Lowell Police Department

Strategies for Policing Innovation

Process and Outcome Evaluation Report

June 2018

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The Lowell, Massachusetts Police Department undertook an extensive department reorganization to reduce property crime, increase community policing efforts and to institutionalize problem solving techniques. Supported by U.S. Department of Justice, Bureau of Justice Assistance Strategies for Policing Innovation (SPI) funds, the organizational changes proposed by Lowell grew out of a longstanding commitment to innovation and the adoption of what works to reduce crime, fear and improve police-community relations. The LPD and SPI supported a parallel research effort to document the process of implementation and the outcomes produced by the reorganization activities.

The Lowell Police Department (LPD) implemented each of the specific activities proposed in the SPI Action Plan. These activities included: 1) reorganization of geographic deployment of patrol; 2) creation of District Response Officers to work in teams; 3) decentralization of the crime analysis unit to neighborhood precincts; 4) productive interaction between crime analysts and patrol officers and supervisors; 5) modified supervision structure; 6) increased community policing and problem solving through the adoption of a case of place approach; 7) training of officers and supervisors in best practices; and 8) revamping Compstat to integrate problem solving and community policing.

A process and outcome evaluation provided wide-ranging insight into the adoption, implementation and impact of Lowell's reorganization on outcomes of interest. The process evaluation revealed the following insights:

Decentralization of Crime Analysis and Intelligence Unit

- ✓ Decentralization of the CAIU has had a significantly positive impact on the interaction between analysts, officers and supervisors, literally creating a direct relationship between analysts and officers in the field
- ✓ CAIU decentralization has increased information sharing across CAIU, officers and supervisors
- ✓ Analysts are more focused on sector crime and gathering and reporting on what is happening in a specific sector
- ✓ Analyst role in collecting data for case of place approach was innovative and allowed for enhanced analysis and information sharing about crime and disorder
- ✓ Ongoing problem solving between analysts and officers has allowed for improvements in their joint work
- ✓ While there were structural and cultural challenges in decentralizing analysts (e.g. delays in space, new roles and field presence), these challenges have been mostly overcome and the benefits have far outweighed the initial change challenges

Creation of the District Response Teams

- ✓ Officers and supervisors have felt motivated by the team policing and problem solving concept
- ✓ Officers and supervisors appreciate and see value in the ability to focus their time on problems
- ✓ The Case of Place tool has provided a guide and structure for problem solving and has become an important tool in operations and performance management
- ✓ The unpredictability of officer assignments has been the biggest obstacle to effectively engaging in problem solving
- ✓ Pulling of supervisors remains an obstacle to effectively managing DRT's and problem solving
- ✓ More detail and documentation is needed regarding officer engagement of the community in very formal ways
- ✓ Interaction between analysts, DRO's and supervisors on varied shifts differs, and there remains a need for more formal communication and coordination across shifts
- ✓ Expressed interest in working more closely with Investigative units and personnel, but formal process has room for improvement

Case of Place

Overall, there were 104 Cases of Place opened during the study period. Of these, 51 were opened in District A and 53 were opened in District B. Twenty-five percent (N = 26) were opened within a Hot Spot location, with 13 falling in District A and 13 falling in District B. Seventeen (17) Case of Place locations had gang involvement and 26 had juvenile involvement.

Overall, the majority of activities were performed under the Community Policing "bucket". On average, about 38 Community Policing activities were performed at each Case of Place. The next highest average of activities was for Field Interviews (18.98 per Case of Place on average) and Traffic Enforcement (11.72 per Case of Place on Average).

The Case of Place approach is a tool with great potential for systematic problem-solving and performance management. Leading up to each Compstat, analysts work together with DRO's, officers, and supervisors in the field to capture and track crime and incidents of interest. Analysts have offered several praises for the decentralization, saying that it "increases communication, data sharing, problem-solving, and accessibility to patrol and supervisory staff. It enables 'face-time'." Moreover, their focus has shifted from citywide to becoming localized, using the Case of Place tool to work with officers on problem identification and resolution. This new approach closes that loop and systematizes the problem-solving process. With a systematic tool and process, our observations revealed how Case of Place can address problem-solving and performance management shortcomings in Lowell and elsewhere. The approach requires additional implementation and testing to rigorously assess its contributions to desired outcomes.

Problem solving and community engagement

- ✓ Need to document and categorize work of DRT's in order to connect their work to crime trends
- ✓ Need to formalize the feedback and tracking, through Compstat and in other ways such as reports, or some mechanism that allows for formal and systematic follow-up
- ✓ Need to solidify the use of Case of Place via policy and ensure that all members of the LPD understand their role and participation in the effective use of Case of Place
- ✓ Need more engagement of patrol and enhanced communication between DRT's, patrol, shift commanders, and investigations

Compstat

- ✓ This change may be one of the first of its kind in terms of integrating problem solving and community policing
- ✓ The modification of Compstat to include problem solving and community policing has been a challenging, yet notable change
- ✓ Analysts can and should serve in more of a facilitation role in the Compstat conversations
- ✓ While the integration of problem solving and community policing into Compstat has gone well, the follow-up associated with these efforts needs to be better systematized, and institutionalized across various shifts and ranks.

The process of adopting and implementing the various changes in the LPD has yielded a number of challenges that are expected in any significant organizational change. This study uncovered two critical dimensions of implementation.

Structural challenges: The structure of organizations consists of formal roles, responsibilities, relationships and coordination, rules, policies, procedures and hierarchies that allow an organization to operate. Several important structural changes were introduced in Lowell to provide a foundation for the reorganization, including the decentralization of the Crime Analysis and Intelligence Unit (CAIU), creating a DRO group, use of the Case of Place approach, new data management systems, and a revised Compstat forum. Challenges in implementing these changes included setting up and outfitting the precincts for the analysts, establishing new positions and supervision structures for the DRO's, protecting the work of the DRO on shift, creating new data collection processes for the case of place (i.e. community policing and problem solving) processes, and integrating the new data into the Compstat meeting.

Cultural challenges: The adoption and implementation of new organizational practices presented many challenges to organizational culture. Culture is expressed in the norms, values, rules, goals, beliefs, habits, and shared meanings of the members and is influenced by the different views, priorities, and hierarchies that make up the social order of the institution. Several cultural disruptions occurred during the implementation of the LPD's reorganization. The most prominent cultural challenges included emphasizing the organizational priority of DRO's,

conflicting patrol and problem-solving priorities, decentralization of the CAIU, and shifting Compstat's emphasis towards problem-solving.

The adoption of evidence-based practices in a smaller, mid-sized city reflects the challenges also experienced by larger cities attempting to make the same changes. Uchida & Swatt (2013) found that the increased analysis and interaction around crime patterns, between analysts, supervisors and officers made a difference in understanding and directing resource allocation and impact. This approach seems to have translated well into the smaller city setting. While Lowell adopted best practices in foot patrols and problem solving in high crime areas, we were unable to assess the use of foot patrols in high crime areas to compare Lowell's experience with evidence-based practices as the documentation for community policing was not as detailed as was needed to specify what community policing activities were employed. In sum, our process evaluation showed that the use of decentralized crime analysis, community policing, foot patrols and problem solving in hot spot locations, can be implemented in small city environments, as was proposed by the LPD.

Outcome evaluation

Our results are preliminary, thus they are subject to change. The LPD observed notable reductions in crime during the study period. These reductions are described and presented below. In our analysis, we sought to uncover and understand the contributions of various reorganization activities to this reduction. As expected, this was and remains a complicated task.

To assess the implementation of the reorganization, we utilized an interrupted time series research design. Measurement of property crime indicators such as burglary, car breaks, disorderly conduct, vandalism, non-domestic violence aggravated assaults and robberies are our outcomes of interest. We are measuring those indicators at baseline, monthly and post-intervention. From 2014 to 2017, crimes decreased by 17% from 5,694 to 4,723. The largest decreases were in car breaks (34.7%), burglary (25.5%), and aggravated assaults (24.6%).

Crimes by Type: 2014-2017
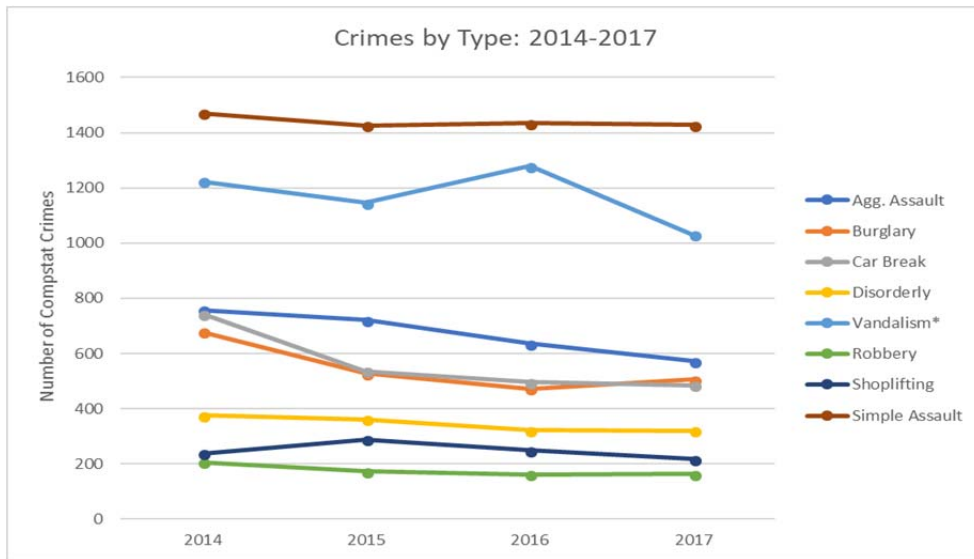
Our preliminary analysis, utilizing total crime counts in the city of Lowell from 2011 through 2017 showed that while SPI contributed to lowered crime rates, the relationship was NOT significant. We were able to run an ARIMA (Auto-Regressive Integrated Moving Average) in R, the program used by statisticians, successfully, but we are still analyzing using this technique as it helps to combat some of the unmet assumptions required for the interrupted time series.

Crimes by District

From 2014-2017, District A saw an overall decrease in crimes by 15.2% and District B saw a decrease of 18.9%.

2014-2017 Crimes by District
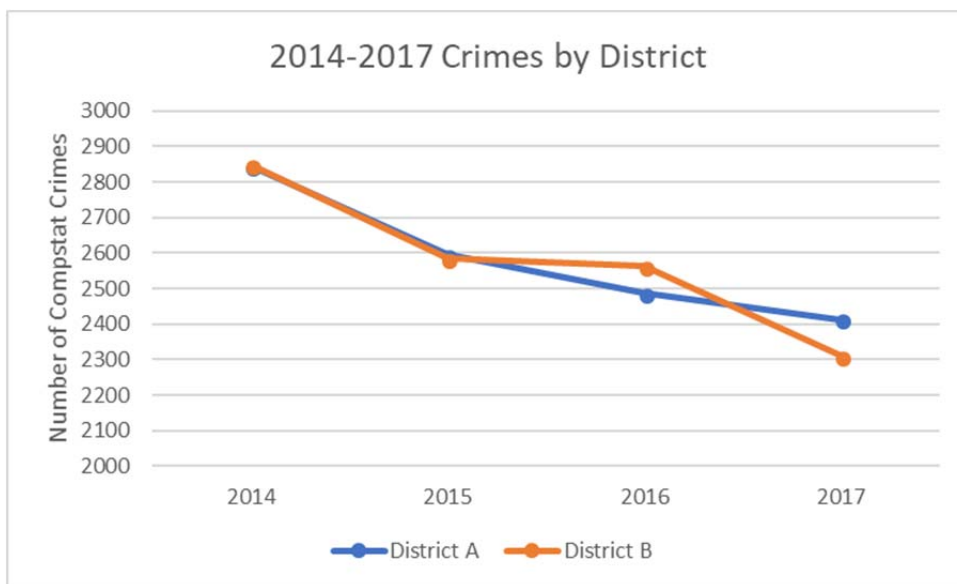
Community Perceptions: To assess community perceptions of crime and police officer interactions we conducted pre and post-intervention surveys in high crime locations. Financial

and human resource constraints influenced the administration of a community perceptions survey, limiting the scope and scale of data collection from the community. To capture community insights, the Research Team worked with LPD staff to identify areas within the community most likely to see a change as a result of the reorganization, and in particular, problem solving and community policing. A total of 15 hot spot locations were identified, encompassing just about 4,500 households. We randomly selected 10%, or 495 households within the selected geographic area to survey.

The administration process was designed after consultation with existing research, and conversations with LPD staff and survey experts. A door-to-door administration strategy was selected. Surveys were to be administered by a team of surveyors (i.e. Researcher, community volunteer, translator). Surveys were translated into multiple languages (e.g. Spanish, Portuguese, Khmer) and teams with translators were created for specific areas within the city. While this was an extremely labor intensive approach, it allowed for face-to-face interaction and engagement, and support in completing the anonymous survey.

Survey Data Pre-test: Through a door-to-door surveying process, we were able to collect 146 surveys in the pre-test phase. Of these, 64 were from District A, 81 were from District B, and 1 was coded as missing. 56 respondents (38.4%) had children living in their household and about 35% (52 respondents) were under 40 years old. 77 respondents (52.7%) identified as White/Caucasian. 81 respondents (55.5%) were female and 52 (35.6%) were male, with 13 respondents not reporting their gender.

Survey Data Post-test: We faced a number of significant and somewhat insurmountable challenges in administering the post-intervention survey. An initial challenge centered on lack of staffing and volunteers to conduct the door-to-door surveys. After a short delay, the team re-initiated the process, only to be postponed due to an impending project extension decision by the Bureau of Justice Assistance. The winter months then forced postponement. After about a one year delay, the final attempt to administer the surveys commenced. In the post-intervention surveying, we were able to collect 25 surveys. Of these, 9 were from District A and 16 were from District B. 5 respondents (20%) had children living in their household and about 30% (10 respondents) were under 40 years old. 18 respondents (72%) identified as White/Caucasian. 12 respondents (48%) were female and 13 (52%) were male.

Given the significant difference in total sample in post-intervention compared to pre-intervention surveys, we were unable to make an accurate assessment of change in community perceptions, and while we conducted some tests, there were no significant differences between the two time periods. Our detailed analyses are presented in later sections of this report.

Conclusion

The Lowell, Massachusetts Police Department accomplished the proposed reorganization activities outline in their SPI proposal. The evaluation identified numerous positive outcomes

from this reorganization, including increased community policing and problem solving, and institutionalizing these practices in the structure of the organization. Preliminary analyses reveal a positive impact on property crime outcomes, though we were unable to measure changes in community perceptions.

The structures and practices introduced through the SPI have allowed the LPD to "move the needle" on institutionalizing community policing and problem solving in the City of Lowell. While many implementation challenges arose in the change, Lowell was able to overcome most of those challenges. Additional attention to the weaknesses in those structures and practices will further support sustainable change in the way the Lowell Police Department ensures community safety.

This report details the research activities and outcomes of the Lowell Police Department's (LPD) re-organization plan, funded in part by the U.S. Department of Justice, Bureau of Justice Assistant's Strategies for Policing Innovation (SPI)[1].

As noted on the Strategies for Policing Innovation website, there are five (5) goals that guide Strategies for Policing Innovation (SPI): creating sustainable partnerships between law enforcement and researchers; using technology, intelligence, and data in innovative ways; enhancing collaboration within law enforcement agencies, with external agencies, and with the communities these agencies serve; promoting evidence-based practices in law enforcement agencies; and advancing science-based policing practice. To achieve these goals, SPI sites engage in five key Strategies for Policing Innovation practices:

THE FIVE CORE STRATEGIES FOR POLICING INNOVATION PRACTICES

| Performance measurement and research | Strategic targeting | Making better use of intelligence and other data and information systems | Managing and sustaining organizational change | Outreach and collaboration |

The City of Lowell, Massachusetts and the Lowell Police Department (LPD) have a strong and solid reputation of experimenting with new and promising approaches, and for working with researchers to adopt and evaluate evidence-based practices. Their experience and commitment to innovation and experimentation align with the SPI goals noted above. This report describes the Lowell Police Department's SPI project. The report presents the LPD's SPI goals and the activities implemented to attain those goals. This report examines the activities and accomplishments associated with the goals of the LPD's re-organization. The report offers insight into the successes and challenges, and provides recommendations based on the interpretation and collection of project-related data.

Lastly, project outcomes are presented, followed by implications and recommendations for the LPD, the SPI community and the broader field of policing researchers and professionals.

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[1] Strategies for Policing Innovation was formally known as the Smart Policing Initiative.

Problem Statement and Needs that Prompted Reorganization

The city of Lowell is dense, mid-sized city with an ethnically and economically diverse population of 105,000 residents. Crime and disorder are concentrated in a small number of locations. The agency employs approximately 235 officers and 100 civilian staff. While the agency has long embraced community and problem-oriented policing, the 2008 recession negatively impacted the police department's number of sworn personnel and proactive policing efforts. Crime problems have been a persistent challenge in Lowell. In 2013, at the time of the LPD's SPI application, the city reported a total of 10,246 NIBRS crimes, which included 8,388 Group A (i.e. crimes such as homicide, assaults, robberies) and 1,858 Group B crimes (i.e. loitering, vagrancy). These totals reflected an increase (3%) from 2012.

In 2013, a new police superintendent was appointed and instantly re-energized the agency's proactive policing efforts.[2] Having previously utilized place-based and offender-based strategies, the superintendent looked to research evidence (Ratcliffe *et al.,* 2011; Taylor *et al.,* 2011; Uchida *et al.,* 2012) on effective place-based crime strategies to effect crime and disorder and improve community relationships.

What resulted from this review and a larger visioning process was department reorganization, including the redesign of patrol areas, adoption of new operational structures and practices, and decentralization of crime analysts to support communication with patrol. Officers were selected to serve as District Response Officer's (DRO) to work with patrol, investigators, and analysts to problem-solve in identified places of concern, using a new Case of Place approach. Lastly, the agency's Compstat was redesigned to integrate Case of Place and problem-solving efforts into their performance management system.

SPI Goals and Activities

The goals of the Lowell, Massachusetts Strategies for Policing Innovation (SPI) were to utilize the department's reorganization plan developed in 2014 and fully implemented in 2015 to reduce property crime, increase community policing efforts, institutionalize problem-solving techniques and increase and improve supervision within the department.

Within this larger set of goals, the LPD identified several sub-goals of the re-organization that were expected to support success. Below is a list of sub-goals, specific activities and expected

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[2] Many of these efforts were scaled back during the 2007-2009 recession when financial and human resources were significantly diminished.

outcomes. **Next to each set of activities we provide a check mark (√) for those activities that have been implemented.** We later present the outcomes for each goal.

Sub-Goal #1: Decrease Property Crime (burglary, car breaks, disorderly, primary Vandalism, secondary vandalism, shoplifting, Non-DV aggravated assaults, robberies)		
Activities		**Desired Outcome (s)**
• Develop reorganization plan	√	
• District Response Teams created	√	
• Decentralize Crime Analysts	√	Decreased property crimes
• Monitor crime and disorder reduction through re-vamped Compstat	√	
• Change supervision structure	√	

Sub-Goal #2: Increase Community Policing		
Activities		**Desired Outcome (s)**
• Increased visibility in community	√	Supervisors and officers are implementing community policing practices; community policing activity measures are integrated into Compstat; content areas and use of research and best practices
• Change supervision structure	√	

Sub-Goal 3: Increase Problem Solving		
Activities		**Desired Outcome (s)**
• Train DRT Lieutenants and analysts in case management of places and problem solving	√	Increases in the number and nature of problem solving activities documented and reported by Supervisors; content areas and use of research and best practices
• Facilitate opportunities for analyst, patrol/detective interaction	√	
• Change supervision structure	√	

Sub-Goal 4: Increase and improve Supervision		
Activities		**Desired Outcome (s)**
• Change supervision structure	√	Increase the number of supervisors; Improve the nature of supervision; Increase the use of research and best practices
• Monitor administrative data	√	
• Train and apply best practices in supervision and management	√	

The Logic Model for Lowell's SPI is included in Appendix A. An infographic presenting the LPD reorganization plan is included. This infographic was created and shared with the LPD to ensure that all members were receiving information about the reorganization.

RESEARCH STRATEGY

The LPD has enjoyed a longstanding partnership with Dr. Brenda J. Bond of Suffolk University. The LPD has partnered with Dr. Bond on three Strategies for Policing Innovation (SPI) efforts, as well as other research and organizational development endeavors over the past two decades. This ongoing partnership has helped to transform the LPD in a number of operational and strategic ways. The action research methodology utilized by Dr. Bond not only enhances the research and programmatic efforts of LPD staff, but supports capacity building in learning, reflecting and acting in support of more efficient and effective public safety.

Lowell Police Department leaders and staff worked in concert with Dr. Bond in the formulation of the SPI plan and the evaluation activities crafted to assess and evaluate the LPD's reorganization plan. This section describes the process and outcome evaluation plan and activities, and then describes the results of the reorganization study.

Research Plan & Methodology

The SPI research plan included a process and outcome evaluation that focused on the intervention period. Both process and outcome evaluations were critical to understanding the outcomes from the LPD's reorganization, but what specific activities, experiences and lessons were learned during the implementation of the reorganization. The value of the study can be found in implementation and outcome.

The research strategy was multifaceted. The methodology was grounded in participatory action research. This approach supports practitioner engagement in the empirical and practical study of real-time challenges or problems facing the field. This purpose allows researchers and practitioners to work collaboratively to understand current challenges or problems to be solved, to create and study new ways to address the challenges. A participatory action research approach supports learning and improvement, through ongoing problem identification, reflection, action and learning (Patton, 2015). In addition to improving the strategies and/or tactics for problem solving, participants learn and build their capacity for reflection and problem solving in the future. This approach is particular fitting for SPI efforts.

The 24-month intervention period afforded an extensive data collection process, providing rich insights into the observed and reported experiences of those in the implementing environment. Researchers served as participant-observers throughout the process, supporting ongoing observation, formal and informal interaction and data collection, direct participation, and reflection (Denzin, 1978; Van Maanen, 2011).

A **process evaluation was undertaken** to document and learn from implementation of the reorganization plan. Implementation science can assist in the understanding of how policies are transferred and implemented from one setting to another (O'Toole, 2000), which may help address the concerns of police practitioners regarding transference of lessons (Rosenbaum, 2006). Moreover, researchers and practitioners want to adopt policy that shows promise for achieving outcomes, but there is a need to know what happens between goal setting and outcomes measurement, particularly if effectiveness is not achieved. They want to know why (Pressman and Wildavsky, 1984).

The process evaluation allowed us to focus on implementation by capturing a number of efforts by LPD staff (e.g. officers, supervisors, crime analysts). Process evaluation efforts documented:

- New activities of crime analysts as they were decentralized into neighborhood precincts;
- New activities of District Response Officers, including the use of case of place processes for problem solving and community policing;
- The adoption of evidence-based practices by officers and supervisors;
- The modification of Compstat to focus on problem solving;
- The operational and strategic challenges of implementing the reorganization activities;
- The perceptions of success that came with implementing the reorganization.

The **outcome evaluation was designed to evaluate the impact of the reorganization** on outcomes of interest (i.e. crime, community perceptions). We utilized an interrupted time series to assess impact of the reorganization on specific crime outcomes of interest (burglary, car breaks, disorderly, vandalism and secondary vandalism, non-domestic violence assaults and robberies). We collected data from community members in specific high crime areas to assess community perceptions of crime, fear and interactions with Lowell Police Department officers.

Below we detail the specific process and outcome evaluation activities and results from these efforts.

Data Collection

To inform the process evaluation, we collected data from multiple sources, including agency documents such as grants, progress reports, and an official action plan (N = 10); process notes from meetings with agency staff (N = 19); focus groups with District Response Officers (N = 30 officers); interviews with commanders and crime analysts (N = 5); Case of Place files (N = 104); and Compstat observation and presentations (N = 17). For meetings and focus groups, the number of participants was documented, as was the nature of their role in the agency.

For the outcome evaluation, we worked closely with the LPD's CAIU and utilized official LPD NIBRS data for specific crimes (noted above), as well as community surveys from residents in high crime areas.

Process Evaluation

<u>**Decentralization of the Crime Analysis and Intelligence Unit:**</u> The decentralization of the Crime Analysis and Intelligence Unit (CAIU) was a significant organizational change. Previously, the CAIU was a centralized unit, with analysts under the administrative section of the agency. The unit was relocated to the investigative section, aiming to broaden their scope and reach, allowing for more communication and coordination across patrol and investigations relative to data, intelligence, and problem-solving. Physically relocating the CAIU into neighborhood precincts was a challenge. Outfitting neighborhood precincts to accommodate new staff and technologies took longer than expected (6 months) and garnered major financial resources. Planning and design issues, vendor communications, and staffing interruptions plagued the move. In addition to reorienting CAIU staff to working within the investigative section, investigation commanders now supervised a unit primarily focused on crime and disorder on the street, establishing new supervision structures, relationships, and responsibilities.

The decentralization of the CAIU has been one of the most positive and successful changes to occur under the LPD's reorganization. The move to the field has facilitated face-to-face interactions between analysts, officers and field supervisors, creating relationships that were previously non-existent. These interactions and relationships then facilitated a greater and deeper understanding of the role that each played in achieving organizational goals. Resulting from this was increased and enhanced information sharing between the three groups around crime patterns, emerging issues, problem people and locations. As analysts shifted their focus from citywide analysis to district-specific, they began to take more ownership for the collective work in the District.

Analysts also took on new roles in creating data collecting and dissemination systems, particularly for the Case of Place approach. In the process of this work, they also engaged in ongoing problem solving with officers and supervisors, which brought them into the entire problem solving process, not just the analysis step. This had previously been the case when analysts were disconnected from field work.

As noted, there were many structural and cultural challenges in decentralizing analysts (e.g. delays in space, new roles and field presence) but these challenges have been mostly overcome and the benefits have far outweighed the initial change challenges.

<u>**District Response Officer Activities & Case of Place Approach:**</u> The reorganization plan facilitated the creation of a specialized team of officers (DRO's) who would work as a team (i.e. District Response Team) to increase community policing and problem solving in their assigned district. Lowell's operational deployment strategy is centered on two sectors – Sector A and Sector B. Each sector is then broken into two districts.

The process of selecting DRO's was complex as the creation of a new category of staff required leadership and union agreement. To accomplish this, LPD leadership met with union leadership and created a fair and open process. This process would allow for the Police Superintendent to select 12 DRO's, while the remaining 12 DRO's (for 24 in total) were to be identified through the already established bidding process. This entails a yearly process whereby officers "bid" for departmental assignment based on seniority.

The District Response Teams worked with the Captains and Lieutenants in their Districts, and with the newly decentralized Crime Analysts, to identify current or emerging problem locations and employ a diverse set of situational crime prevention and reduction techniques to resolve the issues. Their work was expected to increase evidence-based problem solving and increased community policing activities.

A system for problem solving, and tracking problem solving and community policing efforts was created by the LPD. This system was grounded in the "Case of Place" approach. The Case of Place approach is a relatively new approach supporting the "systematic investigation and tracking of hot spots to develop problem-solving interventions tailored to specific places" (Koper *et al.,* 2015, p. 242). The approach directs patrol officers, crime analysts, and detectives to collaborate on investigating problem locations to tailor interventions (Koper *et al*., 2015). By adopting a "case management" approach, there was the potential to provide the LPD with a structured problem solving process in collaboration with other agencies and the community.

For Lowell, a case is either a 1) persistent and chronic problem location, or 2) an emerging problem that can be resolved before becoming a larger community/police problem. The LPD identified a number of steps in the use of the case of place approach. These steps/processes are below:

1. A place of concern is identified and specified by any of the following sources: officers, supervisors, crime analysts, commanders or LPD leaders. A location can be identified by others, but to become a case it must come from above individuals/functions.
2. Crime analysts collect, collate and analyze all available information about the place from:
   a. Reports
   b. DHQ (i.e. LPD intranet) data/information
   c. Insights, knowledge from officers, supervisors
   d. Insights from community, other city agencies or partners
3. Crime Analysts work with the Sector Captain and Lieutenant to create a formal "case file" on the location. Case files include specific data and information about the problem(s) at the location, including relevant individuals; a specific plan is crafted to guide response and strategy efforts; specific strategies employed are documented in the case file; and comments or notes about how the problem is being addressed, resolved, and with what effect.

4. Sector Captain assigns a "Case of Place" to the District Response Office (DRO) or a team of DRO's. The DRO meets with the Crime Analyst, the Captain and the Lieutenant to review the case and plan a strategy. Strategy includes prevention, suppression, and situational strategies depending on the nature of the challenges. A list of options is created, but not all encompassing of what officers can utilize to alleviate the problems
5. Shift Captains and street supervisors are then informed of the specific case and the assigned DRO's.
6. The DRO applies agreed upon or new strategies to resolve the place problems. To ensure DRO's utilize well established strategies for problem solving, and to support documentation and performance reviews, LPD staff, DRO's, supervisors and the Research Team worked to create a series of "buckets" of activities that would capture the diverse set of techniques used in case of place locations. The buckets, noted below, provide problem solving guidance, documentation and reporting at Compstat:

Bucket/code	Description of Activities
Community Policing	- Reaching out to community members (ex. door to door), speaking to tenants/neighbors/juveniles - Reaching out to problem places - Warning community members of recent crimes (i.e. burglary) and informing how to prevent crime (i.e. lock windows/roof/basement, engage alarms) - Attending Community Meetings - Foot/Bike Patrols
Patrol	- Directed Patrols including stopping at "hot-spots" randomly and for short periods (i.e. 15 min) - Entering problem locations (i.e. store/business)
Situational Crime Prevention/Response	- City Services – ex. inspections, graffiti clean up - Towing unregistered or dangerous motor vehicles
Crime Prevention Through Environmental Design	- Improved lighting - Removing shrubbery to increase visibility - Speed bumps - Posting instructions (i.e. "Private Property") - Controlling access/vandal-proofing graffiti-prone locations
Disorder Maintenance	- Monitoring vacant buildings - Close problem locations - Contact appropriate municipal agencies regarding code violations/assistance
Field Interviews	- Following up with citizens who report crimes, victims, or citizens who may have information on suspects/crime - Pedestrian stops
Focused Deterrence (for areas with high risk (re)offenders)	- Using problem-oriented policing to define and respond to identified problems in "hot-spots" - Identify high-risk repeat offenders and inform them of partnerships

	(i.e. with probation/parole) and consequences of future offending AKA "Pulling Levers" • Try to connect high-risk offenders with appropriate social services
Traffic Enforcement	• Traffic Stops • Tickets (ex. DUI) • Roadside speed display boards • Traffic cameras/license plate recognition tech. • Directing traffic/pedestrian movement
Seeking partners for prevention	• Forming partnerships with municipal departments, community groups at a greater level of commitment than discussion – have regular meetings/follow-ups; ask for input on dealing with issues; keep them informed • i.e. place managers/landlords improving security measures to buildings and parking areas (i.e. CCTV, entry phones, secure access) • Work with crime analysts – get information and input on proactive strategies • Social services – contact these groups to assist in providing info/services to citizens • Municipal services -help with clean-up/repair, enforce health and safety codes, and civil attorneys can help with nuisance abatement • Probation and parole – accessing/sharing information between offices

7. Ongoing communication via email to analysts, Captains, Lieutenants to ensure that the case file is up to date. Analysts maintain files, adding via officer, supervisor reports and updates, as well as CAD and other data/information acquired. Strategies are categorized into "buckets" of like activities

8. Weekly check-in's/meetings (e.g. field Compstat) are held at the District for ongoing case reviews, information sharing and problem solving (organizational and community resource needs are identified and integrated)

9. Analyst analyzes case files, summarizing the nature of case activities, as well as quantifying various activities. Outputs and outcomes are documented

10. Case of Place becomes central to Compstat, with reviews of key crimes and calls as secondary. Compstat reviews "cases" with quantitative and qualitative data on each case, strategies, outputs and outcomes

11. Analysts monitor for case closure, future actions, which are shared at Compstat and used in the LPD's performance management process

12. Case of Place summaries, lessons are documented and shared by analysts.

Recognizing that different shifts (e.g. day versus evening) have different dynamics and challenges, the LPD communicated across shifts that there are important structural and operational factors that must be considered. The Case of Place approach could only succeed if

there was a clear and seamless system between shifts. Cases have no temporal boundaries, and the nature of case work truly depends on the nature of the problems. This requires solid and frequent communication and coordination between Sector Captains and Lieutenants, DRO's, Shift Captains and street supervisors. Without deliberate and well organized communication and coordination across shifts and functions, the Case of Place approach will fail.

Given the nature of community dynamics, and government operation during the day, the work of the day shift DRO's on various cases is likely to involve more interactions and communications with city services, service providers, and others who have the ability to formally problem solve around various locations. For example, working with Inspectional Services during the day on code violations and related matters may be the work of the day shift DRO's. However, if a case strategy involves organized community members, or there is a need to reach residents in the evening, the early night shift DRO's must pick up from the day shift and complete relevant work on the case in the evenings. Each District should create a standard and consistent communication and coordination plan.

In an effort to engage all members of the LPD in the effective use of the case of place approach, and to increase awareness about engagement, a Case of Place Infographic was created to show the different roles that LPD members would have in case of place implementation. This infographic is included in Appendix B.

Case of Place Activities[3]: Overall, there were 104 Cases of Place open during the study period. Of these, 51 were opened in District A and 53 were opened in District B. Twenty-five percent (N = 26) were opened within a Hot Spot location, with 13 falling in District A and 13 falling in District B. Seventeen Case of Place locations had gang involvement and 26 had juvenile involvement.

DRO activities are presented in the table below. The sum column lists the total number of activities performed in that bucket across the study period. Overall, the majority of activities were performed under the Community Policing "bucket". On average, about 38 Community Policing activities were performed at each Case of Place. The next highest average of activities were for Field Interviews (18.98 per Case of Place on average) and Traffic Enforcement (11.72 per Case of Place on Average).

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[3] The authors of this report have published an academic journal article detailing the adoption and implementation of the case of place approach by the LPD. Many of the current report's findings are also repeated in this article. The citation for this article is Bond, B.J. & Nadar, E. (2018). Institutionalizing place-based approaches: The adoption of a case of place model. *Policing: An International Journal, 41*(3). It is attached in Appendix C.

Bucket/code	Total N (mean at each place)	Total District A N (mean at each place)	Total District B N (mean at each place)
Community Policing	95 (38.57)	48 (45.60)	47 (31.38)
Joint Enforcement with other services	95 (2.80)	48 (4.25)	47 (1.32)
Field Interviews	91 (18.98)	48 (17.94)	43 (20.14)
Focused Deterrence	95 (2.44)	48 (3.08)	47 (1.79)
Traffic Enforcement	95 (11.72)	48 (16.17)	47 (7.17)
Seeking partners for prevention	95 (2.81)	48 (2.40)	47 (3.23)
Clearance of Incidents	95 (4.77)	48 (6.85)	47 (2.64)
Investigational	94 (1.94)	48 (2.29)	46 (1.57)
Other	95 (.82)	48 (1.17)	43 (.47)

When comparing the average activities within each bucket, Sector B had higher averages in Field Interviews and Seeking Partners. Sector A had higher averages in every other category. The most notable difference across averages is within Community Policing, where Sector A averaged 45.60 activities and Sector B averaged 31.38 activities.

Length of time working at Case of Place locations

On average, Case of Place locations were open for 119 days. (Please note: this does not include cases that were active at the end of 2017).

Number of days active	N	Minimum	Mean
Average of the Total	90	3.00	119
Sector A	48	14	121
Sector B	42	3	116

The average active length of Case of Place did not vary greatly across district, with Sector A averaging 121.0 days and Sector B averaging 116.8 days. However, further review revealed that the districts did see a difference of about 900 days in total days active, with Sector A having a total of 5,809 and Sector B having a total of 4,906. (Please note: this does not include cases that were active at the end of 2017).

Compstat Revamp

The reorganization of the LPD called for a number of individual changes to enhance the work of specific groups or functions. These changes were necessary to achieve the larger goals and have an impact on crime and community perceptions. However, these changes alone could not achieve the organizational and cultural transformation expected by the Superintendent of Police and others involved in the change. Doing so required changes to the organization's performance management system, Compstat.

Compstat in Lowell has been the focus of numerous empirical studies (Bond & Braga, 2015; Willis, Mastrofski & Weisburd, 2007) as a result of their adoption and innovative practices. However, a persistent challenge in the implementation and use of Compstat has been the integration of problem solving and community policing. The LPD's reorganization plan called for a revised version of Comptat to accomplish this, and by all accounts, they succeeded. Numerous meetings and conversations, along with research and best practice reviews, involving dozens of LPD staff, resulted in a new version of Compstat that placed problem solving and community policing at the center of the review. A pilot revised Compstat was presented, with additional feedback gathered by participants, resulting in a revamped Compstat.

The revamped Compstat was launched in January 2017. The new Compstat integrates and focuses on Case of Place data and strategies, allowing for more discussion between crime analysts, District supervisors and LPD leadership. In addition to the integration of problem solving and community policing data, Compstat data has been expanded to include visuals, such as local photos. In turn, the content and presentation has become more relevant and appealing, allowing for a more productive conversation. The resulting form is a new and enhanced performance management tool reflecting the goals and priorities of the agency.

## Outcome Evaluation

Crime Outcomes

From 2014 to 2017, crimes decreased by 17% from 5,694 to 4,723. The largest decreases were in car breaks (34.7%), burglary (25.5%), and aggravated assaults (24.6%).

Crimes by Type: 2014-2017
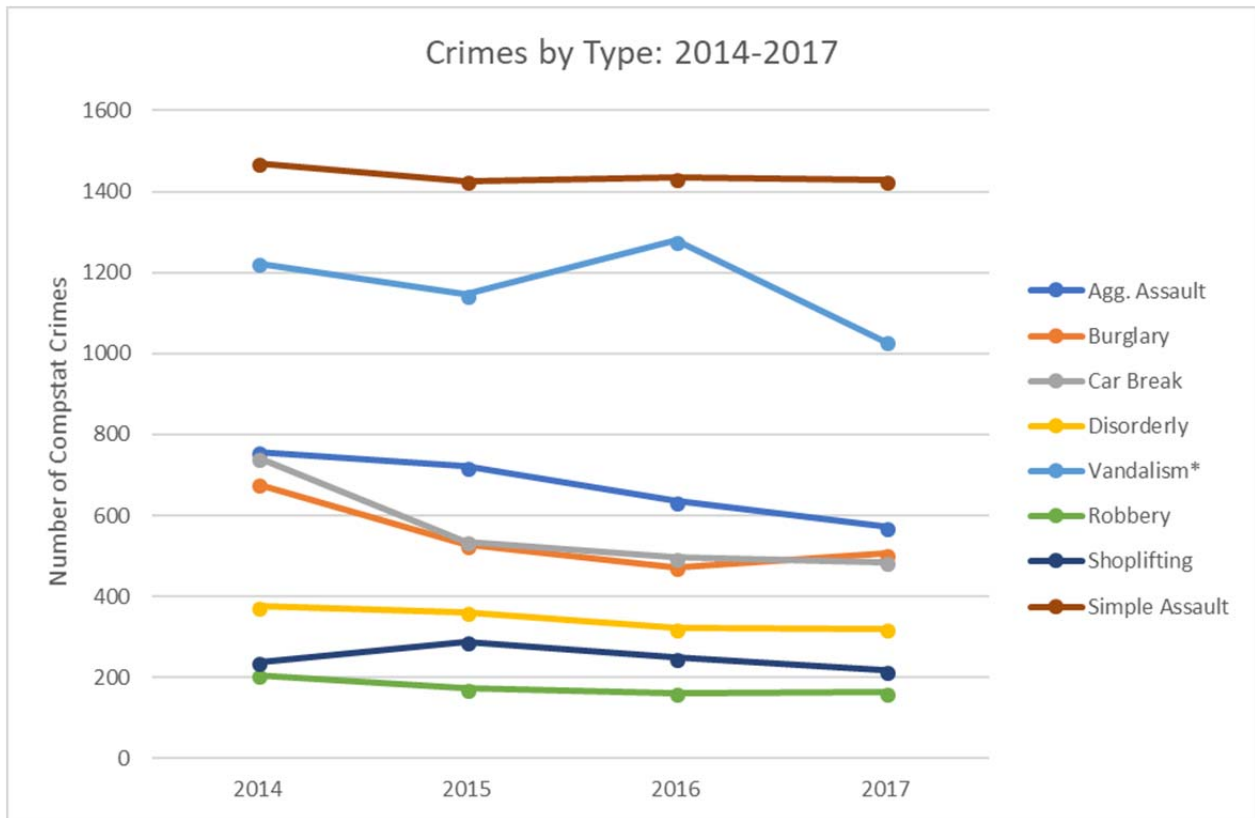
Crime	2014	2015	2016	2017	% Change
Agg. Assault	758	721	635	572	-24.5383
Burglary	679	528	473	506	-25.4786
Car Break	743	535	496	485	-34.7241
Disorderly	375	361	322	321	-14.4
Vandalism*	1224	1146	1279	1030	-15.8497
Robbery	206	173	161	164	-20.3883
Shoplifting	238	289	249	217	-8.82353
Simple Assault	1471	1427	1434	1428	-2.92318
Total	5694	5180	5049	4723	-17.053

Crime Trends by Hot Spot

From 2014 to 2017, Hot Spots saw an overall 15.6% decrease in crimes and Non-Hot Spots saw a 17.4% decrease in crimes.

2014-2017 Crimes by Hot Spot
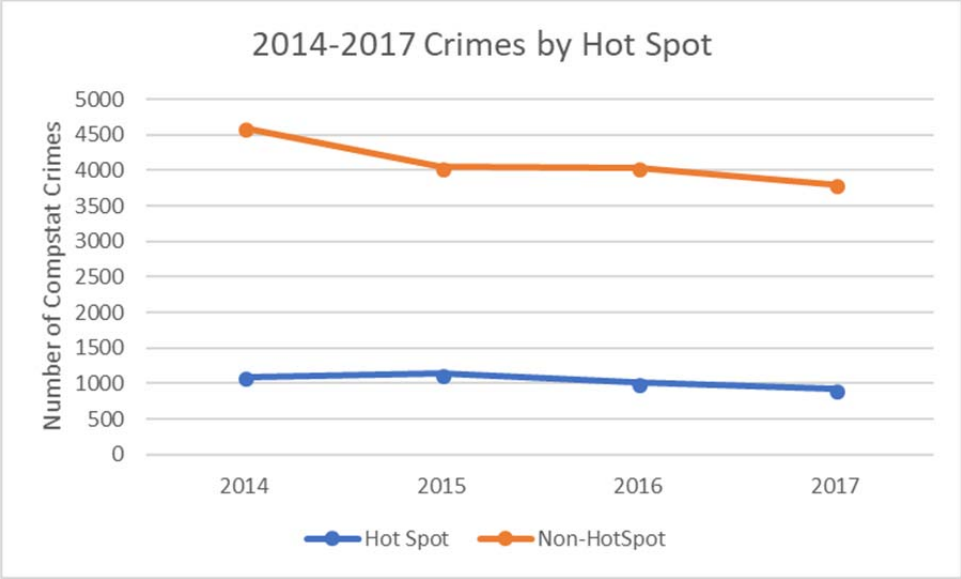
Crimes by Sector

From 2014-2017, Sector A saw an overall decrease in crimes by 15.2% and Sector B saw a decrease of 18.9%.

2014-2017 Crimes by District
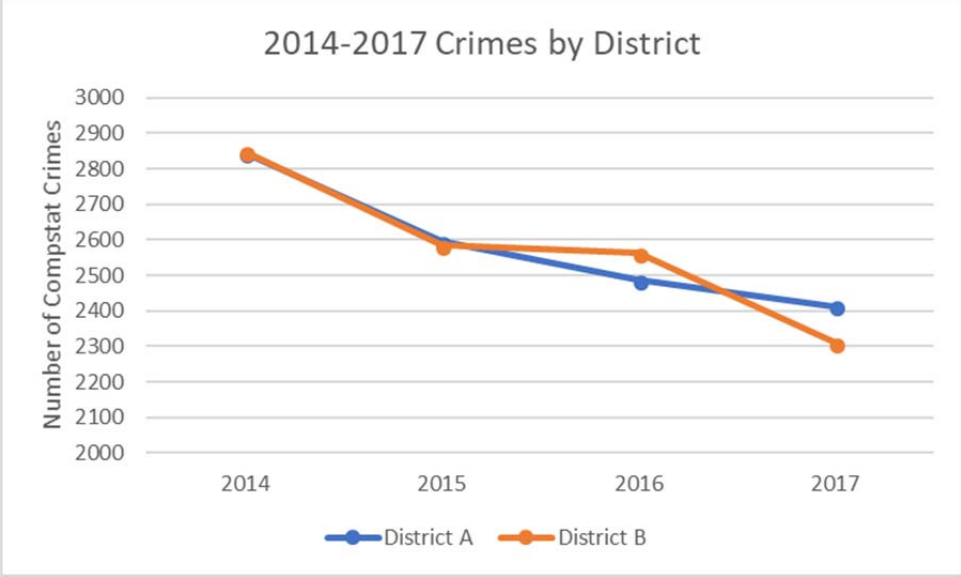
We provide a breakdown of crimes, by type and by hot spot in Appendix D.

Impact of Case of Place on Crime Outcomes

Preliminary Time Series Analysis: *The results below are preliminary and are undergoing additional review before a final determination can be definitively made about the specific contributions of the reorganization to crime outcomes. We plan to consult with BJA, CNA and LPD partners in this review.*

A preliminary time series analysis was run to determine the treatment effect of the intervention. Specifically, a segmented regression model for time series design was used. Variables were included in this model:

I.   Time: the time elapsed unit in months for the data from January 2011 (month 1) to December 2017 (month 84).
II. Intervention: a dummy variable indicating the pre-intervention period (coded 0) and the post-intervention period (coded 1). The intervention began in March 2015 (month 51).
III. Crime: the outcome of crime was measured as the total count of Compstat crimes in each month. These crimes included: Aggravated Assault, Burglary, Car Breaks, Disorderly Conduct, Primary/Secondary Vandalism, Robbery, Shoplifting, and Simple Assault.
IV. Interaction term: of the intervention and time.

A quasi-Poisson model was used to combat any issues with over-dispersion. Similar to previous SPI work (see Swatt & Uchida, 2016), the model was adjusted for seasonality, as crime trends typically have a seasonal pattern. This was evidenced by the data in this study, as peaks in the count data for offenses occurred each year in the summer months (see Figure 1). Figure 2 presents the analysis after adjustment for seasonality through a Fourier term. Additionally, temporal autocorrelation was controlled for through Newey-West estimates of standard errors, which adjust for time dependence (see Swatt & Uchida, 2016).

Ultimately, the coefficient for the intervention and the interaction term were both not significant. The coefficient for the intervention ($b = 0.106$, $p = 0.29$) was not significant, indicating that a sizeable immediate drop in Compstat crimes was not experienced when the Case of Place intervention was introduced. The coefficient for the interaction term ($b = -0.002$, $p = 0.34$) was also not significant, but was negative, suggesting a downward post-implementation trend in offenses.

The next steps for these analyses will include the disaggregation of the outcome variable into specific offenses, similar to Swatt & Uchida (2016). This will illuminate the nuances in intervention effects across crimes. Additionally, further diagnostics will be considered to improve the robustness of the analysis (e.g., time-varying confounders, use of controls, etc.).
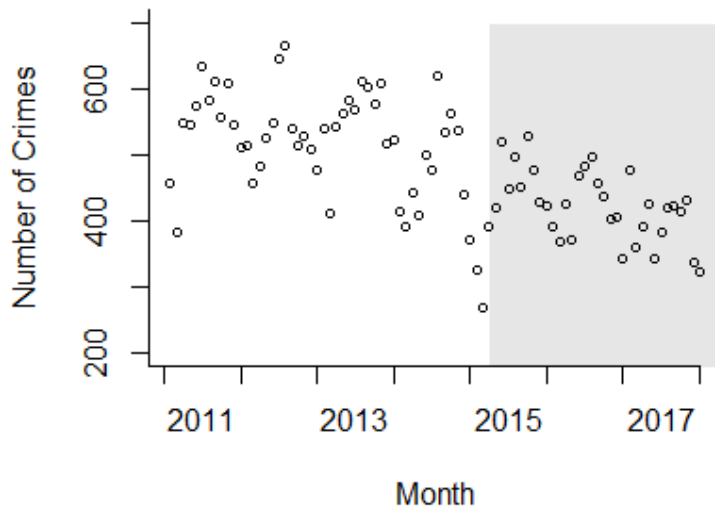
Lowell Compstat Crimes 2011-2017

Figure 1: Scatter plot of Lowell Compstat Crimes from 2011-2017.
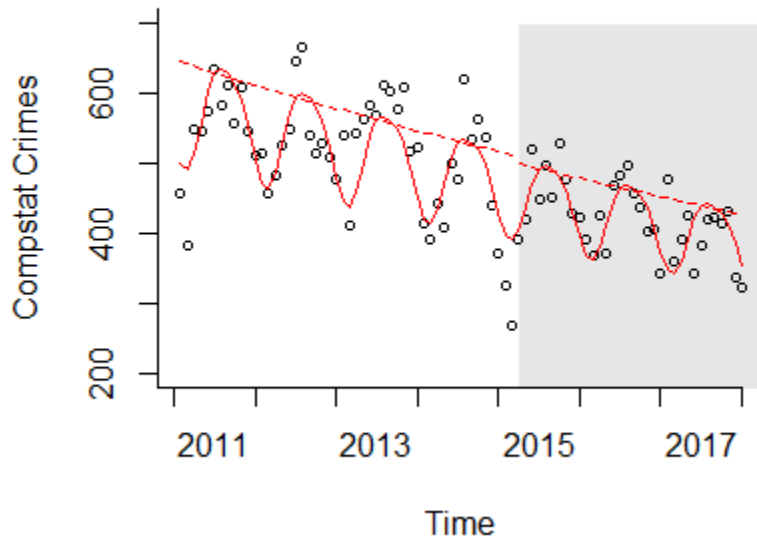
Lowell Compstat Crimes 2011-2017

Figure 2: Time Series Model with adjustments for seasonality. Solid line: predicted trend based on the seasonality adjusted regression model. Dashed line: de-seasonalized trend (based on June data).

Community Surveys: To assess community perceptions of crime and police officer interactions we conducted pre and post-intervention surveys in high crime locations.

To assess community perceptions of crime and police interaction Research and LPD partners identified 15 hot spot locations that were expected to observe a change as a result of the reorganization activities. These locations resulted in just under 5,000 residences. Researchers randomly selected 10% of these residences for a total of 495 potential survey locations.

There were significant and insurmountable challenges faced in collecting community perception data from residents. Almost an entire year was spent attempting to schedule and staff the community surveying process, and while the LPD and Research Team worked relentlessly to problem solve, our ability to implement this task was challenged by financial and human resource constraints, and compounded by contracting challenges (LPD's grant extension process), as well as weather in Massachusetts. As a result, our ability to collect and measure community perceptions as an outcome of the LPD's reorganization was unsuccessful.

While we are unable to offer any meaningful assessment of change, we provide the following details regarding our efforts and the pre- and post-intervention community surveying processes:

Pre-Survey

- Door to door surveying was conducted in the summer and fall of 2015 by the research team, LPD staff, and community volunteers/translators. The survey team recruited community volunteers via the LPD with an emphasis on those who could speak one of the needed languages (Spanish, Portuguese, or Khmer).
- This effort was supported by LPD officers, who were in the Hot Spots along with the surveying team and made themselves available for participant questions as needed. LPD officers observed the interviewing from a distance that was beyond the earshot of participants and surveyors.

Results from Pre-Intervention Community Surveys

Demographics of respondents: 146 surveys were collected in the pre-test phase. Of these, 64 were from District A, 81 were from District B, and 1 was coded as missing. 56 respondents (38.4%) had children living in their household and about 35% (52 respondents) were under 40 years old. 77 respondents (52.7%) identified as White/Caucasian. 81 respondents (55.5%) were female and 52 (35.6%) were male, with 13 respondents not reporting their gender.

Victimization: We asked respondents about their experiences being victimized in the past year in the area in which they were surveyed

Experience	Total for all	Sector A	Sector B
Home burglarized	16%	15%	17%
Vehicle Broken Into	19%	27%	15%
Item stolen from person	5%	3%	No responses
Have you been threatened	16%	22%	20%

Neighborhood concerns: We asked respondents to tell us what issues were most concerning to them in their areas. The following is a list of the top issues of concern in order of highest ranking (issues selected by more than 20% of respondents)

Total for all	Sector A	Sector B
People high or drunk in public	Disruptive neighbors	People high or drunk in public
Drug Dealing	People high or drunk in public	Too much noise
Disruptive neighbors	Drug Dealing	Drug Dealing
Too much noise	Trash/Litter	
Trash/Litter	Unsupervised youth Too much noise Shootings/public violence	

Contacts with the Police: The last set of questions asked about respondents interactions with the police in the past year.

Contacts with the police	Total for all	Sector A	Sector B
Have you had any in the past year	57% Yes	64% Yes	60% Yes
Have they been face to face	89% Yes	89% Yes	92% Yes
Reasons for Contact – Citizen Initiated			
Report a Crime that Happened to them	45%	48%	43%
Ask for Assistance	55%	66%	46%
Report a neighborhood problem	62%	78%	58%
Reasons for Contact – Officer Initiated			
Follow-up as a result of being a victim of a	16%	17%	10%

crime			
Advised you about crime prevention	16%	31%	0
M/V stop	26%	29%	24%

Recent Interactions and Police Approach

Respondents ranked their interactions with police along a number of behavioral dimensions. On a scale of 1-10, with 10 being strongly agree, respondents had this to say about their interactions with police:

Of those who interacted with the police recently, 77% ranked the police at a 7 or higher relative to being treated professionally and respectfully

Respondents also reported on how they perceive the police in general, also on a scale of 1-10 with 10 being strongly agree:

Perceptions of Officers	Ranked a 7 or higher
Officers are fair	69%
Officers are courteous	78%
Officers are honest	67%
Officers work with citizens to solve problems	72%
Officers treat everyone the same regardless of age, gender, race, ethnicity	56%
Officers who concern when asked questions	67%

Post-Intervention Survey

- Initial plans to conduct in-person door to door surveying were established over the summer of 2017. The research team recruited 3 additional surveyors to facilitate the in-person surveying. On August 9, 2017, the research/survey team met with LPD staff to discuss and plan the execution of in-person surveying, including officer schedules to support surveying team, schedules of LPD staff and researcher team for conducting surveying, and recruitment of volunteers/translators to support in-person surveying.
- In September 2017, the LPD and research team were informed by BJA that they should halt survey planning and activity. Ultimately, this approval wasn't provided until early winter 2017.
- In January 2018, the main research team attempted to plan in-person surveying but faced many barriers including no interest/availability from the 3 additional recruited surveyors, no interest/availability from volunteers, and challenges with the weather. The research team then discussed alternative options in order to ensure completing the surveying by the end of the

study in March 2018. Ultimately, the research team and LPD staff agreed that mail surveys would be a sufficient alternative.

- In January and February of 2018, a packet was made for each survey address that included an introduction letter, consent forms, the study survey, and translations of the study survey (in Spanish, Portuguese, and/or Khmer). The survey packets were mailed out to addresses on 2/6/2018. Several follow up reminders were also sent to addresses. The initial reminder was sent out on 2/20/2018. Following a low response rate, the research team created an online version of the survey via Qualtrics and included a QR code with the reminder for participants to access the survey. The second reminder, including the QR code, was sent out on 3/22/2018.

- The research team then considered attempting to support the mail surveying with additional in-person surveys. In April and May 2018, the research team attempted to recruit for additional surveys to facilitate this process, including targeting students at a local college. However, there was no interest/availability for volunteers. A third and final survey reminder, including the QR code, was sent out on 5/11/2018.

Survey Data: Post-test

Twenty-five (25) surveys were collected in the post-test phase. Of these, 9 were from District A and 16 were from District B. 5 respondents (20%) had children living in their household and about 30% (10 respondents) were under 40 years old. 18 respondents (72%) identified as White/Caucasian. 12 respondents (48%) were female and 13 (52%) were male.

Survey Data: Differences Pre- & Post- Study

<u>**Question**</u>: How great of a problem are the following issues in the Hot Spot location they reside in on a scale of 1-3, with 1 = Not a Problem, 2 = Somewhat of a Problem, 3 = Very Serious Problem.

These issues included: Trash and litter lying around; Dogs running loose; Inconsiderate or disruptive neighbors; Graffiti on sidewalks and walls; Vacant homes and unkempt lots; Unsupervised youth; Too much noise; People drunk or high on drugs in public; Abandoned cars or car parts lying around; Drug dealing; Gangs; Assaults in public; Domestic violence; Shootings & other public violence; Violent attacks on residents

Group Statistics

	Pre or Post Survey	N	Mean	Std. Deviation	Std. Error Mean
How great of a problem are the follwing issues in the location area identified on the map	Pre-Survey	121	22.6198	6.45014	.58638
	Post-Survey	19	21.4211	5.28431	1.21230

Independent Sample T-Test reveals there is no significant difference between the pre-test and post-test groups on this question.

Independent Samples Test

		t-test for Equality of Means				
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
How great of a problem are the follwing issues in the location area identified on the map	Equal variances assumed	.770	138	.443	1.19878	1.55720

Question: How afraid people are in everyday life of being a victim of different kinds of crimes within their Hot Spot in on a scale of 1-10, with 1 = Not at All and 10 = Very Afraid.

These issues included: Being approached on the street by a beggar or panhandler; Being harassed or threatened by a stranger; Having your property/vehicle damaged by vandals; Having your car stolen; Having someone break into your home while you are away; Having someone break into your home while you are there; Being attacked by a stranger; Being robbed or mugged on the street; Being raped or sexually assaulted; Being murdered.

Group Statistics

	Pre or Post Survey	N	Mean	Std. Deviation	Std. Error Mean
How afraid people are in everyday life of being a victim of differnt kinds of crimes within the area	Pre-Survey	130	41.5000	28.42705	2.49322
	Post-Survey	22	37.8636	25.72435	5.48445

Independent Sample T-Test reveals there is no significant difference between the pre-test and post-test groups on this question.

Independent Samples Test

		t-test for Equality of Means				
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
How afraid people are in everyday life of being a victim of differnt kinds of crimes within the area	Equal variances assumed	.562	150	.575	3.63636	6.46984

Question: Have they taken any of the following steps to protect themselves and their property from crime.

These issues included: Avoided going out alone; Avoided going out at night; Installed an alarm system; Installed lightning; Installed door chains/deadbolts or window locks; Installed a security fence or gates; Taken a self-defense class; Purchased firearm for protection; Purchased dog for protection; Joined community crime watch group; Carried weapons (including sprays) outside of home; Refused to answer door at home; Locked car doors while driving.

Group Statistics

	Pre or Post Survey	N	Mean	Std. Deviation	Std. Error Mean
Many people have taken steps to protect themselves and their property	Pre-Survey	146	2.9589	2.24953	.18617
	Post-Survey	25	3.1600	2.07525	.41505

Independent Sample T-Test reveals there is no significant difference between the pre-test and post-test groups on this question.

Independent Samples Test

		t-test for Equality of Means				
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Many people have taken steps to protect themselves and their property	Equal variances assumed	-.417	169	.677	-.20110	.48173

Survey Data for Questions Specific to Officers: Differences Pre- & Post- Study

Survey Data: Pre-test -- Of the 146 surveys collected in the pre-test phase, 80 people had contact with a police officer in the past 12 months.

Survey Data: Post-test -- Of the 25 surveys collected in the pre-test phase, 13 people had contact with a police officer in the past 12 months.

Question: For those who have had contact with a police officer in the past 12 months, they were asked for the most recent interaction, how much they agreed that the officer treated them professionally and respectfully on a scale of 1-4, with 1 = Strongly Agree and 4 = Strongly Disagree

Group Statistics

	Pre or Post Survey	N	Mean	Std. Deviation	Std. Error Mean
A. For the most recent incident, the officer treated you professionally and respectfully	Pre-Survey	74	1.76	1.203	.140
	Post-Survey	13	1.46	.776	.215

Independent Sample T-Test reveals there is no significant difference between the pre-test and post-test groups on this question.

Independent Samples Test

		t-test for Equality of Means				
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
A. For the most recent incident, the officer treated you professionally and respectfully	Equal variances assumed	.852	85	.397	.295	.347

Question: For those who have had contact with a police officer in the past 12 months, they were asked in general, how much they agreed that officers treat them professionally and respectfully on a scale of 1-4, with 1 = Strongly Agree and 4 = Strongly Disagree

Group Statistics

	Pre or Post Survey	N	Mean	Std. Deviation	Std. Error Mean
B. In general, officers have treated you professionally and respectfully	Pre-Survey	76	1.83	1.300	.149
	Post-Survey	13	1.38	.506	.140

Independent Sample T-Test reveals there is no significant difference between the pre-test and post-test groups on this question.

Independent Samples Test

		t-test for Equality of Means				
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
B. In general, officers have treated you professionally and respectfully	Equal variances assumed	1.212	87	.229	.444	.367

Question: People were asked in general, how they felt about police officers that you see/interact within their HotSpot on a scale of 1-4, with 1 = Strongly Agree and 4 = Strongly Disagree

Group Statistics

	Pre or Post Survey	N	Mean	Std. Deviation	Std. Error Mean
how you feel about police officers	Pre-Survey	116	13.5345	7.00985	.65085
	Post-Survey	24	11.7917	4.89879	.99996

Independent Sample T-Test reveals there is no significant difference between the pre-test and post-test groups on this question.

Independent Samples Test

		t-test for Equality of Means				
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
how you feel about police officers	Equal variances assumed	1.159	138	.248	1.74282	1.50343

Conclusions and Recommendations: The Lowell, Massachusetts Police Department has once again stepped up as an innovative police agency willing to introduce and implement change to improve crime and disorder indicators, and police-community relations in the City of Lowell. They successfully introduced each and every one of the organizational changes proposed in their SPI proposal, and experienced reductions in crime outcomes when comparing pre-change to post-change indicators. While further analysis is needed to assess the specific contributions of specific reorganization efforts to these reductions, our process evaluation finds that the changes introduced align with the evidence on what works in crime reduction and organizational effectiveness. Unpacking the nuances associated with the reductions is ongoing, as is the partnership between the LPD and Dr. Bond. This continued partnership, and the ongoing use of this study's data and insights, will not only strengthen the changes and organizational impact, but will support sustained change for the good of the LPD, the Lowell community and the profession.

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Appendix A   Lowell SPI Logic Model
                     Lowell Reorganization Infographic

Appendix B   Case of Place Infographic

Appendix C   Copy of Bond & Nader (2018) journal article

Appendix D   Crimes by Type, by Hot Spot

Appendix E   Presentations on the LPD Reorganization Study

LOGIC MODEL

INPUTS	OUTPUTS/ACTIVITIES	OUTCOMES - IMPACT		
		SHORT	**MEDIUM**	**LONG**

GOAL:
The goal of the Lowell, Massachusetts Smart Policing 3 Initiative is to utilize the department's reorganization plan developed in 2014 and fully implemented in 2015 to reduce property crime, increase community policing efforts, institutionalize problem-solving techniques and increase and improve supervision within the department.

INPUTS	OUTPUTS/ACTIVITIES	SHORT	MEDIUM	LONG
• LPD Research and Development Unit Staff • LPD Crime Analysis and Intelligence Unit • LPD's Community Liaison • Dr. Brenda Bond • BJA funding and CNA Training and Technical Assistance • Partnership with Degmar Corporation and Boys and Girls Club • LPD Supervisors • District Response Team Officers • Community Members • Business Leaders • Subject Matter Experts • Other Justice-Related Information Sources • Nationwide Network of Colleagues	1) Develop reorganization plan with emphasis on 　A) Re-organize geographic deployment strategy of LPD patrol 　B) Create District Response Teams (DRTs) 　C) Decentralize Crime Analysis and Intelligence Unit 　D) Change supervision structure 2) Monitor crime and disorder and community feedback 3) Increase visibility in community 4) Train DRT Lieutenants and analysts in case management of places and problem solving 5) Facilitate opportunities for analyst, patrol/detective interaction 6) Apply best practices in supervision and management 7) Train frontline and mid-level managers in supervision and management 8) Revamp Compstat to integrate problem-solving and community policing	Creation of effective LPD-research partnership and evaluation design Review/assessment of new CAIU tools Results of focus groups with LPD staff Development of survey instrument Understanding of performance measurement in SPI	CAIU is decentralized New community policing strategies in place Problem-oriented policing strategies institutionalized Supervision improved Engage community & gather feedback	Ongoing assessment of the effectiveness of reorganization plan on property crime, community policing and problem-solving efforts and supervision within the department by LPD staff and community at large

Lowell Police Department 2014-2017 Reorganization Plan

1 Decentralize CAIU
-Reorganize geographic deployment strategy of LPD patrol
-Create district response teams (DRTs)

2 New community policing strategies
-Increase visibility in the community
-Facilitate opportunities for analyst and patrol/detective interactions
-Revamp Compstat to integrate problem-solving and community policing

Long-term Goal:

Ongoing assessment of the effectiveness of reorganization plan on property crime, community policing and problem-solving efforts, and supervision within the department of LPD Staff and community at large

3 Problem-oriented policing strategies institutionalized
-Train DRT Lieutenants and analysts in case management of places and problem solving

4 Supervision Improved
-Change supervision structure
-Apply best practices in supervision & management
-Train front-line and mid-level managers in supervision & management
-Revamp Compstat to integrate problem-solving and community policing

5 Engage community and gather feedback
-Monitor community feedback

"Case of Places is a strategy that focuses detective activities on high-crime places as the investigative unit of analysis, as opposed to persons."

Three Principles

Equal allocation of resources in researching problem places.

Use existing cultural and organizational structures and status in detective work

Place-based policing is a crime prevention concept supported by investigation of cases and research.

Case of Place

Process of Investigation

Section A: Criminal History

● Detectives and officers need to ask, "How did this place come to our attention?"

● What long term or recent criminal history trends are present at this location?

● What other factors adding to crime may not be obvious?

Section B: Place- Based Suspects

● There should be an understanding that the definition of a suspects is not limited to one individual.
● Suspects are can include places, locations, and groupings of people.

● Officers need to think about what community dynamics, specific aspects of places, and groups of people could create problems within this location.

● What elements can be fixed to help alleviate issues? Poor lighting, graffiti, trash, overgrown lots, abandoned vehicles, or other crime vulnerable spots?

Victims and Place Based Targets of Crime

● Detectives need to focus on accessing data sources to create a list of victims from the location.

● Officers need to make note that, victims can include: single persons, groups, entire communities, and property.

● After analyzing data and compiling lists, detectives should summarize the impact of the problem on the community.

Guardians and Potential for Prevention and Deterrence

● Guardians, in case of place, refer to individuals, groups, or the physical features that hold potential in deterring or handling problems.

● Identifying repeat callers, yet keeping information sensitive, is another method officers should employ.

● Business owners, residents, or community watch members are assets to detectives when gathering data on a specific location.

● Additionally, was technology used to document physical features which may hinder crime in the hot spot?

Intervention

● Interventions are successful when a group consisting of the place-detective, crime analysis, supervisors, members of the community, and other key stakeholders assemble.

● The group should:

1. identify past interventions, being as specific as possible.

2. Review evidence on what may work for this problem

3. Describe the proposed intervention

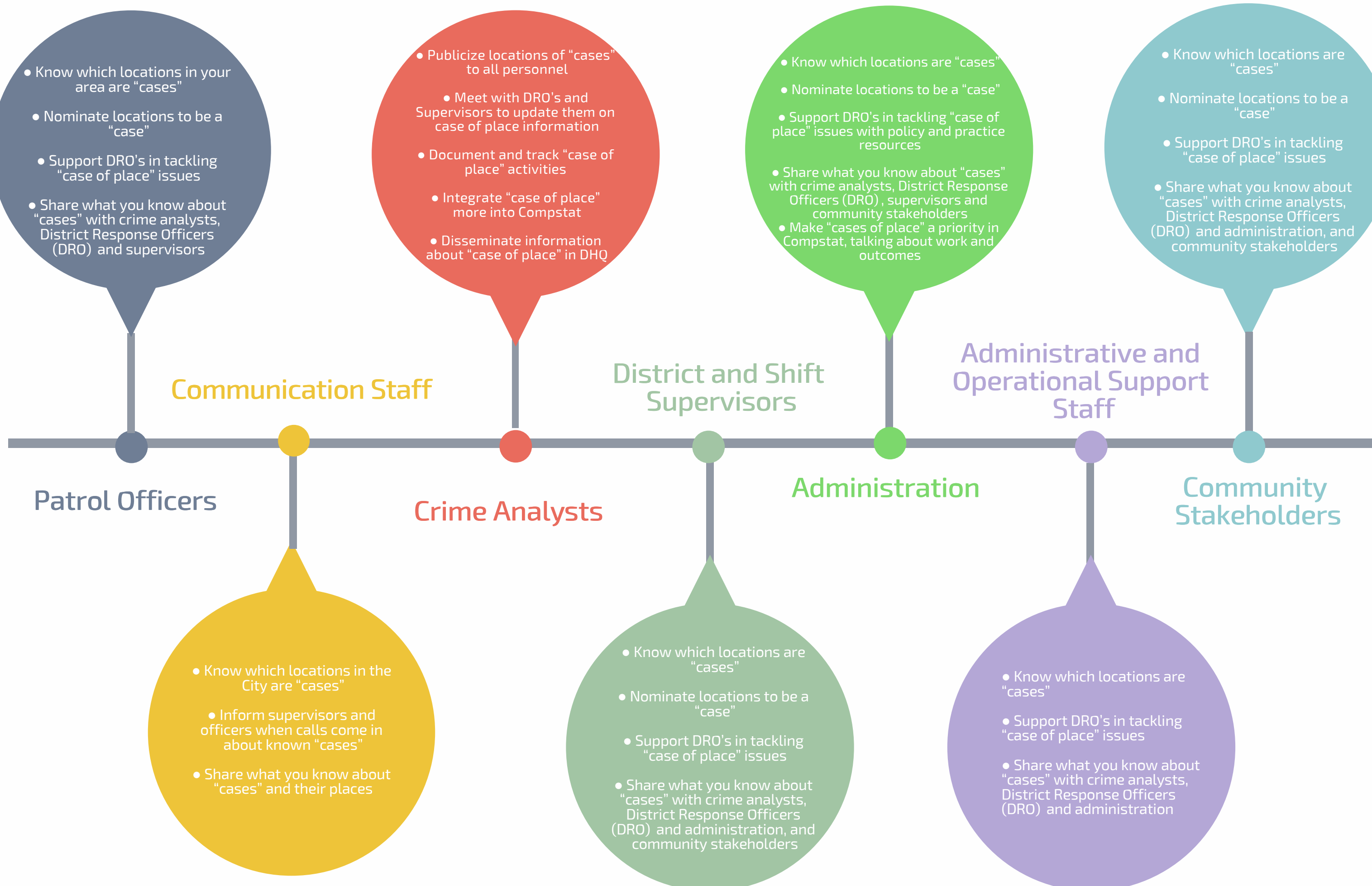4. Document the intervention and results via Compstat, roll call, etc...

Everyone Has a Role in the Case of Places Approach

Patrol Officers
- Know which locations in your area are "cases"
- Nominate locations to be a "case"
- Support DRO's in tackling "case of place" issues
- Share what you know about "cases" with crime analysts, District Response Officers (DRO) and supervisors

Communication Staff
- Know which locations in the City are "cases"
- Inform supervisors and officers when calls come in about known "cases"
- Share what you know about "cases" and their places

Crime Analysts
- Publicize locations of "cases" to all personnel
- Meet with DRO's and Supervisors to update them on case of place information
- Document and track "case of place" activities
- Integrate "case of place" more into Compstat
- Disseminate information about "case of place" in DHQ

District and Shift Supervisors
- Know which locations are "cases"
- Nominate locations to be a "case"
- Support DRO's in tackling "case of place" issues
- Share what you know about "cases" with crime analysts, District Response Officers (DRO) and administration, and community stakeholders

Administration
- Know which locations are "cases"
- Nominate locations to be a "case"
- Support DRO's in tackling "case of place" issues with policy and practice resources
- Share what you know about "cases" with crime analysts, District Response Officers (DRO), supervisors and community stakeholders
- Make "cases of place" a priority in Compstat, talking about work and outcomes

Administrative and Operational Support Staff
- Know which locations are "cases"
- Support DRO's in tackling "case of place" issues
- Share what you know about "cases" with crime analysts, District Response Officers (DRO) and administration

Community Stakeholders
- Know which locations are "cases"
- Nominate locations to be a "case"
- Support DRO's in tackling "case of place" issues
- Share what you know about "cases" with crime analysts, District Response Officers (DRO) and administration, and community stakeholders

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Policing: An International Journal of Police Strategies & Management

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Institutionalizing place-based policing: the adoption of a Case of Place approach

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Abstract

Purpose – Research shows that crime and disorder tend to concentrate in small, geographic locations and that place-based and problem-solving policing strategies can impact crime and disorder without displacing it to neighboring areas. However, implementation of problem-solving is a challenge. Loosely defined locations, shallow problem analysis, and distractions to problem-solving are cited implementation shortcomings. These shortcomings may be overcome by using the Case of Place approach, a case management strategy focused on documenting and analyzing place-based dynamics and characteristics to inform and direct policing strategies. The paper aims to discuss these issues.

Design/methodology/approach – The current study describes the adoption of the Case of Place approach in an urban police agency's operations and performance management system. The authors utilize implementation theory to explore and explain the adoption of this new place-based strategy.

Findings – Key findings reveal important structural and cultural challenges to implementation. Structural challenges included modifying supervision structures, creating new positions, decentralizing analytical functions, and redirecting resources to problem-solving. Cultural challenges observed included emphasizing problem-solving as an organizational priority, integrating crime analysts into neighborhood precincts, and centering performance management processes around problem-solving.

Originality/value – The authors explore how implementation dynamics impact the adoption of new policies and practices, and offer a number of propositions for the use of the Case of Place approach within a place-based strategy portfolio.

Keywords Problem-oriented policing, Implementation, Place-based policing, Case of Place

Paper type Research paper

Place-based policing

Place-based policing acknowledges that crime concentrates within small geographic areas (see Braga *et al.*, 2012; Shaw and McKay, 1942) and encourages focused police intervention at specific locations, often referred to as hot spots (Braga and Bond, 2008; Weisburd *et al.*, 2017). Hot spots are smaller areas, such as buildings or small street segments, with key attributes that may facilitate the occurrence of crime (Lum and Koper, 2017). Research shows that place-based policing strategies can prevent crime without displacing it to neighboring areas (e.g. Weisburd and Majimundar, 2017; Braga and Bond, 2008; Braga *et al.*, 2012; Lum *et al.*, 2011; Sherman and Eck, 2002; Weisburd, Telep, and Braga, 2010). Moreover, there is the potential that these strategies may foster a diffusion of crime control benefits into surrounding areas (Weisburd and Majimundar, 2017).

Overall, the effects of focused police strategies in crime hot spots are accepted as robust, with many interventions producing crime reductions in targeted areas (see Braga *et al.*, 2012; Braga and Bond, 2008; Weisburd and Majimundar, 2017). In a recent systematic review of hot spots policing programs, researchers found that they can produce improvements in crime control (see Braga *et al.*, 2012). Since this review, several studies evaluating hot spots policing programs have also supported their effectiveness in crime control (e.g. Telep *et al.*, 2014; Bichler *et al.*, 2013). Many of these studies are compiled in the Evidence-Based Policing Matrix[1], one of the most robust repositories of evidence-based policing practices (Lum *et al.*, 2011; Lum and Koper, 2017). This matrix includes a section on "Micro-Places," providing easy access to relevant research on places.

Problem-oriented policing

One particularly grounded place-based policing approach is problem-oriented policing, a proactive model of policing where police identify and target underlying problems that spur crime and disorder (Weisburd, Telep, Hinkle, and Eck, 2010; Goldstein, 1979). Problem-oriented policing acknowledges that police must work with community stakeholders to address issues beyond crime, such as social and physical disorder (Goldstein, 1979; Weisburd, Telep, Hinkle, and Eck, 2010). This approach can be useful in addressing concentrated crime areas as it affords officers an opportunity to identify underlying crime and disorder conditions at chronic hot spot locations. In turn, officers tailor strategies toward the specified problem and places of interest (Lum and Koper, 2017). Problem-solving within a broader place-based policing strategy, but in specific micro-places, may address current policing challenges by emphasizing a proactive approach to address social and physical disorder issues, facilitating the reduction of criminogenic factors within the environment in which crime typically occurs (e.g. Lum *et al.*, 2012; Weisburd and Eck, 2004; Lum and Koper, 2017).

Implementation challenges

There are several challenges to implementing problem-solving and place-based policing strategies, including weak problem analysis, over-policing high crime or hot spot areas, limited non-police based responses, and resultant concerns over the creation of poor relations between the police and the community (Braga and Bond, 2008; Rosenbaum, 2006; Lum *et al.*, 2012; Weisburd and Majimundar, 2017). Additionally, some police practitioners believe that hot spots policing will displace crime into other areas (Weisburd and Braga, 2006; Lum and Koper, 2017; Weisburd *et al.*, 2017). While some studies have demonstrated that a diffusion of crime control benefits may occur in other areas (e.g. Weisburd *et al.*, 2006), questions remain about how crime (and crime prevention) spreads (see Lum and Koper, 2017; Rosenbaum, 2006).

Police departments also remain disconnected from science (Weisburd and Neyroud, 2014). Although many studies demonstrate effectiveness, the translation of research into practice remains a challenge, and has garnered less funding and interest (Lum *et al.*, 2012). Fundamental differences exist between researchers and practitioners, as these two groups often have different goals and expectations, some of which include different ways of thinking about policing and measures of effectiveness (Lum *et al.*, 2012; Willis and Mastrofski, 2011).

To alleviate the issues in this translation of evidence within policing, agencies can embrace practical and empirically grounded methodologies for collecting, analyzing, and utilizing data on problem locations (Weisburd, 2008), yet such guides remain limited. Weisburd and Neyroud (2014) present one example of how this shift into "science-based policing" may look. They propose that police departments must work to shift the attitudes and approaches of the police department toward being grounded in science, with leaders

viewing science as essential to agency efficiency, effectiveness, and legitimacy of staff members and police agencies. Fundamental organizational changes such as the adoption of new problem-solving methodologies may facilitate an environment that is more receptive to research (Lum *et al.*, 2012).

The Case of Place approach

The Case of Place approach is a relatively new approach supporting the "systematic investigation and tracking of hot spots to develop problem-solving interventions tailored to specific places" (Koper *et al.*, 2015, p. 242). The Case of Place approach offers a methodology for investigating and integrating problem-solving into police operations. Specifically, the approach directs police to investigate, document, and analyze the history and physical and social dynamics of problem locations, victim views, suspects and offenders, and police actions and interventions at these locations. By creating a "case file," police conduct a more in-depth assessment, improving the potential for long-term success of crime reduction (Lum and Koper, 2017; Braga *et al.*, 2011). Through this comprehensive "case management" approach, police departments collaborate with the community to analyze issues at hot spots, identify causes, and respond with an emphasis on prevention and enforcement (Lum and Koper, 2017). Thus, this approach offers one potential fix for many of the implementation challenges of problem-solving.

Several ideas situate the Case of Place approach within the current problem-solving and place-based strategy portfolio. First, as proposed, police should devote the same resources to investigating a problem place as they would to investigating a criminal incident. Second, accessing existing organizational and cultural structures of investigations, such as the widely recognized and adopted case management practice, within a place-based strategy can address the challenges of research translation through the use of a practical process for problem-solving. Lastly, the Case of Place approach includes templates to capture evidence-based factors in crime and policing practice (Lum and Koper, 2017), providing a practical mechanism for institutionalizing evidence-based practices.

Theoretical framework

"Implementation research concerns the development of systematic knowledge regarding what emerges, or is induced, as actors deal with a policy problem" (O'Toole, 2000, p. 266). Implementation science directs our attention to the actors and actions that follow policy goal setting, as well as the interactions between these various elements. The evidence regarding crime reduction strategies has exploded in the past several decades (National Research Council, 2004), and while reviews make strong recommendations to pay attention to the implementation of evidence-based practice (Braga, 2017), our knowledge regarding how these policies are implemented, and what implementation factors support or impede effectiveness, is limited. Practitioners need to know that a strategy works, but also the implementation elements needed to produce desired outcomes (Pressman and Wildavsky, 1984). Thus, there is great need in capturing the challenges of implementing evidence-based crime policy, including place-based strategies, to design an implementation process that supports success.

Implementation science can assist in the understanding of how policies are transferred and implemented from one setting to another (O'Toole, 2000), which may help address the concerns of police regarding transference of lessons (Rosenbaum, 2006). Moreover, researchers and practitioners want to adopt policy that shows promise for achieving outcomes, but there is a need to know what happens between goal setting and outcomes measurement, particularly if effectiveness is not achieved. They want to know why (Pressman and Wildavsky, 1984). Is there fault in theory or implementation?

The current study

This study examined the adoption of the Case of Place approach by a mid-sized, urban police agency. The city is dense (under 15 square miles), with an ethnically and economically diverse population of 105,000 residents. Crime is concentrated in a small number of locations, mostly around the city's core. The agency employs 235 officers and 100 civilian staff. While the agency has long embraced community and problem-oriented policing, the economic recession of 2008 resulted in a reduction of sworn personnel and proactive policing. Crime problems are a persistent challenge in this city. In 2013, the city reported a total of 10,246 NIBRS crimes, which included 8,388 Group A (i.e. crimes such as homicide, assaults, robberies) and 1,858 Group B crimes (i.e. loitering, vagrancy). These totals reflected an increase (3 percent) from 2012.

In 2013, a new police superintendent was appointed and immediately revived the agency's proactive policing efforts[2]. Having previously utilized place-based and offender-based strategies, the superintendent sought out research evidence (Ratcliffe *et al.*, 2011; Taylor *et al.*, 2011; Uchida *et al.*, 2012) on effective place-based crime strategies to facilitate promising crime control results.

What resulted from this review and a larger visioning process was a department reorganization, including the redesign of patrol areas, adoption of new operational structures and practices, and decentralization of crime analysts to support communication with patrol. Officers were selected to serve as District Response Officer's (DRO) to work with patrol, investigators, and analysts to problem-solve in identified places of concern, using a new Case of Place approach. Lastly, the agency's Compstat was redesigned to integrate Case of Place and problem-solving efforts into their performance management system. This paper examines how the Case of Place approach was implemented as part of this larger reorganization.

Design, methods and analysis

This study sought to uncover and understand the experiences of adopting a new practice (i.e. Case of Place approach) created to solve several current challenges facing local police agencies[3]. Utilizing a multi-method research approach, this study relies heavily on qualitative data, capturing great "detail, context and nuance" of implementation (Patton, 2015, p. 257).

The 24-month intervention period afforded an extensive data collection process, providing rich insights into the observed and reported experiences of those in the implementing environment. Researchers served as participant-observers throughout the process, supporting ongoing observation, formal and informal interaction and data collection, direct participation, and reflection (Denzin, 1978; Van Maanen, 2011).

The study sought to answer three research questions:

RQ1. How and why was the Case of Place approach adopted by the police agency?

RQ2. What challenges arose in the adoption of the Case of Place approach?

RQ3. What does the future hold for the Case of Place approach?

Data sources

This study's data came from multiple sources, consisting of agency documents such as grants, progress reports, and an official action plan ($n = 10$); process notes from meetings with agency staff ($n = 19$); focus groups with DROs ($n = 30$ officers); interviews with commanders and crime analysts ($n = 5$); Case of Place files ($n = 81$); and Compstat observation and presentations ($n = 17$). For meetings and focus groups, the number of participants was documented, as was the nature of their role in the agency.

Analytical approach
We utilized best practices for qualitative data collection and analysis (Patton, 2015). Our study followed the grounded theory approach (Glaser and Strauss, 1999). Analysis began during fieldwork where we examined and discussed our observations in monthly research meetings. Multiple researchers took and compared notes from meetings and observations. We utilized a similar review and analysis process for focus group and interviews. Through this method, we allowed emergent ideas and themes to arise out of the data, rather than looking for predetermined concepts (Gibbs, 2007; Patton, 2015). Our coding was conducted by hand. This overlap of data collection and analysis allowed us to capture the expressed ideas and meanings of actors during our ongoing interactions with them, enhancing the quality of the data and the analysis (Patton, 2015; Van Maanen, 2011).

As we recognized emerging themes, we consulted the literature to understand and confirm our observations (Patton, 2015). Given the extensive data collected and our ongoing collection and analysis, our ability to triangulate the data across multiple data sources helped to further validate our observations (Patton, 2015).

Results and discussion
The following sections report the study's results, integrating what was learned with existing knowledge regarding implementing policy. We utilize the rich description of this agency's experience to highlight key implementation challenges. We also introduce the benefits of adoption, as described by organizational actors. We conclude with insights about the potential for Case of Place to fill noted gaps in problem-solving and place-based strategies:

RQ1. How and why was the Case of Place approach adopted by the police agency?

The Case of Place approach was introduced to inform a department reorganization. As an agency with a long history of utilizing problem-solving and hot spots policing, leadership wanted to reinvigorate community policing and problem-solving, two operational efforts that were reduced during the 2007-2009 recession. Agency leadership also wanted to strengthen communication and coordination between patrol officers, commanders, and crime analysts, thereby increasing the use of data and information across the agency. Informed by several research studies (Koper *et al.,* 2011; Ratcliffe *et al.,* 2011; Uchida *et al.,* 2012), a departmental reorganization was drafted to facilitate the following goals:

- institutionalize problem-solving techniques and community policing;
- increase and improve supervision within the agency; and
- reduce property crime.

Several approaches were adopted as part of the reorganization: an additional commander was added to the organizational structure, allowing for increased supervision; crime analysts were decentralized, relocating to neighborhood precincts under the supervision of an investigative unit commander[4]; DRO positions were created to increase and enhance problem-solving and community policing; the Case of Place approach was adopted for use in problem locations; and Compstat was redesigned to integrate problem-solving into the performance management discussion.

The Case of Place approach was piloted in the Summer of 2015, prior to full implementation across the agency. A tailored definition of Case of Place was determined through early discussions, characterizing Cases of Place "as a chronic problem location or a place with an emerging problem that could be resolved prior to becoming a problem for the larger community." A Case of Place could be initiated by an officer, a commander, persistent reports by a community member or stakeholder, or an analyst, as was originally conceived

(Lum and Koper, 2017). Similar to traditional investigative situations, analysts opened a case file to manage the information collection process and police response.

At the culmination of the intervention period, the agency utilized the Case of Place approach in 81 cases, with problems such as gang activity, drug activity or neighborhood issues. Interventions included working with landlords, collaborating with city services, or working with social service agencies to supplement police efforts. The types of locations addressed were in known hot spot areas or areas with emerging issues that commanders wanted to tackle early. Case of Place data were collected directly from DRO's, supervisors, or others who may be working on the Case of Place. Data were captured through formal reporting and informal observations, communications, and investigation. Officers reported activities to crime analysts in their precincts, who compiled the information into a standard template for each Case of Place.

The data templates for the Case of Place were largely based on the Case of Places Form/Checklist proposed by Lum and Koper (2017, 2015[5]). This template included sections gathering information on crime history at the place (both within the past 30 days and 5 years), known and existing information about the place (such as city records or complaints), place-based suspects (including people and environmental), victims or place-based targets of crime (such as property), and governmental and nongovernmental guardians. The case file contents followed the scanning, analysis, response, and assessment model of SARA (Spelman and Eck, 1987).

Beyond understanding the challenges and problems of the Case of Place, the agency wanted to systematically capture what DRO's and others were doing as interventions to address the problem locations. To measure the implementation of the intervention, researchers worked with analysts to create officer activity "buckets." These buckets categorized evidence-based policing activities identified in existing literature on evidence-based practices, quantifying officer efforts at each Case of Place location. Overall, nine types of activities were categorized: community policing, patrol, situational crime prevention, disorder maintenance, focused deterrence, traffic enforcement, collaborating for prevention, crime prevention through environmental design, and field interviews (National Research Council, 2004). Additionally, officers could cite other strategies not included in these predetermined buckets.

Crime analysts compiled the data throughout the duration of a Case of Place until that case was resolved and closed. Analysts, along with district commanders, presented updates on each Case of Place and interventions at Compstat meetings. Agency leadership and Compstat attendees then discussed the implementation of evidence-based practices at each Case of Place and played an active role in decision-making for future activities at these locations.

During and after piloting Case of Place processes, several adjustments were made. Crime analysts worked closely with DRO's and commanders to refine the Case of Place documentation system, and then integrate it into the agency's internal website, allowing officers and supervisors across the agency to view Case of Place files. As discussed in the next section, Case of Place administrative data, such as number of shifts worked and number of officers pulled for reassignment, were added to the Case of Place summary presented at Compstat. This refinement allowed for more enhanced conversations at Compstat regarding performance and productivity. See Table I for a summary of changes before and after reorganization:

RQ2. What challenges arose in the adoption of the Case of Place approach?

Implementation science has gained traction in the past several decades as a valuable knowledge-base for understanding how research translates into practice, and what happens between goal setting and assessment (Pressman and Wildavsky, 1984; O'Toole, 2000).

Function/effort	Prior to re-organization	Post-reorganization
Crime analysis and intelligence unit (CAIU)	Centralized Limited interaction with patrol and street supervisors resulted in limited data exchange across agency Analysts have a passive role in Compstat	Decentralized analysts into precincts Daily communication and information exchange between analysts, officers, and street supervisors Analysts are active in Compstat discussions
Problem-solving	Sporadic Primarily by patrol commanders Shallow assessment and response Reactive	Systematic problem-solving by DRO's and patrol commanders Integrated into crime analysis Quantified and integrated into Compstat
Compstat	Focus on traditional Uniform Crime Report (UCR) crime and repeat calls Sporadic discussion of problem-solving Anecdotal data on problems and interventions	Case of Place-based Quantified and systematic integration Case of Place administrative data integrated

Table I.
Functional and structural adjustments of agency re-organization

This scientific endeavor is valuable to modern policing, as the evidence on what works has increased, but studies of how these practices are implemented are limited (Lum *et al.*, 2012). This study uncovered two challenging, yet critical dimensions of implementation.

Structural challenges
The architecture of the organization is its structure (Bolman and Deal, 2008; Roberg *et al.*, 2012), including formal roles, responsibilities, relationships and coordination, rules, policies, procedures, and hierarchies that allow an organization to operate. Research on organizational structure and group management (see March and Simon, 1958; Taylor, 1911; Thompson, 1967) has shed light on the importance of organizational structure relative to performance. Indeed, "structure is a blueprint for officially sanctioned expectations and changes among internal players" (Bolman and Deal, 2008, p. 50). Traditional policing structures reflect hierarchical organizational charts, facilitating command and control approaches to management and personnel deployment (Roberg *et al.*, 2012), where supervision and accountability are delineated. Recent efforts under the community policing era have prompted some agencies to adopt a more decentralized approach, increasing decision-making amongst frontline supervisors, fostering creativity in crime reduction and prevention (Cordner, 2014). Several important structural changes were introduced to ground the Case of Place approach, including the decentralization of the Crime Analysis and Intelligence Unit, creation of a DRO group, new data management systems, and revised Compstat.

Previously, the CAIU was a centralized unit, under the administrative section of the agency. The unit was transferred to the investigative section, aiming to broaden their scope and reach, and to facilitate collaboration across patrol and investigations relative to data, intelligence, and problem-solving. This required a reorientation for CAIU staff to work within the investigative section, and for investigation commanders now supervising a unit primarily focused on crime and disorder on the street. There were modified supervision structures, and new relationships, and responsibilities introduced.

Physically relocating the CAIU into neighborhood precincts was a challenge. Outfitting precincts to accommodate new staff and technologies took longer than expected (six months) and garnered major financial resources. Planning and design issues, vendor communications, and staffing interruptions plagued the move.

Creating the new DRO position situated the Case of Place approach within a formal structure. This required the articulation of new roles and responsibilities, cross-functional

relationships, and job expectations. This change required discussions with labor union representatives to ensure that member needs and protections remained. Once the process of establishing the new officer roles was completed, the 24 positions had to be posted and interested candidates had to apply.

Implementation of the DRO work as desired was challenging, due in part to issues of staffing. Despite commitment to the approach, DRO's were regularly "pulled" from their assignments to fill vacant positions in patrol. For example, a DRO was assigned to Sector A on a shift and have plans to address a Case of Place, but was pulled to fill an empty patrol car. DRO's felt this and noted "it is hard to remain accountable when you are constantly being pulled." Mid-way through implementation, DRO's began documenting the number of planned shifts vs pulled shifts, which were presented at Compstat. Reallocating officers to support patrol activities resulted in less time for problem-solving. Thus, problem-solving as intended remained a challenge for officers (Braga and Weisburd, 2006).

Furthermore, union agreements allow officers to "bid" assignments once per year. Given the frequent "pulling," DRO's were quickly "bidding out" of this assignment. This frequent turnover was an impediment to consistency (Lum and Koper, 2017) for the DRO and Case of Place work. This aligns with existing research that staffing shortages and deployment are a significant challenge to problem-solving (Lum and Koper, 2017).

An additional structural challenge to the Case of Place approach was creating and utilizing a documentation system for the work. Using a modified Case of Place template (Lum and Koper, 2017; Koper *et al.*, 2015), analysts worked with commanders and officers to refine the Case of Place file. The new system included shift-based DRO reports regarding case (i.e. location) data, relevant incident and/or arrest data, and police intervention efforts.

Finally, these new data were then integrated into Compstat, addressing previous shortcomings regarding Compstat's focus on problem-solving (Bond and Braga, 2015). Revising Compstat to integrate the Case of Place approach aimed to capture what the police superintendent referred to as "weaknesses in the structures that are supposed to support problem-solving and community policing." The revision of Compstat situated Case of Place at the center of the discussion. This revision took over five months and included a review of Compstat best practices, as well as several versions of the new Compstat presented and reviewed by agency leadership. The revision also called for analysts to be more active participants and facilitators of Compstat.

Cultural challenges

The adoption and implementation of a new organizational practice is influenced by and can influence organizational culture. Culture manifests in the norms, values, rules, goals, beliefs, habits, and shared meanings of the members and is influenced by the different views, priorities, and hierarchies that make up the social order of the institution (Bolman and Deal, 2008; Schein, 2010; Van Maanen and Barley, 1982). Several cultural disruptions occurred during the Case of Place implementation. These challenges interact with the structural challenges, as they may arise from the change in structure (Schein, 2010). The most prominent cultural challenges included emphasizing the organizational priority of DRO's, conflicting patrol and problem-solving priorities, decentralization of the CAIU, and shifting Compstat's emphasis toward problem-solving.

The integration of community and problem-oriented policing into agencies has taken many forms, including the creation of specialized units (Taylor *et al.*, 2011; Lum and Koper, 2017), though some believe that these efforts should be integrated throughout the agency (Lum and Koper, 2017). However, implementation requires time and human resources, two indicators of the value placed on organizational functions and priorities (Schein, 2010). To emphasize this priority, and provide the resources needed, organizational leaders created a specialized group (i.e. DRO's) to work across organizational boundaries in

problem-solving, a reinvigorated organizational goal (Langworthy, 1986). Leadership believed that crime and disorder problems needed persistent and prolonged intervention through focused attention (Taylor *et al.*, 2011; Ratcliffe *et al.*, 2011). DRO's would have flexibility in scheduling, access to internal and external resources, and operational strategies best suited for identified problems, much like detective work (Uchida *et al.*, 2012; Taylor *et al.*, 2011).

This shift to a specialized unit challenged preconceived understandings of officers and supervisors. While many DRO's embraced the time and resources to problem-solve, there remained cultural conflicts about the work and its value. For instance, one DRO stated, "Case of Place is different than other approaches because you have more time." Yet another DRO expressed frustration about staffing challenges and interaction with patrol, "we feel like we are being singled out for something that patrol should be doing."

These new ideas and practices represented a change in use of organizational resources, introduced new expectations regarding officer activities, and reinforced an integrated approach where actors across departments were asked to play a role in and support the Case of Place approach. But not all actors saw it that way. One commander expressed concerns about the lack of involvement of frontline supervisors in the process, "we need a mechanism to keep everyone aware and included, so that they feel part of the team." Working across functional silos to implement new and integrative practices called for new ways of thinking and acting, challenging current mental models, or understandings, of how things work (Schein, 2010).

As this new approach unfolded, additional cultural conflicts were observed between prioritizing problem-solving and responding to emergency calls for service. Personnel deployment can be a difficult task when demands are high and resources constrained (Frank *et al.*, 1997; Braga and Weisburd, 2006) and when an absence of shared assumptions exists about implementation of new work (Schein, 2010). In this case, DRO's were structurally under the supervision of district commanders who were accountable for preventing or resolving problems in specific geographic locations. Shift commanders, however, staffed shifts to respond to emergency calls for service and accountable for responding to calls under a temporal model.

In practice, this task of communicating and coordinating DRO problem-solving across shifts was problematic, as shift commanders needed personnel to cover patrol and regularly pulled DRO's to fill gaps, resulting in reduced time for problem-solving. One manager articulated this conflict clearly, "there are two sides to the house that have to come together, and they are not doing that right now." To exacerbate the problem, no other specialty positions (e.g. investigations, gang unit) were pulled to cover gaps. Because shift commanders had discretion over which positions to pull, their decisions were perceived as influenced by their priorities, values, and beliefs (Schein, 2010). While this challenge may originate in a structural deficit, it was perceived to be a value conflict between shift and district commanders. Were DRO's less valued than other specialty unit members? Indeed, leader action and decisions create and sustain culture within the larger organization and the sub-cultures (Crank, 2004; Manning, 1977; Schein, 2010).

While this structural disconnect created challenges for trying to honor problem-solving and temporal priorities, it is potentially compounded by longstanding cultural conflicts between patrol and specialized units (Braga and Weisburd, 2006). This conflicting sense of priorities may stem from the belief that each actor must guard against infringement on their task and responsibility (Roberg *et al.*, 2012). One commander recognized this challenge, stating "there is still a disconnect between the shift and district commander and who bears the burden; as well as how to ensure accountability for any given issue." These observed behaviors influence perceptions of how things should work, as noted by one DRO, "in this place, there are two different shifts, two different administrations, and two different sets of rules." In this case,

these illustrations represent what Schein (2010) says about cultural incongruence – or "what ought to be vs what is" (p. 24).

The decentralization of civilian crime analysts into patrol precincts also pressed cultural norms. Officers and frontline supervisors were previously disconnected from analysts, as noted by one officer, "we never really had any interaction before," and analysts' work and products were primarily directed toward organizational leaders (Willis *et al.*, 2007). Their work was understood and operationalized as preparing various crime reports and Compstat data and presentations. Analysts mostly worked with commanders and for agency leaders, rarely building relationships with officers and frontline supervisors. This new approach required direct engagement with DRO's, and their field presence connected them with patrol. The co-location of the two different groups facilitated communications and relationships. The ambiguity regarding analysts' role in the agency began to dissipate as analysts worked with officers. These two organizational sub-cultures, with their own set of understandings about each other, began to integrate (Schein, 2010). This reflects ideals of agency leadership at the start. When referring to the benefits of placing analysts in precincts, the superintendent avowed, "the magic happens over a cup of coffee, when the captain, lieutenant and analysts are just in the same location."

Decentralizing analysts has proven to be one of the most beneficial aspect of the department's reorganization. Hands down, officers, supervisors, and analysts report that the communication and information sharing has increased, going from non-existent to, in some cases, daily. They have immediate access to each other, seeing each other regularly to converse about data and intervention, fostering new habits of communication and interaction. Prior assumptions that allowed functional silos to exist were broken down, creating new norms for how individuals within the organization were to interact (Bolman and Deal, 2008; Schein, 2010).

Lastly, the revamped Compstat was conceived to shift language and behaviors to prioritize problem-solving, along with creating a systematic way to measure and review crime. The use of "buckets" to capture and measure problem-solving directed commander and officer actions. Understandably, organizational culture is a hard to change, but one method is to reframe the way people behave and how they focus their communications (Schein, 2010). This agency did so by placing the Case of Place at the center of Compstat:

RQ3. What does the future hold for the Case of Place approach?

Our observations highlight the challenges of adopting and implementing a new tool to support place-based strategies and we learned of several benefits to this new approach. In this study, leaders sought to facilitate evidence-based, place-based practices via the Case of Place approach (Taylor *et al.*, 2011; Ratcliffe *et al.*, 2011; Uchida *et al.*, 2012). Not only did they look to DRO's to implement proven practices, but leaders insisted on documenting and integrating problem-solving into their performance management system. In turn, the agency can measure which strategies are employed to address which types of problems, and with what effect (Willis *et al.*, 2010).

The Case of Place approach is a tool with great potential for systematic problem-solving and performance management, and it can address the shortcomings of place-based strategies. Leading up to each Compstat, analysts work with supervisors and others to capture and track problems of interest. Preliminary data show that 81 Cases of Place were created to address issues such as drug activity, gang activity, disorderly tenants, and high call volume locations, to name a few. In total, 50 percent of those had been resolved or closed as of the early stages of post-intervention analysis[6]. Resolution means that the DRO's have eliminated or reduced the original problem through their efforts.

Analysts have offered several praises for the decentralization, saying that it "increases communication, data sharing, problem-solving, and accessibility to patrol and supervisory staff. It enables 'face-time'." Analysts were previously aware of the scanning and analysis aspects of

the problem-solving process, but never the response or assessment. This new approach closes that loop and systematizes the problem-solving process. With a systematic tool and process, this study revealed how Case of Place can address problem-solving and performance management shortcomings in modern police agencies. By focusing problem-solving, enhancing the relationship between analysts and officers, and reimagining an agency's performance management system, the agency in this study began to shift the institution toward organizational priorities (Schein, 2010). Notably, the approach requires additional implementation and testing to rigorously assess its contributions to desired outcomes.

Of course, there are challenges to adopting any new approach. We identified and described the structural and cultural challenges of adopting the Case of Place approach. These challenges are not exclusive to police agencies, nor are they limited to adopting this type of policing approach. Yet, structure and culture are two principal components of an organization, and thus must be cared for in introducing organizational change (Bolman and Deal, 2008; Schein, 2010), much like the study of and lessons from implementation of new policy and practice is also critical to the introduction of new ideas (Pressman and Wildavsky, 1984). Our use of implementation science allowed us to dig deeper into the adoption of evidence-based practice to understand the nuances and experiences of the implementation process (O'Toole, 2000).

These results inform how police practitioners can approach the adoption of new and evidence-based practices (Lum and Koper, 2017). Beyond seeking out available research to inform the selection of strategy, practitioners should methodically plan out how a new strategy will be adopted, implemented, and monitored (Pressman and Wildavsky, 1984; O'Toole, 2000; Schein, 2010). This is an important lesson, noted by one of the agency managers who expressed concern about what should have made implementation easier, "we need to have monthly meetings with key agency folks to move forward and monitor how implementation is going." Officers who served as DRO's made similar suggestions, where they could provide feedback to commanders and leadership on the successes and challenges of implementation. This may be a useful administrative action that can help address the structural and cultural implementation challenges observed in this study.

Studying the implementation of the Case of Place approach allowed us to examine and describe the people, roles, functions, actions, and perceptions of individuals involved in the implementation process (Pressman and Wildavsky, 1984). Indeed, it is this level of detail that helps us to link the sequence of events and the interactions of individuals and actions in the process. While our study sheds light on implementation of the Case of Place approach in one urban police organization, we view this study as a prompt for future study of policy and practice implementation. Lastly, more research is needed to assess whether similar challenges arise in the implementation of the Case of Place approach.

Conclusion
The current study sought to capture the details and nuances of one police agency's adoption and implementation of a new approach to enhance place-based strategies. There is growing evidence on the effectiveness of certain place-based strategies in high crime and disorder locations. Many police agencies are building a portfolio of strategies that they can employ in their communities. Yet, there remain challenges to effective policing, often rooted in the implementation of these evidence-based practices.

The Case of Place approach is a promising approach that facilitates systematic problem-solving in places of concern. The study examined how one agency sought to prioritize and institutionalize problem-solving within the agency's performance management system. This study revealed significant structural and cultural challenges to implementation, but not insurmountable issues. In truth, the available research on what works in high crime areas is less valuable without the knowledge-base centered on how an agency and its representatives go about adopting and implementing policy and practice change.

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Notes

1. See http://cebcp.org/evidence-based-policing/the-matrix/ for access to the Evidence-Based Policing Matrix.

2. Many of these efforts were scaled back during the 2007-2009 recession when financial and human resources were significantly diminished.

3. The study will be completed in February 2018 with outcome analyses coming after the formal completion.

4. The logic behind this structural move was to broaden the reach of the analysts beyond patrol to also include investigations, enhancing communication and coordination across the entire agency.

5. See http://cebcp.org/evidence-based-policing/the-matrix/matrix-demonstration-project/case-of-places/

6. As noted, an outcome evaluation is underway to assess changes in crime in specific areas treated via the Case of Place.

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Descriptive Crime Trends: 2014-2017 Compstat Crimes

Crimes by Type: 2014-2017

Crimes by Type: 2014-2017				
Crime	2014	2015	2016	2017% Change
Agg. Assault	758	721	635	572	-24.5383
Burglary	679	528	473	506	-25.4786
Car Break	743	535	496	485	-34.7241
Disorderly	375	361	322	321	-14.4
Vandalism*	1224	1146	1279	1030	-15.8497
Robbery	206	173	161	164	-20.3883
Shoplifting	238	289	249	217	-8.82353
Simple Assault	1471	1427	1434	1428	-2.92318
Total	5694	5180	5049	4723	-17.053

Non-Hotspot Crimes

Crime	Non-Hotspot Crimes by Type: 2014-2017			
	2014	2015	2016	2017
Agg. Assault	582	546	494	450
Burglary	594	446	400	436
Car Break	669	470	442	434
Disorderly	294	258	247	234
Vandalism*	1000	918	1043	843
Robbery	152	128	133	121
Shoplifting	146	174	163	148
Simple Assault	1164	1105	1115	1135
Total	4601	4045	4037	3801

*Note: Primary & Secondary Vandalism merged as only "Vandalism" data was provided for 2016 & 2017

Non-Hotspot Crimes by Type: 2014-2017

Legend:
- Agg. Assault
- Burglary
- Car Break
- Disorderly
- Vandalism*
- Robbery
- Shoplifting
- Simple Assault

Y-axis: Number of crimes (0, 200, 400, 600, 800, 1000, 1200)

X-axis: 2014, 2015, 2016, 2017
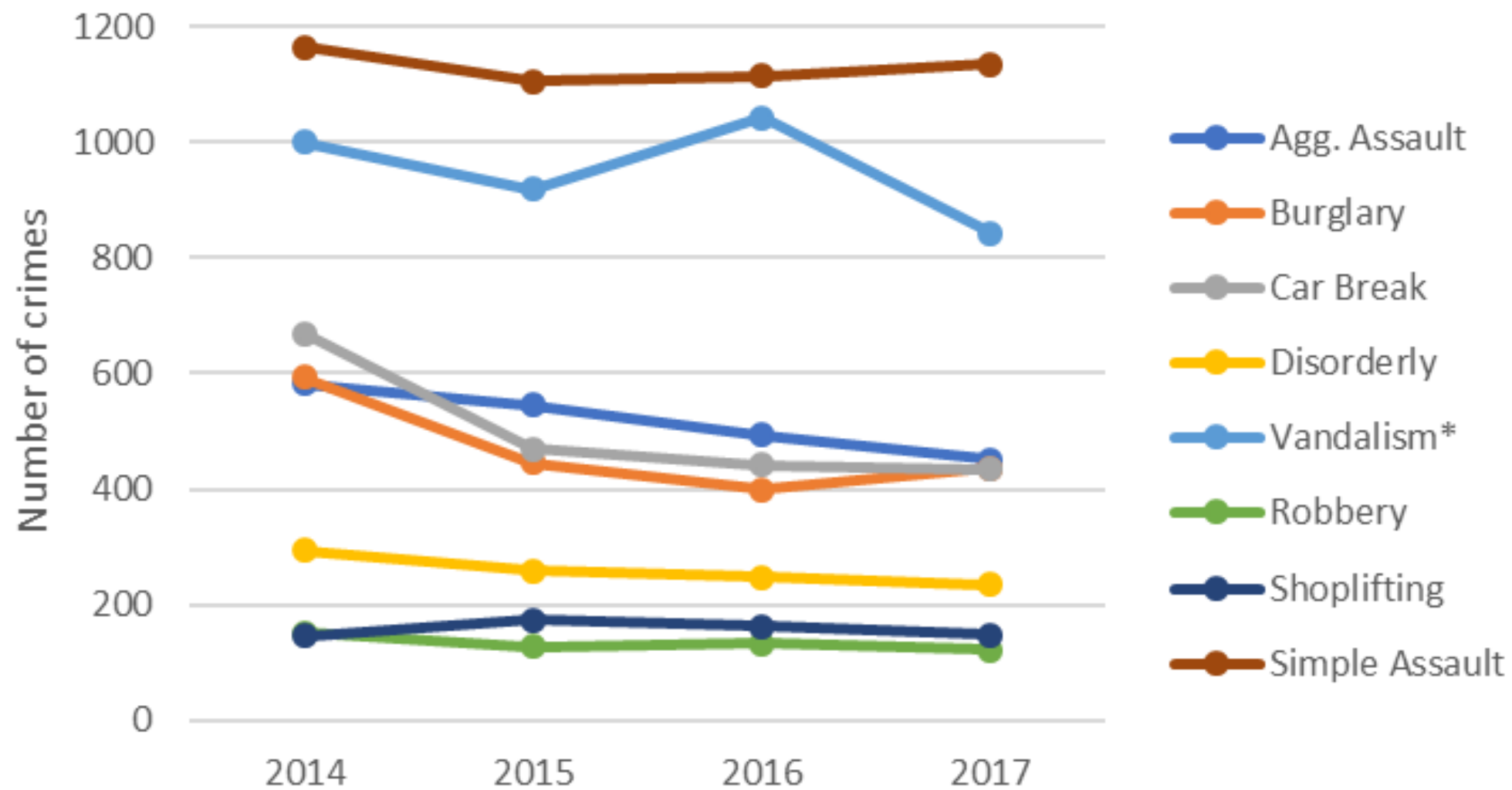
Hot Spot 1: Pawtucketville

Crime	Hotspot 1 Crimes by Type: 2014-2017			
	2014	2015	2016	2017
Agg. Assault	10	7	7	7
Burglary	5	9	6	8
Car Break	5	3	6	2
Disorderly	1	0	3	4
Vandalism*	23	18	16	13
Robbery	0	1	0	1
Shoplifting	0	0	0	0
Simple Assault	14	15	26	18
Total	58	53	64	53

Hot Spot 1 Crimes by Type: 2014-2017
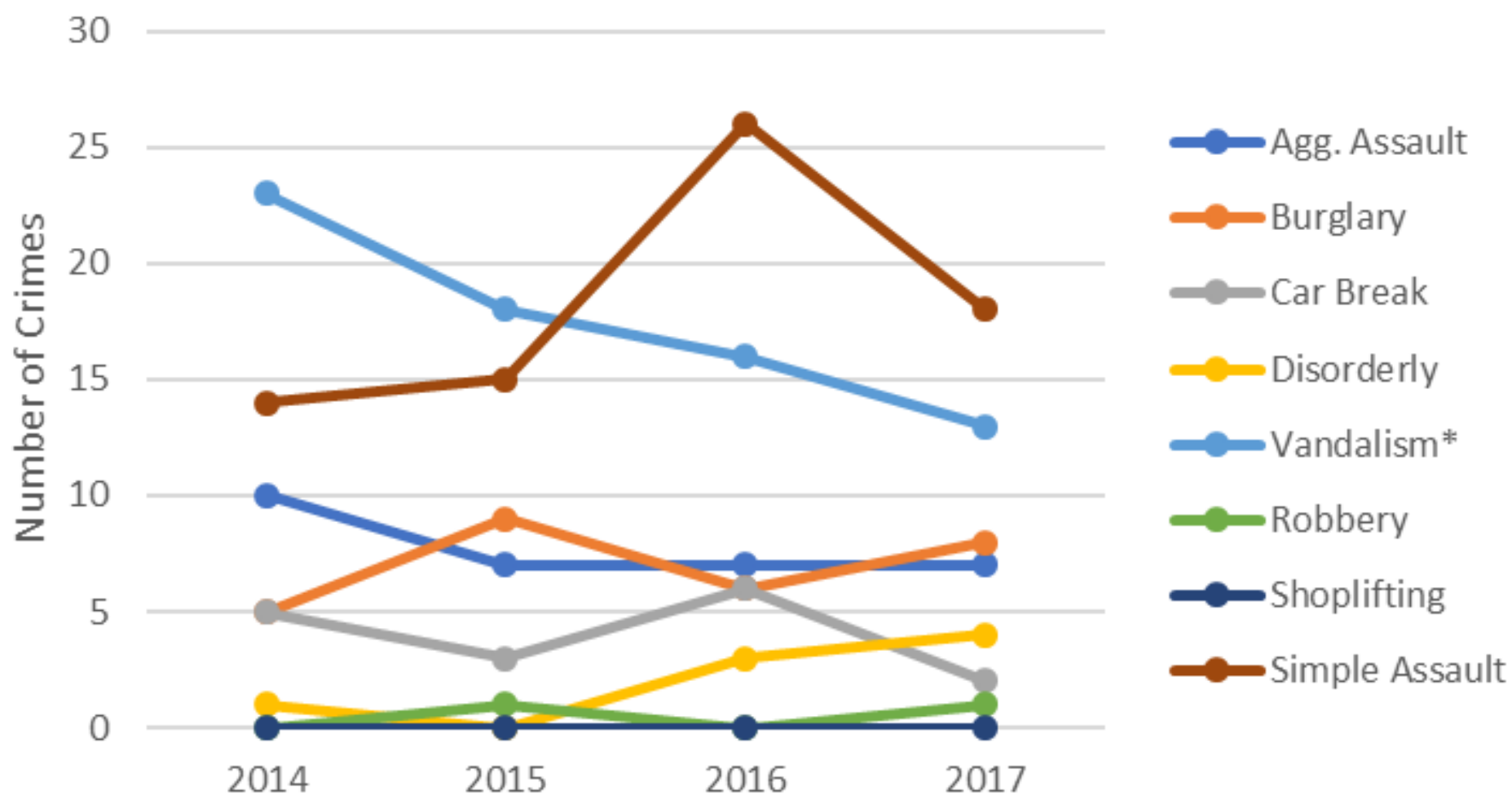
Hot Spot 2: Centralville

Crime	Hotspot 2 Crimes by Type: 2014-2017			
	2014	2015	2016	2017
Agg. Assault	14	13	9	13
Burglary	6	4	8	12
Car Break	6	5	2	6
Disorderly	4	5	3	2
Vandalism*	16	20	26	12
Robbery	7	0	4	1
Shoplifting	0	1	0	4
Simple Assault	25	26	32	22
Total	78	74	84	72

Hot Spot 2 Crimes by Type: 2014-2017
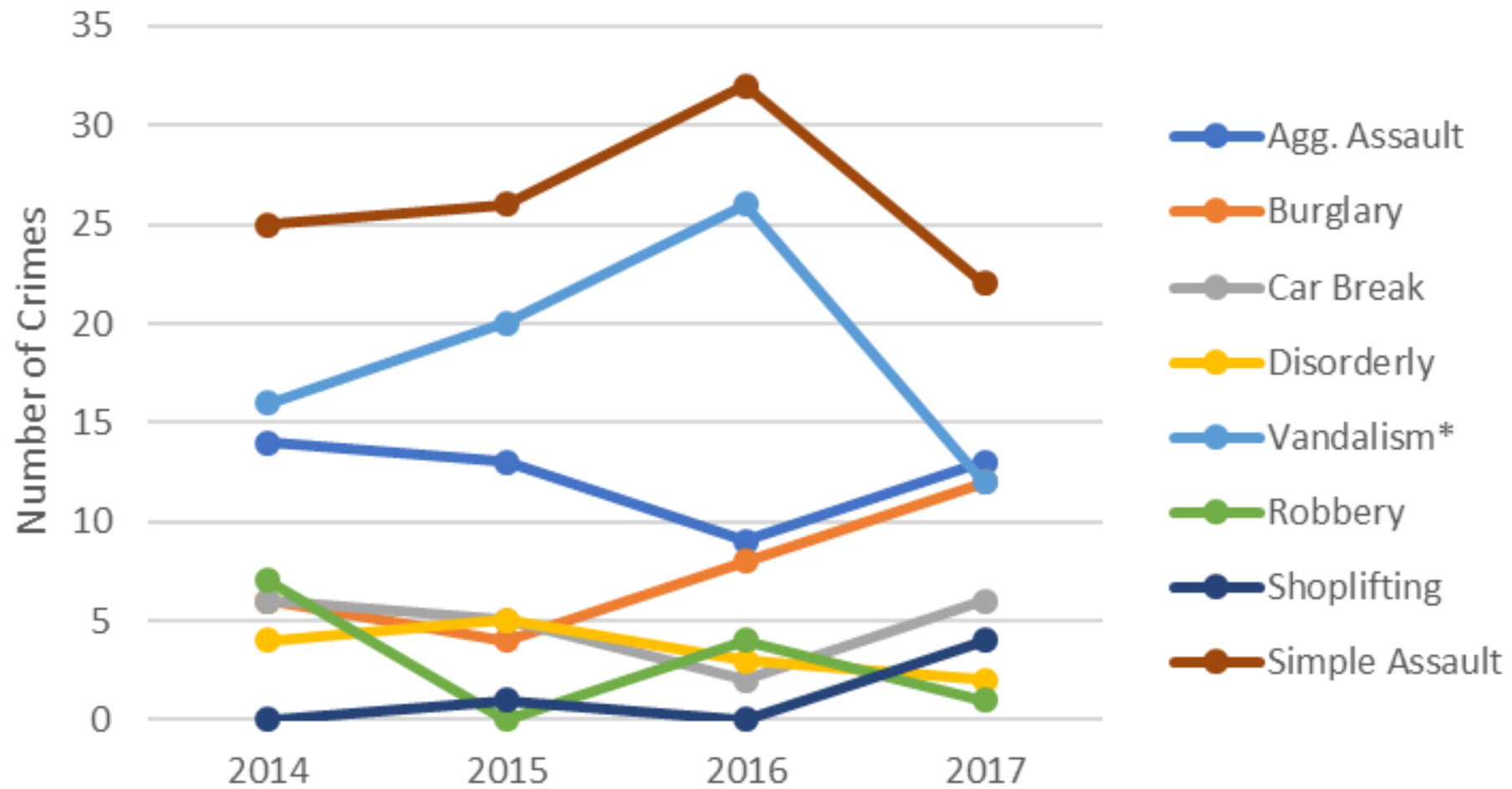
Hot Spot 3: Centralville

Crime	Hotspot 3 Crimes by Type: 2014-2017			
	2014	2015	2016	2017
Agg. Assault	22	28	21	18
Burglary	15	12	8	6
Car Break	9	6	5	1
Disorderly	9	9	8	13
Vandalism*	27	26	31	17
Robbery	11	6	4	9
Shoplifting	34	22	9	13
Simple Assault	46	43	36	31
Total	173	152	122	108

Hot Spot 3 Crimes by Type: 2014-2017
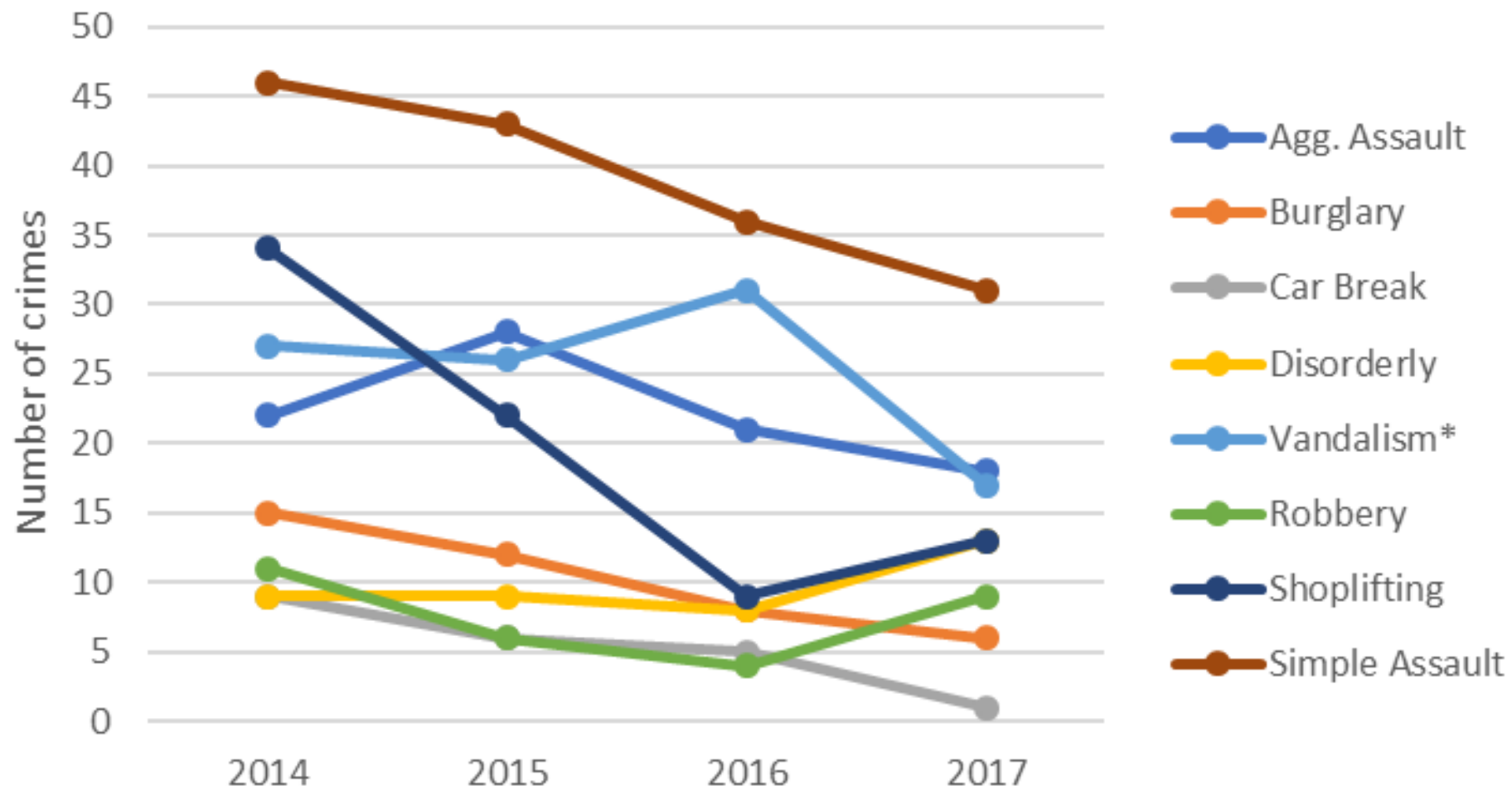
Hot Spot 4: Centralville

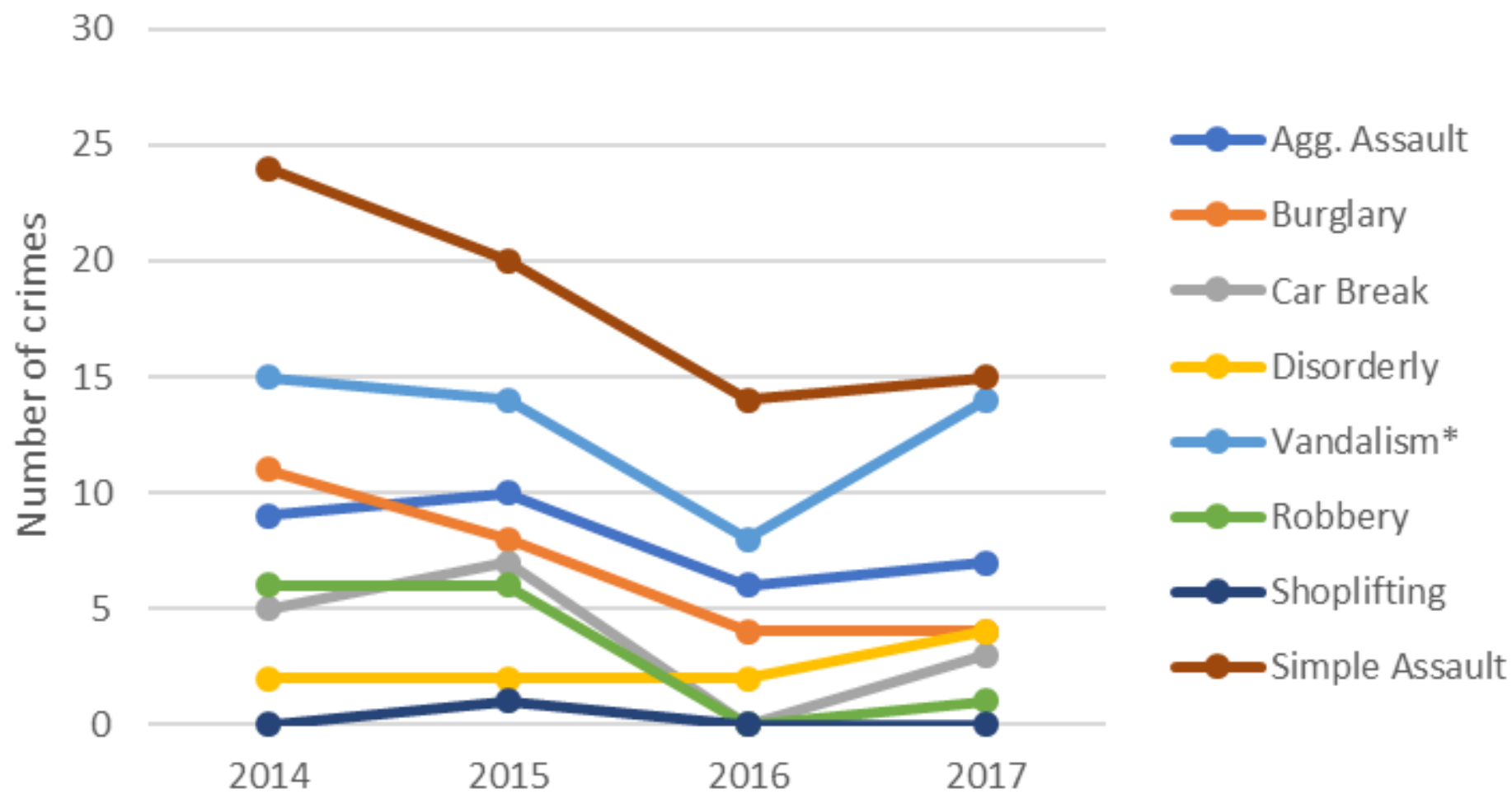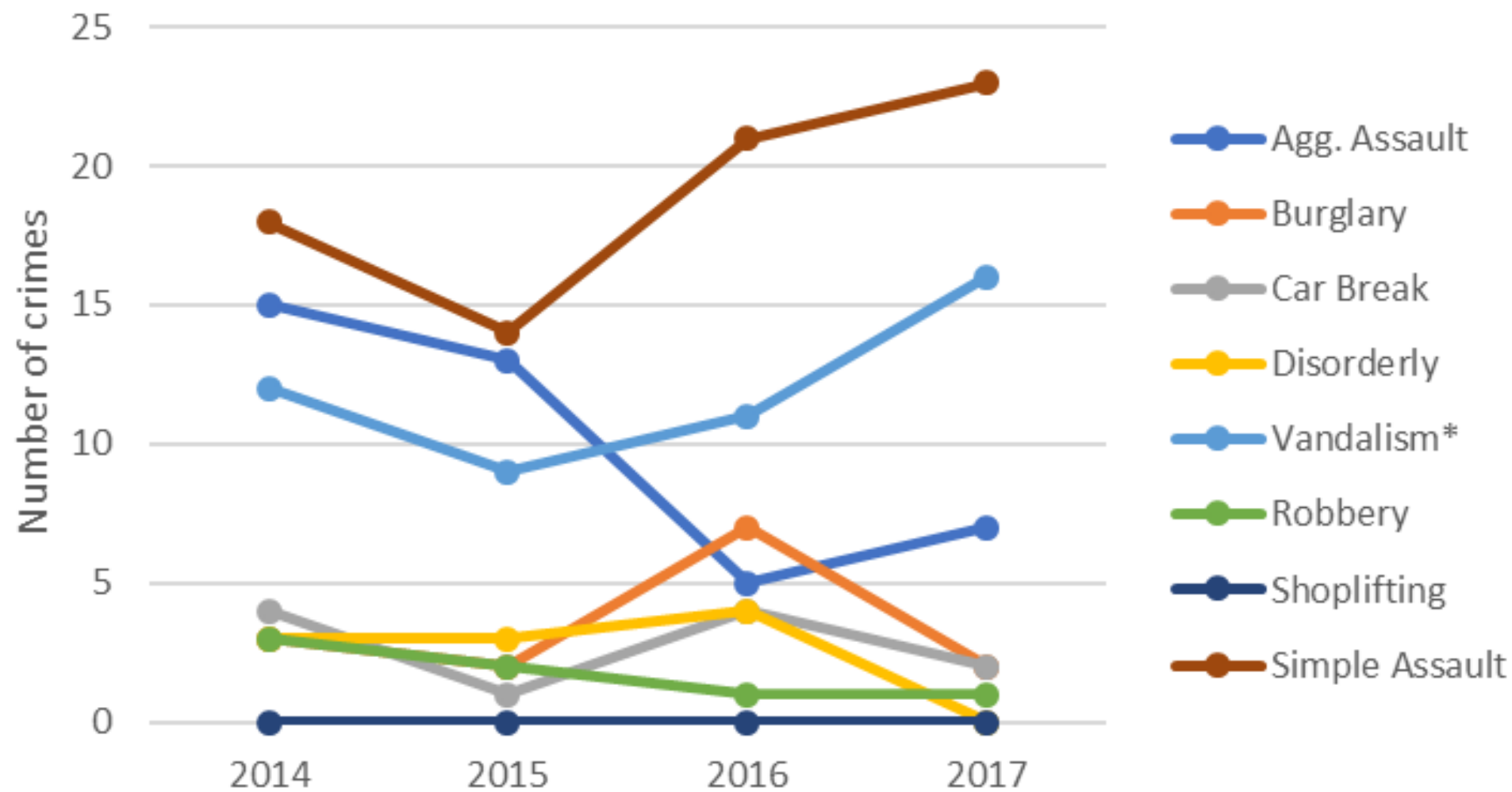|	Hotspot 4 Crimes by Type: 2014-2017			
Crime	2014	2015	2016	2017
Agg. Assault	7	6	1	3
Burglary	3	1	4	1
Car Break	6	1	1	1
Disorderly	0	2	2	1
Vandalism*	4	10	6	5
Robbery	1	1	0	1
Shoplifting	0	0	0	0
Simple Assault	7	10	10	15
Total	28	31	24	27

Hot Spot 4 Crimes by Type: 2014-2017

Legend:
- Agg. Assault
- Burglary
- Car Break
- Disorderly
- Vandalism*
- Robbery
- Shoplifting
- Simple Assault
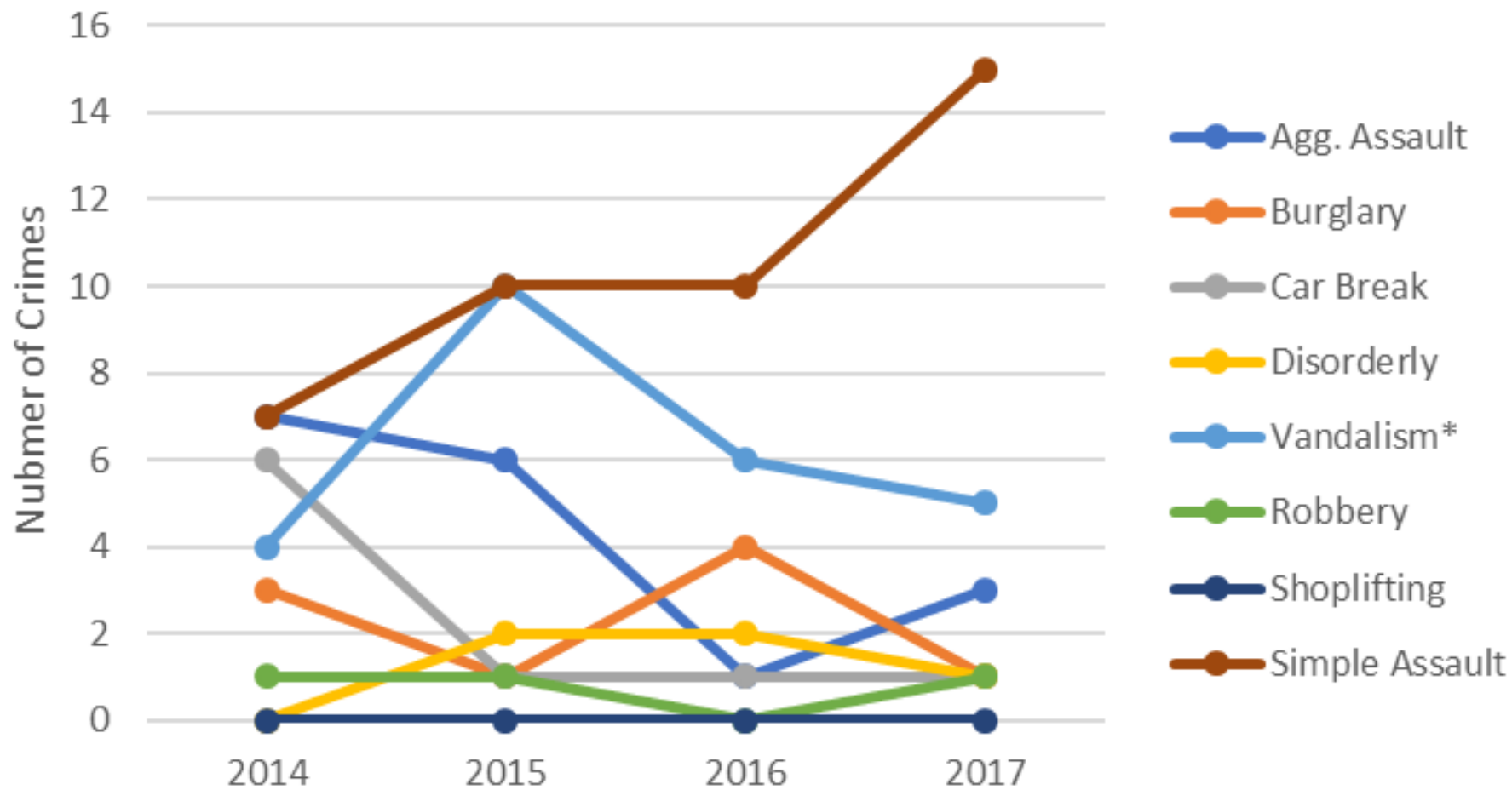
Hot Spot 5: Acre

Hotspot 5 Crimes by Type: 2014-2017				
Crime	2014	2015	2016	2017
Agg. Assault	16	18	13	2
Burglary	2	8	3	11
Car Break	7	7	3	5
Disorderly	4	7	3	0
Vandalism*	19	39	35	17
Robbery	3	3	0	5
Shoplifting	28	60	64	45
Simple Assault	28	28	36	23
Total	107	170	157	108

Hot Spot 5 Crimes by Type: 2014-2017
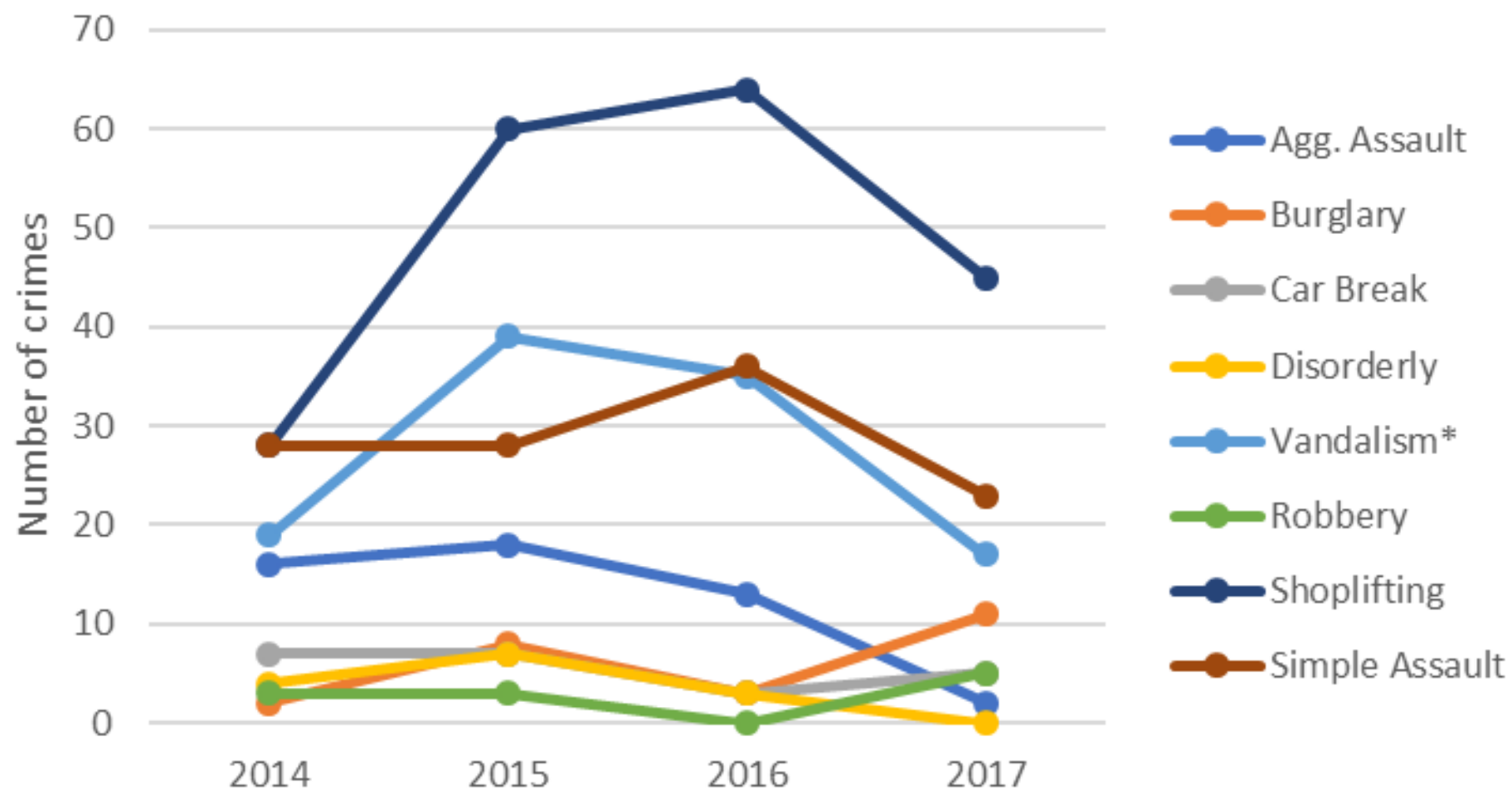
Hot Spot 6: Downtown

	Hotspot 6 Crimes by Type: 2014-2017			
Crime	2014	2015	2016	2017
Agg. Assault	18	12	13	13
Burglary	5	7	6	2
Car Break	3	5	3	6
Disorderly	22	21	20	31
Vandalism*	17	24	16	22
Robbery	5	1	4	4
Shoplifting	15	22	9	1
Simple Assault	33	23	28	37
Total	118	115	99	116

Hot Spot 6 Crimes by Type: 2014-2017
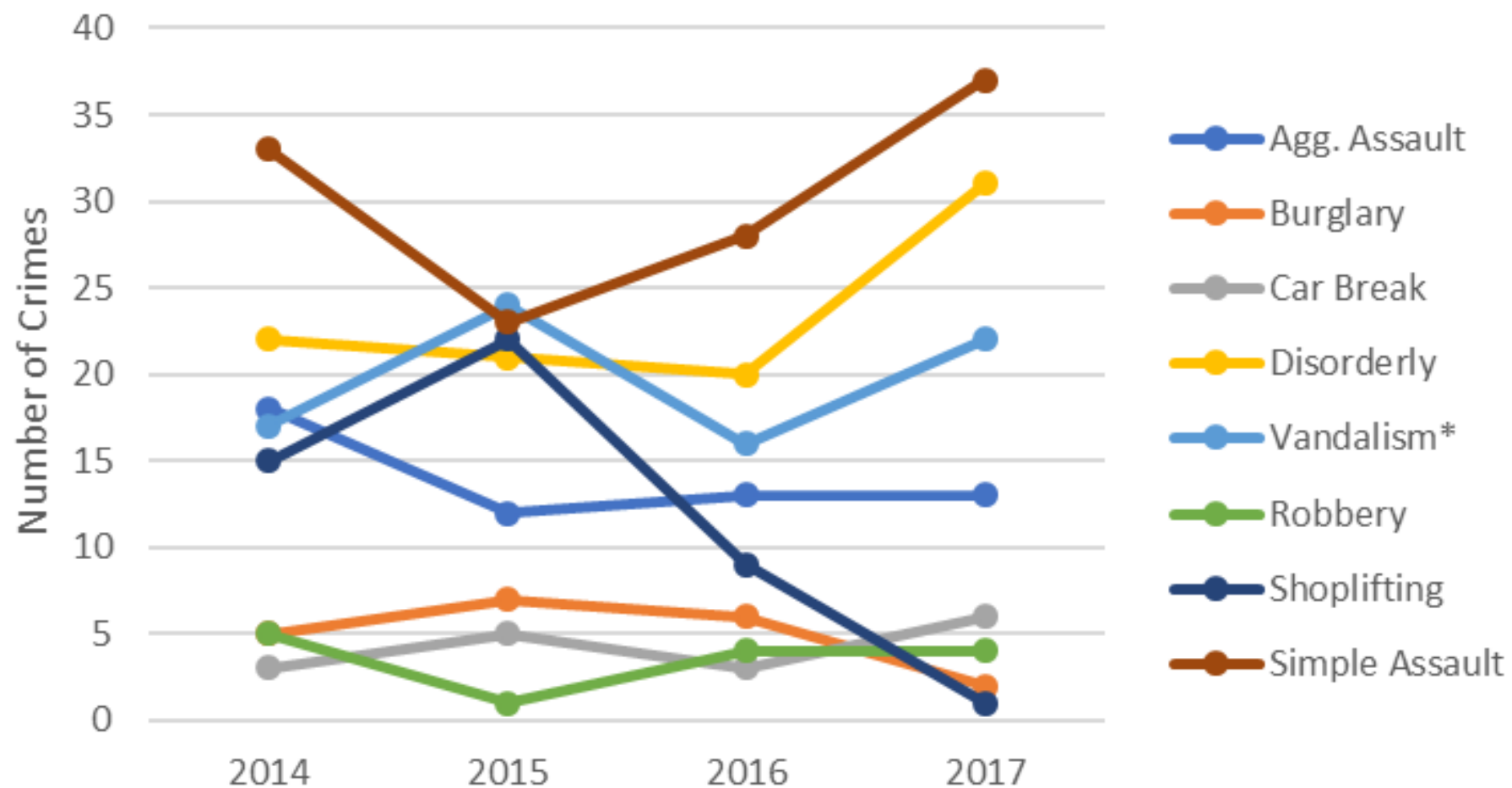
Hot Spot 7: Pawtucketville

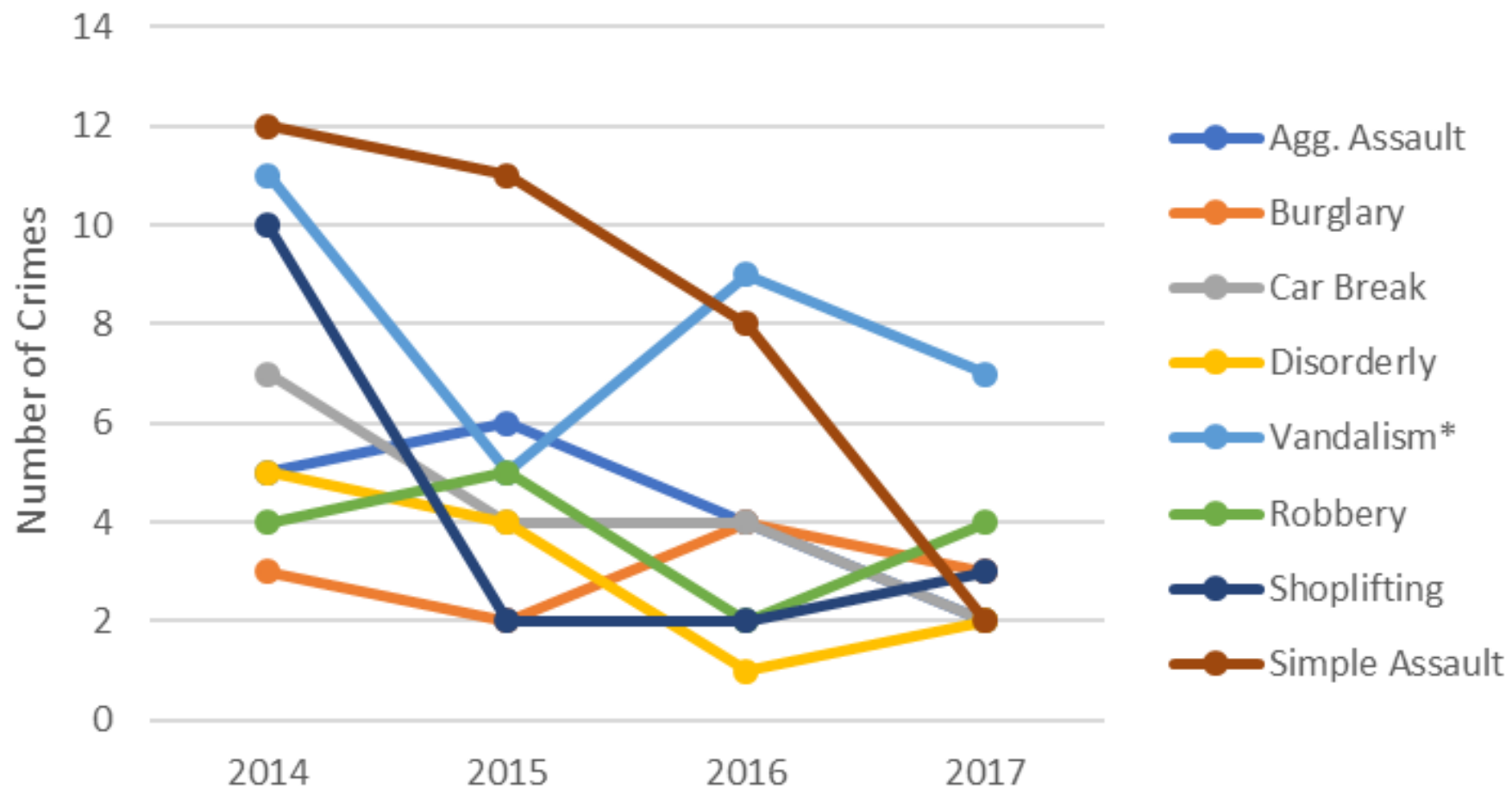| Crime	Hotspot 7 Crimes by Type: 2014-2017			
	2014	2015	2016	2017
Agg. Assault	6	4	5	4
Burglary	4	0	0	3
Car Break	5	6	2	0
Disorderly	4	5	5	3
Vandalism*	7	10	4	6
Robbery	2	2	2	1
Shoplifting	2	5	0	2
Simple Assault	9	8	6	8
Total	39	40	24	27

Hot Spot 7 Crimes by Type: 2014-2017
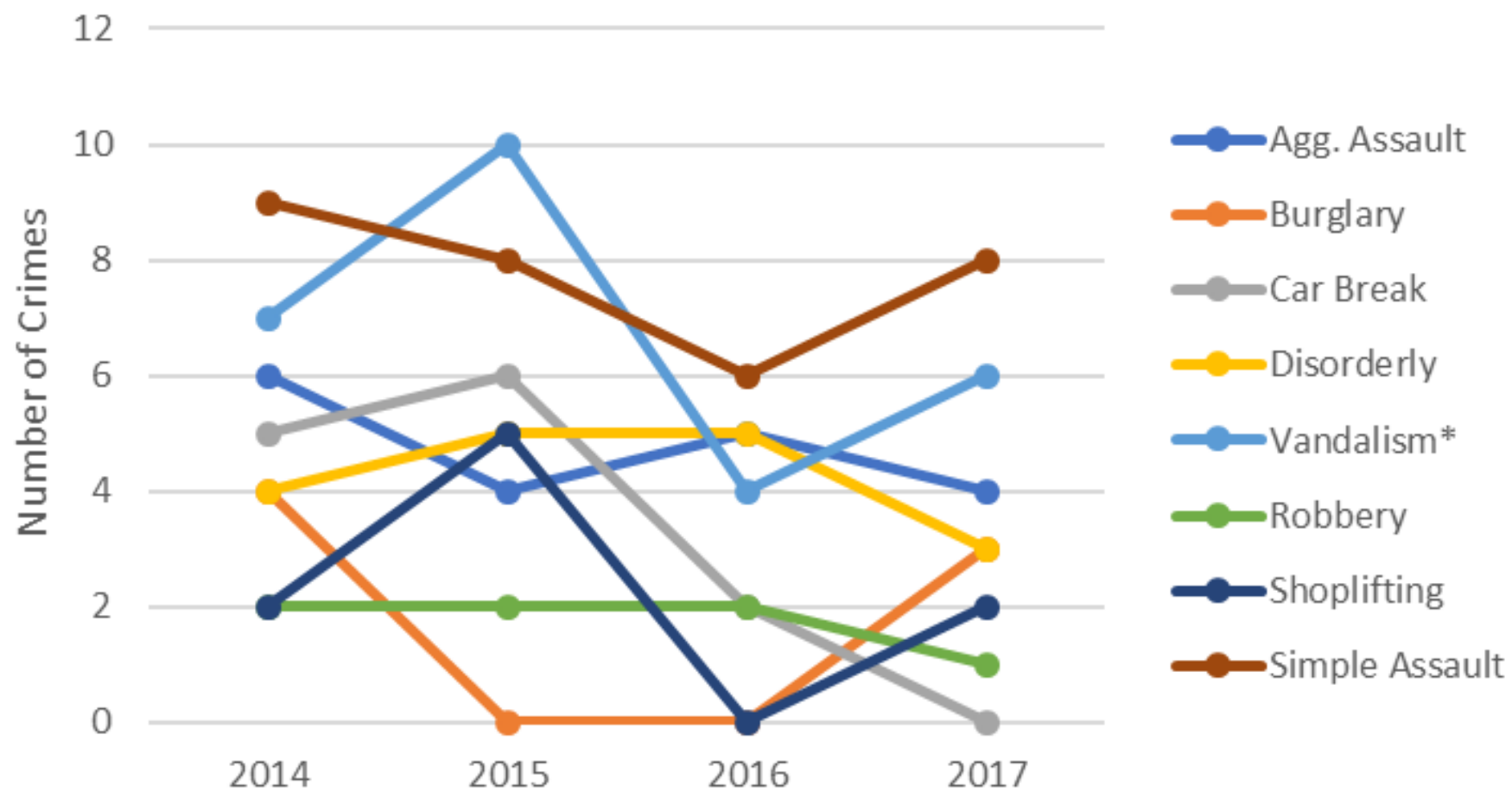
Hot Spot 8: Back Central/Downtown

Crime	Hotspot 8 Crimes by Type: 2014-2017			
	2014	2015	2016	2017
Agg. Assault	28	38	28	28
Burglary	9	14	14	4
Car Break	3	10	11	11
Disorderly	22	40	22	24
Vandalism*	30	28	38	31
Robbery	6	13	9	9
Shoplifting	3	2	2	1
Simple Assault	59	72	63	63
Total	160	217	187	171

Hot Spot 8 Crimes by Type: 2014-2017
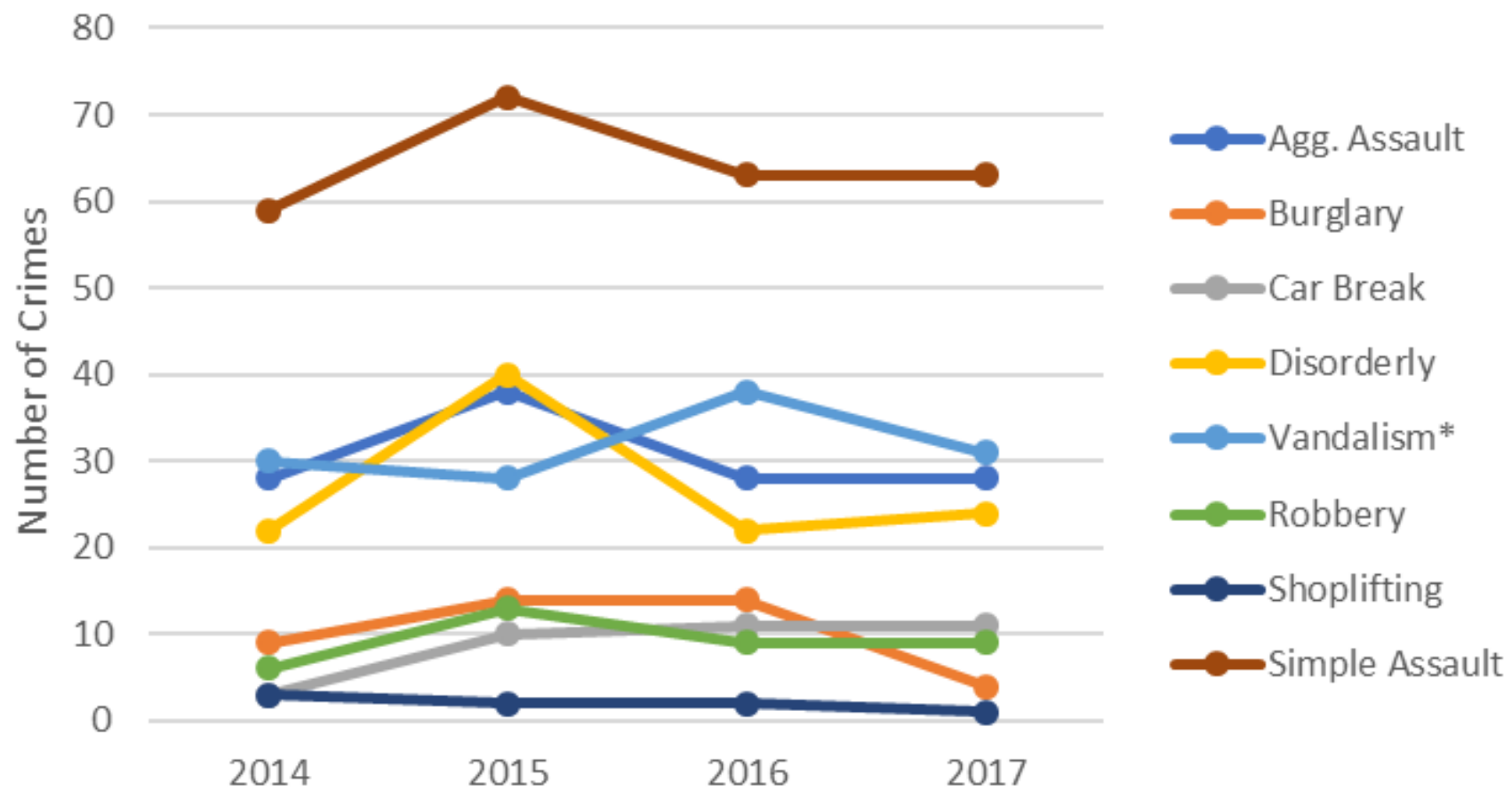
Hot Spot 9: Highlands/Lower Highlands

	Hotspot 9 Crimes by Type: 2014-2017			
Crime	2014	2015	2016	2017
Agg. Assault	8	5	5	6
Burglary	4	4	0	5
Car Break	2	4	2	2
Disorderly	2	1	0	1
Vandalism*	7	6	10	11
Robbery	1	0	0	2
Shoplifting	0	0	0	0
Simple Assault	6	15	10	12
Total	30	35	27	39

Hot Spot 9 Crimes by Type: 2014-2017
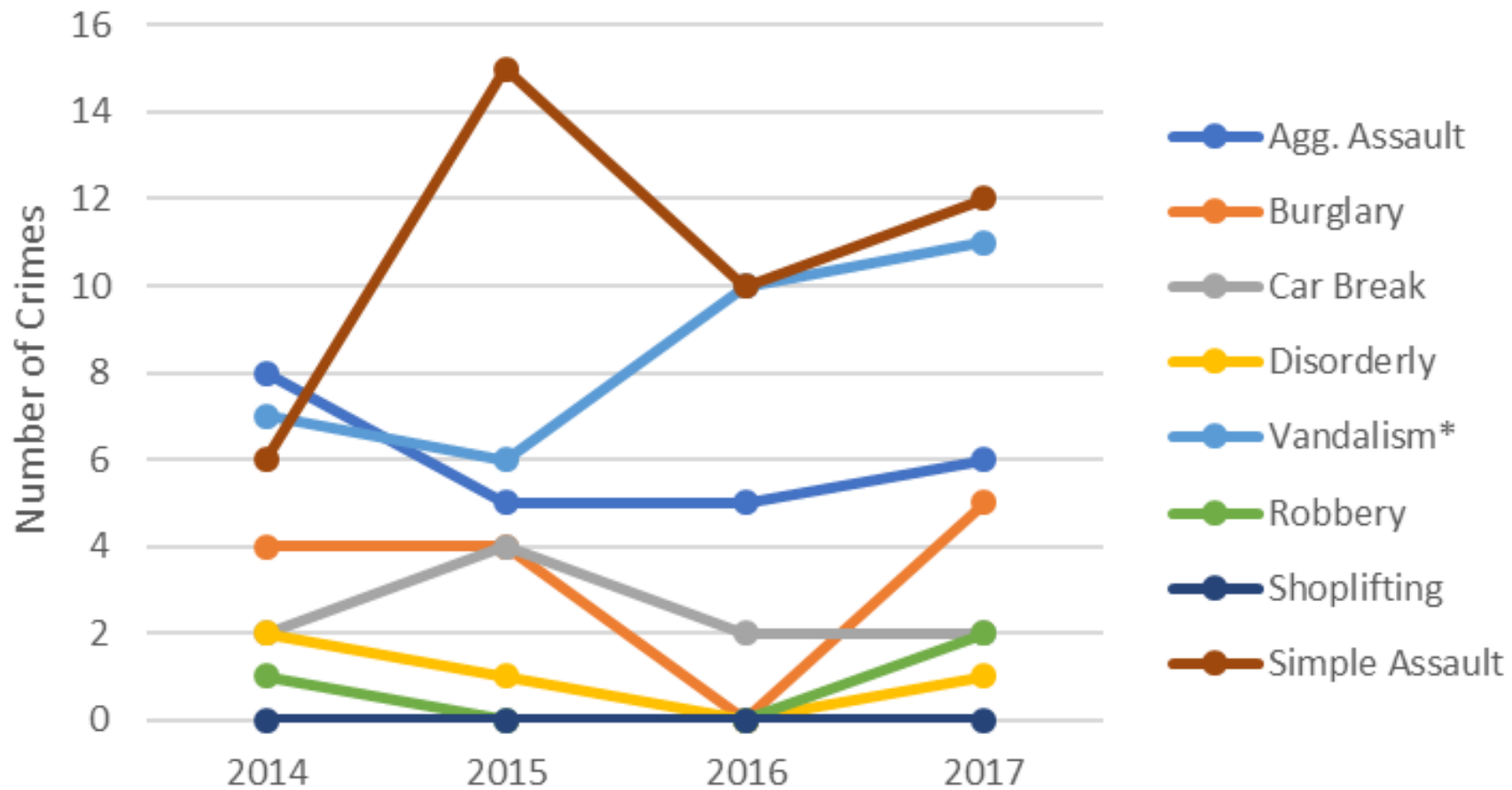
Hot Spot 10: Highlands/Lower Highlands

|	Hotspot 10 Crimes by Type: 2014-2017			
Crime	2014	2015	2016	2017
Agg. Assault	9	10	6	7
Burglary	11	8	4	4
Car Break	5	7	0	3
Disorderly	2	2	2	4
Vandalism*	15	14	8	14
Robbery	6	6	0	1
Shoplifting	0	1	0	0
Simple Assault	24	20	14	15
Total	72	68	34	48

Hot Spot 10 Crimes by Type: 2014-2017

Hot Spot 11: Belvidere/ Lower Belvidere

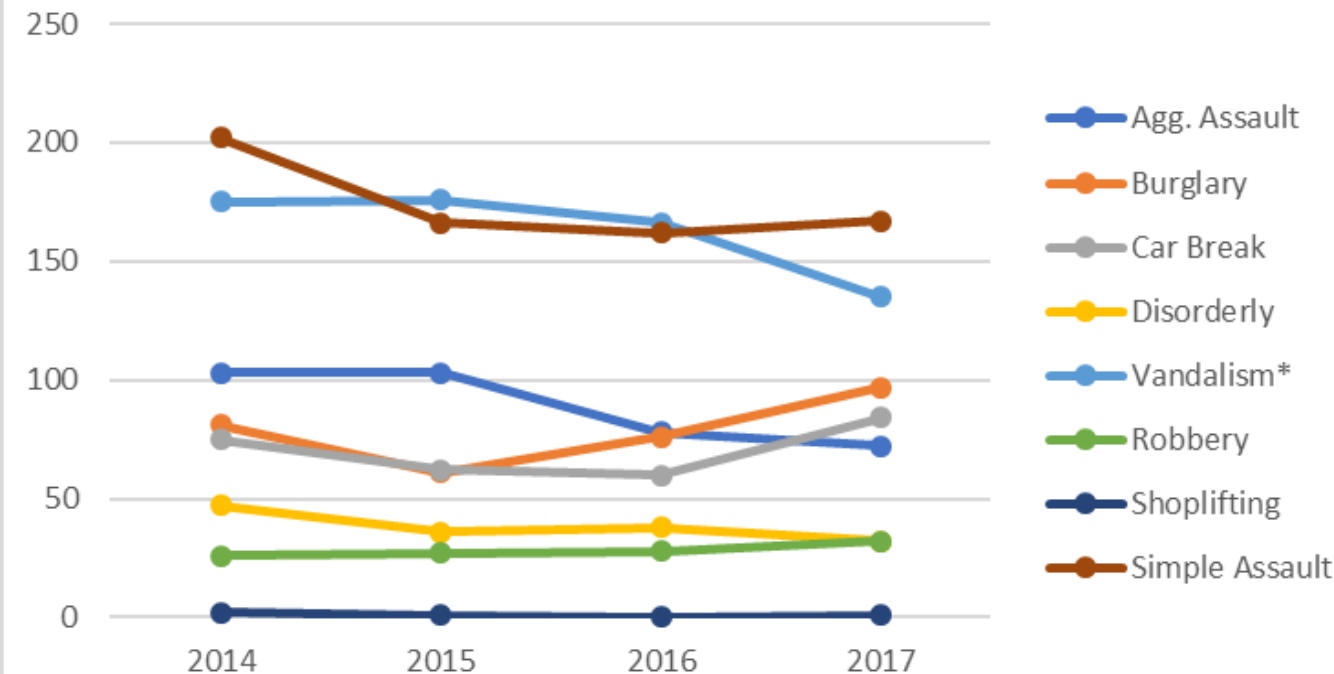| Crime	Hotspot 11 Crimes by Type: 2014-2017			
Crime	2014	2015	2016	2017
Agg. Assault	15	13	5	7
Burglary	3	2	7	2
Car Break	4	1	4	2
Disorderly	3	3	4	0
Vandalism*	12	9	11	16
Robbery	3	2	1	1
Shoplifting	0	0	0	0
Simple Assault	18	14	21	23
Total	58	44	53	51

Hot Spot 11 Crimes by Type: 2014-2017

Legend:
- Agg. Assault
- Burglary
- Car Break
- Disorderly
- Vandalism*
- Robbery
- Shoplifting
- Simple Assault

Hot Spot 12: Highlands/ Lower Highlands

	Hotspot 12 Crimes by Type: 2014-2017			
Crime	2014	2015	2016	2017
Agg. Assault	4	7	7	2
Burglary	4	5	4	2
Car Break	5	1	2	2
Disorderly	1	1	0	0
Vandalism*	11	5	6	8
Robbery	1	3	0	1
Shoplifting	0	0	0	0
Simple Assault	5	15	10	7
Total	31	37	29	22

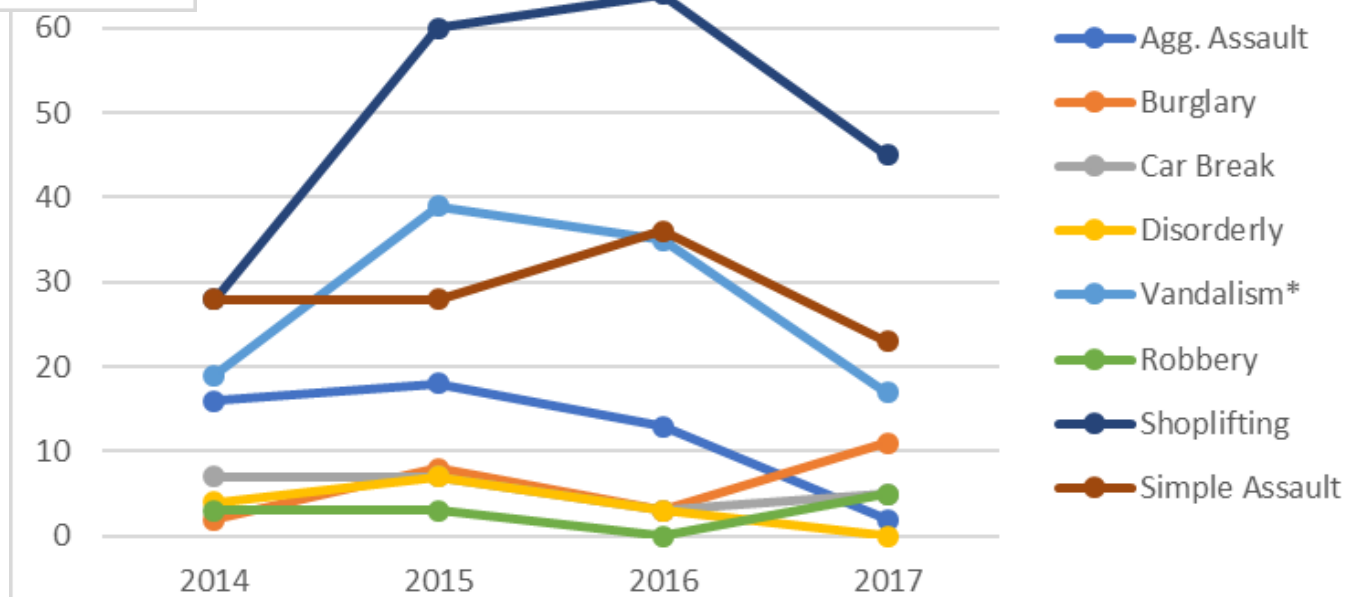Hot Spot 12 Crimes by Type: 2014-2017
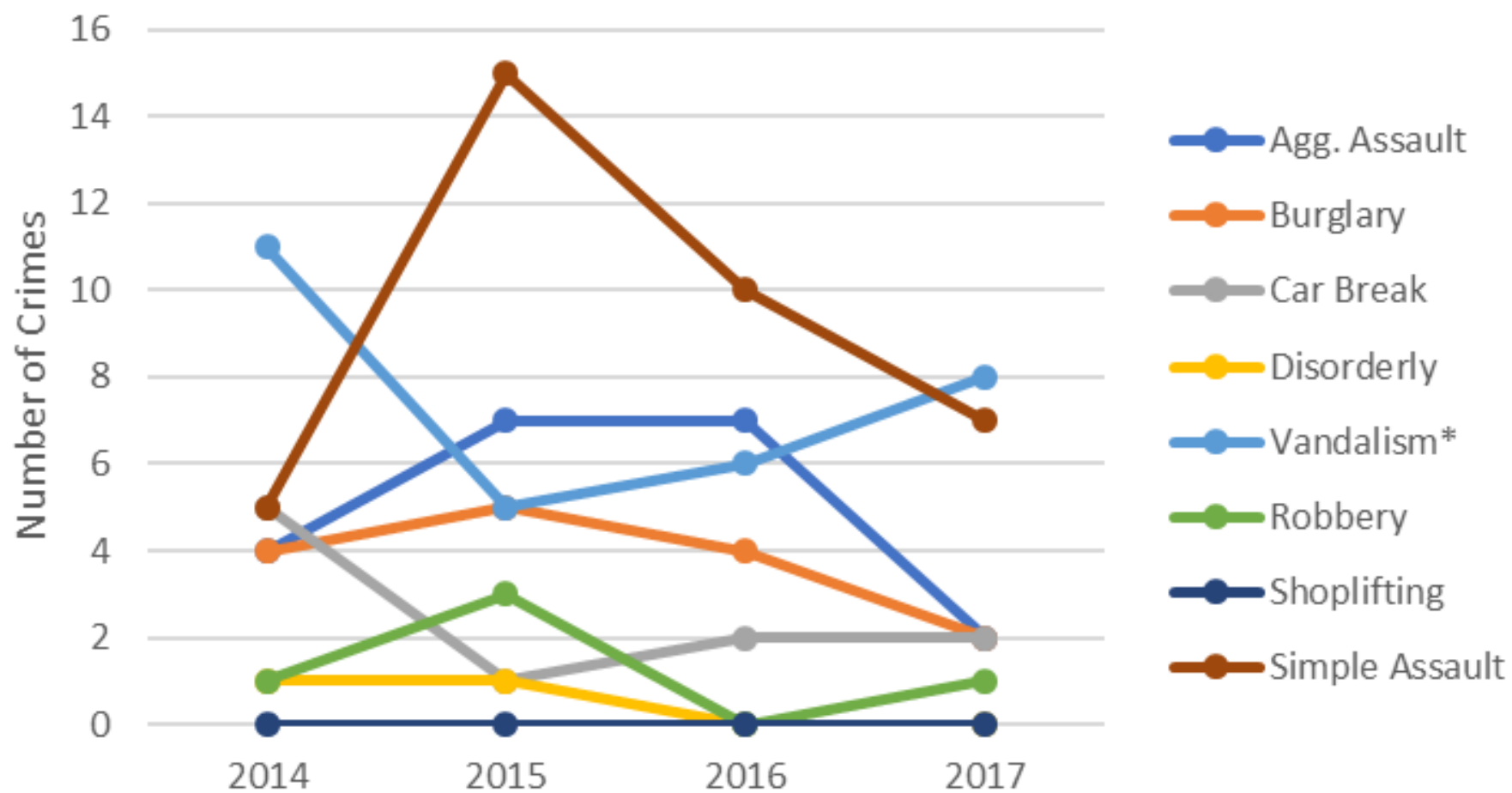
Hot Spot 13: Highlands/ Lower Highlands

Crime	Hotspot 13 Crimes by Type: 2014-2017			
	2014	2015	2016	2017
Agg. Assault	5	6	4	2
Burglary	3	2	4	3
Car Break	7	4	4	2
Disorderly	5	4	1	2
Vandalism*	11	5	9	7
Robbery	4	5	2	4
Shoplifting	10	2	2	3
Simple Assault	12	11	8	2
Total	57	39	34	25

Hot Spot 13 Crime by Type: 2014-2017

Hot Spot 14: Back Central/ Downtown

Crime	Hotspot 14 Crimes by Type: 2014-2017			
	2014	2015	2016	2017
Agg. Assault	10	4	11	9
Burglary	8	4	2	4
Car Break	5	2	8	4
Disorderly	2	3	2	1
Vandalism*	17	12	15	6
Robbery	2	1	2	2
Shoplifting	0	0	0	0
Simple Assault	15	16	13	16
Total	59	42	53	42

Hot Spot 14 Crimes by Type: 2014-2017
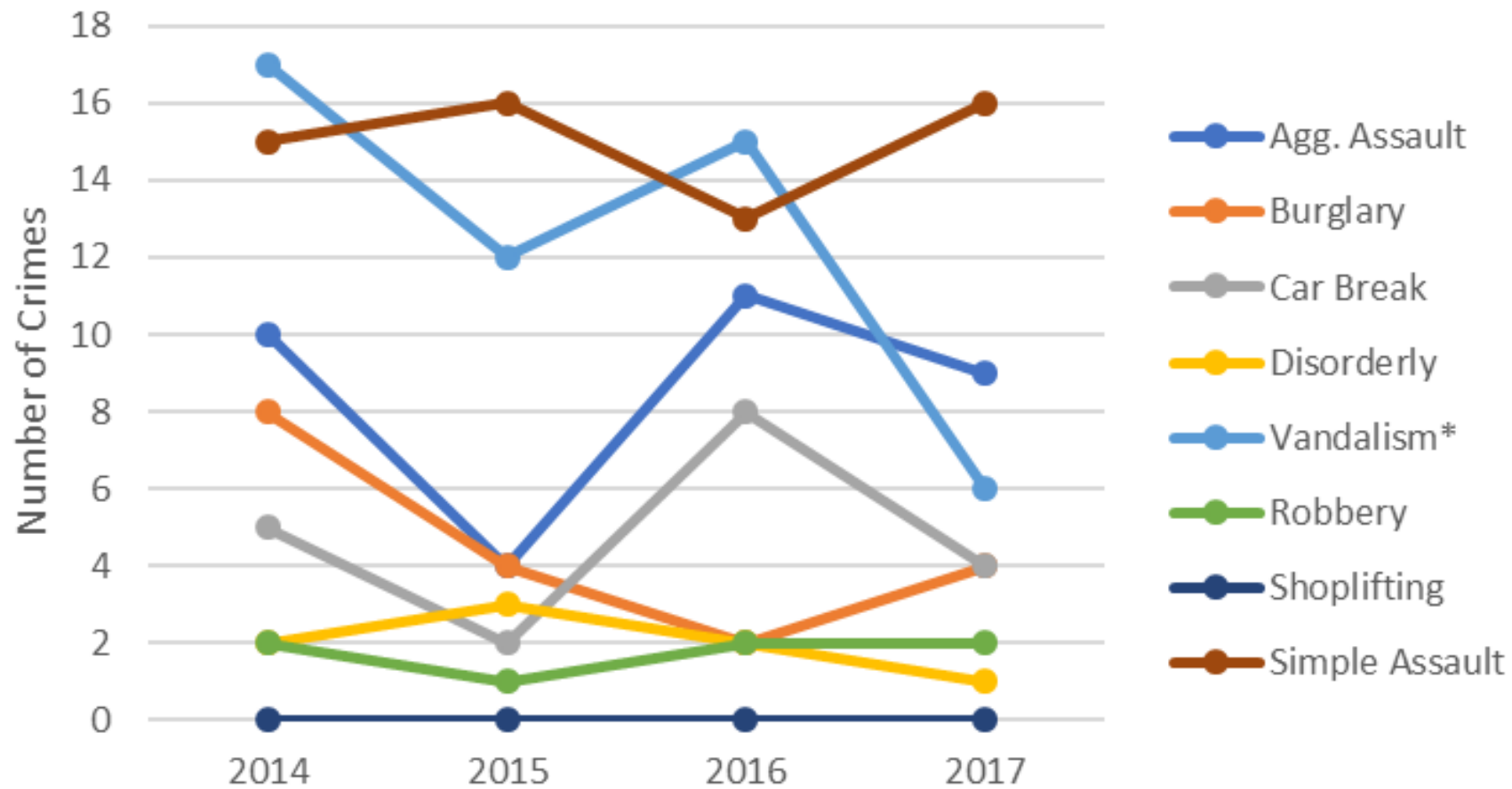
Hot Spot 15: South Lowell

Crime	Hotspot 15 Crimes by Type: 2014-2017			
Crime	2014	2015	2016	2017
Agg. Assault	4	4	6	1
Burglary	3	2	3	3
Car Break	2	3	1	4
Disorderly	0	0	0	1
Vandalism*	8	2	5	2
Robbery	2	1	0	1
Shoplifting	0	0	0	0
Simple Assault	6	6	6	1
Total	25	18	21	13

Hot Spot 15 Crimes by Type: 2014-2017
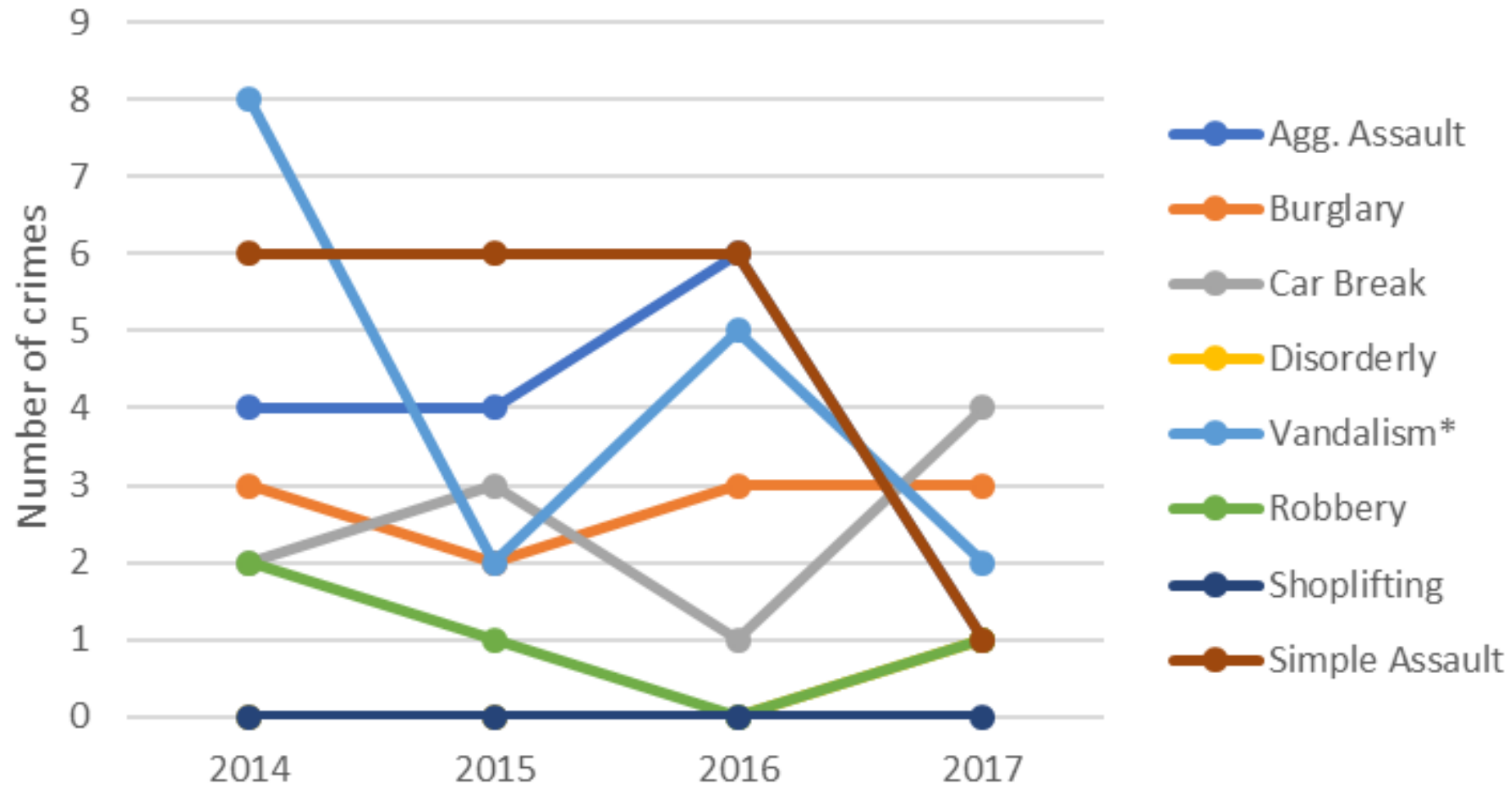
Acre

Acre Non-Hotspot Crimes: 2014-2017					Acre Hotspot Crimes: 2014-2017				
Crime	2014	2015	2016	2017	Crime	2014	2015	2016	2017
Agg. Assault	103	103	78	72	Agg. Assault	16	18	13	2
Burglary	81	61	76	97	Burglary	2	8	3	11
Car Break	75	62	60	84	Car Break	7	7	3	5
Disorderly	47	36	38	32	Disorderly	4	7	3	0
Vandalism*	175	176	166	135	Vandalism*	19	39	35	17
Robbery	26	27	28	32	Robbery	3	3	0	5
Shoplifting	2	1	0	1	Shoplifting	28	60	64	45
Simple Assault	202	166	162	167	Simple Assault	28	28	36	23
Total	711	632	608	620	Total	107	170	157	108

Acre Non-hotspot Crimes: 2014-2017

Legend: Agg. Assault, Burglary, Car Break, Disorderly, Vandalism*, Robbery, Shoplifting, Simple Assault

Acre HotSpot Crimes: 2014-2017

Legend: Agg. Assault, Burglary, Car Break, Disorderly, Vandalism*, Robbery, Shoplifting, Simple Assault

Back Central

Back Central Non-Hotspot Crimes: 2014-2017					Back Central Hotspot Crimes: 2014-2017				
Crime	2014	2015	2016	2017	Crime	2014	2015	2016	2017
Agg. Assault	44	36	60	36	Agg. Assault	19	23	18	23
Burglary	33	26	27	26	Burglary	12	6	6	5
Car Break	31	50	42	14	Car Break	6	6	14	6
Disorderly	13	21	21	18	Disorderly	9	14	8	11
Vandalism*	79	71	85	53	Vandalism*	32	21	33	20
Robbery	12	10	13	10	Robbery	5	10	6	10
Shoplifting	0	2	6	7	Shoplifting	2	1	1	0
Simple Assault	94	90	111	95	Simple Assault	43	55	44	47
Total	306	306	365	259	Total	128	136	130	122

Back Central Non-Hotspot Crimes: 2014-2017

- Agg. Assault
- Burglary
- Car Break
- Disorderly
- Vandalism*
- Robbery
- Shoplifting
- Simple Assault

Back Central Hotspot Crimes: 2014-2017

- Agg. Assault
- Burglary
- Car Break
- Disorderly
- Vandalism*
- Robbery
- Shoplifting
- Simple Assault
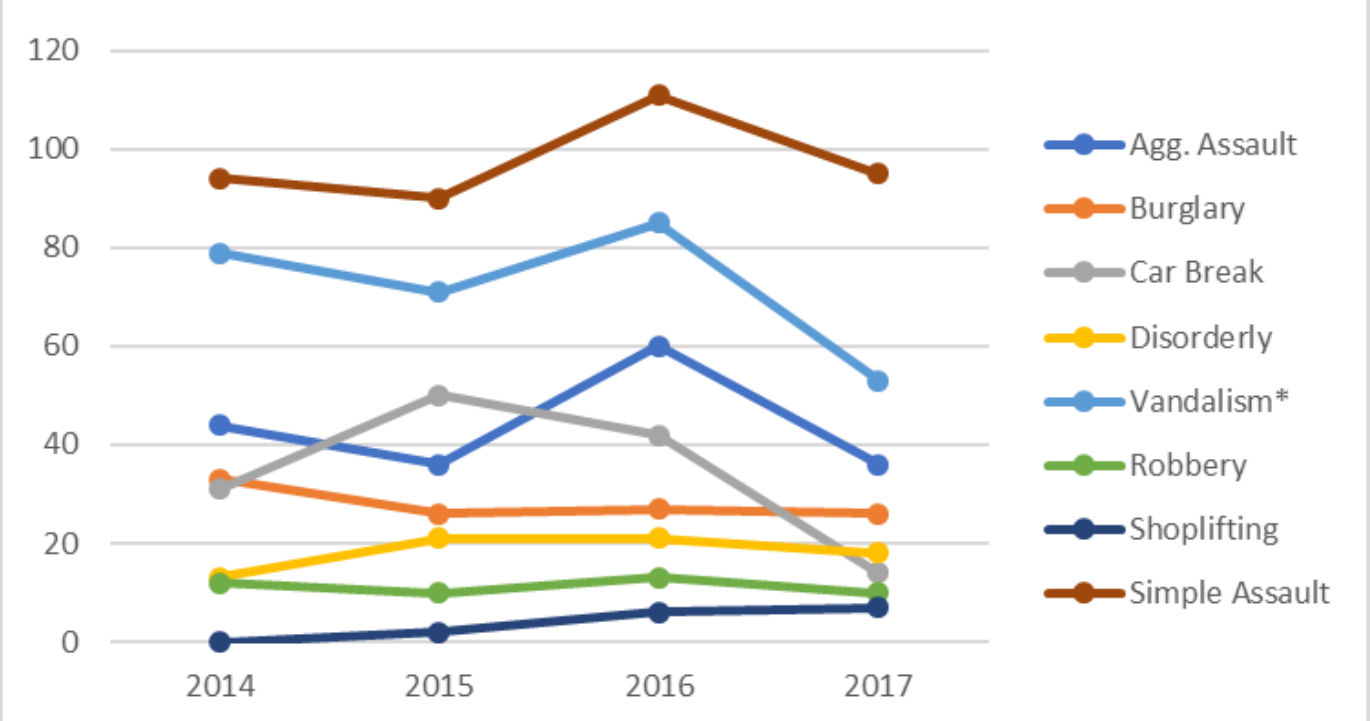
Belvidere

Belvidere Non-Hotspot Crimes: 2014-2017					Belvidere Hotspot Crimes: 2014-2017				
Crime	2014	2015	2016	2017	Crime	2014	2015	2016	2017
Agg. Assault	22	18	18	11	Agg. Assault	4	5	5	0
Burglary	40	26	25	18	Burglary	0	0	0	0
Car Break	49	25	33	27	Car Break	0	0	1	0
Disorderly	13	5	6	3	Disorderly	2	1	0	0
Vandalism*	60	43	63	54	Vandalism*	3	1	2	1
Robbery	6	3	4	5	Robbery	0	0	0	0
Shoplifting	10	10	7	8	Shoplifting	0	0	0	0
Simple Assault	39	41	63	47	Simple Assault	4	5	2	3
Total	239	171	219	173	Total	13	12	10	4

Belvidere Non-Hotspot Crimes: 2014-2017
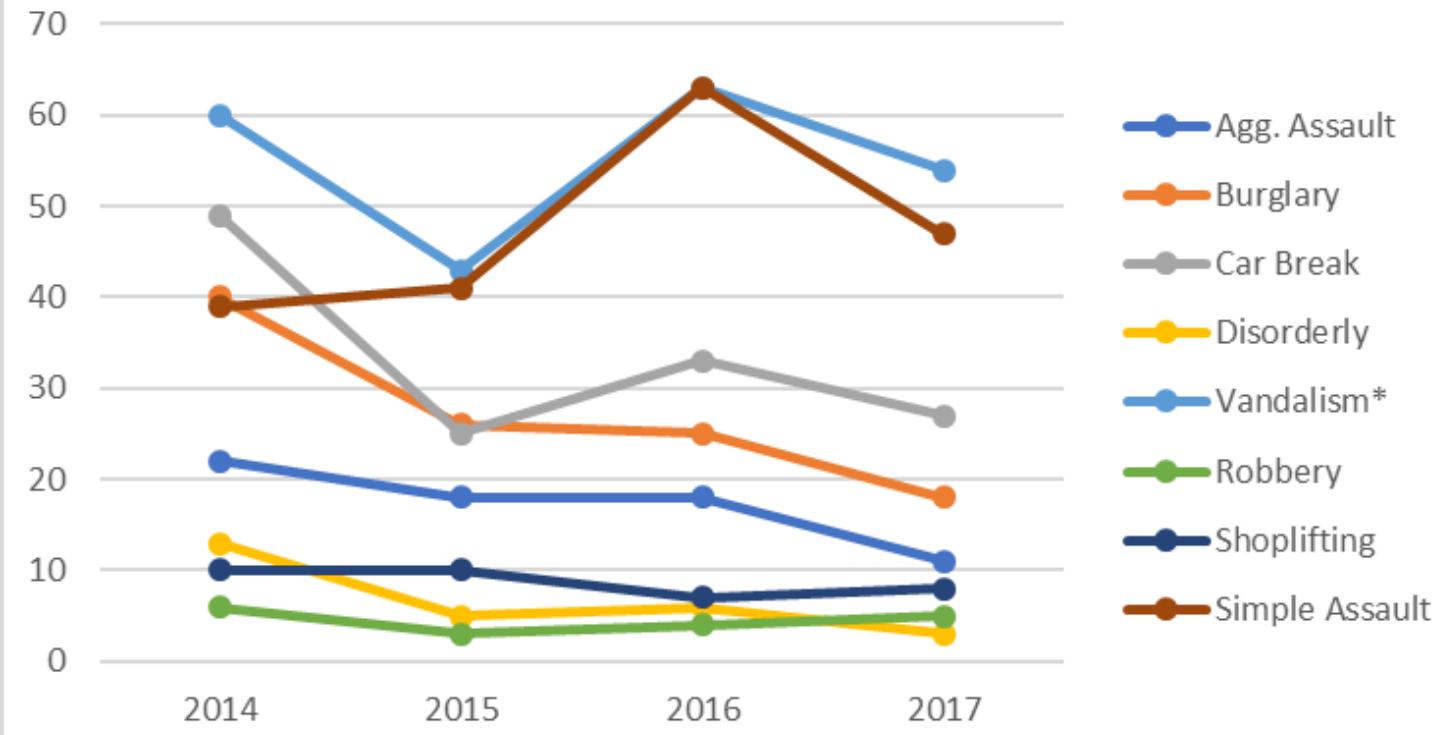
Belvidere Hotspot Crimes: 2014-2017
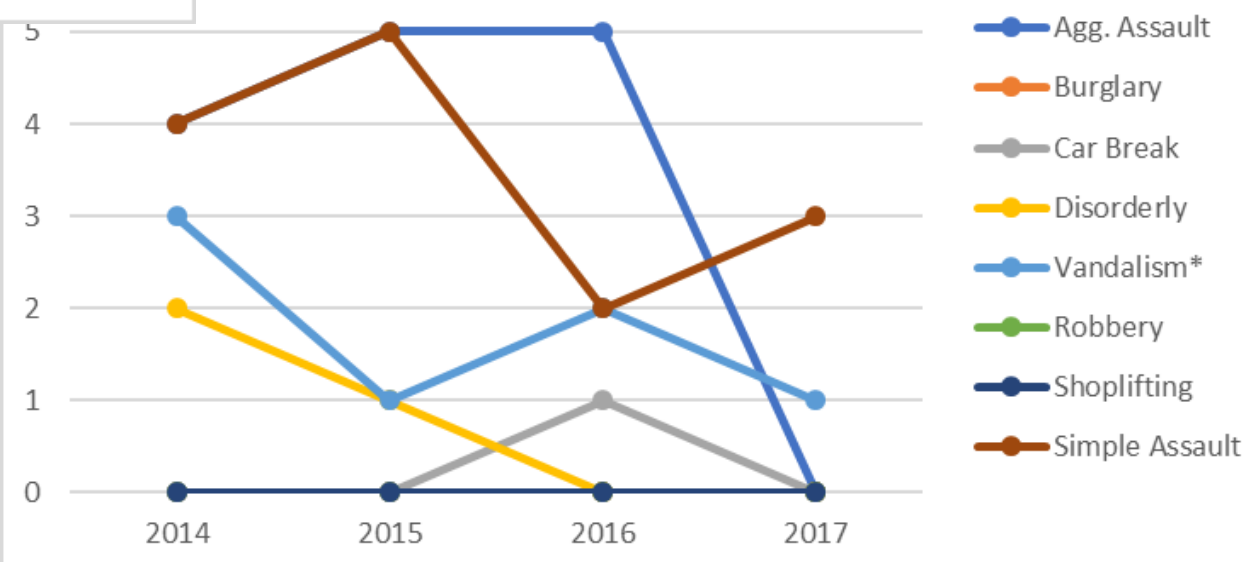
Centralville

Centralville Non-Hotspot Crimes: 2014-2017					Centralville Hotspot Crimes: 2014-2017				
Crime	2014	2015	2016	2017	Crime	2014	2015	2016	2017
Agg. Assault	77	103	77	86	Agg. Assault	43	47	31	34
Burglary	127	77	70	71	Burglary	24	17	20	19
Car Break	124	47	41	62	Car Break	21	12	8	8
Disorderly	31	43	33	36	Disorderly	13	16	13	16
Vandalism*	149	131	161	111	Vandalism*	47	56	63	34
Robbery	22	14	16	12	Robbery	19	7	8	11
Shoplifting	24	24	25	16	Shoplifting	34	23	9	17
Simple Assault	182	195	161	183	Simple Assault	78	79	78	68
Total	736	634	584	577	Total	279	257	230	207

Centralville Non-Hotspot Crimes: 2014-2017

Legend: Agg. Assault, Burglary, Car Break, Disorderly, Vandalism*, Robbery, Shoplifting, Simple Assault

Centralville Hotspot Crimes: 2014-2017

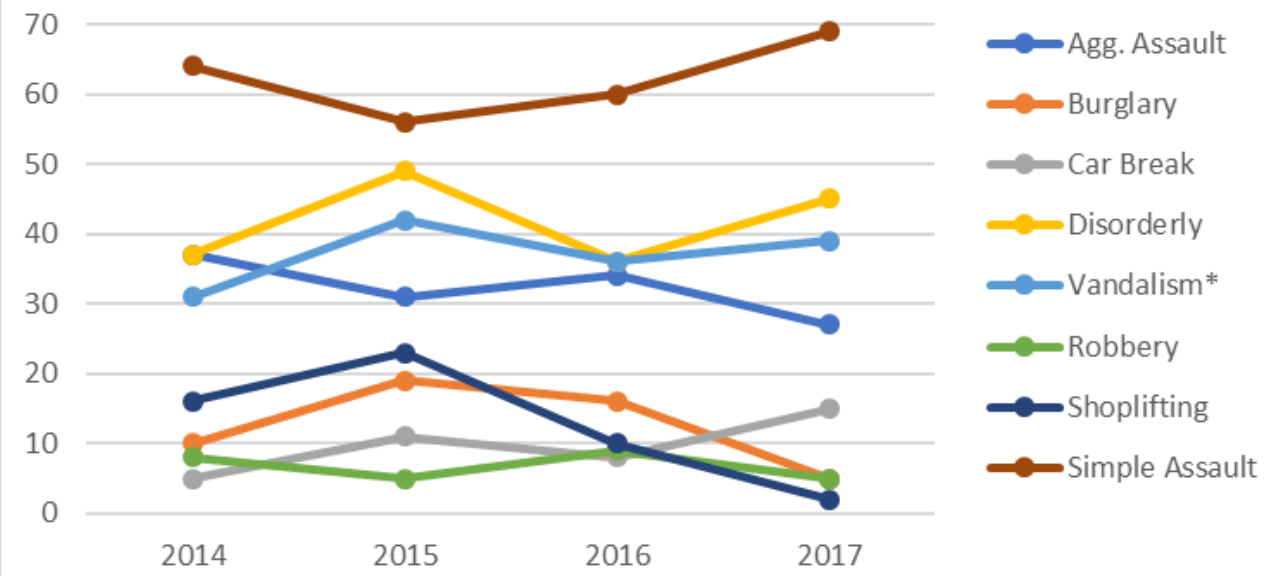Legend: Agg. Assault, Burglary, Car Break, Disorderly, Vandalism*, Robbery, Shoplifting, Simple Assault
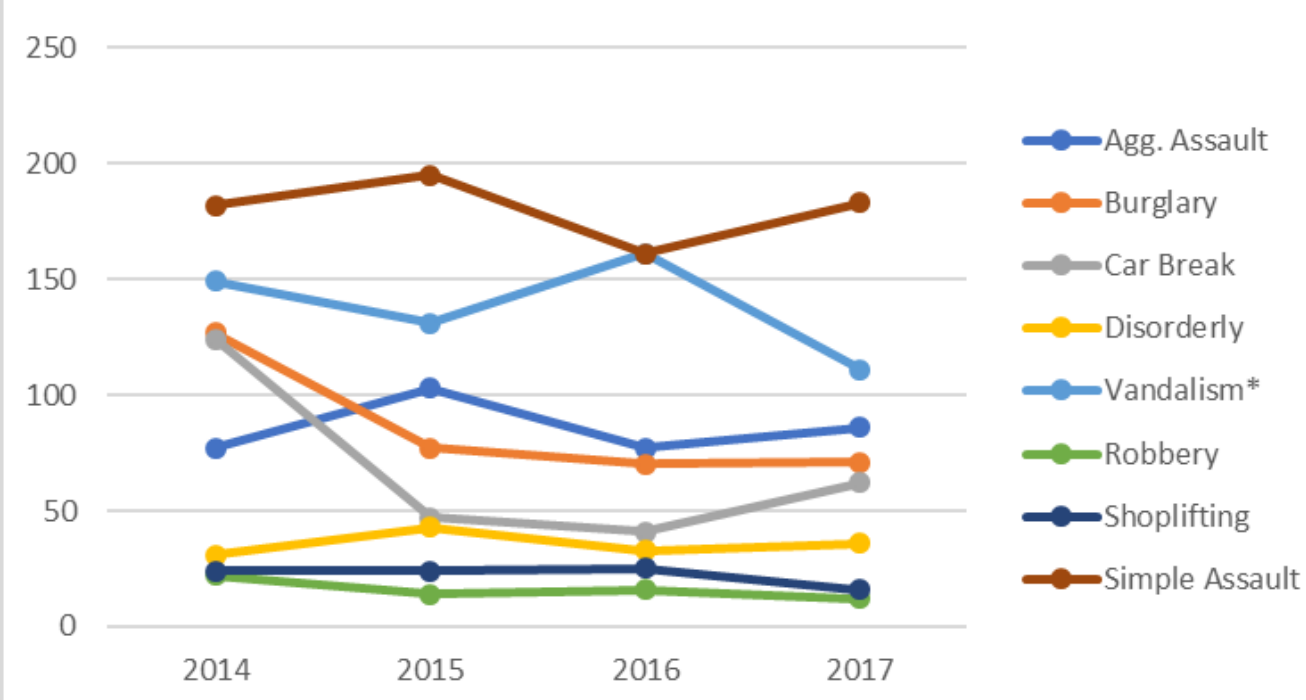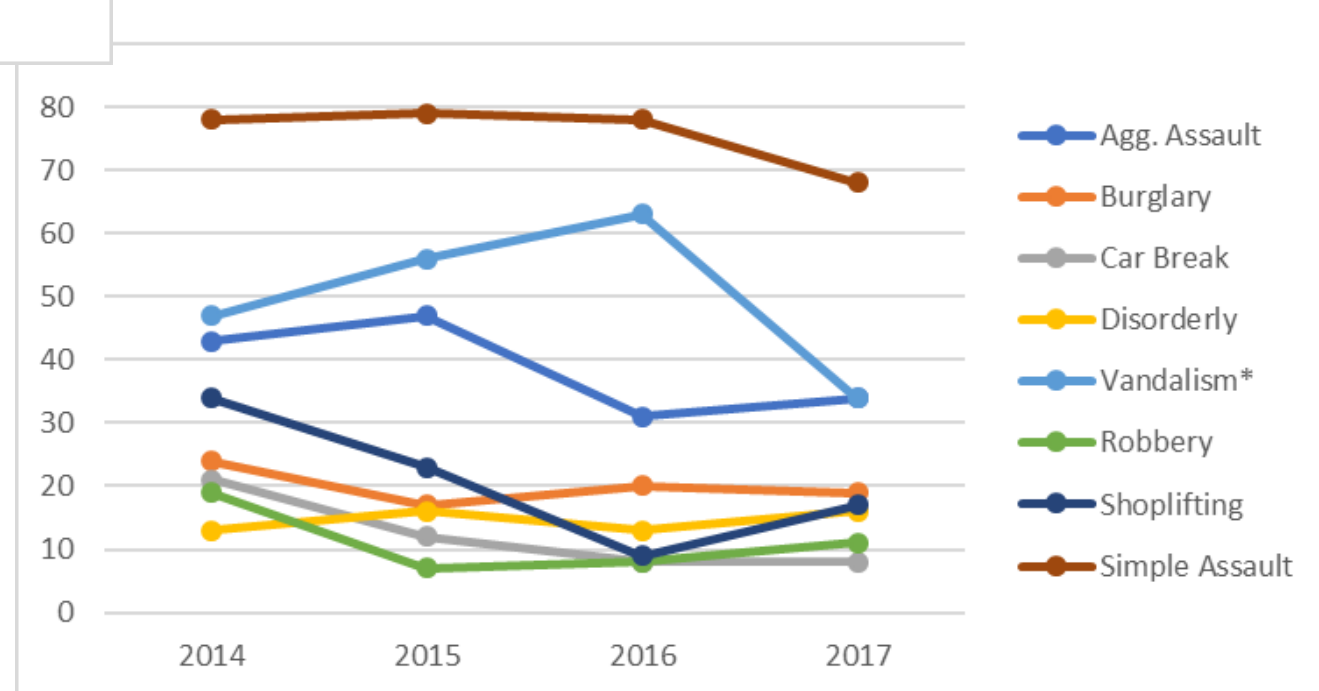
Downtown

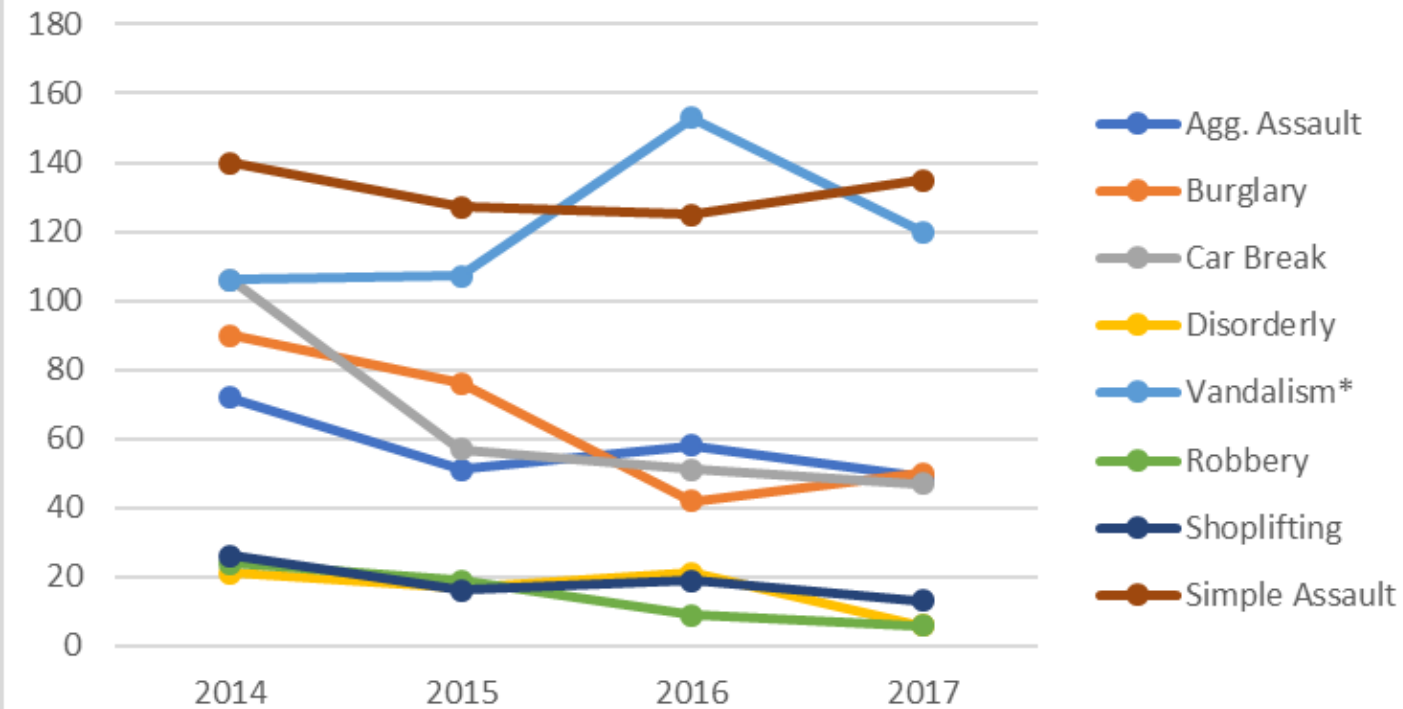|	Downtown Non-Hotspot Crimes: 2014-2017					Downtown Hotspot Crimes: 2014-2017			
Crime	2014	2015	2016	2017	Crime	2014	2015	2016	2017
Agg. Assault	55	60	55	45	Agg. Assault	37	31	34	27
Burglary	31	38	24	45	Burglary	10	19	16	5
Car Break	58	39	62	49	Car Break	5	11	8	15
Disorderly	59	50	57	75	Disorderly	37	49	36	45
Vandalism*	102	90	81	80	Vandalism*	31	42	36	39
Robbery	9	19	19	18	Robbery	8	5	9	5
Shoplifting	19	22	15	13	Shoplifting	16	23	10	2
Simple Assault	99	112	138	124	Simple Assault	64	56	60	69
Total	432	430	451	449	Total	208	236	209	207

Downtown Non-hotspot Crimes: 2014-2017

- Agg. Assault
- Burglary
- Car Break
- Disorderly
- Vandalism*
- Robbery
- Shoplifting
- Simple Assault

Downtown Hotspot Crimes: 2014-2017

- Agg. Assault
- Burglary
- Car Break
- Disorderly
- Vandalism*
- Robbery
- Shoplifting
- Simple Assault
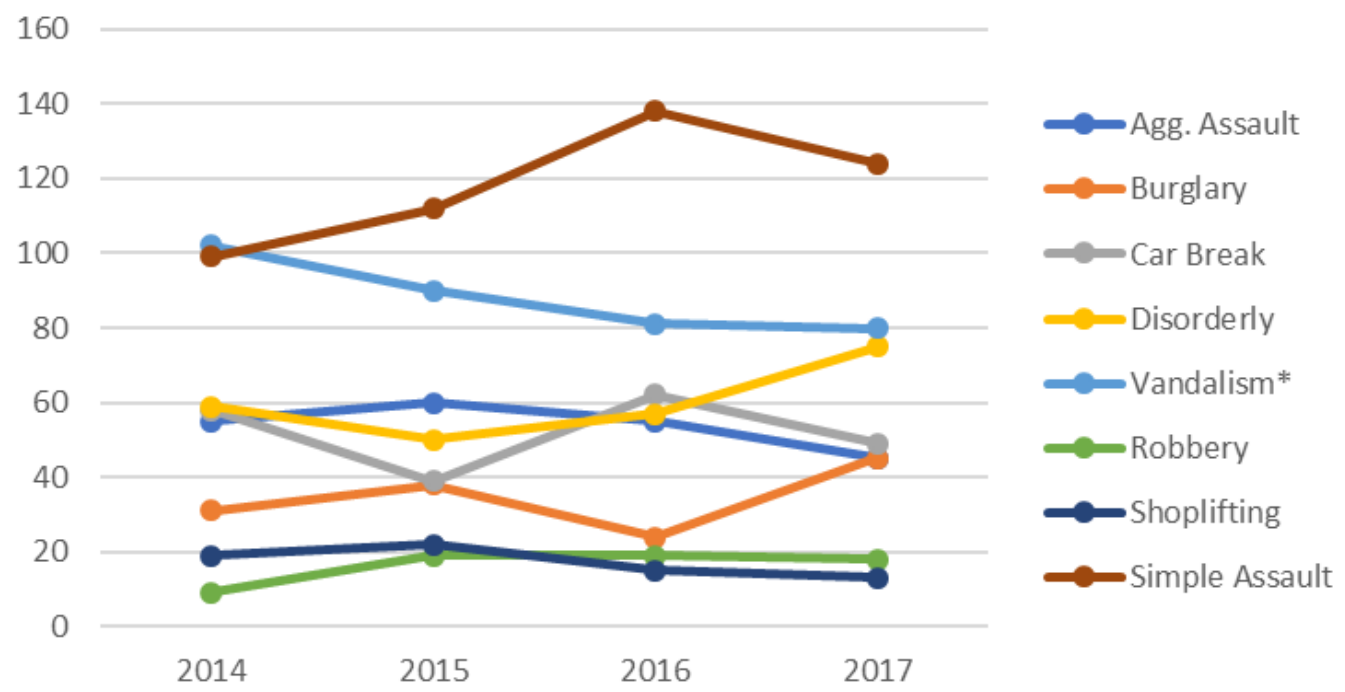
Highlands

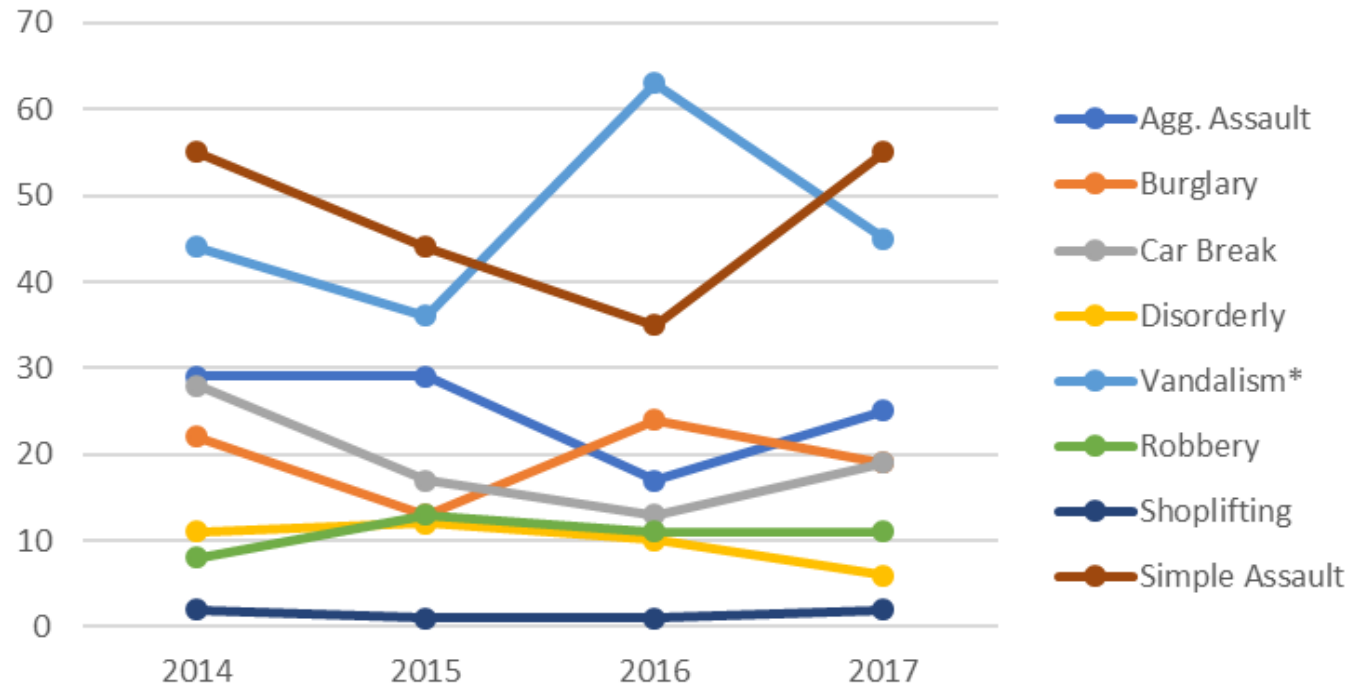| Highlands Non-Hotspot Crimes: 2014-2017						Highlands Hotspot Crimes: 2014-2017			
Crime	2014	2015	2016	2017		Crime	2014	2015	2016	2017
Agg. Assault	72	51	58	49		Agg. Assault	5	7	8	2
Burglary	90	76	42	50		Burglary	3	5	4	2
Car Break	106	57	51	47		Car Break	4	1	2	2
Disorderly	21	17	21	6		Disorderly	1	1	0	0
Vandalism*	106	107	153	120		Vandalism*	11	5	7	8
Robbery	24	19	9	6		Robbery	1	3	0	1
Shoplifting	26	16	19	13		Shoplifting	0	0	0	1
Simple Assault	140	127	125	135		Simple Assault	6	15	9	8
Total	585	470	478	426		Total	31	37	30	24

Highlands Non-hotspot Crimes: 2014-2017
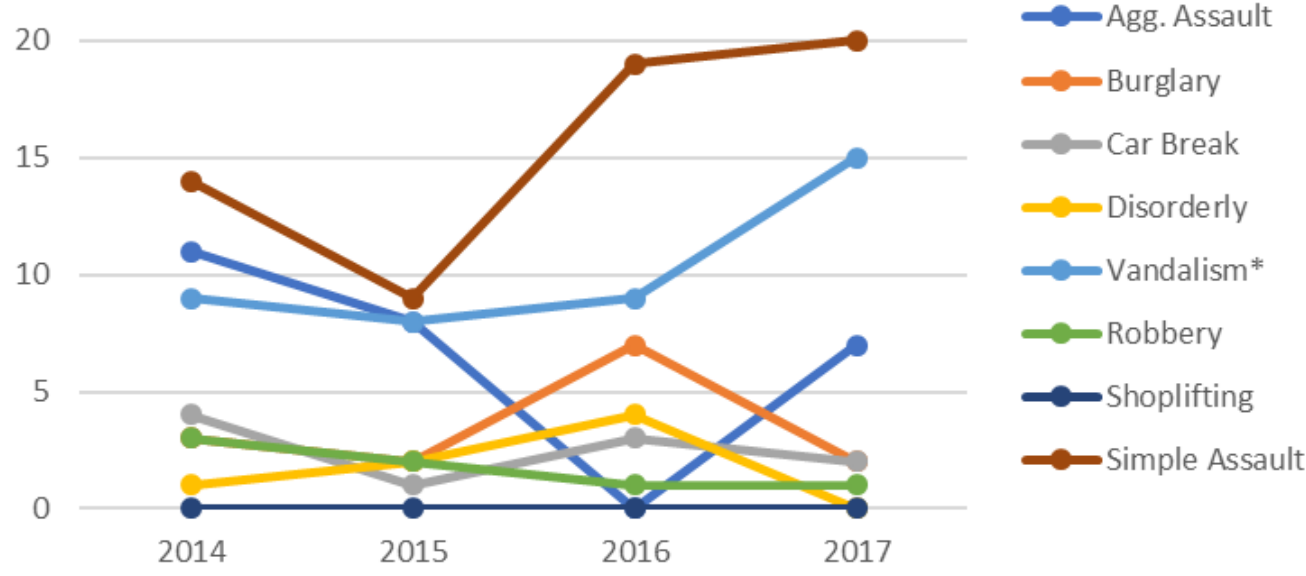
Highlands Hotspot Crimes: 2014-2017
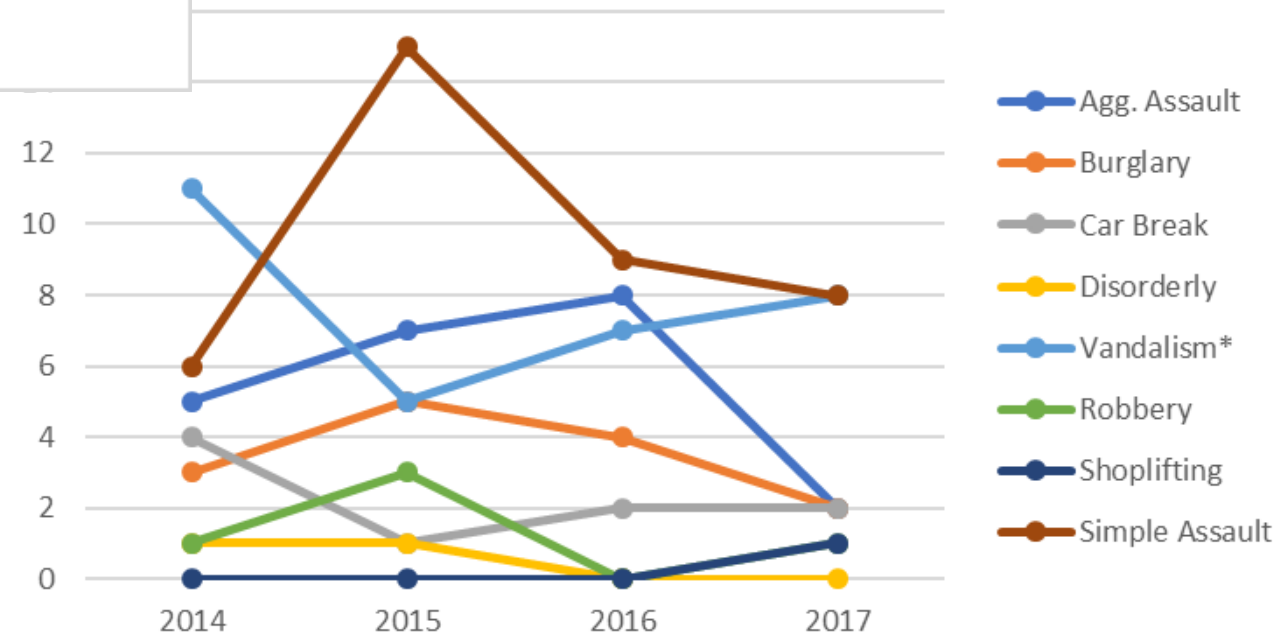
Lower Belvidere

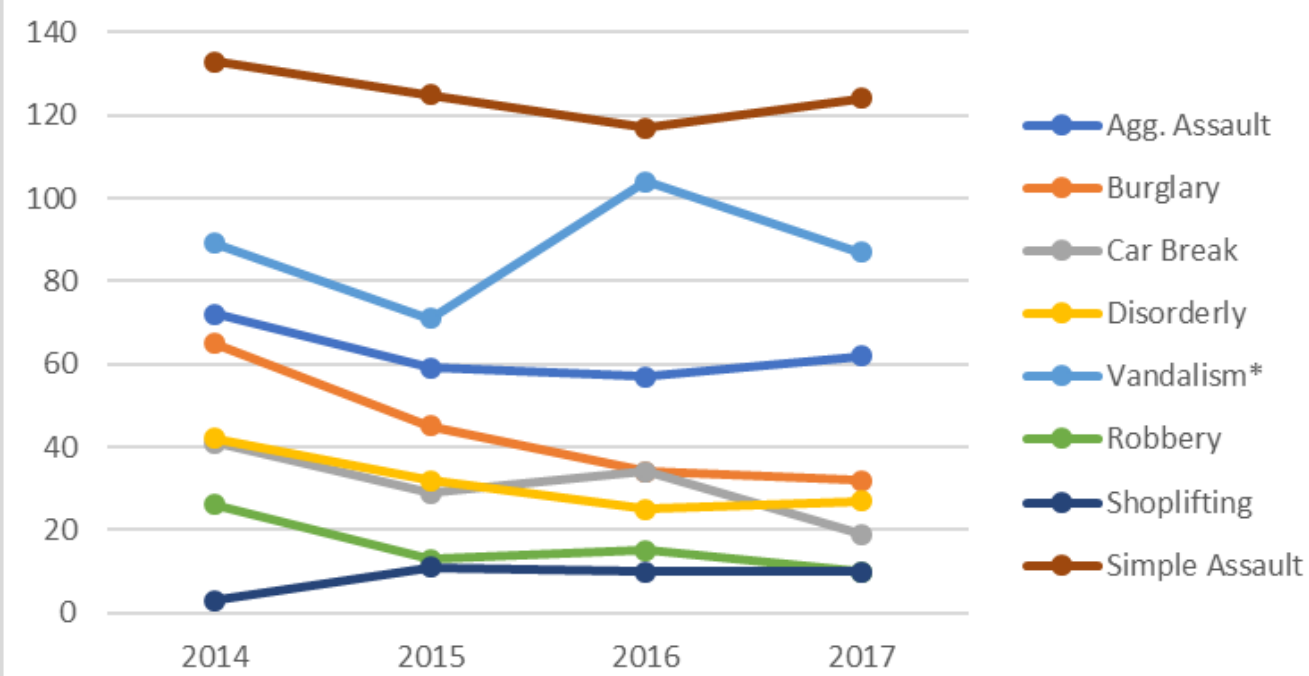| Crime	Lower Belvidere Non-Hotspot Crimes: 2014-2017				Crime	Lower Belvidere Hotspot Crimes: 2014-2017			
	2014	2015	2016	2017		2014	2015	2016	2017
Agg. Assault	29	29	17	25	Agg. Assault	11	8	0	7
Burglary	22	13	24	19	Burglary	3	2	7	2
Car Break	28	17	13	19	Car Break	4	1	3	2
Disorderly	11	12	10	6	Disorderly	1	2	4	0
Vandalism*	44	36	63	45	Vandalism*	9	8	9	15
Robbery	8	13	11	11	Robbery	3	2	1	1
Shoplifting	2	1	1	2	Shoplifting	0	0	0	0
Simple Assault	55	44	35	55	Simple Assault	14	9	19	20
Total	199	165	174	182	Total	45	32	43	47

Lower Belvidere Non-hotspot Crimes: 2014-2017
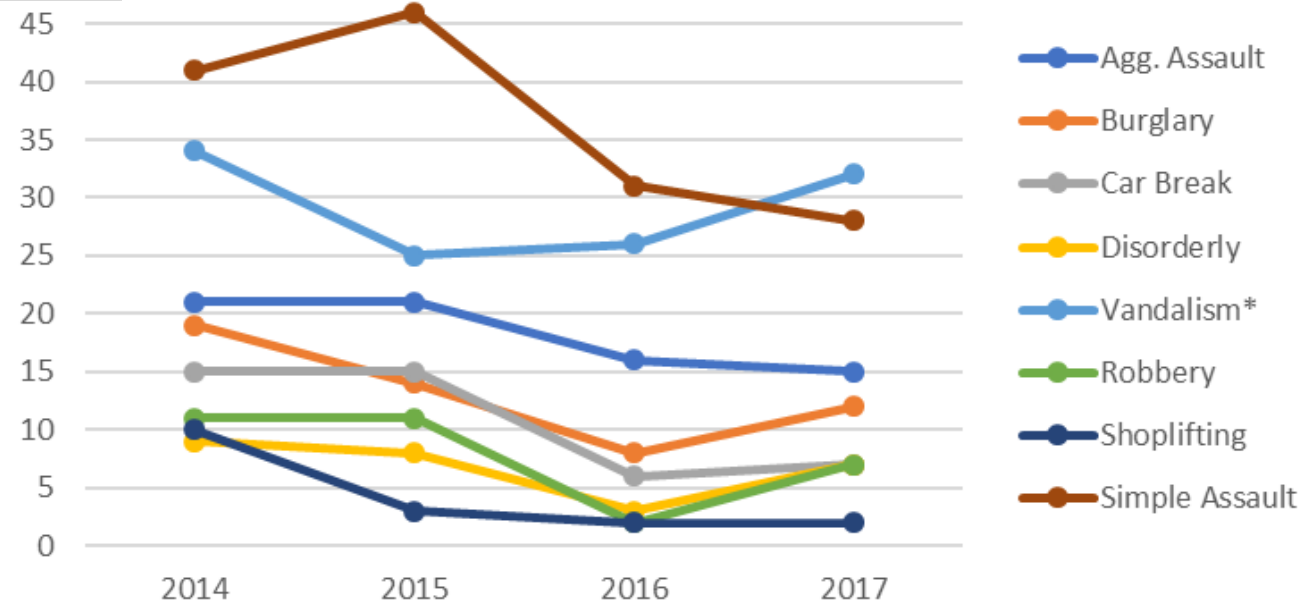
Lower Belvidere HotSpot Crimes: 2014-2017

Lower Highlands

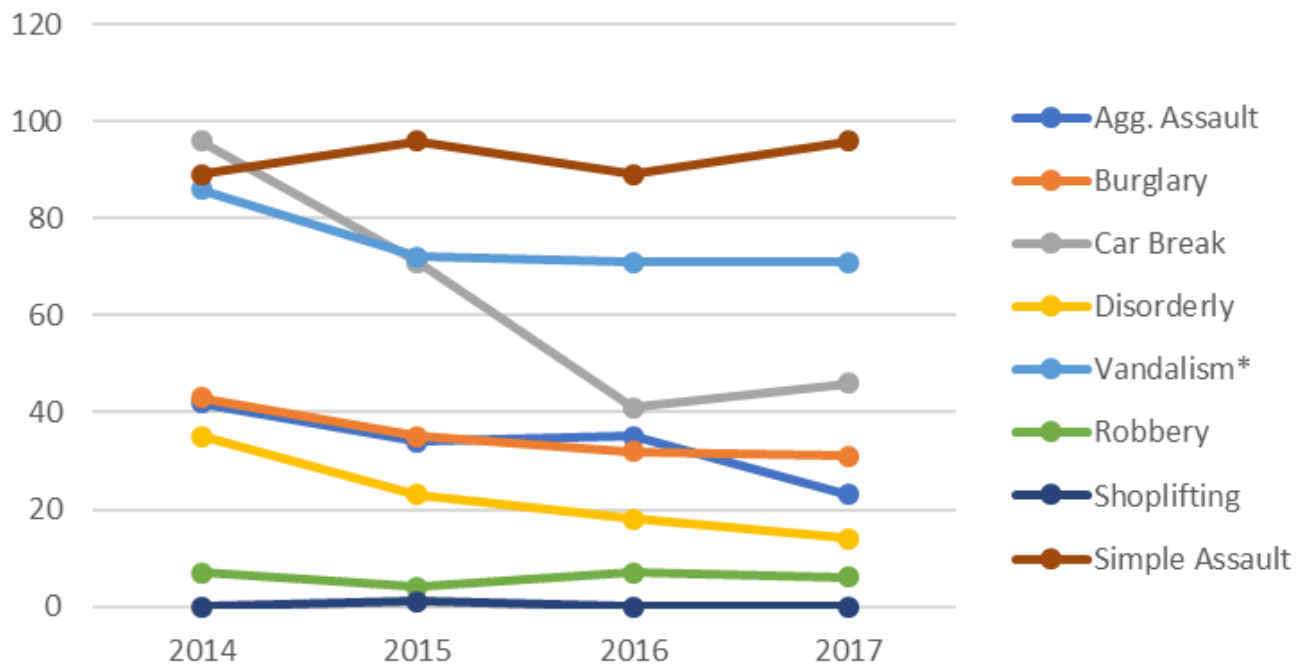| Crime	Lower Highlands Non-Hotspot Crimes: 2014-2017				Crime	Lower Highlands Hotspot Crimes: 2014-2017			
	2014	2015	2016	2017		2014	2015	2016	2017
Agg. Assault	72	59	57	62	Agg. Assault	21	21	16	15
Burglary	65	45	34	32	Burglary	19	14	8	12
Car Break	41	29	34	19	Car Break	15	15	6	7
Disorderly	42	32	25	27	Disorderly	9	8	3	7
Vandalism*	89	71	104	87	Vandalism*	34	25	26	32
Robbery	26	13	15	10	Robbery	11	11	2	7
Shoplifting	3	11	10	10	Shoplifting	10	3	2	2
Simple Assault	133	125	117	124	Simple Assault	41	46	31	28
Total	471	385	396	371	Total	160	143	94	110

Lower Highlands Non-Hotspot Crimes: 2014-2017

Legend:
- Agg. Assault
- Burglary
- Car Break
- Disorderly
- Vandalism*
- Robbery
- Shoplifting
- Simple Assault

Lower Highlands Hotspot Crimes: 2014-2017

Legend:
- Agg. Assault
- Burglary
- Car Break
- Disorderly
- Vandalism*
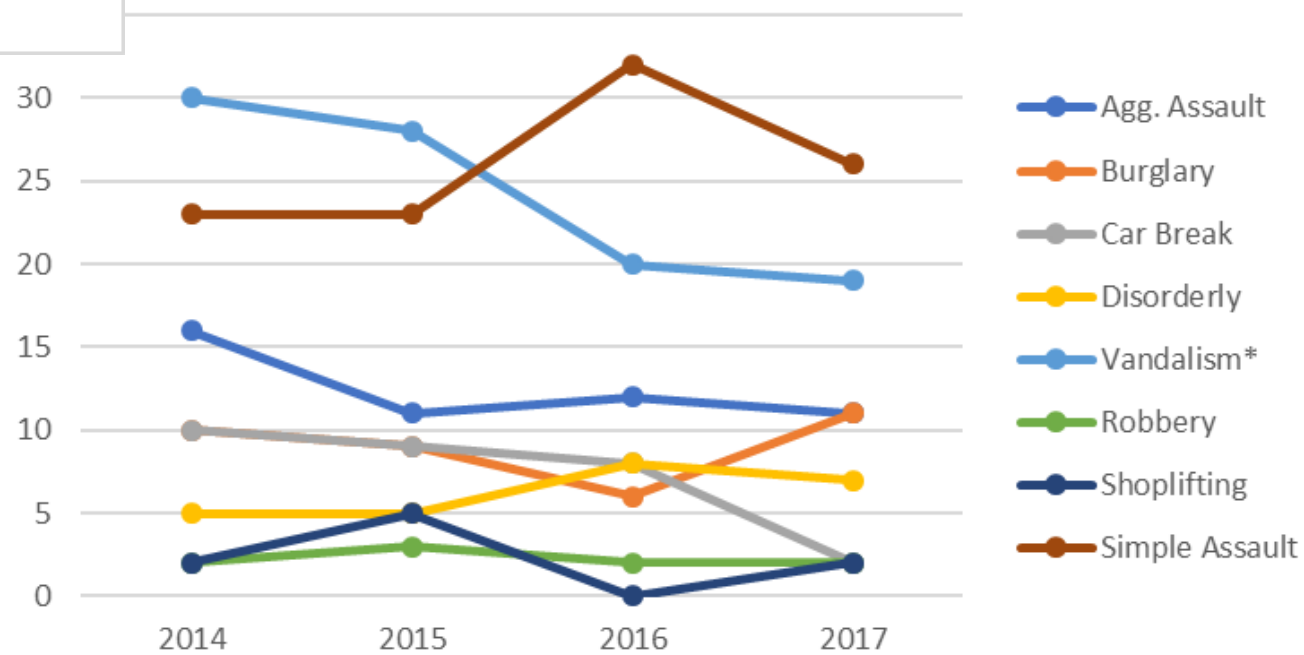- Robbery
- Shoplifting
- Simple Assault

Pawtucketville

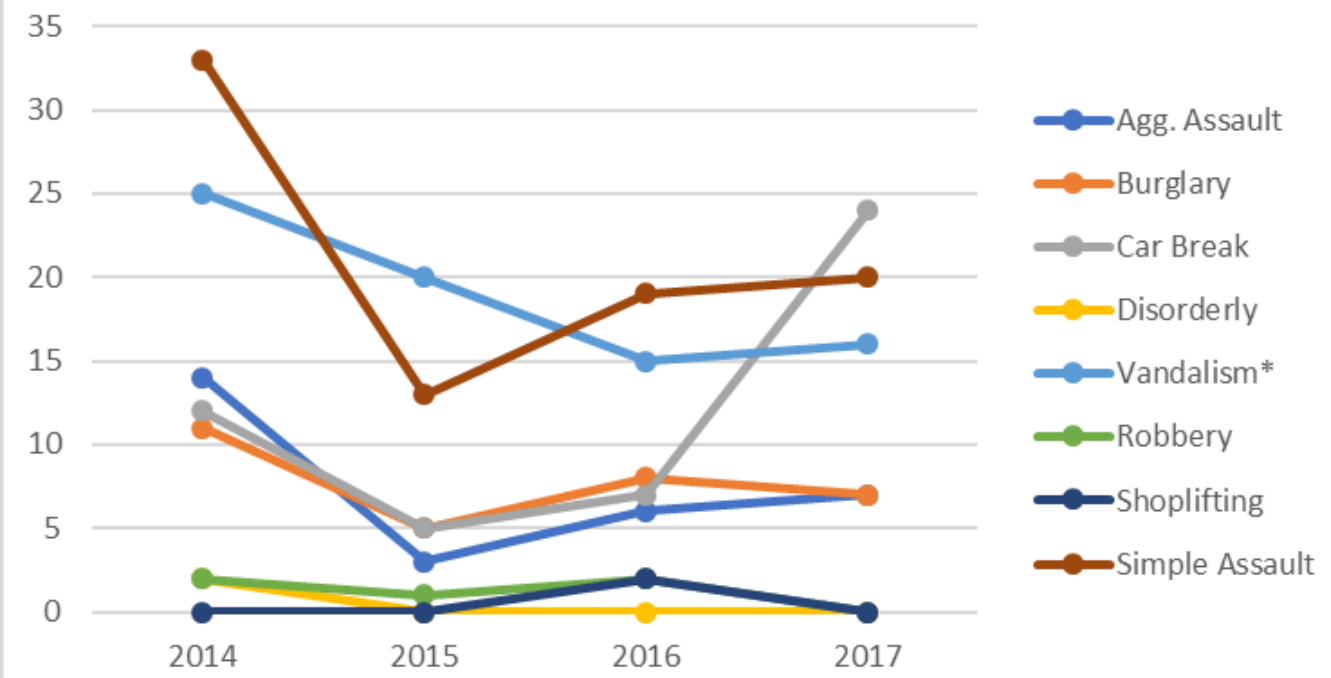| Pawtucketville Non-Hotspot Crimes: 2014-2017					Pawtucketville Hotspot Crimes: 2014-2017				
Crime	2014	2015	2016	2017	Crime	2014	2015	2016	2017
Agg. Assault	42	34	35	23	Agg. Assault	16	11	12	11
Burglary	43	35	32	31	Burglary	10	9	6	11
Car Break	96	71	41	46	Car Break	10	9	8	2
Disorderly	35	23	18	14	Disorderly	5	5	8	7
Vandalism*	86	72	71	71	Vandalism*	30	28	20	19
Robbery	7	4	7	6	Robbery	2	3	2	2
Shoplifting	0	1	0	0	Shoplifting	2	5	0	2
Simple Assault	89	96	89	96	Simple Assault	23	23	32	26
Total	398	336	293	287	Total	98	93	88	80

Pawtucketville Non-Hotspot Crimes: 2014-2017

Legend: Agg. Assault, Burglary, Car Break, Disorderly, Vandalism*, Robbery, Shoplifting, Simple Assault

Pawtucketville Hotspot Crimes: 2014-2017

Legend: Agg. Assault, Burglary, Car Break, Disorderly, Vandalism*, Robbery, Shoplifting, Simple Assault
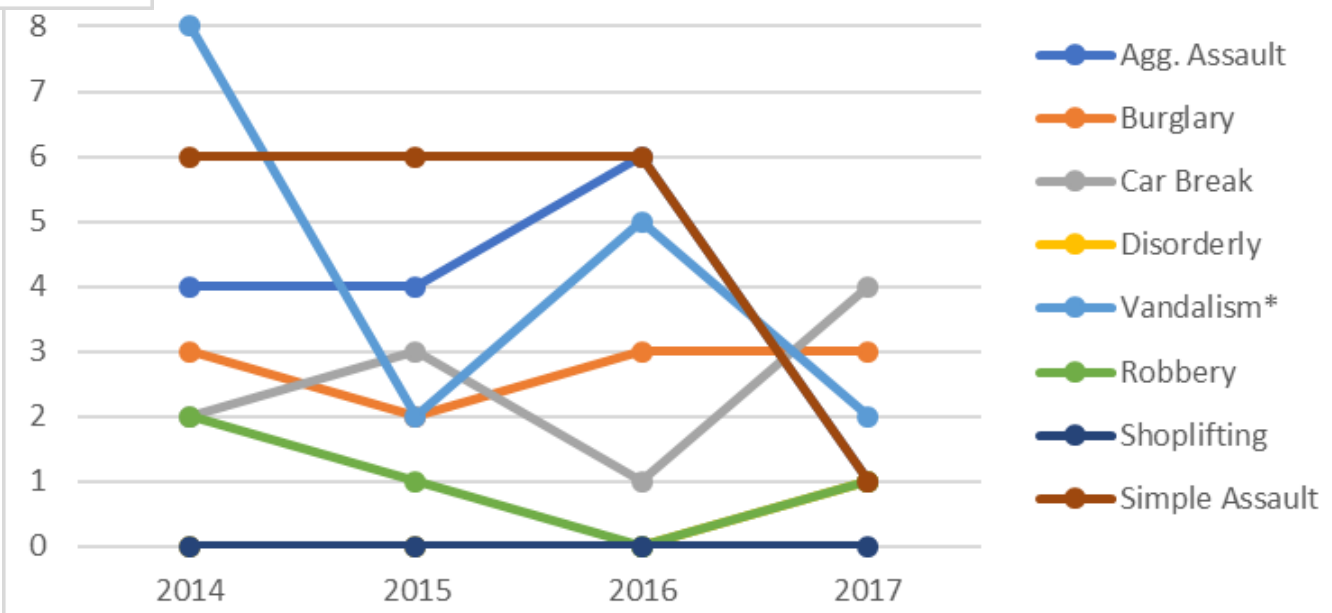
South Lowell

Crime	South Lowell Non-Hotspot Crimes: 2014-2017				Crime	South Lowell Hotspot Crimes: 2014-2017			
	2014	2015	2016	2017		2014	2015	2016	2017
Agg. Assault	14	3	6	7	Agg. Assault	4	4	6	1
Burglary	11	5	8	7	Burglary	3	2	3	3
Car Break	12	5	7	24	Car Break	2	3	1	4
Disorderly	2	0	0	0	Disorderly	0	0	0	1
Vandalism*	25	20	15	16	Vandalism*	8	2	5	2
Robbery	2	1	2	0	Robbery	2	1	0	1
Shoplifting	0	0	2	0	Shoplifting	0	0	0	0
Simple Assault	33	13	19	20	Simple Assault	6	6	6	1
Total	99	47	59	74	Total	25	18	21	13

South Lowell Non-Hotspot Crimes: 2014-2017

South Lowell Hotspot Crimes: 2014-2017

Measuring the impact of organizational change on crime and disorder outcomes:
A process and outcome evaluation

Police organizations have been recognized as one of the most innovative and adaptable arms of
the criminal justice system. The introduction of new policing strategies and the use of data to
inform decision making has become the norm for most modern American police agencies. In the
aftermath of the 2007-2008 economic recession, many police agencies have re-focused their
attention on the adoption of evidence-based practices while also returning to more community-
centered policing activities. This paper reports on a Bureau of Justice Assistance Strategies for
Policing Innovation (SPI) funded study of organizational change introduced to facilitate more
effective place-based and community policing strategies. Organizational change included new
supervision structures, decentralization of crime analysis, creation of new operational teams, and
modifications to the institutions performance measurement and management system. A process
and outcome evaluation were conducted, allowing for the study of organizational change
implementation and strategy outcome measurement. Preliminary insights reveal that
organizational change efforts created positive outputs and outcomes, but that implementation
was more challenging than expected. Results and implications will be discussed.

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Lowell Police Department Reorganization:
Redesigning Place-Based, Community Policing and Crime Analysis Strategies to Crime and Disorder

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PURPOSE

Police Department reorganization with the goal to:

- Reduce Property Crime
- Increase community policing efforts
- Institutionalize problem-solving techniques
- Institutionalize effective place-based crime strategies

Reorganization strategies included:

- Restructuring Patrol Areas
- Decentralizing Crime Intelligence Analysis Unit
- Building a team of District Response Officer's to work with patrol, investigators, and analysts

CASE OF PLACE APPROACH

A new practice created to solve several current challenges facing local police agencies

- Applies a case management approach to problem locations, similar to detective work on individuals of interest

"Systematic investigation and tracking of hot spots to develop problem-solving interventions tailored to specific places" (Koper et al., 2015 p. 242)

- Collaboration among officers, analysts, and leadership on investigating problem locations and implementing tailored interventions

Evidence-based policing matrix

- Repository of evidence-base policing practices, including "Micro-places" and templates for data collection (Lum & Koper, 2017)
- Free, online, and accessible to police departments

Applied similarly in other police departments

- Philadelphia (Ratcliffe et al., 2011), Jacksonville (Taylor et al., 2011) and Los Angeles (Uchida et al., 2012)

STUDY INTERVENTION

Department reorganization efforts began in 2014, which included:

1) Crime Analysis and Intelligence Unit decentralization

Prior: Centralized and rarely worked with officers

Post: Moved to neighborhood precincts and work daily with officers

2) Case of place approach using District Response Officers (DRO's)

Prior: Sporadic, shallow, reactive problem-solving

Post: Systematic, institutionalized evidence-based problem-solving

- Develop tailored evidence-based interventions in specific places
- DRO's and crime analysts conduct in-depth assessment of place-based concerns to inform response
  - This improves the potential for long-term success of crime reduction
- DRO activities include:
  - Patrolling locations
  - Joint enforcement efforts with other services
    - Includes municipal services, social services
  - Field Interviews with citizens who report crimes, victims, community members, & other stakeholders
  - Seeking partners for prevention including community groups, landlords, building managers, and municipal services
    - Help with area monitoring, clean-up, and/or repair

3) Compstat

Prior: Anecdotal data shared on problems and interventions

Post: Proactive, quantified problem-solving

RESULTS

Benefits of the Case of Place Approach

- Leading up to each Compstat, analysts worked with DRO's and supervisors to capture and track crime and incidents of interest
  - Decentralization "increases communication, data sharing, problem-solving, and accessibility to patrol and supervisory staff. It enables 'face-time'"
- Analysts focus locally and are systematically involved in problem-solving
  - Strengthened connection between analysists and officers
- Structural and cultural shifts of the institution began to move the agency towards its organizational priorities as a result of:
  - Focus on problem-solving
  - Enhancing relationship between analysts and officers
- DRO's and analysts have addressed crime at over 100 case of place locations

Reductions in Property Crime

- Overall 29% decrease in property crime since 2013
- Greatest reductions in:
  - Car break-ins: 57% decrease
  - Burglary: 38% decrease
  - Vandalism: 35% decrease
  - Aggravated Assault: 28% decrease
  - Robbery: 28% decrease
 - Disorderly conduct: 23% decrease

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Property Crime In Lowell: 2013-2017
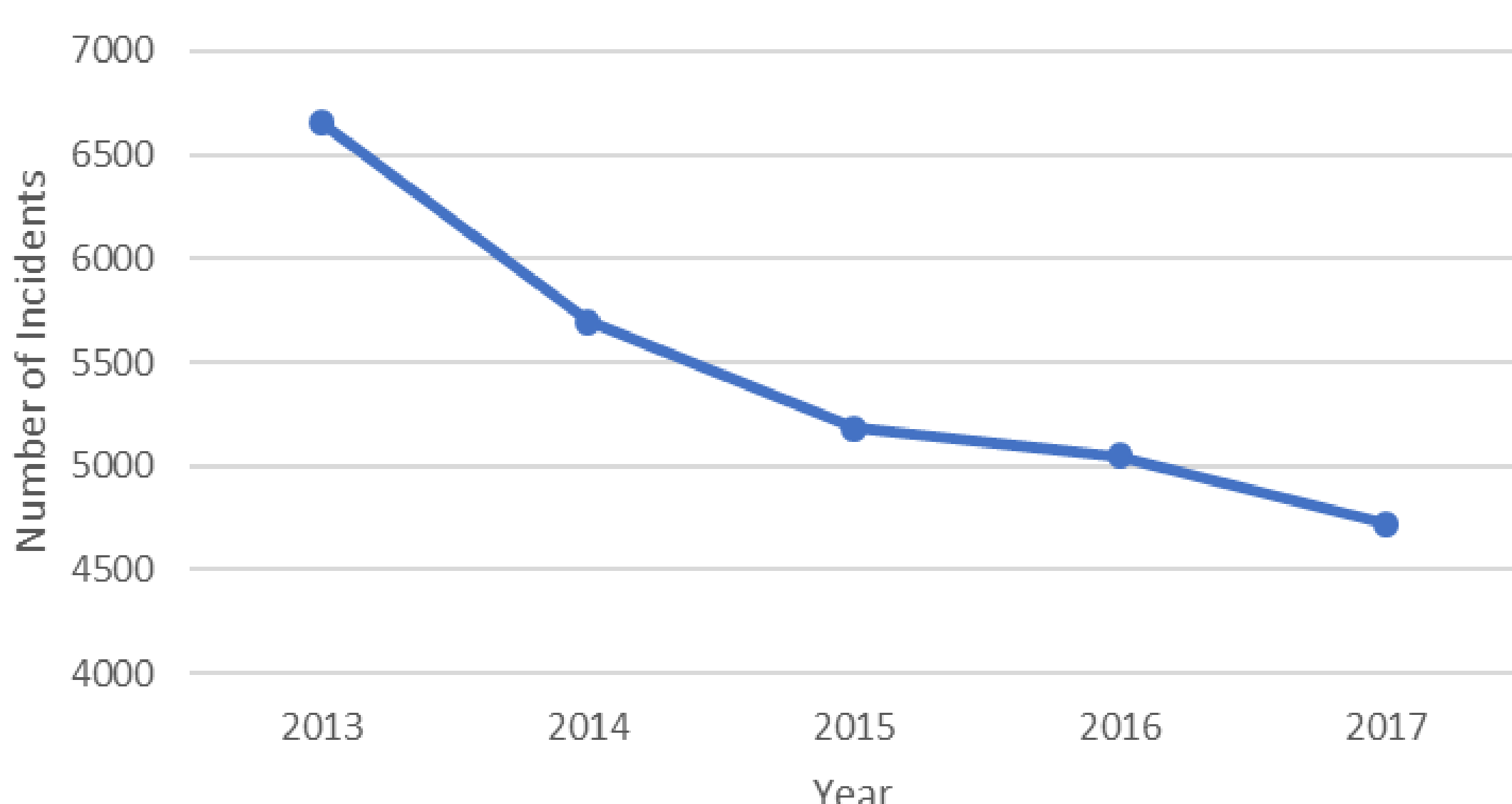
Property Crimes by Type: 2013-2017
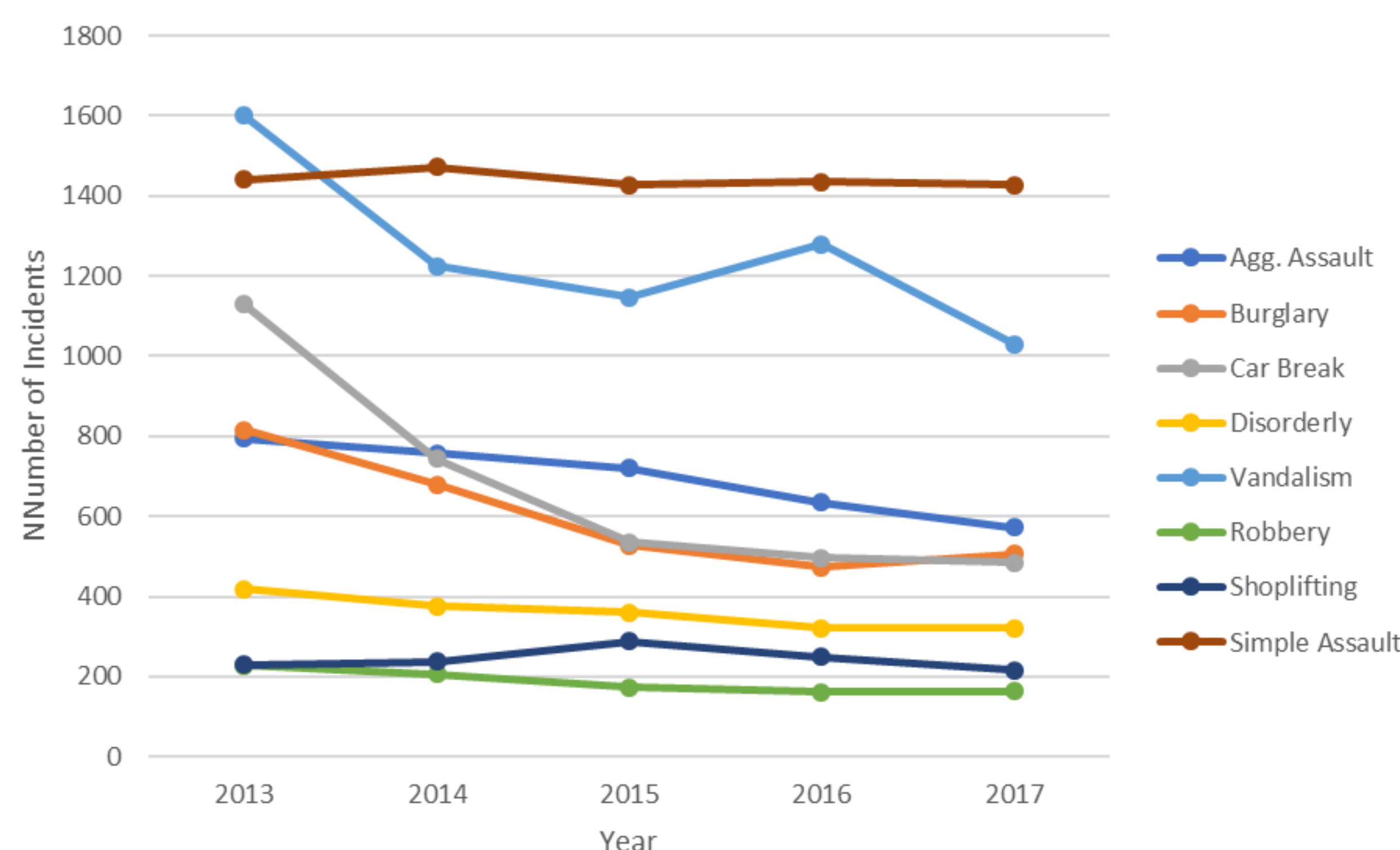
Institutionalizing Place-Based Approaches: Structural and Cultural Challenges in the Adoption of a Case of Place Approach

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Learning with Purpose

Study Overview

▶ Study sought to understand the challenges of adopting a new policing practice

▶ Project focused on a departmental reorganization in a mid-sized urban city (funded by BJA, Strategies for Policing Innovation SPI)
  - Goal: Institutionalize problem-solving and community policing

▶ 2 year intervention included:
  - Decentralize Crime Analysis into Neighborhood Precincts
  - Adopt a Case of Place Approach and District Response Officers
  - Revamp Compstat

▶ Research Methodology – We focus on 1 aspect of a larger, mixed-method research study (case of place)
  - Process (participant observers - Denzin, 1978)
  - Outcome (crime outcomes)

Case of Place Approach

▶ A new practice created to solve several current challenges facing local police agencies

- Applies a case management approach to problem locations, similar to detective work on individuals of interest

▶ "Systematic investigation and tracking of hot spots to develop problem-solving interventions tailored to specific places" (Koper et al., 2015 p. 242)

- Collaboration among officers, analysts, and leadership on investigating problem locations and implementing tailored interventions

▶ Evidence-based policing matrix

- Repository of evidence-base policing practices, including "Micro-places" and templates for data collection (Lum & Koper, 2017)

Literature Review

▶ Place-based policing

  - Crime concentrates within small geographic areas (Braga et al., 2012) and encourages focused police intervention at specific locations or hotspots (Braga & Bond, 2008)

▶ Problem-oriented/Problem-solving policing

  - Proactive model where police identify and target underlying problems that spur crime and disorder (Weisburd et al, 2010)

▶ Adopting place-based and other evidence-based policing strategies is challenging, as police departments remain largely disconnected from science (Weisburd & Neyroud, 2014)

  - Research on translation of empirical evidence and knowledge utilization in policing has garnered less funding and interest (Lum et al., 2012)

Theoretical Framework

Implementation Science

▸ Implementation science assists in understanding how policies are transferred and implemented from one setting to another (O'Toole, 2000)

- May help address concerns of police practitioners regarding transference of lessons (Rosenbaum, 2006)

▸ Practitioners need to know that a strategy works as well as what implementation elements are needed to produce desired outcomes (Pressman & Wildavsky, 1984)

▸ There is a need to know what happens between goal setting and outcomes measurement (CITE NEEDED FROM PAPER)

- Particularly when effectiveness is not achieved

Key Terms (Rabin et al., 2008)

Implementation Science

▶ <u>Implementation</u>: process of applying evidence-based practices into the police agency

▶ <u>Adoption:</u> police agency committing to and beginning evidence-based practices

▶ <u>Institutionalization:</u> extent to which intervention is integrated into organizational culture through policies and practices

Purpose of the Study

▸ Uncover and understand the dynamics of adopting and implementing a new policing approach

- Help understand the experiences of department and individuals going through this reorganization and adoption of new techniques

- Identifies challenges and opportunities for practitioners who adopt, and for future study

- Informs further specification of the Case of Place approach

▸ Research Questions:

- How was the Case of Place approach adopted by the police agency?

- What challenges arose in the adoption of the Case of Place approach?

- What does the future hold for the Case of Place approach?

Data and Methods

▸ Case of Place files (N = 81)

▸ Process notes (N = 19)
  ▸ From meetings with agency staff and program managers

▸ Focus groups with district response officers (N = 30 officers)

▸ Official agency documents (N = 10)
  • Ex. grants, progress reports, official action plan

▸ Interviews with commanders and crime analysts (N = 5)

▸ Compstat observation and presentations (N = 17)

Intervention

1. Crime Analysis and Intelligence Unit (CAIU) decentralization
   - Prior: Centralized and rarely worked with officers
   - Post: Moved to neighborhood precincts and work daily with officers

2. Case of place approach using District Response Officers (DRO's)
   - Prior: Sporadic, shallow, reactive problem-solving
   - Post: Systematic, institutionalized evidence-based problem-solving

3. Compstat
   - Prior: Anecdotal data shared on problems and interventions
   - Post: Proactive, quantified problem-solving

Analytical Approach

▸ Grounded theory (Glaser & Strauss, 1967) used to review and analyze text, searching for recurring themes and patterns across the data sources. A deductive approach was taken to identify themes that had not been previously determined (Patton, 2015).

▸ Researchers utilized content analysis as the primary approach to analyze the data (Patton, 2015).

▸ Researchers then reviewed the literature on adoption and implementation of new practices in policing and implementation, and in organizational change to inform the analysis

Results and Discussion

RQ1: How was the Case of Place approach adopted?

▸ Model (based on literature) presented to key agency actors for review and assessment

▸ Crime analysts worked with Captains, Lieutenants, and DRO's to modify the Case of Place template (Koper, Lum et al) to fit this site

- Created a documentation system to track the cases of place - which was iterative

▸ Researchers had several meetings with this group to talk about the adoption, as well as implementation, and then after a pilot and some refinements, it was integrated into Compstat.

Results and Discussion

RQ2: What challenges arose in the Case of Place approach adoption?

▶ Structural Challenges
- Decentralization of the Crime Analysis and Intelligence Unit (CAIU)
  - Physical relocation took longer than expected
  - New organizational structures between CAIU staff and commanders
- Creating a District Response Officer (DRO) group
  - DRO's often pulled from assignments to fill vacant positions
  - Officers may "bid" out of assignments, which occurred with DROs. Many officers acknowledge this resulted from being pulled off shifts
- New data management and documentation systems
- Revised Compstat
  - Integration of Case of Place approach and new data

Results and Discussion

RQ2: What challenges arose in the Case of Place approach adoption?

▶ Cultural Challenges

- Emphasizing organizational priority of DRO's
  - Creating DRO's signaled importance of this work in achieving org. goals
  - Change in use of resources and officer expectations

- Conflicting patrol and problem-solving priorities
  - Conflicts with district commander/DRO priorities of location-based work
  - Shift commanders have discretion on which positions to pull, thus decisions to pull DRO's is perceived as influenced by priorities and values

- Shifting Compstat's emphasis towards problem-solving
  - Changes communication about problem-solving at problem locations

Results and Discussion

RQ3: What does the future hold for the Case of Place approach?

▶ Benefits of the Case of Place Approach
- Leading up to each Compstat, analysts worked with DRO's and supervisors to capture and track crime and incidents of interest
  - Decentralization "increases communication, data sharing, problem-solving, and accessibility to patrol and supervisory staff. It enables 'face-time'"

- Analysts focus locally and are systematically involved in problem-solving
  - Strengthened connection between analysists and officers

- Structural and cultural shifts of the institution began to move the agency towards its organizational priorities as a result of:
  - Focus on problem-solving
  - Enhancing relationship between analysts and officers

Results and Discussion

RQ3: What does the future hold for the Case of Place approach?

▶ Challenges of the Case of Place Approach
- Structural challenges identified
  - Decentralization of CAIU; Creation DRO group; New data management systems

- Cultural challenges identified
  - Emphasizing organizational priority of DRO's
  - Conflicting patrol and problem-solving priorities
  - Decentralizing CAIU
  - Shifting Compstat's emphasis to problem-solving

Future Directions

Within this Smart Police Initiative

▶ Outcomes-bases analyses with data to assess reductions in crime and effectiveness of the case of place approach
  - Need to assess if the approach was effective
  - Time series analysis, including pre- and post-intervention data

▶ Challenges are not exclusive to the Case of Place approach

▶ Studying implementation of the approach allows examination of:
  - People and their roles, functions, actions, and perceptions of implementation
  - Need to understand what implementation elements influenced desired or unexpected outcomes (Pressman & Wildavsky, 1984)

Conclusions and Implications

▶ Results inform how police practitioners can approach adoption of new practices and evidence-based practices

▶ Practitioners should plan how a new strategy will be adopted, implemented, and monitored
- "We need to have monthly meetings with key agency folks to move forward and monitor how implementation is going"

▶ Value of research on what works in high crime areas is increased with knowledge of how an agency and its representatives adopt and implement the policy and practice changes

Thank You!

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