

## **Case Study**

### **Charlotte–Mecklenburg Police Department**

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#### **Purpose**

The primary purpose of this project was to develop a Real Time Crime Center (RTCC) toolkit. The toolkit includes provides a blueprint and supportive documents that can assist law enforcement agencies that are starting, or further developing, an RTCC (which may include potentially integrating a crime analysis division/unit). Agencies that use the toolkit will be able to further expand and enhance their crime analysis capabilities by establishing an RTCC. The toolkit is designed to enable most agencies with the foundational building blocks to integrate the toolkit lessons into their policies, procedures, and departmental cultures. The toolkit is written and prepared to meet the needs of a wide range of agencies, including those with nonexistent, limited, or sophisticated crime analysis capabilities, as well as start-up or fully developed RTCCs. Examples of the sections in the toolkit include the following:

- A framework for developing an RTCC
- A set of options for integrating an RTCC with crime analysis capabilities that already exist, or that might be developed, simultaneously or in the future
- A recommended summary of hardware and software enhancements that would be useful for establishing an effective RTCC
- Suggestions for identifying, recruiting, and hiring capable RTCC and crime analysis staff members

#### **Introduction**

The Charlotte–Mecklenburg Police Department’s (CMPD) law enforcement philosophy is focused on effective crime control and a strong community presence, enhanced through the integration of crime analysis and technologically advanced systems that increase the effectiveness of the department. CMPD has a nationwide reputation for expanding and innovative use of technology in policing and has been recognized at national conferences and in major law enforcement publications. To further enhance CMPD’s capabilities for solving crime in real time, CMPD requested funding to develop a toolkit, including the purchase of software technology that further integrated the situational awareness provided by the RTCC with the data-driven capabilities of CMPD’s Crime Analysis Division (CAD). The development of an RTCC toolkit and technology allowed CMPD and other agencies to proactively identify and respond to crime and disorder concerns and threats and to increase the speed and effectiveness of RTCC operations.

#### **Agency Background**

The Charlotte–Mecklenburg Police Department (CMPD), which employs 1,849 officers and 252 civilians, has a law enforcement philosophy focused on effective crime control and strong community presence, enhanced through the integration of crime analysis and technologically advanced systems that increase the effectiveness of the department. CMPD has a nationwide reputation for expanding and innovative use of technology in policing. CMPD continues to evolve and grow in response to population growth, community expectations, fluctuations in resources,

crime changes, and the challenges of hosting large events, including the 2012 Democratic National Convention (DNC).

During the DNC, CMPD operated the precursor to the current RTCC—the Video Observation Center. Building on the Video Observation Center, the RTCC was launched in 2013 through additional funding provided by the City of Charlotte. The RTCC continuously monitors the city using more than 1,000 surveillance and Charlotte Department of Transportation cameras, an automated license plate reader system, and more than 400 electronically monitored pre-trial suspects. The RTCC operates 20 hours per day (data systems backup and maintenance occurs during the other four hours), 7 days per week, 365 days per year. Staffing for the RTCC includes a captain, a sergeant, and 12 RTCC detectives, most of whom are sworn officers. The RTCC highlights the proactive crime-reduction and prevention capabilities of CMPD. Through efficient monitoring and use of support applications, the RTCC staff often initiates action when real-time information suggests the development of an emerging crime trend or when a serious crime, such as a homicide, occurs.

### **Crime Analysis Capabilities**

Originally established in 2001 and separated as a stand-alone unit in 2008, the CMPD Crime Analysis Division (CAD) is a support unit responsible for continually leveraging technology and employing a set of systematic, analytical processes to provide timely, targeted information and data related to crime patterns and trends. CAD staff members provide direct information and intelligence support to patrol operations and specialized units for their continued use in planning the deployment of resources aimed at reducing and preventing crime at the neighborhood level. In addition, the CAD is responsible for developing and deploying geographic information systems (GIS) technology and other support toolsets for CMPD. CMPD has a team of management analysts assigned to support all types of crime and problem analysis required. The range and types of crime analysis currently conducted at CMPD include:

- Criminal investigative analysis: The study of serial criminals and/or victims to assist in linking together and solving current serial criminal activity.
- Intelligence analysis: The study of organized criminal activity to assist sworn personnel in the understanding of current criminal networks and swift apprehension of individuals to subsequently prevent additional criminal activity.
- Tactical crime analysis: The study of recent criminal incidents and activity by examining characteristics such as how, when, and where crime occurs to identify patterns, trends, and potential suspects.
- Strategic crime analysis: The study of crime and law enforcement information integrated with sociodemographic and spatial factors to determine long-term patterns of activity, assist in problem solving, and plan for and evaluate responses to crime problems.

The capacity of CMPD to perform crime analysis is extensive. The Crime Analysis Division consists of 20 full-time staff members. Three of the 20 staff members concentrate their skills and efforts on the information technology needed by patrol divisions, and a fourth ensures that all jurisdictional maps and addresses are continually accurate. The remaining analysts have varied assignments tailored to their individual skills. CMPD has a diversity of crime analysts, and each

analyst is selected and assigned to specific units and responsibilities (tactical, criminal investigative, intelligence, and strategic crime analysis) to match his or her interests, skills, and abilities.

## **Scope of the Project**

The primary goal of the project was to develop a toolkit that could be used by a range of other law enforcement agencies interested in learning about and potentially establishing an RTCC. A project logic model was developed and used to guide the project team in the development of the toolkit.

During the first six months of the project, the project team reviewed the current staffing, technology, and capabilities of the RTCC in Charlotte, North Carolina. The team worked with CMPD to document the development and evolution of both the RTCC and the Crime Analysis Division. At present, CMPD has a fully staffed Crime Analysis Division (CAD) that has been operational for more than 20 years. CMPD considered the role and impact of the Crime Analysis Division as it developed an RTCC. CMPD eventually decided to staff the RTCC primarily with sworn detectives (although one civilian was hired, a former dispatcher; later an officer, who moved over to the RTCC; and a wounded warrior [civilian], who was hired at a later time). Following is the position description for the RTCC detective:

CMPD Real Time Crime Center detective position description: Interested candidates should have a minimum of two years of experience. Technological skills or experience is preferred. The primary duties of the Real Time Crime Center detective include monitoring priority calls for service and/or significant events by conducting real-time monitoring and mining of technological resources, with the goal of positively impacting crime. Real Time Crime Center detectives are expected to possess a strong working knowledge of available technological resources, such as video cameras, license plate readers, electronic monitoring, and social media, among others, to identify potential suspects and solve crimes. Real Time Crime Center detectives are subject to call-back to respond to crime scenes and critical incidents. The ability to closely work as part of a team and effectively communicate relevant information to officers and detectives is an essential job function. The Real Time Crime Center operates daily from 0700 to 0300, with detectives working ten-hour shifts on a rotating schedule.

Any officer interested in this position should possess the following characteristics: self-initiated—requires little supervision and takes on tasks without being directed; creative—develops information from traditional and nontraditional resources; knowledgeable—legal, operational, and tactical, as well as technologies; proficient—strong working knowledge of investigative resources and technology assets; collaborative—works effectively in a team environment; communicative—high degree of oral, written, and interpersonal skills; committed—willing to put in the time and effort; flexible—both in schedule and in approach.

During the second six months, the project team examined the ways in which the RTCC addresses crime problems in real time and the ways in which other agencies had capitalized on the RTCC's capabilities. For example, CMPD made a decision in 2000 to integrate the Charlotte Department

of Transportation's (CDOT) cameras into what would later evolve into the RTCC video infrastructure. A flowchart on the development of the CMPD RTCC offers some guidance on a number of critical decisions that were made in Charlotte, and it may be useful for other agencies. The flowchart can be accessed under the Organization and Culture category of the toolkit.

When the RTCC became fully operational in 2013, the CDOT was part of the evolutionary process; its traffic camera infrastructure was a force multiplier for what CMPD had previously developed and implemented over the years, and since 2012, when the city hosted the Democratic National Convention (DNC). The DNC included a large sum of money to purchase technology, and much of that technological infrastructure formed the foundation for the RTCC.

In Charlotte, the CDOT owns the majority of the RTCC cameras (more than 1,000 cameras at any given time). A CDOT employee is assigned to the RTCC. He/she is a signal systems specialist who monitors traffic flow during peak hours (6:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m.) from the RTCC. CDOT employees also have access to some of the CMPD databases in order to send out accident/traffic information and send e-mails to local media, emergency services, bus systems, and utilities to proactively alert them when lanes are blocked or traffic flows are interrupted. The CDOT specialists also send out real-time updates on traffic patterns and relay the information to the RTCC screens as incidents occur. The signal specialists try to keep traffic flowing and can change traffic signal patterns as necessary. They also work with signal timing engineers to respond to citizen complaints submitted through 3-1-1 (the nonemergency alternative to 9-1-1). During nonpeak hours, CDOT specialists work at a CDOT center that is housed in another building, but since the RTCC has a modernized infrastructure, they utilize it for peak-hour activity.

Incidentally, CMPD also has a separate Command Center that is similar in some respects to the RTCC. It was technologically designed in a similar manner (numerous work stations, live video feeds, large video monitors on the walls, etc.) to the RTCC, but it is staffed and operational only at certain times (e.g., on July 4, New Year's Eve, during large public events). Otherwise, the room is typically empty and remains unused. Other departments may want to consider a "scalable" RTCC design, which would allow the agency to ramp up operations during peak times, as opposed to having a separate command center.

During the final six months of the project, the project team prepared the toolkit and also examined and documented the organizational structure of the CAD and the RTCC and considered alternative models for inclusion in the toolkit. In Charlotte, the RTCC had direct access to the chief of police. In contrast, the Crime Analysis Division reported to the deputy chief of administration. The decision to allow the RTCC direct access to the chief of police had implications regarding the "organizational profile and status" of the RTCC versus the CAD. CAD had been operational for numerous years, and its work is clearly highly valued within the organization and by the chief. Much of what CAD does guides the department and its overall mission. The range of work products (which include criminal organization flowcharts, call record details, CompStat materials, cell phone tower mapping, offender profiles, etc.) is extensive and fundamental to resolving many cases and meeting numerous organizational objectives.

## **Software Enhancements**

During the project period, CMPD worked with a software firm to install a GIS-based software that integrates disparate applications into one web-based platform. This software is expected to merge the traditional “pin” map with the RTCC. Within this framework, RTCC detectives, CAD analysts, and selected police officers will be able to search and find a pin location through the GIS software, select a specific location, and view a camera feed from this location. This technology is used in conjunction with the 600-plus cameras currently operating in Charlotte and would alert RTCC and crime analysis staff members of key situations and events that are captured on camera and subsequently drive relevant data to the appropriate responding officers and detectives. The integrated software reduced the need for RTCC detectives to log on to multiple different applications and allows them to work across several systems without having to toggle between systems. This technology further enables real-time collaboration via shared situational awareness across the CMPD and externally with other organizations.

## **Project Successes**

One of the primary successes of the project was creating and completing development of a short video that summarizes the technologies and activities of the RTCC in Charlotte. That video can be viewed here—<https://www.youtube.com/watch?v=nQz7YCzM0LA>—and it should help other agencies to easily understand what a RTCC is, how it operates, what kinds of technologies can be integrated, and how this process works in Charlotte.

## **Project Lessons Learned**

Several useful lessons were learned during the project. One is focused on the integration of external sources of video into the RTCC in Charlotte. CMPD worked with several large companies in the uptown area of Charlotte to utilize and access their video feeds. Access to additional video cameras in high-pedestrian-traffic areas provides RTCC detectives with valuable real-time video feeds. Commercial burglary and robbery detectives have mentioned that the integration of private video feeds (for example, from convenience stores) would greatly improve their ability to identify a suspect quickly and potentially avoid further offenses and victimizations. Currently, when officers and detectives respond to a commercial crime, video footage is often available but cannot be quickly accessed by management for various reasons (for example, managers are not sure how to access the information, there are technology issues, or the data is stored off-site). Delays receiving the footage make apprehension more difficult. If these video feeds were available in real time, RTCC detectives would be able to quickly scan the feeds for suspect descriptive information (clothing, direction or departure, cars used, etc.) and provide it to officers before they even arrived on-scene, making immediate suspect apprehension much more feasible. For those who want to explore this issue more thoroughly, the Institute for Law and Justice has a report on the trends and practices of partnerships between public and private security.

Another primary challenge during the project was fully understanding and documenting the conflicting purposes and roles of the RTCC and the CAD at CMPD. It was clear to the project team that the extensive work of the CAD and of crime analysts was also considerably different from that of the RTCC and an RTCC operator/detective. Therefore, sections of the toolkit help to

clarify the different roles and responsibilities of these two units, describe the varying skill sets required for employment in each, and help other organizations think about how best to structure both of these units within their own agencies.

One final lesson learned was that the impact of the RTCC on crime trends remains unclear. It was obvious that the technology used at CMPD was interesting, and it was equally apparent that the camera/LPR infrastructure would assist with law enforcement response and investigative processes. In fact, the detectives in the CMPD RTCC video clearly suggested as much. However, the long-term impact of an RTCC on crime patterns and trends remains uncertain. The extensive costs of setting up and staffing an RTCC need to be justified by its effectiveness. Agencies should consider these resource costs relative to the achieved benefits as they assess whether establishing an RTCC makes sense in their communities and departments.

### **Conclusions and Implications for Policing**

The toolkit is designed to allow most law enforcement agencies to learn about what an RTCC can offer, understand how an RTCC can be set up in a local agency/community, and identify the resources needed to get started. The toolkit clarifies the varying roles of an RTCC versus a crime analysis division/unit and identifies the skills required for employees who work in both environments. The toolkit provides suggestions for developing a standard operating procedure (the CMPD example is included below) that might be used as a model for other agencies; offers guidelines for developing partnerships with interested constituencies within and outside of the organization; and offers recommendations for measuring the effectiveness of RTCC activities. Finally, the toolkit considers the future evolution of RTCCs and examines other technologies that may be integrated.

It seems clear that policing continues to evolve quickly with the adoption and implementation of new technology, greater community access to video, improved transparency, and more efficient responses to crimes in progress. The development and evolution of RTCCs will certainly improve operational efficiency in many situations and across a number of law enforcement agencies. Further, the expanded use of video and other technologies can greatly improve the chances of capturing some offenders in real time and can substantially improve the likelihood of convictions in the future.