SPI Data-Driven Decisionmaking Webinar

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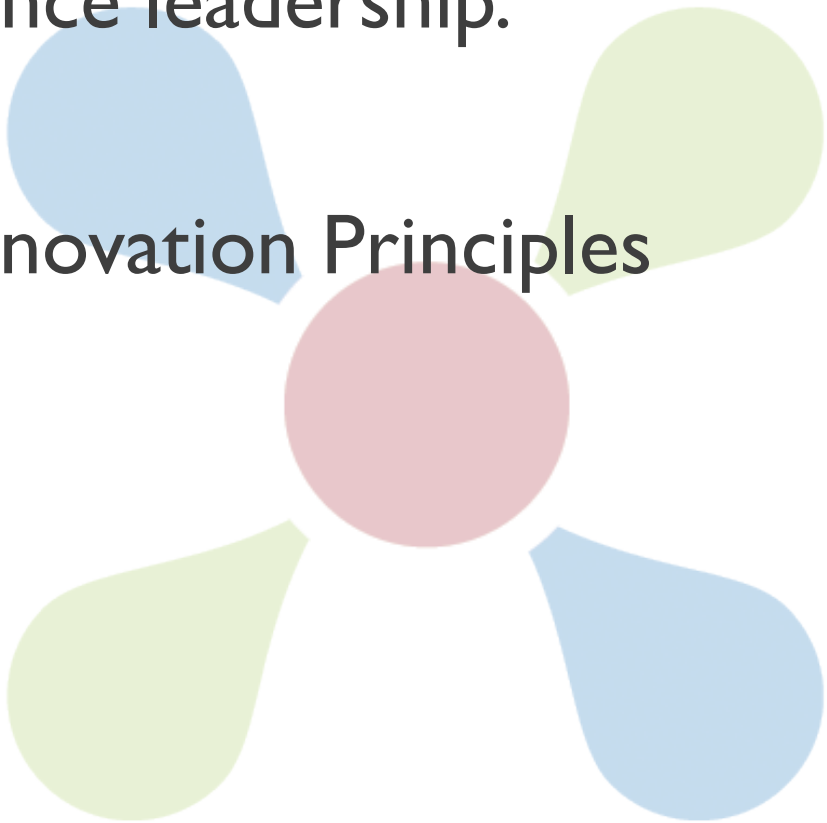
Opening Remarks

Dr. Scott Decker
SPI Subject Expert

Strategies for Policing Innovation

- Bureau of Justice Assistance leadership.

- Strategies for Policing Innovation Principles
  - Data-driven
  - Problem-oriented
  - Collaborative
  - Sustainable



Strategies for Policing Innovation CNA ANALYSIS & SOLUTIONS

Webinars in SPI

- A critical element to SPI.
- Contribute to sustainability.
- Collaborative, involving researchers and practitioners.
- Available on the CNA Strategies for Policing Innovation website http://strategiesforpolicinginnovation.com/

Role of Data in SPI

- Strong links to problem solving efforts such as the SARA Model.
- Critical to demonstrating outcomes and impact.
- Contribute to the development of best practices.
- See CNA ten-year report https://www.cna.org/research/SPI
- Data helps to diffuse the project throughout the organization.
- Data sources: ShotSpotter, NIBIN, social network analysis (SNA).

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Data-driven?

- "Data-driven" means that data is used to support problem identification, definition, implementation and the measurement of outcomes.
- It is a flexible process, but dependent on the use of data at every step.
- It is an evolving process.
- Data is used continuously throughout the SPI process in both the process AND outcomes.

Data-driven Examples in SPI

- Phoenix: BWC integrated with other data sources.
- Chicago: Integration of Shotspotter with other data. Driven by the Districts.
- Glendale AZ: Problem description (Quick Shop robberies and thefts).

Data-driven Policing in Miami

- Miami
  - Emphasis on the role of partnership.
  - Research partner role grows and is institutionalized.
  - Research partner becomes a member of the team, a role that extends beyond SPI and into other areas.
  - Unexpected outcomes, particularly in the use of GIS.
  - Organizational change within the Miami Police department.
  - Data driven policing drives change internally and externally.

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Data-driven Policing in Milwaukee

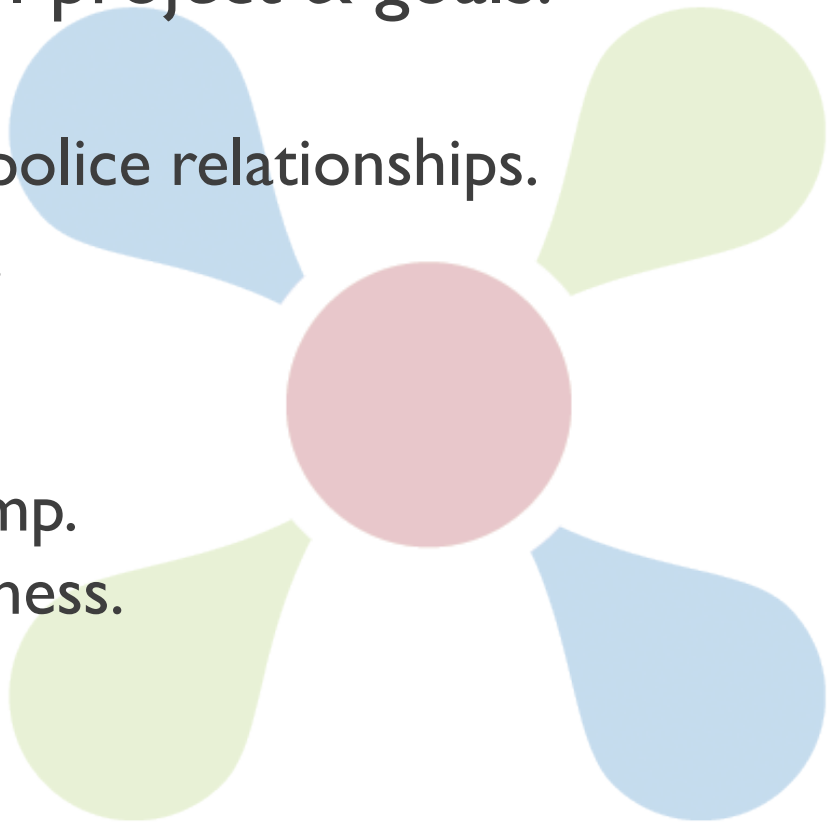
- Milwaukee
  - Role of organizational change. From isolated units to an integrated department-wide model.
  - Integration of multiple data sources: NIBIN, ShotSpotter, SNA and presentation software, Tableau.
  - Offender-focused data analysis.
  - Building relationships across units.

From Research Partner to Embedded Criminologist: Experiences from the Miami SPI Site

Rob T. Guerette
Joelle Lee-Silcox
Kimberly Przeszlowski
Florida International University

Overview

- Development of Miami SPI project & goals.
- Review of literature.
  - A synthesis of researcher/police relationships.
- Reflections from the field.
  - A clash of cultures?
  - Training.
  - Data and intelligence revamp.
  - The benefits of embeddedness.
  - Departmental changes.
  - Facilitating embeddedness.



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Development of Miami SPI

Overview of Grant Goals

1

FIU to assist in Crime Analyst training consistent with best practices in the field

2

Create and streamline systems to extract data for quicker, more accurate analysis

3

Focus analysis of theft from motor vehicles in order to yield greater case clearance rates

4

Develop prevention strategies within NET areas and engage and partner with the community and businesses in order to increase prevention efforts

5

Crime reduction within target areas as a result of apprehension of chronic offenders and prevention methods implemented

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Prior Literature (chronologically)

- McEwen, T. (2003). Evaluation of the Locally Initiated Research Partnership Program. Washington, DC.: National Institute of Justice.
- Petersilia, J. (2008). Influencing public policy: An embedded criminologist reflects on California prison reform. *Journal of Experimental Criminology*, 4(4), 335-356.
- Alpert, G.P., Rojek, J. & Hansen, J.A. (2013). Building Bridges Between Police Researchers and Practitioners: Agents of Change in a Complex World. Washington, DC: U.S. Department of Justice.
- Braga, A.A., & Davis, E.F. (2014). Implementing science in police agencies: The embedded research model. *Policing*, 8(4), 294-306.

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Implementation Levels & Forms of Researcher – Police Partnerships

Taxonomy of Academic Researcher Roles

Informal (Least intrusive) ⟷ **Formal (Most intrusive)**

Local/Cooperative	Coordination	Consortium	Collaboration	Shared Position	Embedded Criminologist
External researcher works w/ one police agency for support on wide ranging topics. Police provide data; researcher gives results and/or guidance.	External researcher works w/ one police agency on single longer-term project w/ specific goals.	External researcher works w/ multiple area police agencies on single longer-term project w/ specific goals.	External researcher works with police agency in ongoing partnership on multiple joint projects over extended time.	Researcher works w/ police department partly inhouse and partly externally over extended time.	Researcher works fulltime within police agency aiding with analysis, evaluation, and/or scientific expert advice.

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Comparative Overview of Academic Researcher and Police Organizational Characteristics

	Academic – Researchers	Police - Practitioners
Incentives/Rewards	• Hiring, promotion & tenure values publications, rigorous research and grant funding.	• Police organization values offender arrests, crime reduction and stakeholder/ community support.
Opaqueness	• Transparency is foundation of scientific research. Central to clear, understandable and replicable dissemination.	• Values operational secrecy. Transparency is an after-the fact, public relations tool.
Language	• Research is written for academics, lengthy narratives and sophisticated terms.	• Police jargon or verbiage is short and concise, (e.g., 10-4, 10-8). Efficiency in communication.
Tempo	• Research entails a long process of gathering, dissecting, and analyzing data.	• Fast-paced environment. Must respond rapidly to crime demands/citizen complaints.
Process	• Organic, anarchic in terms of how the discipline evolves.	• Mechanical, hierarchical, paramilitary.

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Training within Miami SPI Site

Training	Formal or Informal	Instructor	Duration	Description of training
Crime Analysis Fundamentals	Formal	SME Julie Wartell	2 days	Covered a basic understanding of crime analysis, tools used in crime analysis, and how to produce a tactical bulletin
Crime Analysis for Problem Solving	Formal	SME Julie Wartell	2 days	Discussed Problem-Oriented Policing (POP) in depth, including going over Crime Analysis for Problem Solvers in 60 Small Steps by Ronald Clarke and John Eck
Excel	Informal	Doctoral Students	Ongoing	Explained advanced techniques regarding Pivot Charts and Tables, sorting, formatting
OneNote	Informal	Doctoral Students	Ongoing	Explored the creation of notebooks and data management to consolidate detective reports and flyers in an easily searchable and mobile platform
Word/Bulletins	Informal	Doctoral Students	Ongoing	Revamped Crime Analysis project to include a standard for formatting crime analysis products
Tactical Crime Bulletins	Informal	Doctoral Students	Ongoing	Taught analysis techniques to produce tactical crime bulletins, including SARA analysis
Data Visualization	Formal & Informal	David Knight, Data Consultant, Doctoral Students	Ongoing	Lectured regarding effective usage of data visualization within crime analysis products; partners with crime analysts in order to help to streamline crime analyst products
ArcGIS	Informal	Doctoral Students	Ongoing	Introduced analysts to mapping, geocoding, and hot spot maps
ArcGIS Pro	Formal & Informal	Betsy Leis, Esri instructor, Doctoral Students	3 days, Ongoing	Training on updated version of software, including the crime analysis toolbar

Data & Intelligence Revamp

Action	Implementation & Benefits
Streamlined data accrual & processes	• Data & Visualization Manager created a program that allows crime analysts to pull information regarding any signal and any date range from the current RMS system, streamlining addresses, adjusting for spelling mistakes on car makes and models • Output formatted in Excel spreadsheet • Saves hours in compiling an analyst's daily log • Allow for flexibility when putting together administrative, tactical and strategic projects
Used in Task Force Operations	• Command staff uses projects and reports generated by Crime Analyst Detail to inform operations.
Reports requested by FOD	• NET commanders and NROs requesting and using reports for patrol assignments and crime prevention efforts
Creation of OneNote Notebooks for CID Departments	• Allows for all case information to be stored, shared, and easily searchable using existing secure resources on MPD's Sharepoint. • Stores additional pieces RMS might not contain including incident reports, wanted flyers, crime analyst products, arrest forms, different pictures of suspects, and any additional information pertinent to the case • Access to the platform on mobile devices through Microsoft Office app which allows for searching, additions, and emailing the folder to parties as needed with attachments intact
Update and support for ArcGIS Pro	• Sets the best practice for mapping and analyzation for crime analysts • Analyzation amplified based on maps created, able to explore and identify patterns and trends
Identified data discrepancies	• Communication Detail now take a proactive measure to ensure all incidents are geocoded • Records Department added specific areas to requirements for theft from motor vehicles to streamline and aid in the accuracy of crime analyst products

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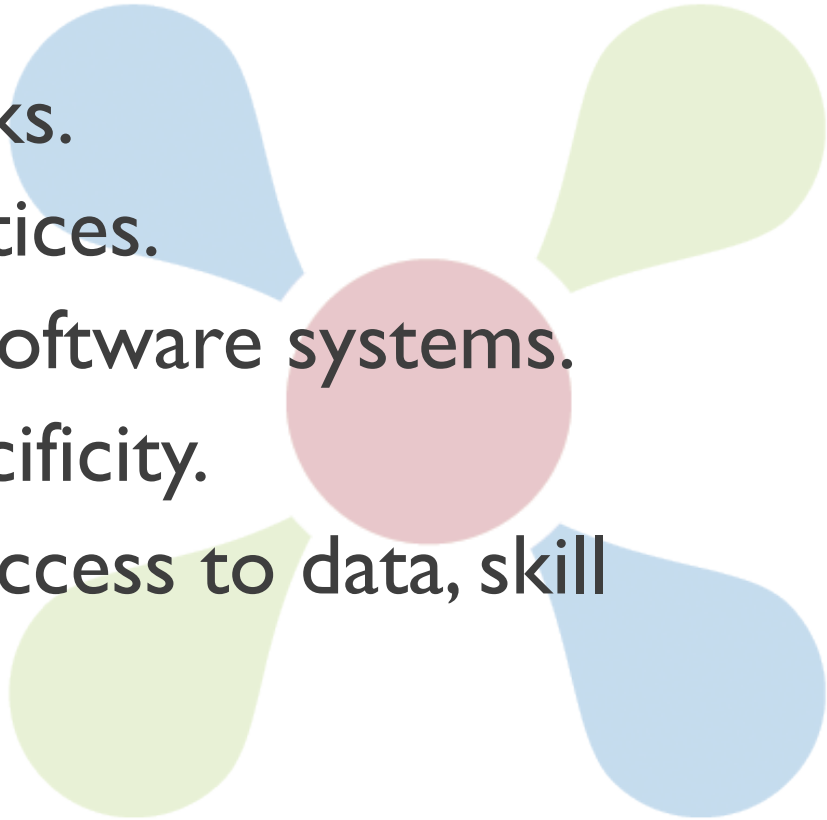
Benefits of Embeddedness

- Training for analysts – crime analysis and problem-oriented policing.
- Implementation of new analytical skills.
- Product refinement (crime bulletins).
- Improved task force support.
- Increased credibility of crime analysis unit.
- Diffusion of benefits – techniques have spilled over to other units (e.g., gang unit, investigative support).

Benefits of Embeddedness, Cont.

- Improved trust.
- Automation of daily tasks.
- Facilitation of best practices.
- Adoption of advanced software systems.
- Increased analytical specificity.
- Researcher rewards – access to data, skill application.
- Individual fulfillment.



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Departmental Changes

Action	Implementation & Benefits
Formation of Theft from Motor Vehicle Unit	• Dedicated team to solve cases • Attends roll call to address missed areas that contribute to solvability • Reinforces community partnerships to increase prevention measures
Creation of Tactical Theft from Motor Vehicle Unit	• Runs operations within hotspot areas • Intended to capture known, prolific offenders
Established new NET Area - Edgewater	• Adds a new, full team to address crime within an area riddled with theft from motor vehicles and other Part I crimes
Expansion of LPRs & cameras	• Create geofence using LPRs; capturing possible offender license plates • Placement determined by MPD, SPI team, and community partners
Revamp crime prevention signage & flyers	• Researched and determined current campaign can be misleading • Presented an alternative campaign • Designed new signs and flyers to be displayed and distributed with clear messaging consistent with neighboring law enforcement areas
Intelligence-led CompStat Meetings	• Analysts produce a monthly CompStat report identifying any trends within Part I crimes, including repeat offense locations and the FOD Chief uses these reports to run CompStat meetings
Restructure of Crime Analyst Detail	• All crime and intelligence analysts sit in the same room and under Investigation Support Services, which fosters belonging and facilitation of best practices
Update of Record Management System (RMS)	• Identification of inadequate configuration of the current RMS system and inability and expense to upgrade the current system in the areas which the SPI team identified, prompted MPD leadership to seek an alternative RMS system to meet intelligence-led demands

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Facilitating Embeddedness

- Recognize cultural differences.
- Be the "guest."
- Take on a supportive role.
- Build relationships.
- Use skill sets to address challenges and improve procedures and work products.

Leveraging Data & Intelligence for Decision Making: Milwaukee's Lessons Learned of Building and Shaping Analytical Units

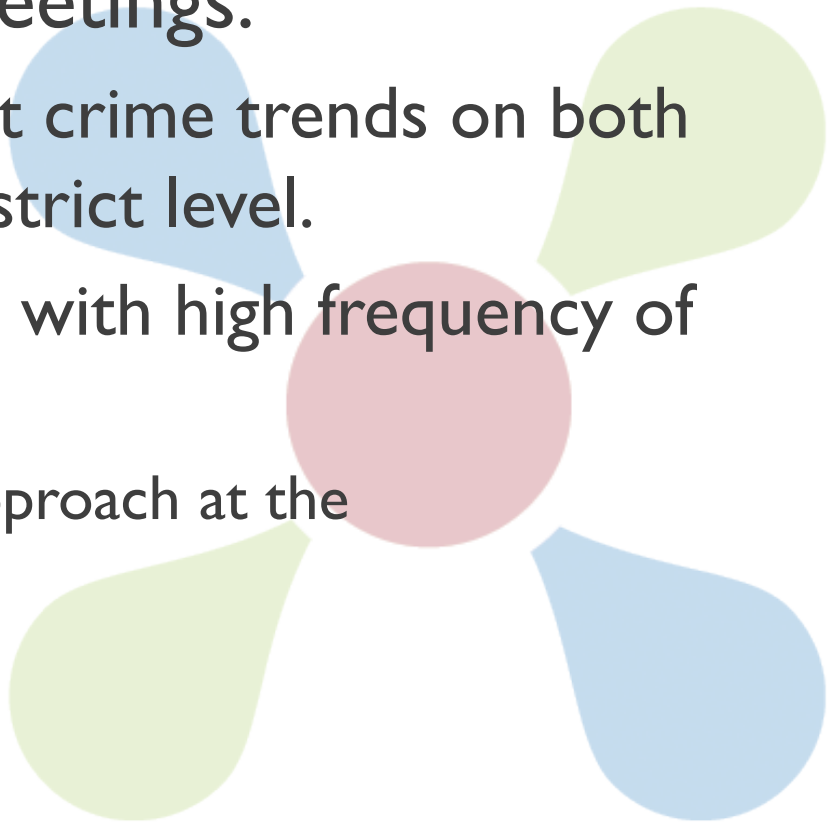
Captain Daniel Thompson
Crime & Intel Manager Stephanie Sikinger
Milwaukee Police Department

Analytical History at Milwaukee Police Department (MPD)

- Building analytical capacity.
  - Smaller analytical units in Fusion & Office of Management, Analysis, and Planning (OMAP).
    - Issues with leveraging analyst capabilities.
  - Current staffing and responsibilities.
    - Strong focus on Tactical, Strategic & Administrative analysis.
      - Push for intelligence analysis.
  - Centralized analytical units.
    - Mimics Criminal Investigative Bureau (CIB).
      - Benefits.

Accountability & Problem Solving

- Traditional CompStat Meetings.
  - Track and discuss current crime trends on both a city wide level and a district level.
  - Focus on neighborhoods with high frequency of violent crime.
    - Take a problem solving approach at the neighborhood level.



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Accountability & Problem Solving

- Shoot Review Model.
  - Modeled after the Oakland Police Department.
  - Focus on violent crime for the last seven days.
  - Discussion on locations, suspects and victims.
    - Gather intelligence and information surrounding them.
      - Assign impact scores for each incident.
    - Identify mitigation strategies for each.

Force Multipliers

- Technology combined with analytics.
  - Tableau Dashboards.
    - The ability to dynamically visualize data to disseminate department wide & community partners.
  - ShotSpotter.
    - Extract data and leverage it beyond the initial alert.
  - National Integrated Ballistic Information Network (NIBIN) & Crime Gun Intelligence Center (CGIC) data.
    - Combining NIBIN data with criminal investigative analysis.

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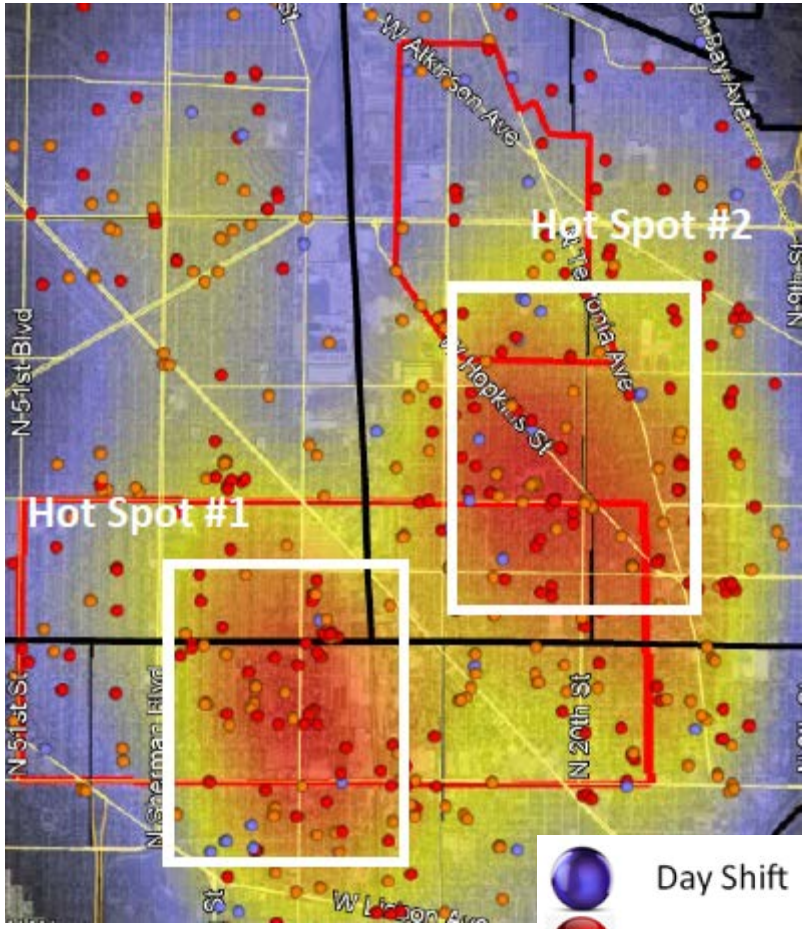
Examples: SST



HOT SPOT #1	HOT SPOT #2
W Locust St (N)	W Vienna Av (N)
W Brown St (S)	W Hadley St (S)
N Sherman Blvd (W)	N 27th St (W)
N 30th St (E)	N 14th St (E)

NORTH COVERAGE AREA ANALYSIS

08/14/2019 to 09/03/2019

- Highest concentration of gunfire occurs on: Saturdays between 0200 - 0259
- Number of activations: 527
- Number of multiple gunshot alerts: 267
- Number of single gunshot alerts: 199
- Number of possible gunshots: 61
- Total number of shots fired: 1837

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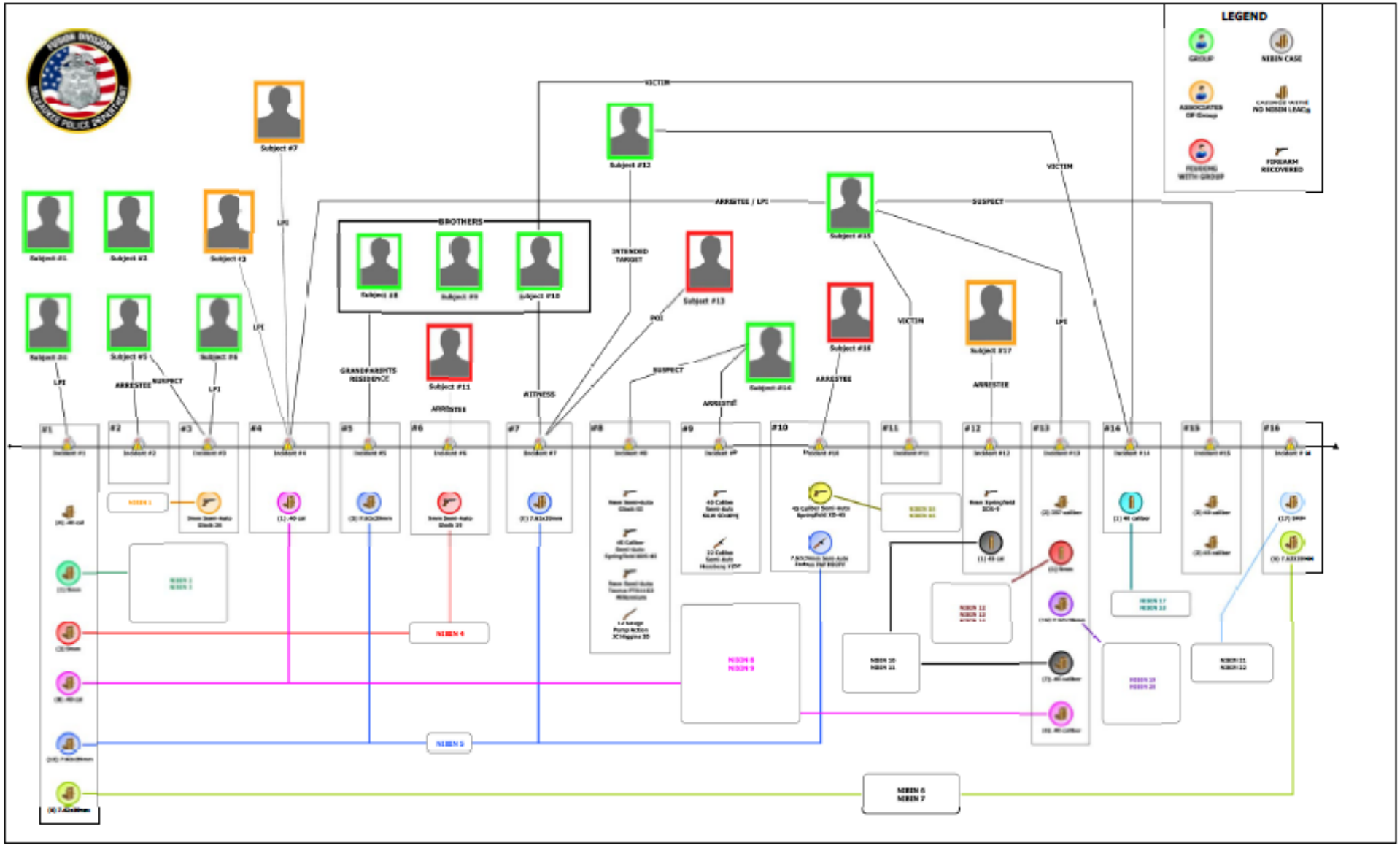
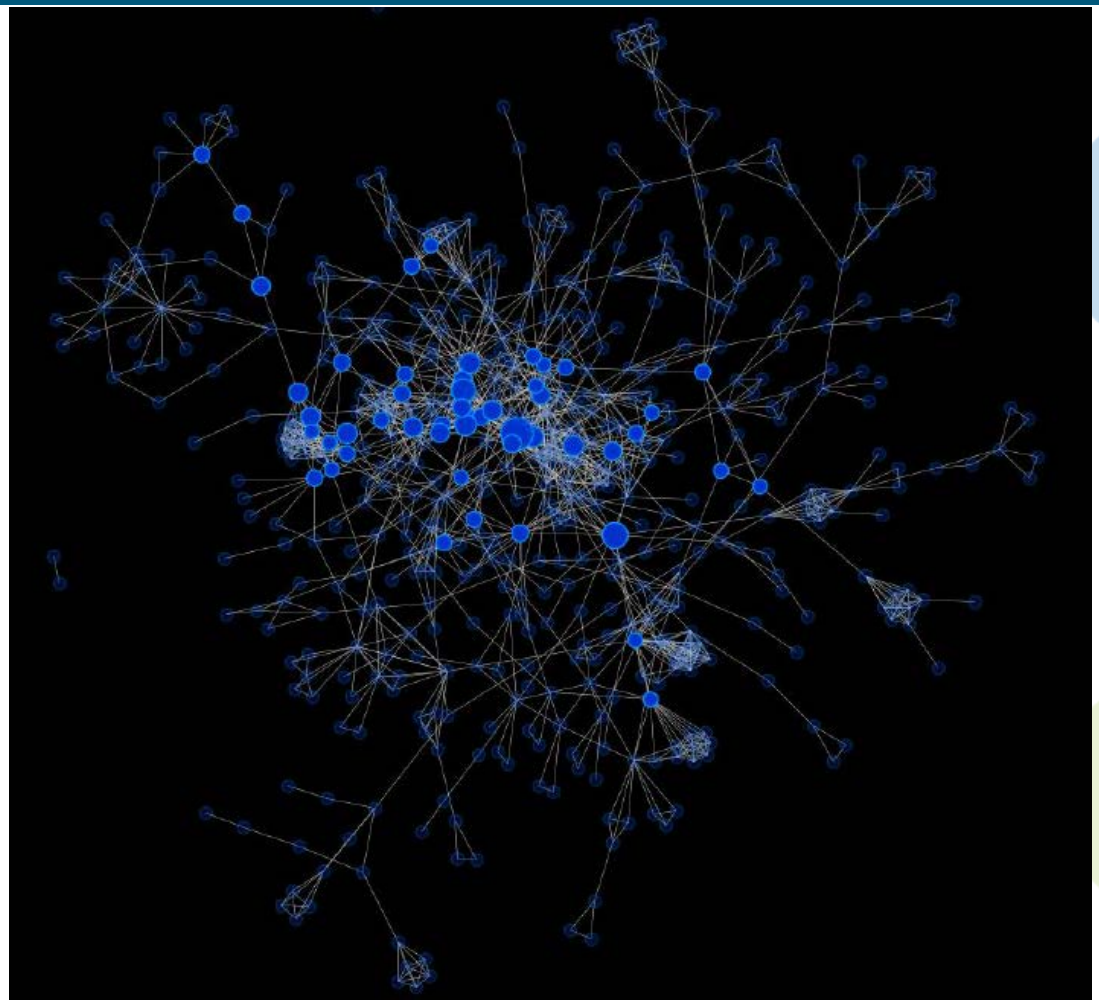
Examples: CGIC Investigations



Creation of New Processes

- Offender-based initiatives.
  - Networks of Criminals & Youth Offenders (NOC).
    - Began with a problem of youth offenders and motor vehicle thefts and graduated into robberies and carjackings.
    - Citywide initiative that impacts districts and CIB.
- Introducing Social Network Analysis.
  - Metric used in the NOC.
  - Operation used in District 5.
  - Building out & identifying the violent network.
    - Leverage for shoot review person mitigation.

New Process: SNA Visualizations



- Sociogram example.
  - Built utilizing a free software known as ORA (organized risk analyzer).
  - The network is based of offenders committing crime in an area around Capital Drive & Garden Homes.
  - Those nodes that are larger represent the 20 subjects that have the highest betweeness centrality and were out of custody at the time of the operation.
  - They became the focus of an intelligence gathering operation.

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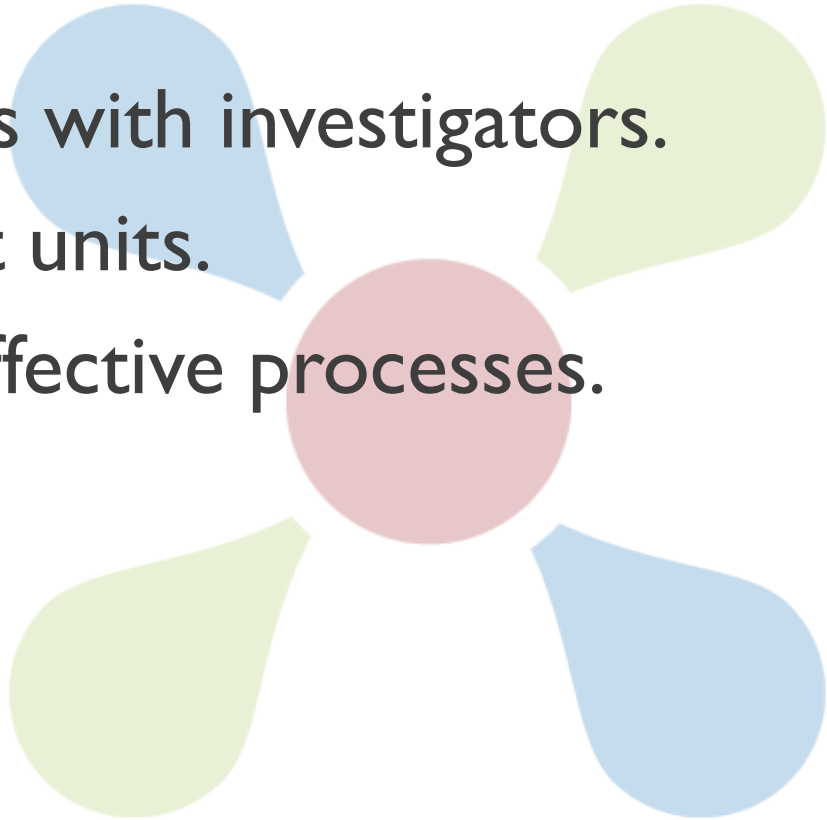
Final Thoughts

- Demonstrating a need.
- Establishing relationships with investigators.
- Centralization of analyst units.
- Push for innovation & effective processes.



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Q & A