

University Student Crime Prevention Awareness Project Evaluation

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TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	iv
INTRODUCTION.....	1
RESEARCH QUESTIONS.....	3
METHODOLOGY.....	4
DATA.....	4
EVALUATION DESIGN.....	5
STATISTICS.....	8
FINDINGS.....	10
CRIME TRENDS IN TREATMENT AREA	10
CHANGES IN AGGREGATE PART I CRIME STATISTICS.....	12
CHANGES BY CRIME TYPE.....	15
EVIDENCE OF DISPLACEMENT OR DIFFUSION OF BENEFITS.....	16
CONCLUSIONS AND RECOMMENDATIONS.....	20
APPENDIX A.....	22
APPENDIX B.....	24
APPENDIX C.....	26
APPENDIX D.....	29

LIST OF TABLES

TABLE 1. EVALUATION STRATEGY TO CONTROL FOR SEASONAL AND ACADEMIC YEAR EFFECTS.....	7
TABLE 2. ANALYSIS REFERENCE PERIODS.....	13
TABLE 3. CHANGES IN AGGREGATE PART I CRIME STATISTICS ACROSS ACADEMIC YEARS 2002-2003 AND 2003-2004.....	13
TABLE 4. CHANGES IN AGGREGATE PART I CRIME STATISTICS ACROSS ACADEMIC YEARS 2003-2004 AND 2004-2005.....	14
TABLE 5. CHANGES DURING TREATMENT PERIOD BY CRIME TYPE ACROSS ACADEMIC YEARS 2003-2004 AND 2004-2005.....	16
TABLE 6. CATCHMENT AREA CHANGES IN AGGREGATE PART I CRIME STATISTICS ACROSS ACADEMIC YEARS 2002-2003 AND 2003-2004.....	17
TABLE 7. CATCHMENT AREA CHANGES IN AGGREGATE PART I CRIME STATISTICS ACROSS ACADEMIC YEARS 2003-2004 AND 2004-2005.....	17
TABLE 8. CHANGES DURING TREATMENT PERIOD IN CATCHMENT AREA BY CRIME TYPE ACROSS ACADEMIC YEARS 2003-2004 AND 2004-2005.....	18

LIST OF FIGURES

FIGURE 1. TARGETED AREA FOR CRIME PREVENTION AWARENESS PROJECT.....	6
FIGURE 2. CRIMES TRENDS IN TREATMENT AREA.....	11
FIGURE 3. TREATMENT EFFECT IDENTIFIED WITHIN CRIME TRENDS.....	12

EXECUTIVE SUMMARY

Purpose

This report provides a summary of findings from an evaluation of a university student crime prevention awareness project. The purpose of the evaluation is to assess the impact of the distribution of crime prevention information, disseminated in the form of door hangers, on the number personal and property crimes occurring in a residential neighborhood adjacent to the University of Cincinnati.

Analysis and Findings

The information presented stems from spatial and statistical analyses of Part I crimes in and around the areas targeted for intervention. Five major findings emerge from the evaluation.

1. There was a significant reduction in Part I crime following the distribution of door hangers.
2. The observed decline in crimes was driven primarily by a significant reduction in the number of thefts.
3. The intervention reduced crime for approximately nine weeks, after which crime returned to expected levels.
4. There is little evidence to suggest that the crimes prevented were displaced to surrounding areas.
5. There is evidence that the project produced a diffusion of benefits, reducing thefts at nearby locations that did not receive the door hangers.

Conclusion

Based on the above findings, a replication of the project is justified. Given that the project's major success was reducing thefts, alternative strategies may be considered and used in conjunction with the door hangers to produce similar successes across varying crime types. The length of the treatment effect suggests that crime prevention information should be disseminated on a regular basis to produce a sustained reduction in crime. Officials should continue to recruit student volunteers who live in the targeted area to increase anticipatory benefits. The reduction in student victimizations and crime in surrounding areas demonstrates the benefit of the University of Cincinnati Police Division and the Cincinnati Police Department partnership.

INTRODUCTION

In December, 2004, the University of Cincinnati Police Division helped to coordinate a crime prevention project aimed at raising student awareness of crime problems around campus. The primary objective of this project was to reduce crime occurring over the academic winter break in residential areas surrounding the west campus of the University of Cincinnati.¹ In years prior to the intervention, police observed that a substantial number of property victimizations occurred when residents left the area for the holidays. Police claim they experienced a notable increase in the number of reported property crime once the residents returned.

Most of the residential areas adjacent to the west campus of the University of Cincinnati are primarily inhabited by students. Therefore, law enforcement officials looking to reduce crime in this area during winter break in 2004 were faced with at least two issues unique to student populations. First, the academic calendar dictates that at certain times of the year, a large proportion of residents will vacate the area, leaving their homes and property unguarded. Second, the substantial and consistent turnover of residents each year makes sustained crime prevention awareness in the neighborhood difficult. For this reason, police recognized that efforts to reduce crime in the neighborhoods surrounding the University must address the problems associated with the seasonal migration of the students, as well as provide information to new residents who may be unaware of their victimization risks. A publicity campaign to increase crime awareness was chosen to address these issues.

The project involved a coordinated effort led by the University of Cincinnati Police Division and the Cincinnati Police Department, and included University of Cincinnati students and other volunteers from the University and surrounding neighborhoods. To increase student victimization awareness, police focused on disseminating three types of information: (1)

¹ This area is known as University Heights.

strategies to reduce property victimization, (2) strategies to reduce personal victimization, and (3) a list of available resources (e.g., police contact telephone numbers, “Nightwalk” program availability²). Police and volunteers disseminated this information in the form of door hangers with crime prevention tips, personal safety tips, and emergency phone numbers (see Appendix A). The door hangers were distributed on a Saturday morning, one week before winter break. Over 40 volunteers delivered the door hangers to approximately 5,000 residences located south, west, and east of the University of Cincinnati’s west campus.

Evaluations of similar crime prevention programs that focus on increasing victimization awareness suggest that such programs can effectively reduce crime. Research has shown that doorstep campaigns by police are often associated with successful crime prevention initiatives.³ These techniques raise awareness among potential victims, who in turn increase defensive behavior. Depending on the types of crime prevention measures used by potential victims, risk and/or effort associated with the targeted crimes can be increased.⁴

The purpose of the current evaluation is to assess the effectiveness of the crime prevention awareness project by providing spatial and statistical analyses of police crime data. We attempt to determine if the overall level of crime declined as a result of the intervention and whether the impact varied by crime type. We also examine the length of the treatment effect. The results from the evaluation can help determine whether a replication of the project is justified and, if so, how frequently it should be replicated based on the length of the treatment effect.

² This program is run by the student government. Volunteers offer to escort students to their vehicles or nearby residences after dark.

³ Poyner, Barry. (1993). What Works in Crime Prevention: An Overview of Evaluations. In R. V. Clarke (Ed.), *Crime Prevention Studies* (Vol. 1, pp. 7-34). Monsey, N.Y.: Criminal Justice Press

⁴ The situational crime prevention perspective maintains that crime can be prevented by increasing the level of effort or risk associated with criminal opportunities. For more information, please refer to the 25 techniques of situational crime prevention. A description of these techniques can be found at www.popcenter.org.

RESEARCH QUESTIONS

The specific objective of the current evaluation is to determine whether the crime prevention awareness project reduced crime in the targeted area. Five general research questions guide this assessment:

1. Was there a reduction in crime following the distribution of door hangers?

If a reduction occurred:

2. What types of crimes were prevented?
3. How long did the treatment effects last?
4. Is there evidence of crime displacement to nearby locations?
5. Is there evidence of a diffusion of benefits to nearby locations?

METHODOLOGY

The methods used to conduct the assessment of the crime prevention awareness project are described below. First, the types of data used and the limitations of the data are discussed. Second, the evaluation design and periods of analysis are outlined. Finally, the statistical procedures used in the analysis and the limitations associated with these techniques are presented.

DATA

Part I crime data for the area surrounding the University of Cincinnati were obtained from the Cincinnati Police Department for years 2002 through 2005. Part I crime data was chosen for analysis since these data provide a more conservative estimate of serious criminal activity than other available statistics.⁵

While Part I crime data can be used as a general indicator of criminal activity, this type of police data may provide biased estimates of true crime levels for at least two reasons. First, not all crimes are reported or come to the attention of police authorities. Citizens may feel that their victimization is too minor or embarrassing to report, that there is little police can do to solve their crime, or that the benefits of reporting the crime may not be worth the effort.⁶ Second, not all reported crimes can be substantiated by police (e.g., due to lack of evidence) and, therefore, may not be recorded in official police statistics. Victimization surveys can be used to capture unreported and unsubstantiated crimes but are typically expensive, suffer from their own biases (e.g., telescoping and other issues associated with memory recall), and cannot be used in

⁵ Unlike calls for service data, only crimes substantiated by police are included in Part I crime statistics. Part I crime data generally include more serious offenses than Part 2 crime data.

⁶ See Decker, David L., David Shichor, and Robert M. O'Brien. (1982). *Urban Structure and Victimization*. Lexington, MA: Lexington Books.

retrospective analyses.⁷ In lieu of victimization data, Part I crime data are used to provide reasonable estimates of the number of crime incidents that occurred both before and after the implementation of the intervention. Six major Part I crime types are included in the analyses: assault, burglary, rape, robbery, theft, and vehicle theft.

EVALUATION DESIGN

A strong evaluation design is necessary to determine if changes in the number of crimes reported should be attributed to the crime prevention project or to some other influence. Crime rates tend to fluctuate over time and a reduction in crime does not necessarily mean that the crime prevention program was a success. In general, research designs that use control groups and measure crime several times before and after the response produce more valid results. Data from academic years prior to the intervention can be used to control for seasonal effects. These data can also be used to estimate the number of crimes that would have been reported in the treatment area had the crime prevention strategy not been implemented. Also, using several observations of crime both before and after the intervention can help to assess the length of the project's crime suppression effect.

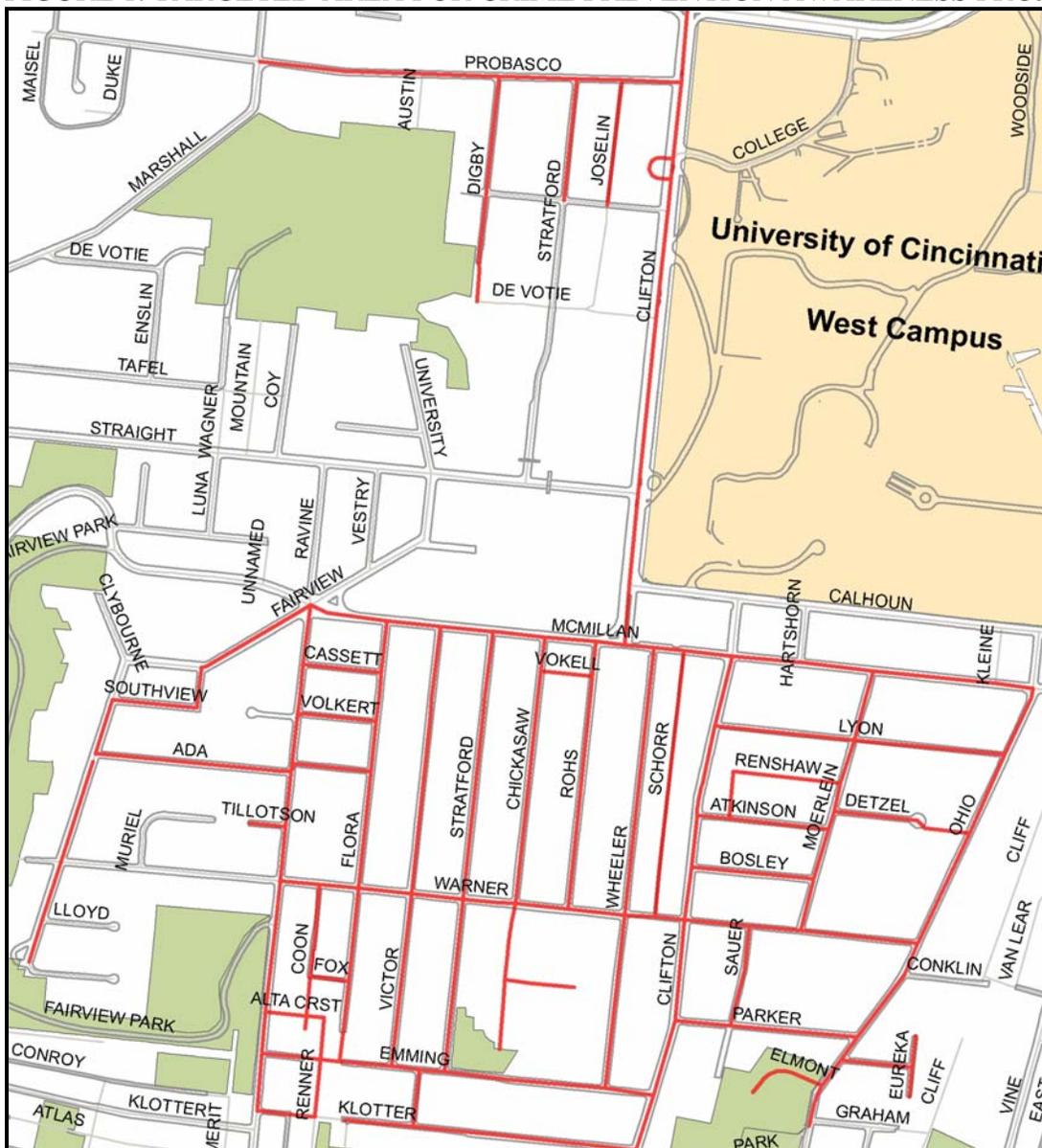
The door hangers were distributed on December 4, 2004, one week prior to winter break along the red street segments depicted in Figure 1.⁸ In order to evaluate the effect of the crime prevention awareness project, Part I crimes that occurred along the targeted street segments were aggregated by week. Counts of crimes per week were collected for 13 weeks prior to the

⁷ See Cantor, David and James P. Lynch. (2000). Self-Report Surveys as Measures of Crime and Criminal Victimization. In D. Duffee (Ed.), *Measurement and Analysis of Crime: Criminal Justice 2000* (Vol. 4, pp. 451-489). Washington, DC: United States Department of Justice, Office of Justice Programs.

⁸ Door hangers were also distributed east of the University. However, the exact street segments were not documented and, therefore, could not be included in the analysis. It is also important to note that, unlike the area included in this analysis, the excluded area is not predominantly comprised of students.

intervention and 13 weeks after the intervention. The 13 week time period was chosen specifically to control for annual population changes. Thirteen weeks prior to the intervention marks the beginning of the academic year, when a large number of students move into the neighborhood. Using this 13 week time frame allows us to restrict the analysis to periods when the student neighborhood is assumed to be more densely populated.

FIGURE 1. TARGETED AREA FOR CRIME PREVENTION AWARENESS PROJECT



There was no appropriate control area available for analysis since there are no other residential neighborhoods adjacent to the campus with a similar population. However, Part I crime data from the two previous academic years were used (1) to establish the pre-existing level of crime in the area and (2) as comparison groups to control for seasonal effects.⁹ Like the Part I crime data from the 2004-2005 academic year, the 2002-2003 and 2003-2004 Part I crimes were aggregated by week (refer to Table 1 for dates corresponding with these weeks). Each week used in the analyses begins on a Sunday and ends on a Saturday.

TABLE 1. EVALUATION STRATEGY TO CONTROL FOR SEASONAL AND ACADEMIC YEAR EFFECTS

ACADEMIC YEAR	26 WEEK PRE- AND POST-IMPLEMENTATION PERIOD
2002-2003	September 8, 2002 to March 8, 2003
2003-2004	September 7, 2003 to March 6, 2004
2004-2005	September 5, 2004 to March 5, 2005

There is a concern that when crimes are prevented in a particular area, they may be displaced to other surrounding areas that did not receive the crime prevention program. While existing research indicates that displacement is not inevitable and crimes are rarely displaced completely,¹⁰ displacement should be anticipated and measured in an evaluation in order to determine the total impact of the crime prevention strategy. Findings from studies on displacement reveal that crime is most likely to be displaced to similar times, places, and types of

⁹ Part I crime data from academic years 2000-2001 and 2001-2002 were originally included in this analysis. However, an examination of these data revealed that crime significantly increased between academic years 2001-2002 and 2002-2003. One possible hypothesis for this increase is that reorganization of public housing between these years led to some offenders being displaced near the student neighborhood of interest. In any event, we chose to restrict the analysis to two years prior to the intervention since the crime trends demonstrated greater stability.

¹⁰ See Hesselting, Rene B. P. (1994). Displacement: A Review of the Empirical Literature. In R. V. Clarke (Ed.), Crime Prevention Studies (Vol. 3, pp. 197-230). Monsey, NY: Criminal Justice Press.

offenses. As offenders are forced to move beyond what is familiar to them in order to commit crimes, displacement is less likely to occur.

Conversely, it is also possible that a crime prevention strategy might have a diffusion of benefits. A diffusion of benefits occurs when offenders, aware of the crime prevention strategy but unsure of its extent, do not commit crimes at locations that are not included in the treatment area. Therefore, a reduction in crime is observed in places outside of the area targeted by the prevention program. For the specific prevention program currently under investigation, it is also possible that the publicity surrounding the intervention (e.g., media reports) affected the behavior of potential victims who live outside the targeted area. In other words, individuals who did not receive the door hangers were still made aware of the crime prevention information and therefore altered their behavior and reduced their risk of victimization.

Based on what is known about offender mobility,¹¹ we chose to examine a catchment area of two to three city blocks to explore the possibility of displacement or diffusion of benefits (see Appendix B). This catchment area encompasses street segments which did not receive the treatment, but are part of the University neighborhood. In addition, the catchment area is defined by natural barriers which would likely affect offender movement.

STATISTICS

Numbers of crimes committed within a particular area are likely to vary over time due to random fluctuations in crime patterns. Therefore, it is necessary to determine whether observed increases or decreases in criminal activity are the result of these random fluctuations or if they

¹¹ Offenders are unlikely to travel far or to unfamiliar places to commit offenses. See Brantingham, Paul J. and Patricia L. Brantingham. (1981-1982). Mobility, notoriety, and crime: A study of crime patterns in urban nodal points. *Journal of Environmental Systems*, 11(1), 89-99.

represent a “real” or significant change in the overall level of crime. To assess the effectiveness of the crime prevention awareness project, crime levels before and after the distribution of door hangers are compared using a non-parametric Chi-Square test statistic that separates significant from non-significant differences.

There are, however, two limitations to using this statistic. First, when the number of crimes analyzed is small, the results become less stable. In fact, this statistic cannot be used when the expected cell size is less than five. This means that the statistic will not produce valid results when less than 10 crimes are included in an analysis. Also, the statistic cannot be used if one of the cells is equal to 0, since the variable is actually a constant in this case. For example, if nine crimes occurred prior to the distribution of door hangers but none were committed after (or vice versa), the Chi Square statistic cannot be used.

To supplement the statistical analyses, the raw difference and the percent change in the number of crimes committed across analysis periods are presented. However, caution should be used when interpreting the percent change for relatively small numbers of offenses. For example, if one assault occurred prior to the implementation of the project and two assaults occurred after, this would produce a statistical increase of 100 percent. Still, it should not be assumed that this increase was a significant one, as a change from one to two crimes is more likely due to random fluctuations than any other hypothesized influence.

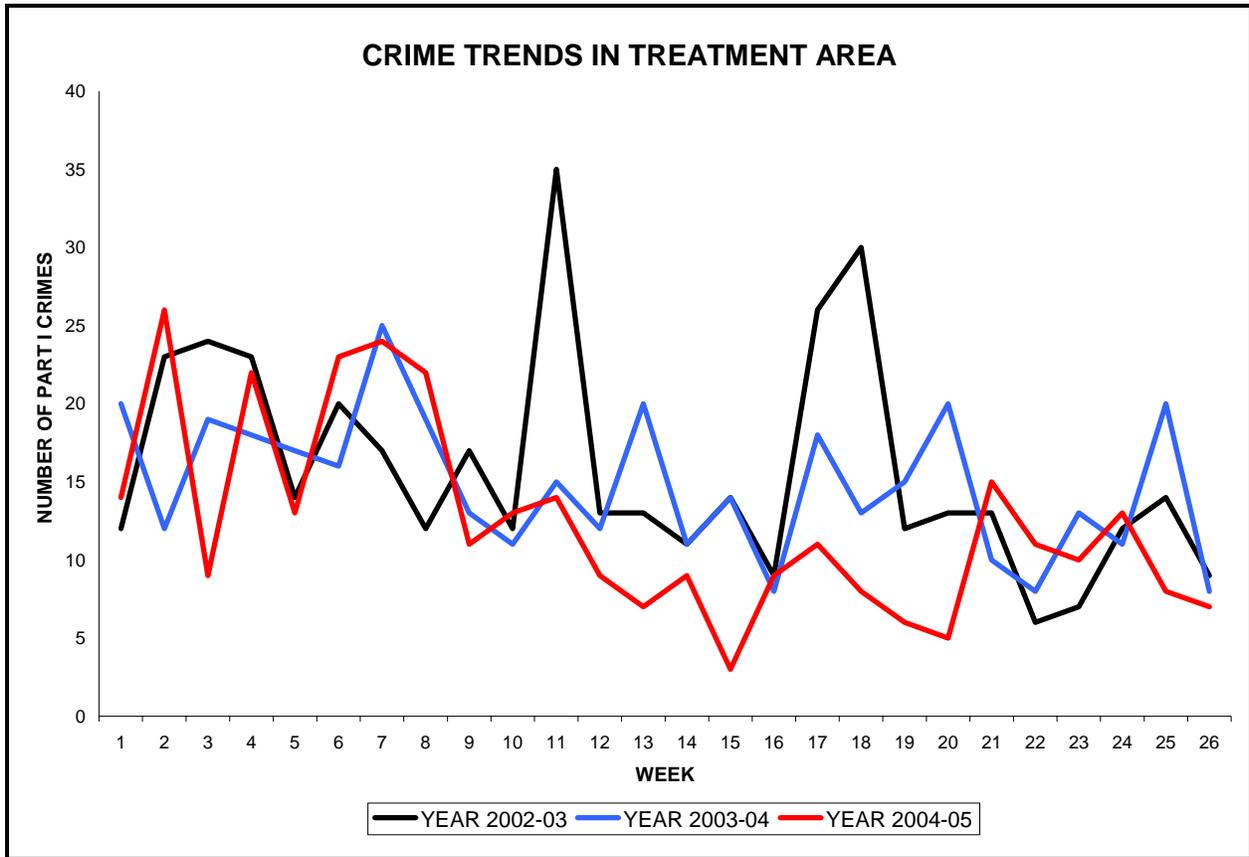
FINDINGS

The findings of the current evaluation are presented within four major subsections. First, crime incidents in the treatment area are aggregated by week and compared across all three years. A visual inspection of these crime trends allows a cursory investigation into whether any treatment effect occurred and, if so, how long the treatment continued to exert a crime suppression effect. Second, significance tests are used to determine whether there were any significant differences in the number of Part I crimes from year-to-year within three reference periods: pre-treatment, treatment, and post-treatment. Third, analyses of changes by crime type are conducted to determine which crimes, if any, were affected by the project. Fourth, fluctuations in crime within the catchment area are analyzed to search for evidence of crime displacement or diffusion of benefits.

CRIME TRENDS IN TREATMENT AREA

Figure 2 depicts the number of Part I crime incidents that occurred during each of the 26 weeks in the treatment area over three academic years: 2002-2003, 2003-2004, and 2004-2005 (refer to Table 1 for dates corresponding with these weeks). The red line symbolizing academic year 2004-2005 represents the year in which the treatment was administered. A visual comparison of this line with the two baseline figures suggests that a treatment effect may have occurred sometime between week 12 and week 20. With the exception of week 16, when the numbers of incidents were almost identical for all three years, fewer crime incidents occurred between week 12 and 20 during academic year 2004-2005 than during the same time period within the previous two years. The general decrease in crime around week 12 corresponds with the implementation of the crime awareness intervention.

FIGURE 2. CRIME TRENDS IN TREATMENT AREA

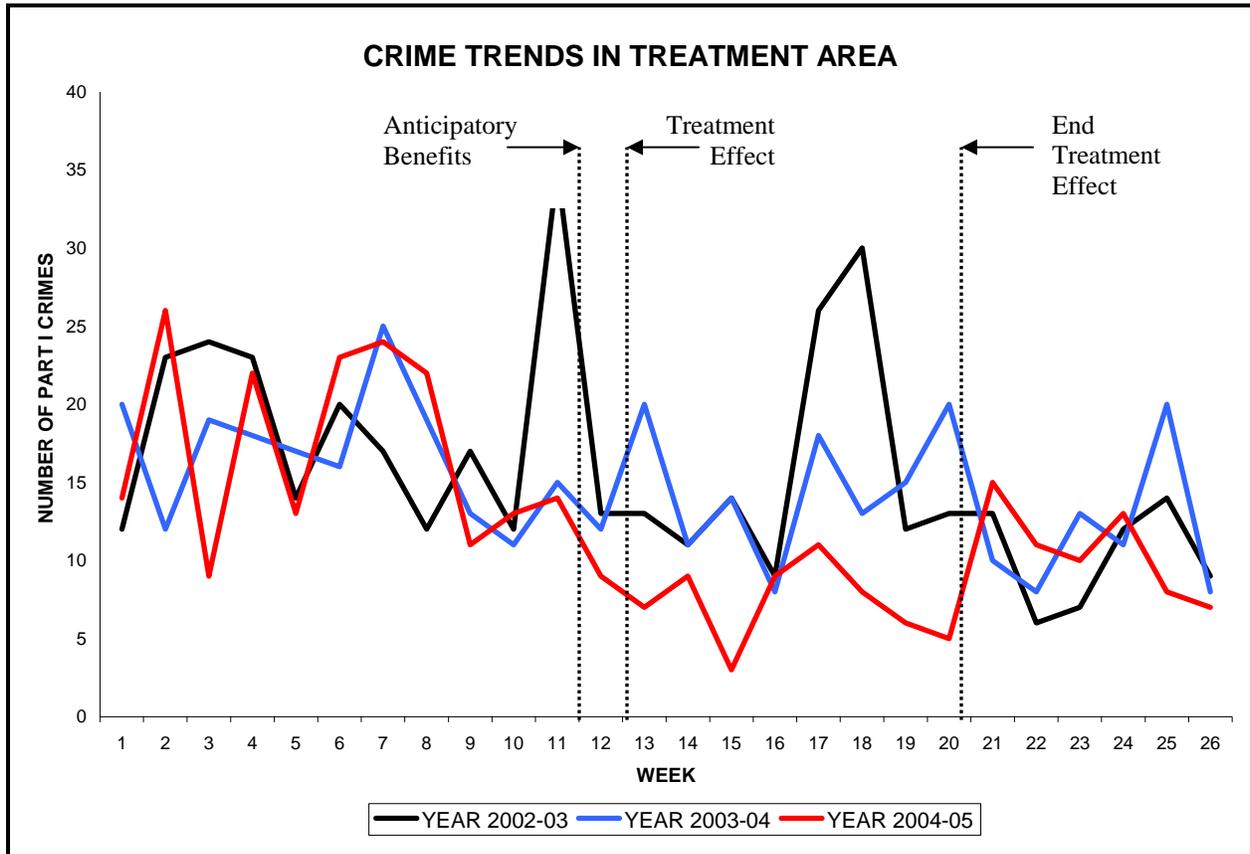


While the door hangers were distributed on the last day of week 13 (December 4, 2004) and the presence of police and volunteers on that day likely decreased crime reported during that week, there is a plausible explanation for the reduction in crime that seems to have occurred during the previous week. In preparation for the intervention, there was an effort to recruit students to assist in the distribution of the door hangers. Students who participated in the project and lived or parked their cars in the area may have altered their behavior prior to the actual intervention, resulting in what is known as “anticipatory benefits.”¹² Consequently, it appears the

¹² For a detailed explanation of the anticipatory benefits process, see Smith, M. J., Ronald V. Clarke, and Ken Pease. (2002). Anticipatory Benefits of Crime Prevention. In N. Tilley (Ed.), *Analysis for Crime Prevention* (Vol. 13, pp. 71-88). Monsey, NY: Criminal Justice Press.

crime suppression effect of the door hangers lasted approximately nine weeks, beginning in week 12 and ending after week 20. Figure 3 depicts the timeline of the identified treatment effect.

FIGURE 3. TREATMENT EFFECT IDENTIFIED WITHIN CRIME TRENDS



CHANGES IN AGGREGATE PART I CRIME STATISTICS

A visual inspection of the crime data suggests that a treatment effect occurred. However, significance tests must be conducted to determine whether the crime trend in 2004-2005 is truly different from the crime trends of the previous two years. Based on the crime trend fluctuations depicted in Figures 2 and 3, the crime data was divided into three reference periods for analysis: pre-treatment (11 weeks), treatment (9 weeks), and post-treatment (6 weeks). Table 2 lists the dates that correspond with these reference periods for each academic year.

TABLE 2. ANALYSIS REFERENCE PERIODS

ACADEMIC YEAR	PRE-TREATMENT (11 WEEKS)	TREATMENT (9 WEEKS)	POST-TREATMENT (6 WEEKS)
2002-2003	September 8, 2002 to November 23, 2002	November 24, 2002 to January 25, 2003	January 26, 2003 to March 8, 2003
2003-2004	September 7, 2003 to November 22, 2003	November 23, 2003 to January 24, 2004	January 25, 2003 to March 6, 2004
2004-2005	September 5, 2004 to November 20, 2004	November 21, 2004 to January 22, 2005	January 23, 2005 to March 5, 2005

To assess whether the intervention caused a significant decrease in crime, we first compare the two baseline years. Table 3 reports the raw number of Part I crime incidents that occurred in each reference period for both years. The Chi-Square test statistic reveals that there are no significant differences in the number of crimes that occurred between academic years 2002-2003 and 2003-2004 during the pre-treatment, treatment, or post-treatment reference periods. This suggests that crime levels in the treatment area remained relatively stable for two years prior to the intervention. The differences observed cannot be attributed to anything more than random or chance fluctuations in crime counts.

TABLE 3. CHANGES IN AGGREGATE PART I CRIME STATISTICS ACROSS ACADEMIC YEARS 2002-2003 AND 2003-2004

Reference Period	2002-2003	2003-2004	Difference	Percent Change	Significant
Pre-Treatment	209	185	-24	-11.48%	No
Treatment	141	131	-10	-7.09%	No
Post-Treatment	61	70	+9	+14.75%	No

The same analysis is conducted to compare crime levels between the 2003-2004 and 2004-2005 academic years. The findings are reported in Table 4. Across both years, there are no significant differences between the numbers of crimes that occurred during the pre-treatment or post-treatment reference periods. However, there is a significant difference in the number of crimes that occurred between the two years during the treatment period. During the nine week treatment period, there were significantly fewer Part I crimes documented by police. Appendix C contains two maps that depict the number and distribution of crimes committed during the treatment reference period in both 2003-2004 and 2004-2005. There does not appear to be any notable shifts in the concentration of crime after the intervention was implemented; instead, it appears that there was a uniform reduction in crime on almost all street segments.

TABLE 4. CHANGES IN AGGREGATE PART I CRIME STATISTICS ACROSS ACADEMIC YEARS 2003-2004 AND 2004-2005

Reference Period	2003-2004	2004-2005	Difference	Percent Change	Significant
Pre-Treatment	185	191	+6	+3.24%	No
Treatment	131	67	-64	-48.85%	Yes*
Post-Treatment	70	64	-6	-8.57%	No

*p < .0001

CHANGES BY CRIME TYPE

The above analysis confirms that there was a significant decrease in crime following the implementation of the crime prevention awareness project. We now attempt to determine what types of crime were affected by the intervention. The data were disaggregated by crime type and the numbers of crimes documented during the nine week 2004-2005 treatment period were compared to the numbers of crimes documented for the same period during the previous year.¹³

It is not possible to draw conclusions concerning the impact of the project on assaults or rapes due to low base numbers (see Table 5). Neither the decrease in burglary nor the slight increase in vehicle theft represents a significant change in the number of these crimes. While there appears to be a substantial decrease in the number of robberies following the intervention (-41.67 percent), low base numbers prevent this decline from reaching significance. The numbers clearly indicate that the significant reduction in crime overall during the treatment period in 2004-2005 was due specifically to the reduction in the number of thefts (dropping significantly from 70 in 2003-2004 to 18 in 2004-2005). Appendix D contains two maps that depict the number and distribution of thefts committed during the treatment reference period in both 2003-2004 and 2004-2005. Again, we can visually determine that there was a general reduction of crime on almost every street segment.

¹³ Significance tests found no significant changes in the number of crimes within each crime type between the 2002-2003 and 2003-2004 academic years, again reinforcing the previous finding that crime remained stable during the two years prior to the intervention.

TABLE 5. CHANGES DURING TREATMENT PERIOD BY CRIME TYPE ACROSS ACADEMIC YEARS 2003-2004 AND 2004-2005

Crime Type	2003-2004	2004-2005	Difference	Percent Change ¹⁴	Significant
Assault	4	3	-1	-25%	N/A*
Burglary	35	28	-7	-20%	No
Rape	1	0	-1	-100%	N/A*
Robbery	12	7	-5	-41.67%	No
Theft	70	18	-52	-74.29%	Yes**
Vehicle Theft	9	11	+2	+22.22%	No

* Significance tests cannot be run when the expected frequencies are less than 5 or when the data contain values equal to 0

**p < .0001

EVIDENCE OF DISPLACEMENT OR DIFFUSION OF BENEFITS

Having established that a substantial treatment effect was achieved following the intervention, the level of crime in the surrounding area is examined to search for evidence of crime displacement or diffusion of benefits. As noted earlier, “diffusion of benefits” refers to the spread of the beneficial influence of an intervention beyond the places which are directly targeted. The phenomenon is considered the “complete reverse” of displacement.¹⁵

We begin with a comparison of the aggregate numbers of Part I crimes that occurred in the catchment area¹⁶ during each of the three reference periods. Table 6 indicates that there were no significant changes between the baseline years in the numbers of crimes that were

¹⁴ The percent change statistic reported for assault and rape are misleading; refer to the explanation given under the “STATISTICS” section of this report.

¹⁵ For a detailed explanation of the diffusion of benefits process, see Clarke, Ronald V. and David Weisburd. (1994). Diffusion of Crime Control Benefits: Observations on the Reverse of Displacement. In R. V. Clarke (Ed.), Crime Prevention Studies (Vol. 2, pp. 165-183). Monsey, NY: Criminal Justice Press.

¹⁶ Appendix B illustrates the street segments included in the catchment area.

documented within the pre-treatment, treatment, or post-treatment periods. Once again we find that crime in this area, like the treatment area, remained relatively stable between academic years 2002-2003 and 2003-2004.

TABLE 6. CATCHMENT AREA CHANGES IN AGGREGATE PART I CRIME STATISTICS ACROSS ACADEMIC YEARS 2002-2003 AND 2003-2004

Reference Period	2002-2003	2003-2004	Difference	Percent Change	Significant
Pre-Treatment	162	199	+37	+22.84%	No
Treatment	139	114	-25	-17.99%	No
Post-Treatment	70	77	+7	+10%	No

Data from 2003-2004 is then compared to data from 2004-2005. Table 7 reports that there were no significant changes in the number of crimes within each reference period, including the treatment period during the year the project was implemented. This suggests that neither crime displacement nor diffusion of benefits occurred in the street segments surrounding the area targeted for intervention.

TABLE 7. CATCHMENT AREA CHANGES IN AGGREGATE PART I CRIME STATISTICS ACROSS ACADEMIC YEARS 2003-2004 AND 2004-2005

Reference Period	2003-2004	2004-2005	Difference	Percent Change	Significant
Pre-Treatment	199	185	-14	-7.03%	No
Treatment	114	97	-17	-14.91%	No
Post-Treatment	77	64	-13	-16.88%	No

To supplement these findings, the data is disaggregated by crime type to further search for displacement or diffusion during the treatment period. Raw counts for each crime type are presented in Table 8. Although the number of assaults declined from five to zero, these numbers are too small to draw any valid conclusions and are likely the result of random fluctuations. There were no significant differences in the numbers of burglaries or vehicle thefts documented. While a significant increase in robbery is noted, this is likely a statistical artifact produced by the low base number in the control period.¹⁷ On the other hand, the significant decline in thefts in this area should be given greater credibility since the raw counts are larger and thus produce more stable statistics. Therefore, there is reason to believe that a diffusion of benefits occurred and this reduced the number of thefts outside the area targeted for intervention.

TABLE 8. CHANGES DURING TREATMENT PERIOD IN CATCHMENT AREA BY CRIME TYPE ACROSS ACADEMIC YEARS 2003-2004 AND 2004-2005

Crime Type	2003-2004	2004-2005	Difference	Percent Change¹⁸	Significant
Assault	5	0	-5	-500%	N/A*
Burglary	28	26	-2	-7.14%	No
Rape	3	3	0	N/A	N/A*
Robbery	4	14	+10	+250%	Yes**
Theft	62	44	-18	-29.03%	Yes***
Vehicle Theft	12	10	-2	-16.67%	No

* Significance tests cannot be run when the expected frequencies are less than 5 or when the data contain values equal to 0

** p = .018

***p = .023

¹⁷ There were 19 robberies in the catchment area during the same reference period in 2003-2003, giving further credibility to the hypothesis that the increase is not the result of significant crime displacement.

¹⁸ The percent change statistic reported for assault and robbery are misleading; refer to the explanation given under the "STATISTICS" section of this report.

There are at least three reasons why this diffusion of benefits may have occurred. First, since additional door hangers were left in nearby businesses, it is possible that residents living in the catchment area were also exposed to the crime prevention message and this subsequently altered their awareness and behavior. Second, potential criminals may have been discouraged from searching for opportunities in the nearby catchment area after finding it more difficult to locate attractive crime opportunities in the treatment area. Third, offenders may have been aware of the crime prevention program, but unaware of the exact street segments targeted. This may have deterred offenders from committing crimes in the treatment area as well as surrounding areas.

CONCLUSIONS AND RECOMMENDATIONS

The analyses reveal that the crime prevention awareness project significantly reduced the number of Part I crimes reported in the targeted residential area. In particular, it appears that the intervention produced a significant decline in the number of thefts that occurred in this area. The treatment effect lasted approximately nine weeks, after which reported crime returned to levels similar to previous years. There was little evidence to suggest that the crimes prevented in the treatment area were displaced to surrounding areas. Conversely, there is some evidence to suggest that the benefits experienced by the places targeted by the project were diffused to nearby places that were not targeted by the project.

Controls for seasonal variation and use of significance tests lend confidence to the validity of the findings. However, it must be noted that the absence of a suitable control group does not allow us to eliminate all possible rival hypotheses. We cannot be certain that some phenomenon unrelated to the crime reduction project, but occurring at the same time, is not responsible for the significant reduction in crime. Nevertheless, the timing of the reduction provides convincing evidence to suggest that the intervention was at least partially responsible for reducing victimization.

Five implications can be drawn from the findings. First, replication of the project appears to be justified. The project's success and the limited costs associated with implementation make this intervention an attractive strategy for reducing theft in residential areas surrounding campus. Replications of this project will serve to explore the generalizability of these results. Second, the finding that the project only reduced incidents of theft suggests that officials should consider using the door hangers in conjunction with other interventions. Crime reduction tactics that target opportunity structures of other crime types (e.g., burglary) can be used to increase the effectiveness

of future strategies. Third, the nine week crime suppression effect of the project indicates that repeated implementations of the intervention throughout the academic year may be necessary to produce a sustained effect. This finding suggests that a quarterly distribution of the door hangers may serve to maximize the program's effectiveness throughout the academic year. Fourth, the observed anticipatory benefit, or the decline in crime that occurred before the actual implementation of the intervention, suggests that officials should continue to recruit students as volunteers to assist in the distribution of door hangers. In particular, an effort should be made to find volunteers who live in the area targeted for treatment. Fifth, it is clear that the partnership between the University of Cincinnati Police Division and the Cincinnati Police Department was beneficial to both parties. The effort reduced student victimization and the diffusion of crime prevention benefits reduced crime in the surrounding area. The finding that crime did not simply displace to nearby places further demonstrates the advantage of this collaboration.

In conclusion, we would like to stress the importance of conducting impact evaluations on crime prevention projects. These evaluations help to determine the effectiveness of crime reduction efforts, and the results, such as those provided above, can be used to inform future practices. The Criminal Justice Division can be an instrumental partner in helping to assess the outcome of University crime prevention efforts. We propose that both parties explore the benefits of developing an on-going partnership.

APPENDIX A

DOOR HANGER USED TO INCREASE CRIME AWARENESS

SIDE A

BE ALERT! CRIME PREVENTION TIPS



Lock your doors and windows when leaving, no matter how long or short the time span. Many times the burglar enters the residence through an unlocked door or window.

Do not leave money or valuables in plain view in your home. Close the blinds or drapes when you leave. If possible, leave on a stereo or TV and a light.

Join Operation Identification. Engrave a security number on all valuables. Engravers can be borrowed from the UC Police Department. Be sure to inventory these items. Inventory lists are also available at the UC Police Department.



Keep a close eye on valuables such as laptop computers and other high tech items. Make sure that you have the serial number of each item written down and kept in a safe place.

Don't be complacent with your belongings. Criminals look for easy opportunities such as stealing books to be exchanged for cash at local bookstores.

Do not leave your belongings in plain sight in your vehicle and take the removable face plate (if you have one) off of your stereo. It only takes a minute to break out a window and steal the items.

Report any suspicious activity to the police.

No police department can operate effectively without the cooperation of the people it serves. The concept of crime prevention invites all segments of the community to actively participate in the reduction of crime.

Thank you from the UC Police Department and the Cincinnati Police Department.

SIDE B

PERSONAL SAFETY TIPS

Have a plan; be suspicious and be aware of your surroundings. Walk with confidence.

Walk with a friend whenever possible.

Utilize Nightwalk 558-WALK

Whenever possible, travel in well-lit areas. Avoid dark streets, high shrubbery, short cuts, and dark doorways.

If you feel a particular area on campus looks or feels unsafe, report it to the UC Police Crime Prevention Section at 556-4927. If an area feels unsafe or needs attention off campus, call your Cincinnati Police Neighborhood Officer Tammy Hussels at 956-1138.

Maintain a secure grip on book bags, handbags or purchases.

Familiarize yourself with the Help Phones on campus. Maps are available at the UC Police Department.

Report any suspicious activity to the police.

PHONE NUMBERS

Cincinnati Police

Emergency, Police, Fire, Injury **911**
District 5 Front Desk 352-3578
CUF Neighborhood Officer
Tammy Hussels 956-1138

Web Site:
<http://www.cincinnati-oh.gov/police/pages/-3039->



University Police

Emergency, Police, Fire, Injury **911**
Non-Emergency 556-1111
Crime Prevention 556-4927
Motorist Assistance Program 556-1111
Nightwalk 558-9255

Web Site :
<http://www.uc.edu/www/publicsafety>



APPENDIX B

TREATMENT AND CATCHMENT ANALYSIS AREAS

Door Hanger Treatment and Catchment Areas

Geographic Features

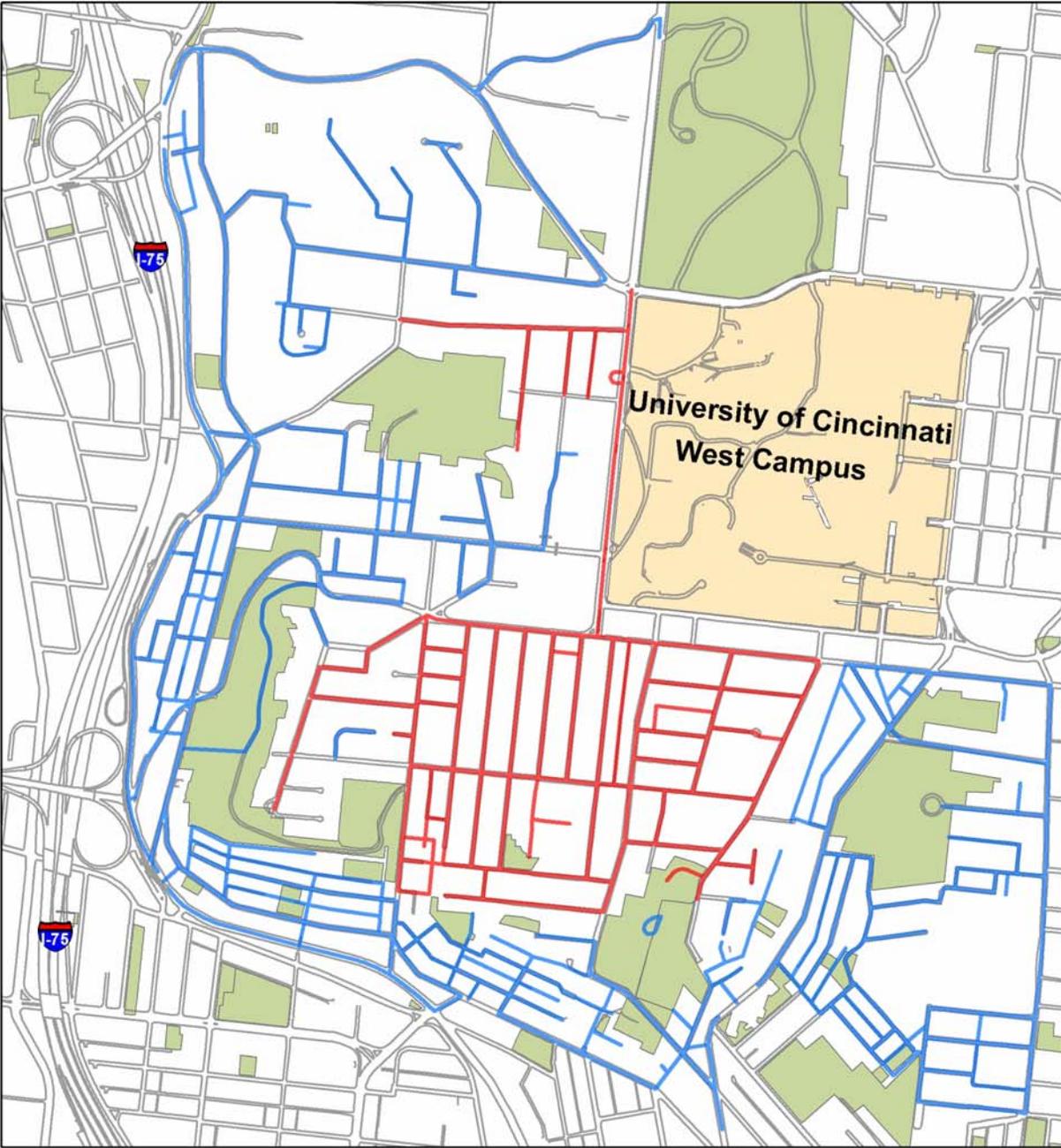
- Treatment Area
- Catchment Area
- University of Cincinnati
- Streets
- Parks



Tamara Madensen & Marie Skubak
University of Cincinnati
Division of Criminal Justice



Ohio Service for Crime Opportunity Reduction



APPENDIX C

DISTRIBUTION OF CRIMES BEFORE AND DURING TREATMENT

Part I Crimes Before Treatment

November 23, 2003 to January 24, 2004

Geographic Features

- Treatment Area
- University of Cincinnati
- Streets
- Parks

Part I Crimes

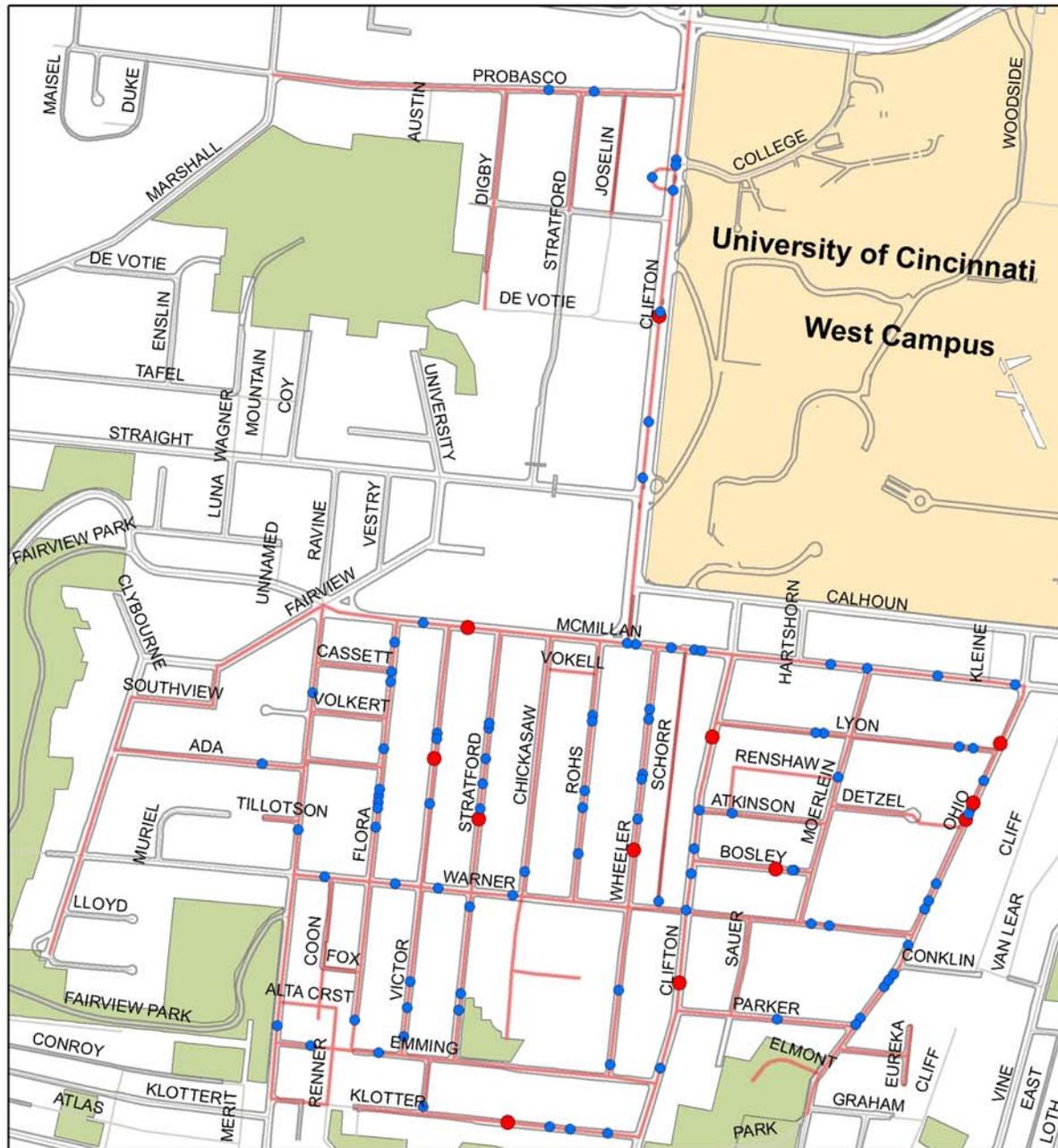
- 1 Crime
- 2 Crimes



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Part I Crimes During Treatment

November 21, 2004 to January 22, 2005

Geographic Features

-  Treatment Area
-  University of Cincinnati
-  Streets
-  Parks

Part I Crimes

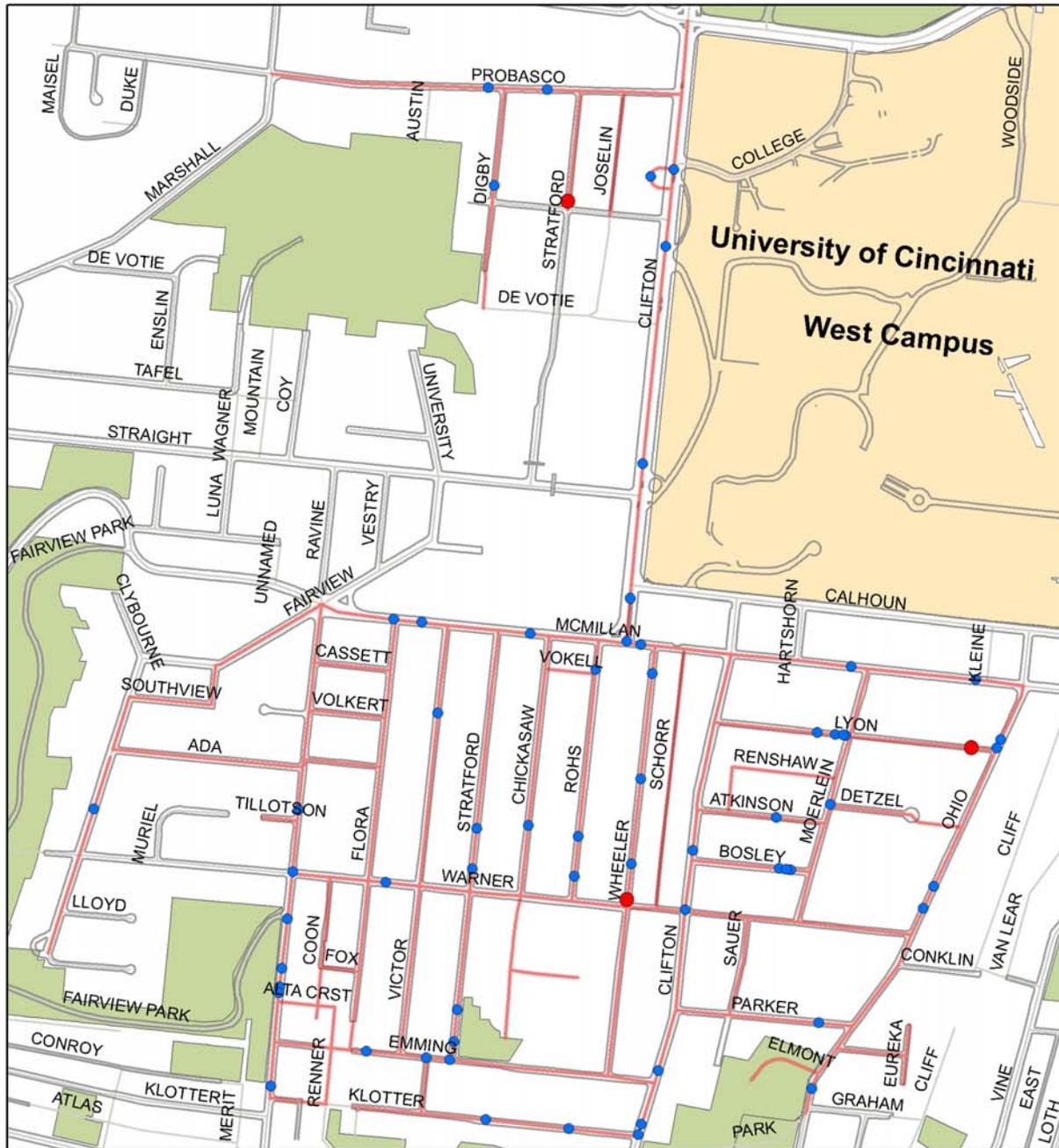
-  1 Crime
-  2 Crimes



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APPENDIX D

DISTRIBUTION OF THEFTS BEFORE AND DURING TREATMENT

Thefts Before Treatment

November 23, 2004 to January 24, 2005

Geographic Features

-  Treatment Area
-  University of Cincinnati
-  Streets
-  Parks

Thefts

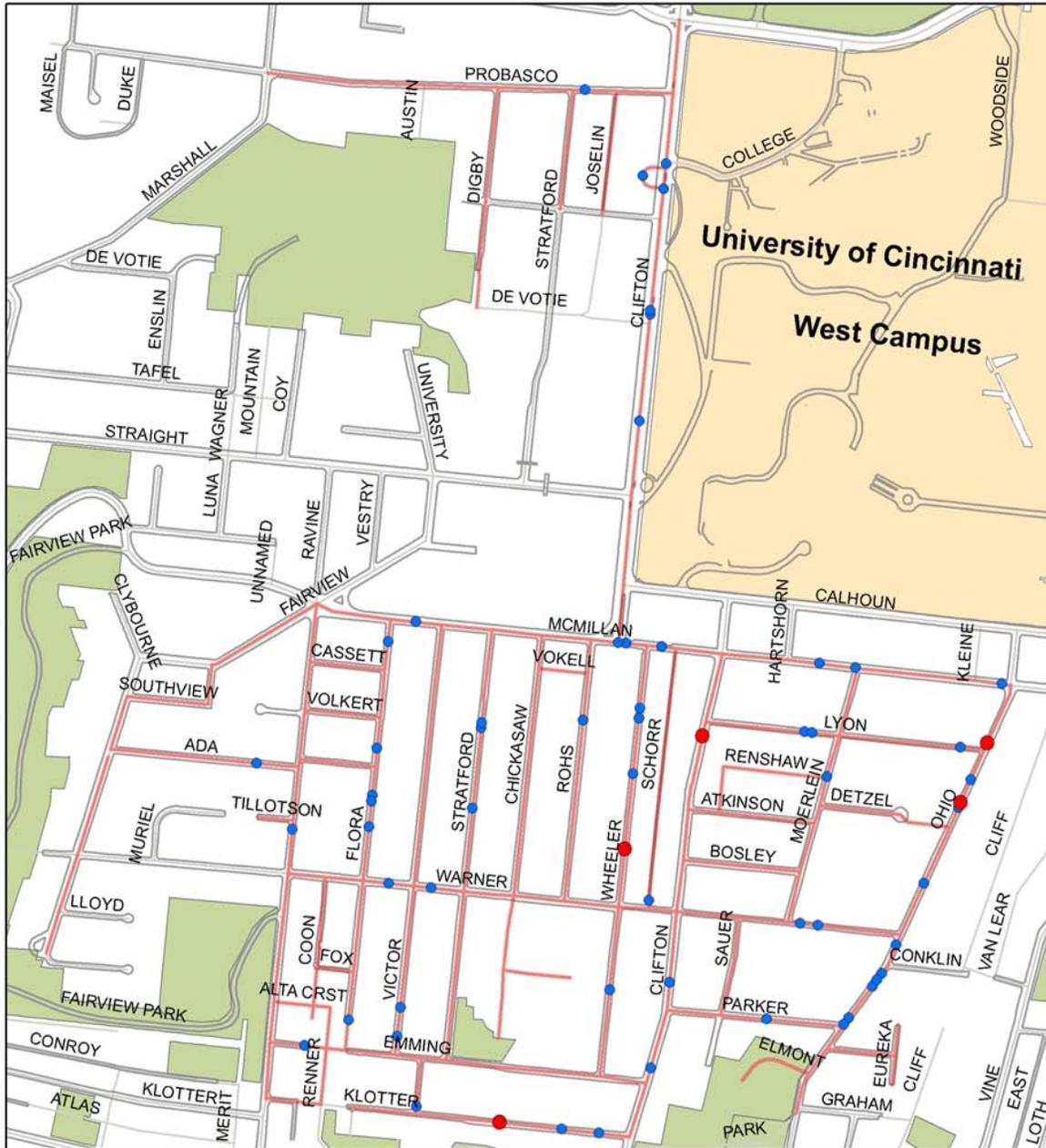
-  1 Theft
-  2 Thefts



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Thefts During Treatment

November 21, 2004 to January 22, 2005

Geographic Features

-  Treatment Area
-  University of Cincinnati
-  Streets
-  Parks

Thefts

-  1 Theft
-  2 Thefts



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