Guidelines for the Effective Use of Uniformed Transit Police and Security Personnel

Final Report

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ABSTRACT

This report documents and presents the results of a multitask study to develop guidelines for the effective use of uniformed transit police and security personnel. Uniformed deployment tactics designed to address transit-specific police and security problems and potential solutions were identified through a literature review; original field research at six transit properties in the United States; field observations, structured, and unstructured interviews with police and security directors at twelve additional properties, and two survey documents mailed to 500 properties, of which 142 responded (representing 82.5 percent of the transit users in the nation). Effective deployment tactics are described based on the six test sites. In addition, twenty-five uniformed or plainclothes tactics are defined and users of those tactics listed.

The principal findings of the study are recommendations and guidelines that present an array of field-tested tactics to address parking lot crime, station quality-of-life concerns, and on-board, order-maintenance difficulties. In addition to original research and definitions of tactics, major portions of this research consist of: 1) statistical analyses of types of police or security used by transit properties; 2) a bibliography of more than 250 published and unpublished items on transit policing and security, including descriptions of programs in use at a number of properties; and 3) a transit-specific training manual for use by those wishing to undertake field research.

TRANSPORTATION AGENCIES, ACRONYMS, and HEADQUARTERS

Amtrak ..... Washington, DC
Bay Area Rapid Transit (BART) ..... Oakland, CA
Birmingham Transit Authority ..... Birmingham, AL
Bi-State Development Agency (Bi-State) ..... St. Louis, MO
C-Tran ..... Vancouver, WA
CalTrain ..... San Jose, CA
Charlotte Transit ..... Charlotte, NC
Chicago Transit Authority (CTA) ..... Chicago, IL
City of Albuquerque Transit Department ..... Albuquerque, NM
City of Detroit Department of Transportation (DDOT) ..... Detroit, MI
City Utilities Transit ..... Springfield, MO
Connecticut Transit (CT) ..... Hartford, CT
Dallas Area Rapid Transit (DART) ..... Dallas, TX
Five Seasons Transportation & Parking ..... Cedar Rapids, IA
Gardena Municipal Bus Lines ..... Gardena, CA
Greenville Transit Authority ..... Greeneville, SC
Greater Cleveland Regional Transit (GCRTA) ..... Cleveland, OH
Greater Richmond Transit Company (GRTA) ..... Richmond, VA
HartLine ..... Tampa, FL
Hudson Bus Lines ..... Lewiston, ME
Intercity Transit ..... Olympia, WA
Long Beach Public Transportation Company ..... Long Beach, CA
Long Island Bus (LIB) ..... Brooklyn, NY
Long Island Rail Road (LIRR) ..... Jamaica, NY
Los Angeles County Metropolitan Transportation Authority (LACMTA) .. Los Angeles, CA
Mass Transit Administration of Maryland ..... Baltimore, MD
Memphis Area Transit Authority ..... Memphis, TN
Metro Transit ..... Seattle, WA
Metro-Dade Transit (MetroRail) ..... Miami, FL
Metro-North Railroad (MNR) ..... New York, NY
Metro Transit ..... Seattle, WA
Metropolitan Atlanta Rapid Transit Authority (MARTA) ..... Atlanta, GA
Metropolitan Boston Transit Authority (MBTA) ..... Boston, MA
Metropolitan Council Transit Operations (MCTO) ..... Minneapolis, MN

Metropolitan Transit Authority of Harris County (METRO) ..... Houston, TX
Milwaukee County Transit..... Milwaukee, WI
New Jersey Transit (NJT) ..... Newark, NJ
New York City Police Department (NYPD)..... New York, NY
New York City Transit (NYCT) ..... New York, NY
Niagara Frontier Transit Authority (NFTA) ..... Buffalo, NY
Northern Indiana Commuter Transportation District..... Chesterton, IN
Northern Virginia Transportation Com. (VA Railway Express) ..... Springfield, VA
Oahu Transit Services (The Bus)..... Honolulu, HI
Oneonta Public Transit ..... Oneonta, NY
Orange County Transportation Authority..... Santa Ana, CA
Pace Suburban Bus Division of RTA (PACE) ..... Arlington Hts., IL
Phoenix Transit System ..... Phoenix, AZ
Pierce Transit..... Tacoma, WA
Pocotello Regional Transit ..... Pocotello, ID
Port Arthur Transit ..... Port Arthur, TX
Port Authority of Allegheny County ..... Pittsburgh, PA
Port Authority of New York and New Jersey (PANYNJ)..... New York, NY
Port Authority Trans Hudson (PATH)..... Jersey City, NJ
Port Authority Transit Commission (PATCO)..... Lindenwold, NJ
Regional Transit Authority (RTA) ..... New Orleans, LA
Regional Transportation District (RTD) ..... Denver, CO
Regional Transportation Commission (RTC)/Citifare ..... Reno, NV
Roaring Fork Transit Agency ..... Aspen, CO
Sacramento Regional Transit District..... Sacramento, CA
St. Cloud Metropolitan Transit Commission (MTC)..... St. Cloud, MN
Salem Area Transit ..... Salem, OR
San Diego Metropolitan Transit Development Board (MTDB)..... San Diego, CA
San Diego Transit Corporation..... San Diego, CA
San Diego Trolley, Inc..... San Diego, CA
San Francisco Municipal Railway (MUNI)..... San Francisco, CA
Santa Clara County Transit District..... San Jose, CA
Santa Clarita Transit ..... Santa Clarita, CA
Santa Cruz Metro Transit District..... Santa Cruz, CA
Shreveport Transit System (SPORTRAN) ..... Shreveport, LA
South Bend Public Transportation Corporation..... South Bend, IN
Southern California Regional Rail Authority (Metrolink) ..... Los Angeles, CA

Section I

EXECUTIVE SUMMARY

INTRODUCTION

Concern for security on transit systems has increased across the nation. The nature and direction of this concern varies widely depending on the jurisdiction involved and the type of transit operation. A major issue facing general managers, transit police chiefs, and security directors, however, is how best to use the uniformed police and security officers available to them to reduce crime and to increase the public's perceptions of a safe, secure transportation system.

Transit agencies identify their mission not only as the provision of transportation but, more specifically, as the provision of safe and secure transportation. While numerous guidelines, standards, and codes address various aspects of transit safety, little material is available for transit operators seeking to establish a crime-free transit environment. Fear of crime is frequently cited in surveys of rider dissatisfaction, and it is often argued that reducing the actual crime rate as well as the perception of crime can have salutary effects on ridership. Municipal police are currently addressing issues of fear through a variety of tactics that have come to be associated with the community policing philosophy, but concern with patron fear is not a new phenomenon for transit.

Of the many activities undertaken to provide security in the transit environment, one of the most important, and often the most costly, is the deployment of uniformed police and other security personnel. The transit environment is unique. Whether underground or above, transit may pass through many types of neighborhoods and many different governmental jurisdictions. The problems systems face may vary depending upon the location within the system or the time of day or night. This "moving" environment requires deployment methods that address both the distinct dynamics of transit crime and the special concerns of patrons. Transit patrons are out of their usual milieu, and they often feel more confined, even trapped, than they do in their own vehicles or on the street. Special aspects of the physical surroundings, higher levels of noise (particularly in older, underground rail facilities), and isolation from the normal fixtures of urban life can foster feelings of fear, confusion, and claustrophobia. Providing effective security in a transit setting requires consideration of issues not encountered in other policing contexts.

Despite the importance of these unique problems, research to test the effectiveness of various deployment strategies in a transit environment is surprisingly rare. Without the

benefit of industry guidelines or general consensus, transit systems must plan their deployment strategies in relative isolation.

Recently, progressive transit police and security professionals have begun to conduct experimental research, analyze crime data, and publicly discuss the need for circulating information and conducting additional research. This includes research of a comparative or replicative nature. Through such activities, working professionals can gain an understanding of what has been tried and whether or not it is appropriate in their own environment.

Toward this end, TCRP has commissioned Project F-6, "Guidelines for the Effective Use of Uniformed Transit Police and Security Personnel." The purpose of the project is to develop guidelines to assist transit agencies in improving security and reducing patron fear.

The project has proceeded as a multi-pronged effort that resulted in:

- A statistical analysis of responses of transit agencies representing almost 85 percent of the nation's transit ridership. The analysis is the first effort to quantify security and policing efforts, providing information on types of programs agencies report, their policing or security arrangements, and the particular deployments they utilize

- Six field-tested case studies of transit-specific responses to such problems as parking lot crime, fear versus actual crime, maintaining a uniformed presence in stations and on equipment, and ways of accommodating community policing philosophies into a transit environment

- Definitions of deployment tactics that can be used by transit agencies regardless of their size or policing or security arrangements. Concentrating on tactics for officers whose sole or primary functions are security, the section defines uniformed and plainclothes tactics and lists agencies employing them

- A research manual created specifically for this project that was used to instruct officers and managers involved in each of the practical field tests. This manual can serve as a resource for agencies planning their own research

- A bibliography of over 250 published and unpublished items that address problems faced by the majority of transit agencies in the nation

STATISTICAL ANALYSIS

Transit security covers an extremely large range of agency sizes, operating environments, demographic situations, and organizational and jurisdictional arrangements. In a comprehensive study such as this one, it is important to characterize, to the extent possible, the nature of the universe of potential users of project results.

To accomplish this task, some 500 agencies who are recipients of Section 9 funds, were surveyed using a written questionnaire. 142 agencies provided information, accounting for 28 percent of the universe, but approximately 83.3 percent of the nation's mass transit users. The statistics presented, therefore, can be considered to generally represent both agency practice and the perspective of the nation's "average" transit user.

The survey responses were checked and any anomalies or discrepancies that were found were resolved through telephone calls to the agencies. Several large systems were sent a single questionnaire despite the fact that they operated two or more transit modes (this was a result of our choice of Section 15 ID code as an agency identifier). These systems were resurveyed and their responses allocated to the appropriate transit modes.

To simplify the presentation of data, the results were tabulated in five transit modes or categories: Small, Medium, and Large Surface (Light Rail, Motor Bus, and Trolley Bus), Heavy Rail Rapid, and Commuter Rail.

The tables summarize the number of agencies and annual unlinked trips by FTA Region and by transit mode, and then they present the type of agency give primary security responsibility, the security problems considered important, and the police tactics utilized.

PRACTICAL FIELD TESTS

Because each transit agency is unique in its size and complexity, the six Practical Field Tests (PFT) undertaken by transit agencies for this project present different deployment strategies addressing some of the most common problems facing transit police and security managers (see Figure I.1). Each PFT is neither a formula for attacking crime using a specific tactic nor a single solution to the problem confronted. Each presents a multi-faceted approach that can be adopted in toto by some agencies but also lends itself to partial adoption.

This recognizes that transit patrolling does not lend itself to a "one size fits all" solution. Agencies are large or small, with most somewhere in between; agencies employ their own police, contract police, their own security officers, contract security officers, some combination of these, or in the case of some smaller agencies, none of these. Thus, the case studies describe not only what was tested and the test results, but also the environments in which the tests were conducted.

Agency managers are urged to read each test. Even those that may not initially seem relevant may suggest solutions that can accommodate a variety of staffing configurations and a variety of transportation modes. This is particularly true of the tests concentrating on parking lots, a major issue for transit managers that transcends bus, heavy or light rail, or multi-model agencies. In addition, some of the techniques tested in parking lots, such as bicycle patrol and marked vehicle presence, may be altered to provide coverage of rights-of-way, small clusters of stations that are close together, or transfer points that are suffering high degrees of crime, vandalism, or quality-of-life offenses.

- **Bicycle patrol: responding to park-n-ride crime.** The Metropolitan Atlanta Rapid Transit Authority (MARTA) implemented bike patrols as a way to enhance visibility of officers at Lindbergh Station, a heavy rail station that is also a bus transfer point with 1,167 parking spaces in its open lot and 306 spaces in its parking deck. The station was the scene of a large number of thefts of and from autos. The strategy of assigning two uniformed officers on bike patrol resulted in a drop of 58.3 percent in Part I crimes during the test period. Based on the results, MARTA envisions adding six bikes in 1997 and doubling that number by fiscal year 1998.

Figure I.1

Selected Features of Six Programs

	Atlanta, GA (MARTA)	Claremont, CA (METROLINK)	Houston, TX (METRO)	New York, NY (LIRR)	New York, NY (NYCT-Bus)	San Diego, CA (TROLLEY)
Lead Agency	MARTA Police Department	Claremont Police Department	METRO Police Department	Long Island Rail Road Police Department	New York Police Department (NYPD)	San Diego County Sheriff's Department
Primary Deployment Tactics	Uniformed officer, bike patrol	Non-sworn, uniformed officer, fixed post	Uniformed officer riding equipment	Plainclothes, apprehension-oriented; commuter education	Uniformed officers riding, boarding equipment	Storefront substation; meeting equipment
Type of Force	Sworn, in-house	Local police	Sworn, in-house	Sworn, in-house	Local police	Sworn, contract police
Transportation Mode	Heavy rail	Commuter rail	Bus	Heavy rail	Bus	Light rail

- **The Auto Crime Unit: a response to parking lot crime.** In 1994, the Long Island Rail Road, which serves the greater New York metropolitan area, developed a team of plainclothes officers to respond to escalating problems of auto theft. This apprehension-oriented unit of police officers makes use of surveillance teams and borrowed vehicles to preclude easy recognition, but also uses such problem-oriented techniques as commuter education and a Combat Auto Theft program to confront thefts. Despite significant decreases in thefts and increases in apprehensions, commuter awareness of the program continues to be lower than hoped for or anticipated.

- **Local police response to park-n-ride crime.** Metrolink, the Los Angeles metropolitan area's commuter rail system, is policed by the Los Angeles County Sheriff's Department. Patrolling parking lots, though, is the responsibility of individual, local police departments. Responding to a small amount of crime that was, however, alarming to residents, the Claremont Police Department assigned a non-sworn, uniformed officer with a marked patrol car to a fixed post in the lot adjoining its historic rail station. Crime dropped to zero. Claremont is planning to experiment further with fencing the lot and altering the hours that an officer will be assigned to the parking facility, which is also a bus transfer point.

- **Comparing security perceptions and storefront patrol.** Faced with concerns by citizens that an extension of the San Diego Trolley to Santee would result in increased crime and disorder in their town, city managers contracted with the San Diego Sheriff's Department to staff a storefront substation. They also incorporated numerous Crime Prevention Through Environmental Design (CPTED) elements into the station. The resulting absence of crime and disorder is contrasted with the El Cajon Station, an older facility that suffers visible blight and that received no special attention at the time of its opening. The problems of recapturing the quality-of-life of a location is contrasted with steps to prevent disorder before it begins. This study also describes the arrangement for policing the Trolley, which relies on a combination of fare inspectors who are employed by the Trolley and contract security officers, supplemented with limited use of off-duty police officers.

- **Uniformed officers board buses.** Uniformed New York City police officers rode or boarded buses in two boroughs to test the effects of this tactic on transit crime. Such boardings have not been common practice on this very large

system. A comparison of the three-month test periods with the two previous years showed a drop in both criminal and non-criminal reported incidents. Although uniformed police officers are a rare sight on New York City buses, this test of police officer visibility attracted neither patron nor media comment. The small amount of actual crime on the two bus routes, one in Brooklyn, the other in the Bronx, reinforces earlier findings that rider perceptions of crime are often far in excess of actual criminal activity even in the largest cities.

- **Riding the bus: community policing for transit.** This PFT examines how one of the basic strategies of community policing—foot patrol—can meet the needs of a transit agency. Houston's METRO Police assigned an officer to ride two bus lines sharing the same transfer point for three hours each week day. Crime and disorderly behavior was reduced substantially, but, more important, the officer's interactions with operators, patrons, teenagers, school officials, and business people along the routes are classic examples of the philosophy of community policing. This case study presents a specific methodology for incorporating proactive patrol into the transit environment.

RESEARCH MANUAL AND PROTOCOLS

The research manual and accompanying protocols, entitled "What's Coming Up, What's Goin' Down: A Primer on Practical Field Research for Transit Policing," was prepared as a training tool for use by each of the agencies undertaking a Practical Field Test. The style of the manual permits self-instruction even for a team of relatively inexperienced researchers. The manual also provides step-by-step guidelines on conducting experiments and collecting data in the field. A complete copy of the manual is included in this report as Appendix A.

Using transit-specific examples, the manual may be used by any agency interested in undertaking research on its own or in replicating any of the research described in this report. Topics include:

- An overview of the research process
- Defining a problem and getting started on your research
- Designing your project: what will you measure and how will you measure it
- Overseeing your project

- Collecting your data
- Analyzing your data
- Interpreting the results
- How to sample
- Validity and reliability
- Time-lines, flow charts, Gantt charts, and other research tools
- Common problems and pitfalls
- Glossary defining research terminology

GUIDELINES FOR DEPLOYMENT

The guidelines define and describe 25 basic tactics used by large and small transportation agencies to address crime and patron perceptions of crime on their systems. Tactics can be used to achieve more than one goal, either by switching them from uniformed to plainclothes deployment or by using them in combination to address a specific problem.

Large agencies with their own police departments use virtually all of the tactics; smaller agencies may use only a few of them. Most of the strategies can be used regardless of whether or not an agency uses police or security officers. A few that are highly apprehension-oriented may need to be modified to meet legal restrictions placed on non-sworn officers. Most of the others, which rely on establishing a uniformed presence, need not require police officers. A number of the tactics can be used by any officers who are empowered to issue citations for code-of-conduct, quality-of-life, or fare-evasion violations.

The tactics are divided into three categories:

- Uniformed deployment tactics
- Uniformed or plainclothes deployment tactics
- Plainclothes deployment tactics

BIBLIOGRAPHY

Comprised of more than 250 items, the Bibliography brings together published material from technical journals, police and transit journals and magazines, and newspapers. A unique feature is the section on unpublished materials, which highlights what particular agencies are doing to combat a variety of problems at their properties.

CONCLUSION: USING THE "GUIDELINES FOR EFFECTIVE USE OF UNIFORMED TRANSIT POLICE AND SECURITY PERSONNEL"

The materials collected and created in the course of this study can provide concrete, practical assistance to transit systems seeking to improve their security function.

In addition to the techniques and methods provided in the body of this report, a number of general practices can enhance the effective use of the guidelines to achieve the goals of a safer transit environment and a higher patron perception of safety at transit facilities.

- **Review existing legislation.** Operations managers and police and security directors can: 1) review existing statutes and ordinances that can be used to address current or future problems; 2) work with legislators and local police to amend laws that could better address transit-specific problems; and 3) work to enact usable legislation.

  Legislation may need to be statewide to accommodate the needs of multi-jurisdictional agencies, but local ordinances may be sufficient to provide legal authority for even non-sworn personnel to issue citations for such quality-of-life offenses as panhandling, smoking, spitting, and loud noise, all of which contribute to patron perceptions of crime and disorder.

- **Secure competent staff.** Regardless of the police or security arrangements at particular properties, officer visibility contributes to a safer environment. Select staff wisely and provide transit-specific training wherever possible.

- **Develop collaborations.** Creating a safer environment cannot be undertaken unilaterally. Contact other transit agencies and area police to discuss strategies. Consider participating in local or regional crime prevention efforts, regardless of

whether or not your staff are fully-commissioned police officers. Many regional efforts can make use of unswom officers as "eyes and ears" or may be persuaded to include the transit property in enforcement plans in return for office space, communications equipment, or surveillance locations.

- **Involve the local police.** Transit agencies, even those with full-service police departments, often lack a high profile not only within the larger community but also within the criminal justice community. In addition to participating in collaborative efforts, consider combined training exercises, particularly in transit-related situations. These might include emergency evacuations, multi-passenger injury situations, responding to third-rail or overhead catenary problems, or accidents at grade crossings.

- **Involve other professionals.** Prosecutors can assist in explaining how particular ordinances or laws can be accommodated to a transit environment. Explain to judges that what appear to be minor violations in the larger justice system may be vitally important to winning discretionary riders over to using public transit. Assigning someone to act as a court monitor and to assure that cases are ready when scheduled can be important in convincing court personnel to treat cases with greater care. Consider links to volunteer or govemment social services agencies to solve problems related to homelessness, alcohol, or drug abuse at transit centers. School officials can also be helpful in monitoring behavior of teenagers congregating at centers or displaying inappropriate behavior on equipment.

- **Involve other transit departments.** Public affairs and marketing personnel want to publicize the good things that are happening on your property. Work closely with them to develop patron education and crime awareness and prevention programs and to reward members of your department who participate in proactive crime prevention and community outreach.

- **Involve the community.** Individual citizens, community organizations, transit advocacy groups, charities, and area business associations can help you initiate a program and can provide the resources to publicize and maintain it. In addition to adopt-a-station or shelter programs, consider permitting charity groups to set up collection points in parking facilities; they will collect more

goods and you will bring traffic to parking lots that otherwise are easy targets for thieves convinced the lots are empty of people except during rush hours.

- **Undertake research.** Consider how each of the Practical Field Tests could be modified to fit a particular problem at your agency. You need assign only one staff member to review the research manual to leam basic techniques to repeat aspects of the case studies or to set up your own study. To the extent that you are active in testing and evaluating new approaches to old problems you have the potential to cure them.

This study has provided a great deal of information about current security practices at the nation's transit agencies. It has also assembled, in one place, details about the practical experiments, field trials, and other initiatives undertaken by agencies seeking to solve particular problems. Six original field tests were conducted to elaborate on issues of importance to cooperating agencies. The study also provides a comprehensive transit security bibliography and a manual for transit security field research.

These elements constitute a range of useful tools that agencies of all sizes, in all transit modes, can apply in their daily struggle to make public transit be and feel safer from crime.

Section II

GENERAL INTRODUCTION

A BRIEF HISTORY OF TRANSIT POLICING

At least fifteen[1] new mass transit systems have opened in North America in the last twenty years and throughout the United States, particularly in a number of western states, where new light rail systems are in the design or construction stages. A number of older, heavy rail systems are planning extensive renovations and expansions of service into new communities and to airports currently dependent on private cars and buses to bring passengers to where the planes are.

Bus systems, too, are changing, predominately by altering routes to take people to the suburbs where jobs and educational and medical facilities currently tend to be located. This is a change from transit's historical role of moving people from outlying areas into what were once central business districts. In addition, paratransit and demand-response programs for those people who are unable to drive or to use fixed-schedule transit, have led to the development of government-funded bus systems in many small and rural communities previously unserved by public transit.

Coincidental with this building, rebuilding, and remodeling have come renewed concerns about safety in public spaces, particularly in and around transit terminals and transfer points and on-board trains and buses. At the same time, recent terrorist attacks on transit systems around the world have re-focused safety concerns about gathering in public spaces. They have also raised the profile of transit security to levels never before envisioned.

Yet, securing transit facilities is not a new phenomenon. The policing of transit properties in the United States traces its roots as far back as 1859, when a Philadelphia newspaper reported that intoxicated passengers and children playing around street cars posed dangers to themselves and the riding public. Fare evasion, smoking, pickpocketing, assaults, and theft of revenue by employees were not uncommon complaints as early as the 1860s and 1870s.[2]

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[1] The fifteen new transit agencies referred to include those in Baltimore, Atlanta, St. Louis, Denver, Dallas, MetroRail and Tri-Rail in south Florida, San Diego, two systems in Los Angeles, Sacramento, San Jose, and, in Canada, Vancouver, Edmonton, and Calgary. There are others, as well as additional new systems currently in the planning stages.

[2] Dorothy M. Schulz and Susan Gilbert, "Developing strategies to fight crime and fear," The Police Chief, July 1995, p. 20.

Additional concerns with quality-of-life issues, some no different from those faced by officers today, did not take long to surface. In 1909, only five years after it opened, New York City's first subway line, the Interborough Rapid Transit, was petitioned by the Women's Municipal League to reserve the last car of every rush hour train for women so that they would not be forced to cope with the crowding and with sexual comments and gestures from male riders.

Although the IRT rejected the idea, women's safety was as much a concern then as it is today. For a short period in 1909 the Hudson and Manhattan Railroad, which ran under the Hudson River from New York City to Jersey City, New Jersey (the current PATH, or the Port Authority Trans-Hudson line operated by the Port Authority of New York and New Jersey), operated a ladies' car.[3] As with many improvements that are undertaken as a result of political pressure, the ladies' car did not prove financially feasible and was soon discontinued.

Uniformed officers began to patrol Great Britain's train stations as early as the 1830s, when the Liverpool and Manchester Railway developed its own police force. Not so different from some areas of North America today, early British rail police officers were often in sole charge of smaller stations. Many also performed the duties of signalmen in addition to collecting tickets and preventing thieves, loiterers, and vagabonds from hanging around stations preying upon and annoying paying passengers.[4] In the United States and Canada, World War I concerns with runaways, panderers, and con artists made station patrol a common crime prevention technique, even before such phrases as quality-of-life and order maintenance entered the police lexicon.

More dramatic, though, were the crimefighting exploits of those protecting trains in the western portions of the United States and Canada. Train robbing was a viable livelihood from the 1870s until the early years of the twentieth century. Among the great train robbers whose exploits have been heralded are Frank and Jesse James, Butch Cassidy and the Sundance Kid, and the gentleman bandit Billy Miner (a.k.a. the Grey Fox, who is said to have initiated the time-honored instruction by robbers to victims of "hands up" to assure that no passengers or crew would be harmed during

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[3] Clifton Hood, "Changing perceptions of public space on the New York rapid transit system," Journal of Urban History, vol. 22, no. 3 (March 1996), pp. 308-331.

[4] Jeffrey Richards and John M. MacKenzie, The Railway Station: A Social History (New York: Oxford University Press, 1986). According to Richards and MacKenzie, pp. 105-106, by 1923 there were more than 100 separate railway police forces. In 1948, in the wake of World War II nationalization, they were merged to form the British Transport Police.

his robberies). Almost as well known as the criminals were a few of the early protectors of the rails, especially Alan Pinkerton, Wyatt Earp, and Bat Masterson.[5]

Despite this early fame, by the 1900s, due to their highly decentralized organization, railway police had faded into relative obscurity, even though by 1920 the more than 10,000 rail officers in the United States and Canada comprised the largest private law enforcement system in the world.[6]

Today's protectors of public transit, whether light or heavy rail or bus systems, continue to receive very little public attention except in instances of terrorist activity. However, they continue to be responsible for large amounts of territory and for station patrol of facilities attracting large numbers of people, many in a hurry or seeking the reassurance of a uniformed officer to answer questions, to provide for their safety, and to maintain the quality of life they have come to expect in public spaces.

PUBLIC SPACES AND THE FEAR OF CRIME

The outbreaks of terrorist activity in and about public transit in the last few years[7] coincides with and may eventually undercut the new philosophy among most transit agencies of expanding use of their public spaces by community groups.

In an attempt to meet the sometimes contradictory needs of security enhancement and community relations, transit managers have turned more and more to the principles of Crime Prevention Through Environmental Design (CPTED). It is important to recognize that these elements must be part of any policing or security package today. Although beyond the scope of these Guidelines, transit systems are making imaginative use of surveillance technologies both in stations and on rail cars and buses.[8]

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[5] Dorothy M. Schulz, "Holdups, hobos and the homeless: A brief history of railroad police in North America," Police Studies, Summer 1987, pp. 90-95.

[6] Richards and MacKenzie, The Railway Station, p. 108.

[7] The most recent summary of rail-and-bus-related terrorist incidents is Henry I. DeGeneste and John P. Sullivan, "Transit terrorism: Beyond Pelham 1-2-3," The Police Chief, February 1996, pp. 44-49. Even more recent events can be found in daily newspapers as transit terrorism has expanded around the globe.

[8] For a discussion on the use of technology, see Susan Gilbert, "Surveillance technologies: Electronically leveraging transit security forces," The Police Chief, July 1996, p. 22. The Bibliography at the end of the Guidelines also provides a number of items that discuss technology in the transit environment.

Generally, CPTED argues that physical design features may enhance or inhibit the possibility of crime occurring at a particular place. This theory has been expanded by what have come to be known as situational crime prevention theories. The first of these, known as opportunity theory, was advanced in the late 1970s by L. E. Cohen and M. Felson, who argued that offenders will commit crimes wherever there are suitable targets and an absence of protection. D. B. Cornish and R. V. Clarke extended this through the rational choice perspective, which states that offenders are rational and self-serving individuals who will weigh the pros and cons of committing crimes in any particular area.[9]

The classic study undertaken by the Toronto Transit Commission in the mid-1980s illustrated quite dramatically the importance of these theories for transit agencies, particularly pointing out the greater levels of fear expressed by women users of public transportation.[10] This study, the outgrowth of a safety audit that stemmed from concerns about the vulnerability of women to sexual assault on the Toronto transit system, established that despite a very low crime rate, the Toronto subway was perceived as unsafe by many women, causing them to limit "their lives very dramatically by stopping their use of the public transit system altogether or at certain times, especially at night."

The majority of the women had never publicly expressed these life-style limiting fears. Interviews, focus groups, and CPTED-influenced safety audits undertaken by METRAC and the Toronto Police Force resulted in changes that the transit industry today takes for granted, including installation of passenger assistance alarms on subway cars, emergency access telephones on platforms, the closing off of dead-end passageways (particularly at night and non-peak periods), off-hours waiting areas, and signage that is large and easily understood.

Despite the absence of serious crimes on transit systems, the crimes that do occur result in greater levels of fear than if they had occurred in other types of locations. In conjunction with such quality-of-life issues as graffiti, rowdy youths, panhandling, and homeless or idle people congregating in stations, the few dramatic, violent crimes that

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[9] L. E. Cohen and M. Felson, "Social change and crime rate trends: A routine activity approach, American Sociological Review, 44, 1979, pp. 585-605; D. B. Cornish and R. V. Clarke, The Reasoning Criminal (New York: Springer-Verlag, 1986).

[10] Moving Forward: Making Transit Safer for Women. (Toronto, Can.: Toronto Transit Commission/Metro Action Committee on Public Violence Against Women and Children and Metro Toronto Police Force, 1989).

have occurred on transit systems have contributed to many riders' view that public transit is unsafe, unpleasant, and crime-ridden. Transit managers—police and security, as well as operations personnel—must understand that these feelings exist, whether supported by crime data or not. In this case, perceptions are far more important than is reality and far harder to overcome.

As Vincent Del Castillo, a former chief of the New York City Transit Police Department, has pointed out, "Unlike crimes committed in neighborhoods, homes, public housing projects, or other community settings where victims and offenders are often know to each other, crime victimization [on public transit] almost always involves strangers," making it somehow far more frightening than crimes in other locales.[11]

THE NEEDS OF THE TRANSIT SECURITY MANAGER

The manager of the modern transit security function is charged with three primary responsibilities:

- Meeting the actual and perceived security needs of the system's passengers
- Protecting the system's employees, revenue, and property
- Maintaining order on the system

These responsibilities must be fulfilled in an environment of limited financial, staff, and material resources. In addition, since no universally recognized set of standards exists to guide transit security programs, managers often are forced to make decisions based upon contingency and budgetary limitations rather than on intentional design. This situation is further complicated by both the difficulty of measuring and documenting security effectiveness and the highly emotional nature of the response of the general public to transit crime.

In spite of these challenges, transit systems remain committed to combatting the serious financial and social costs of crime. The financial costs include the direct cost of the criminal activity, such as vandalism, arson, or theft of equipment. There are also liability, legal, and insurance costs. Moreover, when employees are involved, there may be lost time and/or rehabilitation costs. There is lost revenue, both from

[11] Vincent R. Del Castillo, Fear of Crime in the New York City Subway. (Ann Arbor, MI: University Microfilms International, 1990), p. 40.

fare evasion and from the decline in passengers who feel threatened by transit crime. The social costs include the suffering of the patrons and employees victimized by transit crime, as well as the costs that must be borne by nonpatrons who are forced to contend with increased congestion and pollution as potential passengers concerned about a lack of security turn to other forms of transportation. Finally, fear of the crime that mass transit may bring into communities can serve to undermine crucial long-term citizen support for public transportation. All of these provide constant pressure on transit systems to develop new and effective means for combatting crime.

Transit agencies have, therefore, applied a wide variety of crime prevention strategies and tactics to reduce crime and to increase patron perceptions of security. Some of these have been successful; some have not. In many cases, the reasons for success or failure have not been clearly documented. Thus it is difficult to determine if factors such as unique system attributes or possible variations in execution are as important to a successful outcome as is the strategy or tactic itself.

ELEMENTS OF TCRP PROJECT F-6:
"Guidelines for the Effective Use of Uniformed Transit Security Personnel"

This study provides a framework for relating what the transit security manager knows about his or her system to the vast body of literature, research, and thinking about security in the transit environment.

It is within this context that this project was designed to provide assistance to transit police and security managers. The work has five components:

- A survey and statistical analysis of transit security practices
- Six Practical Field Tests or PFTs, each examining a transit security problem and response in a particular setting
- Guidelines for the use of 25 transit security deployment tactics
- A comprehensive, annotated bibliography of published and unpublished activities in transit security
- A primer on field research in transit security

The Survey of Transit Security Practices

Some 142 transit agencies submitted responses to a four-page survey. These 142 agencies account for more that 95 percent of the transit users in the United States. Tabulations of their responses provide a useful context in which to apply the results of the other portions of the study.

The Practical Field Tests

The project sought to undertake transit-specific original research in the form of Practical Field Tests. The six experiments were:

- **MARTA** (Atlanta, GA)
  - — Bike patrol at a multi-modal station with park-n-ride facilities
- **LIRR** (Jamaica, NY)
  - — Auto-crime unit at stations with parking lots
- **Metrolink** (Los Angeles, CA)
  - — Uniformed non-sworn officers in a marked patrol car at a parking lot serving a multi-modal station
- **San Diego Trolley** (San Diego, CA)
  - — Proactive community involvement in design stages of new station compared to attempts at corrective action at an existing station
- **NYPD** (New York, NY)
  - — Surface unit of New York Police Department boarding and riding buses on two routes of New York City Transit
- **METRO** (Houston, TX)
  - — Uniformed officers regularly riding buses that had previously been sporadically patrolled by plainclothes officers

Guidelines for Deployment

Some 25 deployment tactics have been defined and described in detail, including the types of systems in which they have been applied and the problems they have been effective against.

Bibliography

Over 250 published and unpublished references are incorporated into this section of the report, including annotated discussion about the contents, the deployment techniques covered, and the uses to which the techniques have been put.

Primer on Practical Field Research for Transit Policing

As an aid to agencies participating in the project's six PFTs, a research manual was prepared as part of the training the research teams received. The manual proved so useful that it is included as an appendix, so that other interested agencies can make use of it in their own efforts.

Section III

STATISTICS

INTRODUCTION

Transit security covers an extremely large range of agency sizes, operating environments, demographic situations, and organizational and jurisdictional arrangements. In a comprehensive study such as this one, it is important to characterize, to the extent possible, the nature of the universe of potential users of project results.

To accomplish this task, a one-page letter and three-page survey instrument were mailed to some 500 agencies who are recipients of Section 9 funds, manually eliminating demand response and other agencies not appropriate to the study. The letter and survey instrument are provided as Appendix C.

Information was received from 142 agencies (listed in Appendix B). The agencies comprise some 28 percent of the universe, but they account for approximately 82.5 percent of the nation's mass transit users. The statistics presented, therefore, can be considered quite representative of both the agency practice and of the nation's transit users. However, as is explained with the individual tables, any conclusions based on ridership are heavily weighted toward large urban systems, since these serve a large portion of the nation's transit users.

Once the survey responses were received, they were checked by transit specialists, and any anomalies or discrepancies that were found were resolved through telephone calls to the agencies. Several large systems were sent a single questionnaire despite the fact that they operated two or more transit modes (this was a result of our choice of Section 15 ID code as an agency identifier). These systems were resurveyed and their responses allocated to the appropriate transit modes.

GENERAL DISCUSSION OF THE TABLES

To simplify the presentation of data, the original six transit modes identified on the questionnaire (Commuter Rail, Heavy Rail Rapid Transit, Light Rail, Motor Bus, Trolley Bus, and Other) were re-grouped as: Small Surface - Light Rail, Motor Bus, and Trolley Bus agencies, with fewer than 10 million annual unlinked passenger trips per year; Medium Surface - surface agencies, with between 10 million and 100 million annual unlinked passenger trips per year; Large Surface - surface agencies, with more than 100 million annual unlinked passenger trips per year; Heavy Rail Rapid Transit systems; and Commuter Railroads. The ridership figures used for these classifications are based on the FTA National Transit Database for the 1993 Section 15 Report Year, with estimates for new starts.

Two basic methods are used throughout the tabulations:

- Percent of agencies - this allows conclusions to be drawn with respect to what agencies may do, given their particular transit mode, FTA Region, or other characteristic

- Percent of riders - this reflects what the ridership may see with respect to the practices or situations at the agencies

Care must be taken in interpreting the tables that provide percentages. Some of the percentages are percents of the columns in the table, and a total of 100 percent will be seen at the bottom of those columns. One (Table III.3) contains percentages of all unlinked passenger trips and will show a total of 100 percent only in the bottom right corner. Lastly, several tables (III.6 through III.8) have columns that would total more than 100 percent. These are "multiple variable" tables, where an agency may be counted in several columns.

The tables are at the end of this section.

GEOGRAPHIC DISTRIBUTION OF AGENCIES AND RIDERSHIP

Table III.1 shows the number of agencies in each mode and FTA Region, and the percent of agencies in that mode that are in the region. As would be expected, the largest number of agencies are small surface agencies (52.1 percent). There is a geographic effect in the distribution of large surface, heavy rail rapid, and commuter rail systems, with several regions having no systems of these types. This reflects a combination of historical development (older cities, east of the Mississippi River, installed transit before the dramatic growth in automobile use), and local transportation preferences.

The situation is dramatically reversed if one looks at ridership. Table III.2 shows the percent of annual unlinked passenger trips (millions) in each mode and FTA Region and the percent of that region's passenger trips of all trips in the region (percent of the column total). Some 36.8 percent of riders of responding systems are in FTA Region 2 (New York, New Jersey, and the U.S. Virgin Islands) and, from the bottom row of the table, 68.9 percent of all rides are on large surface or heavy rail rapid systems. The impact of Region 2 on ridership shows even more clearly in Table III.3, where the ridership in the region and mode is shown as a percent of all transit rides in the nation.

DISTRIBUTION OF PRIMARY SECURITY RESPONSIBILITY ACROSS TRANSIT MODES

Respondents identified the type of organization that had primary responsibility for security at their agency. Table III.4 shows the percentage of each mode having a particular security configuration. Small surface agencies used local police overwhelmingly (70.3 percent); heavy rail rapid transit and commuter railroads, reflecting size and special needs, use their own sworn police forces (80.0 and 66.7 percent respectively). Medium-sized surface systems distributed responsibility roughly equally among sworn transit police, contracted local police, security agencies, and non-contract local police. When these data are presented in terms of ridership (Table III.5), the preference of heavy rail systems (rapid transit and commuter) grows to some 92.6 and 98.0 percent of riders respectively.

One note of caution regarding these tables: during the completion of this work, the largest transit system (New York City Transit) converted its sworn transit police force into the category of "non-contract local police" by having its independent force merged with the New York City Police Department. The tables reflect conditions before the changeover. In a system of this size, the impact on the tables would be highly significant, and will, no doubt, be the subject of considerable study in the future.

DISTRIBUTION OF CRIMES REGARDED AS HIGHLY IMPORTANT

The survey asked transit managers to estimate the importance of several categories of transit crime. The project team gave no guidance to the agencies on what was meant by important, but, if the question was raised, the agencies were instructed to respond in terms of the extent to which the issue was a priority for them. The results are tabulated in Tables III.6 (by percent of agencies in mode) and III.7 (by percent of riders by mode). As expected, the rail and large surface transit systems have a higher proportion of problems perceived as important. Assault and violent crime tend to be perceived as important in the heavy rail systems only. In both tables, it is clear that public nuisance, grafitti, and vandalism are prominent concerns for all transit modes.

DISTRIBUTION OF TRANSIT SECURITY TACTICS

The deployment tactics used in the five transit modes show that larger agencies make use of a wider variety of tactics than do the smaller agencies (Table III.8). This might be expected, considering the variety and quantity of crime faced by the larger agencies and the breadth of resources available to them.

However, when the same data are tabulated according to type of security agency that has primary responsibility for security, it seems clear that the broadest tactical options are used when the agency has the greatest control over the security resources. Sworn transit police apply the largest set of tactics, contract security agencies and contracted local police a smaller variety, and local police a limited set of tactics if any.

An area of increasing interest is the use of technological means to increase the effectiveness of security forces of all kinds. Though a detailed examination of this subject was beyond the scope of this study, it is interesting to note the variation in use of surveillance across transit modes among responding agencies (Table III.9).

Table III.1: Number of Systems Included in Statistics and Distribution of Transit Modes across FTA Regions

	SMALL SURFACE		MEDIUM SURFACE		LARGE SURFACE		HEAVY RAIL RAPID		COMMUTER RAIL		REGION TOTAL	
FTA REGION	Freq.	Col. %	Freq.	Col. %	Freq.	Col. %	Freq.	Col. %	Freq.	Col. %	Freq.	Col.%
1	6	8.1	1	3.0	1	12.5	1	6.7	1	8.3	10	7.0
2	2	2.7	2	6.1	2	25.0	4	26.7	3	25.0	13	9.2
3	4	5.4	3	9.1	2	25.0	4	26.7	3	25.0	16	11.2
4	9	12.2	5	15.2	0	0.0	2	13.3	1	8.3	17	12.0
5	8	10.8	5	15.2	1	12.5	2	13.3	1	8.3	17	12.0
6	12	16.2	5	15.2	0	0.0	0	0.0	0	0.0	17	12.0
7	7	9.5	1	3.0	0	0.0	0	0.0	0	0.0	8	5.6
8	3	4.1	1	3.0	0	0.0	0	0.0	0	0.0	4	2.8
9	14	18.9	7	21.2	2	25.0	2	13.3	3	25.0	28	19.7
10	9	12.2	3	9.1	0	0.0	0	0.0	0	0.0	12	8.5
MODE TOTAL	74	100.0	33	100.0	8	100.0	15	100.0	12	100.0	142	100.0
Mode - % of All		52.1		23.2		5.6		10.6		8.5		100%

1: CT, MA, ME, NH, RI, VT
2: NJ, NY, U. S. Virgin Islands
3: DE, MD, PA, VA, WV
4: AL, FL, GA, KY, MS, NC, SC, TN, Puerto Rico
5: IL, IN, MI, MN, OH, WI
6: AK, LA, NM, OK, TX
7: IA, KS, MO, NE
8: CO, MT, ND, SD, UT, WY
9: AZ, CA, HI, NV
10: AL, ID, OR, WA

Table III.2: Million Annual Riders Included in Statistics; Transit Mode across FTA Regions

	SMALL SURFACE		MEDIUM SURFACE		LARGE SURFACE		HEAVY RAIL RAPID		COMMUTER RAIL		REGION TOTAL	
FTA REGION		%		%		%		%		%		%
1	7.7	5.0	18.5	1.2	121.1	5.6	190.3	9.3	21.6	8.4	359.0	5.8
2	1.6	1.0	56.1	3.7	744.4	34.2	1258.6	61.4	197.4	77.0	2258.1	36.8
3	4.8	3.1	187.8	12.5	366.6	16.8	297.8	14.5	25.2	9.8	882.2	14.4
4	24.0	15.5	192.1	12.8	0.0	0.0	79.8	3.9	2.7	1.1	298.6	4.9
5	15.6	10.1	273.0	18.2	327.8	15.0	141.9	6.9	2.5	1.0	760.8	12.4
6	20.1	13.0	276.5	18.4	0.0	0.0	0.0	0.0	0.0	0.0	296.6	4.8
7	6.1	3.9	40.8	2.7	0.0	0.0	0.0	0.0	0.0	0.0	46.9	0.8
8	3.6	2.3	25.1	1.7	0.0	0.0	0.0	0.0	0.0	0.0	28.7	0.5
9	45.4	29.4	277.0	18.4	619.7	28.4	82.6	4.0	6.9	2.7	1031.6	16.8
10	25.4	16.5	155.0	10.3	0.0	0.0	0.0	0.0	0.0	0.0	180.4	2.9
MODE TOTAL	154.6	100.0	1501.9	100.0	2179.6	100.0	2051.1	100.0	256.2	100.0	6143.1	100.0
Mode - % of All	2.5		24.4		35.5		33.4		4.2		100%	

Table III.3: Percent of All Annual Riders by Transit Mode and FTA Region

	SMALL SURFACE	MEDIUM SURFACE	LARGE SURFACE	HEAVY RAIL RAPID	COMMUTER RAIL	TOTAL %
FTA REGION						
1	0.1	0.3	2.0	3.1	0.4	5.8
2	-	0.9	12.1	20.5	3.2	36.8
3	0.1	3.1	6.0	4.9	0.4	14.4
4	0.4	3.1	-	1.3	-	4.9
5	0.3	4.4	5.3	2.3	-	12.4
6	0.3	4.5	-	-	-	4.8
7	-	0.7	-	-	-	0.8
8	0.1	0.4	-	-	-	0.5
9	0.7	4.5	10.1	1.3	0.1	16.8
10	0.4	2.5	-	-	-	2.9
TOTAL	2.5					100.0

Table III.4: Percent of Transit Mode Agencies: Type of Primary Security

	SMALL SURFACE	MEDIUM SURFACE	LARGE SURFACE	HEAVY RAIL RAPID	COMMUTER RAIL	TOTAL %
Sworn Transit Police	1.4	24.2	62.5	80.0	66.7	23.9
Contract Local Police	12.2	21.2	12.5	-	8.3	12.7
Contracted Security	14.9	21.2	-	13.3	16.7	15.5
Local Police	70.3	33.3	25.0	6.7	8.3	47.2
Other	1.4	-	-	-	-	0.7
Percent Totals	100.0	100.0	100.0	100.0	100.0	100.0
TOTAL Agencies	74	33	8	15	12	142
% of All Agencies	52.1	23.2	5.6	10.6	8.5	100.0

Table III.5: Percent of Annual Riders by Transit Mode: Type of Primary Security

	SMALL SURFACE	MEDIUM SURFACE	LARGE SURFACE	HEAVY RAIL RAPID	COMMUTER RAIL	TOTAL %
Sworn Transit Police	2.9	34.9	45.9	92.6	98.0	59.9
Contract Local Police	15.1	19.5	10.6	-	0.1	8.9
Contracted Security	22.5	18.3	-	0.8	1.4	5.4
Local Police	55.4	27.2	43.5	6.6	0.5	25.7
Other	4.2	-	-	-	-	0.1
Percent Totals	100.0	100.0	100.0	100.0	100.0	100.0
% of All Riders	2.5	24.4	35.5	33.4	4.2	

Table III.6: Percent of Agencies by Mode: Important Security Problems

	SMALL SURFACE	MEDIUM SURFACE	LARGE SURFACE	HEAVY RAIL RAPID	COMMUTER RAIL	% of All
Assault/Violent Crime	18.9	39.4	37.5	60.0	33.0	30.5
Car Theft	6.8	15.2	12.5	46.7	33.3	15.6
Fare Evasion	23.0	45.5	50.0	66.7	25.0	34.8
Tresspassing	12.2	21.2	12.5	46.7	41.7	20.6
Public Nuisance	45.9	45.9	63.6	75.0	66.7	54.6
Grafitti	44.6	54.5	62.5	60.0	41.7	48.9
Vandalism	50.0	54.5	75.0	60.0	41.7	52.5
% of All Agencies	52.1	23.2	5.6	10.6	8.5	100.0

Table III.7: Percent of Annual Riders by Mode: Important Security Problems

	SMALL SURFACE	MEDIUM SURFACE	LARGE SURFACE	HEAVY RAIL RAPID	COMMUTER RAIL	% of All
Assault/Violent Crime	29.1	45.0	42.3	86.4	67.6	67.9
Car Theft	2.2	10.7	7.4	22.4	38.5	14.3
Fare Evasion	33.3	41.7	46.0	84.5	41.3	66.9
Tresspassing	18.6	14.9	15.0	20.8	61.8	18.8
Public Nuisance	57.0	66.3	79.4	89.4	80.7	78.4
Grafitti	57.9	50.0	81.3	74.9	61.8	69.6
Vandalism	61.9	54.6	87.0	74.7	61.8	72.7
% of All Agencies	52.1	23.2	5.6	10.6	8.5	100.0

Table III.8: Percent of Agencies in Transit Modes Using a Particular Tactic

	SMALL SURFACE	MEDIUM SURFACE	LARGE SURFACE	HEAVY RAIL RAPID	COMMUTER RAIL	% of All
Random Foot Patrol	14.9	48.5	14.3	80.0	41.7	14.5
Fixed Posts	18.9	45.5	42.9	80.0	41.7	15.8
Uniformed Patrol	5.4	54.5	85.7	73.3	41.7	14.2
Plainclothes Patrol	1.4	42.4	42.9	60.0	16.7	9.3
Mobile Patrol Responding	9.5	48.5	85.7	73.3	41.7	14.2
Mobile Patrol Trailing	1.4	27.3	14.3	6.7	8.3	4.2
Directed Mobile Patrol	6.8	36.4	14.3	33.3	41.7	9.0
Canine Patrol	-	3.0	-	46.7	25.0	3.5
Community Policing	1.4	18.2	14.3	40.0	50.0	6.4
School Outreach	1.4	15.2	28.6	46.7	33.3	5.7

Table III.9: Percent of Agencies in Mode Using Surveillance Devices

	SMALL SURFACE	MEDIUM SURFACE	LARGE SURFACE	HEAVY RAIL RAPID	COMMUTER RAIL	% of All
USE	40.5	69.7	87.5	93.3	91.7	91.7
DO NOT USE	59.5	30.3	12.5	6.7	8.3	8.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0