

# Data-Driven Approaches to Crime and Traffic Safety (DDACTS 2.0)

## Operational Guidelines

June 2021



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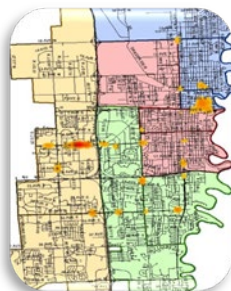
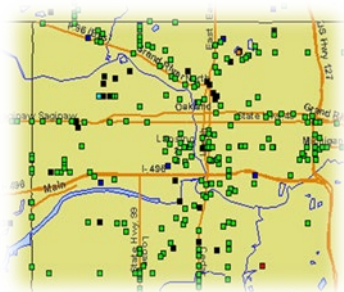
**International Association of Directors of Law Enforcement Standards and Training provides project management and workshop implementations for DDACTS. The National Highway Traffic Safety Administration and the Bureau of Justice Assistance collaborate to promote and support the DDACTS model.**

**DDACTS Implementation Workshops**

For more information or questions regarding DDACTS, please contact the DDACTS National Project Manager at [ddacts@iadlest.org](mailto:ddacts@iadlest.org).

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**TABLE OF CONTENTS****Page**

|                                                                                                                                           |            |
|-------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>Executive Summary .....</b>                                                                                                            | <b>vi</b>  |
| <b>Introduction .....</b>                                                                                                                 | <b>1</b>   |
| Using These Operational Strategies .....                                                                                                  | 1          |
| The Research.....                                                                                                                         | 1          |
| DDACTS, Hot Spots, and Analysis in Law Enforcement .....                                                                                  | 4          |
| A Starting Point for Long-Term Change .....                                                                                               | 6          |
| <b>Implementing DDACTS 2.0 .....</b>                                                                                                      | <b>8</b>   |
| <b>Guiding Principle I – Outcomes .....</b>                                                                                               | <b>8</b>   |
| <b>Guiding Principle II – Data Collection .....</b>                                                                                       | <b>9</b>   |
| Key Element I – Review Current Data Collection and Analysis System .....                                                                  | 11         |
| Key Element II – Improve Data Quality and Timeliness.....                                                                                 | 12         |
| Key Element III – Assess and Improve Data Access .....                                                                                    | 13         |
| <b>Guiding Principle III – Data Analysis.....</b>                                                                                         | <b>14</b>  |
| Key Element I – Identify and Resource Your Analyst .....                                                                                  | 15         |
| Key Element II – Determine Software Needs.....                                                                                            | 16         |
| Key Element III – Identify Hot Spots .....                                                                                                | 18         |
| Key Element IV – Designate and Analyze Target Areas.....                                                                                  | 21         |
| <b>Guiding Principle IV – Partners and Stakeholders Participation.....</b>                                                                | <b>24</b>  |
| Key Element I – Identify and Make Initial Contact.....                                                                                    | 26         |
| Key Element II – Develop a Plan for Partner and Stakeholder Participation .....                                                           | 27         |
| <b>Guiding Principle V – Strategic Operations.....</b>                                                                                    | <b>28</b>  |
| Key Element I – Identify Strategies and Tactics.....                                                                                      | 31         |
| Key Element II – Develop an Operational Plan.....                                                                                         | 32         |
| Key Element III – Implement the Plan .....                                                                                                | 32         |
| <b>Guiding Principle VI – Information Sharing and Outreach .....</b>                                                                      | <b>34</b>  |
| Key Element I – Review Partner and Stakeholder Plan.....                                                                                  | 34         |
| Key Element II – Develop a Plan for Communicating .....                                                                                   | 35         |
| <b>Guiding Principle VII – Monitoring, Evaluation and Adjustments.....</b>                                                                | <b>36</b>  |
| Key Element I – Use Data and Other Information to Make Adjustments .....                                                                  | 37         |
| Key Element II – Document and Report Changes .....                                                                                        | 37         |
| <b>National Support for DDACTS .....</b>                                                                                                  | <b>39</b>  |
| <b>Appendix A – Resources.....</b>                                                                                                        | <b>A-1</b> |
| <b>Appendix B – Glossary of Selected Terms.....</b>                                                                                       | <b>B-1</b> |
| <b>Appendix C – Selected Case Studies: Greenville, NC PD, Roanoke<br/>County VA PD and Schenectady, NY PD .....</b>                       | <b>C-1</b> |
| <b>Appendix D – Selected DDACTS Agency Standard Operating Procedures (SOPs)<br/>Amarillo TX PD, Gilbert AZ PD, and Shawnee KS PD.....</b> | <b>D-1</b> |

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## EXECUTIVE SUMMARY

Traffic injuries and deaths are global problems that continue to increase and affect the people and families who fall victim to such tragedies. The National Highway Traffic Safety Administration reported in 2019, 36,096 individuals died in 33,244 crashes, with one traffic fatality occurring every 14.5 minutes.<sup>1</sup> In addition to these unnecessary deaths, the costs associated with crashes also continue to rise. They include *billions* of dollars in productivity losses, workplace losses, legal and court expenses, medical costs, emergency medical services, insurance administration costs, congestion costs, and property damage costs. These avoidable crashes have many causes and occur on roadways throughout the country, often clustering on particular street segments and areas.

In addition to the impact of crashes in communities, social harms also affect communities. There were an estimated 366.7 violent crimes per 100,000 inhabitants in 2019, down 1 percent compared to 2018. There were also an estimated 2,109.9 property crimes per 100,000 individuals in 2019, representing a decrease of 4.5 percent compared to 2018.<sup>2</sup> These crimes have a tremendous impact, including but not limited to property loss estimates of over \$16 billion a year. Many are also spatially concentrated and involve people driving to crime locations in vehicles.

The research in this report demonstrates that both crashes and crime are spatially clustered and can be affected by police visibility and contacts. An effective strategic approach must maximize efforts in spatial clustering of crash and crime to be the most economical and impactful.

Data-Driven Approaches to Crime and Traffic Safety (DDACTS 2.0) is an operational model supported by a partnership among NHTSA and several major national law enforcement agencies. DDACTS integrates location-based traffic crash, crime, calls for service, contacts, and officer-initiated activity data to establish effective and efficient methods for deploying law enforcement resources. By identifying areas through temporal and spatial analysis that have high incidences of crashes and crime, DDACTS encourages the deployment of highly visible police presence and police contacts to affect these areas. This model affords communities the dual benefit of reducing traffic crashes and crime in the same area, thus reducing overall social harm. Drawing on the deterrent value of highly visible police presence and the knowledge that crimes often involve the use of motor vehicles, the goal of DDACTS is to help agencies reduce the incidence of crashes, crime, and social harm in communities across the country.

Effectively using the DDACTS model has the potential to build vital community partnerships and establish public trust. The model's focus on the collaboration of law enforcement with citizens, communities, businesses, and community organizations reinforces the crucial role that partnerships play in reducing social harm and improving quality of life. Effectively using the DDACTS model encourages transparency and accountability intended to build legitimacy and trust between police and the community. Building on this collaboration, the operational aspect of

<sup>1</sup> U.S. Department of Transportation, National Highway Traffic Safety Administration. (2020, December). *Traffic Safety Facts: Overview of Motor Vehicle Crashes in 2019*. <https://crashstats.nhtsa.dot.gov/#/>

<sup>2</sup> Department of Justice, Federal Bureau of Investigation, (2020, December). *Crime in the US 2019* (Web Page). FBI UCR. <https://ucr.fbi.gov/crime-in-the-u.s/2019/crime-in-the-u.s.-2019>

the DDACTS model positions highly visible, strategic contacts in the exact areas and the exact times that police services are needed most.

### DDACTS: What it is and what it is not

DDACTS *is* data-driven – For an agency searching for a way to become more data-driven, the DDACTS model can provide a structure for more effectively using data to drive strategic operations.

DDACTS *is* actionable – The DDACTS model’s detailed analysis will provide strategic direction to patrol and other operations.

DDACTS *is* place-based – Focusing preventative efforts in the precise locations where crimes and crashes occur can help to justify police and also ensures that resources are affecting multiple crime and crash issues in the most problematic areas.

DDACTS *is not* a software package – Most agencies can carry out the data collection and analysis tasks using software and hardware already in place.

DDACTS *is not* enforcement-based; it is intended as a starting point for long-term change. The model encourages strategic operations using effective tactics to prevent crashes, crime, and other social harms, ultimately reducing the need for enforcement.

DDACTS *is* a *very customizable* model; it is flexible and can be tailored to the needs of the agency and the community.

### The DDACTS 2.0 Model

Successful implementation of the DDACTS model ensures accountability and provides a dynamic, **evidence-based, placed-focused** approach to crash and crime reductions.<sup>3</sup> This approach, grounded in community-oriented and problem-solving policing, suggests that place-based policing is more efficient and effective at reducing crimes, crashes, and other social harms.<sup>4 5</sup> The application of high-visibility traffic engagement is a proven and effective countermeasure that addresses both crashes and crime, whether they occur simultaneously or independently in time or location. Furthermore, its reliance on analysis to identify the nexus of

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<sup>3</sup> Bryant, K., Collins, G., & White, M. (2015, March). *Shawnee, Kansas, smart policing initiative: Reducing crime and automobile collisions through data-driven approaches to crime and traffic safety (DDACTS)*. Bureau of Justice Assistance. Available at

[www.strategiesforpolicinginnovation.com/sites/default/files/spotlights/Shawnee%20Site%20-Spotlight%20FINAL%202015%20%281%29.pdf](http://www.strategiesforpolicinginnovation.com/sites/default/files/spotlights/Shawnee%20Site%20-Spotlight%20FINAL%202015%20%281%29.pdf)

<sup>4</sup> Weisburd, D. (2008, January). Place-based policing. *Ideas in American policing, Number 9*. Police Foundation.

<sup>5</sup> Weisburd, D. (2016). Does hot spots policing inevitably lead to unfair and abusive police practices, or can we maximize both fairness and effectiveness in the new proacting policing? *University of Chicago Legal Forum, Vol. 2016*, Article 16. <http://chicagounbound.uchicago.edu/uclf/vol2016/iss1/16>

crashes and crime provides a scientifically based method for reducing social harms.<sup>6</sup>

As leaders of this national initiative to improve the quality of life in local communities, NHTSA is fortunate to have support from a wide variety of national partners. The following organizations offer technical assistance and in-kind resources through their local affiliates to support law enforcement agencies that use the DDACTS model.

- Bureau of Justice Assistance
- Commission on Accreditation for Law Enforcement Agencies
- Federal Highway Administration
- Federal Motor Carrier Safety Administration
- Governors Highway Safety Association
- International Association of Chiefs of Police
- International Association of Crime Analysts
- International Association of Directors of Law Enforcement Standards and Training
- National Organization of Black Law Enforcement Executives
- National Sheriffs' Association
- Texas Department of Transportation

## A Starting Point for Long-Term Solutions

Implementation of the DDACTS model provides a framework for achieving long-term change, encouraging public safety professionals to take a more evidence-based approach to the deployment of personnel and resources. The following presumptions support the value of implementing DDACTS.

- Reducing crashes, crime, social harm, and improving the quality of life for communities are the primary missions of law enforcement agencies, especially for those in areas needing critical police services.
- Community-focused, place-based police response is an effective strategy for addressing current issues of social harm and safety concerns of people.
- Developing partnerships and collaborating with community stakeholders to develop strategies to reduce crime and crashes will lead to more successful outcomes.
- Analysis-driven, strategic policing is critical, especially as agencies seek to improve public safety with increasingly limited resources.
- The need for police executives to use timely and accurate data to justify expenditures and deployment decisions will only increase as Federal, State, and local administrations, along with the public, continue to scrutinize the allocation of tax dollars.

*"The DDACTS model is very efficient because it places less emphasis on specialized units (many of which have been eliminated as a result of budget issues) and makes better use of officer uncommitted time."*

*~Alexander Weiss, noted evidence-based researcher*

<sup>6</sup> Brace, C., Scully, M., Clark, B., & Oxley, J. (2010, November). *The relationship between crime and road safety* (Report No. 284). Monash University Accident Research Centre. <https://pdfs.semanticscholar.org/d06f/a4a90582c4641be836dfa49a80b7e2a9a66c.pdf>

- Technology will continue to improve the policies and practices of policing. Existing and emerging technologies, such as smartphones, tablets, body cameras, license plate readers, and other technologies, will enhance the effectiveness of law enforcement practices.

## Implementing the DDACTS 2.0 Model

Successful implementation of the DDACTS model relies on seven guiding principles, starting with determining agency outcomes that can build community partnerships to establish support for highly visible police engagement. The principles also include increasing public education and aiding in the development of strategic operations and community policing problem-solving strategies. DDACTS is based on local data collection and analysis to identify crime, crashes, and traffic-related “hot spots.” As law enforcement agencies develop and employ their own unique DDACTS operational plans, regular information-sharing sessions with stakeholders reinforce the collective ownership of the initiative. Regular monitoring, evaluation, and the analysis of outcomes provide data-driven feedback for adjustments to DDACTS operational plans.

The DDACTS model is based on the following seven guiding principles, designed to be modified for any law enforcement agency’s use, regardless of departmental size, population, or community. The model is purposefully flexible, so agencies can adopt and adapt these principles based on their opportunities and challenges.

1. **Outcomes** - Goals and objectives that emerge during data analysis and hot spot identification are developed into outcome measures. These measures help to assess effectiveness relating to reductions in crashes, crime, traffic safety violations, and other social harm. The DDACTS model supports success with *outcomes* (reduced fatalities and crime, etc.) versus a focus on *outputs* (citations, arrests, etc.) in determining the effectiveness and efficiency of law enforcement operations.
2. **Data Collection** - Accurate, timely and complete crash, crime, calls for service and activity-related data, including location, incident type, time of day, and day of week are the building blocks of the DDACTS model. The process of data collection begins as soon as a telecommunicator answers a 911 call, or an officer initiates a contact. Data collection then continues through the report from the responding officer, the notes of a detective, and the disposition of a case. At all points along the way, the priority must be on the collection of timely, accurate, and complete data. The primary data sources are citizen calls for service, crime incident reports, crash reports, and police activity. There must be policies and procedures in place that prioritize report quality.
3. **Data Analysis** - The creation of actionable analysis products, including maps that overlay crash, crime, and activity-related data along with other related analyses, allows agencies to identify problem locations or hot spots. Additional analysis, including various proven evaluation techniques, can help to distinguish causation factors for each type of incident, delineate spatial and temporal factors, and consider environmental influences on crashes, crimes, and other disorders or social harm. The analysis should be “user-friendly” to include clear and simple visuals that provide the best opportunity to identify hot spots for focused high-visibility efforts.

4. **Partners and Stakeholders Participation** - *Collaboration* among law enforcement agencies and local stakeholders is essential for building trust and legitimacy. This collaboration also provides opportunities and support for increasing safety and improving the quality of life in a community. The goals are to establish active and continual communication with internal and external partners and stakeholders and determine how each can assist the police agency in collaborating and improving the overall quality of life in problematic areas, especially in seeking non-enforcement-related solutions.
5. **Strategic Operations** - Through analysis, agencies identify high activity hot spots, likely to include incidents of crashes, crimes, and other social harm. These hot spots can then be proactively engaged with strategic, highly visible traffic and other contact efforts at the most appropriate places and times. As discussed earlier, hot spot analysis guides the realignment of workflow and operational assignments to focus high-visibility engagement efforts and increase the efficiency of reducing social harm, i.e., community contacts, “walk-and-talks,” and directed patrols. The guiding question should be, “Do the officers have a clear understanding of where they should use their time and planned activities when not on a call for service?”
6. **Information Sharing and Outreach** - Large and small agencies everywhere have dramatically improved *internal and external* information-sharing through technology and social media. Through strategic information sharing and increased police-citizen collaboration, these efforts can further support increased officer awareness, expanded public safety, and enhanced community satisfaction.
7. **Monitoring, Evaluation, and Adjustments** - Data collection and analysis procedures allow supervisors to monitor, evaluate and *adjust* strategic operations and account for enforcement activity. These procedures also provide an opportunity to regularly assess crash and crime reduction, cost savings, and other outcome measures that define success. The DDACTS model is place-based and thus needs to keep pace with ever-changing data. Regular staff meetings or CompStat style (see definition in [Glossary](#)) management processes can help executives evaluate the effectiveness, or lack thereof, regarding officers’ efforts in the hotspots. This method will inherently invite accountability.

Evidence shows crime and traffic crashes frequently occur in geographic clusters; policing these hot spots works to reduce both crime and crashes, and strategic traffic engagement can be a useful tool to reduce crashes, crime, and other social harm. DDACTS, in short, is **evidence-based policing**.

To summarize, the DDACTS model complements and synthesizes well with other progressive policing models and paradigms. It is **community-oriented** in its insistence on the involvement of partners and stakeholders. It can be **problem-oriented** if the agency conducts a systematic analysis of hot spots and identifies and addresses long-term problems. It can be **intelligence-led** with a thorough review of offender populations in the target areas. DDACTS will help reduce crashes and crime, with focused zones based on *data-driven*, identified hot spots.



## Acknowledgments

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## Introduction

### Data Driven Approaches to Crime and Traffic Safety Model (DDACTS 2.0)

*Data-Driven Approaches to Crime and Traffic Safety* (DDACTS 2.0) is an operational model that integrates location-based crash, crime, calls for service, and police activity data to establish effective and efficient methods for deploying law enforcement resources. The DDACTS model is a place-based, evidence-based, community policing model strategically implemented in hundreds of agencies throughout the United States. “The Bureau of Justice Statistics reports about 70 percent of local police departments include community policing in their mission statement. That includes 9 out of 10 departments serving populations of 25,000 or more.”<sup>7</sup> Invariably, agencies should consider all opportunities to reduce social harm in their communities, and the success of the DDACTS model, for over a decade, is indeed a viable option.

### Using These Operational Strategies

This manual presents procedures and recommended practices for communities to develop a DDACTS implementation plan built upon the seven guiding principles that characterize comprehensive community-based law enforcement. The principles are (1) outcomes; (2) data collection; (3) data analysis; (4) partners and stakeholders participation; (5) strategic operations; (6) information sharing and outreach; (7) monitoring, evaluation, and adjustment.

Beginning with an overview of DDACTS, the manual highlights research demonstrating the traffic safety and crime prevention benefits derived from strategically directed and highly-visible police presence and traffic contacts, and the remaining sections present the guiding principles, implementation considerations, reference materials, and appendixes.

### The Research

As a leader of this national initiative to improve the quality of life in local communities, NHTSA understands the challenges faced by law enforcement executives who strive to weigh competing demands for police services against limited resource allocations. Designed to address this challenge, proper implementation of the DDACTS model ensures accountability and provides a dynamic, problem-solving approach to crashes and crime. Ultimately, DDACTS aims to improve the quality of life in local communities by diminishing social harm caused by both traffic crashes and crime.

This approach, similar to community and problem-oriented policing, suggests that place-based policing, “...as opposed to person-based policing, is more efficient as a focus of law enforcement actions; provides a more stable target for law enforcement activities; has a stronger evidence base; and raises fewer ethical and legal problems.”<sup>8</sup> The application of highly visible engagement is a proven and effective tactic that addresses both crashes and crime, whether they occur simultaneously or independently in time or location. Furthermore, its reliance on analysis to identify the nexus of crashes and crime acknowledges the vital role that data and technology

<sup>7</sup> Stone, A. (2017, May 4). *Community policing can mean dialog instead of rioting* (Web page). Emergency Management. [www.govtech.com/em/safety/Community-policing-can-mean-dialog-instead-of-rioting.html](http://www.govtech.com/em/safety/Community-policing-can-mean-dialog-instead-of-rioting.html)

<sup>8</sup> Weisburd, 2008.

play in all public safety arenas.

DDACTS builds on more than 35 years of research illustrating the residual crime control and traffic safety benefits resulting from data-driven, strategically directed traffic engagement. One of the critical elements of the DDACTS model is the nexus between the strategy and tactics of traffic contacts and the prevention of crime. In other words, the application of highly visible police presence is a proven and effective strategy that addresses both crime and crashes, whether they occur simultaneously or independently in time or location.

The relationship between traffic crashes, crime, and place-based policing has been the subject of many studies, each contributing an essential piece to our understanding.

- ▶ In 1992 an NIJ-funded study in Kansas City, Missouri, directed patrol officers to focus on gun detection through patrol and increased vehicle stops. The results were striking in that gun seizures increased by 65 percent with no displacement to other areas; drive-by shootings decreased by over 80 percent with no displacement, reduction in homicides, and residents in the target area became less fearful of crime and more positive about their neighborhood.<sup>9</sup>
- ▶ In 1994 Clark and Weisburd confirmed that, in general, crime is not displaced and, in fact, surrounding areas often benefit from place-based strategies.<sup>10</sup>
- ▶ In 1994-1996, Peoria, Illinois, increased traffic visibility with the assistance of the Illinois State Police and Peoria County Sheriff's Office. This collaboration resulted in significant reductions in traffic crashes, violent crime, property crime, and calls for service.<sup>11</sup>
- ▶ In 1995 the Indianapolis Police Department increased traffic presence in eight patrol beats over six weeks resulting in significant decreases in burglaries and vehicle thefts. An interesting finding of this study is that diffusion of these benefits (lower crime) carried over into contiguous beat areas.<sup>12</sup>
- ▶ In 2000, David Giacopassi and David Forde examined the relationship between traffic fatalities and crime. Their study showed that "Traffic fatalities are indices of incivility and aggression, indicating a disregard for social conventions, leading to more serious normative violations like homicide." Moreover, they suggested that when law

<sup>9</sup> Sherman, L. W., Shaw, J. W., & Rogan, D. P. (1995). *The Kansas City gun experiment, Research in brief*. National Institute of Justice; and Sherman, L. W., & Rogan, D. P. (1995). The effects of gun seizures on gun violence: 'Hot spots' patrol in Kansas City. *Justice Quarterly* 12, 673-693.

<sup>10</sup> Clarke, R. V., & Weisburd, D. (1994). Diffusion of crime control benefits: Observations on the reverse of displacement. *Crime Prevention Studies, Volume 2*, 165-183.

<sup>11</sup> Stuster, J. W. (1997). *The Peoria experience, traffic enforcement and crime: It plays in Peoria*. National Highway Traffic Safety Administration.

<sup>12</sup> McGarrell, E. F., Chernak, S., & Weiss, A. (2002, November). Reducing gun violence: Evaluation of the Indianapolis Police Department's directed patrol project. National Institute of Justice.

enforcement agencies pay inadequate attention to traffic law violations, it could lead to “a general condition where people feel they may break the law with impunity.”<sup>13</sup>

- ▶ In 2004 David Weisburd and colleagues reported that strategies focused only on offender data often change because the offenders “age out” of crime. In contrast, a focus on crime and crashes tends to be much more stable over time.<sup>14</sup>
- ▶ Anthony Braga and colleagues completed a thorough meta-analysis review of the studies involving hot spot policing in 2012. They concluded that this tactic continues to be one of the most effective deployment strategies used to reduce social harm.<sup>15</sup>
- ▶ In 2014 researchers from the Michigan Justice Statistics Center discovered that using the Data-Driven Approaches to Crime and Traffic Safety (DDACTS) model in Flint, Michigan, produced a significant decline in violent crime that also caused lower crime rates in other areas in the city.<sup>16</sup>
- ▶ And again, in 2016, researcher David Weisburd discussed the need and value for continuing with hot spots policing strategies asserting that increased community contacts do not lead to abusive or biased-based policing complaints. Instead, he argued, this effective tactic can reduce overall citizen contacts with a focused crime prevention strategy.<sup>17</sup>
- ▶ Moreover, in 2017, John Eck and his colleagues determined that hiring more officers was not as effective as the strategic deployment of officers on reducing crimes, which is a basic premise of the DDACTS model.<sup>18</sup>
- ▶ Eric Piza (2018) discovered in his foot patrol saturation study in Newark, New Jersey, that officers performing *guardian* actions (i.e., business checks, public contacts, bus checks, and taxi inspections) had a more significant crime prevention effect versus enforcement actions (i.e., arrests, summonses, and field interrogations).<sup>19</sup>

<sup>13</sup> Giacomassi, D., & Forde, D. R. (2000). Broken windows, crumpled fenders, and crime. *Journal of Criminal Justice* 28 (5), 397-405.

<sup>14</sup> Weisburd, D., Bushway, S., Lum, C. & Yang, S. (2004). Trajectories of crime at places: A longitudinal study of street segments in the City of Seattle. *Criminology* 42(2), 283-322.

<sup>15</sup> Braga, A., Papachristos, A., & Hureau, D. (2012). *Hot spots policing effects on crime*. Campbell Systematic Reviews volume 8; DOI 10.4073/csr.2012.8.

<sup>16</sup> Rydberg, J., McGarrell, E., & Norris, A. (2014). *Flint DDACTS pilot evaluation*. Michigan Justice Statistics Center, Michigan State University.

<sup>17</sup> Weisburd, D. (2016). *Does hot spots policing inevitably lead to unfair and abusive police practices, or can we maximize both fairness and effectiveness in the new proacting policing?* University of Chicago Legal Forum: Vol. 2016, Article 16. <http://chicagounbound.uchicago.edu/uclf/vol2016/iss1/16>

<sup>18</sup> Eck, J., Lee, Y., & Corsaro, N. (2017). Adding more police is unlikely to reduce crime: A meta-analysis of police agency and crime research. *Translational Criminology*, 14-16.

<sup>19</sup> Piza, E. L. (2018). The effect of various police enforcement actions on violent crime: Evidence from a saturation foot-patrol intervention. *Criminal Justice Policy Review*, 29:6-7, 611-629.

- Xiaoyun Wu and Cynthia Lum (2019) discussed using the DDACTS model to explore using various interventions beyond vehicle stops to maximize crash and crime prevention, such as visible police presence and problem-solving activities that can foster positive community relationships.<sup>20</sup>

## DDACTS, Hot Spots, and Analysis in Law Enforcement

To interpret crime and crash data, identify hot spots, analyze target areas, and evaluate results, DDACTS calls upon techniques and technologies usually performed by the police agency's *crime analyst*. IACA defines crime analysis as:

“A profession and a process in which a set of quantitative and qualitative techniques are used to analyze data valuable to police agencies and their communities. It includes the analysis of crime and criminals, crime victims, disorder, quality of life issues, **traffic issues**, and internal police operations, and its results support criminal investigation and prosecution, patrol activities, crime prevention and reduction strategies, problem-solving, and the evaluation of police efforts.”<sup>21</sup>

The IACA is careful to note that so-called “crime” analysts—a title retained primarily for tradition— “study *any* information relevant to a police agency, including ... traffic collisions.” Indeed, there is little about the analysis of crime that is specific *to* crime: almost all of the techniques and technologies used to identify, analyze, and predict crime by location, time, involved persons, and causal factors can be directly transferred to the study of traffic crashes.

The profession of crime analysis traced its history to the 1950s when specialized units began to appear at large American police agencies. These units formalized the processes of hot spot analysis, pattern identification, and intelligence collection that had been performed informally by police officers, detectives, constables, and other law enforcement officials extending back into ancient times. In 1963 Chicago Police Superintendent O. W. Wilson published his second edition of *Police Administration* and named “crime analysis” as an ideal section to have within a planning division. Wilson’s mentor, Berkeley (California) Police Chief August Vollmer (1876-1955), planted the seeds for crime analysis in American policing nearly half a century earlier in a series of writings that emphasized the importance of data in policing. In one of his papers, he notes:

“On the assumption of the regularity of crime and similar occurrences, it is possible to tabulate these occurrences by areas within a city and thus determine the points which have the greatest danger of such crimes and what points have the least danger.”<sup>22</sup>

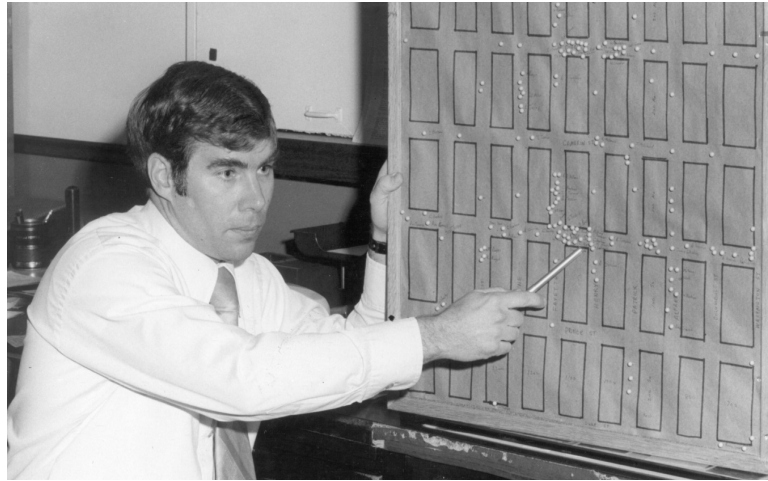
<sup>20</sup> Wu, X., & Lum, C. (2019, October). The practice of ProActive stops. *Policing: An International Journal*. [www.emerald.com/insight/content/doi/10.1108/PIJPSM-06-2019-0089/full/pdf?title=the-practice-of-proactive-traffic-stops](http://www.emerald.com/insight/content/doi/10.1108/PIJPSM-06-2019-0089/full/pdf?title=the-practice-of-proactive-traffic-stops)

<sup>21</sup> International Association of Crime Analysts. (2014). *Definition and types of crime analysis* (Standards, Methods, & Technology Committee White Paper 2014-02). [https://iaca.net/Publications/Whitepapers/iacawp\\_2014\\_02\\_definition\\_types\\_crime\\_analysis.pdf](https://iaca.net/Publications/Whitepapers/iacawp_2014_02_definition_types_crime_analysis.pdf)

<sup>22</sup> Reinier, G. H., Greenlee, M. R., Gibbens, M. H., & Marshall, S. P. (1977). *Crime analysis in support of patrol*. National Institute of Law Enforcement and Criminal Justice, 9.

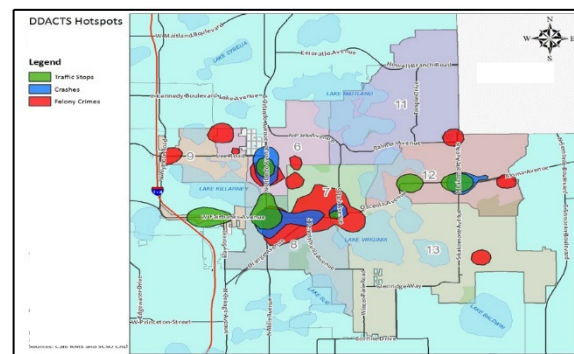
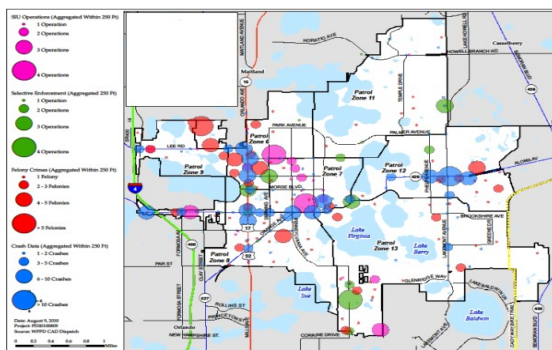
Vollmer was talking about **“hot spots,”** although the term did not yet exist in policing. Over the next 80 years, police administrators and then full-time crime analysts would tabulate such hot spots with colored dots and pushpins stuck on paper maps—a process that did not change until the desktop computing revolution brought computer mapping programs to the world’s police agencies in the 1990s.

The first pure “science” of crime analysis emerged in the 1970s, as the Law Enforcement Assistance Administration (LEAA) offered funding for the development of analysis and published several manuals to help agencies develop crime analysis programs. Since then, the profession has continued to evolve, taking advantage of new technologies (databases, GIS, intranets) and aligning itself with progressive policing models (problem-oriented policing, intelligence-led policing). DDACTS is one such model.



**Figure 1: A 1970s crime map in the Alexandria, Virginia, Police Department**

As a place-based strategy, DDACTS relies heavily on the analysis of hot spots. It analyzes streets, intersections, neighborhoods, and other discrete locations where crime, disorder, and crashes gather in numbers higher than the rest of the community. These hot spots may be indicative of long-term problems related to the opportunity of crime commission. Thus, while high-visibility contact works to suppress activity at hot spots, the DDACTS model also supports intelligence-led and problem-oriented policing strategies meant to reduce crime in the long-term. It also supports traffic engineering and other non-law enforcement solutions intended to accomplish the same with crashes.



**Figures 2 & 3: These maps show an agency’s DDACTS efforts. At first, the agency had a scattered response to crashes and crime. After implementing the DDACTS model, their focused efforts are efficient and effective.**

A thorough analysis of hot spots marries a crime analysis professional with a geographic information system (GIS) capable of importing, querying, analyzing, and displaying spatial data. GIS programs are used at all levels of State, county, and municipal government, and many police agencies find that a strong partnership with their local GIS departments and GIS directors are advantageous for DDACTS implementation.

**An agency does not necessarily need to employ a full-time civilian analyst to implement DDACTS successfully.** Intellect, aptitude, interest, and commitment are much more important than title, rank, or full-time assignment. Whoever is assigned the analytical tasks will need adequate time, training, technical resources, and support necessary to produce actionable analysis that is accurate, timely, and consistent. Larger agencies will most likely need someone assigned to analysis on a full-time basis. Still, smaller agencies may be well served by someone who conducts analysis in addition to other tasks. Both sworn and civilian personnel can bring varied and valuable skillsets to the analytical function. Agencies too small to assign someone specifically might seek partnerships with larger nearby agencies, local colleges and universities, regional crime analysis centers, or fusion centers for analytical assistance. It is likely that over time, agency command and operational personnel will become more and more dependent on quality analysis to drive operations, and the analyst position will evolve toward whatever structure works best. There are many free resources available.

## A Starting Point for Long-Term Change

Implementation of DDACTS is a starting point for achieving long-term change where law enforcement professionals take a more integrated data-driven approach to the deployment of officers and resources. The following presumptions about the future of law enforcement support the need for implementing DDACTS:

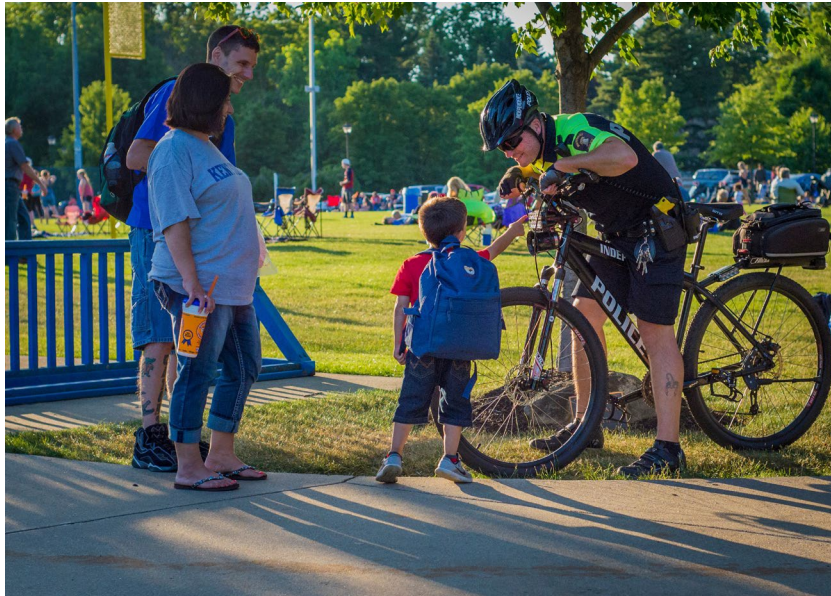
- Resources not sufficient to keep pace with the demands to respond to calls for service and threats to public safety; using the DDACTS model helps an agency to address crimes and crashes with greater efficiency using existing staff;
- Decreasing social harm and improving quality of life for communities;
- The need for timely and accurate data and analysis to justify expenditures and deployment decisions;
- Law enforcement agencies need to keep pace assessing needs, delivering services, and managing costs;
- Technology has and will continue to affect the policies and practices of law enforcement; and
- Community-focused, place-based policing has emerged as an effective strategy for addressing public safety.
- Law enforcement agencies should strive to ensure that behavioral countermeasures to deter unsafe behaviors and promote safe alternatives are applied consistently and systematically, resulting in fair, just, and impartial treatment of all individuals.

Law enforcement executives should continue to explore new strategies to further improve the quality of life in communities disproportionately impacted by the effects of high crime and high crash rates. Deploying the DDACTS model is a concerted positive step in the right direction.

The DDACTS model works, and every agency can implement this program to make a difference in cities and towns, reducing crashes and crime.

*“Policy makers can adopt evidence-based policing strategies shown to impact crime and other public demands on the police. This is not simple or easy, but it is effective. Superficial adoption, or temporary adoption, will not help. This needs to be undertaken with the long-term objective of fundamentally changing the way policing is carried out if it is to have a sustained impact on crime.”*

*~ John Eck & Yong Jei Lee, Researchers*



## IMPLEMENTING DDACTS 2.0

In addition to recognizing the efficiency and effectiveness of traffic contacts as a tool for reducing crashes and crime, the DDACTS model positions these traffic contacts as a logical rationale for a highly visible police presence in a community. In other words, focused traffic safety is a critical police function that has multiple public safety benefits. Its focus on collaboration with citizens, community businesses, and community organizations reinforces the vital role that *partnerships* play in reducing social harm. Furthermore, by analyzing the place-based relationship between crashes and crime, the DDACTS model gives law enforcement agencies an opportunity to use an effective intervention to address both problems. Conducting vehicle stops is a primary tool in this effort. However, all forms of data-driven proactive endeavors such as building checks, community meetings, pedestrian encounters, talking with business owners, etc., are also valued means of being “highly visible” in a particular area.

As law enforcement agencies implement these plans, regular information-sharing sessions with partners and stakeholders reinforce the collective ownership of DDACTS. When communities help to determine problem outcomes and solutions, police legitimacy and trust are built and sustained. Finally, monitoring, evaluation, and analysis of outcomes provide data-driven feedback for needed operational adjustments.

The following sections elaborate on the seven guiding principles. They outline implementation procedures and highlight operational considerations based on best practices in the field. Although the principles are presented sequentially, many of the activities may be undertaken simultaneously.

### Guiding Principle I - Outcomes

Inherent in the decision to implement DDACTS is a commitment to changing attitudes and practices regarding crash reduction and prevention, traffic safety, and the resulting reduction of crime. Law enforcement executives should identify desired outcomes based upon analyses, that are as specific as possible and are driven and supported by the community. They should further prioritize outcomes over outputs.

Outputs are the activities that lead to viable outcomes. “An output is something you do, and an outcome is something that happens as a consequence of what you do.”<sup>23</sup>

*Outputs* are actions, i.e., directed patrols, traffic tickets, arrests, completed field interview cards, community contacts. *Outcomes* reflect long term goals, i.e., reduced fatalities and personal injury crashes, declines in crime, enhanced and improved community relationships.

*“Looking at the micro-places within neighborhoods where violent crimes cluster demands that we look at the people caught up in those webs of violence. When we do, what we find are human beings who want to live lives of safety and dignity the way everyone does.”*

*~ Maurice Jones & Julia Ryan*

<sup>23</sup> Van der Pol, H.-J. (2018, September). Outcomes vs outputs: Are you activity or results driven? *Perdoo*. [www.perdoo.com/resources/outcomes-vs-outputs/](http://www.perdoo.com/resources/outcomes-vs-outputs/)

Outcome measures or measures of impact that address a reduction in crashes and crime may include the following reductions.

- Citizen calls for service
- Individual and collective numbers of fatal, injury, and property-damage-only crashes
- Crime, both violent and property
- Traffic violations
- Gang violence incidents
- Disorder and social harm
- Opioid-related incidents
- Perceived fear of crime

Organizational outcomes may include more effective and efficient use of personnel and other resources. Additional outcomes may include:

- More efficient use of personnel and other resources;
- Increased cooperation and coordination among all officers, working together toward the identified desired outcomes;
- Community and business support;
- Positive results from community surveys addressing police effectiveness and quality of life issues; and
- Increased justification for future resources.

#### **Action Items**

- Identify areas for monitoring and evaluation
- Develop outcome measures
- Identify the monitoring and evaluation method
- Assign responsibility for monitoring and evaluation

#### **Considerations**

- Include staff and community partners in the development of desired outcomes and measures.
- Look for ways to apply the findings from hot spot analysis to deployment decisions in other locations.
- Monitor relationships with partners and stakeholders from the hot spot locations to obtain insights on ways to improve community relations in other hot spots.
- Incorporate cost-benefit criteria when measuring outcomes.

### **Guiding Principle II - Data Collection**

*Data* is the key driving component of a DDACTS implementation. Decisions about where, when, and how to engage your citizenry should be based on a thorough analysis of crash, crime, call-for-service, and police activity data. Various data sources serve different purposes, depending on the agency's overall approach to DDACTS implementation. Almost all DDACTS model implementations begin with crash, crime, and call-for-service data stored in the police agency's **computer-aided dispatch (CAD)** system or **records management system (RMS)** or provided

from a State data system. Agencies should strive to use all related technology, such as CAD and RMS, to the greatest capacity to fully support the officers responsible for writing reports.

Data *quality* is as critical as collection and starts with an agency-wide prioritization and commitment to quality report writing with an emphasis on accuracy, completeness, and timeliness of all mandated reports.

**Table 1: Types of Data**

| Type of Data                              | Examples                                                                                                               | Uses                                                                                                                       |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Incident data</b>                      | Crashes<br>Crimes<br>Calls for service                                                                                 | Identify and analyze hot spots and DDACTS focus areas; measure changes within those areas.                                 |
| <b>Offender data</b>                      | Known offenders<br>Arrests<br>Field interviews<br>Probation and parole<br>Active warrants                              | Refine designation and analysis of target areas with information about nearby offenders and likely offender travel routes. |
| <b>Police activity data</b>               | Citations and warnings<br>Vehicle stops<br>Arrests<br>Field interviews<br>Pro-active patrols                           | Monitor police activity inside and outside identified DDACTS zones and evaluate impact toward desired outcomes.            |
| <b>Demographic and environmental data</b> | Census records<br>Businesses<br>Parcel maps                                                                            | Refinement of analysis of target areas with an understanding of socio-economic contributors.                               |
| <b>Investigative data</b>                 | Video<br>LPR data<br>Vehicle information<br>Criminal History<br>Recidivists<br>Associates<br>Property<br>Wanted fliers | Access to data developed through the immediate investigative process and as investigation(s) progress                      |

With each of these datasets, there are associated considerations with **timeliness**, **completeness**, **accuracy**, and **accessibility**. In an ideal world, people performing analysis for the agency will have unfettered access to a complete set of timely, accurate data on which they can conduct flexible queries and create maps.

**Table 2: A crash data set ready to analyze. The “date” data is parsed out to allow for analysis by day, month, year and hour of the day and the address data is clean and consistent. The “type” field details both crash severity and resource responses. While additional data fields could be valuable, a data set with at least these fields is enough to create actionable analysis to drive DDACTS operational response.**

|    | A        | B     | C          | D     | E                    | H                         | I        | N                 |
|----|----------|-------|------------|-------|----------------------|---------------------------|----------|-------------------|
| 1  | *Weekday | *Hour | *TextMonth | *Year | Address              | call_source               | district | C_Type            |
| 2  | Thu      | 14    | January    | 2015  | 0 HIGHLAND CREEK DR  | Phone Call                | 2        | Minor Accident    |
| 3  | Fri      | 06    | January    | 2015  | 1000 KELLER PKWY     | Actual 911 emergency call | 4        | Minor Accident    |
| 4  | Fri      | 06    | January    | 2015  | 1000 KELLER PKWY     | Phone Call                | 4        | MAJOR ACCIDENT    |
| 5  | Sat      | 15    | January    | 2015  | 1099 S MAIN ST       | Actual 911 emergency call | 3        | MAJOR ACCIDENT    |
| 6  | Sat      | 15    | January    | 2015  | 1099 S MAIN ST       | Phone Call                | 3        | major accident-PD |
| 7  | Sat      | 18    | January    | 2015  | 100 N COLLEGE AVE    | Actual 911 emergency call | 3        | Minor Accident    |
| 8  | Sun      | 01    | January    | 2015  | 413 HILL ST          | Phone Call                | 3        | major accident-PD |
| 9  | Sun      | 01    | January    | 2015  | 413 HILL ST          | Phone Call                | 3        | MAJOR ACCIDENT    |
| 10 | Sun      | 02    | January    | 2015  | 3340 INDIAN CREEK CT | Phone Call                | 4        | Minor Accident    |
| 11 | Mon      | 10    | January    | 2015  | 8836 DAVIS BLVD      | Phone Call                | 4        | Minor Accident    |
| 12 | Tue      | 08    | January    | 2015  | 2000 S MAIN ST       | Phone Call                | 2        | Minor Accident    |
| 13 | Tue      | 08    | January    | 2015  | 2301 HWY 377         | Phone Call                | 1        | Minor Accident    |

## Key Element I - Review Current Data Collection and Analysis Systems

A review of the current system includes:

- Assessment of existing computer-aided dispatch (CAD) and records management systems (RMS) capabilities;
- Policies, procedures, and protocols;
- Report writing and report review and priorities for accurate, timely, and complete data collection;
- Data access formats and data consistency; and
- Software and hardware needs regarding data access and collection.

The capacity of these systems varies widely among agencies; however, the starting point will always be the data that is currently available. Agencies have used a data-driven model as a catalyst to enhance data collection systems while successfully implementing these guidelines in their communities.

## Action Items

- Review all policies, procedures, systems, and processes related to all report writing to ensure that the emphasis is on accurate, complete, and timely data in all mandated reporting.

- Inventory the sources for key data elements needed to support your stated outcomes.
- Make a plan for obtaining access to essential data that you do not currently have.

## Considerations

- Agencies should start implementing DDACTS with whatever data and analysis are available. The DDACTS model does NOT necessarily require the purchase of sophisticated or expensive software systems to begin. Do not delay applying the model until you have a better system; instead, make system improvements part of your ongoing strategy.
- Agencies pursuing the implementation of DDACTS, but not currently using information technology for crime and traffic data analysis, can seek technical assistance through Federal, State, and local government agencies to identify systems used in other jurisdictions.
- Assessing the current data collection system provides an opportunity for management to examine data requirements, compatibility with other data systems, and data accessibility.
- The information generated from DDACTS can provide an opportunity to modify and expand reporting protocols and make greater and more efficient use of data collection and information-sharing systems.
- Consider *qualitative* data sources as well as quantitative ones: interviews, environmental assessments, and observations.
- Agency personnel should always ask, “What type of data do we need to be collecting that will help us the most in combatting crash and crime issues daily?” The answer will be driven by whatever is the most problematic issue in your specific community, i.e., vehicle break-ins, robberies, personal injury crash locations, speeding complaints, etc.

## Key Element II - Improve Data Quality and Timeliness

Implementation of the DDACTS model is the occasion for an agency to conduct a comprehensive review of its data systems and identify issues with timeliness, accuracy, and completeness. Problems common to law enforcement agencies include:

- Inaccurate coding of crimes and crashes;
- Incorrect dates and times of occurrences. Systems may default to dates and times of reporting.
- Locations carried over from the CAD system, resulting in crime reports showing the location of *reporting* rather than the place of *occurrence*, often the police department itself or a hospital;
- People misidentified or duplicated in the master name index;
- Data fields left blank in which key *modus operandi* or causal elements exist; and
- Reports not completed and approved promptly.

*“A critical component from which all other guiding principles of DDACTS emerge is the collection of accurate data. Typically, the swiftest and greatest opportunity for agency-wide improvement and accountability occurs in the complete and timely collection of accurate data from the moment the call is received until the case is closed.”*

*~ Chief Lance Arnold,  
Weatherford, Texas,  
Police Department*

Solving these issues usually requires a combination of training, policy, and supervision.

## Action Items

- Convene a working group of people who use the data in these systems: officers, telecommunicators, analysts, records personnel, and IT specialists, for instance.
- Determine issues associated with timeliness, completeness, accuracy, and accessibility of your core data sources and determine the cause of any obstacles. Give particular attention to the accuracy of locations and associated coordinates.
- Make a plan for improving timeliness, accuracy, and completeness through training, policy, supervisory review, and data system administration.
- Identify and concentrate on areas where the data disclose crime and crashes to be *historically problematic (3-5 years)*, rather than areas where incidents are more dynamic and represent short-term issues. Resist the urge to adopt a “chasing your dots” or “whack-a-mole” strategy. This is not to discount the event of flare-ups in other areas, which may be the result of a temporary environmental change or other factors, requiring immediate data-driven solutions.

## Considerations

- Be aware of data quality and collection issues. *Every* police agency struggles with data quality, and agencies should develop training tools and processes geared towards data quality improvements, including uniform, timely, accurate, and complete data.
- Data collection “training” need not consist of dull, multi-hour sessions. Consider simple memos, roll-call briefings, and virtual platforms that can address one problem at a time.
- Consider policies related to report review and approval as a means of improving data quality.
- Recognizing the dynamic nature of a police call, officers still need to record data on all reports accurately.

## Key Element III - Assess and Improve Data Access

Even a pristine, accurate, timely, and complete dataset is of little use if your designated analyst cannot *extract* it from its source and use analytical tools (including mapping programs) to ask questions about hot spots and their associated times, days, crime types, offender and victim profiles, and *modus operandi*. Getting data out of the storage system and into analysis programs (see Guiding Principle III) is a paramount goal.

Many commercial systems will attempt to offer querying, mapping, and other analytical tools. These vary in quality but seldom provide the full set of tools and techniques needed to identify and analyze hot spots. Many systems, however, do offer the ability to export at least some of the data with a click of a button.

A technology called **ODBC** (Open Data-Based Connectivity), which is free and comes with Microsoft Windows, allows direct connection to most commercial databases (including most CAD and RMS) that exist on your servers. For databases that exist on remote servers—such as regional RMS and CAD systems, State-maintained crash systems, or data stored in “The Cloud”—partnerships with the administrators of those databases are critical. They should be able to create a process for extracting your data and providing it to you in raw form.

Whether through direct data connections, mirror databases, or complete exports, all attempts must be made to gain organized access to all data variables collected.

### Action Items

- Determine what types of queries and maps are and are not possible using the resources you already have.
- Determine who *controls* the data in your key data sources.
- If data is stored on your agency servers, work with your CAD and RMS vendors and IT professionals to establish ODBC connections, or a complete export process, and create a process for regular querying and extraction of crucial datasets.
- If your data is stored on another agency's server, partner with the administrators of these systems to ensure that you can get a regular download of the data you need.
- Create databases to assist in the maintenance of data that you do not already track.

### Considerations

- Your ability to access and download your data in *raw* form should be a key discussion point in any agreement to move to a regional CAD system or RMS.
- Seek the available technical assistance support for agencies establishing direct connections to their data for the first time, including training on how to interpret and manage it.
- Do not accept vendor or IT excuses for not letting you have direct access to your data. There are very few technological or procedural obstacles that cannot be overcome.
- Decide how your agency will collect your police activity data. Many departments add a new code to their CAD systems. Others create a separate report in RMS with a specific description. Others use mapping software to create a zone then export the data within that zone into a program, such as Microsoft Access to analyze.

## Guiding Principle III - Data Analysis

DDACTS 2.0 is a place-based community contact model, so this step is vital for the identification and analysis of those places. Whether your crash and crime hot spots exist independently or directly overlap, you will want to identify small geographic areas for intensive directed patrol and traffic contact during the period of your implementation. Also consider a long-term solution such as situational crime prevention, Crime Prevention Through Environmental Design (CPTED), and traffic engineering solutions. The analysis should include visual tables and maps to provide a clear understanding of specific areas that need attention to maintain a focused effort.

**For additional information, see the agency case studies in Appendix C: Greenville, NC, Roanoke County, VA, and Schenectady, NY.**

Geography is the most crucial element of DDACTS analysis, and the simple presence of extra personnel—regardless of their specific prevention actions—will likely have suppressive effects on crashes and crimes in designated target areas. However, the more information provided to those officers—times, days, victim profiles, offender profiles, specific addresses, types of locations, stolen and damaged property, and involved vehicles among other elements—the

more *targeted* the solutions and options agencies can have. DDACTS, therefore, calls upon numerous datasets and analytical techniques.

The DDACTS model initiative includes training and technical assistance to agencies new to the analysis process.

**For additional information on analytical techniques for DDACTS,** see Bruce, C. W. (2017). *Crime and traffic analysis: Techniques to support DDACTS*, listed in Appendix A, resource section.

## Key Element I - Identify and Resource Your Analyst

The first step of the analytical process is to identify the analyst. For agencies with a full-time crime analyst, the choice is obvious. For those with multiple analysts, agencies will have to designate the one with the greatest affinity for critical thinking, mapping, and analyzing long-term hot spots. Agencies without an analyst may want to appoint one for DDACTS. If no suitable internal candidate can be found, *partners* may provide needed support.

The agency will also need to make sure that the analyst has adequate *training* in analytical processes, mapping, and data querying to conduct hot spot identification and analysis. Fortunately, there are several books, webinars, and training classes devoted to these subjects.

**For additional information on developing quality crime analysis programs,** see Bruce, C. W., Piehl, D. J., & Casady, T. P. (2015). *Building a model crime analysis program: 50 steps for law enforcement executives*, listed in Appendix A, resource section.

## Action Items

- If your agency has more than one full-time analyst, determine the best one qualified to perform analysis for DDACTS.
- If there is no identified analyst, consider whether one can be designated part-time from existing personnel. Police officers, detectives, dispatchers, IT personnel, accreditation managers, and records personnel can all excel in crime analysis given time and training. Remove or reassign duties as necessary, so the person has adequate time to focus solely on analysis.
- If there is no suitable internal candidate or time, identify partners who may fill this role. Larger nearby agencies may be able to lend some analysis time. Analysts may be located at the local sheriff's office or fusion center. Many cities, towns, and county planning departments (with GIS specialists) can help with mapping and analysis. Universities and student interns also provide potential partners. Finally, the DDACTS program can provide technical support and work with your designated person(s).
- Identify any training needs in relevant subject areas for whoever serves as the agency analyst. Seek out classes, literature, or other resources to fill those gaps at [www.iadlest.org/training/ddacts](http://www.iadlest.org/training/ddacts) and the IACA link in the next section.

## Considerations

- The IACA recommends that an agency has one full-time analyst for every 1,500 UCR Part I crimes that it reports in a year, or alternately one full-time analyst for every 70 sworn police officers. Use these formulas to determine how many analysts (or how much of a part of an analyst) your agency may need.<sup>24</sup>
- If you do not have an analytical capability, use DDACTS implementation as an occasion to build one. There are many benefits to be realized from a quality crime analysis function.
- The **International Association of Crime Analysts** ([www.iaca.net](http://www.iaca.net)), a DDACTS national partner, provides training and technical assistance in analytical techniques.

## Key Element II - Determine Software Needs

DDACTS is NOT a software program, but like all types of data-driven models in the modern age, it depends to some degree on effectively using software. *Very* small departments might be able to create physical “pin maps” and analyze data by hand, but almost any department with more than a few hundred crashes and crimes to map and analyze will need appropriate software.

The good news is that agencies that already use the Microsoft Office Suite for general administrative tasks and functions can use the same applications for necessary data collection and analysis.

To visually display crime, crash, and police activity data as points on a map, it will be necessary to have access to geographic information system (GIS) software. The most popular GIS software runs on a Windows platform and is likely already used by other local offices such as planning or zoning.

Some on-line services are available that are free or very low cost, but the capabilities are often somewhat limited and may require that data be uploaded to a commercial site.

Currently, technical assistance, training, and assistance with providing direction are available for any agency seeking to develop GIS capabilities. It is extremely valuable to be able to identify high activity hot spots through mapping and to display these locations on a map accurately. Operations can then work on creating a highly visible police presence in precise locations.

The primary difficulty for some departments will involve attaining a geographic information system (GIS)—computer mapping software. However, agencies may be able to obtain a user license for GIS software from their city, town, or county GIS offices.

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<sup>24</sup> International Association of Crime Analysts. (2017). *Exploring crime analysis: Readings on essential skills* (3rd ed.).

Table 3: Types of Software Used in DDACTS Analysis

| Type of software                      | Examples                                                                                           | Uses                                                                                  |
|---------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Data querying</b>                  | Microsoft Access<br>Microsoft Excel<br>Crystal Reports<br>Tableau                                  | Ask questions about data stored in relational databases; aggregate and summarize data |
| <b>Statistics</b>                     | Microsoft Excel<br>SPSS<br>Power BI                                                                | Calculate averages and dispersion; evaluate results of DDACTS programs                |
| <b>Communications and Publication</b> | Microsoft Word<br>Microsoft PowerPoint<br>Microsoft Publisher                                      | Create products for review and dissemination internally and externally                |
| <b>Geographic Information System</b>  | ESRI ArcGIS<br>MapInfo Professional<br>QGIS<br>Google<br>BatchGeo<br>CrimeStat<br>Excel 3D Mapping | Identify and analyze hot spots; designate target zones                                |

It is always critical that personnel assigned to analytical tasks have unfettered access to the data needed to support analysis-driven operations. Analysts should never be limited in their querying capabilities or forced to work from a limited list of canned queries. Such limitations will only hinder operations by preventing analysts from creating actionable analysis to support agency activities.

This does not mean that every person performing analysis functions should have the same level of access as everyone else. Generally, restrictions are placed upon data from major or sensitive cases, internal affairs, personnel, etc. By working with your vendor or IT personnel, varying levels of access can be granted based upon rank or job description.

Analysts not only need open data, but they also need very timely access to crash reports, incident reports, arrest reports, calls for service, field interview cards, warning tickets, citations, and investigative data. It is best when agency policy requires reports to be completed before the end of shift and reviewed and approved prior to the end of supervisors' shifts. To provide any level of "real-time" analysis to support operations, analysts need "real-time" access to the data.

### Action Items

- Identify what types of software your agency has and what types are needed.
- Work with your local GIS department to see if you can get a license of the GIS software that they use, if necessary. If GIS software is unavailable, utilize the free sources noted above (Excel 3D, Google, Batch GEO).

- Identify specific training sources to help get better use out of software products in use by your agency.

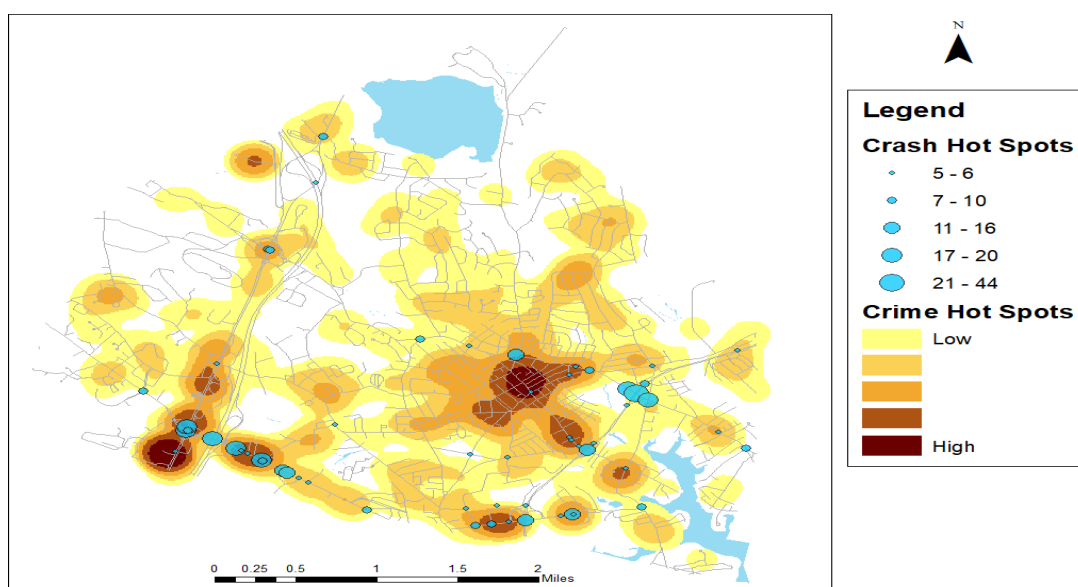
## Considerations

- Although there are several options for mapping software, it is best to use the same software used by your city, town, or county GIS department, as they will be able to provide necessary “base map” data, as well as support with the software. It is rare to find a city, town, or county that does not have an assigned GIS *person*, if not an entire department.
- Free online tools for mapping generally produce only “point” maps (insufficient for analysis of hot spots) and lack the ability to designate or thoroughly analyze target areas. It is better to partner with someone with proper GIS software than to pursue cheap and insufficient solutions online.

**For additional information on mapping software, see the NIJ website at:**  
[www.nij.gov/topics/technology/pages/software-tools.aspx#maps](http://www.nij.gov/topics/technology/pages/software-tools.aspx#maps)

## Key Element III - Identify Hot Spots

Identifying hot spots for both crime and crashes is a key step to the DDACTS model process. *Hot spots* are geographic concentrations of activity—small areas that hold a disproportionately large amount of the overall activity in the jurisdiction. We might find them at shopping centers, major intersections, parks, entertainment districts, and housing developments. For crime, they may exist because of a large population of potential offenders, a large population of possible victims, or many likely interactions between the two. For crashes, they may exist because of poor road or intersection engineering, high traffic flow, or travel patterns that facilitate violations.



**Figure 4: Hot spot maps use various techniques to identify concentrations of crashes and crime**

There are many factors to consider in identifying high activity hot spots. Although all such analysis relies upon timely, accurate, and complete data, there is no one correct format or process. It is critical that analysts actually “analyze” as they work through the process. The goal is to identify small, defined geographic areas with a higher concentration of crime and crash activity of the type that could be affected by an increased highly visible police presence.

Depending on the jurisdiction's size, it may be possible to look at a citywide collection of data and identify hot spots of high activity across the city. In most cases, the entire city will be too large an area for such analysis. It makes more operational sense to identify hot spots within an administrative area such as a beat, zone, or district, and then perhaps by patrol shifts.

Consideration should also be given to the volume of activity to be analyzed. Your analysis could be limited to specific crime types or crash types, for example, only crashes with injury or crimes visible to patrol, as well as considering the date range of data to be analyzed. In some busy jurisdictions, analysts may review hot spot locations once a week or over 28 days. These reviews would not be so much an expectation that the hot spots will “move” but more to determine changes in activity or intensity.

Most analysts rely on the GIS software tools to assist with the science of identifying hot spots, also referred to as spatial analysis. Other less automated tools can be used, but it is crucial to provide analysts with the applications they need to create actionable analysis efficiently to support operations consistently.

In the analysis process, it is best to compare current counts of crimes, crashes, and other data sets to multiple years of historical data. It is always valuable to know how your most recent activity data compares to the same period last week, last month, or last year. And it is equally useful to look back even further and compare the most current numbers to the same period 2, 3, 4, and 5 years ago. In some unique circumstances, and if data allows, you could look back even further.

Comparisons to historical data allow analysts to establish what is commonly called “thresholds” or “normal ranges of activity.” There could be many reasons why crime numbers or crash numbers might be slightly up or down compared to last year. Maybe the weather was warmer or colder, maybe there was a construction project underway, or maybe there was an unusual event taking place. It could be hard to know.

The goal of all analysis is two-fold: 1) to drive patrol and support operations through a detailed analysis of hot spot locations and 2) monitor, evaluate, and adjust those operations. The identified hot spots should provide the needed details to focus activities on the previously identified desired outcomes. For example, if the desired goal is to reduce vehicle crashes with injury, it is critical to deploy highly visible police presence to the defined geographic locations at specific periods.

**For additional information on identifying hot spots, see**  
<https://nij.ojp.gov/topics/articles/maps-how-mapping-helps-reduce-crime-and-improve-public-safety>

## Action Items

- Once your agency has determined its DDACTS desired outcomes, you will need to access and format for mapping the data that will support the required analysis. It is best to use crime, crash, calls for service, and police activity data documenting activity from the past 5 years to compare the most recent incident data to a multi-year average. If you do not have data of suitable quality going back that far, then simply start your analysis with what is available.
- To visualize your data points on a map will require geographic coordinates commonly called “lat-long” or “XY” data. Many modern CAD and records management systems will attach the coordinate data as part of the address validation process, but, if not, the process of geocoding can be carried out through an application within your GIS software.
- Once the data is formatted correctly and has geographic coordinates, it is ready for mapping and spatial analysis. The mapping process can start with the most basic spatial “analysis” of accurately displaying the points on a map. Over time, and as the analyst’s skills improve, the analysis can include aggregated symbols or kernel density (heat maps) to locate hot spots accurately.
- This analysis helps establish the DDACTS “zones” where the strategic use of highly visible police presence is likely to have significant impact.

## Considerations

- When choosing the crashes and crimes to include on a hot spot map, use the agency’s stated outcomes as a guide and consider which social harm is most likely to respond to highly visible police presence and engagement. Give due consideration to the fact that, most often, suspects are driving away from retail theft locations and other typically indoor crimes, and therefore have the potential to be affected by DDACTS strategies and tactics.
- Similarly, consider filtering or weighing by crash causal factors, hot spots caused by speeding, running red lights, drunk driving, aggressive driving, and other enforceable violations. Reductions in these areas are more likely to be influenced by High Visibility Enforcement/Engagement (HVE) than crashes caused by simple inattention in highly congested areas.
- In the case of both crashes and crime, try to use a past dataset that is *most representative* of the period in which you intend to sustain HVE. It is feasible for most agencies to use data from the same period for at least 3 and up to 5 previous years. For instance, hot spots for a July–September enforcement period are best predicted with July–September data from the past 3 to 5 years, not January–June data from the current year.
- In addition to crimes and crashes, also consider the quality of life issues, such as noise and other disorders (usually obtained from CAD data addressing such matters.) In some cases, these issues may have been annoying residents for a long time, can help to support positive citizen contacts, increase police-citizen partnerships, and be a source for valuable intel related to more serious crimes.
- Be very conscious of data resulting from police self-initiated activity, such as drug offenses, liquor law violations, and drunk driving, compared to incident data related to the police response to citizen reports of crime, crashes, and disorder. Reportable “self-initiated” activity depends on available police resources and targeted locations, and the data may not indicate

an actual crime hot spot. If your agency wants to affect these social harms, look towards datasets that show where they **occur**, rather than just where the police have traditionally enforced them. For instance, consider overdoses, liquor-involved crimes, and drunk driving *crashes*.

- For more experienced analysts, various hot spot identification routines can be found in CrimeStat, a spatial statistics application sponsored by the NIJ.
- Be aware of *false hot spot locations* such as the police department, schools, or hospitals where crime is reported but did not necessarily occur.

**For more information on using CrimeStat** for analysis in policing, see Bruce, C. W., & Smith, S. C. (2011). *Spatial statistics in crime analysis: Using CrimeStat IV (version 4.02)*; listed in Appendix A, resource section.

## Key Element IV - Designate and Analyze Target Areas

The *target area* is the area in which the agency hopes its efforts will have a reduction effect. It may comprise a single hot spot or several hot spots, depending on their proximity. It is best to designate the target area using conventional boundaries such as street blocks or police reporting areas to facilitate evaluation.

Designation of target areas should follow careful consideration of the hot spot maps, in consultation with the operational personnel who will have to conduct HVE in the area. They will have insight into the geography and best visibility points to draw the target area boundaries in a particular way.

After identifying areas, create profiles of these areas with as many factors as possible, including the time of day, day of week, type of crashes and crimes occurring, types of property stolen or damaged, and any commonalities among the offenders, victims, vehicles, and drivers. The more details presented, the more officers can tailor enforcement and engagement to specific activities.

## Action Items

- Convene a team of analytical and operational personnel to study the hot spot maps and recommend the boundaries that will make up the DDACTS “contact zones.”
- Analyze these zones in as much detail as possible, *particularly* for the time of day, so operational resources are not wasted at times with no activity.
- Determine if the identified hot spots are short-term clusters or perpetual clusters to establish appropriate deployment options.
- Determine a final reporting mechanism for the hot spot maps, contact areas, and further analysis.

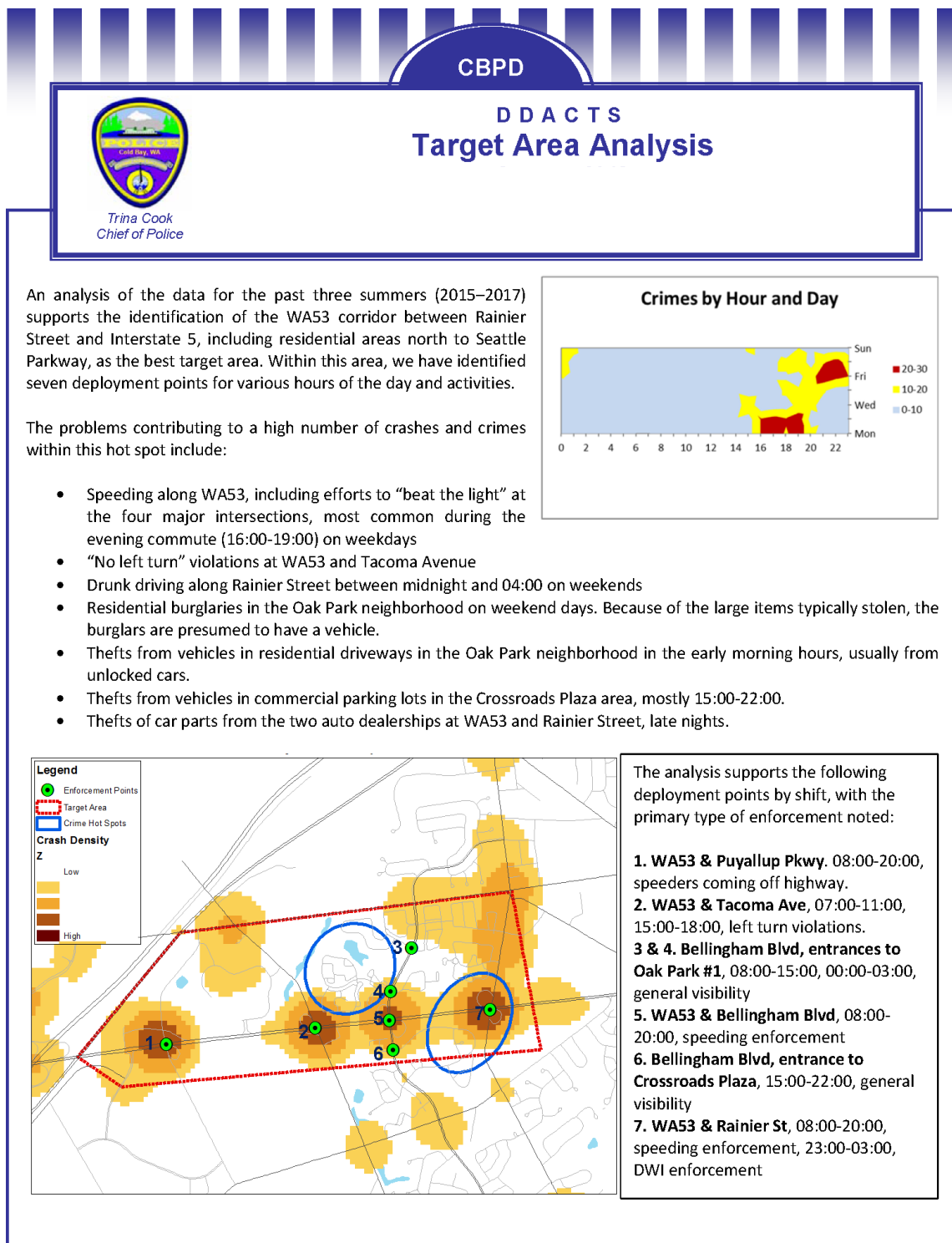
*“The Everett Police Department has worked hard to use timely crime and crash data to engage our officers in the right places at the right time. We have embraced the DDACTS model because we have witnessed firsthand the ability of our data analysts to guide us to the areas we know we can make an impact. DDACTS has helped make the City of Everett a safer place to work, live, and play. Working without the DDACTS model would be like driving a car at night without headlights.”*

*~Chief Steve Mazzie,  
Everett, Massachusetts, Police  
Department*

## Considerations

- Analysis of contact locations need not be only quantitative. Personal visits to hot spots, observations of traffic and criminal activity, and interviews with residents and business owners in the areas might yield additional insights.





**Figure 5: A sample (fictional) DDACTS report creates a target area out of several hot spots, analyzes activity within it, and identifies enforcement points.**

## Guiding Principle IV - Partners and Stakeholders Participation

At the heart of the DDACTS model is community policing, and at the heart of every community policing philosophy is community engagement. Success with the DDACTS model requires the law enforcement agency to commit to connecting with, rather than speaking at, the citizens and community members to improve their quality of life.

Within Guiding Principle IV, “partners” are those who typically have some sense of obligation to assist with and contribute to an initiative’s success. “Stakeholders” are those who can affect or be affected by the effort. In the context of DDACTS, partners can be police officers and others internal to the police agency and those otherwise engaged in public safety within the jurisdiction and local government, civic and community groups, businesses, and interested citizens and community members.

Stakeholders are primarily community members who will be directly affected by the DDACTS strategy regarding increased contact and enforcement efforts, as well as those most directly affected by improved public safety.

The primary goal of Guiding Principle IV – Partners and Stakeholders Participation is to engage directly with identified partners and stakeholders to identify problems, describe community sentiment, prioritize social harms, and even suggest possible solutions. It is further critical that the agency CEO identify the significant leaders among the community partners and stakeholders and encourage them to reach out to their community contacts and liaison between the police agency and the community.

As DDACTS implementation progresses, people may notice an increased police presence due to the agency placing more officers in identified hot spot locations as part of the overall DDACTS strategy to reduce crashes and crimes. Partners and stakeholders should be fully engaged in understanding the DDACTS model and sharing the information with other community members. In turn, the partners and stakeholders will be encouraged to solicit feedback and provide recommendations to the agency.

*"Leaders establish trust with candor, transparency, and credit."*

*~ Jack Welch, former CEO of General Electric*

There is no **single or best way** to engage partners and stakeholders, and most law enforcement agencies will already be undertaking forms of community engagement. The goal will be to use those existing collaborations to support DDACTS. From an agency's perspective, some activities will need to involve the top command staff personnel. In contrast, other equally critical efforts will include street-level officers assigned and committed to engaging the public. From a DDACTS perspective, that may involve making community members aware of crime and crash hot spot locations. It may also include informing partners of the top crash causing violations and how those will be addressed.

Partnerships among criminal justice agencies, law enforcement agencies, and local partners and stakeholders are essential to the success of the DDACTS model. Stakeholders may contribute data and other information, help promote the initiative to the community, and provide valuable feedback on how the constituents react to increased traffic presence.

Stakeholders and partners can include any person, business, or organization, including:

- Community members;
- Local civic and business organizations such as Rotary Clubs;
- Departments of social services;
- Local government agencies such as courts, prosecutors, departments of corrections, divisions of probation and parole, licensing bureaus, parks and recreation divisions;
- Traffic engineers, metropolitan planning organizations;
- State Highway Safety Offices;
- State and NHTSA law enforcement liaisons;
- Law enforcement agencies with concurrent jurisdictions: State police, sheriffs' offices, adjacent local and municipal law enforcement agencies;
- Elected officials;
- Crime or crash victims;
- Neighborhood associations;
- Municipal planning and GIS divisions;
- Community leaders;
- Urban renewal groups such as "Weed and Seed" organizations;
- Commercial establishments;
- Clergy and religious organizations;
- School systems;
- Media; and
- Other organizations with interest in crime reduction, traffic safety issues, and other quality of life concerns.

Stakeholder and partner support for HVE and other community policing efforts is vital to the success of your DDACTS initiative. Therefore, allow enough lead time to engage and develop stakeholder and partner input. Agencies should consider the potential list of partners and stakeholders to be unlimited. Engage the entire community in collaboration with the agency to improve the quality of life for the public. The agency should proactively seek out ways each partner and stakeholder can contribute to the effort. Partners and stakeholders should also be in regular attendance at agency meetings, and the lines of communication should be continual.

**When establishing DDACTS, be sure to continually re-engage stakeholders and partners with agency successes from using the model.**

**For additional information on partnerships and stakeholders, see *The Collaborative Toolkit for Law Enforcement: Effective Strategies to Partner with the Community*; listed in Appendix A, resource section.**

## Key Element I - Identify and Make Initial Contact with Potential Partners and Stakeholders

Every interaction that police have with people has the potential to develop into a partnership. Even as top leadership and command-level personnel perhaps focus on more formal interactions among community leaders, street-level officers, detectives, traffic personnel, and others have repeated opportunities to increase positive contacts and develop real and documented partnerships.

For example, document every contact made while on foot patrol or an investigative canvas as a “known” contact whom the police could reach out to in the future. By merely sharing contact information, including from community members, a partnership develops. Many agencies now provide operational personnel with smartphones and with business cards so that community members can be encouraged to contact “their” officers when they have a question or information.

Some agencies have gone through redistricting of their patrol areas as a means of increasing sector integrity. In this way, officers can be assigned explicitly to a single sector (or other defined area) to get to know the people who live and work within that sector and become aware of the culture and the fabric of the neighborhood. Some departments have gone a step further and had community members assigned as mentors to the police recruits. They take the new officers throughout the neighborhood and introduce them, talk to them about the history of the area, and help the community feel that they have people to turn to if they have questions.

From a DDACTS perspective, the goal is to ensure that the community understands the mission, the desired outcomes, and the role that community members can play in achieving the selected outcomes. Agencies should pursue a mix of formal and informal meetings where discussions can take place in person, answering all questions. Social media should also play a role so that the information reaches those unable or unwilling to attend in-person meetings.

The agency should strive to build a structure for ongoing communication and dialogue to develop true partnerships. It may take time for community members to understand that their knowledge and opinions are valued and help improve public safety for all in the community.

*“The Evesham Police Department is committed to collaborating with our partners and stakeholders by proactively using our social media sites, participating in numerous community events, and explaining our mission during our daily personal contacts. This type of collaboration with our internal and external stakeholders has made it possible for our agency to build trust and legitimacy in our commitment to making evidence-based decisions in staff deployment addressing the identified social harms affecting our community.”*

*~ Chief Christopher Chew, Evesham Township, New Jersey, Police Department*

## Action Items

- Develop a list of partner and stakeholder categories.
- Identify known people, businesses, and organizations for each category.
- Identify the assistance, support, or data that partners or stakeholders might provide.
- Assign personnel responsible for contacting partners and stakeholders.
- Give a DDACTS model overview to each potential partner and stakeholder.

*“One of the strong points of the DDACTS model is flexibility. Agencies can use the model to address issues that affect their specific communities. Additionally, the guiding principles are intended to offer a framework for implementation that allows agencies to select strategies based on community needs and available resources.”*

*~ Chief Howard Hall, Roanoke County, Virginia, Police Department*

It is essential to have in-person visits with each potential partner and stakeholder to explain the goals and begin the dialogue of working together.

## Considerations

- Community residents and businesses are a good source of information about where and when traffic safety issues and criminal activity occur.
- Solicit law enforcement staff for input regarding partner and stakeholder participation.
- Meet with appropriate criminal justice officials and share information concerning your DDACTS operations and processes.

A written description of the DDACTS initiative, and the role that partners and stakeholders might play, can help them make decisions regarding participation. (Agencies can modify NHTSA’s brochure template describing the DDACTS model for this purpose.)

Retrieve a copy of the DDACTS brochure from [www.iadlest.org/training/ddacts/documents](http://www.iadlest.org/training/ddacts/documents)

## Key Element II - Develop a Plan for Partner and Stakeholder Participation

Partners and stakeholder groups will make different contributions to the DDACTS plan, directly and indirectly. In some circumstances, they will lend credibility to the use of HVE; in other instances, they might provide access to various populations within a community or provide information about incidents regarding traffic safety concerns and criminal activity. The following considerations for plan development include the need to:

- Identify the various roles and contributions that partners and stakeholders can make to the DDACTS initiative;
- Develop organizational structures that define expectations and interactions (e.g., coalition, advisory group, working group);
- Create specific objectives for partner and stakeholder participation;
- Define expectations for the agency’s interactions with partners and stakeholders (potential mechanisms include face-to-face meetings, as well as the use of all types of social media);

- Delineate staff responsibilities for interactions with various partner and stakeholder groups (e.g., documentation of meetings, calls, and emails);
- Identify resources for hosting partner and stakeholder participation (e.g., meeting rooms, presentation technology); and
- Determine the community's attitudes and thoughts regarding safety levels concerning their degree of fear and crash incidents.

### **Action Items**

- Assign responsibility and a timeframe for plan development.
- Assign responsibility for logistical and administrative support.
- Conduct initial and follow-up meetings with partners and stakeholders.
- Designate partners and stakeholders who will provide feedback and public support to achieve consensus for the final plan.
- Distribute the plan.
- Implement the plan.

### **Considerations**

- Allocate sufficient time for partner and stakeholder outreach and the formation of relationships.
- Make sure partner and stakeholder relationships are in place before starting engagement activities.
- Invite partners and stakeholders to internal planning sessions when appropriate.
- Always document interactions with stakeholders.
- Seek opportunities to promote stakeholder support.
- Conduct specific activities tailored to the needs of partners and stakeholders (apartment safety seminars, church safety meetings, crime prevention training at neighborhood meetings, etc.).

## **Guiding Principle V - Strategic Operations**

The DDACTS model, designed to encourage analysis-driven strategic operations, is intended to reduce crashes, crimes, and other social harms. Through the collection of data from various sources, analysis can be used to identify crash and crime hot spots, problem locations, key contributing factors, and other information needed to be strategic about police operations.

As an evidence-based strategy, DDACTS has been proven to reduce crashes by focusing a highly visible police presence at locations identified as crash hot spots. Further analysis can potentially identify the driving behaviors, such as speeding, red-light/stop sign violations, operating while intoxicated, etc., that most often contribute to crashes within specific hot spot areas. From such information, police can deploy specific engagement and necessary enforcement at particular locations and times, those most likely to achieve crash reductions.

Through quality, actionable analysis, consistent information sharing, and strategic police presence, both crashes and crimes can be effectively and efficiently addressed.

Perhaps the most significant impact of this DDACTS guiding principle is the opportunities to increase the quantity and improve the quality of police-public contacts.<sup>25</sup> Evidence has shown issuing “warnings” rather than enforcement actions such as citations and associated monetary fees and fines can positively change driving behaviors. Through highly visible traffic contacts, officers can interact with the persons in the vehicle, run criminal histories, explain the dangers of various driving behaviors and, if appropriate, address less severe offenses with a warning and only take enforcement action as necessary.

Many agencies carry out such operations through the assignment of directed patrols. For example, using the time available between responding to calls for service and other jobs, often referred to as “uncommitted time,” officers can be “directed” to hot spot locations to create that highly visible presence. Ideally, officers, provided with actionable information about the incidents taking place within those hot spot locations, will deploy tactics to address those conditions specifically. The time spent in the areas and the tactics used will depend on the problems and conditions necessary. Directed patrol deployment will need to be a structured process that simultaneously allows for flexibility.

There are various ways in which to schedule, assign, document, and evaluate the impact of directed patrols. Generally, achieving the best results occur when the officers' paperwork is kept to the absolute minimum, and the impact of their efforts can be communicated as quickly as possible. Most CAD systems will allow such activity to record date, time, location, duration, and activity in data formats for easy evaluation. It is precisely this sort of data collection and analysis that allows for further information sharing and monitoring, evaluation, and adjustments to take place.

As Guiding Principle V, Strategic Operations, by necessity, must be built upon the identified desired outcomes, consensus gathered from partners and stakeholders, timely, accurate, and complete data collection, and actionable analysis. Strategic operations must be carried out in a manner that is analysis-driven and not random but flexible, based upon factors identified in the analysis. The Guiding Principles that follow include Information Sharing and Outreach (internally and externally) and Monitoring, Evaluating, and Adjusting. The application of those principles to the process may result in adjustments to ongoing Strategic Operations.

Based on the objective findings of the data analysis, agencies should identify various strategies that are applicable based upon the desired outcomes: analysis indicated factors and available resources. Many agencies seek to implement strategies involving highly visible police presence combined with a “neighborhood policing” approach. This requires officers to become familiar with and engaged with people who live and work within beats, zones, districts, etc. Officers should be aware of the hot spots for crashes, crimes, and other social harms within those areas.

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<sup>25</sup> Kelling, G. (1983, April 7). Fighting crime and the fear of crime: police on foot patrol. *The Christian Science Monitor*. [www.csmonitor.com/1983/0407/040763.html](http://www.csmonitor.com/1983/0407/040763.html)

In some departments, the utilization of analysis to drive operations may be new and innovative in and of itself. It may take some time to develop analytical products and processes that are genuinely actionable in the field and understood by all involved.

The identified strategies must define the tactics to be deployed rather than allowing “what we have always done” to dictate your decision-making. Very few agencies have unlimited resources, and therefore, the tactics deployed must be only those that are evidence-based and proven to be effective in achieving the desired outcomes. There is a vast array of Federal government resources and non-profit and academic-based resources that provide a wide variety of tactical examples to address various crime and crash problems in almost any local setting. Law enforcement executives must take strong leadership roles to integrate DDACTS into routine operations successfully. In these roles, they should be prepared to:

- Promote the effectiveness and efficiency of analysis-driven, highly visible police presence as a core operational element for reducing crashes and crime.
- Develop policing strategies related to crime prevention, public information, and community engagement to complement other law enforcement activity.
- Review agency policies, goals, and objectives to ensure that they support the use of HVE specifically within designated hot spots.
- Discuss the need for and benefits of conducting *meaningful* motor vehicle engagement that addresses specific causal factors for crashes, i.e., traffic violations causing intersection crashes instead of license plate or registration stops.
- Commit appropriate personnel, time, and resources needed to implement the model.
- Prioritize timely, accurate, and complete report writing and data collection regarding all reports and documentation. Use available technology to its capacity, so quality reports are not overly burdensome on officers. Further, prioritize effective report review by supervisors.
- Reallocate resources to purchase needed equipment to support traffic engagement (e.g., speed-measuring devices, portable breath test devices, license plate readers, variable message boards).
- Proactively discuss possible pushback and lack of buy-in from officers and supervisors concerning increased traffic contact.
- Offer a thoughtful justification for effective strategies and tactics and present them with analysis supporting DDACTS implementation.
- Consider plans to work positively with the local unions and other collective bargaining entities, if applicable.
- Conduct training in the DDACTS philosophy and Guiding Principles for both sworn and non-sworn members as all aspects of the agency will play a part in the plan's success or failure.

*“The strength of a democracy and the quality of life enjoyed by its citizens are determined in large measure by the ability of the police to discharge their duties. If we think what we do on the front lines doesn’t affect the quality of life of all those in the community, we need to wake up and understand the impact of what we do every day.”*

*~Professor Herman Goldstein, an early founder of the problem-oriented policing approach*

- Demonstrate flexibility and creativity to address possible adverse reactions from the community to highly visible traffic contacts.
- Make adjustments to the field and internal procedures as appropriate.
- Promote teamwork among staff, focusing on reducing crashes and crime, and acknowledge the consistent effort.

**For additional information on strategic operations,** see National Institute of Justice *Policing Strategies and Policing Operations* located at <https://nij.ojp.gov/topics/policing/policing-strategies>

## Key Element I - Identify Strategies and Tactics

The types of crashes, crime, and traffic safety issues identified through the analysis will dictate the deployment of strategies and tactics. During this process, agencies may need to consider the procurement of additional equipment, provision of additional training, and the reallocation of personnel necessary for specific policing efforts. Staffing studies and workload analysis can be valuable in determining the availability of “uncommitted time” or opportunities for greater efficiency. In some under-staffed and under-resourced agencies, officers routinely run from call to call, and proactive, preventative policing can be almost impossible. In most agencies, however, there are opportunities to be proactive and reduce crashes and crimes, achieving greater efficiency. The officers can then focus on identified problems and social harms, achieve documented reductions and better serve the community directly through actionable analysis by applying resources in the right places and at the right times. Analysis of available patrol hours and an objective examination of documented unobligated time are highly recommended.

### Action Items

- Identify the strategies and practical tactics needed to address the problems in the hot spots (i.e., Koper Curve; see Glossary of Selected Terms).
- Develop a preliminary list of proposed traffic safety engagement measures, i.e., “*Click It or Ticket*,” “*Booze it and Lose it*.” Try to expeditiously leverage grant overtime funding, i.e., Selective Traffic Enforcement Programs (STEP), reviewing the grant parameters to determine if these activities can occur in your DDACTS zones.
- Develop a preliminary list of crash and crime prevention, problem-solving, and other related strategies. Allow these strategies to drive tactics.
- Make projections on the effect that increased HVE may have on traffic safety and crime reduction. Develop interim goals supporting these projections and measures.
- Identify equipment, training, personnel, and other needs associated with the selected strategies and tactics.
- Measure actual unobligated patrol time that could be made available for DDACTS enforcement.
- Develop a plan to obtain the buy-in and gather input from all partners and stakeholders to include but not limited to: elected officials, other municipal department leaders, residents in the affected and non-affected areas, and the business community.

## Considerations

- Identify the strategies and tactics needed to address the problems in the hot spots.
- Ensure that all discussions on enforcement and contact efforts include staff members engaged in implementing the strategies.
- Proactively establish or expand community outreach efforts specifically with those residing and working within the areas identified as disproportionately affected by crime and crashes.
- Build on the positive experiences of others that have used a mix of HVE operational strategies.
- Review exemplary programs and consult with other law enforcement executives who have used saturation patrols and different HVE strategies to improve traffic safety and reduce crime.
- Examine the benefits of investing in existing and new technologies.
- Consider and address, when appropriate, objections to specific tactics raised by partners and stakeholders.
- Be prepared to counter arguments that available unobligated patrol hours do not exist and proactive DDACTS patrol strategies are not possible. The agency must consider how to drive an “all hands-on deck” mentality as a means to create a highly visible presence.
- Prepare to stress the need to make *quality* motor vehicle contacts and recognize that not all officers will understand this concept. In-service training should reinforce the idea that motor vehicle contacts are intended to change undesirable driving behaviors. Vehicle stops also provide for the possibility of collecting invaluable information and intelligence.

## Key Element II - Develop an Operational Plan

A comprehensive operational plan describes the overall deployment strategy for the hot spot(s) and provides the framework for monitoring, evaluating, and adjusting the strategy. An essential component of this strategy is training that addresses the multiple skillsets associated with traffic and crime reduction. The operational plan might include the following elements.

- Goals and objectives
- A strategic approach to hot spot deployment
  - Traffic contact options
  - Crime reduction tactics
  - Crime prevention activities
  - Community engagement activities
  - Frequency and timing of proactive patrols
  - Multijurisdictional interaction and enforcement
- Personnel requirements
- Training of staff
- Equipment and other resources
- Operational plan implementation
  - Daily engagement activities
  - Weekly engagement activities
  - Officer assignments
  - Reporting activities

*“In Shawnee, DDACTS allowed us, without overtime or other special assignments, to show statistically significant reductions in vehicle crashes, robbery, and commercial burglary during a period where staffing was reduced by 4.5 percent.”*

*~Greg Collins, Analytical Director,  
Shawnee, Kansas, Police Department*

- Internal briefings
- External briefings
- Debriefings
- Scheduling
- Union concerns
- Budgeting (both short and long term)
- Evaluation

### Action Items

- Create an internal DDACTS focus group involving representatives from all department divisions to provide feedback and create the agency plan.
- Assign writing responsibilities for plan development.
- Gather information necessary for plan development.
- Develop a schedule. Manage unrealistic expectations and timelines.
- Identify a review process.
- Review and finalize the plan.
- Distribute the plan to all personnel.

### Considerations

- Police executives need to identify goals and objectives that address the impact of DDACTS on overall operations and the impact on improving traffic safety and reducing crime in hot spots.
- Operational categories for plan development can include the impact on personnel assignments and scheduling, staff performance, expenditures, and accountability.

*"The DDACTS philosophy has become ingrained in the culture of our Department. It has become second nature for all officers to engage in highly visible, proactive traffic engagement. It is understood that one of the most effective ways to influence criminal behavior is with traffic stops. Not only are we affecting the behavior of the people stopped, but also all the other motorists that pass by the stop and see our visible presence."*

*~Major David Bowen, Administrative Services Bureau Commander, Greenville, North Carolina, Police Department.*

**For samples of DDACTS Operational Plans, see Appendix D.**

### Key Element III - Implement the Plan

Organizational, environmental, and community-related factors may influence the best time to start using the DDACTS model. In addition to considering these factors, police executives should allow time for informing staff, partners, and stakeholders, formally and informally, about the process and timing of plan implementation.

### Action Items

- Set up formal meetings and briefings before plan implementation to prepare staff for changes.
- Hold a formal briefing for all staff to share the implementation plan.

- Work with partners, stakeholders, and media participating in scheduled meetings and briefings to obtain input and feedback.
- Ensure staff members understand the importance of communicating the appropriate message during every public contact. Develop “talking points” to distribute to **all** officers outlining your specific DDACTS operations.

## Considerations

- Continually inform all personnel, sworn and non-sworn, to *include* line officers throughout DDACTS implementation.
- A formal announcement and media outreach addressing the startup of your engagement is vital to the success of plan implementation.
- Launching the initiative with a formal announcement will demonstrate respect for the community and promote collaboration with partners and stakeholders.

## Guiding Principle VI - Information Sharing and Outreach

Information sharing and outreach reflect the community-based nature of the DDACTS model, in which law enforcement agencies not only share progress but also rely upon feedback from community members and other partners and stakeholders. Throughout the communications process, law enforcement agencies should include messages that reinforce the objective nature of DDACTS. This process allows agencies to use data to identify hot spots and provide an unbiased basis for making strategic and tactical decisions. Communicating this information to partners and stakeholders will increase understanding and support for DDACTS.

Roll call/daily briefing sessions should effectively use visuals such as laminated maps, roll call TVs, etc., to show current hot spots. The question at the end of each roll call should be, “do the officers have a clear understanding of where they should use their time and planned activities when not on a call for service?”

**For additional information on information sharing and working with the media, see Jaegar, *Traffic enforcement through social media?* IACP; listed in Appendix A, resource section.**

## **Key Element I - Review Partner and Stakeholder Plan to Identify Tactics for Information Sharing and Outreach**

Regularly generated analytical products give management documentation needed to keep staff informed, share information with community members, and report to government administrators and elected officials. Regular evaluation also provides the basis for ongoing media relations.

Many factors can affect the implementation of DDACTS, and law enforcement executives must be prepared to address challenges and successes. Therefore, communications strategies should be based on the goals and objectives identified with the partners’ and stakeholders’ involvement.

## Action Items

- Review your partner and stakeholder participation plan to specify roles in outreach activities.
- Based on roles, identify tactics for sharing and gathering information.
- Identify tools for communicating with partners and stakeholders.
- Assign staff responsibilities for coordinating the preparation of outreach materials and conducting information-sharing sessions.

## Considerations

- Meet with appropriate staff to determine what information is suitable for sharing with partners and stakeholders and the timing of its availability.
- Consider monitoring staff expectations to ensure continual buy-in.
- Identify information milestones and timeframes for information sharing.
- Identify opportunities for partners and stakeholders to participate in internal briefing sessions.

## Key Element II - Develop a Plan for Communicating Through Traditional and Social Media Outlets

Informing the public regarding traffic contact and crime reduction activities and the resulting impact of DDACTS deployment is crucial to long-term success. Working with data analysts or designated staff, the agency's public information officer or spokesperson should develop a plan for communicating through traditional and social media outlets to share information about the DDACTS initiative.

## Action Items

- Develop a communications plan for working with the media that includes background information, key events, and milestones that warrant publicity.
- Develop accurate, consistent messages delineating the goals, objectives, elements, and results of DDACTS.
- Understand traditional media outlets will follow social media accounts belonging to law enforcement agencies as well as the cities they serve, allowing information to be disseminated quicker.
- Social media posts can take the place of and often act as a "press release." Once a post is placed onto social media platforms, traditional media outlets will pick up the stories and put them on their sites. If further information becomes available, share it with the media through the usual channels.

## Considerations

- Develop background information for the media that describes DDACTS; emphasizes the deterrent effect of HVE and other problem-solving tactics; and includes a list of partners, stakeholders, and other supporters of the initiative. Also, solicit supportive quotes from key stakeholders.

- Be prepared to address traffic safety concerns, along with the possible, perceived, or actual displacement of crime and disorder.
- Make sure to communicate accomplishments in crime suppression.
- Include DDACTS model information for the public on the agency's website and social media outlets.
- Social media platforms allow police agencies to promote departmental campaigns, i.e., DDACTS, "Click it or Ticket," DUI checkpoints, Amber Alerts, or even requests for public assistance, which can be addressed efficiently and promptly.
- Social media accounts should be handled by a small number of people, such as a PIO or another designee, due to the sensitive nature of some posts.

## **Guiding Principle VII - Monitoring, Evaluation, and Adjustments**

Law enforcement executives should monitor traffic engagement effectiveness and its impact on crashes, crime, and social harm. The goal should be to align engagements and other operations with incidents and contributing factors to achieve identified desired outcomes. Strategic operations can only be evaluated and adjusted if data is available to monitor the impact of the agency's efforts.

Regular evaluation of your identified outcomes, i.e., public interaction and time spent in the focused areas and all other activity, allows for adjustments to the mix of traffic safety measures and officer deployment. Also, scheduled briefings keep executives aware of officers' performance and concerns. The accountability of first-line supervisors is critical. Supervisors must be given the authority to manage and then be held accountable for the effort displayed by their direct reports. Conduct regular audits to ensure that line officers are being held to a standard and meeting the objectives of the strategic operational plan.

*"In Florence County, we engage our partners and stakeholders using a variety of media: FaceBook, Twitter, LinkedIn, and our Department website. In addition, we have launched our FCSO mobile application that contains DDACTS crime mapping so that information can be easily accessed by our citizens. We do this to keep everyone informed. It keeps us transparent and builds trust which is so vital with our citizenry."*

*~Captain Scott Brown, Florence County Sheriff's Office, South Carolina.*

Law enforcement executives can also assess the impact this concentrated effort has on the performance of other police-related activities. These activities include but are not limited to:

- non-traffic-related arrests,
- processing arrested people,
- filing reports,
- making court appearances, and
- meeting and talking with the public.

This information should contribute to decisions about the allocation of resources and the deployment of officers who investigate agency crashes and crimes.

**For additional information on monitoring and evaluating,** see Roufa, Timothy, *Performance Measures for Police Officers*, and Sparrow, Malcolm, *Measuring Performance in a Modern Police Agency*, listed in Appendix A, resource section.

## Key Element I - Use Data and Other Information to Make Adjustments to DDACTS Field Operations

The intervals and duration of your crime and crash engagement may determine the timing of data analysis and reporting. Staff feedback and information obtained from partners and stakeholders may be summarized in daily, weekly, monthly, or as-needed reports. These reports could include tracking issues, engagement, or anything involved in processing or officer interaction.

### Action Items

- Develop a schedule for analysis and review, allowing for a consistent feedback loop from staff, partners, and stakeholders completed as frequently as possible.
- Meet with analysts and staff to discuss findings.
- Make appropriate adjustments.

### Considerations

- Be aware of *displacement* and *diffusion of benefits* as factors that can contribute to crime reduction; adjust to account for each.<sup>26</sup>
- Based on the data analysis, adjust countermeasures and programming to increase and decrease crimes and crashes.
- Examine the need for additional training.
- Compare staff efficiency and focus before and after implementing DDACTS.

*“It is imperative that current and historical data be reviewed continually to determine the level of success or lack thereof in enhancing the quality of life in known hotspots. As we all know, some geographical locations have historically and will continue to present challenges; however, a daily review of crashes and crimes will also keep current locations in mind so that resources can be deployed accordingly to combat both historical and newly developed hotspots.”*

*~ Captain Mike Alexander, Special Investigations Division, Metropolitan Nashville Police Department, Tennessee*

## Key Element II - Document and Report Changes

Documenting changes to all aspects of the DDACTS model will increase the potential for long-term success. As analysis and analytical products adapt and transform to evolving and expanding operations, it is essential to maintain accuracy, timeliness, and consistency in your analysis. It is critical that everyone understands what is being measured and evaluated and that the success or failure of any tactics be true, accurate, and statistically significant so that future operations can be adjusted accordingly. These adjustments might pertain to:

- Additions or deletions of data sources;
- Changes in mapping techniques;

<sup>26</sup> Weisburd, D., Braga, A., Groff, E. R., & Wooditch, A. (2017). Can hot spots policing reduce crime in urban areas? An agent-based simulation. *Criminology*, 55(1), 137-173.

- Expansion of data analysis;
- Benefits/challenges associated with the use of non-traditional data sources;
- Benefits/challenges of working with various partners and stakeholders;
- Equipment purchases;
- Reallocation of resources and staff;
- Staff training;
- Administrative duties; and
- Expenditures and budget reallocations.

### **Action Items**

- Review the operational plan to identify areas for measure and evaluation.
- Develop procedures for documenting DDACTS activities and outcomes.
- Assign responsibility for documentation and reporting activities.
- Seek to use technology to the greatest extent possible and limit the need for hand-written documentation.

### **Considerations**

- Reports should be accurate, transparent, understandable, timely, and thorough.
- Disseminate reports to appropriate staff, partners, and stakeholders.
- Key partners and stakeholders should review final reports before general distribution.

### **Summary**

Since its inception in 2009, over 800 agencies have been trained on using the DDACTS model. Adopting a data-driven approach to analyze issues affecting your community and gaining community support to deploy the appropriate degree of police presence is the very essence of this model. Continuing to adapt to the significance of community collaboration and problem-solving, agencies using the DDACTS model work and plan using a well-researched, evidence-based, and structured format. Challenged by reduced budgets, law enforcement agencies must use their current resources more effectively. DDACTS is not all about traffic stops. DDACTS 2.0 focuses on engaging the community in a purposeful and meaningful manner that will impact communities by reducing crashes and crime, improving quality of life, and ultimately saving lives.

## NATIONAL SUPPORT FOR DDACTS

As leaders of this national initiative to improve the quality of life in local communities, NHTSA is fortunate to have support from many national partners. The following organizations offer technical assistance and in-kind resources through their local affiliates to support law enforcement agencies that undertake DDACTS initiatives:

- Bureau of Justice Assistance
- Commission on Accreditation for Law Enforcement Agencies;
- Federal Highway Administration;
- Federal Motor Carrier Safety Administration;
- Governors Highway Safety Association;
- International Association of Chiefs of Police;
- International Association of Crime Analysts;
- International Association of Directors of Law Enforcement Standards and Training;
- National Organization of Black Law Enforcement Executives;
- National Sheriffs' Association; and
- Texas Department of Transportation.

NHTSA and its partners are prepared to facilitate the provision of technical assistance teams to work with local law enforcement agencies on various aspects of the implementation and maintenance of the DDACTS model. They also will serve as intermediaries for identifying local partnerships and obtaining technical assistance from local affiliates and State agencies.



## Appendix A: RESOURCES

### By Topic Heading

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## Appendix B:

### GLOSSARY OF SELECTED TERMS

**Baseline data** – Basic information gathered before a program begins. It is used later to provide a comparison for assessing program impact. Three to six years of baseline data is recommended, particularly for crash incidence.

**Community-oriented policing** – A philosophy of policing that emphasizes partnerships with the community, positive police-community relations and interactions, and long-term problem-solving to reduce crime, disorder, and fear of crime.

**CompStat** - A management philosophy developed by the New York City Police Department that emphasizes accountability through the use of data and analysis to drive operations. CompStat emphasizes the use of timely and accurate data, rapid response to the analysis, deployment of effective tactics, and relentless follow-up. CompStat has been in place at NYPD since 1995 and is credited with reducing murders from over 2,200 in 1990 to 319 in 2019 and reductions in total Part 1 crimes of more than 75 percent.

**Crime analysis** – A profession and process in which a set of quantitative and qualitative techniques are used to analyze data valuable to law enforcement and their communities. Despite its name, there is nothing specific about “crime” in crime analysis, and many crime analysts also analyze crashes and contribute to other functions in their jurisdictions.

**Crime prevention through environmental design (CPTED)** – An approach to preventing crime through manipulation of the physical environment, including techniques to increase visibility, control access, and send various psychological cues about acceptable and unacceptable behavior.

**CrimeStat** – A spatial statistics program for the analysis of crime incident locations, funded by grants from the National Institute of Justice.

**Data-Driven Approaches to Crime and Traffic Safety (DDACTS) National Initiative** – A joint effort of NHTSA and partner organizations to encourage law enforcement agencies to implement a proven model that uses high-visibility traffic enforcement strategies to fight crime and reduce crashes at the local level by using mapping techniques to identify hot spot areas, which support enhanced resource allocation. The initiative encourages using the full range of traditional and non-traditional partners to increase effectiveness.

**Density map** – Also known as kernel density estimation or kernel density interpolation, a “hot spot” mapping technique that assesses the risk of crime across the entire surface of a map based on the proximity of known crimes.

**Diffusion** – Crime diffusion entails the reduction of crime (or other improvements) in areas or ways related to the targeted crime prevention efforts, but not targeted by the response itself. Diffusion is recorded in many research evaluations of crime prevention responses that have an

impact on geographic areas and crime statistics outside the targeted area in which improvements were gained without expending resources in those areas.

**Displacement** – Crime displacement is the relocation of crime from one place, time, target, offense, or tactic to another as a result of some crime prevention initiative.

**Evidence-based policing** – Evidence-based policing is the use of the best available research on the outcomes of police work to implement guidelines and evaluate agencies, units, and officers. Put more simply, evidence-based policing is the use of data, analysis, and research to complement experience and professional judgment to provide the best possible police service to the public.

**High-visibility engagement or enforcement (HVE)** – A traffic and crime safety approach designed to create deterrence and change unlawful behaviors. HVE combines highly visible and proactive community engagement strategies targeting specific traffic safety or crime issues. Law enforcement efforts are intended to be high-profile interactions, building the perception of police presence, to educate the public and promote voluntary compliance with the law.

**Hot spot** - A geographical area that has a distinguishing concentration of events or activities.

**Intelligence-led policing** – Emphasizes analysis and intelligence as pivotal to an objective, decision-making framework that prioritizes crime hot spots, repeat victims, prolific offenders, and criminal groups. It facilitates crime and harm reduction, disruption, and prevention through strategic and tactical management, deployment, and enforcement.

**International Association of Crime Analysts (IACA)** – A global professional association founded in 1990 to provide training, networking, literature, professional development, and technical assistance to analysts working within law enforcement agencies.

**Kernel density estimation (KDE) technique** – A spatial analysis method that creates a smooth surface of the variation in the density of point events across an area.

**Koper Curve** – Emanating from the Minneapolis “Hot Spots Policing” experiment and tested in Sacramento, this research suggests that random and intermittent patrols, with high-visibility community interaction, approximately 15 minutes in length in hot spots (at least every two hours) optimizes deterrence. Through increased visibility and positive community engagement within hot spots, agencies are likely to enhance community trust and legitimacy, which may further affect crime reduction and improve satisfaction.

**Mapping** – The location-based tracking of an event or incident, most often using some type of computerized geographic information system.

**Person-based policing** – An approach to crime reduction that focuses on people who commit crimes or engage in unsafe driving behaviors as a means for deploying resources.

**Place-based policing** – An approach to crime and crash reduction that focuses on places where crime and crashes occur as a means for deploying resources.

**Problem-oriented policing** – A philosophy of policing that stresses the importance of identifying, analyzing, and solving long-term problems in crime and disorder, particularly favoring resources that do not require the police.

**Situational crime prevention** – A preventive approach to crime that uses a variety of techniques to increase the offender's risk of being apprehended, reduce likely rewards, increase effort, reduce provocations, and remove excuses, ultimately motivating offenders to refrain from criminal activity.

**Social harm** – Any community issue that affects the quality of life.

## **Appendix C:**

### **SELECTED CASE STUDIES**

The following case studies demonstrate, in a concise way, the results an agency can expect from using the DDACTS model.

For further information about these specific case studies, or others, please contact:

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Chief Eric Clifford  
Schenectady, New York, Police Department  
[EClifford@schenectadyny.gov](mailto:EClifford@schenectadyny.gov)



## Data Driven Approaches to Crime and Traffic Safety CASE STUDY



**Agency:** Greenville, NC, Police Department

**Workshop Attended:** Roanoke, VA

### Agency Demographics and Background:

The city of Greenville is located in the eastern coastal plains of North Carolina, approximately 80 miles east of Raleigh. The city has a population of roughly 95,000 residents and is home to East Carolina University. Greenville continues to see tremendous growth and is the economic and cultural hub of eastern North Carolina. The city should reach 100,000 residents by the 2020 census. Greenville is also home to the Vidant Hospital System, which employs more than 11,000 people throughout Greenville and eastern North Carolina. The city has a diverse population, 53.7 percent white, 38.2 percent African American, 5.2 percent Hispanic, and 2.6 percent Asian residents.

The Greenville Police Department (GPD) is a full-service law enforcement agency that has been at the forefront of community and data-driven policing strategies and programs for many years. The police department's jurisdiction spans over 25 square miles. GPD employs 205 sworn officers and 50 civilians. Reducing crashes was the initial goal in using the DDACTS model, which in 2012 (a year before implementation) reached 5,499, and Part I crimes, which before implementation were on the rise as well.

### Lessons Learned:

Personnel Component: The Greenville Police Department's DDACTS model uses all patrol officers to saturate data identified DDACTS areas. Traffic Safety Officers are an integral part of our model with their focused efforts in DDACTS zones and areas identified as high crash locations. The crime analyst conducts analysis and public outreach, and education about the model is conveyed through social media and traditional media partners by the department's Public Information Officer.

Analytical DDACTS Product: Analytical products include our crime and crash mapping the DDACTS geographical areas and pushing those out to the zone commanders, supervisors, and officers. Under the geographic deployment strategy, zone commanders and zone supervisors give their officers specific direction to patrol and solve crime and crash hot spots in each patrol zone. Monthly, the crime analyst produced statistical reports to track progress and monitor the DDACTS areas and other areas to determine the need to adjust.

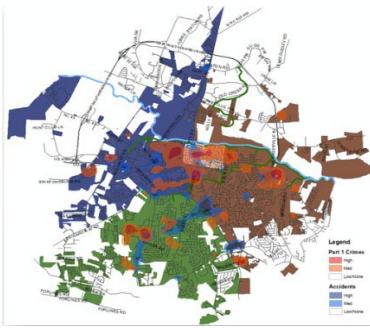
### Prior to Implementation:

Before implementation, Greenville was experiencing a growing number of traffic crashes and Part I crimes throughout the city. After attending the Roanoke, Virginia DDACTS workshop in 2012, the agency immediately returned and mapped the city's top ten worst crash locations. Starting in January 2013, Greenville implemented its Traffic Crash Reduction Plan by focusing on enforcement, education, and partnering with the traffic engineering department at the high crash locations. In 2013, crashes were reduced by 5 percent, solely using a data-driven approach. But in 2014, the agency fully implemented the DDACTS model to reduce our social harm in identified DDACTS zones. Since its full implementation in May of 2014, Greenville has seen reductions in both crime and crashes in the designated DDACTS areas in the city.

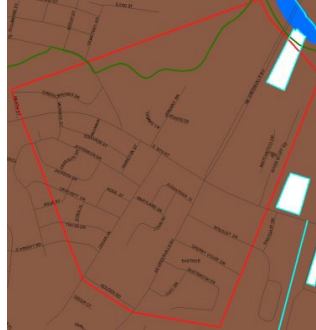
### Pre and Post DDACTS:

While conducting the operational model's guiding principles of data collection and analysis, the department identified two areas (East and South zones) where a disproportionate amount of vehicle crashes and crime were occurring, as seen in the maps below:

DDACTS Accidents &amp; Part 1 Crimes Jan. – Dec. 2013



DDACTS Target Area East Zone



DDACTS Target Area South Zone



### Results:

The GPD successfully refocused officers' attention in the two designated DDACTS Zones (East and South.) In the first six months, both areas individually and combined saw reductions in Part 1 crimes and crashes. Overall, the city also saw decreases in Part 1 crimes and crashes, but not to the same degree as seen in the East and South DDACTS Zones.

| 6 Months Pre/Post Partial Implementation    |      |       |                       |                         |                  |
|---------------------------------------------|------|-------|-----------------------|-------------------------|------------------|
| Jul 2012 - Dec 2012 vs. Jan 2013 - Jun 2013 |      |       |                       |                         |                  |
|                                             | East | South | East & South Combined | Outside of DDACTS Zones | Overall Citywide |
| Part 1 Crimes                               | -26% | -28%  | -28%                  | -12%                    | -14%             |
| Crashes                                     | -12% | -14%  | -13%                  | -8%                     | -9%              |

One year following the full implementation resulted in a decrease of Part 1 Crimes in the designated areas.

| 12 Months Pre/Post Full Implementation             |             |             |             | 12 Months Pre/Post Partial Implementation Citywide |                       |                       |                |
|----------------------------------------------------|-------------|-------------|-------------|----------------------------------------------------|-----------------------|-----------------------|----------------|
| Jul. 2013 – Jun. 2014 vs.<br>Jul. 2014 – Jun. 2015 |             |             |             |                                                    | Jul. 2013 – Jun. 2014 | Jul. 2014 – Jun. 2015 | Percent Change |
| Category                                           | East        | South       | City Wide   | East Crime                                         | 173                   | 124                   | -28%           |
|                                                    |             |             |             | South Crime                                        | 608                   | 477                   | -22%           |
| Property Crime                                     | -32%        | -24%        | -16%        | <b>Total Crime</b>                                 | <b>781</b>            | <b>601</b>            | <b>-23%</b>    |
| Violent Crime                                      | -8%         | 5%          | -15%        | East Crashes                                       | 376                   | 399                   | 6%             |
| <b>Part 1 Crime</b>                                | <b>-28%</b> | <b>-22%</b> | <b>-16%</b> | South Crashes                                      | 426                   | 443                   | 4%             |
| <b>Crashes</b>                                     | <b>6%</b>   | <b>4%</b>   | <b>-3%</b>  | <b>Total Crashes</b>                               | <b>802</b>            | <b>842</b>            | <b>5%</b>      |



### The Future:

The long-term effect of the agency's efforts to reduce crashes and crime citywide continue to be measured. Greenville Police Command Staff monitor and evaluate the operational and analytical efforts to ensure the department is consistently improving service delivery and communication with our partners. Constant analysis, evaluation, and planning are the keys to continued success with community communication and in crash and crime reduction efforts.



## Data Driven Approaches to Crime and Traffic Safety CASE STUDY



**Agency:** Roanoke County, VA, Police Department

**Workshop Attended:** Roanoke, Virginia

### Agency Demographics and Background:

Roanoke County is located at the southern end of the famous Shenandoah Valley of Virginia, with the Blue Ridge Mountains to the southeast and the Appalachian range to the northwest. The jurisdiction is primarily a suburban area with large tracts of rural areas at the outer edges of the county. The county has a low unemployment rate (2.3%), and the primary sectors supporting the region's economy are healthcare and manufacturing. The median household price is \$194,800, with a median household income of \$65,467. Roanoke County Police Department (RCPD) is a force of 142 sworn officers serving a population of 93,500. Comprised of 251 square miles and divided into nine patrol districts, the county surrounds the independent cities of Salem and Roanoke and the Town of Vinton. The department responds on average to approximately 32,000 calls for service per year.

### Lessons Learned:

Implementation Plan: Establishing a DDACTS Implementation Plan provides the framework to engage internal and external partners and stakeholders. The DDACTS Implementation Plan should articulate through a quantifiable measure the goals and objectives of the initiative and establish time for completion and review. It is strongly encouraged that the implementation plan includes support services and investigative resources within the agency and partners and stakeholders outside the agency.

Executive Role and Communication: Developing a successful and sustainable DDACTS plan requires a significant commitment from the agency's management staff. The Chief/CEO must craft and articulate a clear and compelling reason for moving the agency towards data-driven operations. Ongoing and varied communication is essential to foster and build officer engagement towards accepting DDACTS. The discussion focus areas should make the connection between work and the agency's overall goals and objectives, highlighting measurable reductions in social harms.

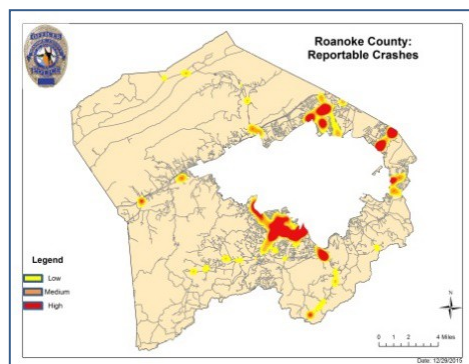
### Prior to Implementation:

Prior to implementation, the crime analyst was tasked with geo-coding crime and crashes from the previous 3 years. This analysis identified two target zones within the county with the highest concentration of crime and crashes. The Chief designated a Patrol Commander to each target zone, responsible for developing a DDACTS Implementation Plan aimed at reducing crashes, residential and commercial burglaries, and theft from autos. Beyond analysis and identifying responsible staff, training is another essential factor towards successful implementation. RCPD sent key personnel to a DDACTS workshop, and RCPD was the host site for a DDACTS workshop.

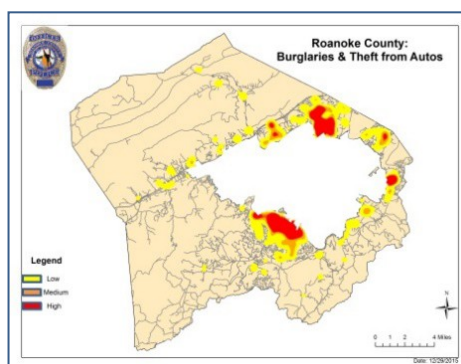
**Pre and Post DDACTS:** On June 1, 2013, RCPD officially started DDACTS. Officers were asked to commit at least 15-30 minutes of uncommitted patrol time per shift in the target zones. The focus in the engagement areas was high-visibility patrol combined with increased public contacts. In addition, the target zone Commanders were focused on community outreach and identifying specific problem locations. Our Crime Analyst developed a weekly DDACTS Report, a weekly crime bulletin, and other analytics that were shared agency-wide.

Map 1 and Map 2 respectively denote the hot spots for crashes and the hot spots for selected crimes (burglaries and auto thefts). The overlay of both crash and crime hot spots were used to identify two DDACTS zones (represented as red circles in Map 3). Map 3 details the two DDACTS zones and the re-alignment of the engagement activity noted above relative to the zones. Note that the engagement activity in Map 3 does not include the additional dedicated patrol time recorded in Café (intranet), also dedicated to the two zones.

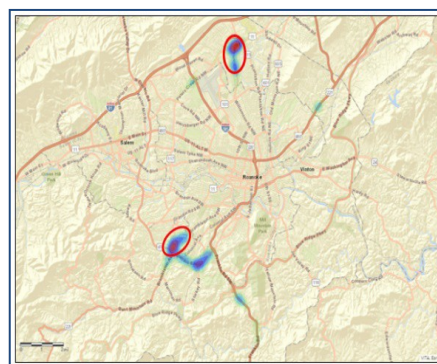
Map 1



Map 2



Map 3



**Activity in target zones: instead of total numbers of hours, insert chart for hours by year.**

During the most recent year (2019), Roanoke saw decreases from the average in Part 1 crimes within zones 1 and 2 compared to increases seen outside the zones and citywide. From the implementation of DDACTS in 2013, Roanoke County saw continuous decreases, particularly in zone 1. Crashes also increased only slightly within the DDACTS zones versus outside the zones and citywide. In September 2016, Roanoke County opened a Crash Reporting Center. Since then, the yearly average of reportable crashes has increased by 21 percent. However, the number of crash calls for service has only increased by 2 percent. Of note, the enforcement/engagement more than doubled in the zones.

| Part 1 Crimes | Started DDACTS 2013 | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | Average (2013-2018) | % Change 2019 from Average |
|---------------|---------------------|--------|--------|--------|--------|--------|--------|---------------------|----------------------------|
| Zone 1        | 145                 | 131    | 79     | 116    | 112    | 101    | 93     | 114                 | -23%                       |
| Zone 2        | 91                  | 94     | 89     | 76     | 81     | 87     | 80     | 86                  | -8%                        |
| Outside Zones | 1,136               | 1,113  | 1,131  | 1,117  | 1,026  | 1,365  | 1,238  | 1,148               | 7%                         |
| Citywide      | 1,372               | 1,338  | 1,299  | 1,309  | 1,219  | 1,553  | 1,411  | 1,348               | 4%                         |
| Crashes       | Started DDACTS 2013 | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | Average (2013-2018) | % Change 2019 from Average |
| Zone 1        | 68                  | 61     | 57     | 67     | 90     | 76     | 75     | 70                  | 7%                         |
| Zone 2        | 64                  | 45     | 65     | 49     | 75     | 61     | 67     | 60                  | 11%                        |
| Outside Zones | 839                 | 915    | 924    | 1,016  | 1,111  | 1,108  | 1,129  | 986                 | 13%                        |
| Citywide      | 971                 | 1,021  | 1,046  | 1,132  | 1,276  | 1,245  | 1,271  | 1,115               | 12%                        |
| Engagement*   | Started DDACTS 2013 | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | Average (2013-2018) | % Change 2019 from Average |
| Zone 1        | 1,402               | 2,002  | 1,541  | 1,433  | 1,619  | 2,006  | 1,837  | 1,667               | 9%                         |
| Zone 2        | 1,101               | 1,925  | 1,634  | 1,405  | 1,647  | 2,663  | 2,383  | 1,729               | 27%                        |
| Outside Zones | 16,309              | 12,996 | 13,027 | 10,500 | 14,175 | 16,768 | 16,046 | 13,963              | 13%                        |
| Citywide      | 18,812              | 16,923 | 16,202 | 13,338 | 17,441 | 21,437 | 20,266 | 17,359              | 14%                        |

\*Includes MV stops recorded in CAD and self-reported on Café during dedicated DDACTS time.

**Conclusion:**

The Roanoke County Police Department supports the DDACTS model as an evidence-based policing model that can effectively reduce crime and traffic crashes when all levels of the organization commit to proactive policing. Identifying target zones through temporal and spatial analysis justifies the deployment of police resources into these historical problem areas.



## Data Driven Approaches to Crime and Traffic Safety CASE STUDY



**Agency:** Schenectady, NY, Police Department

**Workshop Attended:** Albany, New York

### Agency Demographics and Background:

The Schenectady, New York Police Department is located in the eastern portion of the State, approximately 10 miles from the State capital of Albany and just west of the borders of Massachusetts and Vermont. The city was a manufacturing center known as “The City that Lights and Hauls the World” – a reference to two prominent businesses in the city, the Edison Electric Company and the American Locomotive Company. The city suffered heavily from industrial and corporate restructuring, which caused a loss in both jobs and population. Recently, the city has been attempting to shape a new economy based in part on renewable energy. The city of Schenectady is an urban area with a diverse population: 58.1 percent white; 20.8 percent African American, 10.4 percent Hispanic; and 10.4 percent Asian. The estimated median household income in the city is \$44,286, which is 31 percent below the State median household income average.

The Schenectady police department is a full-service agency with jurisdiction spanning 11 square miles, responsible for protecting 66,135 residents. At the time of DDACTS implementation, the department, comprised of 149 sworn officers and 75 civilians, including one full-time grant-funded analyst, responded to 81,282 calls for service. Reducing crashes was the initial goal of the department, which prior to implementation, were reaching 4,500 per year, with incidents of violent crime on the rise as well.

### Lessons Learned:

Personnel Component: Critical personnel are instrumental in implementing the DDACTS approach—particularly in the early stages. When key staff are absent for an extended period (Chief/Analyst, for example), this can hinder the time it takes to launch the model successfully.

Analytical DDACTS Product: Understand that the end product of a DDACTS report should include specific information that is essential for different divisions of the agency, i.e., Patrol, Platoon Commanders, Assistant Chiefs, and Chief. Schenectady PD’s DDACTS reports have evolved to incorporate information deemed necessary, to all ranks and assignments in the department.

### Prior to Implementation:

The Schenectady Police Department faced many of the same challenges to implementation commonly reported by other agencies. These include high call volume, limited flexibility among personnel, and traffic crash data not easily extractable, as well as the long-term absence of key personnel. The agency attended one of the five New York DDACTS workshops held in Albany April 3-5, 2012, and immediately set out to develop a systematic and well-thought-out plan. They leveraged their resources with the State’s Operation IMPACT program as part of their initial plan.

### Pre and Post DDACTS:

While conducting the operational model’s guiding principles of data collection and analysis, the department initially identified four areas where a disproportionate number of vehicle crashes and crime occurred, as seen in Figures 1.1, 1.2, and 1.3 maps below.

Figure 1.1

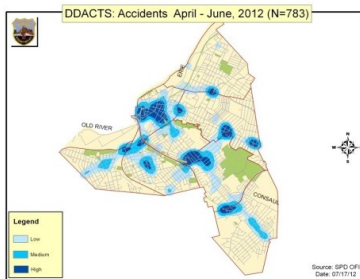


Figure 1.2

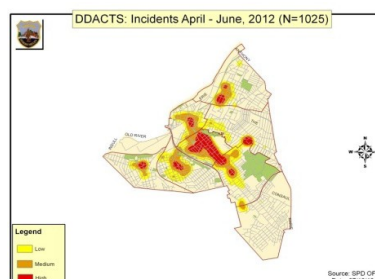
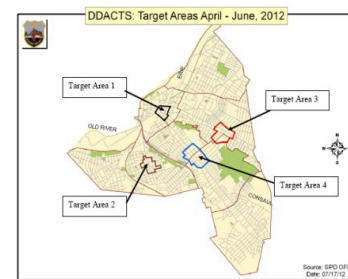


Figure 1.3



The Schenectady Police Department successfully refocused officers' attention in four original designated DDACTS zones in April 2012. The efforts in the first 11 months resulted in decreases of 10.2 percent in crime and 16.4 percent in crashes in those areas, as illustrated in Figure 2.1. The post-DDACTS dates include April 2012 to February 2013.

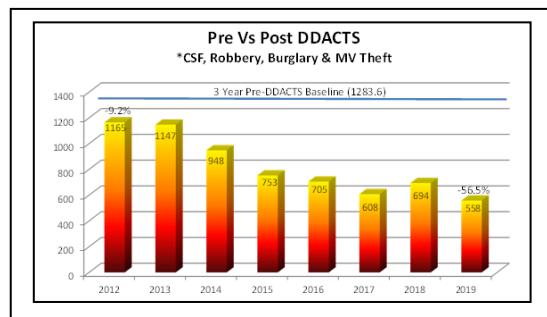
Figure 2.1

|                      | Crime                 |             |            |                      | Traffic Crashes       |             |            |
|----------------------|-----------------------|-------------|------------|----------------------|-----------------------|-------------|------------|
|                      | Pre-DDACTS (5 Yr Avg) | Post DDACTS | Percentage |                      | Pre-DDACTS (5 Yr Avg) | Post DDACTS | Percentage |
| Downtown             | 431.2                 | 405         | -6.1%      | Downtown             | 463.8                 | 370         | -20.2%     |
| Eastern McClellan St | 161.4                 | 168         | +4.1%      | Eastern McClellan St | 168.2                 | 139         | -17.4%     |
| HH / Central         | 318.4                 | 298         | -6.4%      | HH / Central         | 354.6                 | 318         | -10.3%     |
| Mont Pleasant        | 213.4                 | 138         | -35.3%     | Mont Pleasant        | 110.2                 | 104         | -5.6%      |
| Total                | 1124.4                | 1009        | -10.2%     | Total                | 1113.6                | 931         | -16.4%     |

### Continued DDACTS Analysis

To ensure resources are deployed most effectively and efficiently, a DDACTS report, generated annually, re-assesses the agency's DDACTS zones. Schenectady's analysis process enables adjustments where and when appropriate. The long-term effect of the agency's efforts to decrease traffic crashes and crime throughout the city has continued to be successful with reductions of focus crimes (confirmed shots fired, robberies, burglaries, and motor vehicle thefts) and traffic crashes with and without injuries. Figure 3.1 reveals Schenectady's pre-DDACTS focus crime baseline with the total of focus crimes reported citywide for each year (2012 – 2019). Note that after an assessment approximately two years into implementation, the agency discovered they could have a greater impact when concentrating on the two zones where they saw the most significant concentrations of activity. As such, they reduced their zones from four to two.

Figure 3.1



Reported traffic crashes within our DDACTS zones during 2019 compared to a four-year average have reduced by 8.8% (1091.5/996). Figure 3.2 shows the gradual reduction of each of the two DDACTS locations. To date, the DDACTS efforts continue to successfully reduce the number of victims being affected by traffic crashes and crimes. Schenectady's latest DDACTS zones, identified through spatial analysis, are conveyed in figure 3.3. Schenectady's crash and crime success have rested on many factors, but the continuation of monitoring-focused enforcement has ensured resources maintain on course.

Figure 3.2

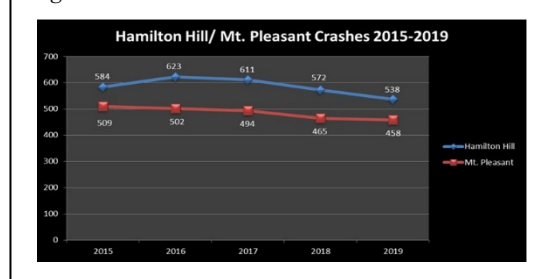
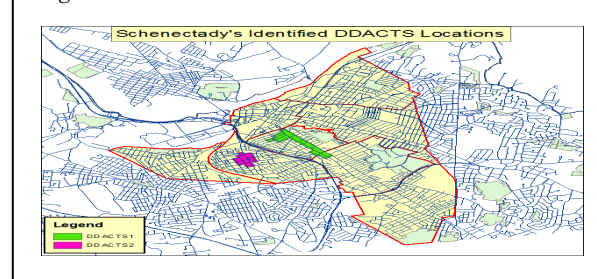


Figure 3.3



## **Appendix D:**

### **SELECTED DDACTS AGENCY STANDARD OPERATING PROCEDURES**

The following standard operation procedures are provided as a guide for your agency policy development.

For further information about these specific SOPs, or others, please contact:

DDACTS Project Manager  
ddacts@iadlest.org

Amarillo, Texas Police Department  
Chief Birkenfeld  
Martin.birkenfeld@amarillo.com  
Asst. Chief Funtek  
ken.funtek@amarillo.gov

Gilbert, Arizona Police Department  
Chief Michael Soelberg  
Michael.soelberg@gilbertaz.gov

Shawnee, Kansas, Police Department  
Chief Rob Moser  
rmoser@ci.shawnee.ks.us

## Amarillo Police Department

# Data Driven Approaches to Crime and Traffic Safety (DDACTS) (Formerly Titled HICAP) 2018 Revision



### **Introduction**

This program, designed to reduce incidents of crime and traffic crashes in areas of Amarillo, has been identified through data analysis as having increased activity in one or both. The program uses the model Data Driven Approaches to Crime and Traffic Safety (DDACTS) as a basis for gathering analysis of data and effective deployment of resources. The program began in August of 2017, and the purpose of this revision is to redefine the zones based on updated data and knowledge gained through training and practice. The modification will also increase the amount of time spent in the identified zones.

### **Measurements**

To determine what areas in Amarillo to focus on this program, data was collected to include combined data for 5 years from 2013 through September of 2018.

- Part I crimes (excluding shoplifting theft)
- All vehicle crashes

This data was compared to a similar series of data collected for the period of October 2017 through September 2018.

### **Findings**

Changes in crime patterns were examined:

- Zone 1 continues to have significantly higher crime and traffic crash data than surrounding areas. Crime analysis has noted that the hot spot includes an area east of Zone 1 for about ½ mile.
- Zone 2 continues to have significantly higher crime and traffic crash data than surrounding areas.
- Zone 3 continues to have crime and crash problems, with the focal point being Amarillo Blvd. from Grand to Hughes.
- Zone 4 showed a slight decrease in crime and criminal activity. Officers working zone patrol also report that this area seems to have limited traffic and pedestrian movement in the residential areas. Contacts have been fairly low in these areas.

### **Recommended Zones and Changes**

Using the model and the proven practices of DDACTS, the following areas in Amarillo have been selected for high-visibility traffic enforcement:

- DDACTS Zone 1 – This area is within beat 63, and 62 is bordered to the North by SW 3rd Avenue, to the South by SW 10th Avenue, to the East by Crocket Street, and to the West by Western Street.
- DDACTS Zone 2 – This area is within beat 53 and includes the area bordered to the North by Interstate 40, to the South by SW 34th, to the East by Georgia Street, and to the West by Western Street.
- DDACTS Zone 3 – This area will be a corridor within beat 32, 33, 34, and 35. It is focused almost exclusively on Amarillo Boulevard between Hughes Street and Eastern Street. Any stop that originates from activity in the corridor should be included as Zone 3 activity.
- HICAP Zone 4 will be discontinued.

### **Action Plan**

The action plan will be high-visibility enforcement of traffic laws and ordinances. This revised plan increases the number of hours spent in DDACTS patrol in the three zones.

Officers in marked cars will look for traffic violations, suspicious persons, and criminal activity in the zone. Officers will focus on making traffic contacts with probable cause. Officers will check out on the radio with the police dispatcher.

DDACTS zones include both sides of the streets that border the zone or corridor. Each hour of assignment is defined as one marked police vehicle working in a zone for one hour. Uniform officers will use their regularly assigned channel for the sector. Non-uniform officers will use radio channel PD 1 when on DDACTS patrol during the weekdays (7 a.m. to 7 p.m.), and the sector channel on weekends and nighttime after 7 p.m.

High visibility is the key for this program to be effective.

#### *Uniform Division:*

The Uniform Division will assign officers to each DDACTS zone to patrol in marked units daily. Each watch will assign 4 hours to each zone daily. Zone patrol should not be interrupted except in case of emergencies.

Motors will assign a minimum of 8 hours per week. PACE will assign a minimum of 8 hours per week.

#### *Detective Division:*

The Detective Division will assign officers to DDACTS zones to patrol in uniform and in marked units. The Detective Division will assign a minimum of 10 hours per week.

#### *SWAT:*

SWAT will assign officers to DDACTS zones to patrol in marked units. The SWAT unit will assign a minimum of 4 hours per week on DDACTS patrol.

#### *Administration:*

Administration will assign command staff to DDACTS zones to patrol in marked units. The Administration unit will assign a minimum of 4 hours per week.

#### *AECC:*

AECC police dispatchers will log all activity in iCad as called out by officers. Officers assigned to work a zone will contact AECC and tell the dispatcher that the officer is working a DDACTS zone. Dispatchers will log traffic or pedestrian stops and other related activity with the appropriate code in iCAD, including a sub-event type for activity related to a DDACTS zone.

### **Evaluation**

Evaluation of program operations will occur at each monthly statistical meeting.

The next major program evaluation will occur in May 2019. This evaluation will look for changes in crime trends.



## Gilbert Police Department DDACTS

### Data Driven Approaches to Crime and Traffic Safety

#### Program Overview

DDACTS is an operational model that uses the integration of location-based crime and collision data to establish effective and efficient methods for deploying law enforcement resources. Using geo-mapping to identify areas that have high incidences of crime and collisions, DDACTS uses traffic enforcement strategies that play a dual role in fighting crime and reducing collisions and traffic violations. Drawing on the deterrent of highly visible traffic enforcement and the knowledge that crime often involves the use of motor vehicles, the goal of DDACTS is to reduce the incidence of crime, collisions, and traffic violations across the country (DDACTS National Website). DDACTS analyzes and addresses long term crime and traffic collision trends, unlike Compstat, designed for short-term crime issues. Information and case studies on DDACTS are available online and have demonstrated the value of DDACTS, in crime and collision reductions.

#### Definitions

DDACTS Zone: a specific geographic area for DDACTS program enforcement and community education and partnership, determined through data analysis of specific crimes and collisions for a 3-year historical period.

Directed Enforcement Area: an area determined for short-term enforcement, based on data analysis of recent spikes of crimes and collisions in specific geographic areas, and reported out during the Compstat portion of the ILP meetings. Directed enforcement is usually based on a single month of information.

ILP: intelligence-led policing meetings. ILPs include CompStat reports, DDACTS reports, intelligence and analysis, traffic directed patrol activities, Crime Suppression Team projects, and Drug Trends.

#### Goals

- **One Year:**
  - Increase enforcement contacts by 20 percent in DDACTS Zone.
  - Increase community reporting and involvement in DDACTS Zone.
  - Reduce targeted crimes in DDACTS Zone by ten percent.
  - Reduce collisions in DDACTS Zone by 5 percent.
- **Long Term; End Goal:**
  - Maintain above-listed goals for six consecutive months.

#### Program Management

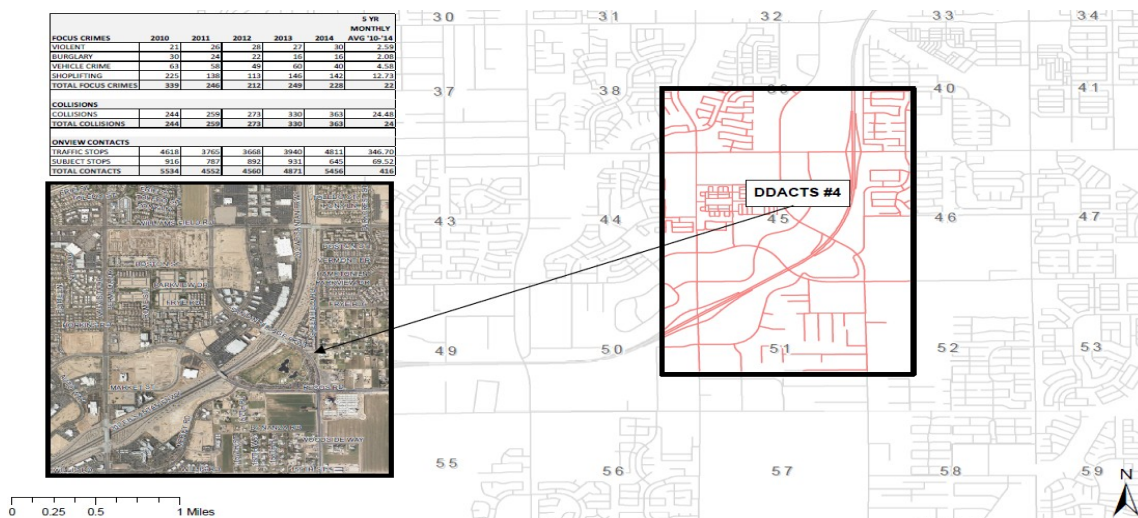
DDACTS in Gilbert, AZ, is operated using the seven guiding principles of DDACTS, according to the DDACTS Operational Guidelines and the training workshops. This includes: (1) *partners and stakeholder participation*, (2) *data collections*, (3) *data analysis*, (4) *strategic operations*, (5) *information sharing and outreach*, (6) *monitoring, evaluations, and adjustments*, and (7) *outcomes*. DDACTS is managed within the Special Operations Division by the Special Operations Commander. The Special Operations Division

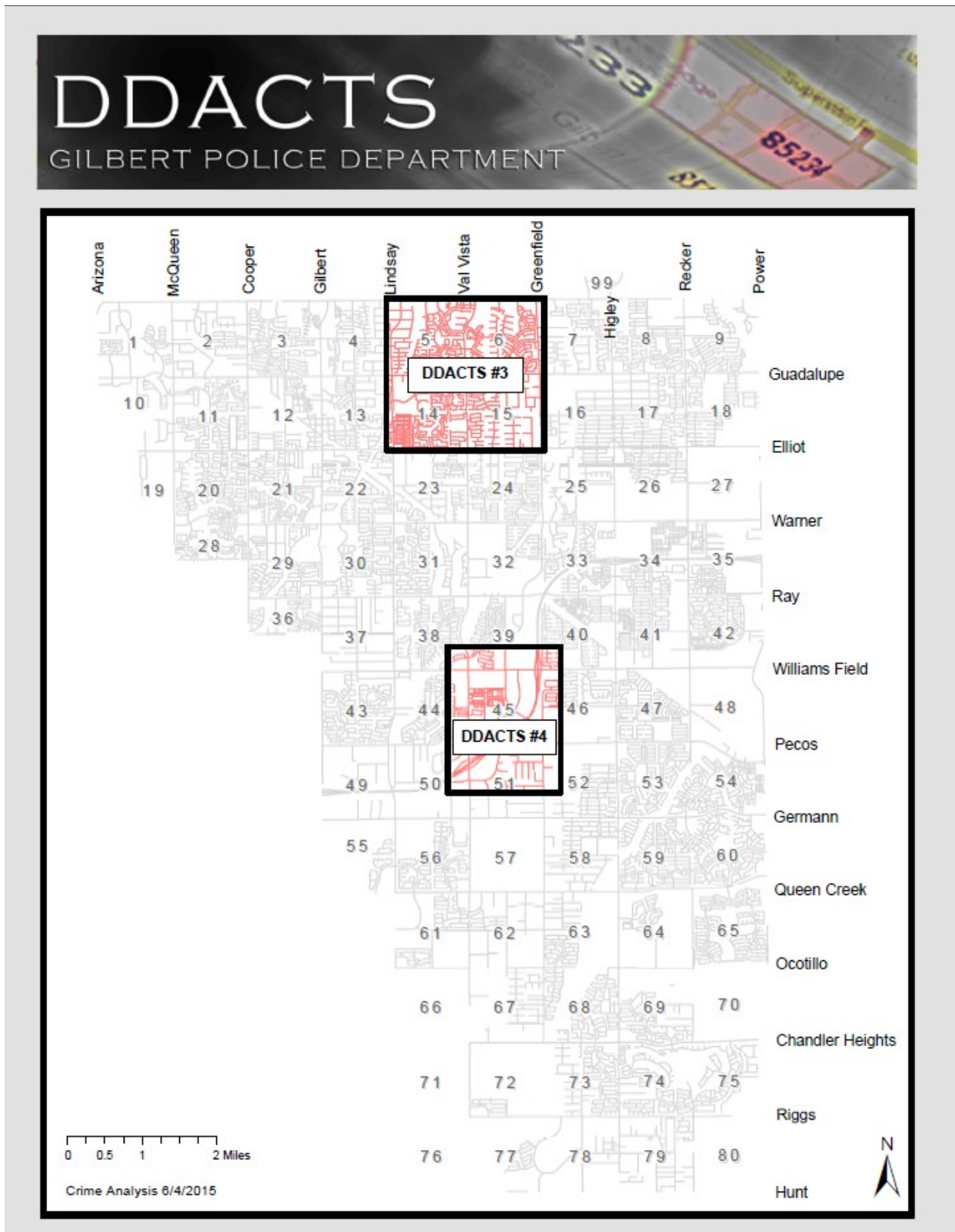
includes the Criminal Investigations Section, Special Enforcement Section, and Tactical Operations Sections. The Special Operations Commander has overall operational management responsibilities. The Commander provides direction to the Special Enforcement Lieutenant, who has the primary role in planning and developing the DDACTS operational plan, and implementing the plan into action. The Special Enforcement Lieutenant has responsibility for plan design, with the Commander's consultation and information provided by the Intel and Analysis Unit and other stakeholders (Tactical Ops LT, CIS LT, Patrol, CST's ...). The Special Enforcement Lieutenant is responsible for communication to the affected public within the determined DDACTS zone, for community education and support, as well as responsibility for managing the tactical plan and enforcement. Community education will be done through HOA's, Chamber of Commerce, media, and other public or professional groups to be affected. Information flow is required between the Special Enforcement Lieutenant, the Special Operations Commander, Crime and Analysis Unit, and enforcement units. The Commander or designee will provide monthly progress report cards at the ILP monthly meetings as well as six-month final report cards on the program.

### Intelligence Gathering and Data Analysis

One of the primary affected units within the division is the Intel and Analysis Unit. The crime analysts in this unit, as related to this program, are responsible for gathering 5 years of historical data on collisions and crime. The specific crimes being analyzed under this program are vehicle burglary and theft, commercial and residential burglary, shoplifting, and violent stranger crime. An analysis of crime and collisions will determine where the merged areas of crime and collisions are occurring, so DDACTS Zone can be determined for better efficiency and effectiveness in enforcement and community education, to achieve the goals of the Special Operations Division through the DDACTS program.

- The GPD crime analysts have extracted the data for the period of January 2010 to December 2014, providing a 5-year historical average, and mapped the clusters of crimes and collisions. Further, the unit has analyzed the data and created a merged, geo-based DDACTS zone for enforcement and education related to this program. The DDACTS zone will be an approximate 3 square mile area in South Gilbert, in the Santan North zone. This area comprises less than 5 percent of the total square miles of Gilbert and averages about 24 collisions, 5 vehicle crimes, 2 burglaries, 13 shopliftings, and 3 violent crimes per month. The zone map and the statistics for the DDACTS zone is shown within the map and chart below:
- DDACTS 4 zone map Gilbert Map showing DDACTS #3 and DDACTS #4 locations within the town.**





**Focus Crimes, Collisions and Proactive Contacts Breakdown 2010 - 2014**

| <b>FOCUS CRIMES</b>           | <b>2010</b> | <b>2011</b> | <b>2012</b> | <b>2013</b> | <b>2014</b> | <b>5 YR<br/>MONTHLY<br/>AVG' 10-'14</b> |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|-----------------------------------------|
| VIOLENT                       | 21          | 26          | 28          | 27          | 30          | 2.59                                    |
| BURGLARY                      | 30          | 24          | 22          | 16          | 16          | 2.08                                    |
| VEHICLE CRIME                 | 63          | 58          | 49          | 60          | 40          | 4.58                                    |
| SHOPLIFTING                   | 225         | 138         | 113         | 146         | 142         | 12.73                                   |
| <b>TOTAL FOCUS<br/>CRIMES</b> | <b>339</b>  | <b>246</b>  | <b>212</b>  | <b>249</b>  | <b>228</b>  | <b>22</b>                               |
| <b>COLLISIONS</b>             |             |             |             |             |             |                                         |
| <b>TOTAL COLLISIONS</b>       | <b>244</b>  | <b>259</b>  | <b>273</b>  | <b>330</b>  | <b>363</b>  | <b>24</b>                               |
| <b>ONVIEW CONTACTS</b>        |             |             |             |             |             |                                         |
| TRAFFIC STOPS                 | 4618        | 3765        | 3668        | 3940        | 4811        | 346.70                                  |
| SUBJECT STOPS                 | 916         | 787         | 892         | 931         | 645         | 69.52                                   |
| <b>TOTAL CONTACTS</b>         | <b>5534</b> | <b>4552</b> | <b>4560</b> | <b>4871</b> | <b>5456</b> | <b>416</b>                              |

The crime analysts have responsibility for the initial, historical evaluation of the specific crimes and collisions, but also will conduct ongoing gathering and analysis of the data to provide information on the work being done within the DDACTS zone. Initially, specific crime and collision information will be provided to the tactical planners by the Crime Analysts, and tactical plans will be created to accomplish the program goals within the zone, specifically in regard to public communication and enforcement tactics. Once implemented, crime analysts will track the enforcement statistics within the DDACTS zone and provide the information to the division commander for analysis, reporting, and direction on tactical planning, strategic deployment, and/or adjustment of resources and tactics. Reporting will occur at monthly Intelligence-Led Policing meetings in the form of monthly report cards and final (6 month) report cards. The final report cards will provide the necessary information to the Commander and Special Enforcement Lieutenant to direct continuance of operations within the zone, adjustments to the plan for the zone, or create a different plan based on the information provided. The process will continue its cycle in the current zone, an altered zone, or additional zones as required per the analysis and information provided.

### Enforcement

The Special Enforcement Section and Patrol Officers working the Santan North Patrol Zone will be the primary personnel resources deployed into the program. Officers working DDACTS will be required to spend 20 percent of their on-duty enforcement time within the DDACTS zone to increase an overall percentage of work time in this designated area. CST, Day, and Night Traffic Teams will be shifted as needed by the Special Enforcement Lieutenant, based on ongoing analysis of activity, crime, and crashes. As the clusters of crime and crashes fluctuate, the teams' hours will be adjusted accordingly for maximum effort and impact.

The Patrol Division will have partially direct and partially indirect involvement in DDACTS 4. The DDACTS zone coincides with the Santan North Patrol Zone. Affected patrol officers work a larger patrol zone but will be required to focus at least 20 percent of their patrol work in the DDACTS 4 zone. They will have a direct responsibility to DDACTS 4. Additionally, other patrol zone officers who are not required direct responsibility and who conduct enforcement and activity identified specifically within the DDACTS zone will be included within the analysis.

#### **DDACTS Timeline: Operational Period – July 1, 2015 – June 30, 2016**

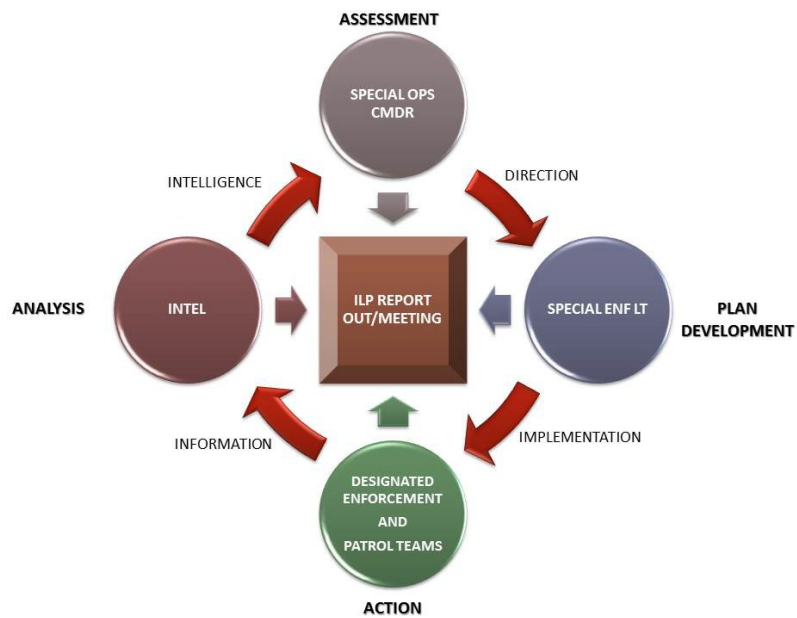
| <b>Month</b>                              | <b>Meeting</b>       | <b>DDACTS Phase</b>                                                |
|-------------------------------------------|----------------------|--------------------------------------------------------------------|
| <b>June 2015</b>                          | ILP<br>Command Staff | DDACTS Education (Department & Community)<br>Preview of DDACTS #4  |
| <b>July 2015</b>                          | ILP                  | Implementation of DDACTS #3                                        |
| <b>Aug, Sep, Oct, Nov &amp; Dec 2015</b>  | ILPs                 | Report Cards of DDACTS #4 and six-month evaluation in January 2016 |
| <b>Jan 2016</b>                           | Command Staff        | Evaluation of DDACTS #4; Adjustments as needed                     |
| <b>Feb, Mar, Apr, May &amp; June 2016</b> | ILPs                 | Report Cards of DDACTS #4                                          |
| <b>July 2016</b>                          | ILP                  | Final Report Card of DDACTS #4                                     |

#### **Reporting**

Although communications will be ongoing throughout the program, official program reporting will occur in the ILP monthly meetings. The DDACTS report card and final report cards will be briefed by the Special Operations Commander or designee, and will address the following:

- DDACTS zone (work area)
- Objectives
- Tactical Plan
- Outputs/Outcomes:
  - Results/performance to goals
  - Subject stops
  - Traffic stops
  - Dispatched Calls for Service
  - Officer Initiated Calls for Service
  - Pin map combining focus crimes and collisions in DDACTS zone, month to month and final report card timeline (6-month period)
- Overall successes and/or issues learned through the work period (monthly report card or final report card timeline)

## Gilbert Police Department DDACTS Program Communication and Workflow





## SHAWNEE POLICE DEPARTMENT

5850 Renner Road  
Shawnee, Kansas 66217  
Phone: 913-631-2155 Fax: 913-631-6389  
Rob Moser, Chief of Police  
rmoser@ci.shawnee.ks.us

*Our primary goal is to reduce and/or maintain the incidences of crime and traffic crashes in our community, specifically three designated DDACTS areas, thereby reducing social harm primarily through high-visibility traffic enforcement and pedestrian contacts. To accomplish this, we will strive to achieve 4 contacts per hour in these DDACTS areas a minimum of 600 minutes per area/per week during the target times, accomplishing the 600-minute goal a minimum of 85 percent of the time.*

*DDACTS stands for Data-Driven Approaches to Crime and Traffic Safety.*

### Effective Date

May 1st, 2019

### Target Times: Monday through Sunday

0600 - 1000 hours

1800 - 2400 hours

### Criminal Interdiction Unit Goals and Objectives

- 1) CIU, as a unit, will support the department's DDACTS practice by auditing target times throughout each week and directing themselves based on need within each area.
- 2) Each CIU officer will spend 60 minutes per day in one DDACTS area per shift worked by auditing target times throughout each week and directing themselves based on need within each area.
- 3) Individual goal is to attain 1 contact every 15 minutes.

### Traffic Safety Unit Goals and Objectives

- 1) Each TSU officer will spend 30 minutes per day in one DDACTS area per shift worked by auditing target times throughout each week and directing themselves based on need within each area.
- 2) Goal is to attain 1 contact every 15 minutes.

### Road Patrol Goals and Objectives

- 1) The shift supervisor shall assign District 2, 30 minutes per shift during the Target Times conducting high-visibility enforcement in this DDACTS area.
- 2) When staffing is above minimums, officers not assigned to a district are expected to self-direct into the DDACTS areas as time allows.
- 3) Districts 5 and 6 shall remain west of Renner road unless directed to move center due to a high call load in the eastern districts of the City.
- 4) Any other available district cars or 95 units may self-direct enforcement in the DDACTS area.
- 5) Goal for all Road Patrol officers is to attain 1 contact per every 15 minutes when in the DDACTS area.

### **DDACTS Enforcement Strategies**

- 1) High-visibility Traffic Enforcement will be conducted with lower discretionary levels than what has traditionally been accepted as the norm when determining if a personal contact is necessary. The key to reducing crime and traffic crashes is to make high-visibility contacts (emergency lights activated). When self-initiated activity increases, the incidences of crime and traffic crashes decrease, thereby reducing social harm. Tickets should be written when officer discretion deems it appropriate considering the nature of the violation; however, written warnings are entirely appropriate when considering the lower discretionary levels and should be considered accordingly.
- 2) When an officer deploys to the DDACTS area, he/she shall complete the information in STORM for District, Shift and Start Time. When leaving the area, he/she shall click on the Time End and complete the table listing all activity during their deployment. Note: Officers working a DDACTS area minutes before the start of a target time should manually enter their start time as the start of the target time. Otherwise, the time will not be picked up within the target hours.
- 3) Each contact shall result in one of the following.
  - Arrest
  - Citation
  - Written warning
  - FIC
- 4) Officers shall take the time to explain to the public the reason for increased police presence within the DDACTS area. Effectiveness is based on the contact, not a citation.

### **DDACTS Evaluation**

- 1) Sergeants shall use the "District" view to hold assigned officers accountable for their efforts within the DDACTS area.
- 2) Timely evaluation documenting the effectiveness of DDACTS, to include crime and crash analysis, shall be conducted on a periodic basis.
- 3) Department personnel are encouraged to contact the department's crime analyst with inquiries relating to information on crime and crashes in the DDACTS area, and city-wide.

### **DDACTS Fact Sheet**

The 75th Street Corridor includes patrol section numbers: 206.00, 206.01, 206.02, 206.03, 206.04, 207.00, 207.01, 208.00, 208.01, 208.02, 208.03, 208.04, 208.05, 209.00, and 209.01.

The 75th Street Corridor DDACTS Area covers 0.88 sq. miles (562 acres), which represents 2.1 percent of the total area of the city and accounts for 7.9 percent of the city's population. From 2007-2013, the 75th Street corridor accounted for 17.8 percent of the city's total violent stranger crimes, 17.7 percent of the city's total property stranger crimes, and 12.2 percent of the city's hazardous driving incidents (10.2 percent for reported crashes and 13.3 percent for alcohol-related calls for service).

