



FINAL REPORT

SMART POLICING INITIATIVE



May 2023

Table of Contents

<i>Executive Summary</i>	2
Salisbury Police Department	4
Acknowledgements	4
<i>Targeted Problem</i>	5
The role of data and technology for crime centers	5
<i>SPD’s Challenges and Implemented Strategies for CIC Success</i>	8
SPD Leadership	9
SPD People	15
SPD Technology	20
<i>Community Outreach & Collaboration</i>	25
<i>Data & Intelligence</i>	28
<i>Analysis & Evaluation</i>	31
Evaluation Approach and Methods	31
Evaluation Results, Integration & Sustainability	35
<i>Summary & Conclusions</i>	38
<i>References</i>	40

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Project Overview

Chief Jerry Stokes Crime Information Center

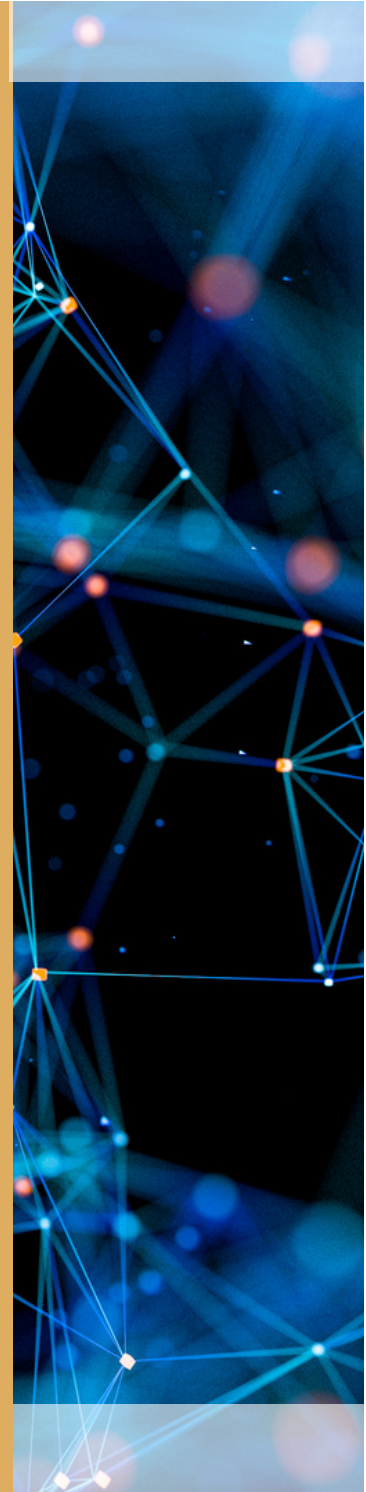


In January 2021, the Salisbury Police Department (SPD) established the Rowan Regional Crime Information Center (CIC). The **CIC is a centralized data and technology center located in SPD headquarters**, wherein regional Rowan County and federal law enforcement agencies are represented and contribute to the process of gathering and sharing information.

It is the **CIC's mission to collect, evaluate, analyze, and disseminate information and intelligence data regarding criminal activity within the City of Salisbury and Rowan County, while following all appropriate information practices to ensure the rights and privacy of citizens.**

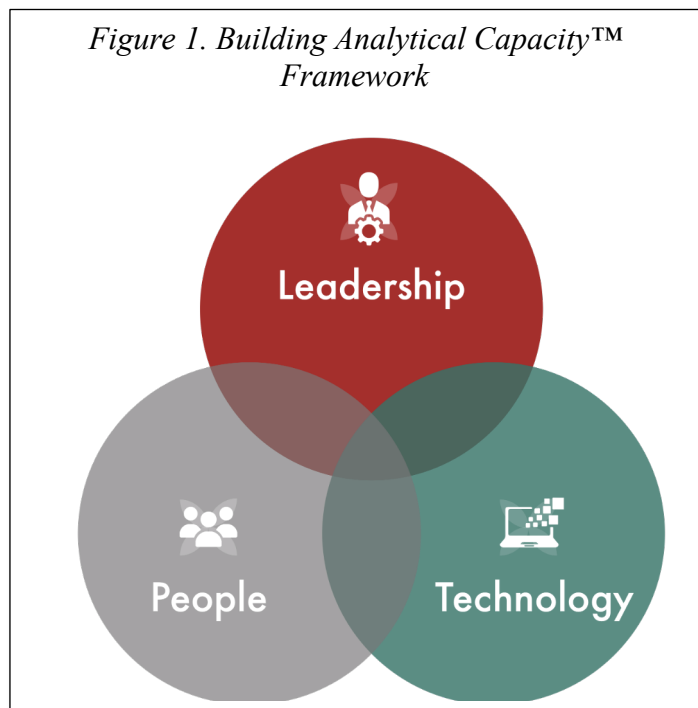
The CIC uses a **variety of data sources and technologies to create timely, actionable, and accurate intelligence and crime analysis outputs** to inform public safety prevention and intervention responses. The uses of analytics to support cases, public events, and other public safety concerns are highlighted in this report.

The **CIC was officially renamed the Chief Jerry Stokes Crime Information Center** by the City of Salisbury during a December 2022 retirement and dedication ceremony.



EXECUTIVE SUMMARY

The transformation of the Salisbury (NC) Police Department (SPD) during the development and implementation of the Chief Jerry Stokes Crime Information Center (CIC) is a model for small, rural police agencies. From the onset, the vision of the CIC was to become a model for small and medium police agencies seeking to implement a data and technology hub for public safety operations. The CIC and its staff have enabled SPD to synthesize leadership, people, and technology processes (see Figure 1) for public safety operations that allows SPD and its regional partners to be prepared, more informed, and safe. The development of the CIC was made possible through the vision of SPD leadership and the fiscal support from the City of Salisbury and the Department of Justice's Bureau of Justice Assistance SMART Policing Initiative grant. The three-year development of the CIC has led to several successes for the SPD in implementing data-informed policing strategies, regional information sharing, and public safety collaborations.



The section, [SPD's Challenges and Implemented Strategies](#), details the challenges, activities, and successes encountered by SPD within leadership, people, and technology processes. These successes have transformed SPD operations to plan, manage, and respond to public safety needs for the city, while being a reliable regional partner for local, state, and federal law enforcement agencies.

These successes and resulting transformation also inform other agencies seeking advanced technology, analytics, and data informed policing processes. SPD's reflections within the [Community Outreach & Collaboration](#) section illustrates the benefits from routine communication, engagement, and education of stakeholders. Multiple public safety incidents detailed through the sections of SPD's [Challenges and Implemented Strategies](#) and [Data & Intelligence](#) exemplify how data and technology support the people – crime analysts or officers – in planning and responding to public safety incidents. During a period of much social and economic insecurities, the added value of the CIC operations for the department are often immeasurable. Our [evaluation approach](#) allowed reflection on the growth and organizational changes as new positions, workflows and processes, and operational procedures were implemented.

The successes of the CIC came with lessons learned throughout the procurement and implementation processes. Small lessons regarding procurement procedures or handling changes to purchase orders allowed SPD to refine processes with future purchases and become regional subject experts. Larger lessons continue to shape the vision and leadership of SPD. The pinnacle lesson of this project has been the need to educate, show, and educate again for internal and external stakeholders. While ongoing efforts to engage in training and technical assistance activities were afforded to several staff, the physical development of the CIC enabled others within the SPD and region to fully grasp the organizational changes and processes for data-informed policing. Routine meetings, outreach, and collaborative approaches for operations advance SPD's leadership as a data-informed and intelligence-led modern police agency.

ACKNOWLEDGEMENTS

The Salisbury Police Department appreciates the support of Ret. Chief Rodney Monroe, Subject Matter Expert Dr. Brenda Bonds, and program staff from CNA Corporation during the SPI project period. We also thank Dr. Jessica Herbert and her staff from IDEA Analytics for supporting the vision, activities, and personnel development for the CIC project throughout the project period.

AGENCY AND REGIONAL BACKGROUND

As the urban center of Rowan County, the City of Salisbury has a population of approximately 36,000 persons in 17 square miles, hosting the county's major shopping areas, local colleges, and a local Veteran Affairs Hospital.¹ The city has experienced cyclical growth over the last 20 years, with recent projected population increasing persistently for the next five years. These projections for population and/or industry growth to the region has positioned the Salisbury (NC) Police Department (SPD) as a key agency to providing public safety services for the residents and businesses. In addition, the SPD coordinates public safety activities with Rowan County Sheriff's Department and the two micro cities contiguous to Salisbury – Spencer, with a population of 3,247 and East Spencer, with a population of 1,558. Rowan County is a rural county in the Piedmont area of North Carolina. The county hosts a total population of approximately 148,000 residents² and accommodates travelers along the Interstate 85 corridor that connects the major urban hubs of Charlotte and Greensboro.

¹ Population based on the Census Bureau, American Community Survey, 2022 estimates.

² Population based on the Census Bureau, American Community Survey, 2022 estimates.

TARGETED PROBLEM

The SPD SMART Policing Initiative (SPI)³ project established the Chief Jerry Stokes Crime Information Center (CIC). The CIC implemented technology innovations such as the use of advanced technologies (e.g., video surveillance and artificial intelligence video processing, advanced analytical data development) to further inform SPD leaders and local stakeholders on crime trends and public safety initiatives. Violent crime in the region has been a primary focus for the communities and law enforcement leaders over the last five years, specifically within city limits. As the urban center of Rowan County, the City of Salisbury is impacted by violent crimes at a higher rate than the county or nearby small cities (see Table 1). These violent crime trends for SPD were the catalysts for creating the CIC. Chief Stokes recognized that the need to have detailed analyses of crime incidents along with advanced technologies to support public safety responses would support the future of SPD efforts to reduce crime.

Table 1. Violent Crime Offense Rates, Per 10k

Location (population 2020)	2015	2016	2017	2018	2019	2020	2021
Salisbury (33,961)	73.91	97.76	66.84	72.73	73.61	73.91	92.75
Rowan County (140,978)	9.51	10.71	6.81	7.80	10.57	13.12	11.49
North Carolina (10.6M)	NR	NR	NR	NR	27.84	28.22	29.89
Kannapolis (49,788)	19.68	23.70	18.08	24.50	26.71	24.50	27.32
Concord (94,147)	14.13	13.17	10.73	10.62	12.43	12.53	8.71

THE ROLE OF DATA AND TECHNOLOGY FOR CRIME CENTERS

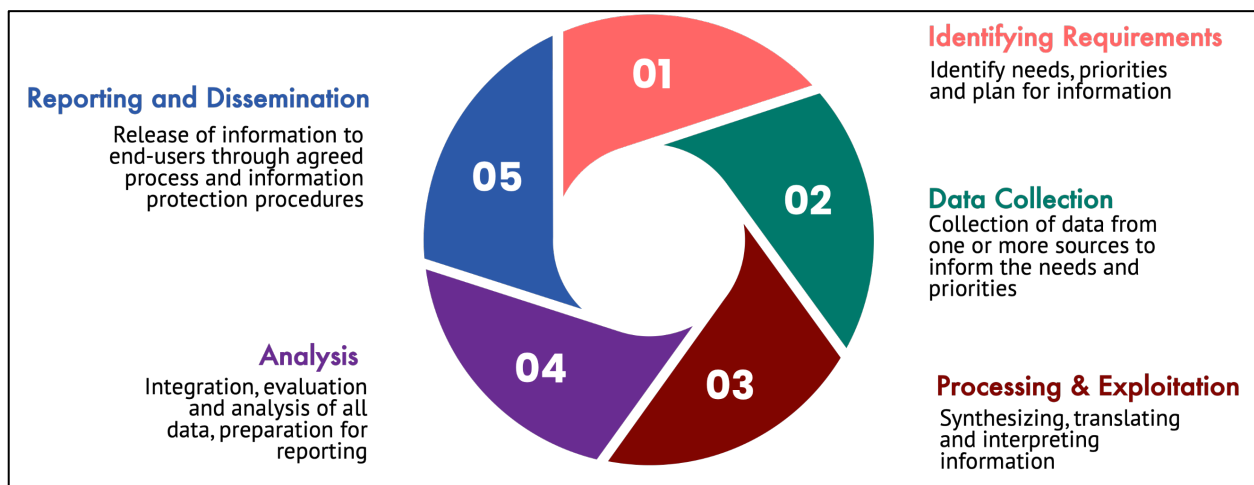
The use of various data sources and technologies to support data-informed decision making is the pinnacle of the SPD SPI project. SPD inherently collects a large amount of data on people, places, incidents, and environmental characteristics. Decades ago, this collection was evident by file rooms and boxes of paper in storage. Today, it is the requirement of robust

³ The SPI program was previously named the Strategies for Policing Innovations during 2019-2020 fiscal years. At the time of this report, the program name returned to the former Smart Policing Initiatives.

computer-aided dispatch (CAD) and record management systems (RMS), the use of video and digital media, and original data collection methods via surveys, service delivery records, and timely analysis that demand police agencies to become experts in multiple technologies. The “big data” demands of policing have called for systemic transformations of building and maintaining data infrastructure, relevant training for officers and analysts, and an understanding of and adherence to the responsible use that comes with this paradigm shift.

However, there are three key shortcomings of technology in the digital transformation of police data. First, many data systems in policing just *collect data*. Police agencies need systems or processes that allow *access, analysis, and reporting of data* in a timely, accurate, and actionable manner. This requires agencies to think about the entire data lifecycle (refer to Figure 2).⁴ The traditional myopic focus on data collection has stunted agencies’ selection of vendors for software platforms solely performing this function, resulting in the burdening of the officer in complex report writing processes and causing organizational information silos.

Figure 2. Data Lifecycle (Graphic Credit: IDEA Analytics)



⁴ The data lifecycle is a five-step process that acknowledges basic processing of information into valuable intelligence for decision makers. The technical skills needed in each of these phases often require multiple personnel to support proper data governance.

A second shortcoming of technology in the digital transformation of police data is the inability for local agencies to effectively implement modern data infrastructure, such as data warehouses or data marts.⁵ Policing information is collected and stored among multiple, disparate data sources (e.g., CAD, RMS, electronic tickets, field investigation cards, license plate reader (LPR) records, video surveillance camera files, digital photography, cell phone records). Each of these data sources have different collection practices (e.g., officer-initiated v. dispatched) and occur at different times of their workflow (e.g., initial call, supplemental follow up, business check during proactive time, investigative supplements). Furthermore, the management of these data points within and across incidents requires additional workflow functions that are unique to each department.

Third, police agencies are experiencing personnel challenges in managing the modern demand for data. Over the last few decades, police departments have removed information technology positions, if existent at all, to share resources with city or county departments. While this consolidation of positions may support city or county-wide practices, the lack of dedicated staffing for police technologies often results in deviations from technology implementation and management practices. The implementation of crime analysts' positions has become a trend to fill technology gaps although the skills required are different between information technology and analytical roles. To fill this gap, several crime analysts have developed data science (e.g., machine learning) and data engineering skills (e.g., relational database management, SQL coding) to address the big data management demands on police systems. Yet the field of crime analysis does not fill the gaps completely. For example, the inefficiencies of manual and

⁵ Data warehouses are enterprise level collection of data from multiple systems stored in a structured and documented location. Data marts are defined as specific data sources and/or data elements from the warehouse that align with specific division or unit operations. Data marts within a police agency would be based on organizational or functional structure (e.g., data specific to investigations, data specific to patrol).

replicative data development (e.g., retyping data into a spreadsheet) are still common in crime analysis workflows. These practices are indicative of both technology (e.g., inability to extract into usable data format) and people (e.g., lacking computer language or data management skills) deficiencies.

It is clear – data-driven policing is a requirement for modern agencies and police have big data issues. To meet this requirement and address big data, police agencies have built new units or transformed existing capabilities to advance their use of data, resulting in several examples of analytical units, real-time crime centers, and the integration of analysis and digital forensic activities for investigations. The SPD’s approach for the CIC answers to this modern requirement and big data issues through strategic processes to advance their use of data and technologies. The CIC project was made possible through the financial support of the SPI grant, additional city funding, and the vision of SPD leaders. The strategic approach and processes leveraged throughout this project ensured SPD avoided financial waste (e.g., purchasing information systems that may not survive budget cuts or operational changes) and failed processes (e.g., inability to leverage analysis for operations). The financial waste and failed processes observed in other analytical capacity building projects have inhibited data advancements for policing agencies. The consideration of research from digital transformation and organizational change management guides the future path of data and technology for policing. Data-driven organizational frameworks enable agencies to transform their operations while strategically aligning leadership, people, and technology for long-term growth and advancements.

SPD’S CHALLENGES AND IMPLEMENTED STRATEGIES FOR CIC SUCCESS

Digital transformation and building analytical capacity projects introduce several challenges for leadership, people, and technology. SPD’s approach included leveraging an analytical transformation framework from SPD’s research partner, IDEA Analytics. Specifically,

IDEA's Building Analytical Capacity™ (BAC) framework focuses on these core areas – Leadership, People, and Technology – to define challenges and strategize pathways for change. The BAC framework and approach synthesizes with the evidence based on technology innovations. Theoretical understanding of technology innovation has suggested several stages or phases of adoption, implementation, and maintenance (Rogers, 2003; Manning, 1992). These stages or phases are repetitive, or agile, due to the shifts and dynamics of technological innovation over the last two decades. These repetitive practices within the BAC framework provided SPD leadership with a path forward for this SPI project during planning, implementation, and initial CIC operations.

Furthermore, the BAC framework ensured that the SPD implemented best practices by routinely revisiting the core characteristics of their data procedures to refine, adjust, and realign. The characteristics and data practices included adjustments of analytical expectations from leadership, the use and workflow of technology systems, or how information is operationalized. SPD's efforts to revise core data infrastructure, analytical practices (e.g., handling volume or veracity), and the organizational culture throughout the project aligns with the BAC framework and their efforts to fully transform the use of data in the agency (Gill et. al., 2014; Morrison, 2015).

The following sections provide details on the challenges, implemented strategies, and observed results for SPD's Leadership, People, and Technology areas within this framework.

SPD LEADERSHIP

While digital transformation projects are initiated by local government officials (e.g., mayor, city manager) and the police chief, they require more than one leader to be committed to the project. Transforming an organization's data culture, infrastructure, and processes requires

additional operational leaders and other project champions. SPD Police Chief Jerry Stokes recognized the need for the SPD to implement a crime center and intelligence-led practices to overcome the challenge of understanding crime and developing effective responses. Chief Stokes and other SPD leaders paved a path forward for the agency to learn, explore, develop, and implement intelligence-led policing practices. These actions included agency-funded peer exchanges and training on topics such as using video surveillance in policing, stratified and problem-oriented policing models, and the use of analysis for police operational decision making.

However, these efforts were not a shared leadership approach for regional law enforcement agencies. Since the development of CompStat in the 1990s, policing agencies have sought to transform data and technology practices. With over 16,000 jurisdictions, these changes have occurred sporadically and with varying levels of achievement. This disproportion of organizational change is the same for emerging crime centers, as cities have – or have not – successfully integrated data and technology for operations. Impact assessments have led to descriptive case studies on operational functions and have proven difficult to compare or provide a leading, scalable ‘model’ for the different police departments across the nation (Hollywood, et. al., 2018; Hollywood, et. al., 2019; Strom, 2016; Santos, 2012).

The CIC and SPD leadership faced these gaps in regional leaders’ education and awareness of effective implementation, particularly for small or rural agencies, throughout the project period. SPD routinely invited local police leaders to data-informed meetings, site visits, or other sessions to share the knowledge. While all regional agencies participated over the project period, this participation was inconsistent and sporadic, often impacted by the agency’s

change of leadership or individual interests versus mandated or prioritized intelligence-led policing requirements defined by leadership.

Furthermore, historical ideological barriers prevented regional growth as anticipated during the project period. While SPD leadership and CIC analysts developed processes to develop data, regional agencies were not able to parallel these successes. SPD and regional county agencies share the same licensing and technology systems for CAD and RMS. Based on historical agreements, agencies cannot see other agency data based on user permissions. Both technology platforms allow for shared information; however, these are restricted by each agency's leadership preference to isolate data only for their agency. This barrier was not overcome during the project period and continues to be a regional frustration, as this is not a technology barrier, but a people-process issue.⁶

There were several strategies implemented to overcome these challenges. **Strategy 1: Educate, Educate Again, and Engage.** Prior to the SPI project, SPD leadership and staff had engaged in agency-initiated peer exchanges, as well as training and technical assistance (TTA) activities offered by the Department of Justice (DOJ) Bureau of Justice Assistance (BJA). These peer exchanges and TTA activities allowed staff to learn from other agencies and experts on topics such as the evolution of intelligence-led policing approaches and technology implementation. This exposure continued during the SPI project through virtual peer exchanges and meetings with subject experts from CNA Corporation on police technologies, Harris County (TX) Sheriff's Office on digital forensics, and Orlando (FL) Police Department on crime center

⁶ SPD and regional county agencies share the same licensing and technology systems for CAD and RMS. Based on historical agreements, agencies cannot see other agency data based on user permissions. Both technology platforms allow for shared information; however, these are restricted by agency leadership agreements. This barrier was not overcome during the project period.

operations.⁷ Additional TTA activities were held by consultants and the SPD research partner on building analytical capacity, stratified policing, and crime reduction strategies. Throughout the project period, SPD ensured that civilians, officers, middle management, and leadership were included in sessions.

Strategy 2: Centralized location with leadership and appropriate technology integrations to support analytical goals. Historical development of task forces, intelligence units, and other information sharing entities within an organization benefit from the centralized placement of leadership, people, and technology (Schlegel, 2000; NIJ, 2003; McFarlane, 2001). The physical co-location of these three components allows for the CIC to transform the agency's knowledge of persistent persons and places contributing to crime and to identify appropriate resources for responses in a coordinated and collaborative approach for prevention and intervention. For example, an initial concern for the SPD analysts and some detectives was that the centralization of analysts and their placement in a separate room would create new information barriers. The SPD quickly learned that this was not the case. In fact, the co-location of the crime analysts revealed gaps in internal information sharing since officers would approach one or the other analyst with requests. The analysts quickly realized they were looking at the same people, or there was overlap in cases. This resulted in new workflows to accommodate a centralized request process, in addition to CIC briefing meetings to collaborate and deconflict on case information.

This centralization also allowed for analysts to collaborate more effectively with the research partner on analytical gaps. Preexisting processes for identifying persistent offenders or persons for federal programs (e.g., Project Safe Neighborhood) were found to be unproductive.

⁷ Virtual meetings were mandatory for the first two years of SPI due to COVID-19 restrictions on travel and/or public meetings.

Requirements to evaluate individual involvements were not identifying persons that were currently offending. The subjective selection of persons to investigate by SPD officers may have resulted in arrests, but crime rates did not change. For this reason, the research partner introduced an intelligence-led policing person-based evaluation model, termed the Sonoma County Model. This model focused on individual involvement types for criminal incidents (e.g., suspect, victim) to identify persons with frequent contacts and provide temporal and severity patterns for further evaluation. The identification of criminal involvement trajectories allowed SPD to consider appropriate responses for victim services or law enforcement actions. In addition, the automation of these processes within business intelligence tools alleviated the manual, timely processes of prior approaches to develop risk assessments for victims and offenders. Read more about this impact and outcomes in the Data and Intelligence section.

Strategy 3: Establish the CIC Organizational Structure and Regional Sharing

Parameters. The CIC Director position is held by the Criminal Investigations Division Lieutenant. The CIC Director is responsible for overseeing two crime analysts, a gang investigator, a digital forensic investigator, and workstations for visiting law enforcement officers. Although aligned with the Criminal Investigations Division, the CIC provides data, analysis, and information briefings for all SPD divisions. The established procedures for the CIC include operational leadership parameters and information-sharing guidelines. This approach allows for the CIC to ensure effective cooperation and collaboration toward crime reduction efforts.

Figure 3. Summary of SPD Leadership Challenges, Strategies and Results

LEADERSHIP	<u>Challenges</u> <ul style="list-style-type: none">• Knowledge and information gaps within SPD on policing models and crime reduction efforts• Differences in regional policing leaders' education and exposure to data uses for policing• Ideological barriers on information sharing within shared technology systems• Competing priorities by other agencies leadership and succession changes• Unified leadership on crime reduction strategies throughout the SPD and/or region
	<u>Implemented Strategies</u> <ul style="list-style-type: none">• Participated in training and technical assistance programs and events to expose internal and regional agency staff to concepts, peer exchanges, and concepts• Invited regional partners for routine meetings where data and crime reduction strategies were discussed and implemented• Engaged with research partner and other subject matter experts on crime reduction strategies, use of data and analysis, and technology practices• Established centralized center to create unified leadership and vision for the operation of the CIC• Designated SPD leadership as CIC Director to champion efforts and build relationships
	<u>Results</u> <ul style="list-style-type: none">• SPD leadership and staff have shared language and knowledge about crime reduction strategies• Routine uses of data in developing patrol or investigative plans• Monthly and bi-monthly meetings to review data and make data-informed operational decisions• Regional acknowledgement as a key source of data and information about crime trends and persons of interest• Inclusion of data-informed strategies in promotional processes• Information sharing guidelines and agreements

SPD PEOPLE

People resources contributing to analytical development and data-driven decision making include analysts, information technology staff, and other contributing partners to data collection and governance practices. Data governance practices most frequently stem from information technology departments and leaders (e.g., Chief Technology Officers, Chief Information Security Officers) (Patil & Mason, 2015). Data governance is ingrained in these professional fields and the elimination of these professionals within policing organizations has had direct impacts on the field's ability to ensure sustainable data-driven practices. Over the last three decades, there is a juxtaposition of data governance practices in policing. Policing organizations have eliminated agency-specific technology staff, relying on city or county staffing to support their needs. This has resulted in declining data practices within the police agency and part-time (at best) attention to data governance. For some agencies, the loss of dedicated personnel has stagnated police data with basic collection practices (e.g., data warehousing) and descriptive statistics (Davenport, 2013; Sharda et. al., 2015; Berndtsson, et al., 2018).

Necessary skill sets include computer languages and infrastructure management. The quality of this data is highly reliant on the data collection and data entry practices of staff (e.g., officer report writing quality). The lower the quality, the lower the analytical insights that can be developed. Line staff officers' and detectives' entries and access to data may be through graphical user interfaces (GUIs) and other user-friendly formats (e.g., pre-set reports). The more this staff uses reports, the more they are vested in the quality, or accuracy, of information. When quality is lacking, these users are often the first to disengage in data processes. Data access and quality look different for leadership, which often results in misaligned perceptions of the true quality of an agency. Leadership access to data is often secondary and delivered through final

reports developed by other staff. As personnel seek to ensure satisfaction among their supervisors, personnel responsible for the development of reports may default to manual or unrepeatable processes to develop these final reports.

Prior to 2019, neither the SPD nor regional agencies had crime analysts. Without crime analysts in the region, SPD lacked the ability to routinely develop data to identify crime trends, patterns of persistent crime locations, and persons driving crime incidents. Administrative data (e.g., total counts of crimes) were inefficient in guiding operational decision making for crime reduction purposes. As a priority gap to resolve, SPD hired their first crime analyst in 2019 and a second in 2020. These hires aligned with the development of the CIC and allowed SPD to address gaps in data governance practices. Furthermore, the technical skill development of analysts in computer languages and technical platforms (e.g., ArcGIS, Power BI) enabled the advancement of the SPD CIC to have accurate, timely, and actionable data. As mentioned previously, the leadership decision to centralize the analysts allowed them to further their skills and efforts to advance the use of data in policing strategies. Both analysts were key in implementing the following strategies and processes to support people development.

Strategy 4: Measure what we know, develop evidence-based responses. Prior efforts to operational crime data for response strategies were limited and/or nonexistent without crime analysts. With the dedication of SPD CIC analysts, and their professional knowledge and experiences in data and technology, SPD was able to not just inform on past crime occurrences, but to provide analytical insights to crime patterns and trends to guide daily patrol and investigations. Over the SPI project period, SPD CIC analysts have used analytics to inform patrol and investigators on several crime trends or priority concerns. These include, but are not limited to, motor vehicle theft trends, summer patterns for higher crimes, data-informed analysis

to address retail businesses (e.g., Walmart) on excessive crime calls, and offender-victim information for gun violence events.

Specifically, the implementation of the Sonoma County Model quickly identified that youth and young adults, ages 14 to 26, have been significantly impacted over the last five years. During this evaluation period, the impacts of the legislative changes to North Carolina's Raise the Age⁸ and the COVID-19 pandemic period⁹ resulted in higher rates of these youth and/or young adults' involvement in violent crime events. The use of the Sonoma County Model led to the CIC hosting several meetings with the United States Attorney's Office, NC Department of Juvenile Justice, Rowan County Probation and Parole, and the District Attorney to change approaches to case development, prosecution, or community monitoring. At the time of this report, these efforts are still ongoing with the SPD's community violence intervention initiative.

Another example is their use of data to identify geospatial and temporal patterns to inform patrol or investigative responses. These analytical processes have applied to shoplifting and theft concerns for commercial businesses, motor vehicle theft patterns, and gun violence concerns. Routine analysis presented in monthly or bi-monthly meetings have supported SPD officers in developing surveillance or enforcement responses.

Strategy 5: Transformation of monthly and bi-monthly meetings for operations. SPD leadership quickly revised monthly meetings to lead with data-informed details on crime trends, squad performance, and criminal intelligence. These monthly meetings focused on overall strategy and continued to transform throughout the project period as middle management became

⁸ In the fall of 2019, North Carolina legislation was approved to 'raise the age' of youth criminal responsibility from 16 to 18 years. As one of the last states in this juvenile justice reform measure, the implementation of changes to juvenile services for youth involved in criminal events was quickly skewed by COVID-19 pandemic closures.

⁹ For the purposes of this report, the COVID-19 pandemic period is defined as March 2020 to June 2021, when schools and other community programs were closed and/or restricted participation.

more aware of policing models (e.g., stratified policing, problem-oriented policing) and a need to demonstrate key performance indicators for operational efforts. The inclusion of city stakeholders and regional law enforcement agencies for part of these monthly meetings allowed SPD to collaborate and share information more effectively.¹⁰

Bi-monthly meetings for patrol and investigations were developed in 2022 to support data-informed needs at a more tactical level. These meetings were held in the CIC for squad leaders and allowed the CIC analysts to answer data questions, provide additional one-on-one support on crime details, and understand additional requirements of information from operational staff. This internal information sharing, and communication has been beneficial for analysts to support critical incident responses and other enforcement activities (e.g., search warrant operations).

¹⁰ Part of the meeting agenda is held for SPD-only priorities related to leadership, personnel matters, and/or sensitive investigation information that is not public knowledge at the time.

Figure 4. Summary of SPD People Challenges, Strategies, and Results

PEOPLE	<u>Challenges</u> <ul style="list-style-type: none">• New crime analyst positions within SPD to shape future direction of the CIC• Need for skill set development for crime analysts and/or SPD staff on use of technology, interpreting data, etc.• No regional crime analysts and/or experts in specific technologies• Changes and/or gaps in information security staffing in city and/or region often meant SPD had to figure out challenges without expertise
	<u>Implemented Strategies</u> <ul style="list-style-type: none">• Established crime analysis standards based on industry standards and leading efforts for data-informed and evidence-based practices• Engaged with research partner and other subject matter experts on crime analysis practices and workflow development to support multi-analyst unit• Supported for crime analysis training and/or education• Invested in SPD staff for digital forensic training and other technology training opportunities to support video analytics
	<u>Results</u> <ul style="list-style-type: none">• Developed operating manual for CIC procedures and practices• Established standards for reporting on strategic and tactical crime analysis products to support operational plans• Enhanced internal communication for operations and external communications with stakeholders for appropriate responses•

SPD TECHNOLOGY

Over the last decade, the demands on police to implement an array of technology systems to support public safety directives has increased significantly. The diversity and complexity of hardware, software, and data storage demands have produced additional strains on policing budgets, coordination with information technology staff at the city or county level, and long-term sustainability. Furthermore, the pace of change with technology, and the specialization of people managing technology, often challenges police agencies to keep abreast of modern methods to support public safety demands.

Prior to the SPI initiative, SPD had very little or basic technology systems to align with modern policing approaches. In 2018, the placement of five video cameras in the city produced significant questions and concerns by the public due to lack of awareness and/or education on how the cameras operated or were used for public safety. The SPD began information and education campaigns during public meetings and other community outreach to gain buy-in. A key incident furthered this buy-in in May 2019. On May 12, 2019, a local resident was shot by a stranger while running through the community. The next day a carjacking occurred where a pregnant woman was shot and killed. On May 14, several occupied properties were shot at near a local high school. Based on the description and other information, the SPD was able to identify the vehicle driving in the city on one of the cameras near the high school. The camera that caught the vehicle was focused on an empty lot for monitoring of illegal dumping, which only gave a second view of the vehicle and direction of travel. This quick view allowed a look out to be issued to other SPD officers, as dispatch was issuing another alert for active shootings in the neighborhood. SPD officers were able to locate the vehicle, effect a traffic stop, and make an arrest within minutes of the sighting. Upon arresting the suspect, SPD was able to recover

ammunition and a weapon within the vehicle, linking the suspect to all prior shootings within the city, in addition to other shooting cases which occurred within Rowan County jurisdiction. Additional analysis from digital forensics confirmed the suspect's proximity to the shootings. This unfortunate situation was a key event for SPD to champion the benefits of the CIC and additional technology for public safety purposes, which eased additional public meetings and city council approvals on technology purchases from the SPI grant after an award in October 2019.

Strategy 6: Public safety readiness and responses with video analytics and real-time research support. The inclusion of more technology for the City and CIC required additional education and training for CIC staff. The consolidation of technology within the CIC, such as digital forensic capabilities and video monitoring, supports data-driven and investigative efforts by the CIC staff and partners. The inclusion of a digital forensic investigator in the CIC allowed for SPD to take on more responsibility on data governance for digital evidence, which increased with the inclusion of more cameras and license plate readers. Throughout the SPI project period, the digital forensic investigator, Officer Brent Hall, proved necessary to support implementation of video surveillance cameras, license plate readers, on-premises servers, and implementation of other cloud-based analytical tools (e.g., Cellebrite).

Strategy 7: Use of video analytics and artificial intelligence software for public safety initiatives. The application of video analytics during real-time responses or post-incident research has been a critical impact to SPD's readiness and responses. The CIC has used video analytics to identify cars or offenders in public spaces, plan management for public events (e.g., festivals), and support stakeholders during critical incidents. Video analytics software is used to isolate descriptions of cars or persons involved in criminal incidents, supporting real-time

responses and/or identification of persons involved. The early success of a camera capturing a fleeing shooter, quickly replicated with incidents that were solved with video evidence.

In addition, the CIC and video analytics were beneficial during national social unrest movements occurring in 2021. SPD had hosted peaceful demonstrations in coordination with the local community and NAACP to voice their concerns and stance on police-community relationships and trust. The CIC was able to identify open-source intelligence on out-of-town demonstrators who traveled to Salisbury to hold unsanctioned meetings or rallies regarding the city statutes.¹¹ The use of video surveillance in these public spaces was able to capture the possession and use of a firearm by one of the demonstrators, resulting in the use of tear gas and other police responses to break up the crowd, arrest persons causing harm, and ensure public safety. At a time where the use of tear gas and other police responses were under significant scrutiny, the video evidence of actions by the public and police during this incident enabled SPD to be transparent, quickly answer questions and concerns, and provide data to support the decision making.

Another success for the use of technology in the CIC for public events included a 2022 event prior to the annual Cheerwine Festival. The CIC analysts had received messages from an individual that was threatening toward the police chief and the city, confusing Salisbury, Maryland and Salisbury, New York locations. The CIC worked with North Carolina State Bureau of Investigation (SBI) to identify the individual making threats as a Canadian resident. The SPD worked with SBI and the Federal Bureau of Investigation (FBI) to coordinate contact of the individual with Canadian law enforcement to determine the validity of the threats. This

¹¹ The City of Salisbury requires all demonstrators or organizers of events to register with the city to ensure public safety is maintained and resources support any needs for traffic and/or road closures.

quick action was able to place the individual on the no fly/no entry to the United States and warn other cities of potential concerns.

Lastly, the use of video analytics has supported SPD efforts to address violent crimes. A 2021 shooting in a public park, which was not covered by cameras, left SPD reviewing video of key intersections and other areas to determine the direction of suspected offenders as they attempted to leave the city. The ability for the CIC to provide real-time directions to responding officers resulted in an arrest and recovery of weapon. Another case involved an individual who threatened a property owner with a weapon, shooting into the air during the heated argument. In addition to having videos in capture the two individuals during the argument, the enhanced frames per second implemented with the CIC enabled SPD officers to locate the shell casing to for ballistic evidence and allowed SPD officers to link the weapon to the owner and to other crimes.

Figure 5. Summary of SPD Technology Challenges, Strategies, and Results

TECHNOLOGY	<p><u>Challenges</u></p> <ul style="list-style-type: none"> • No technology platforms that supported variety of data formats and data development practices for analysis and reporting • Data storage and infrastructure requirements lacking for modern technology • Unsystematic placement of video surveillance in public places hindering public safety views to critical intersections or areas for crime • Limited number of cameras to support guardianship over public spaces • Community perceptions and trust on use of cameras and data
	<p><u>Implemented Strategies</u></p> <ul style="list-style-type: none"> • Use of SPI grant funds to purchase hardware, software, and data storage • Data informed maps to place cameras in key locations in the city during phased implementation of over 150 cameras • Transparency on functionality, location, and view of cameras in public spaces • Ongoing learning from peers and technology companies about camera technology requirements, pros and cons, and supporting infrastructure needs • Engaged with news media, public groups, youth, and city stakeholders to demonstrate technology uses
	<p><u>Results</u></p> <ul style="list-style-type: none"> • Identification of early successes on using data and cameras shared with public to demonstrate use and benefits allowed for additional purchases and placement of cameras • Use of cameras for public events and violent crime response supports both SPD and public requirements for public safety • Investment in additional technology allowed for growth and further advancements for analysis, informing patrol and investigative efforts



Community Outreach & Collaboration



The role of the community in policing is essential for the City of Salisbury. The SPD engages with community members and groups throughout the year in various events. For the CIC project, SPD leadership leveraged these relationships to support policy, procedures, and operations of the CIC. Routine outreach and collaboration proved valuable to addressing public concerns of privacy and uses of technology by public safety, while also allowing expertise from city stakeholders to weigh in on changes.

Routine tours and meetings within the CIC throughout the building and implementation process allowed SPD to have direct communications about the vision, mission, and operations. Sharing successful uses and added value of the CIC operations to residents and businesses throughout the project period enabled the SPD to gain and sustain long-term support.



COMMUNITY OUTREACH & COLLABORATION

Throughout the SPI project period, SPD collaborated with stakeholders and conducted community outreach. During the first half of the project period, SPD completed procurement procedures to acquire all technology and equipment for the CIC. While this occurred during the initial months of the COVID-19 pandemic period, SPD was able to maintain virtual collaboration with City Procurement Officials, the Finance Department, vendors during the evaluation period, and the City Information Technology staff. The SPD and city stakeholders were unfamiliar with virtual meetings and unprepared with video conferencing equipment during this chaotic time as work and workflows changed for everyone. The SPD research partner was able to support multiple virtual meetings, procurement question and answer procedures, and evaluation of requirements during this time, keeping the SPD on track with our project timeline. Alternative submission processes were quickly approved so vendors could comply with city procurement and maintain public health protocols.¹²

The involvement of the City IT and other stakeholders during the procurement process also prepared everyone with future requests and/or need for support as the CIC was built out. For example, throughout the procurement process, SPD needed advice from City IT on server capacity and technology requirements. The customer services system that houses the City IT needed to have upgraded camera systems, which allowed SPD and City IT to collaborate on purchasing and knowledge sharing, as well as establishing SPD as expertise in the requirements for implementing cameras with other businesses and public domain spaces.

¹² City procurement rules require paper copies of all proposals to be submitted via postal services. Due to closures of postal services during the COVID-19 pandemic period, reliability of submissions by deadlines was not able to be accounted for with vendors. City Procurement Officials allowed for secure electronic submissions by deadlines to maintain the integrity of competitive procurements. In addition, any paper copies submitted by local vendors were delivered directly to the police department as an essential agency during pandemic response protocols.

This expertise was demonstrated during a gun violence event in December 2021, just prior to the CIC official opening. Two unintended targets, a 14- and a 13-year-old male, were shot during an active shooter event at a local community college gymnasium during a basketball game.¹³ As a primary responding agency, SPD supported initial information sharing and critical incident response information via video and analytics. While the location of the shooting had their own video cameras, SPD digital forensic technician Officer Brent Hall and Captain Patrick “PJ” Smith¹⁴ were able to provide additional guidance to the community college staff to ensure forensic capture and documentation to support future evidence processes. Since the community college staff only used cameras for monitoring, they were unaware of the technical and legal requirements for this evidence in a critical incident.

As of 2023, SPD hosts approximately 200 cameras within the city¹⁵ and provides all analytics for video evidence. The growth of this system for the SPD and city stakeholders has positioned SPD as the local experts in procurement, implementation of cameras on buildings, light poles, or other fixtures, and the go-to agency for all emergency and critical incident responses. SPD has developed relationships with traffic engineers and the Department of Transportation (DOT) to comply with DOT right-of-way laws, in addition to local business associations to support private businesses security monitoring. Currently, City IT, city stakeholders, and regional law enforcement agencies consult with SPD for plans to implement cameras for public safety purposes.

Lastly, SPD leadership continued with education and outreach campaigns to involve the community and regional stakeholders in the CIC. Captain Smith held multiple meetings, tours, or

¹³ See news report: <https://www.wncn.com/article/news/crime/catawba-college-shelter-in-place/275-21a035b0-1ae4-443d-9c75-873f5fa3ac67>

¹⁴ Appointed the leader of the CIC in 2019 as a Lieutenant

¹⁵ Includes two mobile devices for events.

information sessions with community groups, local news, and regional law enforcement agencies to contribute to the CIC policy, operating manual, and the memorandum of understanding for information sharing. Between January 2021 and December 2022, SPD estimates to have held 30 tours, interviews, and meetings on CIC operations to support public awareness and education (see Figure 6).

Figure 6. Agencies hosted by SPD CIC, 2021-2022

Federal and State Law Enforcement Agencies

- Middle District of NC United States Attorney’s Office
- Bureau of Alcohol, Tobacco, Firearms and Explosives
- Federal Bureau of Investigation
- NC State Bureau of Investigation, Fuuresion Center
- NC Department of Juvenile Justice
- Rowan County (NC) Probation and Parole

Local Law Enforcement Agencies

- Cary (NC) Police
- Charlotte-Mecklenburg (NC) Police
- Davenport (IA) Police
- East Spencer (NC) Police
- Granite Quarry (NC) Police
- Hamilton (OH) Police
- Indianapolis (IN) Police
- Rocky Mount (NC) Police
- Rowan County (NC) District Attorney’s Office
- Rowan County (NC) Sheriff
- Sacramento (CA) Police
- Spencer (NC) Police

Local Government and Community Stakeholders

- Durham County (NC) Government
- Rotary Club of Salisbury (NC)
- Rowan County School Board
- Salisbury Business Alliance (20 business owners in city)
- Salisbury High School
- Salisbury Citizen’s Police Academy
- Queen City News
- United Way
- WBTV News

DATA & INTELLIGENCE

The following case highlights and examples demonstrate additional successes for how the CIC enabled operationalizing data to inform patrol, investigations, and public safety conversations.

The use of crime data and intelligence to prevent violence and align resources. In 2020, the SPD had a series of assaults and violent interactions with after-hours parties held at local restaurants. These incidents occurred outside of city ordinance efforts to restrict sale or use of alcohol due to private lease agreements between the event organizer and the public business. The SPD leveraged data on these events to work with the Salisbury Fire Department and Alcohol Enforcement officials from SPI to potentially close these after-hours gatherings because of code violations; however, this was unsuccessful. As a last resort to deter violence at these events, SPD began assigning patrol units to the parking lots while parties were underway. A shooting event occurred shortly after midnight during one of these events, resulting in six people shot and a few others treated for injuries incurred during attempts to flee the restaurant.¹⁶ This outcome was an unfortunate event that SPD attempted to prevent; however, their dedication to using the data to assign resources did enable them to have a quick response to assist partygoers to safety, secure the scene, and render aid.

Changing the conversations on public safety responses. During the SPI project, the SPD continued to transform their department to align with modern policing and public safety concerns. The inclusion of civilian staff for Project Safe Neighborhood (PSN) and re-entry programs, homeless liaison, and a victim advocate position allowed the department to reimagine

¹⁶ See additional news reports about the incident online at: <https://www.wsoctv.com/news/local/6-injured-early-morning-shooting-salisbury-party-investigators-say/GQUUTTXRYJA4BKQL2JSSE6B7GE/> and <https://abc11.com/themas-down-home-cooking-shooting-at-salisbury-restaurant-wsoc/5880068/>.

appropriate responses. Furthermore, the data from the CIC on persistent problems or persons involved in crimes as offenders or victims has reshaped the planning and activities for these positions and other stakeholders. Conversations throughout 2021 and 2022 occurred with CIC data presented to officials from Middle District of United States Attorney's Office, Department of Juvenile Justice, Rowan County Probation and Parole, Department of Veterans Affairs, and other public health officials on substance abuse and opioid fatalities.

Data analysis to support the future. The CIC and the SPI research partner engaged in several data evaluation projects throughout the SPI period to further inform SPD about resource needs. A tactical analysis which evaluated three years of calls for service during summer months enabled the CIC analysts to support a patrol operational plan in 2021. This plan allowed the department to identify additional resources and/or allocation of crime abatement teams during identified periods where crime was likely higher than others. Outcomes from this effort included lower rates of violent crimes during the designated times.¹⁷ This tactical analysis led to a strategic analysis of calls for service data over a 20-year period to identify shifts in police demands, discretionary time, and allocation of staffing.¹⁸ Two eight year periods were compared based on public- and police-initiated call types.¹⁹ This analysis indicated that while patrol resources have decreased, the demand of calls for service requiring police response has increased

¹⁷ Pre-post analysis of these operational efforts were pending at the time of this report.

¹⁸ CFS analysis isolates type of call and confirmation of dispatch to determine actual workload demands for patrol services. Actual workload is defined by calls that officers are dispatched to, arrive at, and spend time-on-scene to handle the request for services. To evaluate changes over the 20-year period, data variables that indicate type of call initiation (i.e., public-initiated, police-initiated) and confirmation of dispatched police services (i.e., cancellation by caller or dispatch) were used as categories to define actual workload. Rates and averages of total calls in these categories are used to describe changes in CFS over the review period.

¹⁹ The city of Salisbury experienced a population increase of 22% between 1995 and 2000, resulting in higher calls for service between 2005 and 2012, while population growth slowed to 3.4% each year. The city experienced a significant increase of CFS between 2013 to 2016, potentially the result of population increases and the impacts of opioid epidemic. The five-year period of 2017-2021 evaluated as the modern period based on current staffing and analysis of persistent crime problems.

by 64 percent (see Table 2). Both tactical and strategic analyses of CFS are ongoing for SPD as they seek to change allocation of officers, recruit additional officers, and prepare for population increases in the city with additional housing and business changes.²⁰

Table 2. Summary of Calls for Service Changes, Salisbury Police

	2005-2012 Average Monthly Calls per Officer	2014-2021 Average Monthly Calls per Officer
Number of Patrol Officers	58	44
Public-initiated	24.9	40.9
Police-initiated	19.4	19.2

Inclusion of data awareness, use and evidence-based approaches in leadership and promotional processes. There were several promotional processes occurring in SPD during the project period. In addition to traditional rules regarding tenure, interview processes for middle and upper leadership positions included knowledge and use of data to drive policing strategies. Questions included how to use data to identify problems and/or measure impacts of police responses. Personnel promoted during this period were expected to actively participate and/or lead the monthly or bi-monthly meetings that leveraged data, making their ability to articulate the vision and purpose of data in policing a key characteristic during these procedures.

In addition, Chief Stokes created the Organizational Development Lieutenant position during promotional procedures to support additional efforts by the agency to have diversity, equity and inclusion practices for internal and external programs and training. The programs and initiatives lead by this position leverage data from the CIC regarding at-risk youth, neighborhood

²⁰ The city of Salisbury is projecting for five to eight percent population growth in the next five years. Additional impacts to public safety are being evaluated at the time of this report.

characteristics and persistent crime problems to inform program development and community collaboration.

ANALYSIS & EVALUATION

There was an abundance of activity and change within the SPD during the project period. While several efforts could be evaluated and measured, the SPD leadership and IDEA Analytics agreed upon an embedded, single case study evaluation using the Building Analytical Capacity™ framework at the onset of the SPI project. Based on planned project activities and reasonable expectations of organizational change, this framework aligned with SPD's priority to tell the story of digital transformations and provide a model for other small and rural agencies.²¹ This framework also allowed the agency and the research partner to have longitudinal, qualitative information to demonstrate pace of change and adoption of new processes within leadership, people, and technology.

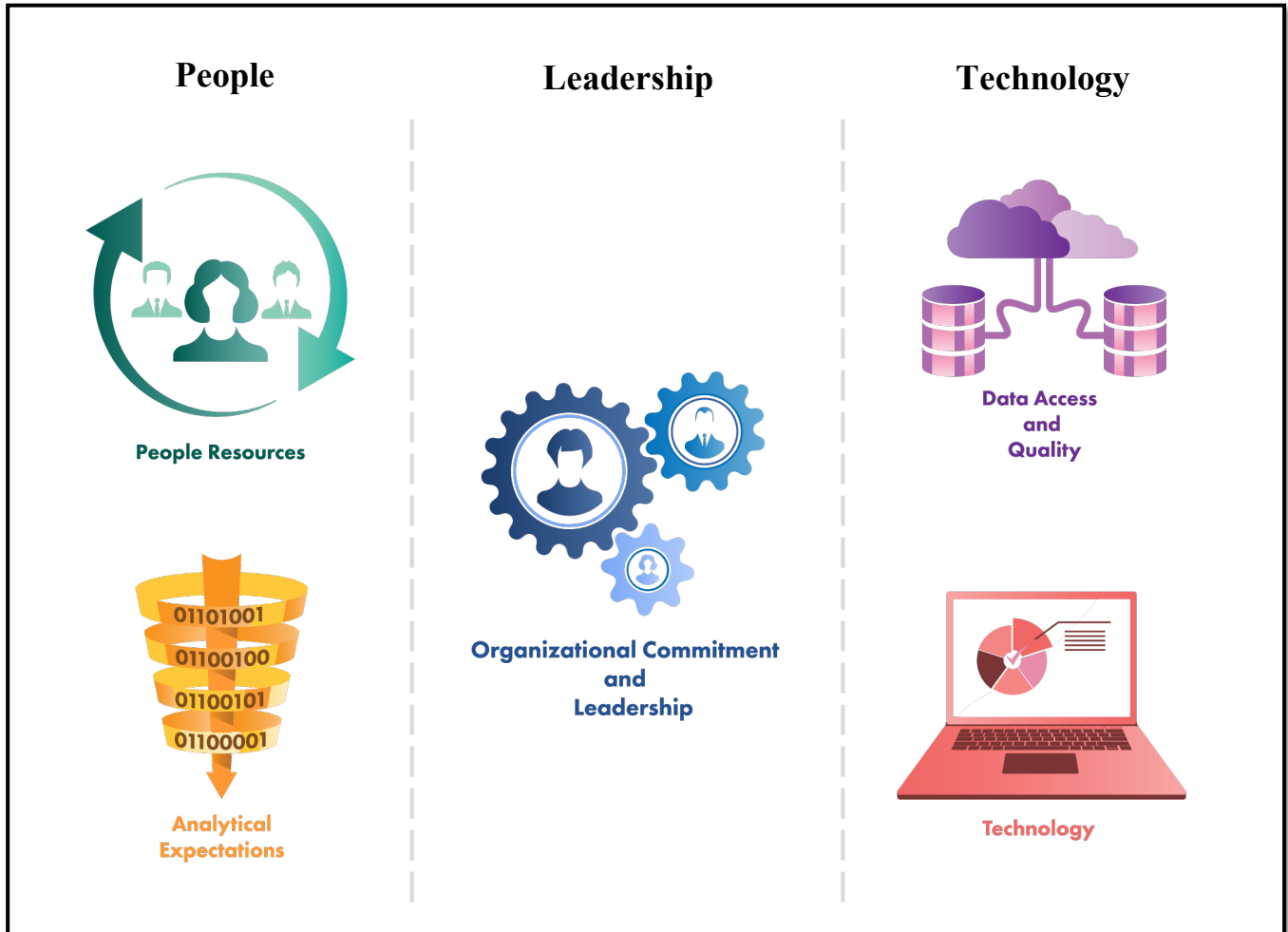
EVALUATION APPROACH AND METHODS

The embedded, single case study design examines the units of analysis (i.e., five domains) within each agency case and in comparison, to each other (Yin, 2009). The BAC framework takes a critical action research approach by routinely evaluating the characteristics of analytical units as the capabilities enhance throughout the implementation and operational phases (Forester et. al., 1993; Friedman & Rogers, 2008; Altricher, et. al., 2002). The core areas of leadership, people, and technology breakdown into five domains to further detail organizational characteristics, processes, and data maturity (see Figure 7). The evaluation of these domains throughout the project period aligns with the iterative process for action research and is viewed

²¹ It should be noted that SPD and IDEA recognized throughout the project period, there were several quantitative opportunities to measure police deployments or effective responses; however, we collectively agreed that the unexpected complications from COVID-19 pandemic would skew or misrepresent several efforts achieved by SPD and their partners during this period.

as beneficial for innovative business operations which is applied toward the data transformations of policing in this construct (Bryman & Bell, 2011).

Figure 7. Five Domains (Graphic Credit: IDEA Analytics)



Data collection for this research occurred periodically throughout project period as SPD implemented their crime center. This included collection and review of policy documents, city or county reports on data governance, research notes and journaling, social observations, recorded and transcribed interviews, surveys, and feedback during technical assistance sessions (Yin, 2009). Two levels of coding occurred to evaluate all information. Inductive coding aligned all information within the BAC five domain framework. Within each domain, additional deductive,

flat coding was used to develop subthemes (Creswell, 2014). Subthemes for four of the five domains are noted for more descriptive value to organizational characteristics (see Table 3).²² coding occurred to indicate impacts, advancement of knowledge or practices, or data maturity. If applicable, extraneous information that was outside the scope of the domains remained as observational notes and/or context to the project.

²² Subthemes are not applied to Organizational Commitment & Leadership for this article due to sample of two agencies. Additional social, political, and economic subthemes emerge in larger sample sizes and longer durations based on intellectual property and practices by IDEA Analytics.

Table 3. Coding Schema for BAC Framework Evaluation

BAC Domain (Inductive codes)	Main Themes (Deductive codes)	Sub-themes
People (proles)	Knowledge (proles-1)	Formal education (e.g., college degree) Professional certificates (e.g., data science) Professional Development Courses (e.g., subject specific courses)
	Skills (proles-2)	Technical skills (e.g., computer coding/languages) Analytical skills (e.g., research methods, statistical methods) Critical thinking (e.g., deductive, and inductive reasoning)
	Abilities (proles-3)	Explanation of information (e.g., written, or oral) Data visualization (e.g., accurate display of information)
	Role in data governance (proles-4)	Contributions to data collection Skills and processes for data development Management of data for analysis Reporting procedures
Analytical Expectations (anexp)	Identification of data priorities (anexp-1)	Articulation of data priorities across the organization Consistency of data priorities over time
	Analytical techniques (anexp-2)	Strategic Analysis Tactical Analysis Operational or Administrative Analysis Crime Intelligence Analysis
	Articulation of using data in decisions (anexp-3)	Organizational meeting routine Identified performance metrics Articulation of key performance indicators
Data Access & Quality (dataq)	Access points for data per role/position (e.g., personnel processes and access methods) (dataq-1)	Personnel process for extraction Personnel processes for data management Personnel awareness of data locations (e.g., discoverability of information)
	Quality assurance processes (dataq-2)	Record validation process Responsibilities for editing and/or quality control of records
	Access to information (e.g., user permissions) (dataq-3)	Availability of information across roles or units Information sharing protocols
Technology (tech)	Hardware (tech-1)	Computers Surveillance technology (e.g., cameras, LPRs) Response monitoring technology (e.g., drones, body worn cameras)
	Software (SW) (tech-2)	SW for Data Collection SW for Processing Data SW for Analysis of Data SW for Reporting Data
	Data storage (tech-3)	On-premises Cloud hosting Third-party vendor management (per application)
Organizational Commitment and Leadership (orgcomm)	Prioritization for department (orgcomm-1)	
	Prioritization for city/county government (orgcomm-2)	
	Agency-wide knowledge and awareness (orgcomm-3)	
	Dedicated personnel (orgcomm-4)	
	Financial support (orgcomm-5)	

The characteristics of the five domains are based on three periods of the agency's evolution – initial, mid, and present. These phases are not defined as a single point in time, but rather characteristic phases the SPD during the SPI project period. The initial phase is the capacity building phase where assessments and initial planning for implementation occurred.²³ The mid-phase is where traction across all domains has been achieved in implementation, and where the centralized crime center is open for operations for approximately six months.²⁴ This phase is defined by the introduction of the new function and processes inherent with the crime center. Finally, we explore domains on current operations, which are defined as one year of full operations of the CIC in 2022.

EVALUATION RESULTS, INTEGRATION & SUSTAINABILITY

The SPD demonstrated several advancements and organizational changes for each of the domains. These advancements and changes support the integration of the CIC into SPD operations, as well as the sustainability of the project within the department and region moving forward. During the initial phase, SPD identified the priority to develop data and technology through a centralized analytical unit structure (*orgcomm*). Pathways to develop this structure included financial support for the unit (*orgcomm-5*), ideas to centralize analysts (*prole-4*), and focus analytical practices (*proles, anexp*). In furthering their efforts, SPD acknowledged a need to enhance the understanding of data and analytics for operational staff (*proles* and *anexp*) and to develop crime analyst roles (*proles-1-3*). SPD's early hiring of dedicated staff for analytical roles, resulted in enhanced people resources to align with the new direction of the department allowed for new standards and expectations to be set by leadership (*orgcomm*).

²³ The SPD first embarked upon data driven organizational changes in 2016 with the new leadership of Chief Jerry Stokes. Captain Patrick Smith was appointed as the department's leader to improve the implementation and use of data and technology. Capacity building for this agency occurred between 2017 and 2019.

²⁴ The CIC first six months of operations is defined as January – June 2021.

The physical development of the CIC during the initial phase enabled advancements for technology implementation (*tech*) and data access (*dataq*). A key factor in this phase was complete ownership by SPD for all technology characteristics (*tech1-3*). This required new personnel and skill development for the crime analysts, CIC Director, and digital forensic staff (*proles-2*) for managing data and staffing alignment to support data governance and technology management for multiple systems (e.g., surveillance systems, LPRs).

At the mid-phase of operations, SPD indicated significant shifts in the development and use of data (*orgcomm-1, anexp-1, anexp-3*). The refinement of data access (*dataq-1, dataq-3*) during new technology integrations supported new roles and analytical techniques for crime analysts within the CIC. These practices ensured timely and actionable data and analysis, a core purpose of analytics, could be developed and shared with operational staff (Morrison, 2015; Alston, et.al., 2017). According to Captain Smith,

“Our data is much cleaner and accurate. State and federal agencies now reach out to us when a major event occurs in and around our area to see what we have gathered prior to pushing information out of their own centers. It was quoted by the Director of our State Fusion Center that he views us as a ‘fusion’ center in our region.”

As previously mentioned, monthly and bi-monthly meeting formats for both agencies were revised from a review of past crime information (e.g., descriptive statistics) to estimations on place and person-based crime trends (*anexp*). Responsibilities on interpretation of data (*proles-3*) became shared throughout divisions (*anexp-3, orgcomm-3*) and outcomes included changes to patrol or investigation resources based on information, demonstrating shifts in the data culture. The inclusion of video surveillance, LPRs, and radio monitoring for SPD (*tech-1, tech-2*) also resulted in real-time data support. During calls for service, analysts and/or officers in the CIC can enter vehicle descriptions or direction of travel to isolate cameras and have

additional eyes on incidents. Direct communication between the responding officers and personnel in the CIC have led to the recovery of evidence for shooting cases, apprehension of offenders in assaults and thefts, and arrests for murder suspects (agency interviews and site observations).

After a year or more of CIC operations, some characteristics within the five domains have stabilized for the SPD. Roles and responsibilities for crime analysts and officers within the CIC have normalized, supporting the revisions of policies and operating manuals to institutionalize practices (orgcomm-1, orgcomm-3, anexp-2, anexp-3). SPD CIC branding and changes for analytical outputs with more timely officer safety bulletins with more professional delivery and details for regional partners and their own agency (interviews, Captain Smith and officers and detectives). These outputs have promoted information sharing among local, state, and federal partners, resulting in stronger cases for prosecutor at state and federal levels (interviews, Captain Smith, and CIC analysts). Furthermore, the delivery of bi-weekly and monthly crime trends has supported smarter resource allocation during staffing shortages to impact crime (interviews, Captain Smith, and CIC analysts). Salisbury recognizes their impact to the field as:

“Early in the opening of the RRCIC, many divisions and agencies did not know how to utilize our resources or did not completely understand what we could do to help them. Now we are the first call for most of them in the early stages of their investigations.”
(Captain Smith)

The established policies and procedures for CIC operations allowed for staff transition to occur without significant disruption to operations (*proles, anexp*). For SPD, the inclusion of detectives or information sharing to civilian liaison positions (e.g., homeless liaison, victim advocate) has introduced new workflows and coordination for the future of the department

(*proles*). CIC analysts have prioritized technical skills (e.g., mapping, computer coding), analytical techniques, and theoretical applications (e.g., crime reduction strategies) (*proles, anexp*) to support the technology demands of operating the center.

While the primary purpose of the grant was to support the technology procurement for the center, the support of our research partner during all phases of the project enabled the SPD to implement strategically and routinely improve. IDEA Analytics supported ongoing training with our crime analysts and officers, leadership sessions for SPD to develop requirements and priorities for crime reduction strategies, developed reports for city council, and hosted virtual peer exchanges with other agencies on digital forensics, managing analysts, and information sharing. They also promoted our work to other agencies in four webinars²⁵ focused on processes to implement new technologies in policing, co-presented with our agency at the 2022 Problem Oriented Policing Conference, and lead the development of Police Chief’s article on data-informed policing strategies.²⁶

SUMMARY & CONCLUSIONS

The SPD demonstrates an agency willing to learn, change, and advance efforts – even when faced with unexpected challenges and difficulties. This tenacity and strategic mindset enabled the SPD to have a successful SPI project during a tumultuous time for public safety. The successes and case highlights previously mention are the outcomes of focused leadership and aligned people and resources for the city.

For other agencies seeking digital transformation and changes on using data, SPD submits the following five considerations to other agencies:

²⁵ Webinars were hosted by IDEA Analytics and attended by analysts, city officials, and police agency staff from across the US.

²⁶ Article is in production for October/November 2023 issue.

- ◇ ***Collaborate with everyone from the start.*** Inclusion of stakeholders ensures we see different viewpoints, understand impacts of change for individuals, and decreases barriers for the future. This also allows others to get excited about the change and champion the hard work with you throughout the process.
- ◇ ***Continue to engage, demonstrate, and educate staff.*** These changes require ongoing and routine education and information for staff. Iterating the purpose, goals, and details throughout these changes help staff evolve.
- ◇ ***Focus on the future growth and needs, not just satisfying the pain points now.*** Selecting the right people and technology that can grow and develop with the vision can minimize problems and pain points. The long-term strategy will keep momentum and overcome challenges.
- ◇ ***Centralizing resources to establish standards and momentum.*** The centralized model works the best for SPD. The inclusion of analysts in the same space bridged the informal communication loss that was occurring unbeknownst to leadership, analysts, or officer. This changed the workflow, the meetings, and other communications that has allowed the CIC to advance significantly during the project period.
- ◇ ***Leverage every resource from training and technical assistance programs available.*** Asking for perspectives, help, training, information, and communicating with peers throughout these complex projects will always benefit your efforts. The more you can engage in and share with your staff and stakeholders, the more collaborative you can be.

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