

CRIME ANALYSIS

CONSIDERATIONS FOR ESTABLISHING OR ENHANCING CAPACITY

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This document is intended as a reference resource for PSP site teams to help sites interested in implementing or enhancing a Crime Analysis Unit.

WHAT IS A CRIME ANALYSIS UNIT?

A Crime Analysis Unit (CAU) is made up of one or more analysts who perform various activities related to the collection, processing, analysis, and reporting of crime trends, patterns, problems, and people involved in crime. Crime analysis personnel conduct a variety of statistical and descriptive analyses using software tools and critical thinking to explain when, how, and why complex social issues of crime, disorder, and quality of life concerns occur. These personnel focus on generating strategic, tactical, and problem analysis that informs the allocation of police resources and develops a comprehensive understanding of complex, persistent crime and disorder issues within a jurisdiction. Information produced by CAUs guides short- and long-term strategies for police responses to crime and disorder. This information is not simply data reporting but actionable information that guides and enables decision-makers to connect police resources and responses with effective strategies.

CAUs are not intelligence or investigatory analysis centers or units¹ that focus on researching specific persons or groups to support case development (versus using data to identify trends, patterns, and problems). Although an analyst is valuable for developing information and performing intelligence analysis techniques on complex criminal groups or organizations, crime intelligence techniques (e.g., social network analysis, telephone toll analysis) focus on the individual case level and do not drive the overall strategy of crime reduction and prevention for a jurisdiction.

CAUs are also not real-time crime centers (RTCC),² which focus on live monitoring of closed-circuit camera surveillance systems and monitoring radio traffic to provide virtual monitoring of patrol activities or oversight for events and/or crowd monitoring. RTCCs have evolved in the United States to include centralizing technologies, combining sworn and civilian personnel, and building analytical processes to guide police responses in high-crime locations or to crimes in progress. The benefits of combining crime analysis functions within real-time intelligence centers have been part of this evolution. The recent evaluation of Chicago Police Department's Strategic Decision Support Centers (SDSCs) indicates that combining crime analysis with technologies that allow for real-time monitoring of police responses can be beneficial for decision-making, crime reduction strategies, and data-driven planning.³ A key finding from this evaluation was that the value of SDSCs transcends simple data processing and presentation of data by careful development and systematic use of data and analysis to support routine awareness and enhance data literacy for the decision-maker.

Several characteristics for enhancing crime analysis capacity should be evaluated by each department. ***Below are nine characteristics that departments should consider for identifying the best organizational structure, data/technology needs, and sustainability efforts that support its current resources and capacity, while also planning for expansion.***

1 From Law Enforcement Intelligence: A Guide for State, Local, and Tribal Law Enforcement Agencies (Carter, D. 2011), "Intelligence is a synergistic product intended to provide meaningful and trustworthy actionable knowledge to law enforcement decision makers about complex criminality, criminal enterprises, criminal extremists, and terrorists." Found online at: https://it.ojp.gov/documents/d/e050919201-IntelGuide_web.pdf
2 Real-time crime centers have also been referred to as real-time 'intelligence' centers. This distinction in name is typically a preference in name by the host agency and/or the functions of the center (e.g., supporting investigations versus patrol).
3 Hollywood, John S., McKay, Kenneth N., Woods, Dulani, and Agniel, Denis. (2019). Real-Time Crime Centers in Chicago: Evaluation of the Chicago Police Department's Strategic Decision Support Centers. RAND Corporation.

Organizational Structure

- 1. Readiness and commitment of your department's leadership.** A department leadership's understanding of the benefits and capabilities of crime analysis supports the development of both human and technology resources within the agency. Leadership should be making decisions about existing human resources (e.g., current analytical staff) and the potential to recruit specific talent based on knowledge, skills, and abilities in computer/data science, applied crime theory, and other statistical fields (see Characteristics 4). In addition to the human resources that are leveraged to create an analysis unit, leadership should plan for an assessment of existing data access and quality (see Characteristics 5) and technology (see Characteristics 6) to plan for future budgetary needs to enhance the sources and tools used to systematize processes and allow for robust analysis.
- 2. Decision on span of control or influence.** The department should evaluate the primary objective(s) or functions that an analysis unit is supporting and the analytic expectations. CAUs with the primary objective(s) to support patrol operations will be embedded within the patrol division responding to a single supervisor at the command level, or several supervisors based on districts or reporting areas. For CAUs with the primary objective(s) to support persistent crime concerns and develop long-term prevention and reduction strategies, should be positioned among executive ranks within the organization, allowing crime analysts to focus on problem- and strategic analysis techniques that seek to understand causations of crime and how governmental system levers can be used to change crime patterns.⁴ Many police agencies have combined these objectives, requiring the unit to be placed at the command level or in a non-aligned position that allows for responsibility across several divisions and functions. This set up allows the unit to focus on strategy for the entire department rather than workload-specific tasks for divisions.
- 3. Organizational structure of CAUs.** Over the last 25 years of developing analytical functions within policing, several organizational structures have emerged. Although the efficacy of one structure or another has not been formally measured, there are general benefits and challenges for each. In general, there are three types of organizational structures for CAUs:
 - Centralized
 - Decentralized
 - Hybrid

In a centralized CAU, all analysts are located within the same workspace, report to a single supervisor, sworn or civilian, and coordinate priorities for either a designated unit (embedded within a division) or across multiple police functions (located within the command structure of a department). For centralized units embedded within a division, single problems and/or analysis tend to focus analytical techniques toward short-term and incident-level problems. As described in the Stratified Policing Model, centralized units located higher in the organizational structure are able to focus on strategic responses to address persistent problems.⁵

In a decentralized CAU, analysts are placed in individual workspaces throughout the departmental structure (e.g., within specific units or divisions), with analysts reporting to different supervisors. These analysts focus on tactical analysis of reported crime patterns and provide lookout information to patrol officers for enforcement efforts or to detectives for case development needs. Each analyst adjusts his or her workload and responsibilities by the district or unit commander and likely has variations in the types of information pushed out to officers or detectives. Based on the workload, and the direction of the district commander, the analysts may also support crime intelligence analysis for “top offenders” in the district or other types

4 Crime analysis within United States police departments has been maturing since the 1960s in balancing tactical, strategic, and administrative analysis processes. These processes are identified by leadership but are also influenced by the political and social demands of an agency. Refer to Gottlieb, Steve and Arenberg, Shel. (1992). *Crime Analysis: From Concepts to Reality*. California Office of Criminal Justice Planning; and Buck, George et al. (1973). *Police Crime Analysis Unit Handbook*. National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, US Department of Justice.

5 See discussion on Stratified Policing Model in Boba, Rachel and Santos, Roberto. (2015). *A Police Organizational Model for Crime Reduction: Institutionalizing Problem Solving, Analysis and Accountability*. US Department of Justice, Office of Community Oriented Policing Services.

of investigative research (e.g., photos, known associates). Departments with decentralized analysts often see variations in the conduct of analysis, and reports are produced based on the variations of the end user(s). These variations may have differential impacts on the agency's mission. However, they do highlight supervisors' differences in how they use analysts.

Some agencies have a hybrid of centralized and decentralized analytical units. Combining the strategic, centralized perspective with the tactical focus of decentralized analysts may provide the department with a balance of analytical support functions and support for specific workloads at the district level. Although this is the ideal aspect of a Stratified Policing Model, these hybrid structures may introduce new complexity into the department if the unit's purpose, and analysts' roles and responsibilities are not clearly defined.⁶ If the agency does not have enough analysts, their responsibilities may be spread too thinly among needs to generate comprehensive analysis. A hybrid structure often involves several supervisors of various ranks and influence over the department's mission. The variations of analytical processes and reporting observed in decentralized units are replicated in hybrid units, as are potential redundancies of analysis from the centralized unit to the decentralized analysts at the district level (e.g., reporting crime statistics).

Departments can evaluate the pros and cons of these organizational structures through peer learning experiences, Bureau of Justice Assistance resources such as the National Training and Technical Assistance Center's Crime Analysis on Demand, or other professional development conferences. Appendix A lists some of the advantages of centralized and decentralized organizational structures.

Table 1. Examples of police departments' organizational structures of crime analysis capacity

	Centralized	De-Centralized	Hybrid
Place in the Organization	Command level	Embedded within one or more divisions	Has a centralized unit at the command level and individual analysts assigned to the division or precinct level
Workspace	Single office with all analysts' primary spaces/desks	Analysts' desks/spaces within assigned districts and/or divisions	Centralized unit is in single location with analysts working together; division or precinct level analysts are dispersed in individual offices
Unit Supervisory Structure	Single chain of command; Civilian or sworn	Multiple chains of command based on assigned districts and/or divisions; usually sworn	Multiple chains of command based on assigned districts and/or divisions including separate for centralized unit; combination of civilian and sworn
Type of Analysts	Typically civilian staff, although some units have dedicated civilian staff with rotations of sworn personnel	Civilian and/or sworn	Civilian and/or sworn
Types of Analysis	Strategic and Tactical	Tactical and Intelligence	Strategic, Tactical and Intelligence (varies by dispersion)
Example Police Departments	<p>Civilian: Charlotte-Mecklenburg (NC), Tucson (AZ), New Orleans (LA), Albuquerque (NM), Shawnee (KS), Tempe (AZ), Orlando (FL)</p> <p>Combination of Sworn and Civilian: Atlanta (GA), New York (NY), Minneapolis (MN), Toledo (OH)</p>	<p>Civilian: Fairfax County (VA), Arlington (TX)</p>	<p>Civilian: Denver (CO), Jacksonville (FL)</p> <p>Combination of Sworn and Civilian: Nashville (TN), Houston (TX); Seattle (WA); Los Angeles (CA)</p>

6 Ibid.

4. Personnel. Recruiting, hiring, and training the right personnel are vital to the success of building analytic capacity. Once the structure and supervision are in place (based on the three considerations described above), the recruitment or re-structuring of current personnel resources should occur.

If your department has personnel within analyst-type roles, it is suggested that their knowledge, skills and abilities be evaluated against industry standards for crime analysis roles and responsibilities. Current analysts may not be performing analytical processes at optimal levels because they are deviating from their intended roles and/or are lacking knowledge, skills and abilities. A training plan for analysts that may be performing some analytical roles and/or have the inclination to change job roles may assist in growing new skills and/or refocusing efforts.⁷ For example, Baton Rouge (LA) evaluated analysts' roles and responsibilities against the job descriptions for crime and intelligence analysts. The resulting gap analysis indicated that work performed by both analyst types did not match industry standards for analytical processes. To address this deficiency, analysts were sent to training courses and additional training plans were developed to support ongoing professional development.⁸

For departments recruiting new personnel, there is no one type of training or education that immediately turns recruits into effective analysts.⁹ An undergraduate degree helps set the basis for a background in math, writing/communication, and completing projects. A graduate degree generally provides additional skills in research, statistics, and a higher level of output. Although applicants with criminal justice-related degrees may have studied crime theory and applications to police responses, departments should not limit themselves to these applicants.¹⁰ Many other degrees provide a background in critical thinking, problem solving, statistics, and applying theoretical constructs to practices. Applying these skills to crime problems can be learned. An individual's capacity to engage in critical thinking and problem solving often are more vital to success than his or her academic study area.

As analytical units rely heavily on technology, departments may seek to recruit persons with additional computer science, data science, and information technology skills (e.g., coding, database architecture, data engineer). Recruiting these personnel may be influenced by available regional, city, or county information technology services or partnerships. Departments may be able to share positions with other departments in their jurisdiction, or they may find they need a dedicated data engineer for the first couple years of developing and enhancing their crime analysis capacity.

Although jurisdictions have similar needs in terms of analytic support, individual agencies are likely to have custom needs based on their internal police capacities as well as other city/county departments that may be supporting them, such as information technology units or centralized dispatch facilities. For smaller agencies, the analysts often needs to be a "jack of all trades" to provide support for administrative, tactical and strategic analysis. Whether agencies are large or small, analysts should be cross-trained and have the ability to support all analysis needs even if there is some specialization of the daily responsibilities. This training may range from using analytic tools to applied research skills, depending on an analyst's background and the department's needs.

Finally, communication skills—both verbal and written—are extremely important. Crime analysts should be able to communicate with police personnel at all levels as well as external stakeholders, such as other government

7 Global Advisory Committee. (2015). *Analyst Professional Development Road Map*. Bureau of Justice Assistance, US Department of Justice. See also International Association of Crime Analyst resources at <https://iaca.net/>.

8 See Herbert, J. and Hubbert, N. (2019). *Building Analytical Capacity: Baton Rouge (LA) Police Department*. Bureau of Justice Assistance, US Department of Justice.

9 Although an understanding of police systems (from experience in dispatch or records) provides an advantage in learning those tools, it does not necessarily translate into critical thinking and analyzing data. Prior law enforcement experience should not be a prerequisite for analytical roles.

10 Higher learning programs across the criminal justice field have grown to include minors and/or concentrations in crime analysis, geospatial analysis, and other applied sciences to the police field. Because not all college programs are created equal, the evaluation of course work and/or potential exposure during a person's educational career should be considered during recruiting.

officials and community and business owners. Exposing crime analysts to roll calls and internal department briefings, with the explicit role of presenting information, will help analysts develop public speaking skills. Some analysts may be required to speak at government meetings and community meetings; these analysts will require the ability to convey transparency with the community and avoid confusing technological jargon.

To ensure success, these analysts' roles and responsibilities are defined and communicated throughout the department. (See Characteristic 8).

Data and Technology

The goal of analysis is to have timely, relevant, and actionable data for decision-makers. To achieve this goal, there are three critical needs/characteristics:

- Access to relevant data sources
- Supportive technology (e.g., hardware, software, data storage)
- Personnel resources that support technical and data processes

5. Access to relevant data sources. Analysts must have access to data sources—both crime and non-crime—that allow them to generate a comprehensive understanding of community safety issues and to produce timely and relevant information and products. The combination of these data sources allows analysts to accurately identify and analyze trends and problems that may be affecting other city/county departments and non-governmental stakeholders. Once a problem has been analyzed, the most effective policing responses are often performed in conjunction with these other stakeholders.¹¹

For example, if the only way an analyst can extract information for analysis is through requests to information technology and/or a vendor, the timeliness and relevance of data decrease because of procedural delays. The preferred access to department data is directly through the analysts' ability to conduct data queries and extractions from the source databases. Timely and direct access to data from multiple internal sources (e.g., CAD and RMS data) allows analysts to leverage their systematic research and problem-solving assessment skills to identify and explain crime problems.¹²

Departments should conduct annual data source and access inventory to determine the relevancy of internal, external and third-party data sources. Table 2 below provides some examples of data sources valuable to crime analysis.

Table 2. Examples of data sources for an analytical unit

Internal Data Sources (e.g., owned by department)	External Data Sources (e.g., City or County data files)	Third-Party Data Sources (e.g., either through licensing and/or open research)
Calls for service records	Housing, assessor and land use files	Public records data
Reported crime records	Business licensing and permitting (e.g., alcohol, gun)	Criminal justice resources for investigations (e.g., LiNX, Accurint)
Field investigation/contact cards	Hospitals and schools	Property recovery records (e.g., LEADS Online)
Criminal intelligence databases	Census	
Traffic crash and citation records		

11 In addition to data sources that are available (both internal and external to the police), crime reduction efforts often require primary data collection. For an excellent overview of this topic, see Schmerler & Velasco discussion on pages 83-88 in Bair, S., et al. (2001). Advanced Crime Mapping Topics. National Law Enforcement and Corrections Technology Center, University of Denver. Found at https://www.justnet.org/pdf/cmap_adv_topics_symposium.pdf.

12 The analysts or a data engineer should ensure that queries are captured and saved within the system or an analytical playbook to ensure reproducibility and repeatability in analytical processes. For more on this topic, see Plesser, H. E. (2018). Reproducibility vs. Replicability: A Brief History of a Confused Terminology. *Frontiers in Neuroinformatics*, 11, 76. doi:10.3389/fninf.2017.00076.

6. **Supportive technologies.** The technology used to support the collection, storage, management, and analysis of data dictates different workflows and pace of analysis. Departments should evaluate the type of hardware, software, and data storage currently available and identify areas where technology planning could support more modern or robust features (e.g., cloud analytics).¹³ The technical system requirements of analytical software (e.g., SPSS, Qlik, Power BI, Tableau) and/or supporting platforms (e.g., ArcGIS) will also dictate the hardware needed by analysts to support running multiple applications and/or working with large, complex data sets. Analyst workstations often require more powerful central processing units and higher capacity of memory than the department's standard-issue laptops have.

Some analysts have developed more technical skills to provide this support within a unit. For example, the Fayetteville (NC), Police Department has technical support personnel within their Crime Information Center because of its involvement in developing systems applications and other software packages that have systemized its data collection, processing, and reporting. Another example is the Sonoma County (CA) Sheriff's CAU's development of a web portal to provide access to city, county, and state data systems that allows sworn personnel to do their own information retrieval.

7. **Personnel resources to support technical and data processes.** Part of enhancing a department's analytical capacity is improving data quality and management practices. This includes the field or form normalization within CAD and RMS (e.g., limiting numerical characters for zip codes, address verification, geocoding) to improve the accuracy of collected information. These process improvements may require a database administrator, software programmer, or data engineer to adjust codes, lists, or other field variables. Personnel to support these efforts may be found within the city or county information technology resources, third-party vendors, or through consultant contracts.

Sustainability

Once a department has in place the structure, data, technology, and personnel, what else should it consider moving forward?

8. **Marketing the unit.** It is important not only for executives and command staff to see the value of a CAU but for all personnel within the department (e.g., patrol, records, detectives, crime prevention specialists) to be made fully aware of how crime analysis can support their functions. The department needs to be proactive and have a communications plan for marketing the new and/or enhanced crime analysis functions.

Initially, the department should conduct an assessment of current perceptions. Many officers either are not aware of the value or what crime analysis means or, even worse, they have a negative perception based on experience. It is common for agencies without a unified vision and voice for their analytical unit to have officers within police units view crime analysis as only for command staff. Furthermore, based on officers' experience seeking an analyst's input and not receiving the requested information, they may not seek assistance again.

Once an agency has an understanding of its current situation and gaps in communication, as well as plans for moving forward, developing an internal communication plan will ensure that all department personnel are aware of what crime analysis does and does not do. An internal communication plan can best be achieved through multiple channels, e.g., by analysts attending patrol briefings, investigative and specialty unit meetings, and by creating an intranet portal focused on crime analysis. Also important is a feedback loop from your customers (e.g., periodic user experience surveys or a bulletin board) can help sort out what is working and what is not is.

¹³ Reference discussions on technology in Harris, Matthew, et al. (2013). *RMS Technical Requirements for Crime Analysis*. International Association of Crime Analysts, and Hollywood, John et al. (2015). *High Priority Information Technology Needs for Law Enforcement*. RAND Corporation.

9. **Enhancing your analytical capacity.** Over time, a department's crime analysis capacity should grow based on staff's knowledge, technical capabilities, training, and exposure to advancements in the field. This growth will determine how to best use these resources to provide analytic support across the organization. Investing in current resources through professional development training and learning opportunities is essential for the sustainability and enhancement of the department's efforts. Professional development plans for analysts is critical to stay current on techniques, application of theory, and lessons learned from the field. Professional development sessions may be classroom or conference training, online classes or webinars, or reading. People have different learning styles, and some may be able to watch a webinar or take a class online, whereas others need the structure and interaction of a classroom.

Encouraging and providing opportunities for analysts to network with other policing, criminal justice, government, and community-based organizations is also important. Crime analysts should be networking on a regular basis, and not solely with other analysts. Networking might be with an organization that works on the crime problem or with technical personnel such as GIS or urban planning professionals.

Further enhancing the department's capacity, if not through establishing new requirements, may require developing partnerships to augment current resources and maximize department efforts. Below are a few examples:

- Volunteers can monitor camera systems, process traffic citations, or create analysis tools and produce regular maps and reports. Many volunteers are well educated and eager to assist. Some may be retirees from analytic professions who can bring new skills and insights.
- Interns can supplement both day-to-day activities and one-time projects. They should be selected based on their skills, abilities, and interests. Some can provide data entry assistance, others with technical or analytic skills can provide a higher level of support. These individuals may be recruited through professional organizations or academic institutions based on paid or unpaid requirements.
- Light duty personnel can augment data entry or specific analytical projects temporarily. Some agencies have employed these personnel to assist with evaluating online reporting data (e.g., crime solvers, property or identify theft reports) for trends in property crimes or identify theft cases.
- Research partners can collaborate on both applied policing efforts and evaluations. Although it is valuable to partner with local researchers, it is more important to find the person with experience on that topic and/or who has worked on the department's specific policing issue. Researchers can also provide a higher level of rigor to evaluate both crime reduction efforts and program effectiveness, which may benefit the department's future requests for funding and/or capacity building.

CITY HIGHLIGHT
RESEARCH PARTNERS

Miami (FL) Police Department (MPD) began their crime analysis enhancements using a BJA Smart Policing grant. MPD evaluated their current analytical capacity, data and tools, and recognized change was needed. In addition to receiving crime analysis fundamentals and problem analysis training, the research partner embedded two graduate students within the CAU to enhance data processing and application of crime theory and police responses. A summary of the changes from the researchers' perspective can be found in [this article](#).

ADDITIONAL RESOURCES ON ENHANCING CRIME ANALYSIS CAPACITY

-  [BJA Analysis Toolkit](#)
-  [International Association of Crime Analysts](#)
-  [Center for Problem-Oriented Policing](#)
-  [BJA Public Safety Partnership Crime Analysis Community of Practice](#)

NATIONAL PUBLIC SAFETY PARTNERSHIP

CITY HIGHLIGHT – TULSA (OK) POLICE DEPARTMENT



In March 2019, Tulsa (OK) Police Department (TPD), a 2018 PSP site, requested an assessment of their crime analysis capabilities via BJA's National Training and Technical Assistance Center (NTTAC).¹ Using the assessment report as a guide, as well as an educational summit held in November 2019 for TPD and stakeholders, TPD is implementing change. The following describes background on TPD's crime analysis capacity, recommendations provided for leadership, steps taken to enhance their crime analysis capacity, and future plans for change.

The City of Tulsa has approximately 400,000 residents across 200 square miles. TPD is the primary law enforcement agency within the city with the mission "To apply all knowledge, skills and available resources by working in partnership with our community to provide quality service, protect life and property, prevent crime and resolve problems so people can live without fear in a safe environment." To achieve this mission, the PD has 808 officers working in Bureaus of Operations, Investigations, and Administrative.

As of 2019, TPD's crime analysis capacity was decentralized throughout all bureaus with a combination of civilian and sworn analysts (total number = 9). The Operations Bureau, with primary responsibility for patrol, hosts a civilian analyst within each patrol division. These analysts provided administrative support to the commander, as well as some tactical support to field officers. The Investigations Bureau hosted civilian analysts within the Detective Division and both sworn and civilian analysts in the Special Investigations Intelligence Unit. These analysts supported case research. Last, the Administrative Bureau hosts one sworn and one civilian analyst within headquarters responsible for executive-level and external statistical requests.

All analysts reported to sergeants in their respective divisions. Similar to most agencies without a unified vision for the use of analysis, most of the analysts' tasks involve case support or administrative reporting. The types of products, level of sophistication, and use of data varied widely across personnel (based largely on the understanding of analytic value by the requestor and skills and abilities of the analyst). Several sergeants and detectives also performed some analysis or developed basic crime statistics.

TPD uses a variety of data as well as analysis-related software programs and tools, most of which are common to police throughout the country. The City of Tulsa IT supports TPD for technology management and application development, both internal as well as for the public.

The assessment provided recommendations to enhance TPD's analytical structure, use and access of data and technology, and sustainability of crime analysis. TPD leadership evaluated these recommendations and used them to develop implementation plans within their current and potential resources. The following summarizes these recommendations and provides initial steps taken by TPD in implementation.²

1 This assessment was performed by Julie Wartell of the Problem Analysis Group. Ms. Wartell is a subject matter expert with BJA's Crime Analysis on Demand initiative and brings both domestic and international perspectives to the use of analysis within policing.

2 These recommendations may apply to several agencies. Implementation strategies will vary according to agency size, resources, expertise, and leadership priorities.

Organizational Recommendations

- Create a centralized or hybrid structure for crime analysis
- Develop a crime analysis career track

TPD Organizational Strategy: In January 2020, TPD moved to a centralized CAU under the direction of the crime lab director. TPD leadership felt that moving to a centralized unit under a civilian manager would be the most effective way of implementing other changes related to consistency of analysis processes and products, professional development of analysts, developing policies, and effectively supporting the entire organization.

Data & Technology Recommendations

- Include crime analysis in information technology purchases/implementations
- Automate regular maps and reports
- Evaluate the use of current and potential analysis tools and products
- Develop user-friendly mapping and analysis tools
- Create a data warehouse/portal
- Produce a list of crime analysis data and products
- Increase the types of data used regularly and supplement analysis with data beyond traditional, internal ones

TPD Data & Technology Strategy: TPD has begun the process of evaluating their current data, technology, and tools to determine a more efficient and effective way of getting crime statistics and crime analysis reports disseminated within the department and to the public. This will likely include the automation of some crime statistics through the implementation of customized dashboards co-developed with City IT, as well as other analytical processes.

Sustainability Recommendations

- Provide a variety of products to assist with both tactical and strategic/problem analysis
- Supplement crime analysis with volunteers and interns
- Provide training for analysts
- Market crime analysis to all personnel, including patrol, detectives, and command staff
- Use crime analysis for assessments of crime reduction efforts
- Expand partnerships with external academic institutions/researchers
- Identify and use grants and other funding resources for crime analysis
- Participate in relevant associations and network with other crime analysts

TPD Sustainability Strategies: As a key component of this shift, TPD held a one-day summit to educate managers, analysts, and other stakeholders on the value of crime analysis, the reason for internal changes, and how the changes will occur. This summit allowed TPD leadership to share their long-term vision for enhancing the use of data within the department. It also provided an opportunity for stakeholders to engage with the TPD to clarify needs and further understand the direction of the department. Similar sessions may be developed in the future as TPD continues to implement changes.

APPENDIX A: CENTRALIZED AND DECENTRALIZED CRIME ANALYSIS UNIT ADVANTAGES

Centralized CAU Advantages	Decentralized CAU Advantages	Ways to Handle the Converse Situation
Some technology/equipment is expensive and can be better shared (such as a big plotter for maps)		Analysts can travel to other divisions/units that have large, expensive equipment when they need
Network/Internet connections may be slower at stations and other "field" locations		Make more of an effort to equalize area stations' technology
Analysts can learn from one another and be better resources when sitting together (and can cover for each other during absences)		Ensure that the analysts receive consistent training and meet regularly to discuss common issues and problems
	More opportunity and easier for "customers" (cops and detectives) to see and talk to analysts, therefore more apt to use	Analysts can be assigned by area or investigative unit and should attend briefings/line-ups and inv. meetings, go on ride-alongs, etc.
Reduces the opportunity for the Division Commander to adopt the analyst as his or her personal assistant, computer helper, etc., rather than spending time as the division's analyst	Analysts can be more immersed and better understand the needs of the division or investigative unit	Commanders should be held accountable— either the CAU manager being a civilian equivalent in rank and/ or through a "service agreement" (see Northern Ireland's model)
The focus and work product are solely crime analysis-related		Ensure that the analysts get consistent guidance and reminders that crime analysis is their #1 priority