Case Study
Northern Ohio Violent Crime Consortium

Introduction

The Cleveland Division of Police, on behalf of the Northern Ohio Violent Crime Consortium (NOVCC) and the Northeast Ohio Regional Fusion Center (NEORFC), received a grant from the U.S. Bureau of Justice Assistance through the Institute for Intergovernmental Research as part of the Nationwide Crime Analysis Capability Project. As a member of NOVCC, the NEORFC was aware that NOVCC had successfully established and/or enhanced the crime analysis capacity of eight northern Ohio cities—Akron, Canton, Cleveland, Elyria, Lorain, Mansfield, Toledo, and Youngstown. This grant was to be used to build on the infrastructure, knowledge, and experience of NOVCC to obtain refined data for mission analysis at the NEORFC, to develop crime analysis understanding and capacity in targeted suburbs in Cuyahoga County, and to enhance the NOVCC regional partnership.

The objectives of the project were as follows:

1. Replicate/expand a successful regional crime analysis initiative
2. Evaluate the new crime analysis effort identifying lessons learned and recommendations for the future
3. Provide the regional partnership perspective to the toolkit

This document provides background on NOVCC and its activities related to crime analysis readiness assessment, training, and regional data sharing to provide context to the tools contributed by this project to the overall Crime Analysis Toolkit.

Agency Background

An Edward Byrne Memorial Justice Assistance (Byrne) grant awarded by the U.S. Department of Justice to the City of Cleveland, Ohio, in October 2007 marked the beginning of NOVCC, with the first Executive Committee meeting held on October 31, 2007. The purpose of NOVCC is to promote data-driven decision making and the use of evidence based-practices to prevent and/or reduce violent crime in participating law enforcement jurisdictions in the Northern District of Ohio. At the inception of NOVCC, there were major differences in the knowledge and experience of the original eight police departments in relation to intelligence-led policing, crime analysis, and evidence-based practices. The majority of cities had no crime analysis capacity. In fact, one of the original police chiefs explains today that in the first meeting of NOVCC, he was not familiar with some of the terms and concepts being put forth. To the credit of this chief and the other departments, as of 2017, all continue to participate in NOVCC and have implemented new practices within their departments based on their involvement.

As of January 2017, the NOVCC Executive Committee, chaired by the U. S. Attorney for the Northern District of Ohio (USAO), includes 37 agencies (list attached) with a total of 123 individuals who participate in monthly meetings, set the direction of NOVCC, and work collaboratively to reduce violent crime. Other community partners such as social service providers, religious leaders, and community activists participate as needed to implement evidence-

based strategies designed to prevent and/or address violent crime. A management team of USAO and City of Cleveland staff members, university professors, and a project management consultant comprise the Administration Committee, which ensures full implementation of consortium activities conducting all planning, development, and evaluation activities. Although the original Byrne grant provided fairly significant funding to selected participating agencies, funding varies based on grants received but generally is limited. Participating cities receive some resources, but the value of participation is in the more effective and efficient operations to address violent crime in their communities.

As of 2016, many northern Ohio cities faced population declines and violent crime rates above the national averages, as they have historically. As revealed in the table below, two NOVCC cities—Canton and Mansfield—experienced substantial violent crime increases, and three cities had reductions in violent crime that were not keeping pace with the 16.5 percent national reduction in violent crime for the period between 2006 and 2015. Cleveland UCR data for 2015 were not available as of this writings; therefore, 2014 data are presented here and local statistics are described below.

City	Population (2005)	Violent crimes (2005)	Population (2015)	Violent crimes (2015)	2005 VC Rate per 100k	2015 VC Rate per 100k	VC % change (2005-15)
Akron	212,272	1,265	197,587	1,168	595.93	591.13	-0.8
Canton	79,940	668	72,111	814	835.63	1128.82	**35.09**
Cleveland	458,885	6,416	388,072#	5,186#	1398.17	1336.35	-4.42
Elyria	54,216	197*	53,775	149*	363.36	277.08	-23.74
Lorain	67,945	341	63,647#	245#	501.88	384.94	-23.30
Mansfield	50,579	161	46,605	228	318.31	489.22	**53.69**
Toledo	305,107	3,725	279,552	3,156	1220.88	1128.95	-7.53
Youngstown	77,747	917	64,608	474	1179.47	733.66	-37.80

*Notes: *Data provided by Elyria Police Department; all other crime data provided by FBI, UCR. #2014 data reported.*

The 2015 UCR data for two of three largest NOVCC cities (Akron and Toledo) indicate a very slight increase in homicides rates for each city from the previous year. Akron increased from 13.1 to 14.2, and Toledo increased from 8.5 to 8.6 homicides per 100,000 persons. Aggravated assault rates increased in Toledo from 1091.2 in 2014 to 1128.9 in 2015 but decreased for Akron (686.2 in 2014 to 591.1 in 2015) during the same period (Fbi.gov). More fatal shootings (n=136) were reported in Cleveland in 2016 than in any year in the previous decade (Cleveland.com). Other local statistics for 2015 reveal that violent crime increased by 13 percent in Youngstown when compared with statistics for 2014. For the same period, gun violence increased overall. Robberies and aggravated assaults with a gun increased 28 percent and 32 percent, respectively. More positively, the number of gun-related homicides decreased from 19 to 13 (32 percent).

Despite these citywide trends in violent crime, NOVCC cities have experienced reductions in violent crime, at least partially through the application of crime analysis and evidence-based practices. One example is the Canton Police Department Community Interaction Initiative, developed and implemented from 2014 to 2015. Initially, Canton analyzed data from January 2001 to May 2007, 2012, and 2013 to identify a narrowly focused geographic area with the highest

levels of violent crime. Two officers (rotating every 60 days) were temporarily assigned to this area to conduct foot patrols, vacant house documentation, neighborhood canvasing, and environmental evaluation, along with enhanced documentation and reporting. In addition, a multiple-agency team identified offenders who live in or had an effect on the neighborhood and then met monthly to understand and discuss effective strategies to prevent and reduce violent crime involving these individuals. Finally, a community partnership was established by the police department with the councilman, a neighborhood group, and city representatives (street, sanitation, law, fair housing, building/code, and health) to develop a comprehensive plan with short- and long-term objectives to reduce violent crime in the targeted area. The results of these efforts were impressive when 2014 and 2015 data from February through April were compared. Total reports decreased by 26.5 percent, violent crime decreased by 56 percent, and quality-of-life complaints decreased by 52 percent. Citywide, violent crime decreased by 11.5 percent and quality-of-life crimes decreased by 16.3 percent over the same time period. In addition to the greater reductions in crime in the targeted area, the Canton Police Department also identified improvements to be incorporated in future initiatives. The measurement of violent crime and quality-of-life crime are now more inclusive, and comparison of data against multiple years or the average of multiple years will be pursued when resources permit.

Crime Analysis

Historically, many northern Ohio police agencies have lagged behind agencies from other areas of the country with regard to crime analysis capacity. As stated previously, many of the NOVCC police departments were not employing crime analysis when NOVCC began in 2007. In 2010, NOVCC developed and conducted a Crime Analysis Readiness Assessment (CARA) of the eight NOVCC police departments. The items on the CARA focused broadly on the following three areas that are critical to effective implementation of crime analysis in an agency:

- Support (administrative and organizational)
- Data (accuracy, completeness, history of use, partner agency capacity)
- Resources (staff, information technology such as crime analysis software, IT/IS capacity, funding, and partnerships with other local, state, and federal agencies)

Multiple questions were posed to each police department. The results of the following question showed a wide range of responses requiring NOVCC to implement activities that accommodated the diverse needs of partner agencies:

 "On a one-to-ten scale, with one being not at all ready and ten being completely ready, how would you rate your agency's readiness to engage in routine crime analysis?"

The results ranged from 10 to 1 as follows:

Ranking	No. of agencies
1	2
2	1
3	2
4	0
5	0
6	0
7	1
8	1
9	0
10	1

NOVCC uses the definition of crime analysis presented in the 2013 publication *Crime Analysis and Crime Mapping* by Rachel Santos:

> Crime analysis is the systemic study of crime and disorder problems as well as other police-related issues—including sociodemographic, spatial, and temporal factors—to assist the police in criminal apprehension, crime and disorder reduction, crime prevention, and evaluation.

A review of literature (e.g., International Association of Directors of Law Enforcement Standards and Training, 2015; International Association of Crime Analysts, 2014; Santos, 2016) illustrates four distinct types of crime analysis: tactical, strategic, crime intelligence, and administrative (IACA, 2014). Assessments and demonstration projects guided by college professors indicate that the original eight NOVCC police departments use each of the four generally recognized types of crime analysis with designated civilian and/or sworn staff members. Some departments designate staff members to conduct crime analysis on a part-time basis, with the greatest commitment by one agency at seven full-time equivalency staffing. Commitment to staffing is not necessarily related to the size of the agency/jurisdiction. The largest agency in NOVCC employs one full-time equivalent analyst. Examples of the types of crime analysis conducted by these departments are explained below.

Crime Intelligence Analysis:

This type of analysis focuses on people involved in crime including repeat offenders, repeat victims, and criminal organizations. Daily or monthly reports are produced from incident data, call-for-service data, field interviews, data from non-law enforcement agencies (prosecutor's office, corrections), and various intelligence methods (social media, informants, surveillance). NOVCC encouraged the use of intelligence-led policing through the collection and analysis of information producing actionable intelligence with tactical responses to threats and/or planning related to emerging threats. NOVCC agencies have produced intelligence products including prolific offender reports, known offender activity, link analyses of individuals involved in criminal organizations, and analyses of criminal networks and markets. The NEORFC focuses primarily on crime and homeland security intelligence analysis. Homeland security intelligence analysis is

concerned with individuals and organizations involved in terrorism and related threats to critical infrastructure and mass gatherings. The NEORFC's primary mission is homeland security, with a secondary mission to support traditional crime control operations.

Tactical Analysis:

Tactical analysis focuses on short-term problems identifying repeat incidents and patterns of crimes that are not easily linked together. Information from incident reports, call-for-service data, known offender data, and field reports is used on a daily or weekly basis to produce short crime bulletins and briefings. Tactical analytical products include relevant spatial and demographic information (i.e., offender characteristics, maps, forecasts) that assist in offender apprehension and short-term suppression tactics. NOVCC agencies produce repeat incident location reports and maps with infrequent use of threshold analysis. Spatial analysis in the form of crime mapping is used extensively to identify patterns. Some agencies have employed spatial forecasting techniques including geographic profiling and risk terrain mapping; however, this is limited. Most NOVCC agencies produce temporal analysis and forecasting, including aoristic analysis. In addition to spatial and temporal data, most NOVCC tactical bulletins feature offender analysis and identification methods to link crimes including information on modus operandi, characteristics of the person or vehicle used in the crime, and relevant field information. The structure of NOVCC facilitates cross-jurisdictional pattern identification. Agencies share analytical bulletins, and efforts have been made to establish and improve a regional data-sharing system.

Strategic Analysis:

Strategic analysis focuses on long-term problems. In addition to incident reports and call-for-service data, strategic analysis may include primary data collected from observation, published research, surveys, and interviews. Strategic analytical products are longer reports that focus on trends, hot spots, and problems. Strategic analytical products are disseminated monthly or annually with the goal of impacting long-term patrol allocation and crime-prevention strategies and community engagement efforts. NOVCC agencies have engaged in several problem-oriented policing (POP) demonstration projects. The POP projects have provided several opportunities for NOVCC agencies to use strategic analytical methods and statistics. Agencies have utilized the Scanning, Analysis, Respond, and Assessment (SARA) model to organize these initiatives. Agencies routinely present their strategic products during NOVCC meetings.

Administrative Analysis:

This type of analysis employs a variety of methods and techniques to serve the needs of the agency, its government, and the community. Administrative analysis takes many forms including production of crime maps and statistics for use by the general public or government officials, workload calculations by area and shift, responses to media requests, statistics for grant applications, and evaluations of police programs. NOVCC agencies produce a variety of administrative analytical products regularly and on demand. All agencies produce products in response to community, media, and governmental requests. In addition, NOVCC agencies have used administrative analysis to reconfigure patrol areas and shifts. Some agencies are using officer activity reports to inform deployment decisions. Agencies rarely evaluate their own programs.

Scope of Project

The Nationwide Crime Analysis Capability Project invited an additional 12 police or sheriffs' departments and the existing NOVCC agencies to a kick-off session on February 24, 2015, to introduce the initiative and its goal to establish or expand crime analysis capacity. Though all agencies participated in at least some of the activities of this project, ultimately four suburban police departments have shown a commitment to incorporating crime analysis into their operations.   While it was anticipated that this project would allow NOVCC to begin to conduct regional crime analysis, that objective has not yet been achieved.

NOVCC operations have been sustained over a number of years incorporating the following components:

- A clearly defined purpose
- Partnership development and maintenance
- Organizational assessments and change plans
- Training and technical assistance
- Data collection and analysis
- Demonstration projects using evidence-based practices
- Information sharing and evaluation

Operations are guided by the following underlying principles:

- Past assumptions will be questioned and changed when indicated.
- New knowledge, experience, and skills will be acquired.
- Application of new strategies will comport with the status of and realities of each organization.
- Partner agencies will share their experiences (both successes and failures) and provide assistance to other agencies as needed.

Because of the time parameters (originally 18 months) of the Nationwide Crime Analysis Capability Project, NOVCC focused on the selected activities as follows:

- Engage existing and new agencies to champion expansion or establishment of crime analysis capacity.
- Participate in crime analysis readiness assessment.
- Identify and address immediate needs to enhance or establish crime analysis capacity.
- Implement a regional response to identified crime problem(s).
- Contribute to national toolkit.

The following logic model was developed to assist in defining and organizing the work to be conducted.

	The Northern Ohio Crime Analysis Network: LOGIC MODEL				
Resources	**Activities**	**Outputs**	**Short-Term Outcomes**	**Intermediate Outcomes**	**Long-Term Outcomes**
1. Personnel in LE agencies (administration and analysts) 2. Project management team 3. NOVCC Network 4. Data and crime analysis reports 5. Technology (hardware, software, information systems) 6. Previous experience in developing crime analysis capacity 7. Research on best practices 8. National crime analysis manuals	Engage key individuals to champion crime analysis/establish implementation team	Attendance at meetings; completion of assignments	Commitment to establishing/expanding CA capacity	Autonomous pursuit of enhanced CA capacity	Routine use of CA to drive organizational decision making and reduce crime
	CA readiness assessment organizational change plan	CA readiness report; organizational change report	Identify agency shortcomings in CA and organizational capacity	Begin institutionalizing use of CA and data-driven decision making	
	Implement needed organizational changes to enhance or establish crime analysis capacity	CA training; mentoring support; technology; policies and procedures; staffing; and other improvements	Utilize new technology and skills and improve communications throughout department concerning CA capabilities	More efficient and effective use of resources	
	Implement a regional response to identified crime problem(s)	Report with data analysis, responses to and assessment related to regional crime problem(s)	Enhance understanding of regional crime problem(s); establish protocols information flow at regional/local levels	Reduce regional crime(s) through CA and effective response(s)	
	Contribute to national toolkit	Readiness assessment; training protocols; regional models	Draft documentation	Develop final documentation for distribution	

The primary strategies used to engage agencies to promote crime analysis and implement the project activities included the following:

- E-mail communications and written documents
- A kick-off or orientation meeting
- Regularly scheduled committee meetings
- Individual phone calls and/or meetings

Though these strategies were used throughout the project, there was heavier emphasis on engagement in the first six months. The crime analysis readiness assessment was conducted through an online survey after initial engagement and orientation. Areas addressed included the following:

- Information systems
- Data availability
- Culture of analysis
- Hardware and software
- Staffing
- Organizational support
- Expectations for crime analysis
- Training
- Organizational issues

After completion of the survey by one or more individuals in 13 agencies, responses were analyzed and a composite written report and individual reports were provided to each participating agency. In addition, a presentation and discussion were conducted at one of the regularly scheduled meetings, and individual agency meetings were held as well to identify priority needs.

It was identified that crime analysis training was needed by all agencies. A beginner's crime analysis "boot camp" trained 24 attendees from 18 agencies in a cost-effective manner. The analytical techniques covered over a three-week period included fundamentals of crime analysis, tactical crime analysis, and crime mapping and analysis. Later, software training was offered to 27 attendees from 13 agencies including IBM i2 analyst's notebook essentials, crystal reports, and crime prediction and risk reduction with risk terrain modeling. Finally, trainings on policing strategies designed to address homicides and gun and other violence types were offered with 47 attendees from 26 agencies. Participating agencies agreed to focus on the reduction of gun violence in their communities and used the SARA model to implement demonstration projects. Efforts were made to use the NEORFC to conduct regional analysis around gun violence, but this objective was not achieved.

Successes and Challenges

The most significant challenge faced in the Nationwide Crime Analysis Capability Project was to fully engage the Northeast Ohio Regional Fusion Center (NEORFC) in the initiative. This was primarily due to the change in leadership at the NEORFC from the submission of the proposal for this project to its implementation. The NEORFC director at the time of submission had a vision

and a commitment to expand the role of the fusion center to incorporate a blending of intelligence and crime analysis capacity. The position paper "Crime Analysis vs. Intel Analysis" written by the NEORFC director with two of his colleagues in March 2014 stated, "The current posture of many fusion centers nationwide is, 'bridging the gap' between the principles of crime analysis and intelligence analysis. Fusion centers are tasked with fusing or bridging the gap between local/state crimes and that of our nationwide antiterrorism mission . . . In the opinion of our fusion center, keeping the two principles of crime analysis and intelligence analysis under one command is essential for current gap mitigation . . . crime and intelligence analysis philosophies must continue to work toward blending; not split and march in separate disciplines."

Although the new director of the NEORFC contributed to the Nationwide Crime Analysis Capability Project and multiple meetings were held with those responsible for the NEORFC to explain the benefits of blending crime and intelligence analysis philosophies, intelligence analysis was the priority of the new NEORFC leadership, and staff time was not assigned to conduct regional crime analysis for this initiative. In the alternative, agencies were asked to submit common data on gun violence during a specified time period to better understand whether multiple cities could create a common database with varied information systems. This exercise demonstrated a series of challenges including unavailable data, inability to drill down into available data, missing variables or fields, need to clean collected data, and time required to complete the task. It became clear that at least in northern Ohio, a regional crime analysis structure would not be possible through the NEORFC and an alternative approach would need to be identified.

Research was done on effective regional or metropolitan crime analysis models around the country in New York State, Boston, Florida, and Texas. Considerable time was spent delving into the operation of the New York State Crime Analysis Centers. Conference calls, a formal presentation in Cleveland with 76 attendees from 35 agencies, and presentations and tours at the Erie (Buffalo) and Monroe (Rochester) Centers were conducted for seven NOVCC stakeholders. Building crime analysis in cities that had the highest crime rates made sense for the NOVCC structure because those cities with higher crime rates were already active members of the partnership and were committed to promoting intelligence-led policing and expanding their crime analysis capacity. Also, given the importance of state leadership in the New York Crime Analysis Centers model, the NOVCC initiative expanded its focus to more fully engage Ohio state departments in the crime analysis centers discussion. The final step pursued through the Nationwide Crime Analysis Capability Project was to identify the cities to participate in further planning and then to implement crime analysis centers that incorporate the experiences of other communities around the country and that are adapted to meet the needs of communities in northern Ohio.

NOVCC has been able to successfully engage and sustain multiple law enforcement agencies in a structured partnership to apply data-driven decision-making and evidence-based practices to address violent crime. Though not all of the new agencies invited to establish crime analysis capacity in this initiative took full advantage of this opportunity, several did and are on the path to enhance their crime analysis capacities. Specifically, the following objectives were achieved:

- Expanded the number of law enforcement agencies willing to use crime analysis in northern Ohio
- Enhanced understanding by law enforcement of actions needed to pursue crime analysis

- Developed skills needed to conduct crime analysis
- Learned about regional crime analysis models and continued work to establish metropolitan crime analysis centers
- Established stronger relationships among law enforcement agencies

Conclusions and Implications for Policing

It is challenging to establish and maintain a regional partnership to increase crime analysis capacity and the use of evidence-based practices. Yet, it can help police departments and other law enforcement agencies to embrace new strategies, technology, and relationships to more effectively prevent and reduce violent crime. Based on the NOVCC experience, several factors have been evident within the successful departments and the partnership as a whole that offer guidance to others who may want to pursue such an approach.

Investment of Leadership:

Agencies with leaders who understood and saw the benefits of crime analysis and evidence-based practices showed the most improvement. These agencies' leaders were willing to take time from their busy schedules and the appropriate personnel from their agencies to participate in meetings, trainings, and demonstration projects. They also maintained a sustained commitment over a number of years. When critical personnel changed, new personnel were briefed and assigned to participate in NOVCC. The commitment by leadership also was not based on receiving ongoing financial resources. Ultimately, these leaders were willing to make systemic changes in their operations based on their and staff members' learning and experiences.

Operating Structure:

An infrastructure for the partnership was established to ensure effective and efficient operations including a clearly defined purpose, participation of all relevant agencies, organized communications and meetings, staff members who have the needed time and expertise, and financial resources to implement demonstration projects. Opportunities for sharing, mentoring, and support are available, and agencies having more knowledge or experience in a particular area allow their staff members to assist other agencies. In addition, at every NOVCC Executive Committee meeting, all agencies are given an opportunity to discuss their pressing issues, sharing both their successes and their challenges. Relationships outside of NOVCC operations have also grown and developed. Without this structure and participatory, supportive approach, most likely this type of partnership would not have survived.

Planning, Training, Demonstration, and Evaluation:

The NOVCC management team develops the overall parameters of consortium projects and provides relevant training, and cities adapt and implement their plans to ensure relevancy to their communities. The SARA process is used for many NOVCC initiatives requiring gathering and analyzing local data and identifying the response most likely to achieve the desired results based on review of evidence-based approaches. Ongoing assessment and reporting ensures that process and outcome evaluations occur. Cities are consistently asked to present their projects and the results at Executive Committee meetings and/or training sessions so that others can benefit from lessons learned. Annual individual meetings are held with leadership in the key agencies to obtain

feedback, and periodic organized assessments are conducted by the management team. Modifications in NOVCC operations and projects are implemented based on the results from the annual and ongoing meetings and reports prepared. The overall organization provided by the management team, local control of project development and implementation, and ongoing learning and evaluation enable partner agencies to consistently see the benefits of the consortium, resulting in continued participation.

The Northern Ohio Crime Analysis Network: Logic Model 2017

Resources	Activities	Outputs	Short-Term Outcomes	Intermediate Outcomes	Long-Term Outcomes
1. Personnel in LE agencies (Administration and analysts); 2. Project managment team; 3. NOVCC Network; 4. Data and crime analysis reports; 5. Technology (hardware, software, information systems); 6. Previous experience in developing crime analysis capacity; 7. Research on best practices; 8. National crime analysis manuals.	Engage key individuals to champion crime analysis and establish implementation team	Attendance at meetings; completion of assignments	Commitment to establishing/expanding CA capacity	Autonomous pursuit of enhanced CA capacity	Routine use of CA to drive organizational decision making and reduce crime.
	Participate in crime analysis readiness assessment and create organizational change plan	CA readiness report; organizational change report	Identify agency shortcomings in CA and organizational capacity	Begin institutionalizing use of CA and data driven decision making	
	Implement needed organizational changes to enhance or establish crime analysis capacity	Training (crime analysis boot camp, regional partnership, other related training); mentoring support; updated technology; modified policies & procedures; staffing changes; and other improvements as specified in change plan	Utilize new technology and skills and improve communications throughout department concerning CA capabilities	More efficient and effective use of resources	
	Implement a regional response to identified crime problem(s)	Report with data analysis, responses to, and assessment related to regional crime problem(s)	Enhance understanding of identified regional crime problem(s) and establish protocols for communications and information flow at regional, sub-regional, and local levels	Reduce regional crime(s) through CA and effective response(s)	
	Contribute to national toolkit	Readiness assessment; training protocols; regional models	Draft documentation	Develop final documentation for distribution	