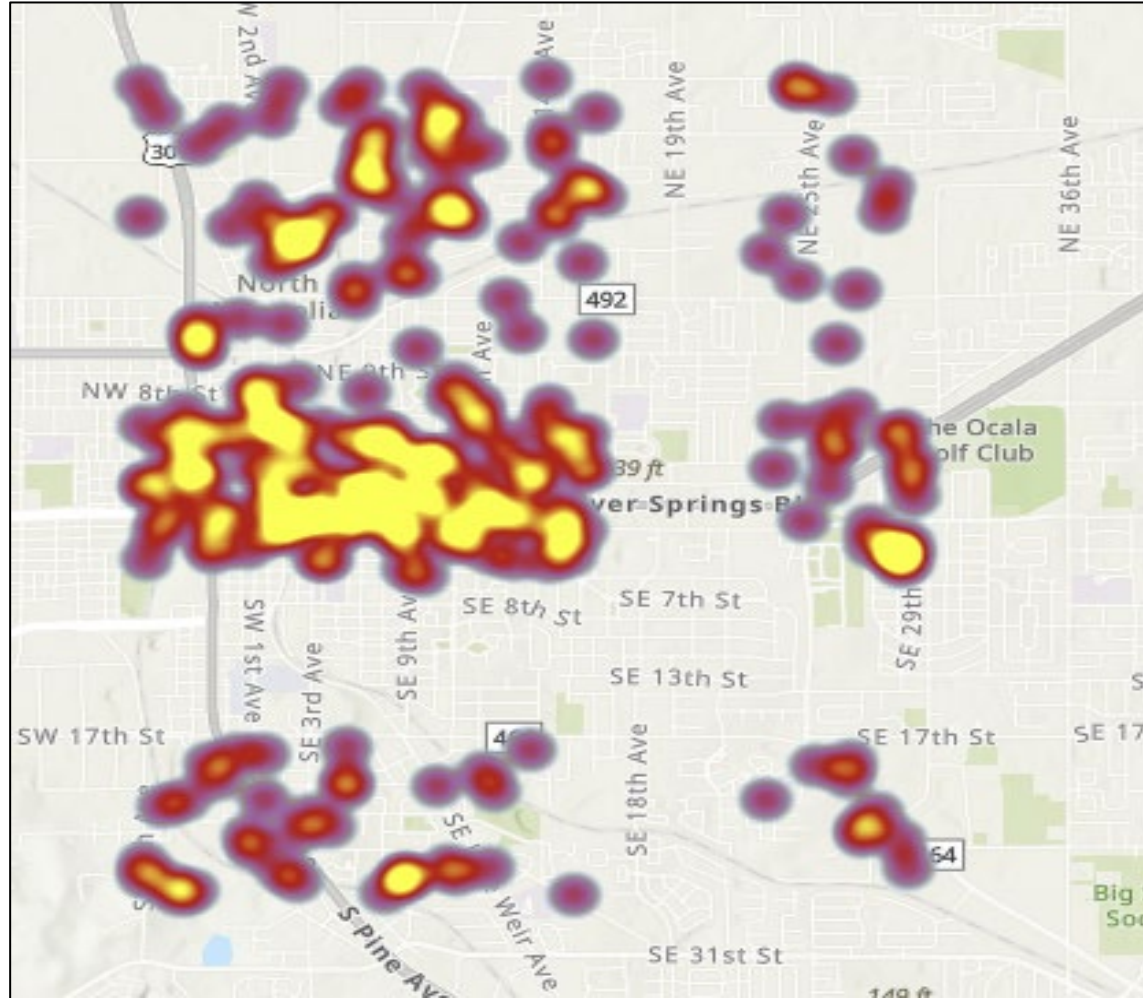# Practical Technique 1 – Hotspots and Trends

What do you see?

1. Hotspots are moving across time
2. Some areas ebb and flow

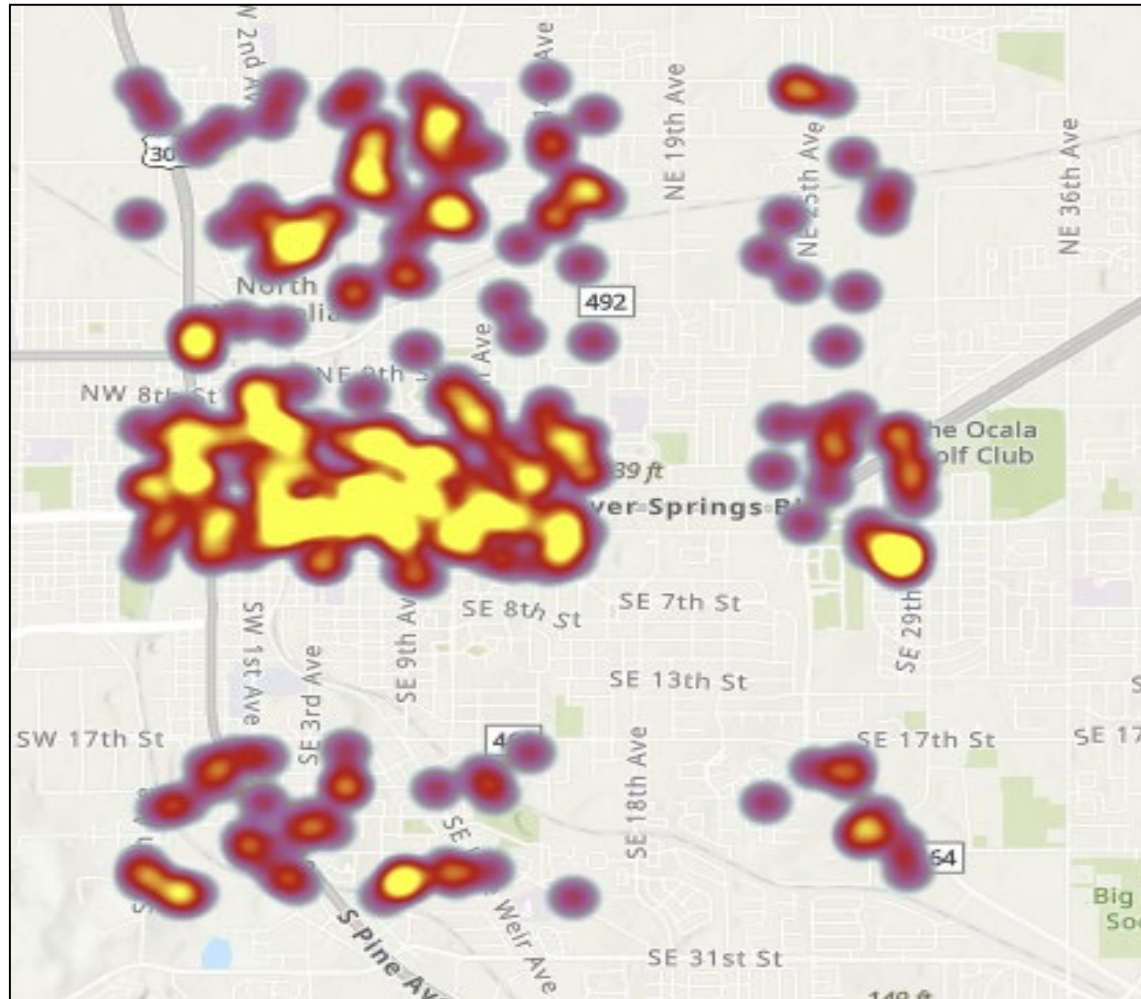**Where would you focus on directing efforts in 2025?**

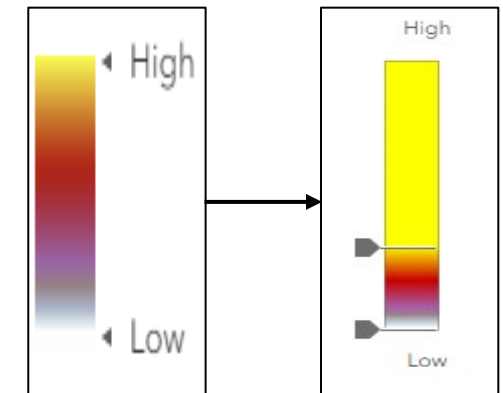# Practical Technique 1 – Hotspots and Trends
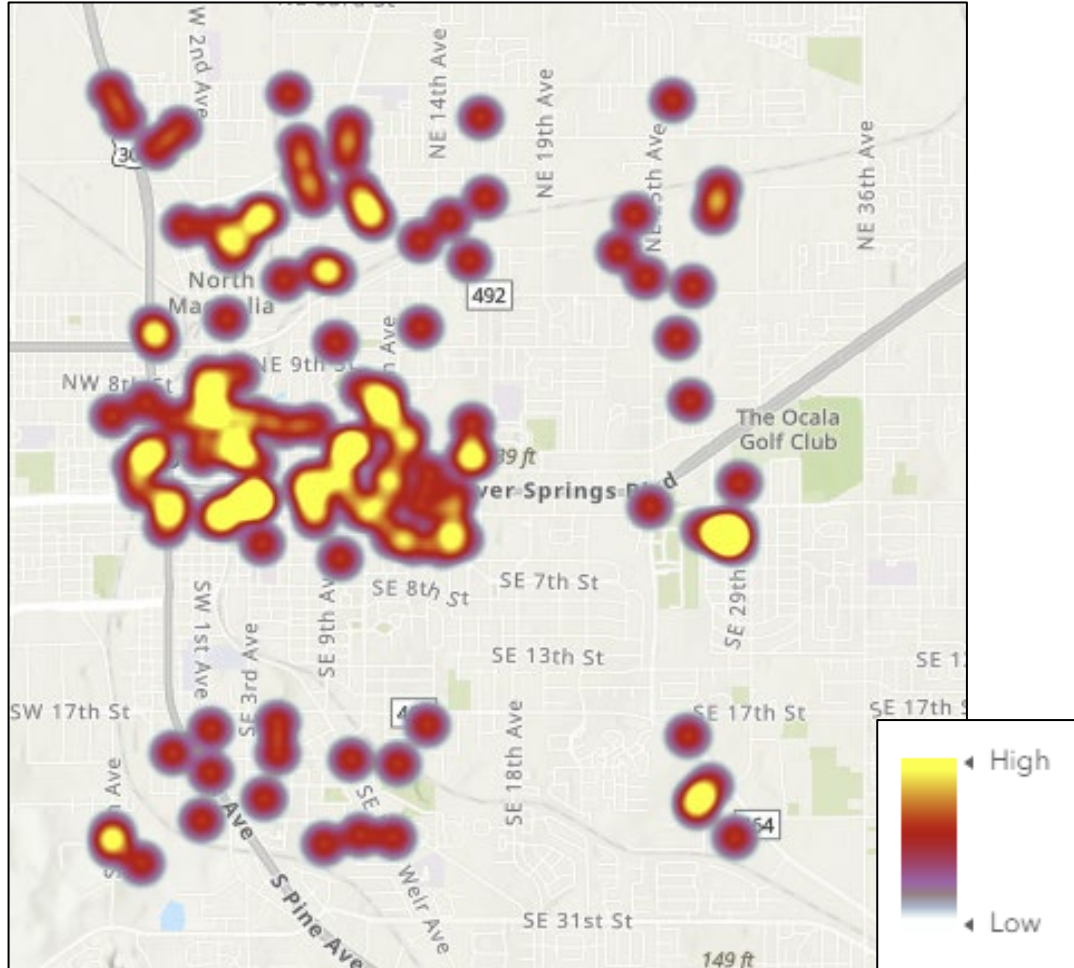

What do you see?

What can this map tell us?

Practical Technique 1 – Hotspots and Trends

1. Map is depicting burglary, vandalism, violent crime, and assault
2. Map shows only 2020, 2021, 2022
3. Legend is not included so the "High" includes more now than in previous maps

Practical Technique 1 – Hotspots and Trends

Hotspot Map

Years: 2020-2022

Crime Type: Assaults and Violent Crime

- While the crime locations didn't change, now that I've provided a legend and descriptions of the map, it is much clearer to the viewer
- These things are needed when disseminating maps

Practical Technique 2 – Simple Tables and Graphs

What can you learn from Calls for Service Data?

- High demand locations
- Frequent Issues
- Number of calls ending in arrest
- Number of calls ending in a case being created
- As well as many other variables

Practical Technique 2 – Simple Tables and Graphs

Count of Arrests Made
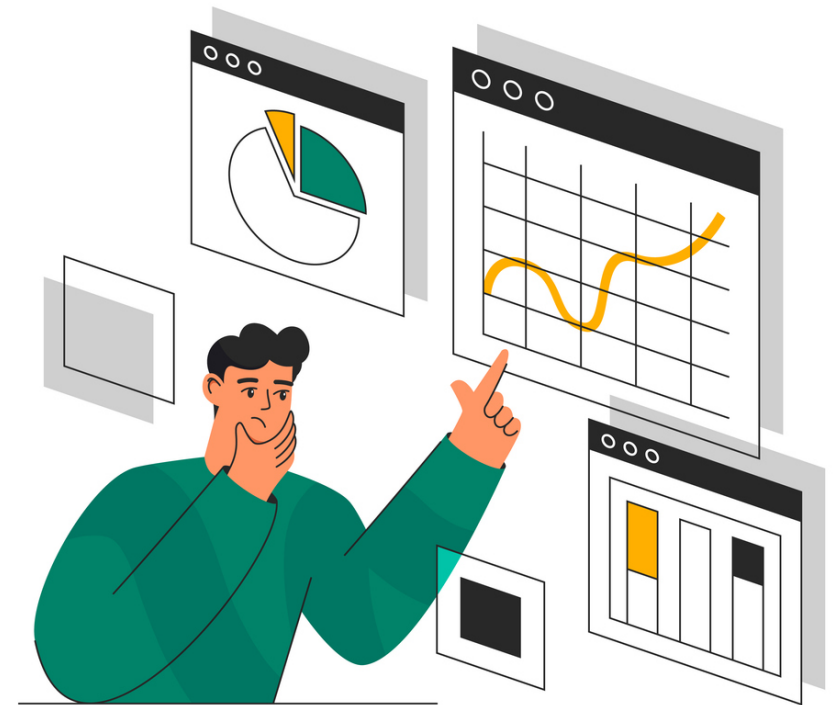
Arrests by Location
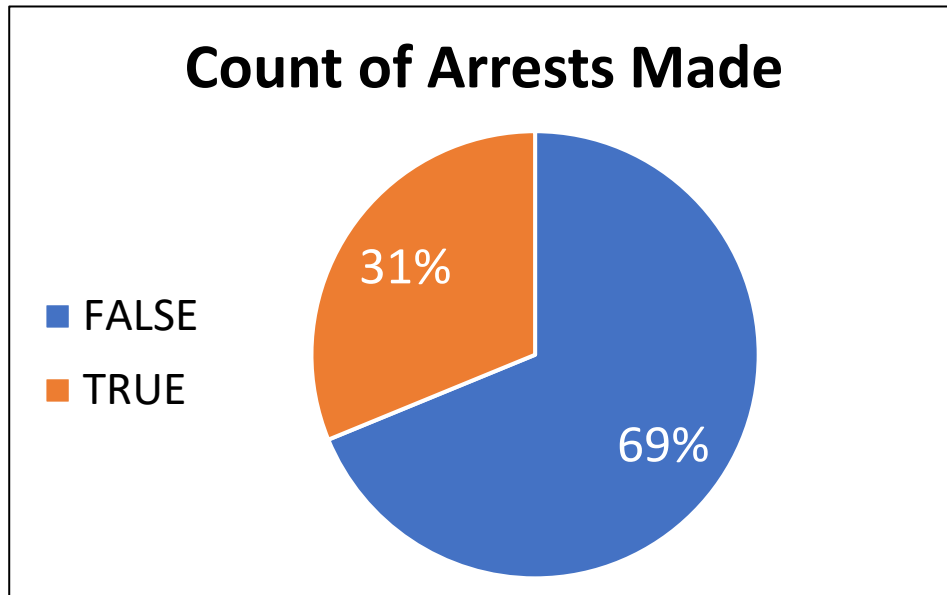
Again, by looking at more information, we can get a bigger picture
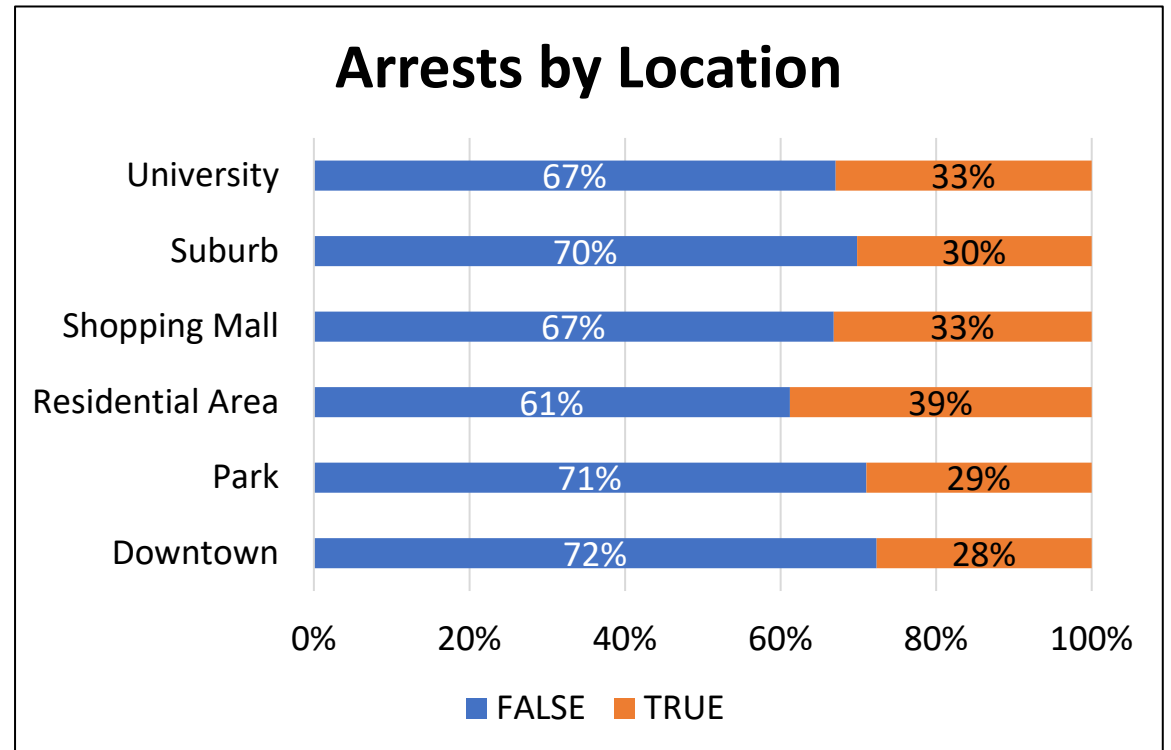
- It's helpful to know 31% of calls for service result in arrests.
- It's more helpful to know of all calls for service in each location, more result in arrest in residential areas than other locations.

Practical Techniques 2 – Simple Tables and Graphs

Incidents Time of Day
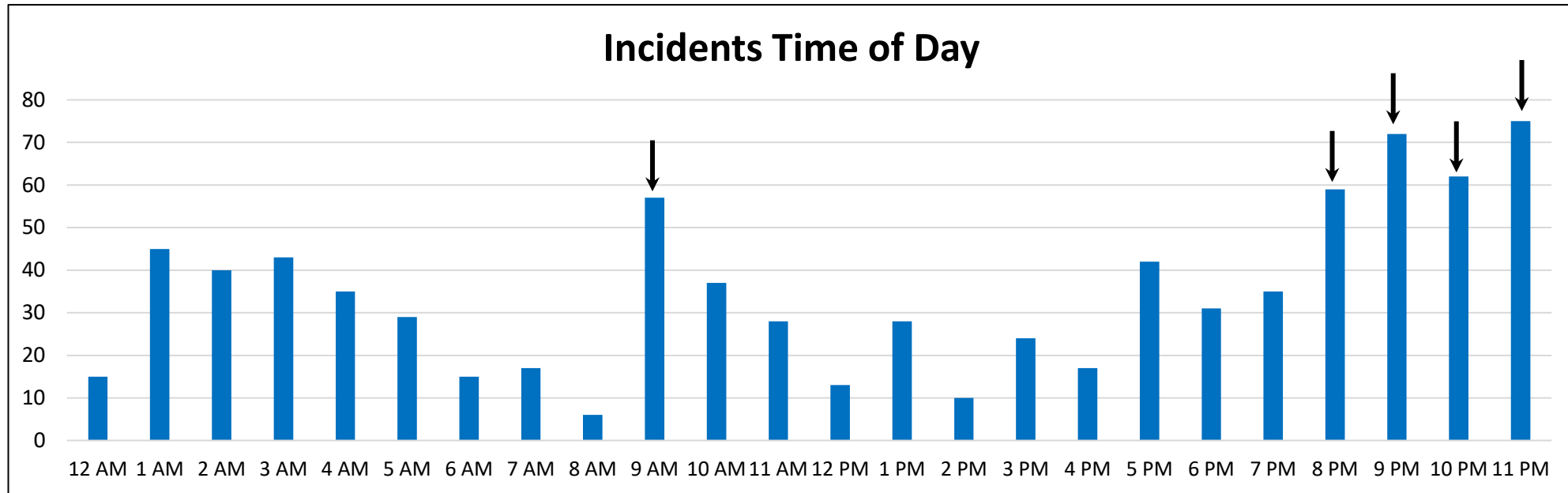
1. Create a pivot table from your incident time of day data – use Excel
2. Create a bar chart to visualize
3. Understand the chart
    1. This shows that 9am, and 8pm-11pm are the times with the most incidents
    2. Then ask, why?

Practical Techniques 2 – Simple Tables and Graphs
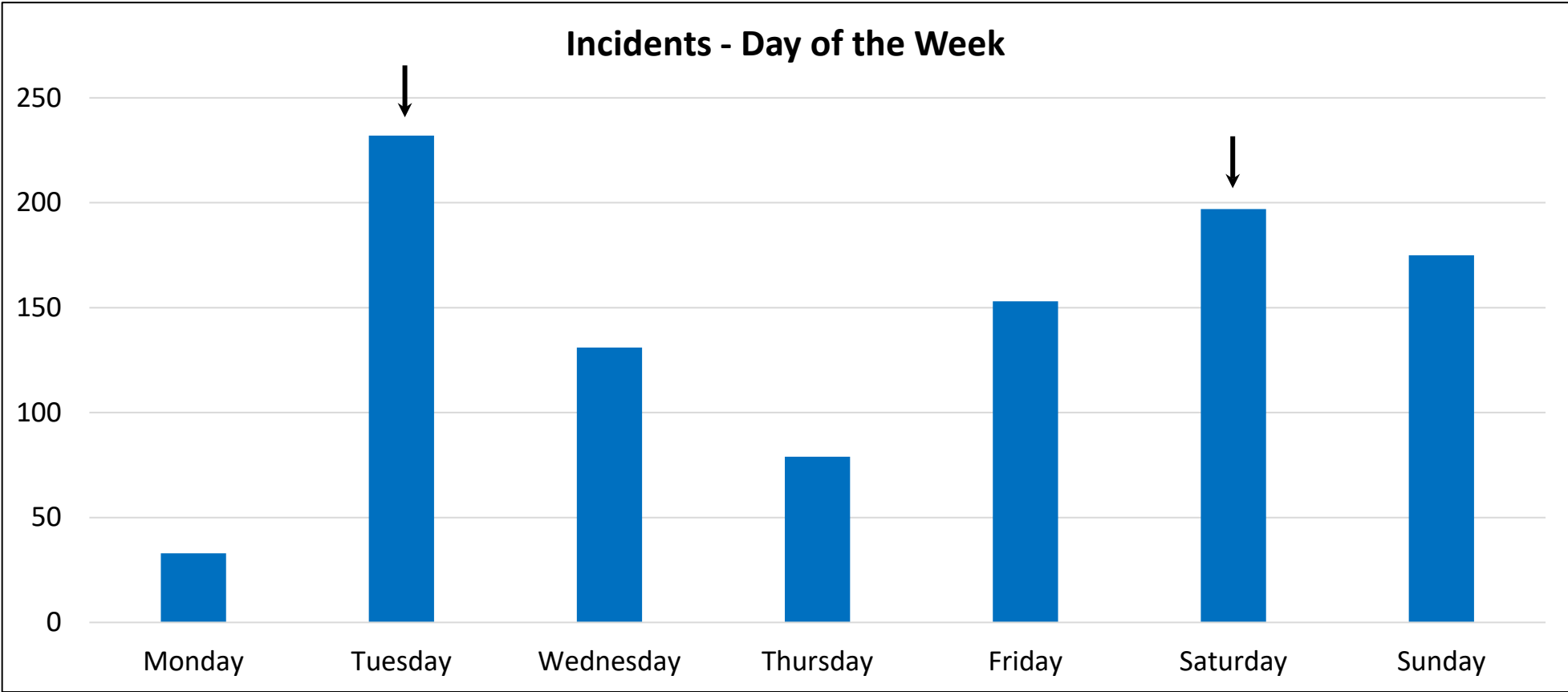
Practical Techniques 2 – Simple Tables and Graphs
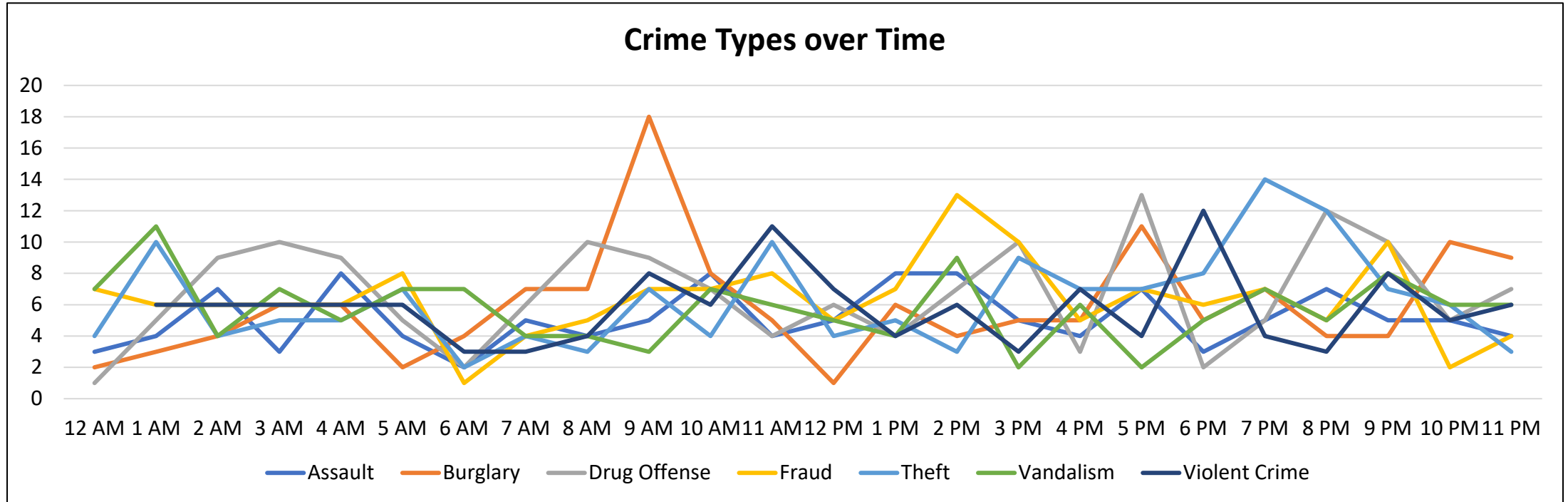
This graph shows us so much more than the previous ones!

Now we can see that burglaries are contributing to the 9am time spike!

Case Study: Oneida Police Department
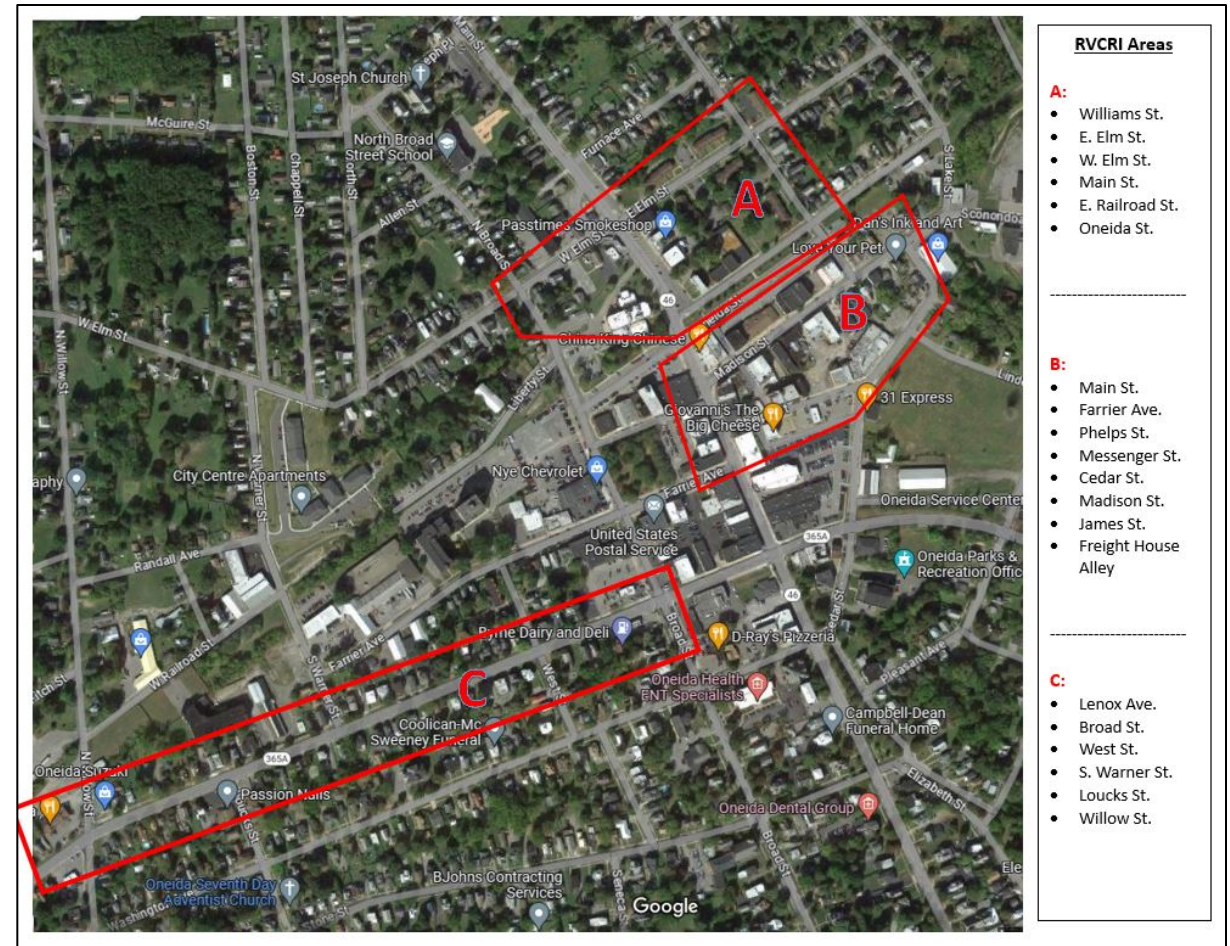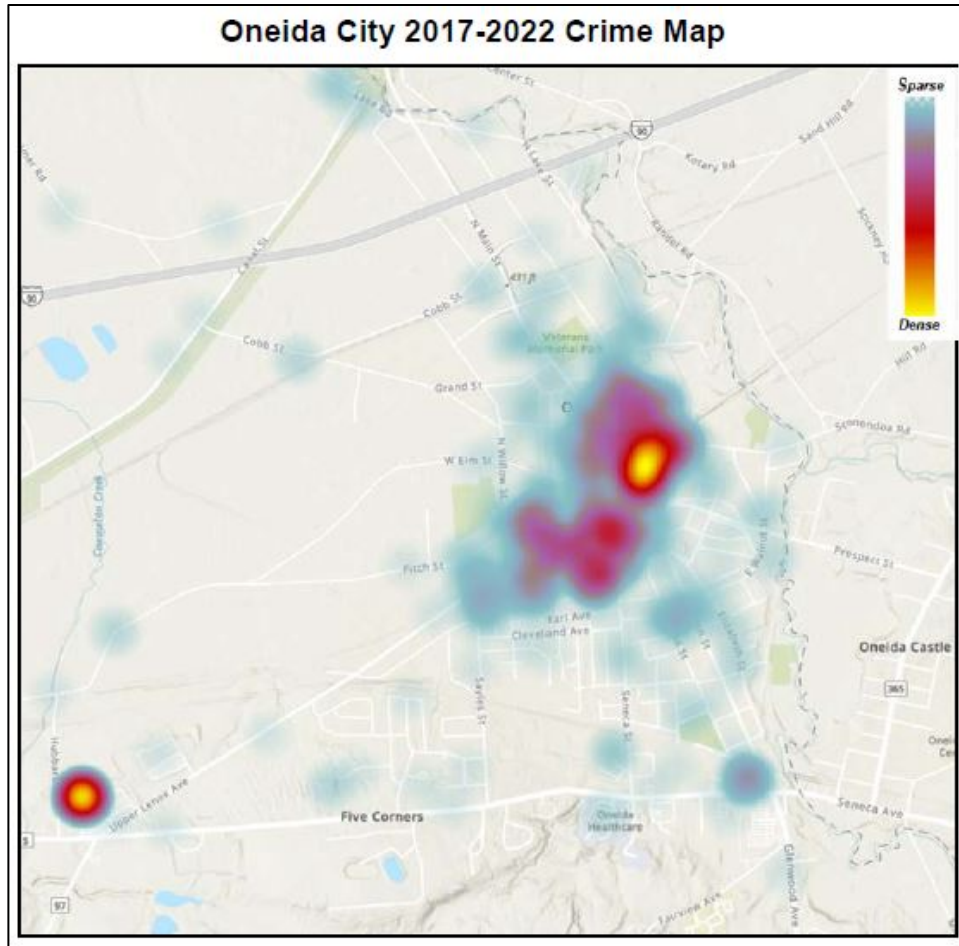
Case Study: Oneida Police Department

CRIMINAL INCIDENTS — MENTAL HEALTH INCIDENTS — DRUG SEIZURES
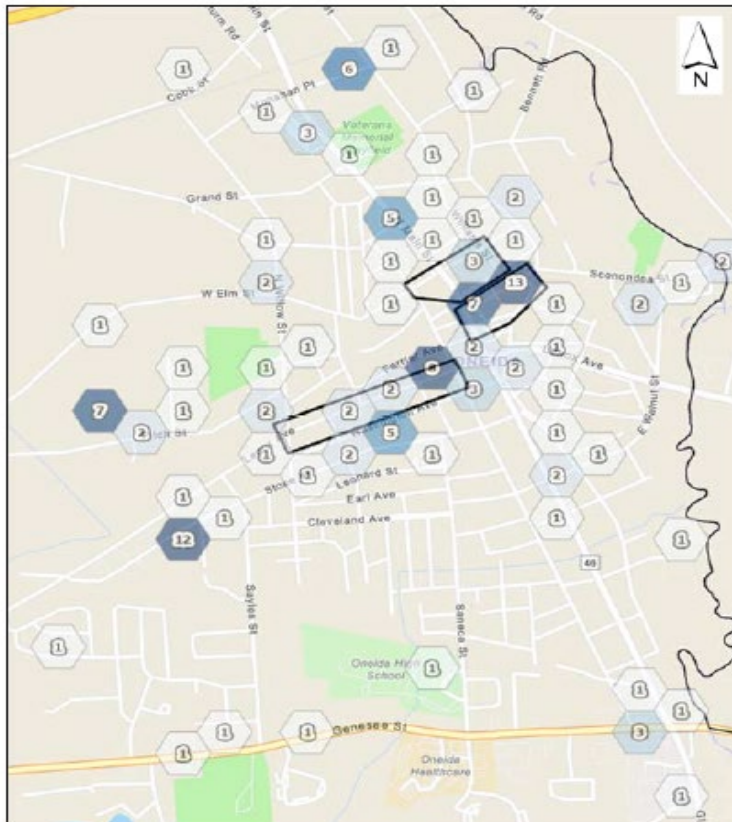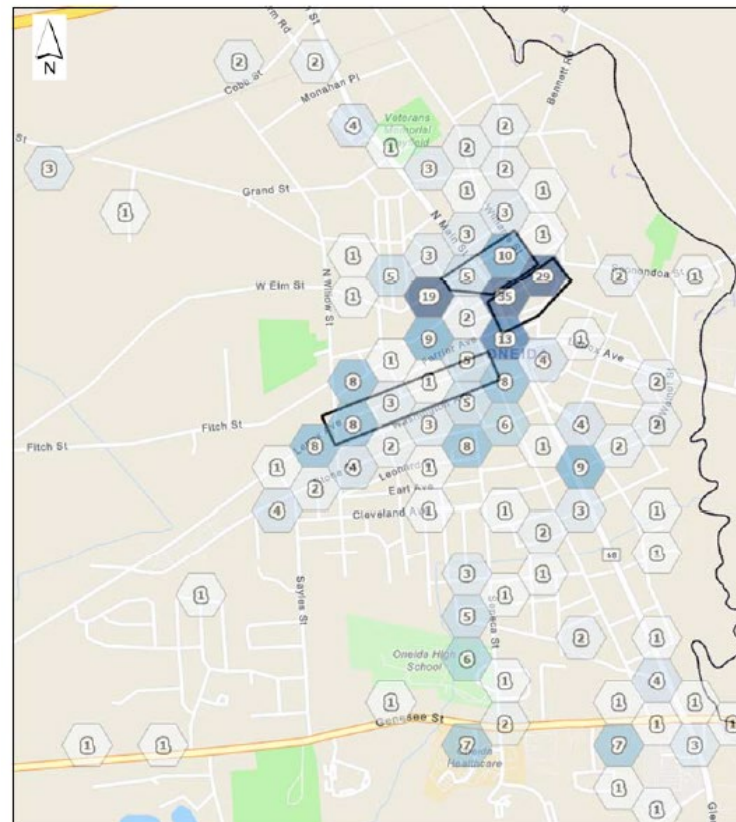
# Case Study: Oneida Police Department

Getting Started with Crime Analysis

- Do Research
  - Understand the data you do have available
  - Ask city IT or your department's IT to see what programs are available to you
- Don't touch the Master Data!
- Start simple – play around with reports
  - See what hole there is with understanding your crime
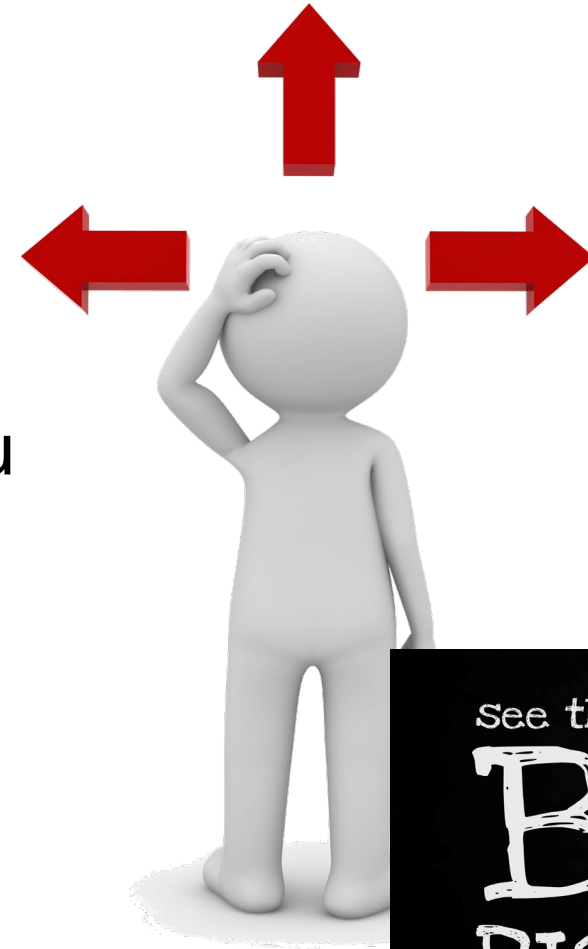
How can we help?

- Training
  - We can provide an individualized training for you and your department

- Strategies
  - Help you develop a crime analysis strategy

Your Questions?

24
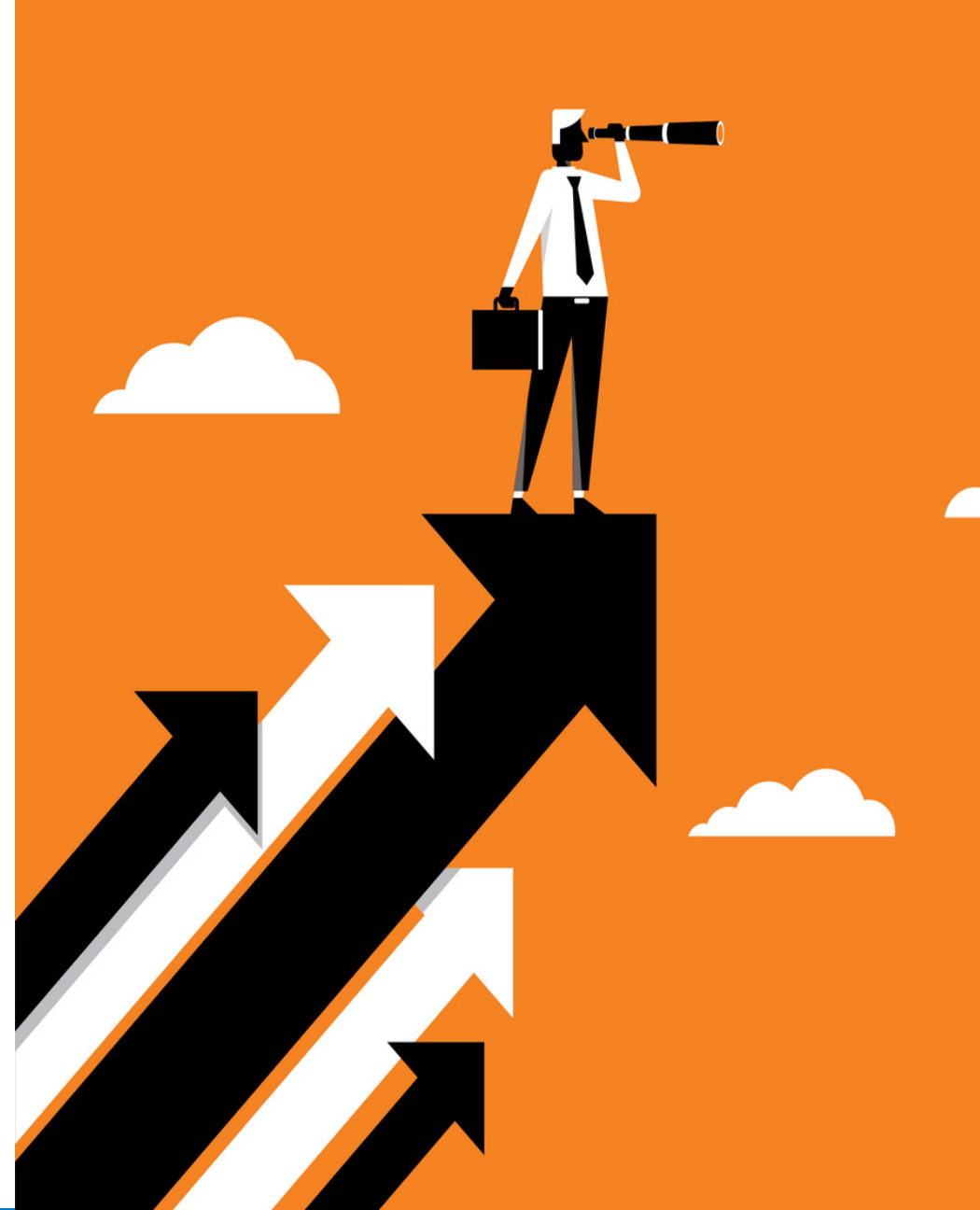
Contact Information:
- Anna Goedert – agoedert@justicestrategies.com
- Mike Green – mgreen@justicestrategies.com
  info@srtvcr.com