

**THE FREMONT CORRIDOR INITIATIVE:
CRIME CAMERA AND DIRECTED PATROL IMPACT**

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EXECUTIVE SUMMARY

- The Fremont Corridor Initiative involved directed patrol and other proactive activities within a one square mile area of downtown Las Vegas. The most publicized element of the initiative was the installation of a “crime camera” at 15th and Fremont. This document reports on (1) the impact of directed police patrol on criminal activity in the general intervention area covered by the Fremont Corridor Initiative, and (2) the more specific impact of the crime camera at the intersection of 15th and Fremont.
- Data for this evaluation were drawn from two sources: official reports of police calls for service and data from surveys of residents, businesspersons, and police officers. Using calls for service data, the study examines: (1) levels of crime before and after the intervention, (2) levels of crime between the intervention area and three comparison areas, and (3) whether the intervention “displaced” crime to locations surrounding the camera or to locations surrounding the general intervention area. Using survey data, the study also examines respondents’ opinions of crime, fear of crime, and quality of life since the camera was installed at 15th and Fremont.
- Data from police calls for service indicate a decrease in criminal activity within a one-block radius around the intersection of 15th and Fremont after the crime camera was installed. Specifically, calls at the camera location during the 20-week period of the intervention decreased by just over 7 percent compared to the same 20-week period from the previous year. This drop was driven by the decrease in calls for index offenses (-27.19%). Moreover, there is little evidence to suggest that crime was displaced from the camera location. Calls for service within the camera’s “catchment zone” (the area one would expect displacement to occur) actually decreased substantially, suggesting that the camera produced a “diffusion of benefits” beyond its targeted location.
- Data from surveys of residents, businesspersons, and police officers also suggest that crime decreased at 15th and Fremont after the camera was installed. While some survey respondents indicated that they did not see much change in terms of an increase or decrease in activity, most residents (66.3%), businesspersons (64.3%), and officers (76.5%) generally believe that there is less crime and disorder along Fremont since the Fremont Corridor Initiative began. Very few respondents indicated seeing more criminal activity.
- Calls for service also indicate a decrease in criminal activity in the general intervention area covered by the Fremont Corridor Initiative – with little evidence of displacement. Calls in the intervention area during the 20-week study period decreased by just over 5 percent compared to the same 20-week period from the previous year. Additionally, before-after comparisons of density maps demonstrate that hotspots along Fremont Street and in other parts of the intervention area “cooled off” after the initiative began. Note, however, that calls for service also decreased in the three control areas, suggesting the possibility that the crime decline in the general intervention area was part of a crime reduction trend throughout LVMPD’s jurisdiction.

- Opinions of the camera at 15th and Fremont were positive according to survey data from residents, businesspersons, and officers. Not only was there general consensus that the camera had an impact on crime and disorder, but the majority of residents and businesspersons agreed that the camera improved citizen quality of life, enhanced feelings of safety, and improved police services. Furthermore, most respondents indicated that the city should consider adopting more cameras in public places, and few believe that cameras unnecessarily limit personal privacy.

INTRODUCTION

The following describes an evaluation of a Las Vegas Metropolitan Police Department (LVMPD) initiative designed to reduce crime and disorder along Fremont Street. This “Fremont Corridor Initiative” began in August 2007. Although the initiative involves a number of proactive police tactics spread over several square blocks, the installation of a “crime camera” at 15th and Fremont has become the most publicized element of the effort. This evaluation therefore serves two purposes. First, we examine the impact of directed police patrol on criminal activity in the general area covered by the Fremont Corridor Initiative. Second, we consider the more specific impact of the crime camera at the intersection of 15th and Fremont. For this evaluation, we analyze official data of police calls for service, as well as data from opinion surveys of residents, businesspersons, and police officers.

The use of crime cameras by police has become more widespread across the United States, although video surveillance of public places remains a topic of political and academic discussion. From one perspective, cameras enhance public safety by allowing police to maintain a constant watch over areas known for high crime and disorder. Critics of crime cameras, however, often question the appropriateness of video surveillance as it relates to issues of personal privacy. Critics also argue that evidence of the cameras’ effectiveness at reducing crime is mixed, or that cameras may simply “displace” crime from one place to another.

We begin this report with a brief summary of literature evaluating the effectiveness of CCTV cameras and directed patrol. We then discuss the specific elements of the Fremont Corridor Initiative, followed by a more detailed description of the data and methodology used in the study. We then examine the results of the data analyses before we conclude with the implications of the research.

LITERATURE REVIEW

CLOSED CIRCUIT TELEVISION CAMERAS AND CRIME

Although CCTV cameras are used throughout the world to reduce crime, evidence concerning the effectiveness of this intervention is relatively sparse. Formal evaluations are rarely conducted and, when they are, the findings are often inconclusive. Welsh and Farrington (2002) have conducted the most detailed and systematic study of CCTV evaluations to date. They reviewed 22 scientific evaluations that met basic methodological standards for establishing causality. They reported that half (11) found a decrease, five found no appreciable effect, and five found an increase in crime (one reported inconclusive results). A meta-analysis of the data suggested that these conflicting findings are likely a result of the varying contexts in which the cameras were used. The studies indicate that CCTV tends to have a greater impact on crime in well-defined settings (e.g., subways and parking lots) and produces greater declines in property offenses than violent offenses. While the majority of the reviewed studies took place in the United Kingdom, these findings suggest that cameras can reduce crime under certain conditions.

In the U.S., large urban cities, including Baltimore, Chicago, Los Angeles, New York, San Francisco, and Washington D.C., use CCTV cameras in some capacity to reduce crime in public places. However, published scientific evaluations of CCTV use in urban public areas by U.S. police agencies are not available. Traditionally, evaluations have not been conducted or small research reports were used only by local officials and not disseminated nationally. This trend is changing; San Francisco recently contracted with independent researchers at UC Berkley to evaluate a \$900,000 camera system. The findings are expected to be released this year. The Metropolitan Police in Washington, D.C. have released an internal report suggesting that their neighborhood-based CCTV system has reduced violent crime, helped to stem the growth in

property crime, and has reduced calls for service related to public disorder, drugs, and prostitution (Metropolitan Police Department, 2007).

There are several reasons to expect that CCTV cameras will produce declines in criminal behavior. Theorists have identified nine potential mechanisms that may trigger reductions in crime around cameras:

1. Offenders can be detected and arrested if crime is observed;
2. Offenders may be deterred from criminal behavior if they perceive an elevated risk of apprehension;
3. People may feel safer around the cameras and frequent the area more often, which would increase the level of natural surveillance and thus deter potential offenders;
4. Police can be deployed to assess suspicious situations before they escalate into criminal activity;
5. The camera may inspire law-abiding citizens to help deter crime if they believe the police are taking their neighborhood crime problems seriously;
6. Offenders may believe that cameras reduce the time available to commit crime and be discouraged from committing crimes that require extended time and effort;
7. The presence of the camera may remind citizens to take elementary security precautions, such as locking their car doors and remaining alert;
8. Citizens may feel compelled to take elementary security precautions for fear that they will be seen failing to do so; and
9. More cautious citizens will be attracted to the area under surveillance (e.g., those who are already inclined to lock their doors), thus increasing the overall level of

security in the area (see Armitage, Smyth, & Pease, 1999 for a complete description).

While the above hypotheses imply that CCTV can directly and indirectly prevent criminal behavior, there are at least two reasons why reductions in crime may not occur. First, individuals may not be aware of the presence of the cameras. Second, there is some evidence to suggest that offenders under the influence of alcohol or drugs may not care or understand that they are being watched (Ratcliffe, 2006).

In addition to reducing crime, CCTV cameras can produce other positive outcomes such as reduced fear of crime, additional evidence for police investigations, faster provision of medical assistance, better place management and oversight (e.g., monitor traffic, deploy only the appropriate level of response), increased intelligence gathering, and decreases in more serious crime or crime in surrounding areas – also known as diffusion of benefits (Clarke & Weisburd, 1994; Ratcliffe, 2006). Conversely, there can be unintended consequences including crime displacement, increased suspicion or fear of crime among residents and business owners, issues related to privacy concerns and violations, and increases in crime reporting (Ratcliffe, 2006).¹

DIRECTED PATROL ACTIVITY AND CRIME

Scholars have often debated the effectiveness of police patrol in terms of its value for crime prevention. The Kansas City Preventive Patrol Experiment (Kelling, Pate, Dieckman, & Brown, 1974) was among the first studies to examine the relationship between patrol and criminal activity. The primary result of the study – that random preventive patrol had little impact on crime – has often been misinterpreted among academics to mean that police patrol

¹ Increased crime reporting is often a desired outcome; however, this can bias evaluation results.

cannot be effective. Random preventive patrol – the dominant police strategy during much of the 20th Century – assumes that police response to calls for service will improve if officers in automobiles are randomly distributed within a jurisdiction. While the Kansas City experiment concluded that *random* patrol does not have a significant impact on crime, it did not conclude that patrol cannot be effective if properly implemented.

Indeed, more recent research indicates that police patrol can be effective when conducted in a more *directed* fashion. Sherman and Weisburd (1995), for example, demonstrate that when patrol is systematically directed at high crime locations it has a measurable impact on both serious crime and disorder at those locations. Directed patrol is often associated with the identification of crime “hotspots” – the small number of street addresses and intersections that produce a disproportionately high amount of calls for police service (Pierce, Spaar, & Briggs, 1984; Sherman, 1989). Patrol officers, properly directed to hotspots, can serve as a deterrent to criminal activity, particularly if they employ proactive, problem-solving techniques (Weisburd & Green, 1995).

THE CURRENT INITIATIVE

The Las Vegas Metropolitan Police Department (LVMPD) is using a combination of both CCTV and increased directed patrol to address crime in downtown Las Vegas. Crime statistics indicate that criminal activity is heavily concentrated along and around the Fremont Street corridor. One of the most problematic locations along the Fremont corridor is the intersection of 15th Street and Fremont Street. This intersection is a known hotspot for prostitution, narcotics, gang-related activities, and robberies. In the past, police have used a variety of crime reduction efforts at this location. In addition to increased patrol, previous crime reduction strategies have included: (1) application of nuisance abatement ordinances against property owners who facilitate criminal activity, (2) implementation of Crime Prevention Through Environmental Design (CPTED) building principles at hotels/motels, businesses, and apartments, and (3) meetings with business owners and citizens to encourage community action and assistance.

In an effort to further address the high level of crime and reduce the risk of victimization along the Fremont corridor, a CCTV camera was installed by LVMPD at the southeast corner of 15th Street and Fremont Street. A pilot project was initiated to evaluate the available camera technology and assess the impact of the camera on crime. The CCTV equipment used throughout the pilot project was donated by three vendors: Montel Technologies (DBA SecureCore), RMS Technology Solutions, Inc., and ESI Companies, Inc. One camera system from each vendor was installed and operated at 15th and Fremont for a period of approximately 45 days. The pilot project began on August 8, 2007, and ended on December 21, 2007.²

The three camera systems varied slightly. However, all systems had color picture, enhanced night vision, pan-tilt-zoom (PTZ) features, recording capabilities, and wireless feed to

² The last vendor donated a camera to the city. It remains in operation at the corner of 15th Street and Fremont Street.

a remote viewing station (see Figure 1). The first two cameras had a light bar with blue and red flashing lights (see Figure 2). The cameras were semi-covert; they were visible but were mounted in a protective, darkened dome that made it difficult to determine which direction the camera was pointing.

FIGURE 1. Picture of remote viewing station at initial installation



FIGURE 2. Pictures of cameras installed at 15th Street and Fremont Street

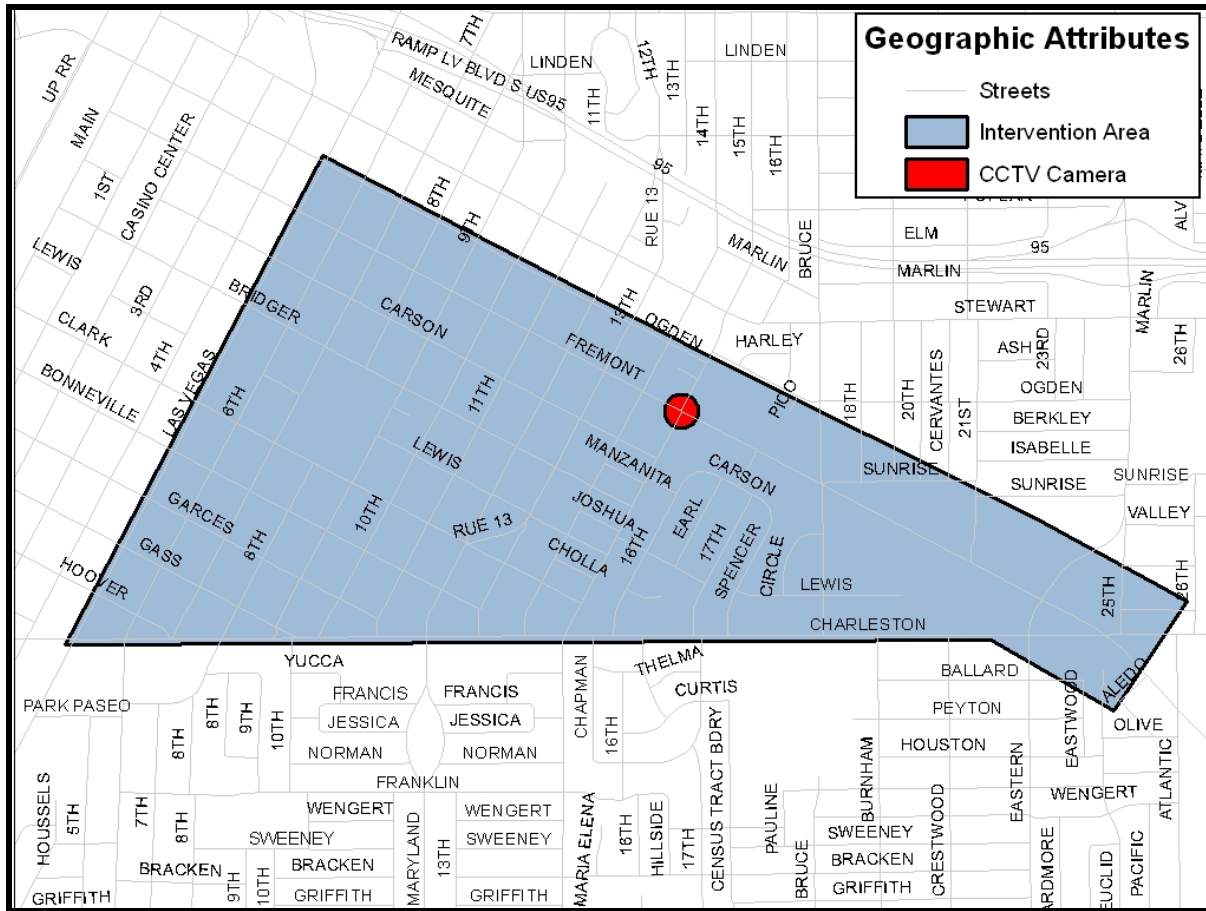


LVMPD used both an active system – a person sits and monitors the camera feed in real time and reports criminal activity to patrol officers, and a passive system – recording devices capture images that can be replayed if a crime is reported. The cameras were monitored by police

officers and other trained volunteers from a central viewing station located at the Downtown Area Command.

The literature suggests that prevention efforts can displace crime from one location to another (see Barr & Pease, 1990). In anticipation of this phenomenon, LVMPD developed a broader crime reduction strategy, the Fremont Corridor Initiative, to block opportunities for criminal activity beyond the CCTV camera location. The geographic boundaries of this initiative are displayed in Figure 3. Within the intervention area, four hours of directed patrol activity were added to both swing and day shifts. In addition to the increase in directed patrol, assistance of all specialized units (e.g., vice and narcotics) were requested, updates were provided at business council and resident meetings, and the Identify, Detect, Locate (IDL) program (identification information taken from renters at local motels are run against criminal databases) remained in effect.

FIGURE 3. Geographic boundaries of Fremont Corridor Initiative



The remainder of this report will focus on the changes that occurred around the camera and in the larger intervention area following the implementation of the Fremont Corridor Initiative. A description of the methodology used to assess these changes follows.

DATA AND METHODS

This study examines changes in crime and perceptions of crime following the implementation of the Fremont Camera Initiative. The general research questions addressed in this evaluation are:

1. What impact did the CCTV camera have on crime at 15th Street and Fremont Street?
2. What impact did the increase in directed patrol have on crime in the larger intervention area?
3. Did the CCTV camera or directed patrol activities displace crime to nearby locations?
4. How did the CCTV camera impact resident, business owner, and officer perceptions of crime and safety?

The data and methods used to answer these research questions are described in three sections below. First, the types of data used and the limitations of these data are discussed. Second, the evaluation design, periods of analysis, and methods of assessing crime displacement are outlined. Finally, the statistical tests and types of analyses conducted are described.

DATA SOURCES

Two types of data are used in this evaluation: (1) calls for service and (2) survey data. The calls for service data are used to examine changes in the number of offenses occurring before and after the implementation of the initiative. These data were provided by the Las Vegas Metropolitan Police Department. Unlike arrest and incident data, LVMPD maintain these data in a system that can be queried by date, and the data contain spatial referencing variables that permit comparisons across well-defined areas.

The calls for service data were divided into five major categories: (1) all calls for service; (2) calls for index offenses – including homicide, robbery, assault, sexual assault, burglary, larceny, and stolen motor vehicle; (3) calls for violent index offenses – including the index categories of homicide, robbery, assault, and sexual assault; (4) calls for property index offenses – including the index categories of burglary, larceny, and stolen motor vehicle; and (5) calls for Part II offenses – which represent all other calls for service.³ Changes within in specific crime categories are also examined.

There are several limitations associated with using calls for service data in this study. First, not all crimes are reported to the police. Second, reporting practices can fluctuate if people feel more or less compelled to request police assistance. For example, people may be more willing to report observed crimes if they feel police are attempting to control crime at a particular location, which would produce artificially high crime statistics. Conversely, people may be less likely to call police if they think the police are already monitoring the location, which would generate artificially low levels of crime. Third, not all calls for service are substantiated as actual offenses and some callers provide inaccurate descriptions of offenses (e.g., a robbery call is later identified by responding officers as a burglary). Officers have the ability update the call database when these situations arise, but may fail to do so. Still, calls for service provide a measure of criminal activity that can be examined across time and locations.⁴

³ The Part II offense category may contain events that were not criminal in nature. For example, the unknown trouble category may represent hazardous environmental conditions. Similarly, the dead body category may include the discovery of people who died of natural causes. We also note that certain types of disorder are not represented by distinct categories, such as prostitution.

⁴ Crime incident and arrest reports are not stored in databases that can be queried by location, nor do they contain spatial referencing data that would allow a geographic information system program to achieve an adequate geocode rate for analysis.

Calls for service statistics can be used as general indicators of criminal activity, but all police data have limitations. Therefore, it is useful to collect alternative data that may corroborate or contradict official crime statistics. Survey data were used as a secondary source of information. Three surveys were developed and administered by the Las Vegas Metropolitan Police Department in consultation with researchers at the University of Nevada, Las Vegas. These surveys were designed to collect information from three groups: (1) residents, (2) businesspersons, and (3) patrol officers. The surveys include questions related to changes in levels of crime and personal perceptions of the CCTV camera. Copies of the surveys can be found in Appendix A.

The surveys were conducted after the CCTV camera was installed and the initiative began. The resident survey was distributed to managers of apartment complexes that surround the 15th and Fremont intersection. The managers distributed the surveys to residents and returned completed surveys to a LVMPD liaison officer (n = 93). Business people who work along the Fremont corridor were personally interviewed by officers and volunteers (n = 46). A sample of patrol officers familiar with the initiative working in the Downtown Area Command completed surveys during briefings prior to their shifts (n = 34).

Like official statistics, survey data are not always valid measures of crime. People can lie or exaggerate, or report inaccurate information because they fail to recall events or misinterpret a particular question. Also, the survey data were not collected using a random sampling design; thus, the findings may not reflect the opinions of all people who live and work in the intervention area. Both types of data, official records and survey data, were used in the current study to help counter the biases in each.

RESEARCH DESIGN

Prior evaluations of crime reduction initiatives, particularly those involving CCTV cameras, have been criticized for using weak research designs. The most rigorous evaluations, based on the Maryland Scientific Methods Scale, include pre- and post-measures of outcome variables to establish temporal order, use one or more control areas to control for external influences, and randomly assign interventions to people or places (see Farrington, Gottfredson, Sherman, & Welsh, 2002). Random assignment was not possible prior to this analysis; however, the current evaluation addresses all other suggested criteria.

A nonequivalent groups research design is used in the present study. This research design involves two types of comparisons: (1) levels of crime before and after the intervention, and (2) levels of crime between the intervention area and control areas. The Fremont Corridor Initiative officially began August 07, 2007, and the pilot project officially ended December 21, 2007. Crime levels from this 137-day time frame are compared to two “pre”-intervention periods:

1. The 137 days immediately prior to the intervention - March 22, 2007 to August 6, 2007; and
2. The same time frame one year prior to the intervention - August 07, 2006 to December 21, 2006.

Examining crime levels immediately before and after the intervention provides an assessment of the immediate impact of the initiative. However, comparing the intervention period to the same period during the previous year is also necessary to control for seasonal effects.

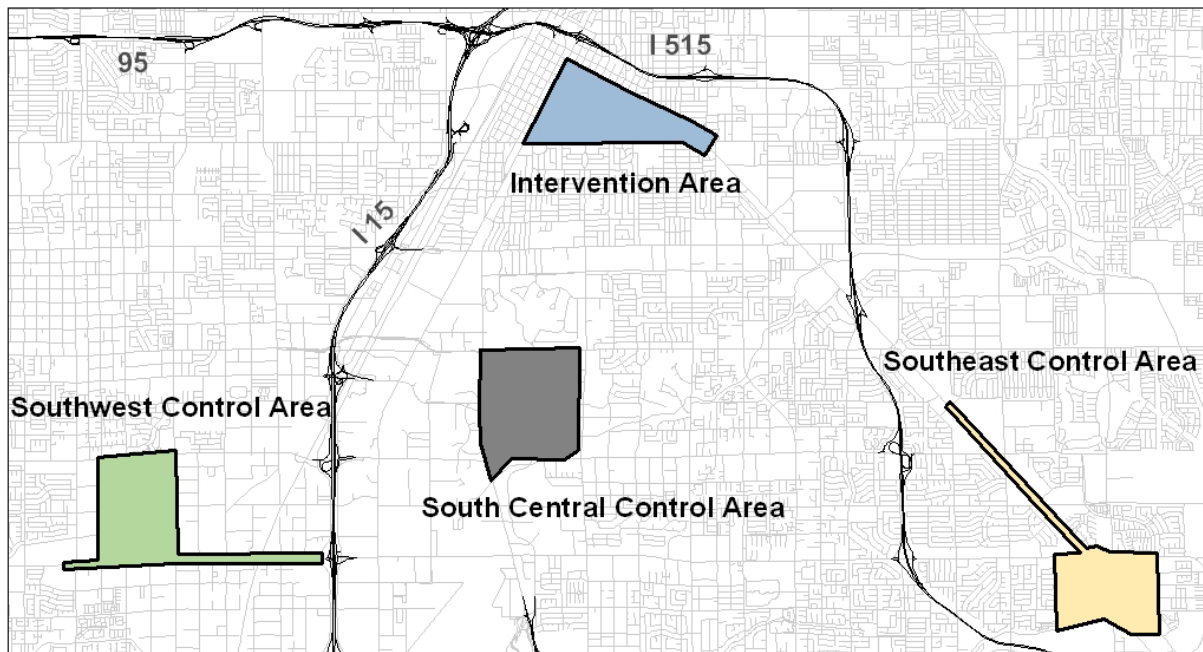
The crime data are also compared between the intervention area and three control areas. A focus group of police command staff were asked to identify an area that closely resembled the intervention area. Since the group was unable to identify a “perfect” area for comparison, three

control areas with similar characteristics were selected. These areas contain six criteria that represent key characteristics of the intervention area. Each area:

1. is considered a high-crime area;
2. contains or borders a major traffic corridor;
3. has casinos located within or immediately adjacent to it;
4. contains daily, weekly, and monthly hotels/motels;
5. has both single family homes and apartments; and
6. covers approximately one square mile.

The specific locations of the intervention area and three control areas are depicted in Figure 4.

FIGURE 4. Location of intervention area and three control areas



As previously noted, crime prevention efforts can displace crime to nearby locations. Research suggests that while displacement is possible, it is not inevitable and will likely be limited in size and scope (see Hesseling, 1994). Still, the possibility of displacement requires that

STATISTICS AND ANALYSES

The raw numbers and percent changes in crime before and after the intervention are reported for the intervention area, camera target area, both catchment areas, and the three control areas. *T-tests* are used to determine whether these changes are significant. This statistic compares the mean number of crimes reported pre- and post-intervention. When the mean number of crimes reported after the intervention is compared to the mean number of crimes reported immediate prior (March 22, 2007 to August 6, 2007), a *t-test* for independent samples is used. When comparing means between 2006 and 2007, a paired samples *t-test* is used.⁵ The base numbers for some crime categories are small (e.g., violent crimes in the camera target area); therefore, a minimum critical region of 0.10 is used to establish significance.⁶

Crime density maps are used to examine changes in the crime concentrations between 2006 and 2007. These maps were created using ArcGIS, a geographic information system program that allows crime to be spatially analyzed. The maps represent four levels of crime at specific locations: low, low-medium, medium-high, and high.⁷ These crime levels are examined within the intervention area and around the camera to determine whether crime concentrations were impacted by intervention and whether these concentrations shifted to other locations (i.e., crime displacement occurred).

⁵ Means are computed by summing the weekly crime numbers and dividing this figure by the total number of weeks examined (n=20). The paired samples *t-test* is more appropriate for the 2006 to 2007 analyses since the same weeks are compared across time in an effort to control for seasonal effects. Weekly computations for significance tests use data from March 20th to December 24th to create consistent intervals (i.e., each week consists of 7 days).

⁶ Smaller numbers reduce the power of the significance test, making it more difficult correctly identify a significant change. A significance level of 0.10 indicates that there is a 10 percent chance that the difference is not meaningful and represents random fluctuations in crime.

⁷ The analyses parameters include a cell size of 10 feet and a search radius of 150 feet. A natural breaks method of crime classification was used to create the four crime levels.

The community, business, and patrol officer survey results are presented last. For each question, the percent of respondents selecting each survey response option (e.g., Agree or Disagree) is reported. Qualitative statements collected from respondents are also summarized.

RESULTS

CALLS FOR SERVICE DATA

We begin by examining crime trends during the 20 weeks before and the 20 weeks after the initiative began. As Table 1 indicates, calls for service during the 40-week study period in 2007 decreased following the onset of the initiative in both the general intervention area and the camera target area. The data also reveal percent reductions in the catchment zones – the areas where we would expect crime to be displaced – during the same time period for both the intervention and camera areas. The decrease in calls for service in the Fremont intervention area is greater than the reductions in the three control areas during the same time period.

TABLE 1. Percent change in 2007 calls for service before and after intervention – control area comparison.

	Mar 22 – Aug 6 2007	Aug 7 – Dec 21 2007	Percent Change
Intervention Area	5317	4816	- 9.42**
- Intervention Catchment	3608	3560	- 1.33
Camera Target Area	649	580	- 10.63
- Camera Catchment	86	36	- 58.14**
Southwest Control Area	3599	3404	- 5.42 ^a
South Central Control Area	4958	4603	- 7.16*
Southeast Control Area	3118	3015	- 3.30

^a p<.10, * p<.05, ** p<.01, ***p<.001

We also consider fluctuations in different types of calls during this 40-week period. Table 2 displays changes in each call type for both the full intervention area as well as camera target area. In the full intervention area, calls for property crime increased after the initiative began. However, the decrease of 9.42% in all calls for service was driven primarily by the reduction in calls for violent index offenses and calls for minor Part II offenses. The camera target area also

experienced a slight percent increase in calls for property offenses after the initiative began. Like the intervention area, the overall decrease in calls for service around the camera was driven by substantial reductions in calls for violent crimes.

TABLE 2. Percent change in calls for different crime categories, before and after intervention, 2007.

2007	Intervention Area			Camera Target Area		
	Mar 22 – Aug 6	Aug 7 – Dec 21	% change	Mar 22 – Aug 6	Aug 7 – Dec 21	% change
All Calls for Service	5317	4816	-9.42**	649	580	-10.63
Index Offenses	1091	1110	1.74	101	83	-17.82
Violent Index Offenses	549	449	-18.21**	74	53	-28.38 ^a
Property Index Offenses	542	661	21.96*	27	30	11.11 ^{N/A}
Part II Offenses	4226	3706	-12.30***	548	497	-9.31

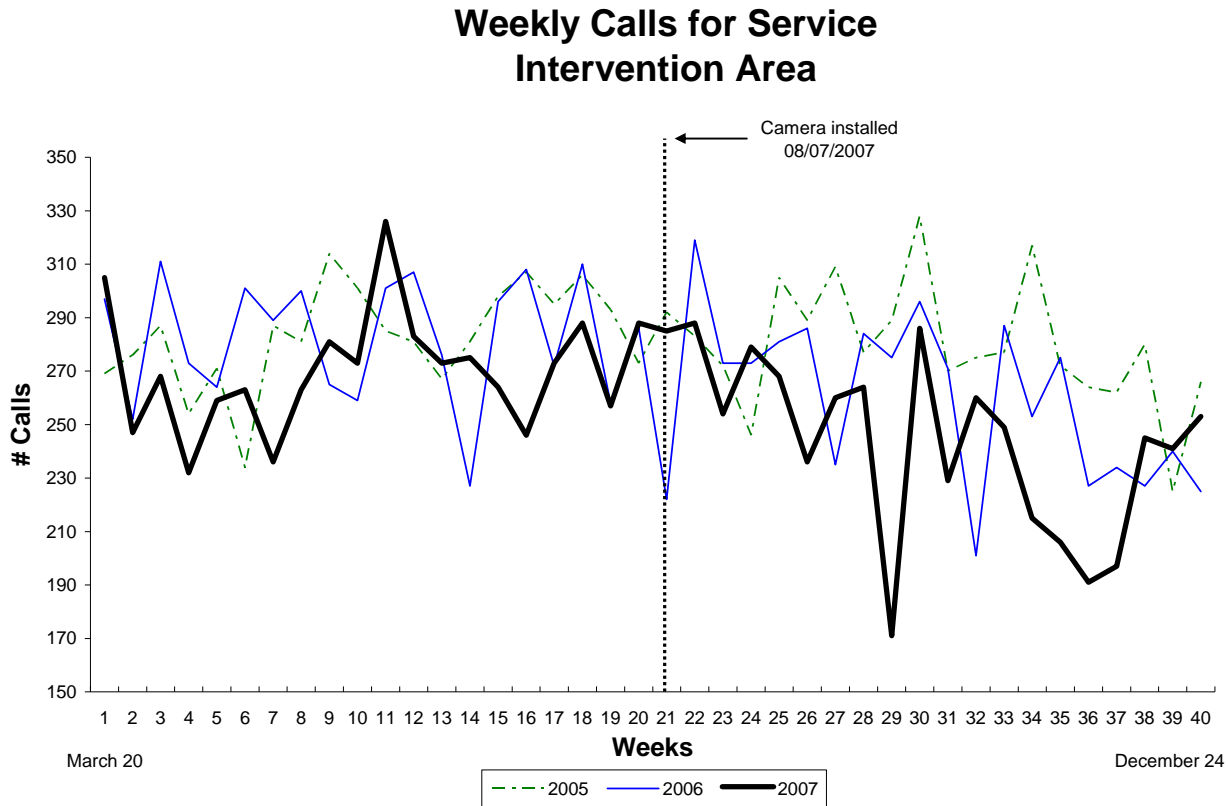
^a p<.10, * p<.05, ** p<.01, ***p<.001; ^{N/A} Base rate is too low for statistical analyses

While these analyses are generally positive for the initiative – particularly in terms of reduced calls for violence and minor offenses – we remain cautious because these results may reflect a seasonal effect within the data. We consider this possibility by comparing the 40-week study period in 2007 with the same 40-week period in 2006 and 2005. Figure 6 displays the number of calls for service per week during each year for the full intervention area.⁸ In 2007, calls for service decreased after the August 7 implementation date from an average of 270 per week to 244 per week, but they also decreased in 2005 and 2006 after August 7. The effect was less dramatic in 2005 when total calls dropped by 1.99%, but the decrease of 9.05% in 2006 almost matches the 2007 decline (9.42%). These data, therefore, offer some evidence of a

⁸ We also replicate this diagram for specific crime categories for both the full intervention area and the specific camera target area in Appendix B.

seasonal effect – they suggest that police calls for service have a tendency to decline as the year progresses from Summer to Fall.

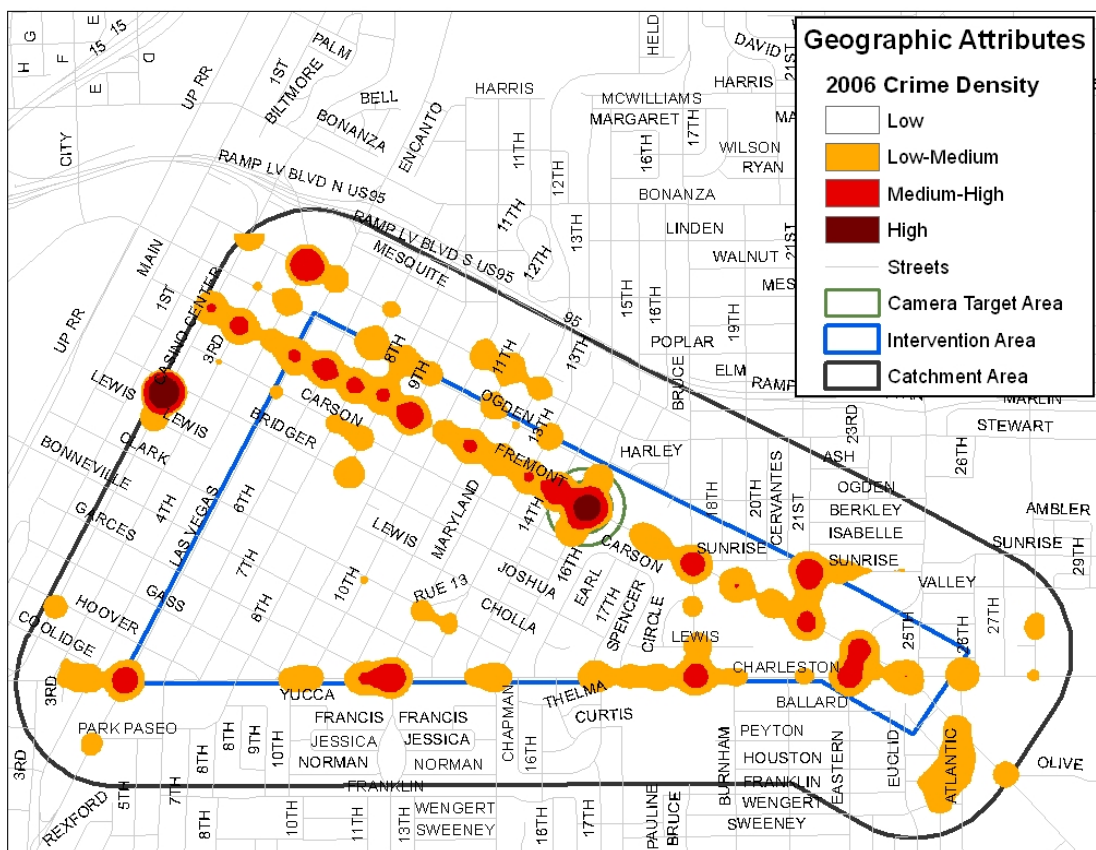
FIGURE 6. Weekly calls for service, 40 week period, three-year comparison



Due to evidence of a seasonal effect, our second analysis strategy is to focus exclusively on the post intervention period (August 7 – December 21) and compare it with the same period from the previous year. Figures 2 and 3 demonstrate this comparison. Figure 2 displays calls for service data from August 7 – December 21, 2006 in the intervention area (outlined in blue) and its catchment area (outlined in gray). Figure 3 displays the same information for the same time period in 2007. Colors on each map represent degrees of density of calls for service – the darker the color, the more dense the calls.

According to Figure 2, calls for service between August 7 and December 21, 2006 within the intervention area were clustered along Fremont Street, with several other hotspots appearing along Eastern, Charleston, and Las Vegas Boulevard. The calls along these routes were concentrated at intersections, with the intersection of 15th and Fremont particularly “hot” in terms of call density. Within the intervention’s catchment area, one relatively large hotspot appeared at 4th and Stewart, and another appeared along Casino Center Boulevard.⁹ Several other locations in the catchment zone had light to medium call density.

FIGURE 2. Calls for service density, intervention and camera target areas, 2006



⁹ This location is the Clark County Detention Center, which may explain the high density of calls at the address.

FIGURE 3. Calls for service density, intervention and camera target areas, 2007

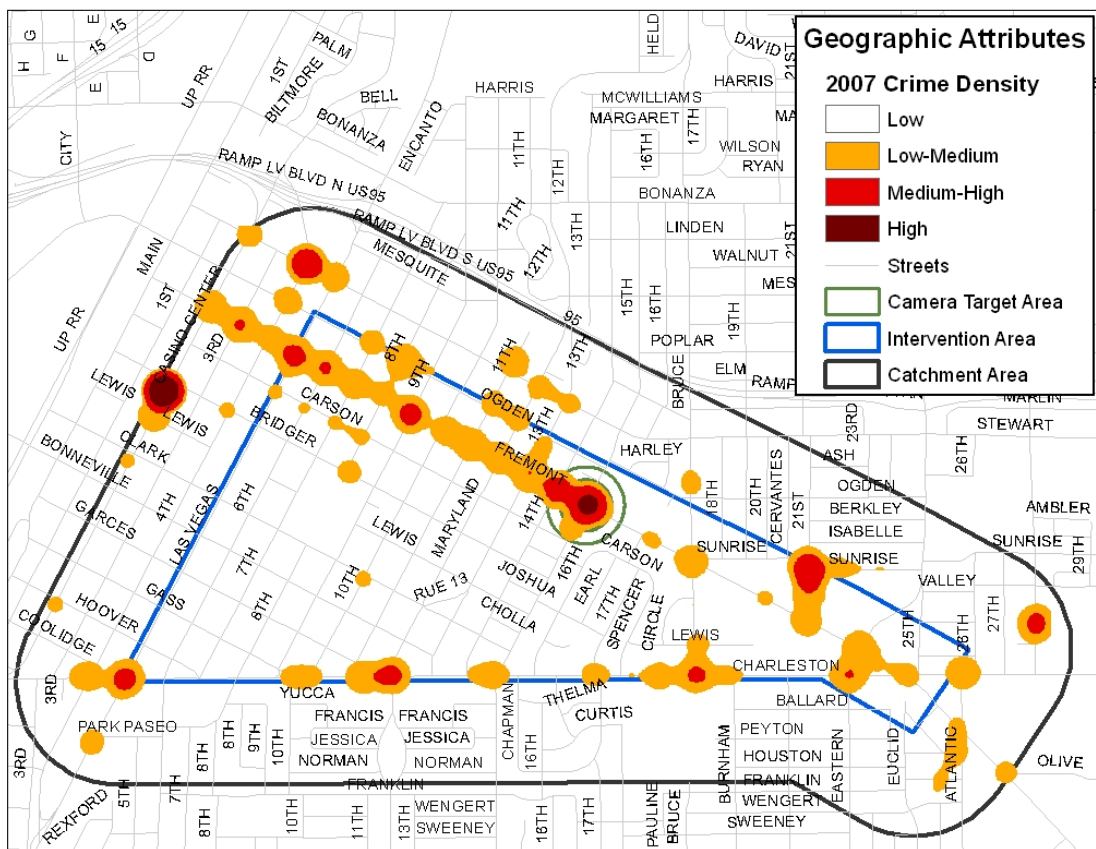


Figure 3 displays calls for service after the Fremont Corridor Initiative began. This map reveals two points relevant to the initiative. First, nearly all hotspots from 2006 within the intervention area “cooled off” to some degree after the onset of the initiative. Fremont Street experienced substantially less call activity at its intersections – including the camera location. The same can be said for problem locations along Eastern, Charleston, and Las Vegas Boulevard – all of which benefited from decreases in calls for service. Second, Figure 3 reveals that new hotspots did not develop in either the intervention area or the catchment area. Indeed, pre-existing hotspots from 2006 within the catchment area typically “cooled off” as well, with the possible exception at a small location near 28th and Valley Street (which experienced a slight increase). While these data do not conclusively indicate that the Fremont Corridor Initiative

decreased crime, they do suggest that calls for service decreased in the intervention area after the initiative began. In addition, there is little visual evidence of displacement to the catchment zone or to other locations within the intervention area.

We find similar results when we examine the percent change in calls for service from 2006 to 2007 in the full intervention area, the specific camera target area, and the three control areas (Table 3). Note that the full intervention area covered by the Fremont Corridor Initiative experienced a significant reduction in calls for service in 2007. The one-block radius covered specifically by the camera also experienced a significant reduction in calls for service. The percent change in both catchment areas does not reach statistical significance, suggesting little evidence of displacement to the intervention catchment area and a diffusion of benefits beyond the camera target area.

TABLE 3. Percent change in number of calls for service, comparing 2006 and 2007 post-intervention period

	2006	2007	% change
Intervention Area	5074	4816	-5.08 ^a
- Intervention Catchment	3531	3560	0.82
Camera Target Area	624	580	-7.05 ^a
- Camera Catchment	47	38	-19.15
Southwest Control Area	3933	3404	-13.45 ^{***}
South Central Control Area	5295	4603	-13.07 ^{***}
Southeast Control Area	3229	3015	-6.63 ^a

^a p<.10, * p<.05, ** p<.01, ***p<.001

Table 3 also indicates that calls for service dropped significantly in the three control areas. This finding could indicate that calls decreased as a general pattern throughout LVMPD's jurisdiction. While this result potentially minimizes the impact of the Fremont Corridor Initiative

on the intervention area, we note that these analyses do not take into account crime reduction strategies undertaken in the three control areas. As discussed previously, the three control areas were matched to the intervention area on several criteria. These areas, however, may well have implemented their own strategies designed to reduce crime in targeted hotspots. The finding that all areas in this study experienced a reduction in calls for service may reflect a general trend toward less crime – or it may be that all experienced a reduction due to focused crime prevention efforts implemented separately in each area.

In Table 4 we examine the percent change in calls by crime category from 2006 to 2007 in the full intervention area, the specific camera target area, and the three control areas. It is worthwhile to note that while there were increases in calls for property offenses in both the full intervention area and the intervention catchment zone, the net decrease in all calls in the intervention area was driven by the drop in violence and Part II offenses. Additionally, all crime categories decreased in the camera target area. The drop in calls for index offenses in the camera area and its catchment zone was substantial, particularly when compared with the comparison areas.

TABLE 4. Percent change in calls for different crime categories, comparing 2006 and 2007 post-intervention period

Percent Change, 2006-2007					
	<i>All Calls</i>	<i>All Index Offenses</i>	<i>Violent Index</i>	<i>Property Index</i>	<i>Part II Offenses</i>
Intervention Area	-5.08 ^a	-0.27	-7.99	5.76	-6.44 ^a
- Intervention Catchment	0.82	7.65	-7.21	21.39 ^a	-0.85
Camera Target Area	-7.05 ^a	-27.19*	-26.39 ^a	-28.57	-2.55
- Camera Catchment	-19.15	-40.00 ^{N/A}	-57.14 ^{N/A}	0.00	-13.51
Southwest Control Area	-13.45***	-18.10***	-23.64*	-14.32**	-12.24***
South Central Control Area	-13.07***	-14.11**	-13.63 ^a	-14.48**	-12.78***
Southeast Control Area	-6.63 ^a	13.35*	-6.71	29.77***	-11.46**

^a p<.10, * p<.05, ** p<.01, ***p<.001; ^{N/A} Base rate is too low for statistical analyses

We also examine changes in specific call types in Table 5 (intervention area) and Table 6 (camera target area).¹⁰ As indicated in Table 5, calls for property offenses such as burglary and vandalism increased within the intervention area from 2006 to 2007. However, calls for robberies, gun offenses, assaults, narcotics, and juvenile disturbances declined during the same time period. In addition, Table 6 indicates that the one-block radius around the camera experienced substantial drops in calls for juvenile disturbances, robberies, persons with guns, car theft, narcotics, and assaults – all offenses the camera was specifically intended to target.

TABLE 5. Percent change by crime type in intervention area, comparing 2006 and 2007 post-intervention period

Crime Type	2006	2007	% change	Crime Type	2006	2007	% change
Drunk	18	8	-55.56	Robbery	144	136	-5.56
Homicide	2	1	N/A	Shooting	39	37	-5.13
Juvenile Disturbance	37	21	-43.24	Disturbance	1222	1176	-3.76
Sick/Injured Person	44	31	-29.55	Larceny	246	245	-0.41
Auto Burglary	45	32	-28.89	Dead Body	18	18	0.00
Wanted Subject	241	173	-28.22	Stolen Motor Vehicle	136	136	0.00
Fight	114	84	-26.32	Suspicious Person/Situation/Vehicle	584	588	0.68
Indecent Exposure	27	21	-22.22	Assist Citizen	239	251	5.02
Person with Weapon	46	39	-15.22	Sexual Assault	14	15	7.14
Mentally Ill Person	29	25	-13.79	Drunk Driver	76	84	10.53
Person with Gun	39	34	-12.82	Keep the Peace	56	62	10.71
Narcotics	190	171	-10.00	Burglary	243	280	15.23
Unknown Trouble	234	211	-9.83	Reckless Driver	40	47	17.50
Assault	328	297	-9.45	Vandalism	61	77	26.23
Traffic Accident	554	505	-8.84	Prowler	8	11	N/A

¹⁰ Percent change not computed if 2006 base number is less than 10.

TABLE 6. Percent change by crime type in camera target area, comparing 2006 and 2007 post-intervention period

Crime Type	2006	2007	% change	Crime Type	2006	2007	% change
Juvenile Disturbance	15	3	-80.00	Traffic Accident	13	12	-7.69
Auto Burglary	4	1	N/A	Homicide	0	0	0.00
Robbery	15	4	-73.33	Fight	16	16	0.00
Person with Gun	12	4	-66.67	Disturbance	148	166	12.16
Sick/Injured Person	8	3	N/A	Assist Citizen	48	55	14.58
Drunk	2	1	N/A	Vandalism	5	6	N/A
Dead Body	4	2	N/A	Burglary	9	11	N/A
Stolen Motor Vehicle	13	7	-46.15	Suspicious Person/Situation/Vehicle	46	60	30.43
Larceny	20	12	-40.00	Keep the Peace	13	19	46.15
Unknown Trouble	45	30	-33.33	Indecent Exposure	1	2	N/A
Narcotics	46	36	-21.74	Reckless Driver	0	1	N/A
Assault	57	45	-21.05	Prowler	1	2	N/A
Wanted Subject	62	50	-19.35	Mentally Ill Person	1	3	N/A
Shooting	9	8	N/A	Sexual Assault	0	4	N/A
Person with Weapon	10	9	-10.00	Drunk Driver	1	8	N/A

Calls for Service Summary

The data indicate reductions in calls for service in both the camera target area and the general intervention area after the start of the Fremont Corridor Initiative. Furthermore, call data do not suggest evidence of displacement to the catchment zone around 15th and Fremont as a result of the CCTV camera, nor do they suggest displacement to the catchment zone around the entire intervention site as a result of directed patrol activities. Although these findings are favorable to the efforts of the Fremont Corridor Initiative, calls for service also decreased in the three comparison sites. It is unclear whether this indicates that the reduction in calls for service is part of a general trend throughout the city, or that each site implemented its own crime reduction techniques and achieved success.

The finding that calls for service also dropped in the comparison areas prohibits us from making strong causal statements regarding the relationship between the initiative and crime reduction. The data do reveal, however, that both the camera and the larger initiative are associated with decreases in police calls for service, and they are not associated with any measurable amount of displacement. Additionally, the substantial decline in all crime types around the camera makes it difficult to infer that the initiative had no effect.

SURVEY DATA

In the following section, we discuss the results of each survey separately before concluding with some general statements about the survey findings.

Community Survey

The community survey was administered on a voluntary basis to residents in the apartment buildings surrounding the intersection of 15th and Fremont. A total of 93 residents completed the survey. The demographic characteristics of this sample of community members are presented below in Table 7.

TABLE 7: Resident sample characteristics (n = 93)

Gender	
Female	55.1%
Male	44.9%
Age	
18 - 25	5.5%
26 - 35	11.0%
36 - 45	30.8%
46 - 55	28.6%
56 and over	24.2%
Ethnic Background	
White	57.1%
African American	26.4%
Hispanic	8.8%
Asian	3.3%
Other	4.4%
Length of Residency in Community	
Under 1 year	26.1%
1 to 2 years	22.8%
3 to 4 years	16.3%
5 to 10 years	16.3%
Over 10 years	18.5%

The first series of questions on the community survey concerned general perceptions of crime and police activity around 15th and Fremont since the crime camera was introduced in August 2007. Respondents were presented with three activities and asked whether they believed there was more, less, or about the same amount of that activity since the camera was introduced (see Table 8). The results indicate that most respondents believe crime and disorder decreased since the initiative began. Further, most residents believe that police activity increased. While some respondents did not perceive change in these categories, few believe that crime increased or that police activity decreased.

TABLE 8. Percent of residents indicating change in general crime and police activities since the introduction of the crime camera.

	Less	About the Same	More	Don't Know
Do you feel that the amount of crime and disorder has changed?	66.3%	25.0%	4.3%	4.3%
Have <i>you personally</i> seen a change in the amount of crime and disorder?	60.9%	29.3%	5.4%	4.3%
Do you feel that the amount of police activity has changed?	16.3%	29.3%	53.3%	1.1%

Respondents were then asked whether they believed there was more, less, or about the same amount of specific types of crime and disorder since the camera was introduced. The results varied slightly by type of activity (see Table 9). Most respondents indicated that loitering, public drug and alcohol use, and drug dealing decreased since the onset of the initiative. Many also believed that there was less theft, street robbery, graffiti / vandalism, and juvenile disturbances. For each crime / disorder category, however, a fair number of respondents indicated that either 1) there was about the same amount of that activity after the introduction of the camera, or that 2) they simply did not know whether there was a change in the amount of that activity. In fact, “the same amount” was the most popular response category for the activities of prostitution, people cruising for drugs or prostitutes, and fights / assaults. It is important to note, however, that it was rare for respondents to indicate that they believe any of the crime categories increased in amount since the onset of the initiative.

TABLE 9. Percent of residents indicating change in different types of crime / disorder since the introduction of the crime camera.

	Less	About the Same	More	Don't Know
Loitering	59.1%	30.1%	5.4%	5.4%
People Using Drugs / Alcohol in Public	52.7%	25.3%	7.7%	13.2%
Drug Dealing	52.7%	23.7%	7.5%	16.1%
Theft	45.7%	27.2%	4.3%	22.8%
Muggings / Street Robberies	45.2%	20.4%	4.3%	30.1%
Graffiti / Vandalism	39.1%	29.3%	4.3%	27.2%
Juvenile Disturbances	33.3%	30.1%	7.5%	29.0%
Prostitution	33.3%	38.7%	7.5%	20.4%
People Cruising for Drugs or Prostitutes	29.0%	38.7%	12.9%	19.4%
Fights / Assaults	33.3%	35.5%	6.5%	24.7%

To gauge public opinion of the camera initiative, respondents were provided with a series of statements regarding police use of crime cameras in public areas. The respondents were asked to specify their level of agreement with each statement with one of the following responses: strongly disagree, disagree, agree, or strongly agree. Table 10 below summarizes the results by indicating the extent to which respondents agreed or disagreed with the statements about crime cameras.

TABLE 10: Percent of residents indicating the extent to which they agree with the following statements

	Agree or Strongly agree	Disagree or Strongly disagree	Don't know
The city should consider adopting more cameras throughout the city	88.2%	8.6%	3.2%
The camera enhances police services, such as making arrests and solving crimes	84.9%	5.4%	9.7%
The camera has increased the quality of life for those who live or do business on Fremont Street	77.4%	7.6%	15.1%
The camera should be removed from 15 th and Fremont	13.0%	82.6%	4.3%
It is not appropriate for police to record people in public places because it limits personal privacy	23.9%	68.5%	7.6%

Overall, residents’ opinions of the camera are positive. Few believe that the camera should be removed from 15th and Fremont – in fact, most believe that the city should consider adopting more cameras. Most respondents also believe that the camera enhances police services and improves citizens’ quality of life. Further, the majority of respondents do not believe that cameras significantly limit personal privacy. Of those that do, the majority believe that the camera has had a positive impact overall.¹¹

Business Survey

In addition to residents, businesses in the vicinity of 15th and Fremont were also surveyed to determine their opinions of crime and police activity since the onset of the Fremont initiative. The survey was administered to a total of 46 people representing 16 different types of businesses

¹¹ Of the 23.9% (22 respondents total) who agree that the camera limits personal privacy, 81.8% believe the camera helps the police make more arrests and solve crime, 77.3% say the city should adopt more cameras, and 72.7% believe the camera has increased the quality of life for those who live and do business on Fremont Street.

along the Fremont corridor.¹² As with the residential survey, the first series of questions involved general perceptions of crime and police activity since August 2007. Table 11 presents the results of these questions. Consistent with responses from citizens, most business people believe that crime and disorder along Fremont Street decreased since the camera was installed, while many believe that police activity increased. Most respondents also indicated that their business experienced less crime and that calls for service to the police decreased.

TABLE 11. Percent of business people indicating change in general crime and police activities since the introduction of the crime camera.

	Less	About the Same	More	Don't Know
Have you seen a change in the amount of crime and disorder along Fremont Street?	64.3%	23.8%	7.1%	4.8%
Has your business experienced a change in the amount of crime and disorder?	53.5%	39.5%	4.7%	2.3%
Has the number of calls for police service from your business changed?	51.2%	32.6%	4.7%	11.6%
Do you feel that the amount of police activity has changed?	16.3%	30.2%	48.8%	4.7%

As with the community survey, respondents on the business survey were then asked whether they believed there was more, less, or about the same amount of specific types of crime and disorder since the camera was installed at 15th and Fremont. Again, the results varied slightly by type of activity (see Table 12), but most respondents indicated that loitering, cruising for drugs and prostitutes, and drug dealing decreased since the onset of the initiative. Many also believed that prostitution and open drug and alcohol use decreased. While some respondents

¹² These businesses included motel management, apartment management, convenience stores, bars, and various other types of shops and services. Over 30% of these businesses operate 24 hours a day. The others operate during more traditional business or retail hours.

indicated that there was not much change in each activity since the introduction of the camera, few indicated that there was an increase in any specific type of crime or disorder.

TABLE 12. Percent of business people indicating change in different types of crime / disorder since the introduction of the crime camera.

	Less	About the Same	More	Don't Know
Loitering	60.5%	30.2%	7.0%	2.3%
People Cruising for Drugs or Prostitutes	53.5%	37.2%	4.7%	4.7%
Drug Dealing	53.5%	25.6%	14.0%	7.0%
Prostitution	48.8%	39.5%	4.7%	7.0%
People Using Drugs / Alcohol in Public	42.9%	40.5%	9.5%	7.1%

Businesspersons were then provided with a series of statements regarding police use of crime cameras in public areas. The respondents were asked to specify their level of agreement with each statement about the camera with one of the following responses: strongly disagree, disagree, agree, or strongly agree. Table 13 below summarizes the results by indicating the extent to which respondents agreed or disagreed with the statements.

TABLE 13: Percent of business people indicating the extent to which they agree with the following statements

	Agree or Strongly agree	Disagree or Strongly disagree	Don't know
The city should consider installing more cameras to reduce crime throughout the city	95.2%	2.4%	2.4%
The camera has increased the safety of those who live or do business on Fremont Street	83.7%	9.4%	7.0%
My business has been positively impacted by the presence of the camera	81.2%	9.4%	9.3%
The camera should be removed from 15 th and Fremont	2.3%	95.3%	2.3%
The camera unnecessarily limits personal privacy in public areas	14.0%	81.4%	4.7%

Overall, businesspersons strongly support the crime camera at 15th and Fremont. Nearly all respondents indicated that the current camera should remain and that the city should consider adding cameras to other areas. Further, most respondents believe that the camera enhances feelings of personal safety while not having a significant impact on personal privacy.¹³

Officer Survey

A total of 34 LVMPD police officers were administered a survey designed to determine their opinions of the impact of the initiative on crime and disorder in the area around 15th and Fremont. In terms of years of experience, the officers ranged from under 1 year to 13 years with LVMPD, with an average of just over 4 years of experience. Nearly all officers held the rank of PO I or PO II, and nearly all were assigned to DTAC.

¹³ Of the 14.0% (6 respondents total) who indicated that the camera limits personal privacy, 100% believe that the city should adopt more cameras, 67.7% believe the camera has increased the safety of those who live or do business on Fremont Street, and 50.0% report that the camera has had a positive impact on their business.

As with residents and business people, officers were asked about the impact of the initiative, if any, on overall crime and specific types of criminal acts since the camera was installed in August 2007 (Table 14). Officers generally agreed that the overall level of crime and disorder around the intersection of 15th and Fremont decreased since the introduction of the camera. Most indicated that drug dealing, loitering, prostitution, and violent offenses decreased, and many thought that there was less property crime, public drug and alcohol use, and vandalism. While some officers believed that many of these activities remained at about the same levels since the initiative began – particularly in the case of people cruising for drugs and alcohol – very few officers believed that these activities increased.

TABLE 14. Percent of officers indicating change in different types of crime / disorder since the introduction of the crime camera

	Less	About the Same	More	Don't Know
Drug Dealing	79.4%	5.9%	5.9%	8.8%
Loitering	64.7%	17.6%	5.9%	11.8%
Prostitution	55.9%	23.5%	2.9%	17.6%
Violent Offenses	55.9%	14.7%	2.9%	26.5%
Property Offenses	50.0%	14.7%	2.9%	32.4%
People Using Drugs / Alcohol in Public	47.1%	38.2%	5.9%	8.8%
Vandalism	44.1%	11.8%	2.9%	41.2%
People Cruising for Drugs or Prostitutes	35.3%	41.2%	8.8%	14.7%
<i>Overall Level of Crime and Disorder</i>	76.5%	5.9%	5.9%	11.8%

Officers were also asked about changes in offenders' patterns since the initiative began. For example, the area of 15th and Fremont has been known to attract offenders who live in and around the surrounding neighborhoods, offenders for other part of Las Vegas and Southern Nevada, and offenders from outside Nevada. As a method to determine whether the camera had a

greater impact on local offenders (as opposed to tourists), officers were asked if they had seen more, less, or about the same number of offenders from different places operating at 15th and Fremont. As Table 15 indicates, many officers are unaware of differences before and after the initiative began. However, officers were more likely to indicate that they see a decrease in offenders who live in the neighborhoods surrounding 15th and Fremont – perhaps an indication that local offenders’ knowledge of the camera has reduced their activity in the area.

TABLE 15. Percent of officers indicating change in where they believe offenders at 15th and Fremont originate from since the introduction of the crime camera

	Less	About the Same	More	Don't Know
Offenders who live in and around the neighborhoods surrounding 15 th and Fremont	23.5%	50.0%	5.9%	20.6%
Offenders who live in other parts of Clark County or Southern Nevada	20.6%	35.3%	2.9%	41.2%
Offenders from outside Clark County, such as tourists	14.7%	29.4%	8.8%	47.1%

As another method to determine whether offenders’ patterns had changed since the initiative began, officers were asked if they believe that criminal activity was displaced from 15th and Fremont as a result of the camera itself. Table 16 displays officers’ opinions in terms of whether they believe that offenders moved to other places, operated during different times, or switched to alternative methods of operation in order to avoid detection by the camera.

TABLE 16. Percent of officers indicating whether they agree or disagree that crime displaced from 15th and Fremont after the introduction of the camera

	Agree	Disagree	Don't Know
Offenders have moved the location(s) of their activities; for example, to other streets or intersections.	76.5%	0.0%	23.5%
Offenders have altered the method(s) by which they operate; for example, operating out of residences rather than on the street	47.1%	11.8%	41.2%
Offenders have shifted the time(s) during which they operate.	8.8%	41.2%	50.0%

While few officers believe that offenders operate at different times as a result of the camera, many officers feel that offenders moved to other locations or switched to alternative methods. When asked to further describe their responses, many officers spoke in general terms about offenders moving to other locations in DTAC. Others were more specific, mentioning nearby streets or intersections where they believe offenders operate. Many other officers believe that offenders now operate inside buildings, down alleyways, or in other ways that can conceal them from the camera. One additional question on the survey, however, asked if officers believe that crime decreased in the area outside the immediate view of the camera. Approximately 38% of officers believe that crime had decreased in the catchment area outside the camera location, while about 35% indicated that it had not (27% were uncertain).

The last series of questions on the officer survey asked officers to consider various tactics in terms of their effectiveness at reducing crime along the Fremont corridor. Officers were asked to rate the effectiveness of each strategy with one of the following responses: “very,” “somewhat,” or “not at all.” Table 17 lists the strategies along with officer responses. In general, officers believe that directed patrols and saturation teams are most effective. They are also mostly positive toward the effectiveness of the crime camera – 85% believe that the crime

camera was at least somewhat effective in terms of reducing crime along the Fremont corridor. Officers’ opinions are more mixed concerning the effectiveness of other special units, the IDL program, and efforts of business owners and residents.

TABLE 17. Percent of officers indicating the level of effectiveness of each crime reduction strategy

	Very Effective	Somewhat Effective	Not at all Effective	Don’t Know
Directed Patrol	55.9%	38.2%	0.0%	5.9%
Saturation Teams	32.4%	47.1%	8.8%	11.8%
Crime Camera	23.5%	61.8%	0.0%	14.7%
Special Unit Activities (i.e., Vice)	17.6%	44.1%	8.8%	29.4%
IDL Program	17.6%	41.2%	8.8%	32.4%
Efforts of Business Owners	14.7%	38.2%	32.4%	14.7%
Efforts of Residents	11.8%	32.4%	38.2%	17.6%

Finally, officers were presented with a series of statements related to different uses of crime cameras. Specifically, they were asked to rank each use on a scale from 1 (negative) to 5 (positive) in terms of its effectiveness at preventing crime. As indicated in Table 18, the averages for all respondents were generally positive – above 3 for all uses of the camera. Officers did believe however, that the most effective use of the camera is as a deterrent in plain view. In other words, officers seem to feel that the camera is able to prevent crime and disorder before they occur.

TABLE 18: Average ratings of the effectiveness of each use of crime cameras (based on a five-point scale)

	Average Rating
Camera in plain view serves as a deterrent	3.97
Dispatching officers to criminal activity detected on camera	3.56
Gathering intelligence	3.23

Overall, officers appear to support the camera at 15th and Fremont. They believe that some displacement may have occurred and that other tactics can be equally or more effective. They generally agree, however, that crime decreased at 15th and Fremont – at least in part due to the camera’s presence.

Survey Summation

According to opinion surveys of residents, business people, and police officers, the crime camera at 15th and Fremont is a success in many respects. With only a few exceptions, respondents on the three surveys believe that crime and disorder decreased at the intersection after the crime camera was introduced in August 2007. Additionally, officers generally indicate that the camera enhances police services and businesspersons believe that safety around their businesses improved as a result of the camera. Perhaps most importantly, residents in the neighborhood of 15th and Fremont indicate that the camera helped to improve their quality of life and recommend that the city adopt more crime cameras. Further, the majority of community and business respondents do not believe that the camera unnecessarily limits personal privacy.

DISCUSSION / CONCLUSION

Our goal in this report was to evaluate the impact of the Fremont Corridor Initiative. We used two information sources for this purpose: official reports of police calls for service and data from surveys of residents, businesspersons, and police officers. In this section we return to the four research questions stated earlier in the document before concluding with some final comments.

RESEARCH QUESTIONS

1. What impact did the CCTV camera have on crime at 15th Street and Fremont Street?

Data from police calls for service indicate a decrease in criminal activity within the one-block radius around the intersection of 15th and Fremont after the CCTV camera was installed. We first compared calls for service during the 20-week intervention period to the 20-week period before the camera was installed. We then compared the 20-week intervention period to the same 20-week period during the previous year. In both cases, calls for service dropped considerably. The substantial reduction in calls for robberies, assaults, and narcotics – all activities the camera was specifically intended to impact – was especially noteworthy.

Data from surveys of residents, businesspersons, and police officers generally corroborate the findings from the calls for service analyses. While some survey respondents indicated that they did not see much change in terms of an increase or decrease in activity, most indicated reductions in most types of crime and disorder around the camera. Very few respondents indicated seeing more criminal activity in the vicinity of 15th and Fremont after the CCTV camera was installed.

Data from both calls for service and surveys therefore suggest that the camera had its intended impact on crime and disorder. We note, however, that the camera was part of the larger Fremont Corridor Initiative that involved directed patrol and other proactive activities. Whether the camera would have decreased crime as significantly at 15th and Fremont without the larger initiative in place cannot be determined with the available data.

2. What impact did the increase in directed patrol have on crime in the larger intervention area?

As with the specific camera target area, criminal activity decreased in the more general intervention area after the Fremont Corridor Initiative began. Again, we compared the 20-week intervention period to both the previous 20 weeks as well as the corresponding 20-week period in 2006. Although calls for property index offenses increased slightly, calls for other offenses – including violent index offenses – decreased. Further, before-after comparisons of crime maps demonstrate that hotspots along Fremont Street and in other parts of the intervention area “cooled off” after the initiative began.

Although these data suggest that directed patrol had its intended impact, we also found that calls for service declined in the study’s three comparison areas. Two possibilities could account for the reduction in the comparison areas as well. First, crime prevention initiatives may also have been implemented in the comparison areas in response to high levels of criminal activity in those neighborhoods. If this is the case, it is possible that each area benefited from its own location-specific crime reduction strategy. A second possibility, however, is that various factors other than police strategies contributed to a general crime reduction trend throughout LVMPD’s jurisdiction. If this is the case, then all four areas in the study – including the Fremont area – would have benefited from less criminal activity. Although we cannot rule out the

possibility that other factors contributed to crime reduction in the intervention area, we can state that directed patrol activities in the intervention area were, at minimum, associated with a decrease in calls for service. This result is consistent with previous research indicating that directed patrol activities can have a significant impact on crime.

3. Did the CCTV camera or directed patrol activities displace crime to nearby locations?

Analyses of calls for service indicate little evidence of crime displacement. In terms of the general intervention area, directed patrol activities did not significantly displace crime to other locations within the intervention area or to the intervention area's catchment zone. Although there is some evidence that property crime increased in the catchment zone after the initiative began, the catchment zone benefited from a decrease in violence and other offenses.

In terms of the specific camera location, calls for service analyses actually indicate that the camera decreased crime at its targeted location *and* within its catchment zone. This suggests a "diffusion of benefits" beyond the camera's target location – the surrounding intersections benefited from the crime prevention capacity of the camera at 15th and Fremont. Again, we note that the camera was part of a larger initiative. Whether this diffusion of benefits would have occurred without the larger initiative in place is difficult to determine.

Interestingly, according to survey data, many officers believe that crime displaced from 15th and Fremont after the installation of the camera. However, of the officers who thought that displacement took place, many believed that offenders were moving inside buildings, down alleys, or to other places that could conceal them from public view. While these offenders may remain problematic, one can argue that this type of displacement produced a net benefit for the neighborhood. If offenders are less likely to operate in public view, there will be less opportunity

for criminal victimization. Furthermore, if offenders are less likely to commit minor offenses such as alcohol and drug use in public, the quality of life of those who use public spaces for legitimate purposes can improve.

4. How did the CCTV camera impact resident, businessperson, and officer perceptions of crime and safety?

Opinions of the camera at 15th and Fremont were positive according to survey data from residents, businesspersons, and officers. Not only was there general consensus that the camera had an impact on criminal and disorderly conduct, but the majority of residents and businesspersons agreed that the camera improved citizen quality of life, enhanced feelings of safety, and improved police services. Additionally, most respondents believe that the city should consider adopting more cameras in public places, and few believe that cameras unnecessarily limit personal privacy.

FINAL COMMENTS

Before the crime camera was installed at 15th and Fremont marking the start of the Fremont Corridor Initiative, LVMPD proposed the idea to citizens who lived and worked in the area. Many citizens, troubled by the conditions that had become typical on Fremont Street, offered their support in the hopes that the camera and other police strategies could restore order to the community. To a large extent the Fremont Corridor Initiative achieved its intended impact. Directed patrol activities were associated with an overall reduction in calls for service within the general intervention area, and the crime camera was associated with a significant reduction in calls at 15th and Fremont. In both cases, there was little evidence of displacement to the

surrounding areas as a result of police initiatives. Moreover, both citizens and police were of the opinion that the camera increased the level of order and decreased fear at the intersection of 15th and Fremont.

LVMPD, businesses, and citizens continue to work on crime and disorder management in the Fremont area. Although conditions have improved since the onset of the initiative, 15th and Fremont and other intersections along Fremont Street remain problematic locations. The problems themselves may also be evolving – analyses indicate, for example, that while calls for service are down overall, calls for property offenses are on the rise. Nevertheless, the experience of the Fremont Corridor Initiative demonstrates that crime prevention tactics such as crime cameras and directed patrol activities can be successful when properly implemented and appropriately supported by citizens.

APPENDIX A: SURVEY INSTRUMENTS



Las Vegas Metropolitan Police Department

Community Survey

2007 Pilot Safety Camera Project

This survey is to inform police officials about community opinions toward the use of video surveillance cameras. All responses are voluntary and your answers are anonymous.

SECTION 1: DEMOGRAPHICS

First, please answer a few questions that describe you.

GENDER:	
<input type="checkbox"/> Male	<input type="checkbox"/> Female
AGE	
<input type="checkbox"/> 18 to 25	<input type="checkbox"/> 46 to 55
<input type="checkbox"/> 26 to 35	<input type="checkbox"/> 56 and over
<input type="checkbox"/> 36 to 45	
WHAT GROUP BEST DESCRIBES YOU?	
<input type="checkbox"/> White	<input type="checkbox"/> Asian
<input type="checkbox"/> African American	<input type="checkbox"/> Other
<input type="checkbox"/> Hispanic	
TIME IN THE COMMUNITY:	
<input type="checkbox"/> under 1 year	<input type="checkbox"/> 5 to 10 yrs
<input type="checkbox"/> 1 to 2 yrs	<input type="checkbox"/> over 10 yrs
<input type="checkbox"/> 3 to 4 yrs	

SECTION 2: CAMERA, POLICE, & CRIME
Please answer a few general questions about changes in crime and police activity that have occurred since the police installed the video camera at Fremont and 15th Street in early August.

<p>Q1: Since the camera was installed, do you believe there is more, less, or about the same amount of crime and disorder along Fremont Street?</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>
<p>Q2: Since the camera was installed, have you <i>personally</i> seen more, less, or about the same amount of crime and disorder in the neighborhood surrounding Fremont and 15th?</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>
<p>Q3: Since the camera was installed, have you noticed more, less, or about the same level of police activity in the neighborhood? This activity may include police making arrests or talking to people on the street.</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>

SECTION 3: CRIMINAL ACTIVITY

This section is about changes in the types of criminal activity that may occur along Fremont. Please indicate whether you are aware of more, less, or about the same amount of the following activities since the camera was installed.

<p>Q4: Fights / assaults</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>
<p>Q5: Drug dealing</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>
<p>Q6: People openly using drugs or alcohol in public</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>
<p>Q7: Prostitution</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>
<p>Q8: People cruising the area (looking for drugs or prostitutes)</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>
<p>Q9: Juvenile disturbances</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>
<p>Q10: Theft</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>
<p>Q11: Graffiti and vandalism</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>
<p>Q12: Loitering (people hanging out)</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>
<p>Q13: Muggings / street robberies</p> <p><input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> LESS <input type="checkbox"/> Don't Know</p>

SECTION 4: PERSONAL OPINION

Please indicate whether you strongly agree, agree, disagree or strongly disagree with the following statements.

<p>Q14: The camera should be removed from 15th and Fremont.</p> <p><input type="checkbox"/> STRONGLY AGREE <input type="checkbox"/> AGREE <input type="checkbox"/> DISAGREE <input type="checkbox"/> STRONGLY DISAGREE <input type="checkbox"/> Don't Know</p>
<p>Q15: The city should consider adopting more cameras throughout the city.</p> <p><input type="checkbox"/> STRONGLY AGREE <input type="checkbox"/> AGREE <input type="checkbox"/> DISAGREE <input type="checkbox"/> STRONGLY DISAGREE <input type="checkbox"/> Don't Know</p>
<p>Q16: The camera has increased the quality of life for those who live or do business on Fremont Street.</p> <p><input type="checkbox"/> STRONGLY AGREE <input type="checkbox"/> AGREE <input type="checkbox"/> DISAGREE <input type="checkbox"/> STRONGLY DISAGREE <input type="checkbox"/> Don't Know</p>
<p>Q17: It is not appropriate for police to record people in public places because it limits personal privacy.</p> <p><input type="checkbox"/> STRONGLY AGREE <input type="checkbox"/> AGREE <input type="checkbox"/> DISAGREE <input type="checkbox"/> STRONGLY DISAGREE <input type="checkbox"/> Don't Know</p>
<p>Q18: The camera enhances police services, such as making arrests and solving crimes.</p> <p><input type="checkbox"/> STRONGLY AGREE <input type="checkbox"/> AGREE <input type="checkbox"/> DISAGREE <input type="checkbox"/> STRONGLY DISAGREE <input type="checkbox"/> Don't Know</p>
<p>DATE OF SURVEY: ____/____/____</p>



Las Vegas Metropolitan Police Department
Business Survey
 2007 Pilot Safety Camera Project

SECTION 1: BUSINESS DEMOGRAPHICS

BUSINESS TYPE:

BUSINESS NAME:

BUSINESS ADDRESS:

HOURS OF OPERATION:

SECTION 2: CAMERA, POLICE & CRIME
 First, I would like to ask you a few general questions about changes you may have noticed in crime and police activity since the camera on Fremont and 15th Street was installed.

Q1: Since the camera was installed, have you seen more, less, or about the same amount of crime and disorder along Fremont Street?

0 MORE 2 SAME
 1 LESS 3 D/K-REFUSED

Q2: Since the camera was installed, has your business experienced more, less, or about the same amount of crime and disorder?

0 MORE 2 SAME
 1 LESS 3 D/K-REFUSED

Q3: Since the camera was installed, have you noticed more, less, or about the same level of police presence in the neighborhood? This would include more police cars driving by or parked along Fremont Street.

0 MORE 2 SAME
 1 LESS 3 D/K-REFUSED

Q4: Since the camera was installed, have you noticed more, less, or about the same level of police activity in the neighborhood? This activity may include police making arrests or talking to people on the street.

0 MORE 2 SAME
 1 LESS 3 D/K-REFUSED

SECTION 3: CALLS FOR POLICE SERVICE
 The next few questions are about calls for police service made from your business.

Q5: Before the camera was installed, about how many times per month did you or someone who works with you call for police service?

_____ CALLS PER MONTH

Q6: Has your business made more, less, or about the same number of calls for police service since the camera was installed?

0 MORE 2 SAME
 1 LESS 3 D/K-REFUSED

Q7: About how many calls for police service were made from your business in the past 30 days?

_____ CALLS LAST 30 DAYS

SECTION 4: CRIMINAL ACTIVITY
 Let me ask you about changes you may have noticed in the types of criminal activity that occurs along Fremont. Please tell me whether you have seen more, less, or about the same amount of the following activities since the camera was installed.

Q8: Loitering

0 MORE 2 SAME
 1 LESS 3 D/K-REFUSED

Q9: Drug dealing

0 MORE 2 SAME
 1 LESS 3 D/K-REFUSED

Q10: People openly using drugs or alcohol

0 MORE 2 SAME
 1 LESS 3 D/K-REFUSED

Q11: Prostitution

0 MORE 2 SAME
 1 LESS 3 D/K-REFUSED

Q12: People cruising the area

0 MORE 2 SAME
 1 LESS 3 D/K-REFUSED

SECTION 5: PERSONAL OPINION
 Please tell me whether you strongly agree, agree, disagree or strongly disagree with the following statements.

Q13: The camera should be removed from 15th and Fremont.

0 STRONGLY AGREE
 1 AGREE
 2 DISAGREE
 3 STRONGLY DISAGREE
 4 D/K-REFUSED

Q14: The city should consider installing more cameras to reduce crime throughout the city.

0 STRONGLY AGREE
 1 AGREE
 2 DISAGREE
 3 STRONGLY DISAGREE
 4 D/K-REFUSED

Q15: The camera has increased the safety of those who live or do business on Fremont Street.

0 STRONGLY AGREE
 1 AGREE
 2 DISAGREE
 3 STRONGLY DISAGREE
 4 D/K-REFUSED

Q16: My business has been positively impacted by the presence of the camera.

0 STRONGLY AGREE
 1 AGREE
 2 DISAGREE
 3 STRONGLY DISAGREE
 4 D/K-REFUSED

Q17: The camera unnecessarily limits personal privacy in public places.

0 STRONGLY AGREE
 1 AGREE
 2 DISAGREE
 3 STRONGLY DISAGREE
 4 D/K-REFUSED

DATE / TIME OF INTERVIEW:
 ____/____/____ : ____ am pm

SECTION 6: ADDITIONAL COMMENTS

Is there anything else you would like to share with us about the camera or other police strategies being used to reduce crime on and around Fremont Street?

SECTION 7: PERSONAL CONTACT INFORMATON

May we contact you directly if we have any further questions?

0 NO

1 YES

↳NAME: _____

PHONE: _____

SECTION 8: ALTERNATIVE CONTACTS

Do you have any employees that may want to share their opinions with us?

0 NO

1 YES

↳NAME(S): _____

CONTACT METHOD: _____



Las Vegas Metropolitan Police Department
Officer Survey
 2007 Pilot Safety Camera Project

Interviewer name: _____

Interview date: ____/____/____ Interview time: ____:____ am / pm

OFFICER INFORMATION

Squad _____ Rank _____ Years with Metro _____

On August 1, 2007, an initiative began along the Fremont corridor that included the installation of a safety camera at 15th and Fremont. The following questions are related to changes you may have observed following the implementation of this initiative.

Q1. Please indicate whether you have seen more, less, or about the same of the following activities since August 1st in the area of 15th and Fremont.

	More	Less	Same	Don't Know
a. Loitering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Drug dealing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Drug or alcohol use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Prostitution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. People cruising the area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Vandalism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Violent offenses (e.g., robbery, assault)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Property offenses (burglary, theft, auto theft)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Overall level of crime and disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q2. In the past, the area of 15th and Fremont has attracted known offenders who live in and around the surrounding neighborhoods, offenders for other part of Las Vegas and Southern Nevada, and offenders from outside Nevada (for example, the tourist community). According to your opinion and experience, please state whether you have seen more, less, or about the same of the following types of offenders since August 1st in the area of 15th and Fremont.

	More	Less	Same	Don't Know
a. Offenders who live in and around the neighborhoods surrounding 15 th and Fremont	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Offenders who live in other parts of Clark County or Southern Nevada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Offenders from outside Clark County or Southern Nevada, such as tourists or "weekend warriors"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q3. Crime prevention efforts directed at specific locations can displace crime to other locations or cause criminals to alter their behaviors to avoid detection. Please state whether you agree or disagree with the following statements regarding activity occurring after August 1st in the area of 15th and Fremont.

	Agree	Disagree	Don't Know
a. Offenders have moved the location(s) of their activities; for example, to other streets or intersections.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Agree, please explain _____ _____			
b. Offenders have shifted the time(s) during which they operate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Agree, please explain _____ _____			
c. Offenders have altered the method(s) by which they operate; for example, operating out of residences rather than on the street	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Agree, please explain _____ _____			

Q4. Crime prevention efforts directed at specific locations can also produce reductions in crime at nearby locations. Please state whether you agree or disagree with the following statement.

	Agree	Disagree	Don't Know
a. Crime has decreased in areas surrounding the 15 th and Fremont intersection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Agree, please explain _____ _____			

Q5. The following is a list of strategies that have been used to reduce crime along the Fremont corridor. Please tell me whether you think each tactic is very, somewhat, or not at all effective in reducing crime in this area.

	Very	Somewhat	Not at all	Don't Know
a. Directed patrol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Saturation teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Efforts of business owners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Efforts of residents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. IDL program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Special unit activities (e.g., vice)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. CCTV Camera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q6. CCTV cameras can be used in various ways to reduce crime. Please tell me how effective each of the following uses of the camera has been in helping to reduce crime along the Fremont corridor. Rate each item based on a scale of 1 through 5, where 1 represents not at all effective and 5 represents very effective in reducing crime in this area.

	Not at all				Very	Don't Know
a. Camera in plain view as a deterrent	1	2	3	4	5	<input type="checkbox"/>
b. Dispatching officers to criminal activity detected on camera	1	2	3	4	5	<input type="checkbox"/>
c. Gathering intelligence	1	2	3	4	5	<input type="checkbox"/>

Q7. Since the camera became operational, about how many times have you personally received a call from the camera operator or dispatch to investigate activity that had been witnessed by someone monitoring the camera?

NUMBER OF CALLS _____

Q8. Can you think of anything else that might be effective in reducing criminal activity along the Fremont corridor?

APPENDIX B. ADDITIONAL TABLES AND FIGURES

Percent change in number of calls for index offenses, comparing 2006 and 2007 post-intervention period

	2006	2007	% change
Intervention Area	1113	1110	-0.27
- Intervention Catchment	693	746	7.65
Camera Target Area	114	83	-27.19*
- Camera Catchment	10	6	-40.00 ^{N/A}
Southwest Control Area	812	665	-18.10***
South Central Control Area	1155	992	-14.11**
Southeast Control Area	629	713	13.35*

^a p<.10, * p<.05, ** p<.01, ***p<.001
^{N/A} Base rate too low for statistical analyses

Percent change in number of calls for violent index offenses, comparing 2006 and 2007 post-intervention period

	2006	2007	% change
Intervention Area	488	449	-7.99
- Intervention Catchment	333	309	-7.21
Camera Target Area	72	53	-26.39 ^a
- Camera Catchment	7	3	-57.14 ^{N/A}
Southwest Control Area	330	252	-23.64*
South Central Control Area	499	431	-13.63 ^a
Southeast Control Area	283	264	-6.71

^a p<.10, * p<.05, ** p<.01, ***p<.001
^{N/A} Base rate too low for statistical analyses

Percent change in number of calls for property index offenses, comparing 2006 and 2007 post-intervention period

	2006	2007	% change
Intervention Area	625	661	5.76
- Intervention Catchment	360	437	21.39 ^a
Camera Target Area	42	30	-28.57
- Camera Catchment	3	3	0.00
Southwest Control Area	482	413	-14.32**
South Central Control Area	656	561	-14.48**
Southeast Control Area	346	449	29.77***

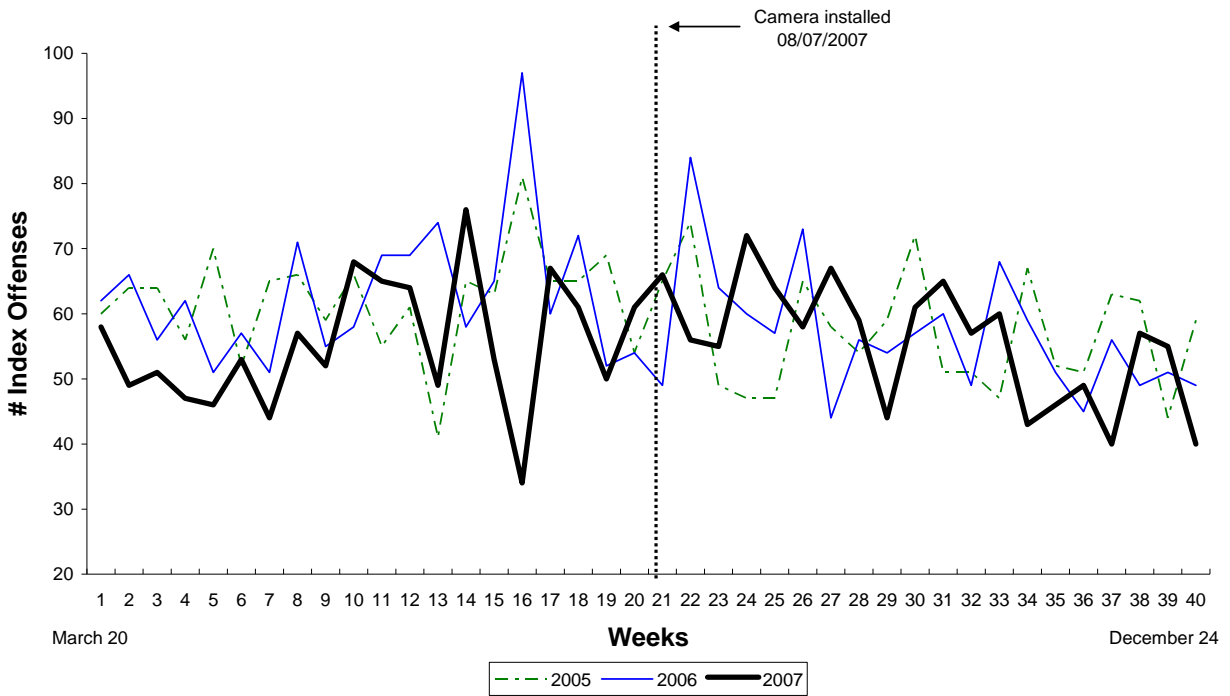
^a p < .10, * p < .05, ** p < .01, ***p < .001

Percent change in number of calls for Part II offenses, comparing 2006 and 2007 post-intervention period

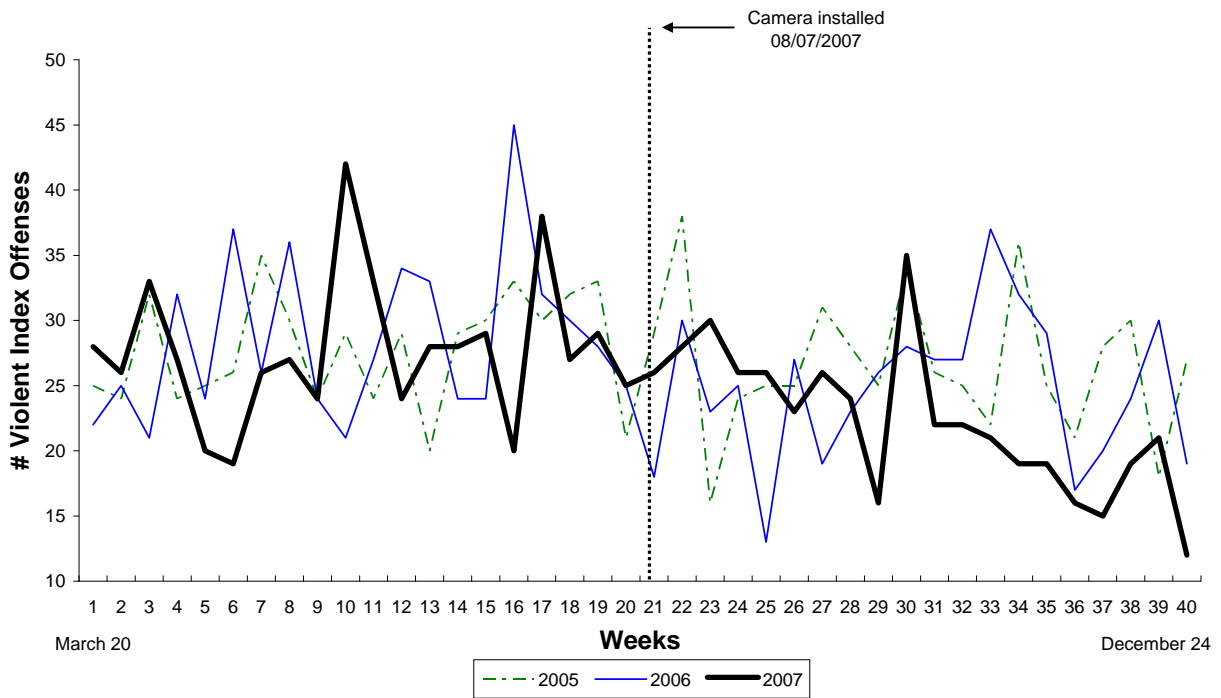
	2006	2007	% change
Intervention Area	3961	3706	-6.44 ^a
- Intervention Catchment	2838	2814	-0.85
Camera Target Area	510	497	-2.55
- Camera Catchment	37	32	-13.51
Southwest Control Area	3121	2739	-12.24***
South Central Control Area	4140	3611	-12.78***
Southeast Control Area	2600	2302	-11.46**

^a p < .10, * p < .05, ** p < .01, ***p < .001

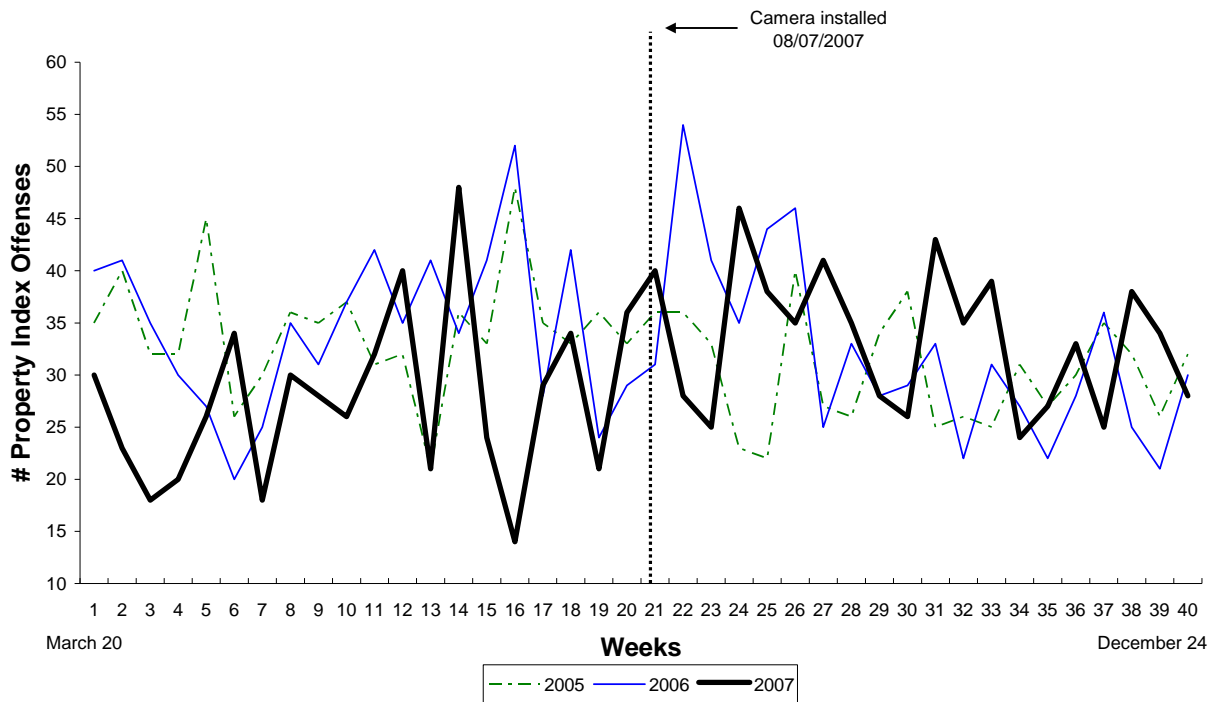
Weekly Index Offenses Intervention Area



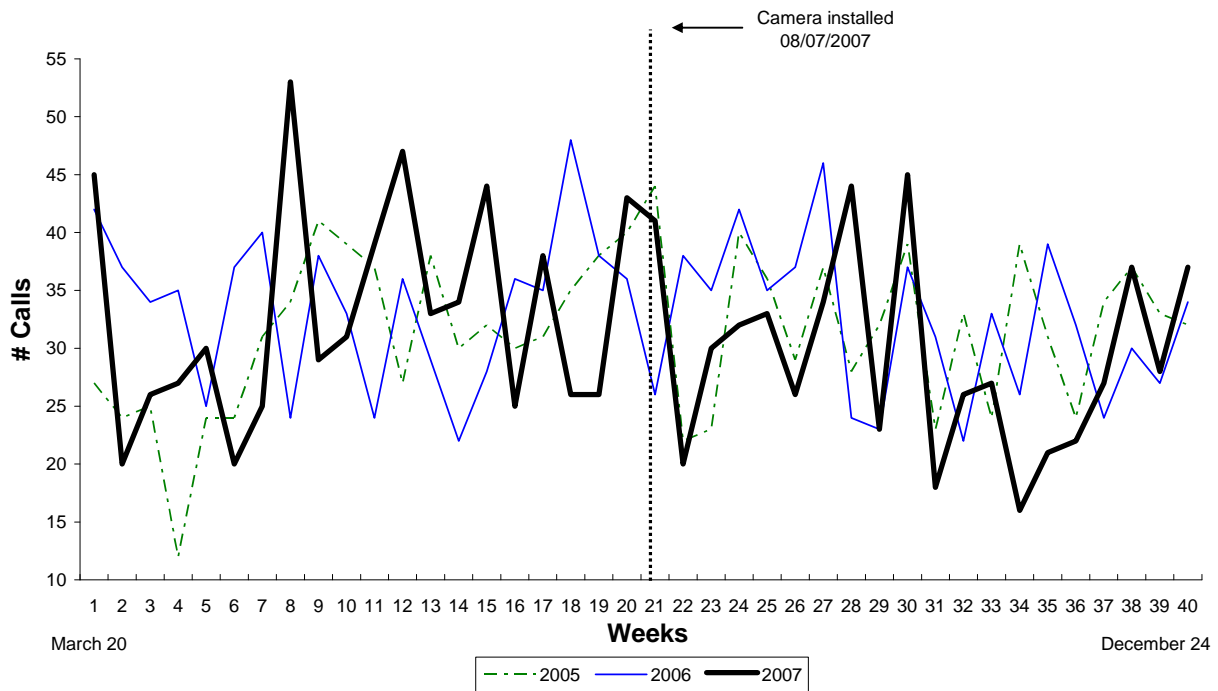
Weekly Violent Index Offenses Intervention Area



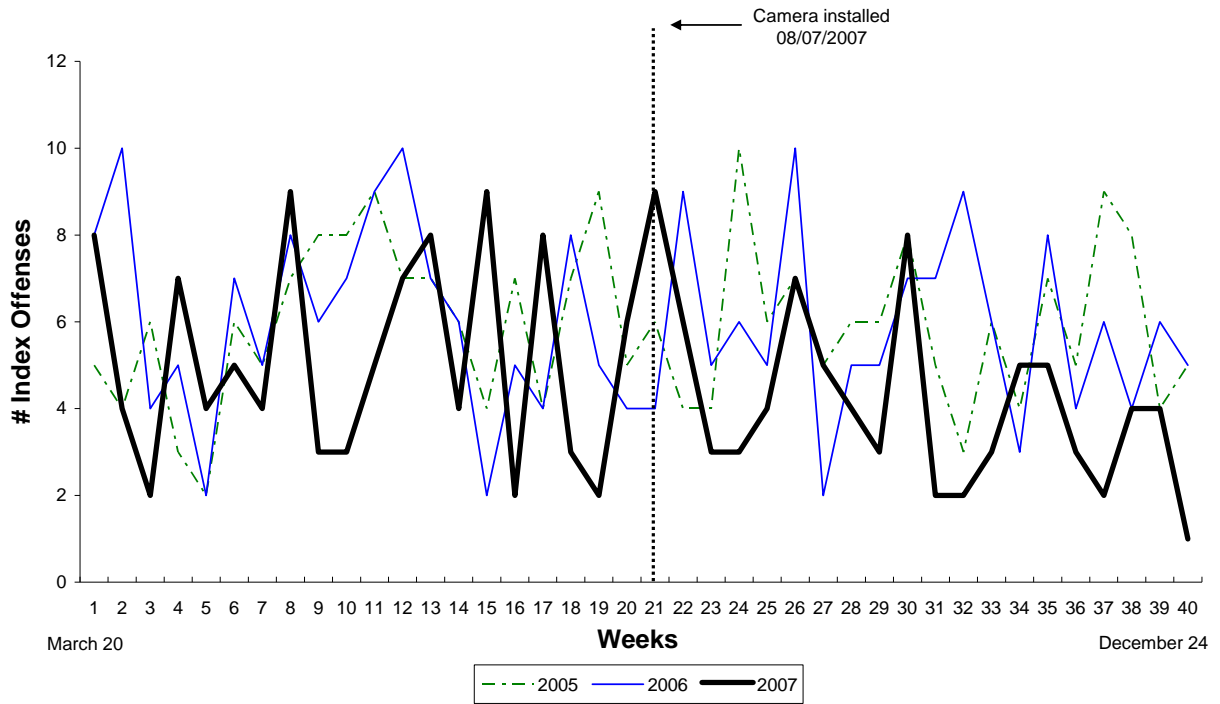
Weekly Property Index Offenses Intervention Area



Weekly Calls for Service Camera Location



Weekly Index Offenses Camera Location



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