Crime Analysis Resources
SUPPORTING PSN STRATEGIC PLANNING AND PROBLEM ANALYSIS[1]

Project Safe Neighborhoods (PSN) seeks to reduce violent crime and enhance community health and vitality through collaboration between local government, social services, schools, a variety of neighborhood and community partners, and local, state, and federal criminal justice agencies. PSN builds upon four pillars: community engagement, focused and strategic enforcement, prevention and intervention, and accountability. Each one of these pillars benefits from crime analysis that can inform decision-makers about the drivers of violent crime at the local level, assist in collecting and analyzing performance metrics, and provide feedback on critical outcomes.

The PSN training and technical assistance (TTA) team developed this resource to support the integration of crime analysis in PSN. This resource includes the following:

1 **A webinar recording that provides an overview of the role of crime analysis in PSN strategic planning**

2 **A webinar recording that provides an overview of violent crime problem analysis**

3 **Seven training modules that cover the topic of crime mapping**

4 **Additional crime analysis resources, including associations, model tools, training materials and opportunities, and podcasts.**

STRATEGIC PLANNING FOR VIOLENT CRIME REDUCTION: THE ROLE OF CRIME ANALYSIS

Research consistently demonstrates that highly focused strategies aimed at factors driving violent crime are the most effective in preventing and reducing levels of violent crime. This webinar focuses on the role of crime analysis in developing strategies that make sense for addressing violent crime in particular PSN target areas. The webinar begins with an overview of how strategic planning builds on problem solving approaches to addressing violent crime. The overview focuses on identifying risk factors (e.g., people, groups, and places) for violent crime that can inform highly focused enforcement, intervention, and prevention strategies. The webinar then focuses on the role of crime analysis in this problem-solving model with examples of the types of analyses that can inform PSN strategies.

Speakers:

- Edmund McGarrell, PhD, Michigan State University
- Allison Rojek, Michigan State University   **PLAY VIDEO**

ANALYZING VIOLENT CRIME PROBLEMS

PSN advocates a data-driven, problem-solving approach whereby enforcement, intervention, and prevention strategies are based on the nature of the violent crime problem in specific communities and target areas. This webinar complements the "Strategic Planning for Violent Crime Reduction" webinar (see above) and drills deeper into the types of analyses that can provide an understanding of the violent crime problem in a specific jurisdiction or target area. The webinar addresses the "why" and the "how" of analyzing the violent crime problem. It includes the foundations of crime analysis—problem solving, the SARA model, and situational crime prevention—and offers concrete examples of crime analysis approaches.

Speaker:

- Edmund McGarrell, PhD, Michigan State University
- Julie Wartell, University of California San Diego, Crime Analysis Trainer   **PLAY VIDEO**

A central finding of crime analysis and research on violent crime is that violent crime tends to be highly concentrated geographically. As a result, an important goal in crime analysis for PSN is to be able to identify geospatial patterns and trends of violent crime. To this end, former crime analyst Allison Rojek from Michigan State University has developed a series of seven modules on conducting geospatial crime analysis. This series of sequential modules is intended to support crime analysts with limited geospatial experience as they advance from the steps of basic understanding of crime mapping to data preparation to developing crime mapping products. Experienced crime analysts may find the modules a useful refresher.

Crime Mapping Module Descriptions

GIS TRAINING PART 1—INTRODUCTION TO CRIME MAPPING

This video provides an overview introduction to geographic information systems in relation to crime analysis. It discusses software programs, types of data, and decisions to make when mapping. This video is designed to be an overview of GIS, one used prior to incorporating CJ data into mapping software.

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GIS TRAINING PART 2—DATA SOURCES

This video focuses on the variety of data sources that can be utilized for mapping in criminal justice organizations. It discusses data that are collected from within agencies and includes a variety of events that have a spatial component: crime incidents, arrests, traffic stops, calls for service, field interviews, traffic collisions, etc. Attention is also given to data from outside agencies such as probation and parole departments. In addition, the video discusses administrative data and topics including geographic boundaries and patrol districts of agencies, schools and parks, and census data. The module concludes with a discussion of different types of mapping files and where to locate them, whether within or external to an agency.

PLAY VIDEO

GIS TRAINING PART 3—FROM DATA TO MAPS

This video provides introductory steps on how to take data from a variety of sources and input it into ArcGIS software to produce a visual display. The video begins with a description of how to create an address locator in ArcGIS as well as how to clean location data (addresses) prior to bringing the files into ArcGIS. The process of geocoding location data is discussed in detail, including how to specify geocoding parameters, how to match and rematch addresses, and how to solve consistent problems with location data. The video also details how to incorporate shapefiles into ArcGIS such as street files, police boundaries, etc.

PLAY VIDEO

GIS TRAINING PART 4—GENERATING MAPS A

This video provides detailed steps on both how to create a variety of different maps in ArcGIS and how to decide which items should be included on each map generated. Types of maps described in the video include single-symbol maps, buffers, and graduated symbols as well as the pros and cons of using each of the types of maps described.

PLAY VIDEO

GIS TRAINING PART 5—GENERATING MAPS B

This module is a continuation of Module 4 and explains other types of maps that can be generated using ArcGIS. The module covers how to break data into different categories so they can be visually displayed on a map and provides examples of maps that can be created, such as pie- and bar-chart mapping, and descriptive mapping. The module also discusses mapping with statistical classifications. Multiple methods are described in relation to setting classifications.

PLAY VIDEO

GIS TRAINING PART 6—GENERATING MAPS C

This module is the final in the series of videos on generating maps, and it focuses on density mapping. This is not meant to be an exhaustive explanation of density mapping and hot spot analysis, but rather an introductory overview to walk the user through the basic steps of creating a density map. Step-by-step instructions are provided using the Spatial Analyst toolbox in ArcGIS to create density maps and show how to adjust the visual display of the data. This video discusses some of the caveats of density mapping, provides an overview on the interpretation of identified hot spots, and discusses how to examine hot spots given the distribution of data. This second-to-last module discusses hot spot analysis in relation to crime control reduction and prevention strategies.

PLAY VIDEO

GIS TRAINING PART 7—SPATIAL ANALYSIS AND MODELING

This final video describes the spatial analysis and modeling techniques that are available using ArcGIS as well as several additional software programs. The emphasis is on repeat and near-repeat victimization and risk terrain modeling. This is meant to be a theoretical overview of these different techniques and how they can be used by agencies to understand the spatial element of crime. This module also gives attention to other types of mapping, such as high-definition maps and interactive crime mapping.

PLAY VIDEO

Additional crime analysis resources are available. Following are some of those resources we have found most helpful:

PSN TTA RESOURCES

- Crime Analysis Capacity Assessment
https://psntta.org/tta-resources/ttacatalog/crime-analysis-capacity-assessment/

- See PSN TTA Catalogue for Additional Resources
https://psntta.org/tta-resources/ttacatalog/

ASSOCIATIONS

- IACA – International Association of Crime Analysts

- IALEIA – International Association of Law Enforcement Intelligence Analysts

MODEL TOOLS

- BJA Analysis Toolkit – Analysis Toolkit | Bureau of Justice Assistance (ojp.gov)

- NIJ Databases and Software – NIJ-Funded Software Tools, Apps, and Databases | National Institute of Justice (ojp.gov)

- Office of Community Oriented Policing Services (COPS) Introduction Guide to Crime Analysis and Mapping – Introductory Guide to Crime Analysis and Mapping (usdoj.gov)

- BJA National Training and Technical Assistance Center (NTTAC) – Tools and Resources | Working with BJA NTTAC (ojp.gov)

- National Public Safety Partnership (PSP) – Crime Analysis for Executives (nationalpublicsafetypartnership.org)

TRAINING MATERIALS AND OPPORTUNITIES

- Crime Analyst in Residence (CAR) Program – https://crimeanalystinresidence.com/

- Esri ArcGIS Mapping – https://www.esri.com/en-us/arcgis/about-arcgis/overview

- International Association of Directors of Law Enforcement Standards and Training (IADLEST) and National Highway Traffic Safety Administration (NHTSA) – IADLEST > Training > DDACTS > Training

- LexisNexis Accurint Training – Accurint® | LexisNexis® Risk Solutions

- Northeast Counterdrug Training Center (NCTC) – Upcoming Training | NCTC (counterdrug.org)

- Multijurisdictional Counterdrug Task Force Training (MCTFT) – Training – MCTFT

- Risk Terrain Modeling – RTM Intro - Rutgers Center on Public Security (rutgerscps.org)

- Problem-Oriented Policing (POP) Guides – ASU Center for Problem-Oriented Policing

- International Association of Chiefs of Police (IACP): Small and Rural – https://www.theiacp.org/resources/evidence-based-crime-reduction-strategies-for-small-rural-and-tribal-agencies

PODCASTS/YOUTUBE CHANNELS

- Law Enforcement Analysis Podcasts (LEAP)

- Crime Analyst (crime-analyst.com)

- NIRO Knowledge • A podcast on Anchor

- CNA Justice Talks Justice Talks | CNA

- IACA Channel - YouTube

- Manny San Pedro - YouTube

- Excellence in Analytics - YouTube