
REDESIGNING HELL: PREVENTING CRIME AND DISORDER AT THE PORT AUTHORITY BUS TERMINAL

by

**Marcus Felson, Mathieu E. Belanger,
Gisela M. Bichler, Chris D. Bruzinski,
Glenna S. Campbell, Cheryl L. Fried,
Kathleen C. Grofik, Irene S. Mazur,
Amy B. O'Regan, Patricia J. Sweeney,
Andrew L. Ullman, LaQuanda M. Williams**

Rutgers, The State University of New Jersey

Abstract: *This paper examines whether crime and deviance declined within New York City's Port Authority Bus Terminal as a result of modifications made inside. This sprawling, busy facility underwent numerous small but strategic changes in design and management, mostly in 1991 and 1992. This effort combined situational prevention with Crime Prevention through Environmental Design, the latter approach involving the design of many environmental details within a comprehensive plan. Although the data are not perfect, they indicate that the Port Authority made this huge transit complex much less of a crime generator, crime attractor and fear generator. These changes also suggest a "stop-and-go" theory of how human movement patterns relate to the decisions to commit criminal acts.*

Address correspondence to: Marcus Felson, Rutgers University, School of Criminal Justice, 15 Washington Street, Newark, NJ 07102.

1. BACKGROUND

This is a study of a single public transit station, how it generated a variety of crime and disorder, what efforts were made to design¹ out these problems, and what outcomes resulted. Although our focus is upon what went on inside, we will mention from time to time its larger but proximate environment. Although we focus mainly on criminal acts, we also consider deviant acts (such as wandering aimlessly, sleeping in stairwells and panhandling).

1.1 The Significance of "Disorder"

We do not limit our interest to deviance or crime for their own sake. Rather, we focus upon preventing those acts of crime and deviance that contribute to *disorder* in a public transit station. We do not define disorder in terms of moral outrage. Even if one person's actions are irritating to another, that does not always suffice to produce disorder. Even activities that are not irritating in other places may prove very much an interference within a busy public transit station. Nor is it necessary that disorder be noisy or meet a legal criterion for disorderly conduct. Our criterion for disorder is to ask whether activities occurring in the station interfere with its operations or with its ordinary customers trying to get to and from work, shopping or recreation. Thus, a single panhandler on a side street may be easy to ignore, but panhandlers who thwart the flow of activities in a very busy transit station meet the disorder criterion. Non-travelers hanging around a busy transit station, whether acting illegally or not, make it more difficult for people in a hurry to get where they are going. They create an order problem for that reason and need meet no test of illegality or deviance. On the other hand, people hanging around might engage in illegal or deviant activities, which can also provide a reason to hang around in the first place. Restoring orderly movement to a transit station often depends upon thwarting criminal and deviant activities occurring within it. Indeed, crime and disorder often carve their niches within public transit stations, clogging up and impairing legal activities for which these stations are designed. The challenge is to reduce these problems. Brantingham, et al. (1991) have already considered how a transit station contributes to crime in its vicinity. Several scholars (see Clarke and Belanger, this issue; Felson et al., 1990) have further studied

criminally risks within small stations, such as subway stops. The current study considers crime inside a very large transit station in an urban core.

1.2 An Enormous and Complex Facility

The Port Authority Bus Terminal in New York City is the ultimate urban transit station. This is the biggest and busiest bus station in the world. The high density and convergent nature of Manhattan generates very heavy flows of strangers to and from the Port Authority Bus Terminal, especially during rush hours. Table 1 sums up average daily bus and passenger counts by time of day for May, 1994. In all, this bus station has about 1 million passenger-trips going through *per week*. Of the approximately 174,000 passenger trips *per day*, 70% are "short haul." This bus station serves largely to bring New Jersey residents into New York to work during the day, and to get them back home in the evening. The station also receives commuters from the rest of the Greater New York area, and

Table 1: Daily Bus Counts and Passenger Counts, Short- and Long-Haul, Rush Hours and Other Hours

Port Authority Bus Terminal, Average Day, May 1994

Number of Buses	Short Haul	Long Haul	Totals
7 A.M. - 10 A.M.	1,509	539	2,048
4 P.M. - 7 P.M.	1,313	558	1,871
Other Times	1,916	987	2,903
24 Hour Totals	4,738	2,084	6,822
Number of Passengers			
7 A.M. - 10 A.M.	45,775	15,988	61,763
4 P.M. - 7 P.M.	39,247	15,773	55,020
Other Times	37,589	20,062	57,651
24 Hour Totals	122,611	51,823	174,434

Source: Port Authority Bus Terminal, Operations Unit.

long-haul passengers from various places. A total of 6,822 buses of all kinds enter or leave *per day*.

Encompassing 1.5 million square feet, this facility occupies the blocks bounded by widely spaced Eighth and Ninth Avenues and 40th and 42nd Streets. Knocking out 41st Street entirely, the Port Authority Bus Terminal spans the equivalent of roughly four square blocks at the ground level. Pedestrian walkways, above and below street level, connect its two buildings, the North and South wings. The complexity of this building and its operations exceed that of a very busy train station. Whereas big-city train stations have one or two train levels, this bus station has nine different levels. Whereas 20 train platforms in regular use makes a huge facility, the Port Authority Bus Terminal has 220 gates for buses. Whereas a good-sized train station has fewer than 50 departures or arrivals per hour, this bus station sometimes has several hundred and operates 24 hours per day, seven days per week.

The station includes six pedestrian circulation levels for moving passengers between city and bus gates. With its sections built at different times according to different designs, it is often rather difficult to find ones way from one part to another. There are two types of bus gates, saw-tooth gates and island platforms. Saw-tooth gates allow several positions for buses to pull in for unloading and reloading, and require each bus to back out. Island platforms allow each bus to pull through, unload and reload passengers at the concrete island, then exit straight forward, leaving room for the next bus to repeat the process. Four bus-gate concourse levels for bus boarding supplement the 24 individual loading platforms. The 220 bus gates in the facility are spread over several levels and both wings. The North Wing has potential for future growth. Appended to this bus station is a huge and multi-layered parking structure (see discussion below).

The typical patron gets on a bus somewhere in New Jersey in the morning. The bus goes under the Hudson River via the Lincoln Tunnel, which empties directly onto a ramp that enters the Port Authority Bus Terminal, avoiding New York City streets. The patron disembarks from the bus at a saw-tooth or pull-through gate, and goes down several stairways and or escalators to the lower floors. From there, perhaps the patron enters a subway train at Times Square Station or walks outside to the Times Square area and onto a street-level city bus or directly to the office.

1.3. The Neighborhood

The bus station has a strategic position in the heart of midtown Manhattan, one block west of Times Square. The Times Square subway station serves 200,000 passengers per day, and Times Square tourists number over 50,000 per day on average (Martin, 1993).

Also significant has been the domination of the Times Square area by pornography shops and prostitution (see *Christian Science Monitor*, 1993). Vice was highly visible to any patron walking to or from the bus station. The Times Square area has a long history of prostitution. Gilfoyle (1992) mapped its heavy concentration of houses of prostitution as early as 1900. However, the modern version of Times Square-area prostitution was very different in two important respects. First, it appears that a much larger share of prostitutes in recent years were male. Second, the modern Times Square prostitutes plied their trade not inside houses of prostitution, (as Gilfoyle reported) but rather on or near the street. McNamara (1995 [introduction, Chapters 3 and 5], 1994a, 1994b) analyzed the "Times Square hustler" in some detail: "...the peep shows, porno shops, hotels, bars, and the Port Authority Bus Terminal not only offer a centralized locale for the sex market, they also provide places for [malé] hustlers and clients to meet and carry out their transactions..." (McNamara, 1994b: 122).

McNamara (1995, 1994b) also explains the "diurnal quality" of hustling, which depends on the work schedules of commuters and coincides with both morning and evening rush hours. This helps us to understand the important interaction between the flows of travelers through the Port Authority Bus Terminal and the illegal or shady businesses that draw upon them.

The Times Square area had more than hundreds of male hustlers. Dirt, litter, graffiti, aggressive panhandling, public drunkenness, rude and crude public behavior, female prostitutes — all of these became commonplace in and around the bus station. These problems intensified with the spread of homelessness and crack cocaine in the 1980s.

1.4 Resulting Disorder

Such a sprawling complex located in a seedy area could not easily prevent illegal activities from carving their niches within. To quote the

Washington Post, "...the building itself was uncontrollable. Opened in 1950 and expanded haphazardly, effective surveillance became almost impossible" (Gladwell, 1995:1).

During the 1980s, crime and disorder inside the Port Authority Bus Terminal reached far worse levels than North American and European transit stations. We reserve for later our discussion of specific crime statistics, as presented in Tables 8, 9 and 10. However, the general situation is captured by a quotation from the *New York Times*, describing it as "...a grim gauntlet for bus passengers dodging beggars, drunks, thieves, and destitute drug addicts" (Manegold, 1992:1). Many of these are standard problems in Manhattan, but they took some special forms within the bus station. Noteworthy were phone hustlers, male prostitutes, parking structure prostitutes and criminal interdependence with the larger Times Square area.

Phone hustlers had learned how to place illegal international phone calls for free from pay phones inside the station. They sold these calls to a walk-in market (e.g., \$10 for a call anywhere in the world, talk as long as you want). The banks of phones in the station were divided up by continent. Citizens attempting to call New Jersey legally found bus station phones occupied by illegal use, or were forced to leave after being threatened by phone hustlers whose territory they had encroached upon (see Bichler and Clarke, this volume).

Distinguishing the Port Authority Terminal from others was the fact that several hundred homeless people had, to various degrees, moved in. Dozens slept day and night, singly or in groups, on or besides stairs, bus gates, benches or in various interstitial areas. They did more than block a few routes; they openly took over whole sections. Some set up homes above the bus gates. Many installed electrical appliances and cooked meals. Inside the bus station, people had sex, shot heroin, gave birth and died. People urinated on walls and in elevators. Transients took over restrooms. Some fought and even killed over turf or other issues. Some lived there all the time, and others moved back and forth between street and bus station. These transients upset suburban users and contributed to the terrible reputation of the station in New York, New Jersey and beyond. The transitory problem was difficult to attack because of various court rulings barring authorities from evicting people from public places (we return to this issue later).

With Port Authority Bus Terminal problems again reaching a higher order of magnitude, its male prostitution was more than a few boys

hanging around. Indeed, between the main and second floors of the South Wing was an open well where people on the second floor could look down to the main floor. This area used to be known as the "meat market" because homosexual liaisons and drug deals were prevalent there. Male prostitutes by the dozen remained on call in the area and their liaisons proceeded to nearby male restrooms, largely sheltered from legal interference.

Additional disorder was found in the vast parking area, consisting of 1,100 spaces on the fifth, sixth and seventh levels. These spaces had once been in full use, but Manhattan's traffic had gotten so bad that fewer people drove cars to work; this left an abundance of empty parking spaces. The parking decks became ideal locations for drug and gun sales, larcenies, muggings, rapes and especially prostitution. Wandering male and female prostitutes performed their services inside or between cars, not readily seen from patrol cars but still within view of legitimate visitors and their families.

Those purchasing illegal goods and services were also subject to predatory victimization. Not only were those from the area potentially involved, but, as the *New York Times* explained, "...because the buses bring so many people to the city for the first time, there is a steady supply of unsophisticated victims pouring into the Arriving Passengers platforms" (Steinberg, 1991:6).

Perhaps most interesting, the Port Authority Bus Terminal had become an important hub for illegal behavior in interaction with the surrounding Times Square area. The *New York Times* referred to "...the menacing network of muggers, luggage snatchers, drug dealers, phone-scam artists, prostitutes and pimps who use the terminal as their place of business or as a refuge from nearby Times Square" (Steinberg, 1991:6). Many of these offenders, or other marginal members of society, made a routine daily cycle between Bryant Park toward the East on 42nd Street and the bus station on the west side of that same street (McNamara, 1995, 1994a, 1994b). During the morning rush hour and at noon they would draw upon the flow of the working population in the Bryant Park area. During the evening rush hour, they would feed off the streams of pedestrians walking toward the bus station through the "combat zone" of porno houses or those surfacing from the subway. This bipolar system was symbiotic in the full sense of the word. Those living within the bus station could gain sustenance in the nearby areas, and those living elsewhere could take advantage of the bus station for customers, for a place to consummate sexual contacts or drug use, or to linger, rest and escape the elements.

Moreover, some fraction of travelers with responsible jobs was interested in illegal or illegitimate goods or services.

It is no surprise that many thousands walked through the bus station and its vicinity quickly, trying to avoid the transients and keep as safe as possible. Some availed themselves of illegal goods and services, but even they did so quickly and moved on to legitimate activities. Many newspaper articles had highlighted the Port Authority Bus Terminal mess, even the phone scams. The terminal was an embarrassment to the Port Authority. Travelers deserved better, and something had to be done about it.

1.5 Studying This Facility and Its Improvement

Studying this facility and how it changed became a class project for the Seminar in Environmental Crime Prevention at Rutgers University School of Criminal Justice in the spring 1995 semester. An agreement was made between Dean Ronald V. Clarke and Bus Terminal Manager Ken Philmus. Professor Marcus Felson joined the faculty as a visiting professor in January 1995, and agreed to teach the seminar and direct the evaluation. All the co-authors of this paper were students in that seminar.

Two initial meetings were held with Mr. Philmus, who explained many details of the bus station and changes within it. Mr. Philmus also took the entire class and Professor Felson on a substantial tour of the facility, pointing out specific changes. Each student was then assigned to study a different aspect of the terminal, the changes that were instituted and their impact on crime and disorder. The students interviewed a total of approximately 25 persons, including Port Authority personnel and contractors with the Port Authority. Students gathered statistical data from these and New York City sources, as well as detailed descriptions of changes that were planned and actually made. Students also examined changes photographically and with their own eyes. Although this was a retrospective evaluation, a good variety of data were sitting unanalyzed.

Unfortunately, multiple treatments were instituted at various times without an experimental design. It is difficult to tease apart the impact of one treatment from that of another. However, we are able to gain some insight into their *overall* impact.

Complex change within a huge facility requires a detailed description and evaluation. We explain the planning process (Section 2), then turn to the central problem of transients (Sections 3 and 4). Detailed description of physical modifications inside the terminal (Section 5) is followed by

shorter sections on maintenance and sanitation (Section 6) and operations of the terminal (Section 7). Retail trade (Section 8) is followed by the toll fraud problem (Section 9). Results are examined in great detail, including general results (Section 10), as well as changing crime and subjective security (Section 11). Then the displacement question is taken up (Section 12). Conclusions are offered in two sections: those applying to this evaluation (Section 13), and the general theoretical principles suggested by this analysis (Section 14).

2. PLANNING FOR CHANGE

This section discusses: (1) the Port Authority's goals in changing the situation, (2) the limitations of traditional crime control methods in this setting, (3) preliminary actions leading to change, and (4) strategic thinking for change.

2.1 The Port Authority's Goals

The Port Authority's goals were to reduce or remove several types of problems. These included five main types of crime: robbery, pickpocketing, luggage theft, larceny and assault. Also of concern were four problems within the station: transients and homeless persons, drug sales, solicitation for prostitution and telephone abuse. Additional obstacles to be addressed were: litter and mess, feelings of fear and disgust among customers, discontent among tenants (including bus companies and businesses), the widespread bad image for the bus station and the Port Authority itself, and the heavy legal claims against it owing to crime, accidents, injuries and arrests.

2.2 Limitations of Traditional Crime Control Methods

It made little sense to advise the Port Authority to "provide more security." The physical design of the station made traditional American security — intensive police and camera surveillance — highly impractical. A large number of Port Authority Police were already assigned to this one facility (see later discussion), and could not get hold of the situation. Worse still, the heavy flows of routine legitimate activity through a cavernous building are probably intrinsically criminogenic. It would not be possible either to replace the building or to redesign it completely. For a strategy

to improve this bus station, one needs to think carefully and set priorities well.

2.3 Preliminary Actions Leading to Change

At the time the change process was instituted, Janice M. Beitzer was the manager of the Port Authority Bus Terminal. Ken Philmus acted as "point man" to bring about change (see below). He later became manager. Philmus's superiors supported change and backed him up as he proceeded. A Bus Terminal Improvement Task Force was organized to examine the facility from a broad perspective. The Port Authority mustered its internal management resources, while also seeking outside consultants and interacting with them over a period of time to plan change and put it into practice. In particular, the Port Authority hired the Project for Public Spaces (PPS). PPS is a private non-profit consulting organization devoted to helping improve public places. A pro-urban group founded and led by Fred Kent, it has worked in over 20 states and several foreign countries to improve stations, squares, parks, streets and other public places. Many of PPS's ideas would be recognized by crime prevention specialists as "crime prevention through environmental design" (CPTED) or as situational prevention. However, PPS does not conceive of itself as mainly a crime prevention organization. Rather, it seeks to design public spaces in order to make them more usable and inviting, with crime prevention subsidiary to the larger goals. Steve Davies of PPS took special responsibility for the Port Authority Bus Terminal project. Most of these preliminary activities occurred in 1990 and 1991, while more of the actual change was accomplished in 1992.

After examining closely the bus station and its problems, PPS submitted a list of detailed design and management recommendations to make this public space more desirable, useable and secure. The Port Authority staff and the task force then went over these recommendations and determined which were feasible, resulting in a modified list of changes. The task force offered over 100 recommendations to the management.

The Comprehensive Improvement Program (CIP) was established in 1992 for the evaluation and implementation of the initial recommendations of the task force. The CIP concurred with many of the recommendations of the previous task force. It also determined that the overall layout design of the facility was directly contrary to good security practice, contributing to crime opportunity and causing unnecessary confusion and

difficulties for customers. Their recommended changes touched all areas of operations, including retail trade, the homeless and movement patterns into and out of the facility. Perhaps most fascinating was the CIP's avoidance of the usual non-creative solutions: hiring more security, arranging non-strategic crackdowns and devising a public relations effort to deny the problems.

The first Director of CIP was Bob Williams, who was succeeded by Ken Philmus. It is important to note that these were insiders in the Port Authority Management, and they were prepared to put ideas into action.

2.4 Strategic Thinking for Change

The many specific tactical changes are part of a larger strategy. The CIP's written strategy for improving safety was to establish territorial boundaries for the station, minimize excess public space and organize terminal services and functions more logically. A high official described the revitalization strategy somewhat differently: to improve visibility, movement and natural control, using enforcement as a "backup." Those involved in the change shared a strategic concept without an orchestrated jingoism.

This was evident in planning the South Wing Redevelopment Program. Seeking "to correct physical design deficiencies," we interpret this effort as using ideas similar to the Brantinghams (1995), but without the terminology of CPTED or environmental criminology. The program's goal was to reduce crime and disorder while making the Port Authority Bus Terminal an overall better place. This included reducing confusion for travelers, while improving policing, maintenance, sanitation and operations. In the process, the Port Authority hoped to increase retail sales to offset the overall red ink implicit in this operation.

More specifically, the Bus Terminal Improvement Task Force recommended: reducing and improving entrances to the station; relocating ticketing to one central location; streamlining and concentrating horizontal and vertical circulation for pedestrians; straightening sight lines and removing obstructions (such as poorly placed information booths, advertisements, kiosks and newsstands) that impaired visibility or movement; and reassigning excess public space to retail purposes. Although the South Wing's problems were the most severe, the same strategy and tactics were applied to some extent throughout the station.

In the next sections, we discuss several areas of change in greater detail.

3. THE TRANSIENT PROBLEM

As early as the 1970s the Port Authority Bus Terminal had been visited often by vagrants and loiterers, many of whom were inebriated. Concentrated in the evening hours, they seldom interfered with commuters. The situation has worsened since that time, perhaps due to the closing of resident mental health facilities during the 1970s, the crack epidemic of the 1980s, and the changing housing market in the New York City area. Whatever its causes, by the late 1980s the transient problem in and around the bus station had become unmanageable. The homeless coordinator instituted counts four times per day of the number of obvious transients. There was no attempt to remove recounts of those who had been counted earlier that day or the previous day. The count was an indicator of the extent to which homeless people spent time inside the facility. About 150 homeless people were counted on the average day, multiplying to 55,000 in 1991. In January 1991 the average daily count reached 220; that number could double on a bitterly cold winter day. Given that transients in the upper reaches of the station were often missed by the enumerators, one can readily determine how severe the homeless problem within the bus station had become.

3.1 Different Types of Transient Population

Various terms are used for the transient population: vagrants, loiterers, street people, homeless. We prefer the word "transient," which allows for variations, while avoiding the pejorative connotations of "vagrant" or "loiterer," the assumption that all are homeless, or the contradiction of calling someone living inside the station a "street person."

Someone with a home may yet be transient for some stretch of the day or night, or for some days of the week. In New York City, isolated poor people usually live in very little space. Many live alone in boarding houses or small hotels. Many of these people would come to the bus station to relieve boredom. The mentally ill, the mentally retarded, the physically retarded, the physically disabled, pregnant women, mothers with children, runaway teenagers, substance abusers — all these are represented in the transient population within the bus station.

In addition, a fair number of people go to the bus station to make money in shady practices. They engage a variety of schemes, including begging, theft, toll fraud or robbery. Some street hustlers with homes may do most of their business in the Times Square area, but go to the bus station when they get cold or when business is bad outside.

Those without homes are also diverse. Some homeless people move from one public space to another, such as from shelter to subway to bus station. Many homeless shelters do not allow people to stay during the day; residents might then head to the bus station. Some homeless people stay outside in good weather but go inside during bad weather. Even those who reside mostly within the bus station might move from spot to spot as they are told to move or seek a better position for panhandling, or as the rush hour crowds begin to trip over them. Many with access to other locations, even homeless shelters, might still prefer the bus station for its security, spaciousness and climate control. Some homeless people find an ongoing niche within the bus station.

To sum up, the bus station offered a part-time or full-time home to many marginal members of society. As their numbers increased, their joint presence contributed to crime and disorder. They provided victim and offender; they blocked passages and scared away customers from retail trade; they made a mess and contributed to fear. And the Port Authority could not do much about it.

3.2 Police Problems in Securing the Building

The Port Authority is responsible for the PATH train system, the Holland Tunnel, the Lincoln Tunnel, several huge bridges, a very busy port, LaGuardia International Airport, Newark International Airport and John F. Kennedy International Airport. It has the twenty-eighth largest police force in the country. Its 1,400 officers are qualified and sworn in both these states, and are transferred among the different Port Authority facilities. Some 125 officers are assigned to the bus terminal. Given the need to cover a sprawling complex all hours and all days, with some time lost to paperwork, police patrols alone cannot turn around the bus station crime problem.

Policing the bus station was frustrating and often ineffective for several reasons: (1) difficulty in making charges stick (explained below); (2) the large number of offenders and transients inside; (3) danger and ineffectiveness in corners and crannies; (4) unpleasantness in dealing with social

problems evident inside the station; (5) resistance to social services by transients; and (6) police discomfort with the social service role. We discuss these points one by one.

3.2.1 Making Charges Stick

Section 240.35(7) of the New York Penal Law was originally designed to clean up railroad facilities in anticipation of the 1939 World's Fair. It reads as follows: "A person is guilty of loitering when he loiters or remains in any transportation facility, or is found sleeping therein, and is unable to give a satisfactory explanation of his presence." This section generally helped managers of public facilities to remove people hanging out for apparently illegal purposes. Perhaps its greatest advantage is its vagueness — which also proved to be its disadvantage. In 1988 [*People vs. Clark*], the New York State Court of Appeals, the state's highest appellate court, struck out Section 7 as unconstitutional. The court stated that it could not be considered illegal for anyone to be in a public space. People could not be ejected from these spaces based on the way they looked or their financial state. When the Port Authority police and terminal personnel got transients to move out of one area, they simply relocated to another part of the building. Nor was this the only area in which vagrancy and loitering laws have become constrained by court rulings. It was also difficult and expensive to apprehend and make a good case against the large number of small-time offenders who frequented the station. This included phone hustlers, prostitutes and thieves.

Even if convictions could be secured, significant punishments are difficult to deliver in a greatly overburdened criminal justice system. New York City has enough trouble apprehending and prosecuting major offenses; going against minor offenses is often impractical. The bus station is plagued most directly by the minor offenses, yet these provide the camouflage for major offenses as well.

3.2.2 Magnitude of the Problem Inside

Had only a few transients taken advantage of the new court ruling, it might have been of little consequence. However, in New York City's Port Authority Bus Terminal, hundreds of people were now protected from expulsion. A case can be made that, as the number of offenders in a building increases arithmetically, the problems they create increase

geometrically. They make each arrest experience especially difficult or unpleasant with confederates near, as they coalesce against a single police officer or even a pair of officers. In particular, the numbers of transients make a crackdown difficult to carry out, while frustrating police seeking to control the situation. The path of least resistance for authorities is to let things go.

3.2.3 Physical Environment Impairing Control

Of course, it would be safest to live in one's own home. However, for those who cannot do so, one might as well live in a policed building, even if the police are not the homeless person's favorites. The Port Authority Bus Terminal was better than living under a bridge. Its hidden corners were like private nests, offering some protection from other transients and impairing police interference. Contraband drugs hidden in these recesses could not so readily be assigned as evidence to a single offender. Even when police officers wished to crack down, it was difficult and even dangerous to enter the hidden niches of a sprawling terminal, where the transients were the insiders and the police the outsiders.

3.2.4 Unpleasant Policing

Arrests necessary to regain control over the bus station were often extremely unpleasant to carry out from the officer's standpoint. For example, hanging around in smelly restrooms attempting to apprehend homosexual solicitors was not the height of police work. Throwing homeless people out into the cold winter was not something to be proud of. Arresting small-time hustlers was only slightly more attractive. To regain control of the bus station through police crackdowns would require incessant pettiness.

3.2.5 Client Resistance to Social Services

The Port Authority's offers of social assistance were often spurned by transients, a problem well known by social workers and covered as well in the *New York Times* (Manegold, 1992). Although social service agencies had worked inside the bus station for years, the transient situation had not improved noticeably. The specific responsibilities of each social service group were not well-defined. There was no social service support system

in place to handle the necessary service procedures from beginning to end. Neither police nor social workers could assume that the other would take care of the bus station's social problems; it was increasingly clear that they would have to work together.

3.2.6 Police and a Social Service Role

A standard police method for maintaining order is this: note citizen misbehavior; give citizen instructions; if citizen obeys, leave alone; if citizen moves toward illegality, arrest. This method is very different from working with social workers. Yet it was impractical in the bus station, given the huge population of transients and the legal limitations mentioned above. A sincere police officer could only be frustrated in seeing this environment deteriorate around him, with the traditional tools largely inapplicable. By the beginning of 1991 the transient population had become totally unmanageable. Eventually, police and social workers alike experienced burnout. All parties were ready to try something new.

4. DEVELOPING A SOLUTION TO THE TRANSIENT PROBLEM

In the mid 1980s, a social service agency had been contracted by the Port Authority to work with its transient population, with a special emphasis on alcoholics. From 1986 through 1991, another agency was hired to provide services for transients between 5:00 p.m. and 1:00 a.m. This program was prompted in part by the increased number of homeless residing inside the station after standard business hours, especially during the cold winter months. Even with these efforts, the homeless situation inside the bus station continued to deteriorate.

4.1 Developing an Innovative Transient Policy

In 1987, Rita Schwartz received a fellowship award from the Port Authority to do a comprehensive study of the effects of the homeless on the transportation industry, and to analyze possible recommendations to improve conditions for the Port Authority. She became the Port Authority's Senior Advisor of Homeless Affairs and continued in that role until 1996. The Port Authority Bus Terminal management required precise information about the homeless, if they were ever going to address the problem

effectively. Other outside consultants were also brought in to examine various aspects of the transient crisis at the bus station. These included social service consultants and the Project for Public Spaces. The Port Authority management began examining the locations where the homeless were actually living, both inside and outside the bus station.

The proposed solutions were multifaceted, including construction, maintenance, operations, social services and policing. A large part of the strategy was physical redesign, seeking to reduce the areas inside the station where people could sleep, sit or loiter. However, the social service aspect was especially important for making the other parts work.

4.2 Operation Alternative and Improved Social Services

On May 10, 1990, Federal Appeals Court in Manhattan declared begging no longer to be a constitutionally protected right. To quote the *New York Times*, "Yesterday's ruling makes it a crime to beg in the subways and the major terminals, including...the Port Authority Bus Terminal..." (Wolff, 1990:1). The denial of unlimited rights to remain in public facilities had legal significance beyond panhandling alone. This made it possible for the Port Authority management to develop a plan for reducing the transient problem inside the bus station. With the assistance of Rita Schwartz and other internal and external consultants, they formulated Operation Alternative. It emphasized strong cooperation between police officers and social workers. It required contracting with a social service organization competent to arrange services for the transients within the bus station, and to refer them to appropriate agencies.

In searching for such a contractor, the Port Authority learned that few agencies aiding the homeless provided diverse services and referrals. The exception was the Manhattan Bowery Corporation, later called Project Renewal. In operation since 1968, this non-profit organization offered case management, substance abuse treatment, residential treatment, employment training, permanent housing and outreach services.

In plain language, that meant going face-to-face with a transient man or woman and arranging for specific help. Project Renewal's referral services included many area shelter and crisis centers, and three city hospitals. Operation Alternative was officially launched on December 1, 1991, duly noted in the *New York Times* (Steinberg, 1991).

4.3 The Police Role in Operation Alternative

With Operation Alternative, the police officer's repertoire was now broadened: he or she could offer alternative places and programs to those having no legitimate business within the station. If that offer were turned down, the officer could ask the person to leave. If that request was ignored, the officer could make an arrest. The soft and tough alternatives were both credible and backed each other up. A citizen refusing services or to leave was escalating the situation. A police officer could act effectively without generating bad publicity or feeling bad personally.

Yet Operation Alternative thrust the police officer into an unaccustomed role: first contact for providing social services. It was now up to the officer to make the first decisions.

When someone needing social services is noted, an officer may make initial contact alone or working with a Project Renewal employee. To refer people to the Operation Alternative office for assistance, the officer fills out a Contact Card, which includes general information (name, sex, contact location, date and time), the reason for the initial contact and the action taken by the officer. The officer escorts the client to the Operation Alternative assessment center inside the bus station. The center is staffed by paid employees 18 hours a day, from 7:00 a.m. to 1:00 a.m., every day of the year. Someone there assigns each client to a counselor. The counselor interviews the client, assesses what services are needed and refers the client to the appropriate social service agency, located elsewhere. A Port Authority or social services van then transports the client there.

This "refer-or-arrest" process is illustrated in a *New York Times* interview with Port Authority Policeman Stephen J. Bocian. Referring to an example of a homeless person, the officer states:

After 14 years, I know many of these people by name. I say, 'Bill, you have a choice: you can get up and leave. You can go to jail. You and I know that you don't belong here. You've seen the new rules and regulations posted all over. This station is not a shelter.' Fifty percent leave; the other half get up and walk away for a while. We do not arrest many homeless people [quoted in Deitch, 1993:1].

In this particular quotation, the officer did not talk about referring anyone. Perhaps this illustrates the general problem of getting police to adopt a new way of thinking.

Police unions are reluctant to add duties not clearly defined in their contracts. Fortunately, the list of duties in the police labor contract included making an initial contact with anyone who appeared to need some sort of assistance. Nonetheless, a new plan of action toward the transient population had to specify clearly what police were supposed to do and to train them accordingly.

Standard police training does not include such a process. The Port Authority developed a two-day program and added it to ongoing police training. It included lectures on relevant bus station rules and regulations; disorder and crime; social services; an overview of transients in historical perspective; dealing with transients; interacting with the emotionally disturbed; legal support for the policy; AIDS, tuberculosis and other communicable diseases; relevant youth services; and the demographics of the street people at this bus station. Medical professionals offered details about the health problems common to transients, including mental illness and substance abuse. These medical speakers taught officers to look for emotional disturbance, approach with caution, speak in a quiet voice, gain the person's confidence and suggest assistance or referral. As police learn to differentiate the categories of transients, they can approach each person appropriately and offer the most relevant referral.

Two additional police changes were made. First, a police captain was assigned to day and evening shifts five days per week to provide more managerial control. This meant that officers could not continue so easily to perform policing functions in the same old way. More recently, a captain was assigned during evenings and a deputy inspector (commander) for the day shift. Second, patrols were redesigned so that officers could move within the station as "community officers," working closely and systematically with business tenants. This made it easier for an individual business to alert officers to any specific problem with transients or anyone else.

Control of the transient problem implied, in addition, substantial physical modification of the building. Some such modifications occurred before and others after the onset of Operation Alternative, and some continue to this day.

5. PHYSICAL MODIFICATIONS

CPTED (Crime Prevention through Environmental Design) generally focuses upon the design of new buildings and places, but it does not exclude fixing up old ones. CPTED casts a wide environmental net, but construction design is often central.

Given budget limitations, transforming the overall building was out of the question. Perimeter control was also out of the question, since a bus station must allow people to go in and out. The main strategy was to take away nooks and streamline movements. This meant removing negative space: any areas inviting illegitimate activity or impairing movement of travelers. Toward this end, the Port Authority consulted the Project for Public Spaces, its own engineering staff, and additional internal and external advisers to make the most of each small and relatively inexpensive change.

Three years before the 1991 modifications began, the Port Authority made some initial physical modifications. In 1988, the Port Authority installed the Operations Control Center between the two floors. This eliminated the "meat market" by obstructing the view of illicit contacts from the balcony above. This center, which contains 60 closed circuit television screens that monitor every area of the bus station, is staffed 24 hours a day. Its most direct significance is to help maintain smooth operations rather than simple security monitoring.

5.1 Entrances, Escalators and Crowd Flow

The Port Authority gave great attention to motion. The strategy was simple: make it easier to move into and through the station. More specifically, make it easy to move from bus gate through and out. Make the doors easy to enter and exit. Make the escalators and stairways flow. Better flow makes it more difficult for illicit activities to take over. Toward these ends, the escalators were reconstructed in a better pattern.

Entries were given special attention. Many of the station entries were almost impervious to movement, being dominated by transients and hustlers. Improvements are needed not only right at the entry itself but in the immediate vicinity. Details include new lighting, bright signs, white ceilings, glass for visibility, vending carts, an unobstructed newsstand and

a renovated food court. To be avoided are interior doors, obstructive walls, direct access to stairwells or any opportunity to sleep in the entry.

Toward these ends, the 41st Street entry was improved, and a new entrance was added from 8th Avenue with an open design. This is where most patrons arrive, and it produces first impressions for many. Improvements in the problematic 40th Street entry are now underway. The main ticket plaza was also redesigned to consolidate most ticket sales and provide basic control of the area. It was placed so that people in line to buy tickets would not interfere with flows of people walking to or from buses.

5.2 Removing Niches, Corners and Darkness

The bus station had numerous hazardous nooks. When the Port Authority set about counting them, their count kept rising. Each one was examined and a plan made to remove it. Two tactics were used: either open it up or close it off. No space could be left half-opened and half-closed, or undesirable activity would fill in. Areas under stairways and escalators were made into closets. Recessed doors were moved forward. Stairs were blocked off entirely. Walls were knocked away to open up secluded areas.

Almost every human problem could be linked to a specific nook and removed by an equally specific construction change. For example, in a small area by the North-Wing elevators, transients whiled away the day and night. The Port Authority sealed off with a wall this area and another area under an escalator. People could no longer sleep underneath the escalator in an area that is now a closet. A recessed door was brought forward several feet to make the wall straight. In each case, the construction was social, for it took into account prior human behavior and tried to change it directly. This was social construction to change reality in the sense that social groups and behavior patterns were taken into account.

Perhaps the most interesting change was in the North Wing at the rarely used entry from 41st Street. Its recessed wall had favored loitering. The Port Authority brought Timothy's Coffee, a high-quality coffee-shop chain, into the same area with a back wall of glass. The recessed wall was filled in by brick. This entry now had no hiding places and plenty of quiet and natural supervision from Timothy's.

Similar thinking dominated the redesign of the area where inter-city passengers purchase their tickets. Walls were reconstructed or repainted

in light colors. Opaque panels facing waiting rooms were replaced with clear glass. This reduced fear and facilitated natural social control.

5.3 Narrowing or Connecting Columns

In the hallway leading to the South Wing, mentioned at the end of the previous section, two columns produced a hiding space in between. This space was favorable for illegitimate activity. It has since been bricked up so that the two columns are now one. This illustrates a more general problem of obstructing columns. The bus station has numerous support columns several feet in circumference. People often linger beyond or lean on these columns. Port Authority engineers have found that about half of the volume of these columns is superficial and unnecessary for support. In a few cases they have cut down column size, making nearby space more open and less readily abused. They have plans to follow this same principle throughout the station. On the second floor of the South Wing, several brick columns located in front of the stores produce a gap. The engineers plan to extend the storefronts to the columns in order to eliminate the gaps they now create. An added bonus is that storefronts will be more easily seen from a distance. Additional niches and corners remain in the bus station, and work on them is in the offing.

5.4 Better Bus Gates

One day a 5-gallon drum, filled with human waste, crashed down into a bus area. Port Authority personnel investigated, only to find that numerous homeless people had moved into the areas above the saw-tooth bus gates. To control this, contractors went through the building placing locks and vertical bars on crawl spaces above the bus docking bays. Pull-through gates had been constructed of glass with three-foot aluminum panels at the bottom. Homeless people slept behind the aluminum part to escape notice from Port Authority police patrols. The Port Authority replaced the aluminum with glass, rendering the complete interior of pull-through gates clearly visible to passing patrol cars.

5.5 Improving Rest rooms

Restrooms in the Port Authority Bus Terminal had largely been taken over by illegal and disorderly activities. Transients slept on floors and in

ceilings above them, dripping bodily fluids throughout. Drug abuse and homosexual activities made use of the toilet stalls. Fountain-shaped sinks were used as bathtubs. Drug paraphernalia littered floors or stopped up plumbing. Toilets overflowed. Travelers were afraid to enter; or when they did, would rather leave sinks running or toilets unflushed than touch grimy handles. Travelers also complained about robberies and assaults.

Restrooms were taken over by illegal and disorderly activities. Small restrooms were often commandeered entirely; others were large enough that their back areas could house such activities. A number of specific features of restrooms fostered abuse. The first column of Table 2 lists 14 characteristics of restrooms before renovation. As we shall see, many of these are closely linked to social control or the absence of it. Ceiling panels were removable, so it was easy for transients to get into the ceiling. Toilet-stall doors reached from above eye level nearly to the floor, thus blocking a view of what went on behind them. Stall walls were easy to write on, thus contributing to graffiti. Whatever the other sources of smell, ventilation was poor. The huge sinks were made for six users at a time. Poor lighting combined with small, dark, tiles to contribute to an unsafe feeling. Constructed nooks and angles contributed to this feeling and impaired natural surveillance. Entries were remote from legitimate activities. Most restrooms were small and easy for illegal users to take over completely, and too numerous for ready police surveillance. Low-use periods in larger restrooms made it easy to carry on illicit activities in toilet stalls farther from the entry.

The second column of Table 2 details the renovation of the restrooms. Secure ceiling panels prevented transients from entering there. New toilet-stall doors served less effectively for concealing illicit behavior. Graffiti resistant panels helped make the stalls less ugly. Better ventilation removed odors. Corner mirrors increased visibility and natural surveillance. Sinks were now large enough for only one user. Automatic controls improved sanitation while impeding any one person from seizing control for ongoing personal use.

Natural surveillance and fear reduction were enhanced in several ways. Security lights were bright and resisted control for private purposes. Large, new tiles were bright and easily cleaned. Straight walls cast no shadows and hid no activities. Nooks were removed. Retail stores were set up near restroom entries.

The Port Authority consolidated many small restrooms into a smaller number of large ones. To prevent the back areas of enlarged restrooms

from being used for illegal or undesirable activities, each was given a heavy metal gate the width of the toilet stall corridor. When rush hour is over, each of these gates is rolled down from the ceiling to cut in half the number of toilet stalls available. This focuses legitimate use within a smaller area during off-hours and reduces the chance to convert the far stalls to illicit purposes.

Only one change has produced significant ongoing expense: the Port Authority has placed attendants at the entries of each restroom at all times. They greet everyone entering, keep the restroom clean, provide

**Table 2: Detailed Characteristics of Restrooms
Before and After Renovation**
Port Authority Bus Terminal, New York City

Characteristics	(1) Before	(2) After
1. ceiling panels	removable	secure
2. stall doors	tall and low	less so
3. stall walls	easy to write on	graffiti resistant
4. ventilation	poor	good
5. corner mirrors	absent	present
6. sink size	six users	one user each
7. controls *	by hand	automatic
8. lighting	poor	good, secure
9. tile squares	small, dark	large, bright
10. walls	angled	straight
11. nooks	present	absent
12. entry, retailers	far	near
13. overall size	small	large **
14. attendants	absent	present

* for sinks, toilets, and hand drying machines

** with steel cutoff to reduce size of restroom during off-hours.

informal security and summon help when needed. As renovations are instituted, attendants may be withdrawn.

5.6 Fire Doors and Emergency Staircases

Crime safety often competes with fire safety. Blocking off areas may increase the former but reduce the latter. In central areas of the bus station, fluid movement is desirable for efficiency, activity to reduce crime and escape in case of fire. However, remote areas of the terminal are not so easily dealt with. Peripheral stairways are not needed for ordinary movement. Transients lived in these stairways and used them for drug use and as toilets. They were littered with drug needles, crack vials and waste. Their shadows invited assaults. From there it was easy to make forays into the more central areas for panhandling, stealing or hustling. Yet a facility with thousands of rush-hour users requires emergency staircases for escape in case of fire or bombing, even if they have no legitimate use the rest of the time.

In 1992, with the knowledge of the New York City Fire Department, the bus station installed a magnetic lock system on the doors to the emergency staircases. The fully automated system connects to the fire alarms and sprinklers. The doors block the stairs at normal times. If a fire alarm or sprinkler is activated, magnetic locks automatically release, doors open and patrons can vacate quickly. The exceptions include a few stairways in the South Wing that are used to get to the parking lots. These are closed by operations staff when rush hours are over.

5.7 Seating Without Loitering

Even though benches and chairs were distributed over the waiting areas, patrons awaiting a bus's departure were hard-pressed to find an unoccupied seat. Transients often sat for hours at a time. One person would take up a bench designed for five. A traveler could only sit on the floor or luggage, or lean on a column or wall.

The Port Authority removed virtually all chairs and benches. In their place, it installed a smaller number of flip seats against the walls of waiting areas. Made of durable plastic and easy to clean, these seats flip down only when needed to sit on and flip up to clean under. Not very large, and minimally comfortable, these seats did the trick. Now a traveler had a place to sit but, on the flip side, no one would stay there very long.

In the past, transients leaned, sat and laid for long periods on window ledges or low brick walls located by stairs or bus-gate "mixing areas." The Port Authority topped the low walls with pyramid-shaped brick and inserted plastic spikes on the window ledges.

Together, these changes reduced seating quantity and comfort, thereby discouraging transients. Although not perfect for travelers, an available poor seat is better than an unavailable good seat.

5.8 Keeping Construction from Itself Contributing to Crime

Construction areas themselves tempt illegal use, so plywood was used to close them off. Trailers used by contractors were surrounded by plywood on the bottom to prevent street people from sleeping underneath. For minor repairs to the station, two workers are present at the site. Among other reasons, this prevents anyone from stealing tools while one worker is briefly called away.

6. MAINTENANCE AND SANITATION

The "broken windows" hypothesis of Wilson and Kelling (1982) argues that minor problems in a local environment lead to deterioration; this eventually contributes to serious crime problems. In line with this hypothesis, maintenance and sanitation can be important within a public facility. More precisely, a dark and dirty feel drives out legitimate users, giving a signal to illegitimate users that they might take over some settings for their own purposes. Perhaps they have some sense that their own interference with maintenance and sanitation serves to claim the area for themselves. In the bus station, not only did transients leave refuse but their own sleeping bodies created an obstacle course for those trying to clean. For maintenance and sanitation workers who would like to do a good job, transients insure that they cannot. For those workers who would like to be lazy, transients insure they can escape blame for it. The Sanitation Unit could do a better job after Operation Alternative, but it also made its own creative contributions to a better bus station.

6.1 Clean Floors

Prior to the implementation of Operation Alternative, it was difficult to scrub floors once, as was required. Many areas were missed. After removing the large number of transients, the Sanitation Unit not only had less refuse to remove, but fewer obstacles to contend with. Large cleaning machines are now able to navigate most of the floor space. In addition, floors are stripped four times a year with a chemical that gets down to the pores of the floor and removes all the dirt. Each floor area is now scrubbed and sealed every night between 10:00 p.m. and 5:00 a.m. Unlike the prior one-coat effort, the contractor now applies three coats of sealer, giving the same appearance as wax and helping floors withstand the foot traffic from thousands of travelers. This sealer was deliberately selected because it reflects more light and, in turn, brightens the facility.

6.2 Clean Elevators

Prior to the implementation of Operation Alternative, some transients urinated down the elevator shaft. Urine contains an acid that ultimately causes irreparable damage. Today, most of the elevators are blocked off to public use and their rehabilitation is underway.

6.3 Better Lighting

Although the Sanitation Unit is not in charge of lighting as a whole, it is responsible for re-lamping and cleaning fixtures. The Sanitation Unit washed down the reflectors and installed brighter bulbs, including fluorescent, high-pressure sodium, and mercury varieties. Replacing and maintaining lights combines with cleaner and shinier floors to brighten the facility and help reclaim it.

7. OPERATIONS

The Operations Unit is responsible for the daily functioning of the Port Authority Bus Terminal. The unit assigns gates for arriving and departing buses. It handles scheduling, organization and logistics. It helps move the crowds and responds to emergencies and delays.

7.1 Keeping it Moving

Employees of the Operations Unit include bus terminal agents, who are charged with keeping buses and people flowing smoothly. The agent focuses on any unusual situations or conditions in the building that hinder operations. On foot patrol with a walkie-talkie, he or she notes any disabled escalator, elevator, or bus; spillage; or bottleneck. The agent notifies problem solvers, such as sanitation or maintenance personnel, police, or the homeless office, and coordinates the solution. Thus, agents have a direct impact on the flow of vehicular and pedestrian traffic through the facility. They are assisted by closed-circuit television cameras focusing on critical points in the station.

7.2 Timing and Control

Activity in the bus station is sparse at some places and during some times. Leaving aside seasonal variations, the hourly ebb and flow of activities creates highly variable levels of activity. The temporal concentration of passengers and buses is illustrated best in Table 3, which presents counts per hour during three periods: morning and evening rush hours, and all other hours. Rush-hour buses are four times as numerous as buses during other times. Rush-hour passenger flows are six or seven times as great as passenger flows at other times. Much of the control problem in the bus station has to do with this temporal unevenness.

Table 3: Bus Counts and Passenger Counts Per Hour, Rush Hours and Other Hours, May 1994
Port Authority Bus Terminal

	Buses per Hour	Passengers per Hour
7 A.M. - 10 A.M.	683	20,588
4 P.M. - 7 P.M.	624	18,340
Other Times	161	3,203

Source: Calculated from Table 1. Original source, Port Authority Bus Terminal, Operations Unit.

During off-hours, the dispersion of fewer and fewer travelers over the same vast bus station contributed in the past to both danger and fear. Natural surveillance and police scrutiny were impaired by such dispersion and compounded by isolation. It was essential to gain control of the building in order to manage it for its intended purposes.

7.3 Operations and Timing

Control problems are especially evident in the pull-through bus gates, whose island waiting rooms are so named precisely because they are isolated from the main station. In contrast, saw-tooth gates (which buses pull into and back out of) empty passengers into the main station building and are more comforting to travelers. The pull-through gates with island terminals are now closed down after hours. All traffic is funneled through the saw-tooth gates, so travelers are not likely to be stranded.

The Operations Unit now consolidates public activities within very limited space during off-hours. From 10:00 p.m. through 1:00 a.m., the public is confined to four areas. From 1:00 a.m. to 5:30 a.m., the public has available a single area. The rest of the area is open only for maintenance, sanitation and police. This was perhaps the most important operational change in the station. It helped gain control of the building for maintenance and sanitation purposes, while limiting security risks.

7.4 Information Kiosks

In the past, hustlers would offer information or suggestions, luring their quarry elsewhere to be propositioned, tricked, robbed, or to have their pockets picked. In 1993 and 1994, the Port Authority increased information kiosks from two to five. New staff in new places help people find destinations more quickly, directly and safely. Fewer individuals are targets for predatory offenders. Employees in the information booths can also monitor the doors and discourage hustlers from hanging around.

7.5 Public Announcement System

Many New York and New Jersey citizens are well aware of poor public announcement (PA) systems that make crucial information impossible to hear. This is evident in many subway stations and was a problem in the bus station. Its PA system was upgraded to provide better information and

undermine those hustlers who pretend to help lost people. The system is also used to play classical music. To quote bus station manager Ken Philmus, "The classical music receives more positive compliments than almost any other change that has taken place in the terminal." Port Authority officials also feel that the classical music calms travelers, welcomes suburban customers and discourages transient young hustlers from remaining, since they tend not to like that kind of music.

7.6 House Phones

In the past, emergency calls were telephoned via 911 to the New York Police Department, which then relayed these emergencies to the Port Authority Police. The latter has direct responsibility for the terminal and is familiar with its layout and design. Two steps are too many. For quick and direct emergency reports, the Port Authority installed house phones around the station. These phones also help a customer to summon Red Caps to carry bags or to request information. Perhaps they give hustlers less room to operate.

7.7 Operational Control of Parking Structure

The contractor operating the parking structure began to use golf carts to patrol. A *New York Times* article took note of major reductions in prostitution and car break-ins (Lambert, 1995a). We have no independent information about this effort.

8. RETAIL TRADE

Any place with over 50 million people walking through each year offers tremendous retail opportunity. Yet the *New York Times* reported that: "For New Jersey commuters,...it was a grim landing into New York. Stepping off their buses, they scurried through as quickly as possible" (Lambert, 1995b:6). This was a reasonable adaptation by citizens merely taking routine precautions in a situation where they had few alternatives (Felson and Clarke, 1995). However, this adaptation impaired retail sales. Female customers in particular were all the less likely to stop and buy. Retailers were not the only ones losing money; the Port Authority had to contend with closed stores and relatively low rent for those open. To be sure, a few well-placed retail tenants were even then able to draw effectively upon the

sheer volume of travelers. The losses were greatest for the small shops, some of which were driven out of business. Even when vendors put money into their own stores, sales failed to improve. The problem went beyond any one store. That is why the Port Authority itself had to design solutions for the larger facility.

8.1 Conditions Interfering with Retailers

At the very center of the bus station near the escalators, retail space had been vacant for eight years. The brown paper covering it announced its abandonment. This became a popular hangout for drug addicts, alcoholics and transients. Bordering the escalators were filthy brick walls. On the other side of these walls, drunk people would go to sleep. Off to one side was a row of phones dominated by drug dealers. A parallel unused space opposite, with a similar dirty brick wall, shielded a gathering of marijuana smokers. Retailers were not ready to rent this space until the landlord corrected these problems.

Stores also suffered when wide brick columns or unneeded doors and walls separated them from customers. Poor flows of people through the station did not help business either. Thus, improvements to reduce crime and improve operations would also serve to assist retail trade within the bus station.

8.2 Retail Contributions to Problems

Some shops themselves created obstructions within the bus station. Poor store layouts assisted shoplifters or blocked the shopkeeper's view just outside the shop. Many shopkeepers plastered store windows with sale signs and advertisements, making it difficult for potential customers to see in or clerks to see out. Some travelers were afraid to enter stores into which they could not see.

In at least three cases, retail shops created additional crime in a more direct manner. As later stated in the *New York Times*, "Lindy's restaurant, with its coterie of male hustlers, was known as much for quick pickups as for short-order cooking" (Lambert, 1995a:6). This restaurant at the corner of 42nd Street and 8th Avenue was built into the bus station but was only accessible from outside. Its employees were supplementing their income by "renting" out the restroom key to young prostitutes and their

customers. The street corner, right at the bus station doorstep, was itself known for hustlers.

Second, the men waiting in line or "hanging out" near the bus station's off-track betting shop collectively tended to scare women travelers. Located next to an important access point to the upper bus level, the betting shop had a negative impact on the traveler, while beckoning transients to enter the station.

Third, the station contains its own bowling alley. Established in 1952, it never modernized and was generally patronized by rowdy men who drank too much. None of the successive owners had invested money back into it. A recent owner had hired homeless persons to work for him in exchange for sleeping there, hardly helping the transient problem at the bus station.

8.3 Retail and General Solutions

The Port Authority recognized not only its duty to improve general conditions in order to assist its retail tenants, but also considered the role of retailers for improving general conditions. As stated earlier, legitimate activities tend to drive out illegitimate uses. Except when general conditions deteriorate below a minimum level, shopkeepers can supervise an area and summon help as it is needed. These good effects can spill over into the vicinity as active retail activity is noticed by those passing by. Some may even stop to buy something.

8.4 Retail Strategy and Tactics

We can see why the Port Authority viewed retail trade as part of the problem as well as of the solution. Upgrading retail trade could improve both objective conditions and the image of the bus station. It could activate unproductive space and help eliminate undesirable behavior. Toward this end, the Port Authority management paid close attention to the problem and hired outside retail consultants, including Halcyon, Ernst, and Young, as well as PPS, whose principle was to fill *every* unused space with a retail outlet. This advice has already been followed as much as possible.

An interesting corollary to this principle is that spaces too small for a shop should be filled with a pushcart. Such carts are distributed in many locations in the bus station, are tastefully decorated, offer refreshments or small goods and allow a salesperson to see what is going on in the

vicinity. Interestingly, the pushcart program predated the task force and was the first of the PPS suggestions to be implemented. Perhaps the reason for this is that a pushcart requires no demolition or construction, proving that it is not always expensive or complicated to bring legitimate activity into problem spaces.

Another interesting corollary is to put more shops together. Thus, if two shops were separated, the gap between could be filled with another shop. This provided more supervision of the area, while removing an undesirable space.

Many storefronts within the bus station were improved, depending on specific store needs. Some common modifications were new lighting and brighter tile; and signs of painted sheet rock or metal signs equipped with backlighting. Improvements were incremental, with small and temporary changes preceding more permanent improvements. It was hoped that reduction in patron fear would lead to more customer interest, more sales and still more improvements. A vicious cycle could be turned into an auspicious one.

8.5 Chain Stores

The Port Authority decided that commuters were to be the main customers. It then considered which retailers could best sell to commuters, concluding that commuters are most comfortable buying from businesses whose names they know. This is the reason that well-known and respected national or regional chain stores were recruited, even to fill small spaces and to sell newspapers, magazines, coffee or hot dogs. This "chain-store" policy appears to have been most emphatic in central places and problem areas. For example, Au Bon Pain now occupies the area that had been vacant for eight years in the center of the station near the escalators. The glass walls are especially effective in providing natural surveillance.

Although the parent retail chain may be well-known, each store within the bus station remains physically quite small. This makes it easy to supervise, inside and out, for crime prevention purposes. Thus a manager's responsibility for crime prevention is quite focused (see Felson, 1995a).

The Port Authority's vigorous effort to recruit retail vendors included such small points as creating a business service center with a fax machine. Larger efforts redesigned space specifically suitable for retailers. The retail

coordinator went to great lengths to persuade businesses that they could make a lot of money at the terminal.

8.6 A Better Bowling Alley

Small businesses had a place in this effort, but only if they were willing to make changes. Some already existing vendors were open to doing so; others needed to be replaced or new management found. An example is Thomas Roballey, current owner of the bowling alley. He took steps to improve this business and its image, renaming it a "Bowling Center." Individual "alleys" are now referred to as "lanes," and the "gutters" are now "channels." We are not sure whether to take seriously superficial changes such as these, yet sometimes building an image can have an effect if it is backed up by objective changes. The Bowling Center was cleaned and painted. It expanded from 35,000 to 37,000 square feet, wiping out criminogenic crevices. Roballey recognized the Bowling Center as a "destination" in the sense that commuters might bowl not on impulse but rather as a plan, and that non-commuters might go there as well. Roballey's promotions and word of mouth brought in new customers. Roballey also took steps to replace the heavy and dangerous drinkers who frequented the bar with more moderate drinkers who were more interested in bowling.

Opening a game arcade inside the Bowling Center brought unforeseen problems. The arcade quickly became the busiest section of the center. Its popularity came from its most used and aggressive video game machines, which attracted a group of violent players. This led to numerous fights and calls to the police. By installing new, non-violent game machines, Roballey rid the center of the problematic players and put a stop to troublesome behavior. However, he gave up some direct revenue in the process of maintaining the overall standing of his establishment and contributing to the larger bus facility. This is an example of why more responsible tenants make a difference. However, the Port Authority dealt with the problems of the off-track betting shop by simply closing it.

8.7 A Better Street Corner

To drive hustlers and customers from the corner of 8th Avenue and 42nd Street, the Port Authority replaced Lindy's with a Duane Reade drugstore. The new store allows shoppers to view products and people

inside through the glass windows that fully line one side. Another side is filled with "supergraphic" retail units encasing huge poster displays of items sold. The store is packed with merchandise and does not have a lot of space for hanging around. Neon lighting emits a warm glow that is especially pleasing to the eye at nighttime. Together these changes impair loitering. With the removal of Lindy's, young hustlers vacated the scene.

8.8 Attention to Detail

Most of the reconstruction of retail space is on a small scale: remove or trim troublesome columns; take out excess doors; replace opaque walls with glass; keep advertisements off store windows; make displays open to pedestrian flows. Adult sex magazines are out of sight to the general public to avoid the "seedy look." As retail spaces are renovated, windows of empty spaces are covered with pictures previewing the retailer that will occupy the space later. The Port Authority believes that this makes travelers more comfortable and welcomes future customers. Whether they are correct or not, avoiding dirty brown paper at least lessens the feel of abandonment.

9 . INTERNATIONAL TELEPHONE TOLL FRAUD

Telephone toll fraud, which totals in the billions per year, has special significance for the Port Authority Bus Terminal. The technical aspects of the problem and its prevention are covered extensively in Bichler and Clarke (this volume). We emphasize here that toll fraud brought undesirable persons and activities along with it, while driving out legitimate use of phones and of space.

9.1 Phone Hustlers

The essential problem is that phone hustlers sold illegal international calls within the station at cheap rates. They were able to do this with codes stolen by looking over people's shoulders, purchasing inside information, or more technical methods. The bus station was the *retail* outlet for illegal phone calls, one international call at a time. This attracted to the bus station sellers and buyers of illegal calls, and thieves supplying sellers with stolen credit cards or code information. This also created turf fights among phone hustlers, who hung around hour after hour. Some of them combined phone hustling with other forms of illegitimate activity. These

same people drove out legitimate callers, sometimes by intimidation and other times by keeping all the phones occupied. Even though the bus station had more phones than Grand Central Station and far more than Penn Station, the phones did not serve the travelers. Hustlers had seized control of entire banks of pay phones. For each part of the world, a phone was under illegal control. The problem was openly discussed in several articles, such as those appearing in the *New York Times* (Holloway, 1992; Wade, 1993) and in *Newsday* (Gordy, 1994; Henican, 1993).

9.2 Incentives for the Status Quo

Incentives for this crime far exceeded incentives to stop it. Both buyers and sellers of illegal calls had something to gain. Most of the calls were stolen from businesses that had accounts set up for traveling staff. Far from having an incentive to stop toll fraud, phone companies were making money from it, since the businesses footed the bill. Losses were spread over many businesses, no one of which is likely to focus on the bus station. Offenders are not likely to be arrested very often, and when arrested they are difficult to prosecute successfully. Even if convicted they do not receive much punishment for stealing phone calls. Perhaps most interesting is that the Port Authority itself made a lot of money from phone hustling since it took a share of revenue from all calls made, legal or not. Millions of dollars in illegal calls were made per year, a hefty share of which went to the Port Authority. Any effort to end this illegal behavior would come out of the Port Authority's own revenues. Yet the Port Authority was determined to end the practice in order to regain control of its own facility. The Port Authority police believed that a good deal of phone misuse was related to the drug and prostitution trade. This assumption has not been borne out by subsequent investigation.

9.3 Trial and Error

The Port Authority attacked the problem in stages (see details in Clarke and Bichler, this volume). It learned from PPS studies that illicit phone use was concentrated on or near ground levels to draw on the heavy pedestrian traffic. PPS' also concluded that clusters of phones made it easier for a few phone hustlers to control many phones. PPS suggested reducing the number of phones, relocating them and modifying the types of calls that could be made. The Port Authority tried blocking international

dialing, reducing the numbers of pay phones and relocating them. Between December 1990 and September 1991, bus station phones were reduced in number from 347 to 250. Despite these efforts illicit phone activity remained. Next the Port Authority began to close off, for certain times of day, areas containing another 110 phones. Then the Port Authority arranged to lease 48 "smart" phones on a trial basis. These programmable phones were placed in strategic locations to gather more information about fraudulent use.

In December of 1991, the frustrated Port Authority management hired John Gammino as a consultant to find out exactly what the problem was and to solve it. Gammino began with statistical analysis of phone calls made. He found that calls were made from the bus station to every country, from Algeria to Zimbabwe, but not many calls to New Jersey. The Port Authority did not have the jurisdiction to do anything about it. It could not end the search for or theft of phone numbers or access codes, interfere with transactions between wholesaler and retail operations, or stop the sale of the phone call. As a public institution, the Port Authority could not ban telephone access to anybody simply for looking suspicious. Instead, the bus station set out to disable the individual phones in order to deny access to the telecommunications network from its public pay phones. Gammino developed complex software to block international calling via all possible methods of network access, without interfering with local calls.

In the next sections we present the results of these many changes in the Port Authority Bus Terminal. We consider both objective and subjective results. To begin, we examine the general impact on the transient problem, the physical aspects of the building, its maintenance and its phone problem. We include both "soft" and "hard" data. Later we turn to crime statistics and customer survey data.

10. GENERAL RESULTS

The "intervening variables" of change are themselves quite complex. They have plenty of opportunity for failure and deserve evaluation in their own right.

10.1 Changes in Construction, Operations and Maintenance

Before we gather quantitative indicators of change, observers cannot readily deny that there has been a major physical transformation in the bus station. Removal of many crannies and corners, redesign of restrooms, faster flows of travelers, cleaner and brighter space, better and busier stores — these are evident to anyone who visited the bus station before and after.

In addition, the workers within the bus station have reported major changes not visible to the larger public. The Sanitation Unit notes changes in the contents of the trash. In the past, it was common to find among the trash many empty wine bottles and spent crack vials, as well as human waste. Also common was "medical waste," i.e., anything with blood on it. This included bandages, bloody clothing and the like. At present, these forms of waste are not nearly as common. However, some empty wine bottles are still found outside the building near the corner of 40th Street and Eighth Avenue, which has a liquor store across the street. Some crack vials are still found in some parts of the building. The cleaning contractor for the Sanitation Unit reports that these improvements are quite marked, but does not have statistical evidence of the change. According to this source, the waste content is now quite mundane, including soft drink cups or ordinary litter.

The Sanitation Unit states that its contractors are more efficient now because their nighttime cleaning is no longer obstructed by human bodies. They are also able to perform the additional steps, such as applying sealant. Most importantly, their efforts get results today that they felt were not achieved in the past.

These results show up in customer survey reports (Table 4). Of those surveyed in 1971, some 41% rated cleanliness of public areas as poor or very poor. This declined to 24% in 1992, 17% in 1993 and 12% in 1994. The four-year decline in low ratings was 29 points.

Low restroom cleanliness ratings also declined a noteworthy 19 points. Although 30 to 32% responded "don't know," the rest gave remarkably low ratings in 1991 (28% saying "poor" and 31% offering a "very poor" rating). This total of 59% low ratings declined to 39% by 1994. That is still quite a high level of discontent, and we should not conclude that the restrooms had become pristine. However, we must bear in mind that these are not

Table 4: Customer Ratings of Various Aspects of Port Authority Bus Terminal, New York City, 1991-1994

"We would like to know how you feel about the quality of services at the Port Authority Bus Terminal. Please check the appropriate boxes indicating your rating on the following issues."

	Percent Rating as "Poor" or "Very Poor"				
	1991	1992	1993	1994	Change
1. Cleanliness of public areas	41	24	17	12	-29
2. Restroom cleanliness	59	52	42	40	-19
3. Cleaning personnel	27	13	11	—	-16
4. Pedestrian movement	25	—	—	14	-11
5. Climate control	18	12	12	12	- 6
6. Public announcements	31	27	28	25	- 6
7. Lighting	10	4	6	5	- 5
8. Signing	11	8	9	7	- 4
9. Escalator, elevator service	16	10	14	14	- 2
10. Communication with customers	—	21	21	22	+ 1

Notes:

1. For methodology of surveys, see Appendix 1.
2. Possible answers to these questions: "Very Good," "Good," "Fair," "Poor," "Very Poor," "Don't Know."
3. Asked as indicated, except for, "Ease of pedestrian movement," "Heating, ventilation, air conditioning," "Reliable service (escalator/ elevator)," "Signing (locate stores, platforms, gates)," "Public Address announcements," "How the Port Authority communicates with its customers."
4. "—" indicates that a question was not asked that year.
5. "Don't Know" answers were three per cent or less for all items each year, with these exceptions: cleanliness of restrooms ranged from 30 to 32%; performance of cleaning personnel: 18%, then 10%, then 9%, public address announcements, 17%, 10%, 10%, 12%; and communication with customers, between 10% and 12%. In all of these but the last and those under three per cent, "don't know" responses were removed and percentages recalculated.

Source: Port Authority Customer Surveys, 1991-1994.

restrooms at a small office building. Thousands of people per day might use a single restroom. We only wish to show that efforts to improve cleanliness have been noticed by customers. Given the improved ratings for restroom cleanliness, it is surprising that the numbers who reported using the restroom increased only slightly over this three-year period: 47, then 49, then 52%. We note also that the customer surveys did not ask whether respondents noticed and appreciated restroom attendants or changes in people hanging out inside the restrooms.

The performance of cleaning personnel is an interesting item, since the average customer probably does not directly know the answer and since many respondents may be inclined not to give specific working people very bad grades for bad conditions. Yet the improvement for these personnel are evident: after removing "don't know" responses, poor or very poor ratings totaled 27% in 1991 and declined to 13% in 1992 and 11% in 1993, an improvement of 16 points in three years. Moreover, the "don't know" share declined from 18% in 1991 to 10% in 1992. More customers were willing to rate cleaning personnel and to give them better marks.

Better pedestrian movement was also noted by respondents: 25% gave low ratings in 1991, down to 14% low ratings in 1994. Remaining concerns, such as climate control, announcements, lights, signs, service and communication with customers received little or no improvement in grades. The Port Authority admits that major improvements are needed for the latter. The improved ratings for cleanliness but not for lighting are instructive: ordinary citizens do not necessarily recognize the technical process of improvement, even when they are aware of the outcome. The customers know that the Port Authority Bus Terminal looks and feels cleaner as they walk through, but do not necessarily look up to see the improved lights.

Many of these improvements can be interpreted even more powerfully by calculating change from the 1991 base. For example, if the low ratings of cleanliness in public areas in 1991 (41%) is changed to a base of 100, the 1992 figure becomes 59%; 1993 is now 41%; and 1994 reaches a low of 29%. This means that fewer than one-third as many people give poor or very poor ratings to public cleanliness within the bus station.

10.2 Changes in Transient Population

The Assessment Center within the Port Authority Bus Station made over 33,000 client referrals in three and one-half years. Although this

number includes many repeat referrals, it indicates at least that Project Alternative was very active. This section considers its results.

Customer surveys asked respondents in each year whether they had been "bothered" by the presence of various types of people or behavior. By an affirmative answer, some respondents may have meant they were bothered to see such people or such behavior. Others may have answered affirmatively if they were directly and personally *accosted*. Despite this ambiguity, the question probably elicits a reasonable measure of transient interference with travelers.

Table 5: Customer Complaints about People and Behavior within the Port Authority Bus Terminal, New York City, 1991-1994

"Over the past 3 to 4 months, were you bothered by the presence of the following in the Port Authority Bus Terminal?"

	Per Cent Who Answered "Often" (Highest on a Four-Point Scale)				
	1991	1992	1993	1994	Change
Homeless people	51	33	31	19	-32
Beggars and panhandlers	56	40	38	23	-33
Drunks	39	24	21	15	-24
Obscene language/verbal threats	34	22	17	14	-20
Smoking in the terminal	—	28	21	17	-11

Notes:

1. For methodology of surveys, see Appendix 1.
2. Possible answers to these questions: "No," "Hardly Ever," "Sometimes," "Often," "Don't know."
3. Smoking in the terminal was not asked in 1991.
4. Items asked as indicated, except, "People using obscene language or verbal threats."
5. "Don't know" responses were under 4% for each item each year.

Source: Port Authority Customer Surveys, 1991-1994.

In 1991, 51% said they were "often" bothered by homeless people (see Table 5). That response declined to 33% in 1992, 31% in 1993 and 19% in 1994 — a change of 32 points in all. Similar changes were observed for reports of bothersome "beggars and panhandlers." Parallel reports for "drunks" showed a 24-point decline and for "people using obscene language or verbal threats," a 20-point decline. Complaints of smoking in the station declined only 11 points, but that was a three-year change.

In addition, respondents were asked, "In order of priority, if you could make two improvements at the Port Authority Bus Terminal, what would they be?" Although results are not shown in our tables, from 69 to 74% of respondents each year made at least one suggestion. The suggestions were coded afterward in categories, one of which is "social problems (e.g., remove homeless, panhandlers, loiterers)." In 1991, that was the dominant category, with 58% making such a suggestion. This figure declined to 44% in 1992, 32% in 1993 and 21% in 1994. This 37-point decline is very telling. When customers were allowed to speak freely about what is bothering them, their responses were overwhelming and along these lines: remove the homeless, drunks, beggars, etc.; prohibit begging; permit only ticketed passengers on the upper levels (...in the bus station); prohibit drug use; keep clusters of loiterers moving; make "gangs" leave; etc. By 1994, respondents had not lost their ability to complain or to advise, but their comments had shifted to ideas for improving bus service or amenities rather than recapturing the bus station from "undesirable" people and activities.

In addition to these customer observations, quantitative data were produced by another source. Four times each day, Project Renewal counts the number of apparently homeless people inside the bus station. These counts vary greatly in the course of a month and even a day. For example, one December count at 7:00 a.m., the beginning of rush hour, was 75 observed homeless persons; on Christmas Day at 10 p.m. the same month, the count was 617 observed homeless persons.

Table 6 presents these counts for the period 1991 through 1994. Panel A totals these daily counts over a year. They started at around 55,000 in 1991 and declined by about 7% by 1992. They then declined precipitously in 1993 and this continued in 1994, by which time there had been an 80% reduction in the homeless counts. This decline is clarified in Panel B of Table 6 by monthly breakdowns. The strongest decline is shown for March of the four years. With 1991 indexed at 100, the 1992 level was 71, with the 1993 level only 37 and the 1994 March level only 16. The declines were

Table 6: Yearly and Monthly Compilation of Daily Counts of Homeless and Others Needing Service
 Port Authority Bus Terminal, New York City, January 1991 through December 1994 (Monthly and Annually)

Panel A. Annual Estimates and Comparisons					
	Thousand	1991=100			
1991	55.1	100			
1992	51.4	93			
1993	21.8	40			
1994	11.1	20			
Panel B. Monthly Comparisons, 1991 through 1994					
	Base Month (1991 in Thousands)	Comparisons to Base Month			
		1991	1992	1993	1994
January	6.8	100	105	44	22
February	5.9	100	108	44	21
March	7.7	100	71	37	16
April	5.9	100	89	37	18
May	3.8	100	118	40	21
June	3.4	100	112	40	23
July	3.1	100	116	41	20
August	3.8	100	81	33	16
September	3.0	100	84	42	20
October	4.0	100	78	33	16
November	4.5	100	67	29	17
December	3.1	100	115	60	40

Source: Rita Schwartz, Homeless Coordinator, Port Authority Bus Terminal. Interpolations made from detailed charts of data.

less strong for December. Indeed, the homeless counts went up from 15% between 1991 and 1992. Then they declined precipitously, even in December. By 1994, the December homeless count was only 40% of its 1991 level and only a third of its 1992 level. The winter of 1993-94 was very cold and harsh, bringing 17 storms and lasting into March. Based on weather alone, we would have expected increases in the homeless counts. In fact, the homeless counts within the bus station declined to about half of prior years.

This leads to the conclusion that Port Authority actions were responsible for the reduced number of homeless inside the bus station. The results were also noted in various articles in the *New York Times*. The following example refers only to the homeless: "Hallways and corners that once were littered with the crouched and covered forms of up to 400 or 500 homeless people are now both empty and clean" {Manegold, 1992:1}.

Another example broadens the report to the larger population of transients and offenders: "Operation Alternative has been a boon. It has drastically cut back the number of thieves, beggars and drug addicts who had for so long been part of the bus passengers' commute" (Deitch, 1993:1). Additional gains with telephone hustlers are taken up in the next section.

10.3 Results from the Phone Modifications

The phone algorithm (see section 9) succeeded completely within the first 24 phones in which it was installed. No more international calls were made from phones employing the algorithms. Police and other bus station observers confirmed that the known offenders had abandoned these 24 phones and their locations. Phone hustlers did not return, and customer complaints faded away. Bichler and Clarke (this volume) provide the quantitative data that demonstrate the dramatic success in ending international toll fraud. These indicators included the end of international calls and a shocking decline in phone revenue. Toll fraud was not displaced to Grand Central Station or Penn Station.

Respondents were asked if they had used certain services in the past three to four months, and those answering affirmatively were then asked to rate these services. This question was asked for use of public phones in the bus station for all four years of the survey. We were surprised that the percentage reporting such usage changed only slightly: 49, 52, 52, then 53 for the four survey years, 1991 through 1994. The number giving

poor and very poor ratings declined only slightly over the same surveys. We suspect that declining numbers of phone hustlers are reflected most in customer reports about improved physical safety and declines in loitering. This illustrates once more the interdependence of various problems within the bus station. It also tells us that the customers were not always sure *exactly* what was wrong or what improved, even though they had a general picture.

10.4 Retail Trade Trends

Businesses are symbiotic with customers. That principle was extremely important in allowing the Port Authority to remake the bus station. The symbiotic principle applies not only between retailers and the larger station but also among different retailers. For example, the owner of Zaro's Bread Basket worried that the opening of Au Bon Pain would threaten his own business. The opposite occurred. After the new store, Zaro's annual sales increased by \$300,000. This is one of many symbiotic relationships developing as the shops in the bus station jointly increase sales.

Overall statistics on retail trade within the bus station indicate significant change. As Table 7 shows, sales increased from \$388 per square foot in 1990 to \$659 in 1994 — a rise of 70% in four years. This averages out to a 15% annual growth rate compounded over four years. Revenue was slower to increase than sales. It only rose slightly from 1990 to 1991, but grew 34% over the subsequent three years. The visual quality and

Table 7: Retail Changes, Sales and Revenue per Square Foot

Port Authority Bus Terminal. New York City. 1990-1994, Annually

Year	(per square foot of retail space)		(1990=100)	
	Sales	Revenue	Sales	Revenue
1990	\$388	\$50.00	100	100
1991	422	51.50	109	103
1992	501	59.00	129	118
1993	528	60.00	136	120
1994	659	67.00	170	134

Source: Jack Brendlen, Retail Coordinator, Port Authority Bus Terminal.

reputation of the stores, too, lead to the conclusion that the retail improvements were significant.

To take one store as an example, in the first year of new operation, the Bowling Center brought in barely enough money to pay expenses. In the second year, its revenues increased by over 5%. By the third year, Thomas Roballey reported a 17% improvement over the first year. (For more on various retail improvements, see Wilke, 1991.)

The customer surveys were not designed to assess the role of retailers in the bus station problems of the past. However, in 1992 the survey started asking for suggestions of the types of retail stores the respondent would like to see at the bus station. At that time, 43% asked for fast-food places, such as McDonalds, Burger King, Roy Rogers, Wendys and Dunkin' Donuts; this increased to 53% in 1993. Fast-food suggestions declined precipitously to 26% in 1994. Meanwhile, more varied and higher-quality requests (e.g., bookstores, fruits and vegetables, small groceries, apparel, cash machines) became evident: from 31% in 1993 to 51% of suggestions in 1994. It was clear that customers had upgraded their assessment of the retail potential of the Port Authority Bus Terminal. So had a *New York Times* writer:

(Headline): *Croissants? A ClamBar? Is This the Port Authority Terminal?*

(Text): Today's scene is completely different. Nicely dressed crowds patronize clean, well-lighted shops resembling a bustling suburban shopping mall, not a beleaguered urban outpost. Only the ticket counters in the rear and the signs to departure gates give away the terminal's true identity [Lambert, 1995b:6].

Another writer for the same newspaper (Martin, 1993) reported that businesses were now very interested in entering the facility and no longer had to be courted.

Construction, operations, maintenance, transient population, sanitation, telephone controls, retail trade — on all these dimensions significant improvements were evident in quantitative indicators and tangible observations. We now turn to statistical analysis of changes in crime and disorder.

11. TRENDS IN POLICE "COMPLAINTS"

Port Authority police complaint data are generated both by citizens and by police themselves. On the one hand, success in preventing crime will lead to fewer complaints. On the other hand, a police crackdown against crime will lead to more complaints. So how do we tell one from the other?

11.1 Variations among Offenses in Source of Complaints

Fortunately, the various complaint categories are not equally affected by citizens and police. For example, drug offense complaints are mainly driven by police initiatives within the bus station. Robbery and theft complaints mostly originate from citizens who are victims or witnesses. Criminal mischief numbers change partly in response to citizens complaining about vandalism against their property (e.g., cars), and partly by police paying more attention to vandalism and filing their own complaints against offenders.

11.2 Numbers of Complaints over Time

Data on crime complaints within the Port Authority Bus Terminal are available separately from 1988 onward. Although crime is often presented in terms of rates per 100,000 population, it is not altogether clear what denominator to use for such a rate when studying a single bus station. The number of travelers going through could provide one such denominator. However, this would not include the number of persons attracted to the building for crime or staying in the building mainly to keep warm. Moreover, reductions in numbers of travelers often serve to increase rather than decrease the crime occurring there. We leave measurement of a rate for later.

In 1988, there were 5,650 complaints at the bus station, a mean of 15.5 complaints per day for a single building. This does not include the thousands of illegal toll calls that were detected from smart phones (see Bichler and Clarke, this volume), nor the numerous illegal sales or sexual exchanges whose parties had no incentives to report their existence. The years 1988 and 1989 each brought a murder and two kidnappings to the bus station. The number of rapes reported within the building were 18 in

Table 8: Public Order "Complaints" Likely to Arise from Proactive Policing

Port Authority Bus Terminal, New York City, 1988-1994, Annual Data

	1988	1989	1990	1991	1992	1993	1994
A. General Disorder "Complaints"							
Public Disorder	149	195	181	192	—	—	—
Misc. Disorder#	—	—	—	—	214	185	132
Loitering	227	132	47	49	58	69	61
Disord. Conduct	62	42	33	32	63	62	39
Trespass	215	53	14	16	22	5	2
Subtotal A	653	422	275	289	357	321	234
B. Focused Disorder "Complaints"							
Drug Related	1,216	1,770	813	699	621	524	651
Poss. Stol. Prop	95	330	70	63	64	43	17
Fraud	90	129	137	133	116	106	57
Weapons	79	109	101	63	63	45	51
Juvenile	86	41	79	100	83*	105*	134*
Theft of services	42	28	83	34	11	14	6
Sex offenses	19	34	29	36	42	69	73
Prostitution	17	31	32	83	208	127	115
Subtotal B	1,644	2,472	1,344	1,211	1,208	1,033	1,104

* Refers to juvenile runaways.

Miscellaneous public disorder offenses total up resisting arrest (the most numerous category), along with false bomb reports, harassment, inciting to riot, menacing, and obstructing justice. These specific categories fall under the general criminal code, article 240, "Offenses against public order." That article also includes loitering, and disorderly conduct, which are counted separately here. Trespassing comes under a separate article but is presented here for purposes of this report.

Source: Rearranged and calculated from data provided by the Port Authority Police Department.

1988 and 19 in 1989. Robberies were about 500 for each of these years, and pickpocketings over 400. Larcenies exceeded 1,300 annually. More detailed presentations of these counts are found in Tables 8, 9 and 10 and in Appendix 2.

Table 9: "Complaints" Most Likely to Arise from Victim Reports

Port Authority Bus Terminal, New York City, 1988-1994, Annual Data

	1988	1989	1990	1991	1992	1993	1994
Larceny	1,319	1,341	1,266	1,063	980*	771*	708*
Robbery	502	503	531	508	318	204	148
Pickpocket	416	425	341	367	264	185	136
Purse Snatch	—	—	—	—	79	48	71
Auto Related	349	261	162	98	116	73	36
Assault	292	340	399	310	268	192	191
Criminal Mischief**	125	115	139	90	88	60	53
Burglary	32	25	10	9	10	11	12
Rape	18	19	9	9	11	3	3
Subtotal C	3,053	3,029	2,857	2,454	2,134	1,547	1,358

* Includes shoplifting, larceny of luggage, and larceny

** Includes criminal mischief against automobiles.

Source: Rearranged and calculated from Port Authority Police Department data.

Table 10: Summary of "Complaints"
 Port Authority Bus Terminal, New York City, 1988-1994, Annual Data

I. Numbers							
"Complaint" Category	1988	1989	1990	1991	1992	1993	1994
A. General Disorder	653	422	275	289	357	321	234
B. Focused Disorder	1,644	2,472	1,344	1,211	1,208	1,033	1,104
C. Direct Victims	3,053	3,029	2,857	2,454	2,134	1	547
D. Other Offenses*	300	230	140	127	420	268	192
Total without B	4,006	3,681	3,272	2,870	2,911	2,136	1,784
Grand total	5,650	6,153	4,616	4,081	4,119	3,169	2,888
II. Indexed (with 1988 level = 100)							
Offenses	1988	1989	1990	1991	1992	1993	1994
A. General Disorder	100	65	42	44	54	49	36
B. Focused Disorder	100	150	82	74	73	63	67
C. Direct Victims	100	99	94	80	70	51	44
D. Other Offenses	100	77	47	42	140	89	64
Total without B	100	92	82	72	73	53	45
Grand Total	100	109	82	72	73	56	51

* Includes categories with very low frequencies and extra variability, as detailed in Appendix 2. Source: Drawn and calculated from Tables 8 and 9; Appendix 2. Original Source: Port Authority Police Department.

11.3 Public Order Complaints

Port Authority police officials reported to us that they had engaged in significant crackdowns against crime. We expected to find major increases in complaints in several categories reflecting such crackdowns. We were surprised that this was not always the case. For example, Panel A of Table 8 presents the annual numbers for five types of public order complaints, from 1988 through 1994. The data reporting changed in 1992, after which several types of public disorder were listed separately. However, it was possible to compare public disorder totals from the prior four years to these disaggregated complaints; moreover, loitering, disorderly conduct, and trespassing continued through the seven years.

Public order complaints totaled 653 for 1988. Considering the very high levels of public disorder within the station, it is surprising that only two complaints were registered per day. This number declined over the next seven years, except for some increase to 344 in 1992. At least for these categories, one can hardly call that a crackdown in the usual police sense of making more arrests. If there was additional police activity, that would be reflected in less punitive forms of policing: giving instructions and obtaining assistance for someone.

Panel B of Table 8 distinguishes more focused public disorder complaints, ranging from drug violations to sex offenses and prostitution. We include possessing stolen property and weapons violations, since these charges would more likely occur in the process of other police work. We also include fraud and theft of service, which might reflect any crackdowns on phone hustlers. Finally, we take juvenile offenses and runaway complaints as indicating police determination to pick up youths who they could just as well ignore. Within this list of eight "focused public disorder" complaints, some police crackdowns are indeed indicated. Note especially the increase in drug-related complaints from 1,216 in 1988 to 1,770 in 1989. The latter was a year of police crackdowns on drugs throughout the city. In the context of stopping suspects, police found weapons and stolen credit cards, giving rise to complaints of fraud and possession of stolen property. In 1989 there were no extra complaints against runaways or theft of service, and the prostitution and sex complaint increases were minor. If there was a prostitution crackdown in 1992, this amounted to less than one complaint filed per day. If there was a juvenile runaway crackdown in the 1990s, this amounted to about one every three days.

Overall, the complaints likely to arise from proactive policing rose only in 1989, totally 2,472. These numbers declined to less than half that in 1992 and continued to decline the next year, with only 70 more complaints registered in 1994.

We believe that the police began their crackdowns with a mistaken belief that drugs were the source of the problem. They appeared to be flexible as they learned that other types of hustling were in fact more dominant.

11.4 Predatory Complaints

Table 9 presents predatory complaint trends, including larceny, robbery, pickpocketing, purse snatching, assault, criminal mischief, burglary, rape, and auto-related crimes. These complaints declined from 1988 through 1994, at first only slightly but then quite noticeably. There were 3,053 such complaints in 1988, compared with only 1,259 in 1994. This is still a large number for a single building, but it declined from 8.4 in 1988 to 3.7 complaints per day in 1994 for this general category. More specifically, larceny declined from 1,319 to 708. Robbery declined from 502 to 148, the latter only 29% of the former level. Auto-related complaints declined from 349 to only 36. Rape reports declined from 18 to three.

11.5 Complaint Trends by Category

Table 10 summarizes the complaint data. Panel I gives raw numbers of complaints, summarizing Tables 8 and 9, plus the other offenses in Appendix 2. The grand total of offenses increased from 5,650 in 1988 to 6,153 in 1989, thereafter declining consistently until 1994. The general pattern is countered by the changing coding scheme in 1992 and the drug crackdown in 1988. Panel II of the table makes 1988 an index year, with its complaints equal to 100. We see that general disorder declined consistently until it reached 36 in 1994. Focused complaints, despite the 1989 crackdown, declined more slowly, to 67 in 1994. Direct victim complaints declined to 44 in 1994. Other complaints, while small in number, also declined. Overall complaints declined to 51, half of the original level. The total without the focused complaints (Category B) declined even more, to 45 from a base of 100 in 1988.

Given the multiple changes in the Port Authority Bus Terminal, and the various years over which these changes were instituted, this is not a

clear experiment. However, we can take note of which years involved the most change in the "inputs" and how this corresponds to the degree of change in "outputs," such as crime reduction. To do so, we focus upon those complaint categories least subject to police influence, namely, those with direct victims as the main complainants. One might predict that those years with the greatest change in "inputs," such as construction and homeless policy, should have and be followed by the greatest deceleration in victim complaints. Since 1991 and 1992 are the years of greatest change in inputs, we expect greatest deceleration in victim complaints between 1991 and 1993.

Table 11 draws upon the prior table to produce an analysis of deceleration. Again using the 1988 base as 100, we see that major declines did not occur between the drug sweep year (1989) and the prior year, or for the following one (1990). However, there was a 14% decline from 1990 to 1991, 10% from 1991 to 1992 and a full 19% from 1992 to 1993. Then from 1993 to 1994, there were fewer complaints but the decline was at a lower rate. This fits the prediction that the middle period in the time series would show major deceleration in victim complaints.

Consistent with this finding are other data (not shown in the tables) that ambulance calls initiated by the Port Authority police declined 20% from 1990 to 1993, i.e., from 1,927 to 1,542.

Table 11: Deceleration Analysis, Direct-Victim Complaints
Port Authority Bus Terminal, New York City, 1989-1991

	Declines in Complaints
1988 to 1989	1
1989 to 1990	5
1990 to 1991	14
1991 to 1992	10
1992 to 1993	19
1993 to 1994	7

Source: Calculated from Table 10, Panel II, row C. Original Source, Port Authority Police Department.

11.6 Security Trends in Customer Surveys

Security as seen by customers (Table 12) offers another set of change indicators. In 1991, some 38% reported that "safety walking through the terminal" was "poor" or "very poor." By 1994, only 12% gave these very negative ratings — a reduction of 26 percentage points, cutting out more than two-thirds of these fearful responses. Safety in the restrooms is not as straightforward, for in each of the four years of the survey 37 to 38% gave a "don't know" response. The reason is probably that many people never went into the restrooms. Of the remaining 63 to 64% of respondents, answers can be distributed to equal 100%. Sixty per cent in 1991 stated that safety in the restrooms was poor or very poor; this declined by 21 points by 1994. There were also noteworthy declines in poor and very poor ratings of police effectiveness and of police visibility.

The overall ratings of personal security in the bus station also showed marked improvement (see Table 13), from 17% in 1991, to 21% in 1992, 27% in 1993, and 36% in 1994. This was a 19-point improvement.

The general initial conclusion is that predatory crime within the Port Authority Bus Terminal declined significantly during the period of planned changes.

12. CRIME DISPLACEMENT AND DIFFUSION OF BENEFITS

It is easy to minimize the success of any crime prevention program by making one of two assertions: (1) that crime prevented here was merely driven elsewhere; and (2) that crime reductions here were the result of overall reductions in the larger community.

12.1 The Displacement Issue in Brief

The first of these two assertions is the classic "displacement" argument (see discussions by Barnes, 1995; Barr and Pease, 1990; Eck, 1993; Gabor, 1990; Sherman, 1990). It acknowledges that crime can be prevented locally but denies its claims to a general reduction in crime.

In recent years, increasing evidence has accrued that crime prevented in one place does not simply displace elsewhere; in other words, scholars

Table 12: Customer Ratings of Security Attributes

Port Authority Bus Terminal, 1991-1994

"We would like to know how you feel about the quality of services at the Port Authority Bus Terminal. Please check the appropriate boxes indicating your rating on the following issues."

% Rating as "Poor" or "Very Poor"					
	1991	1992	1993	1994	Change
A. Internal Insecurity					
1. Safety walking through the terminal	38	23	17	12	-26
2. Safety in the restrooms	60	50	40	39	-21
3. Police effectiveness	34	22	16	16	-18
4. Police visibility	30	22	16	16	-18
5. Police courtesy	16	11	10	10	- 6
6. Safety on bus platform you used today	—	13	13	7	- 6
B. External Insecurity					
7. Safety in street around terminal	66	62	53	47	-19
8. Safety in subway near terminal	61	52	44	37	-25
<p>Notes:</p> <ol style="list-style-type: none"> 1. For methodology of surveys, see Appendix 1. 2. Possible answers to these questions: "Very Good," "Good," "Fair," "Poor," "Very Poor," "Don't Know." 3. "Safety on platform you used today" was not asked in 1991. 4. "Don't know" responses annually were under three per cent for items 1, 5 and 7 and ranged from four to six per cent for item 8. "Don't now responses" were removed for the following items, where they ranged from 37-38% for item 2; 28-30% for item 3; 24-30% for item 6; 16%-21% for item 9. <p>Source: Port Authority Customer Surveys, 1991-1994</p>					

Table 13: Customer Ratings of Overall Personal Security, Port Authority Bus Terminal, 1991-1994

"Considering the Port Authority Bus Terminal as a whole, how would you rate it with respect to your personal security?"

	1991	1992	1993	1994	Change
Secure, Very Secure	17	21	27	36	+19
Somewhat secure	35	39	43	42	+ 7
Somewhat insecure	23	22	20	14	- 9
Insecure, Very Insecure	25	18	10	8	-17
Total	100	100	100	100	

For methodology of surveys, see Appendix 1.

Source: Port Authority Customer Surveys, 1991-1994.

are beginning to find the displacement argument problematic (Hesseling, 1995; Clarke, 1992). Although the displacement assertion is difficult to disprove (see measurement discussion in Weisburd and Green, 1995), in many cases crime has been reduced in one place with no apparent increase nearby or in related offenses.

12.2 The Diffusion of Benefits

Some have concluded that a "diffusion of benefits" (Barr and Pease, 1990; Clarke and Weisburd, 1994) occurs with many crime prevention efforts. That is, reducing crime in one place may lead to extra reductions nearby. Given that crime went down inside the bus station, what impact did this have in the vicinity? Note that diffusion of benefits can go in different directions. Declining crime in the vicinity can benefit the bus station, too. Is its reduced crime rate the result of changes elsewhere? Should we really be surprised that crime went down in the bus station?

12.3 Proximate Comparisons

To address these questions, we compare complaints to the Port Authority police about crime within the bus station to crime reports in three nearby New York City Police Department precincts, the borough of Manhattan and New York City as a whole. The three precincts include the 10th, the 18th (also called Midtown North) and Midtown South. The bus station is situated just inside the 10th Precinct, which has six edges. It begins at the Hudson River and runs east along West 14th Street, north on Seventh Avenue, back toward the Hudson River along West 29th Street, and north on Eighth Avenue. At the north edge of the Port Authority Bus Terminal, the 10th Precinct goes back to the Hudson along West 43rd Street. The 18th Precinct corners near the bus station. It also has six edges, as follows: from the Hudson River along 43rd Street, up Eighth Avenue to West 45th Street and east to Lexington Avenue, where it goes up to East 59th Street. There it corners and goes west, along Central Park South, and along West 59th Street to the Hudson River. The Midtown South Precinct is rectangular. Its southwest corner is at Eighth Avenue and West 29th Street; it proceeds eastward along 29th Street, then goes up Lexington Avenue, west on E. 45th Street to Eighth Avenue and south again. The Midtown South Precinct covers most of the core of the Times Square area, but also goes south beyond Madison Square Garden and Penn Station. Each of the other two precincts has a portion of the Times Square area, but much additional space. Of the three precincts, the one most dominated by the Times Square area is Midtown South.

This is the core of Manhattan. This unique area differs from the rest of the contemporary U.S. Tall office towers, a concentrated daytime population, very busy transit nodes, hordes of tourists — all of these swamp the residential population with hundreds of thousands of non-residents. The usual residential-based crime statistics would be very misleading in this area. Suitable and consistent denominator data, including the various types of daytime population, would be difficult to devise because the various streams of population flowing into the city are not clearly distinguished by where they are going. We return to this issue later.

12.4 Comparisons over Time

Robbery and assault offer good indicators of deteriorating social control. Beginning with raw numbers, Table 14 compares robbery and assault for the Port Authority, the three proximate precincts, the borough of Manhattan and New York City as a whole. Table 15 presents the relative number of offenses, with 1991 (the index year) set at 100. The columns of the tables are arranged to help tell a story. The left column presents the data for the bus station, and the other columns progress roughly with distance from the bus station. The Midtown South Precinct swallows up the Times Square area. Since bus-station crime is probably most interdependent on crime in this precinct, it is placed just to the right in the tables. The 18th and 10th precincts are larger, and their interdependence on bus-station crime is probably overwhelmed by other sources of crime. These two columns are in the middle of the tables. The borough of Manhattan is in the next-to-last column, and New York City as a whole is in the rightmost column. If the changes in the Port Authority Bus Terminal around 1991 had a major net impact on its own crime, the leftmost column should show the greatest relative declines from the 1991 base. If these declines interacted with changes in the Times Square area, noteworthy relative declines should be shown in the next column, for the Midtown South Precinct. These changes may not have much impact on the middle columns (18th and 10th Precincts). Changes for Manhattan and for New York City would be expected to be smaller than for the bus station itself.

The top panel of Table 15 helps evaluate the relative changes in the robbery rate. Indeed, the bus station robbery rate did not go down before 1991. Then it took a dramatic decline, to an index value of 63 in 1992, 40 in 1993 and 29 in 1994 — an overall decline of 71% from the 1991 base. This exceeded any of the five other declines noted. Very important relative declines in the robbery rate were observed in the Midtown South Precinct, too, but they were notably smaller than the bus station declines. From 1991 to 1993, the declines in all five columns, while noteworthy, were far less dramatic than those within the bus station. The same can be said for 1994, except for the major declines from 1993 to 1994 in Midtown South and the 18th precincts. There is no evidence of displacement of robbery to nearby precincts. Moreover, the extreme decline in bus-station robbery makes it difficult to deny credit to changes within the station itself. However, one might argue that improvements in the larger area assisted

Table 14: Number of Robberies and Assaults, Port Authority Bus Terminal

Three Most Proximate Precincts, Manhattan, and New York City as a Whole, 1988-1994

ROBBERY						
	Bus Station	Midtown S. Precinct	18th Precinct	10th Precinct	Manhattan	New York City
1988	502	4,188	1,956	706	25,757	86,578
1989	503	4,462	1,944	688	26,822	93,377
1990	531	4,227	2,135	761	26,907	100,280
1991	508	3,402	1,746	786	24,778	98,512
1992	318	2,792	1,629	673	21,852	91,239
1993	204	2,547	1,380	618	20,269	86,001
1994	148	1,940	1,058	568	17,387	72,540
ASSAULT						
1988	292	1,102	411	355	11,088	45,824
1989	340	1,148	414	338	10,864	45,855
1990	399	1,116	389	301	10,089	44,122
1991	310	835	345	278	9,143	42,351
1992	268	740	325	297	9,650	40,838
1993	192	651	380	268	9,342	40,522
1994	191	599	338	305	8,926	38,516

Note: The Port Authority definition includes all types of assaults while the N.Y.P.D. data only covers felonious assaults.

Sources: From data provided by the Port Authority Police Department and from the annual crime reports of the Police Department, City of New York, Office of Management Analysis and Planning, Crime Analysis Unit.

**Table 15: Relative Change in Robbery and Assaults, Port Authority Bus Terminal
Three Most Proximate Precincts, Manhattan, and New York City as a Whole, 1988-1994**

Relative Number of Offenses (1991=100)						
ROBBERY						
	Bus Station	Midtown S. Precinct	18th Precinct	10th Precinct	Manhattan	New York City
1988	99	123	112	90	104	88
1989	99	131	111	88	108	95
1990	105	124	122	97	109	102
1991	100	100	100	100	100	100
1992	63	82	93	86	88	93
1993	40	75	79	79	82	87
1994	29	57	61	72	70	74
ASSAULT						
1988	94	132	119	128	121	108
1989	110	137	120	122	119	108
1990	129	134	113	108	110	104
1991	100	100	100	100	100	100
1992	86	89	94	107	106	96
1993	62	78	110	96	102	96
1994	62	72	98	110	98	91

Note: The Port Authority definition includes all types of assaults while the N.Y.P.D. data only covers felonious assaults.

Sources: Calculated from data presented in Table 14. Original sources, Port Authority Police Department and annual crime reports of the Police Department, City of New York, Office of Management Analysis and Planning, Crime Analysis Unit.

the Port Authority in carrying out its own changes and translating them into successful crime prevention.

The lower panel of Table 15 offers data for assault. Bearing in mind the difference between the Port Authority and the New York City Police Department definition, we nonetheless can learn something from the data. In the four columns from the right, relatively minor declines in assault are found since 1991, and these are not consistent. However, Manhattan and the proximate precincts saw relative declines in assault prior to 1991, when the indicators were zigzagging. These declines did not, however, emerge in bus station assault data until after 1990. The Port Authority Bus Terminal witnessed a change in the assault index (relative numbers) from 129 to 62 (1990 to 1994), a decline of over half. This decline was somewhat greater than the assault decline for the Midtown South Precinct, leaving us with some confidence that the Port Authority's own actions produced the results. Earlier improvements in the Times Square area may have paved the way. We cannot partial out how much of any diffusion of benefits went one way or the other. However, we can say that the general decline in New York City assault rates over this period was significantly smaller than the decline registered in the bus station and Midtown South Precinct, especially the former.

At the very least, we can reject the alternative explanation that crime prevention at the bus station served merely to displace crime nearby. We cannot reject the claim that some of the improvement in the crime situation within the bus station was a diffusion of benefits from the vicinity, or that improvements inside were diffused to the vicinity. However, it would be difficult to argue that *all* the improvements inside the bus station were derived from the vicinity. Even if some of the improvements inside benefited from changes outside, this merely strengthens the claim that crime can be reduced by environmental modification.

12.5 Adjusting for Population Influx

We now return to the issue of population influx and how it might have affected crime trends. We do not have the space here to develop a complicated analysis of the various transportation flows into New York City. Instead we have taken Port Authority Bus Terminal data itself to offer a partial indicator of changes from 1990 to 1994. Table 16 presents short-haul, long-haul and total ridership through the bus station for the month of May in each of these years. We see some fluctuation in the data,

but the trend is from 183,318 during May 1990, to 174,434 in May 1994. For consistency we have taken 1991 as the base year and offer in the rightmost column of Table 16 an influx index for each of the years. That is not a perfect name for the index, since it neglects some other modes of transportation, while including transfer passengers. However, it does have the advantage of simplicity. The 7% decline in the influx data for this period reflects some urban decline, but Manhattan still had massive crowds at the end of the period. Dividing by the influx index and multiplying by 100, we obtain adjusted indicators of the crime in the bus station, three core precincts, Manhattan and New York City (Table 17). The adjusted robbery and assault numbers in Table 17 produce the same conclusions as Table 15, strengthening the evidence that the bus station improvements reduced crime inside.

Table 16: Influx Index and Short- and Long-Haul Passengers via Port Authority Bus Terminal May 1990-1994.

Number of Passengers in May				
Year	Short-Haul	Long-Haul	Total	Influx Index
1990	132,455	50,863	183,318	102.35
1991	128,049	51,057	179,106	100.00
1992	119,945	49,441	169,386	94.57
1993	121,307	50,396	171,703	95.87
1994	122,611	51,823	174,434	97.39

Source: Port Authority Bus Terminal, Operations Unit.

12.6 Additional Evidence

If we return to the Port Authority customer surveys (Table 12, Panel B) we find additional evidence of improvements in the crime situation near the station. Specifically, respondents report feeling safer in the vicinity. From 1991 through 1994, customers rated safety in the street around the

Table 17: Relative Change in Robbery and Assault
Adjusted and Not Adjusted by Influx Index, Port Authority
Bus Terminal, Three Most Proximate Precincts,
Manhattan, and New York City as a Whole, 1990-1994

Location	1990	1991	1992	1993	1994	CHANGE FROM 1991	
						Adjusted	Unad-justed
ROBBERY							
Bus Station	104	100	66	43	30	-70	-70
Midtown South	122	100	87	78	58	-42	-43
18th Precinct	120	100	99	82	63	-37	-39
10th Precinct	95	100	91	82	74	-25	-28
Manhattan	106	100	93	85	72	-28	-30
New York City	99	100	98	77	76	-24	-26
ASSAULT							
Bus Station	126	100	91	65	63	-37	-38
Midtown South	131	100	94	81	74	-26	-28
18th Precinct	111	100	100	115	101	+ 1	- 2
10th Precinct	105	100	113	101	113	+13	+10
Manhattan	108	100	112	107	100	- 0	- 2
New York City	102	100	102	100	93	- 7	- 9

Source: Calculated from data presented in Tables 14 and 16. Original sources, Port Authority Bus Terminal Operations Unit; Port Authority Police Department and annual crime reports of the Police Department, City of New York, Office of Management Analysis and Planning, Crime Analysis Unit.

station. Some 66% rated that safety poor or very poor in 1991. This declined to 47% in 1994, a reduction of 19 points. Safety in the subway near the station was rated poor or very poor by 61% in 1991 and by 37%

in 1994, a decline of 24 points. It is interesting that respondents considered the nearby street and subway more dangerous than the bus station itself, even in 1991. But it is also noteworthy that these fears did not increase with the improvements inside the bus station.

Three different sources indicate that displacement did not occur: the objective crime analysis of Tables 15 and 17, the subjective security analysis of Table 12 and the international phone fraud analysis of Bichler and Clarke (this volume). Although we know of no data set focusing on crime and disorder within Grand Central Station or Penn Station, visits to these locations reveal nothing of the bus station past.

Despite the other "good news," one type of crime did go up with the refurbishment of the bus station. Several vendors have begun to complain about more shoplifting, as their displays are more open and closer to the flow of pedestrian traffic. If this is displacement, it has taken a benign form; indeed, shoplifting is far less threatening to the general public than drug sales, assault, robbery, rape, or the spread of disease via male prostitution.

13. CONCLUSION

It appears that the changes within the terminal were effective. Crime was prevented and not displaced to the vicinity. However, more needs to be known about the transients who used to stay there. Did the young offenders outgrow crime? Did transients become less efficient offenders? Did they take greater risks and go to jail or prison? Did the bus station improvements prevent the transient and hustler populations from replenishing? Did runaways go back home? Did those needing treatment decide they might as well seek it? Was there displacement into the hospital? Did people just die? Did transients become less a nuisance to others while continuing to harm themselves? We do not know the answers to these questions. Whatever the answers, this facility was able to restore itself to a semblance of order without any apparent worsening in the vicinity.

Combining physical design and clever management, the Port Authority has brought its transient problem under substantial control and reduced its crime problem. This conclusion is based on statistical analysis but is also reflected in news articles already cited, as well as in those appearing in the *New York Times* (see Lambert, 1995a) and the *Washington Post*:

Today the Port Authority terminal has been almost entirely reclaimed. Crime has been cut in half. On a typical day there are no vagrants lying on the floors, and upscale retailers have begun to open shop in the station's once abandoned commercial strip" (Gladwell, 1995:1).

Although the various newspaper quotations in this article do not themselves prove that a change had taken place, they are consistent with quantitative data and with the observations of some of the authors who themselves remember the Port Authority Bus Terminal before and after changes were instituted. Indeed, this is probably one of the few examples of crime reduction that many criminologists have witnessed personally and independently of one another.

Quite a few specific ideas for crime prevention emerge from this study. Table 18 offers 62 specifics; Table 2 gives 14 specifics that apply to bathroom design alone. In all, these 76 prevention tactics broaden the crime prevention repertoire, (see, e.g., Felson, 1995b). Even though these tactics are stated in terms specific to this bus station, many facility managers and criminologists will quickly recognize other applications of the 76 tactics listed in these tables. We envision using such tactics in the future to provide advice within the framework of a "crime prevention extension service" (Felson, 1994b).

How shall we classify these various changes? One term is "situational crime prevention" (see Clarke, 1995, 1992, 1983). Another is Crime Prevention through Environmental Design (CPTED), as defined by Jeffery (1971) and extended by the Brantinghams (1995, 1991, 1977). As explained by Felson (1994a, 1992), situational prevention targets each crime problem one at a time; CPTED seeks comprehensive designs with many details. The Port Authority's efforts included ideas that would fit both situational prevention and CPTED. Integrating these approaches is not new (see Poyner, 1983; Clarke, 1992). However, the Port Authority was able to cross several categories in the process (see Felson, 1992). Perhaps most impressive was the success in modifying a facility long in existence. Although each modification may have been small, together they served to transform the facility and its crime problems. One reason for this success was its sensible strategy: fill in desirable activities to replace undesirable activities; close up dead spaces or streamline them.

Table 18: List of 62 Specific Tactics Employed to Reduce Crime and Disorder in the Port Authority Bus Terminal, New York City

A. Increasing visibility

1. install new lighting
2. replace bulbs in old lighting
3. clean light reflectors and fixtures
4. brighten signs
5. put in white ceilings
6. use light color paint and brighter tile on walls
7. use glass for internal walls
8. avoid walls that obstruct line of sight
9. make columns no wider than necessary
10. make stores easy to see into and out from
11. use special stripping and sealing chemicals on floors
12. locate information booths, kiosks, advertising, newsstands to reduce obstruction

B. Close nooks and improve natural supervision

13. install pushcarts and place them strategically
14. renovate the food court
15. avoid interior doors
16. avoid direct access to extra stairwells
17. keep stairs away from street entries
18. close off areas under stairwells
19. close in areas between columns
20. bring walls out to columns
21. close emergency stairs off-hours
22. block off much of bus station off-hours
23. use only sawtooth gates off-hours
24. centralize ticketing
25. improve street entrances to the building
26. put merchants in key places, and to fill in empty spots
27. replace police cars with golf carts in parking structure
28. use clear glass panels on waiting room walls
29. wall up unneeded areas
30. block walls around bus gates against transient takeovers
31. block elevators from public use
32. block off construction areas with plywood

C. Improve flows

33. arrange better stairway and escalator flow pattern
34. streamline vertical and horizontal circulation
35. use Agents to solve problems and to keep traffic moving

D. Discourage loitering and hustling in other ways

36. get rid of low brick walls to discourage transients
37. put pyramid-shaped brick and plastic spikes on window ledges
38. put attractive paper in windows of unoccupied shops
39. construct control center to block balcony and "meat market"
40. get rid of benches
41. put in flip seats
42. use technology and design to get rid of phone hustlers
43. locate information kiosks at doors
44. keep sex magazines out of sight
45. set up house phones for emergency, information, redcaps
46. set up new public address system
47. use legal powers to evict transients
48. use programs to offer alternative services to transients
49. hire coordinator for transient services
50. bring police and social workers together on transient problem
51. train police in dealing with transients
52. increase supervision of police officers dealing with transients
53. strengthen communication between police and business tenants

E. Improve retailing

54. bring in chain retailers
55. bring in better retail management
56. provide fax machine to retail tenants
57. redesign space specifically for retailers
58. replace restaurant which house hustlers with a benign tenant
59. get rid of management which let people sleep in bowling alley
60. close the betting shop
61. do not welcome hard-drinkers in bowling alley bar
62. remove violent video games

Note: See also Table 2, which lists 14 changes in restrooms.

The Port Authority managers and their consultants worked from intuition, past experience and trial and error. They disrupted illegitimate activity and filled space with legitimate activity. They kept an open mind as they proceeded. The result was a significant reduction in crime and disorder inside, perhaps contributing to the improvements outside.

This study shows the importance of the place manager (Eck, 1995; see also Felson, 1995a) for reducing crime and disorder or for failing to do so. With inaction over time, problems accumulate, become difficult to dislodge and harm the larger community. Then a complex effort may be needed to regain control. Good facility management should act long before that.

We began this evaluation thinking that a facility prevents crime in two ways: design and management. We thought that design preceded construction, then management took over. We learned from the Port Authority Bus Terminal that some redesign is possible at any time. In his book, *How Buildings Learn*, Brand (1994) details how buildings are adapted over time to new needs or problems. The Port Authority could not alter the basic structure of the bus station. But it was able to redesign many interior parts to reduce crime. Our evaluation leads us to divide crime prevention into three basic crime prevention verbs: *design*, *modify*, and *maintain*. First, design the building and management structure to minimize crime. Then modify building or management to reduce crime problems that have developed. Then maintain what you have.

These general concepts should not crowd out the much stronger lesson of the Port Authority Bus Terminal: that focused changes yield significant effects.

14. THEORETICAL DISCUSSION

The Port Authority Bus Terminal represents an extreme example of a general problem. Core transit stations in North America and Europe often house a good deal of crime and disorder (e.g., see Rengert, 1996). In this vein, West (1993:77) mentions young male prostitutes starting their "careers" at Victoria Station in London. Moreover, near the core train station in Amsterdam (Van Gemert, 1995; Jansen, 1995:173) and many other large European cities one finds a red light district and hard-drug streets. Why should transit stations generate these problems?

14.1 Generating and Attracting Problems

In the Brantinghams* (1995) terms, transit stations are crime generators, crime attractors and fear generators. They generate crime (as well as disorder) by producing crowds. Some members of these crowds themselves participate in disapproved activity. A busy station filled with strangers is convenient for the anonymous exchange of illegal goods or services, or for theft. It is easy for a homeless person to sleep there since no single citizen has a property right. Hustlers can hang out in waiting areas without gaining notice. As these characteristics become known, the transit station tends to become a crime attractor. Prostitute, "John," drug seller, drug buyer, carousing homosexual, petty thief— any of these may gravitate toward the station to take advantage of potential victims, customers or illegal symbionts in relative comfort or security.

A place may become a fear generator for other reasons. Cavernous construction and meandering paths can give a place a dangerous feel (Fisher and Nasar, 1992; Nasar and Fisher, 1992, 1993), serving to produce a "dreadful enclosure" (Brantingham and Brantingham, 1977.) "Seedy characters" hanging around, panhandlers, dirty walls, smells, litter and broken glass may contribute to fear (Wilson and Kelling, 1982). Nasty press coverage can amplify fear, even for those not using the facility, with fear of crime gaining a subjective life of its own (Skogan, 1990). The age, ethnicity and sex of others present, as well as distance from home, contribute to fear of using a facility (Mattson and Rengert, 1995). The total experience of an unpleasant trip through a station and a deteriorated vicinity enhance fear (Philmus, 1995). None of these points deny that fear can also be generated by an objective assessment of danger.

14.2 End Points versus Processes

Criminologists are well aware that crime occurs disproportionately in certain places (see Felson, 1987; Sherman, 1995; Roncek and Maier, 1991; Roncek and Pravatiner, 1989; Brantingham and Brantingham, 1981; Eck, 1995). Yet simply counting crimes by place tells us little. First, smaller places are tucked within larger places; this requires relating places to one another in order to understand how crime is linked to place. Second, place is often linked to crime at the *end point* of a criminal or disorderly act, the phone call reporting it or the arrest that results. That misses the *tangible*

process, as the elements of crime pass through various routes. Third, the place to which one crime is linked neglects the details of how that crime is joined symbiotically to other crimes, to deviance and disorder that are not necessarily illegal and to legitimate activities upon which illegitimate activities draw sustenance.

14.3 Interdependence among Criminal Actions

With the "broken windows" hypothesis, Wilson and Kelling (1982) considered how neighborhood deterioration progresses, leading to crime. Each small problem leads to something worse. Trash, graffiti, broken windows, drunks hanging around — any of these might help more serious crime to take hold. A more positive way to put this is the "diffusion of benefits" argument (see section 12.2). Thus, reducing prostitution in an area may also reduce its drug market. As one improvement leads to another, we see once more the interdependence of illegitimate activities. Both negative and positive statements fit right into human ecological theory and its concept of symbiosis, with each criminal activity carving its niche within a larger system of activities. One way to fight crime is to remove that niche. Conversely, allowing a niche gives crime a foothold.

Nowhere is the symbiosis of crime more evident than in the Times Square area (see McNamara, 1995, 1994a, 1994b). The reader will recall the bipolar relationship of the bus station on East 42nd Street and Bryant Park on West 42nd Street, with illegal actors proceeding between the poles. The Port Authority Bus Station is the stronger of the two poles, since it offers inside comfort, police protection and many more niches. In Bryant Park, landscaping was removed to improve views inward, and entrances were enlarged to enhance legitimate access. A very expensive management budget was created, with security included. Thus crime niches were removed at both ends of 42nd Street. Even greater crime reductions can be expected with the recent closing of the dozens of porno shops that had dominated the Times Square area.

Airports offer an important counter-illustration of symbiosis. Unlike core transit stations, they are located well outside cities and are surrounded by landing fields. This cuts them off from shady businesses and residents, forcing potential hustlers and transients to take a long trip. Although airport thefts are a very serious problem, often carried out by insiders, violent crime is not as likely. Electronic screening keeps non-travelers out of vast areas. Constructing gates in clusters makes them

easier to cut off. Thus, airports do not have the same problems as core transit stations.

In order to understand better how symbiosis occurs, we need to state basic principles describing interdependence in tangible terms.

14.4 Routine Activities and Tangible Processes

Drawing from the routine activity approach (Felson, 1987, 1994a; Cohen and Felson, 1979), crime rests upon three principles:

- *Participants Principle*: Each type of crime depends upon presences or absences of certain participants.
- *Behavior Settings Principle*: The community is divided into many behavior settings: slices of time and place where various activities occur, whether legal or illegal, orderly or disorderly.
- *Flows Principle*: People flow from one behavior setting to another. In the process, a legal behavior setting sets the stage for an illegal behavior setting nearby in time and space.

Settings, participants and flows summarize quite a bit of information. Participants for a predatory crime include likely offender and suitable target in the absence of capable guardians against a crime (Cohen and Felson, 1979). Participants for illegal sales include buyers and sellers without interlopers to prevent an illegal sale (Felson, 1983, 1994a). Drawing from Tedeschi and R. Felson (1995), one can explain fights in similar terms, with potential combatants converging in the presence of provokers and the absence of peacemakers (see Felson, 1994a). In addition, likely offenders are subject to informal social control by adults (Hirschi, 1969; Felson, 1986a, 1995a) or by place managers (Eck, 1995).

These social control concepts relate directly to Barker's (1963) efforts to divide the community into various behavior settings. A behavior setting has three features: *time*, *place*, and the *activity* that occurs there. One stairwell can house various behavior settings at different times (e.g., a crowd of commuters, a polite discussion, or a group of drunks waiting to jump someone). One large room might contain several behavior settings. In our terms, some behavior settings generate a good deal of informal social control; others generate very little. For example, inside a small business one finds relative social control, whereas a remote cranny in the bus station can provide a behavior setting for drug abuse.

The Flows Principle applies readily to crime and disorder. Consider flows among legitimate behavior settings, such as people taking the bus from home to station, then walking to work. People pass by predators or forbidden temptations. Some flows are fast (e.g., those in a hurry to get to work) and others are slow (e.g., those who just missed a bus and have to wait in boredom for the next one). Motion and location of potential crime participants is an explicit topic in Brantingham and Brantingham (1981, 1991, 1993a). Applying these ideas, a transit station gathers people carrying cash and other stealable objects. The routine work schedule and the routes travelers take are highly predictable. For picking pockets, robbing, hustling or stealing luggage, one can count on a mass of potential victims or illegal customers. The offender can also count on finding strangers assembled in behavior settings away from informal control and distant from those likely to lend assistance during a predatory crime (Felson, 1986a, 1995a). Offenders can be sure that those consenting to disapproved acts, such as homosexual liaisons, are not only vulnerable to predatory attack but reluctant to seek police assistance afterward.

Albert Cohen (1966) designates a special category, *conjunctive theories* of crime. This refers to those theories that link individuals and situations. Participants, settings and flows fit this category. The category allows that there are individual variations in crime propensity, while also avoiding the false assumption that offenders and victims are drawn from entirely different populations. Everyone has *some* risk of being an offender (see Rowe et al., 1990) and being a victim (Hindelang et al., 1978). Those at high risk of one tend to have a high risk of the other (Fattah, 1991; Sparks et al., 1977; Singer, 1981; Chambers and Tombs, 1984; Gottfredson, 1984; Van Dijk and Steinmetz, 1983). Most importantly, membership in a high-risk category does not suffice to explain the occurrence of a criminal act. Such acts normally occur when certain behavior settings evoke such behavior. Routine flows may take people near or into these situations. One can prevent undesirable behavior by favoring some settings and guiding some flows. That's why routine activities apply to crime prevention. None of this rules out individual decisions.

14.5 Crime as a Stop-and-Go Crime Activity

Criminologists from Bentham (1948 [1789]) to Cornish and Clarke (1986) have studied how the individual decides to commit a criminal act. The latter emphasizes decisions within the immediate crime situation, as

reflected in a recent collection of empirical work on offender decisions (Cromwell, 1996). This theoretical and empirical work applies not only to properly crime, but also to violence (see Tedeschi and Felson, 1995),

Environmental criminology also deals with offender decisions, but emphasizes their environmental interactions and movements (Brantingham and Brantingham, 1995, 1993a, 1991). Although this work explains a lot about how offenders move and come to commit a crime, theorists need to be more specific about how offender movements and decisions fit together. We suggest bridging this gap by treating crime as a "stop-and-go" activity. Consider these examples:

1. An offender at rest waits for a target in motion.
2. An offender in motion attacks a target at rest.
3. Offender and target are moving in different directions.
4. Offender and target go the same way at different speeds.
5. An offender accelerates leading up to the offense.
6. An offender decelerates just before the offense.
7. An offender changes direction after the offense.
8. An offender accelerates after the offense.

Those cooperating in an illegal exchange need to stop together at some point, or to be walking slowly long enough to make the exchange. They may seek a place for private illegal interaction. In general, we can assume that illegal exchanges depend upon co-offenders arriving from and departing into different directions. If they move in the same direction, they probably use different speeds to give an appearance of noninvolvement. The idea is to come in naturally, stop, make a quick transaction, then exit just as naturally. In the case of ongoing illegal or illegitimate activity (such as illegal gambling or sex clubs), time may be spent inside and in private, while quick moves are made upon entry and exit.

Fights are often generated by such stop-and-go activity. People bump and then get angry. People drink, move, argue and fight. Easy flows tend to reduce bumping and unpleasant encounters in bars (Homel and Clarke, 1995). Sports facilities have learned that they can reduce fights by keeping patrons moving in and out smoothly. British authorities have learned how

to reduce the football violence problem by arranging for arrival of buses just before the event, allowing little time other than to buy tickets (Clarke, 1983). Smooth movement and less unstructured idleness keeps people out of trouble. Seats also keep people out of trouble, whereas standing-room areas lead to more uneven movement, bumping and control problems. We may view individuals as making stop-and-go decisions, some of which lead to criminal acts. Facility managers can help to structure these decisions and minimize criminal acts by designing better flow patterns.

Within any facility or area containing multiple behavior settings but also many strangers, we suggest that crime and disorder respond partly to the stop-and-go structure. In general, crime and disorder are *least* likely to occur under two conditions:

- *Flow inertia*, in which everyone is flowing in stable and orderly motion in the same direction.
- *setting inertia*, in which people remain in legitimate behavior setting(s), acting in an orderly fashion.

Alternatively, crime and disorder are *most* likely to occur under these conditions:

- *turbulence*, in which people are moving at different rates and in different directions.
- *interstitial idleness*, in which people are neither in motion nor in a legitimate behavior setting.

In other words, a facility or place will have little crime when the people there are engaged in legitimate behavior settings and in stable transit among these settings. We sum this up as follows:

$$C = k \frac{T}{F \times S}$$

where C represents crime risk within a multi-setting facility or system, F designates flow inertia, S denotes setting inertia and T is for turbulence. Interstitial idleness is omitted, since it is multicollinear with the other variables.

A facility can apply the lessons of stop-and-go analysis to prevent crime. It can foster flow inertia and setting inertia, also attempting to avoid

turbulence. In the process, interstitial idleness diminishes. These principles were certainly present in the design and management of Disney World, helping to account for its orderliness and safety (Shearing and Stenning, 1992). The Port Authority Bus Terminal in the past represented the other extreme, favoring interstitial idleness and turbulence of movement. The modifications of the terminal moved it toward a more moderate position, not as orderly as Disney World nor as dominated by behavior settings as an office building, but much less characterized by idleness and turbulent movements. This may help explain the reduced opportunity for crime to occur. Stop-and-go analysis must also take into account the pulls of people and activities upon one another.

14.6 Pulling Toward Trouble

When Zipf (1949) developed "social physics," he defined the "principle of least effort." It has led to gravity models of human activity based on masses of individuals. Felson (1986b) considered how masses of different types of people (such as married people and unmarried people) serve to influence crime risks. Yet crime is not determined by individuals acting alone. Rather than thinking of gravity at points in space, we suggest it is more productive to think of behavior settings pulling upon one another. On the other hand, we do not want to disregard the numbers of people present in such behavior settings, some of whom may depart and get involved in crime. The following gravity concept combines settings and persons:

Gravity: Any pair of behavior settings influence one another proportional to the number of people engaged within each and inverse to the distance between them.

Behavior settings exist for buying and selling illegal drugs, watching pornography, praying, eating, drinking, working, etc. Such behavior settings pull on one another. The more populated each behavior setting, the more pull it has. These pulls work in each direction: drug-sale settings pull in workers; work settings pull in drug sellers. Hustlers pull in travelers, and travelers pull in hustlers. The various behavior settings have their gravitational pulls. To better evaluate the relative pulls of crime and control, we define four types of behavior setting:

1. Legitimate behavior settings for family or friends.
2. Legitimate behavior settings for strangers.
3. Illegitimate-but-legal behavior settings.
4. Illegal behavior settings.

Informal social control declines as one goes down the list. Family or friends provide the most informal control. Strangers provide less informal control, but legitimate behavior settings keep that control from falling too low. Illegitimate behavior settings, even if legal, lessen informal control significantly; savvy offenders can easily take advantage. Illegal behavior settings have the least informal control and foster not just one type of illegality but also others.

Such behavior settings are as symbiotic as they are gravitational. Crowds of family and friends flow into legitimate behavior settings dominated by strangers. From the latter, smaller numbers flow toward shady behavior settings where activities are legal but illegitimate. From shady behavior settings some people flow into illegal behavior settings. For example, a group of people know one another and work together daily; they head home after work via various paths, increasingly among strangers; a few are drawn off by hustlers; some of these are robbed in the process.

This analysis is consistent with the argument that policy should focus not on locking up undesirable *people* but rather on containing or modifying undesirable *behavior settings*. For example, several researchers have linked concentrations of alcohol outlets to criminal behavior (see Brantingham and Brantingham, 1981; Roncek and Pravatiner, 1989; Roncek and Maier, 1991; Block and Block, 1995; Felson et al., forthcoming; Homel and Clark, 1995.) These studies distinguish the "tough" bars from the mild ones, and take into account the number of drinkers they attract. Efforts to reduce crime and disorder within the Port Authority Bus Terminal is also a form of "settings management."

14.7 Nodes, Paths and Edges

When people make their stop-and-go decisions, they do so in response to cues from the immediate tangible environment (Poyner, 1983; Brant-

ingham and Brantingham, 1991). The Brantinghams characterize that environment in terms of nodes, paths and edges. A node could include several behavior settings as the hours shift. The Brantinghams' concept of path goes beyond social physics and Euclidean space; it takes into account specific routes, such as footpaths, sidewalks, streets, highways or railways. Even within a transit station, specific paths guide people or vehicles. People usually take the paths they already know. Potential offenders can find illegal action off the main paths, just as unfamiliar visitors can get lost and in trouble away from the main paths. Nodes and paths are separated by various edges. Edges may be brick and mortar or natural barriers (such as rivers), or they may be defined by human use. Some edges block victims and make it easy for an offender to grab and run. Other edges block offenders from doing anything illegal.

Nodes, paths and edges respond to flows of legitimate activity. During rush hours, the flow is like a flood; soon after, a stream; later, a trickle. A pickpocket can easily brush against someone in the flood of people, but an illegal sale or liaison needs a lighter flow. Such sales can either avoid the rush hour or move off the main route. To understand crime within a large facility one needs to analyze flows of people among various nodes, paths and edges, and the relative risks they produce. What kinds of nodes and paths are risky? What hours should nodes or paths be closed off from use? What kinds of edges are criminogenic or criminocclusive? These questions cannot be answered without thinking more about a larger system.

14.8 Linking Individuals, Settings and Controls

We have spoken of several concepts at different levels of analysis. Table 19 seeks to bring some order to the concepts. Column A refers to individual decisions. Column B presents the basic structures. Motion is covered in Column C. Social control and the potential for crime and disorder are rated in Column D.

The individual decides to stay, keep going, or shift setting, speed or direction. The structure includes behavior settings, several of which might fit into a node. It also has paths. Edges separate paths, nodes or behavior settings. Motion is indicated by the presence or absence of setting inertia or flow inertia, as well as by turbulence.

Working across the first row, an individual decides to stay within a behavior setting. This setting inertia, for legitimate settings, leads to a high

Table 19: Stop-and-Go Concepts for Analyzing Control of Crime and Disorder
in Facilities or other Multi-Behavior Setting Areas
Dominated by Strangers

A. Decision	B. Structure	C. Motion	D. Control
1. Stay	Behavior Setting, Node	Setting inertia	High
2. Keep going	Path	Flow inertia	Medium
3. Shift	Edge	Turbulence	Low

level of social control. In the second row, an individual decides to keep going across a path, with the flow inertia indicating a steady movement of several people. This provides significant social control at a medium level.

The main problem is found in the third row. When people decide to shift in place or motion, to enter or cross edges, jointly generating turbulent movements, there is a low level of control. This generates more crime and disorder. How do such controls work in a larger system with many activities and movements underway?

14.9 Fractals, Flows and Sections

It is sometimes possible to uncover simple rules that generate a complex system. In science, this effort is called "chaos theory" (see Gleick, 1987). One tool for finding order is the "fractal." It notes the same form at different levels of magnification. For example, the amorphous seacoast shows up from two feet away, from a hill, from an airplane or from a satellite. Its unevenness at all levels is generated by the same process: water eroding sand.

Areas within the station are fractal, since corners are nested within rooms, which fit into sections, which compose the larger station. These fractals result from the efforts of architects, builders and managers, as well as people trying to get somewhere. Pedestrian flows in the bus station are also fractal. One person follows a small path and then joins others in

a larger path, which meets other paths until there is a crowd. The underlying circulatory system (see Felson, 1987) generates the fractal pattern.

14.10 Chunking and Channeling

Two principles of the circulatory system have great impact on crime and disorder. *Chunking* means dividing space into smaller units, using walls or other obstacles. *Channeling* means helping people flow easily through space.

In residential areas, chunking is accomplished by privatizing substantial amounts of space. Private citizens contribute informal social control to areas they own or look after (Newman, 1972). Thus chunking serves to reduce residential crime. Channeling not only creates more public space but also brings more people in to commit crime. This is why Jacobs (1961) favored old neighborhoods that were highly chunked and poorly channeled. She also opposed urban renewal and public housing, which removed the chunks and widened the channels. In general, if you want a low-crime neighborhood, chunk but don't channel. The latter point is consistent with work by Beavon et al., (1994) showing that easy access contributes to more residential crime.

The opposite rules seem to apply in non-residential areas, especially when no one is assigned responsibility to look after space. Chunking without ownership produces unassigned crannies. The result is a "dreadful enclosure" (Brantingham and Brantingham, 1977) with a dangerous feel (Fisher and Nasar, 1992; Nasar and Fisher, 1992, 1993), and good opportunity for crime to take over. In non-residential areas, moving quickly through public channels may be a plus. For example, streamlining was an important design feature in the relatively safe rapid transit system in Washington, DC (LaVigne, this volume).

Why do residential and non-residential areas have opposite crime-preventive rules? To resolve the paradox, we turn to the Brantinghams' (1993b) distinction between outsiders and insiders. Outsiders cannot so readily penetrate residential areas where they might be noticed, so they commit their crimes more at the edges. The core of the residential area is left to insiders, who also play a role as guardians against crime. Chunking helps insiders to provide such control. Channeling makes it easier for outsiders to get in, commit a crime and go fast.

A public transit station has no real insiders and loads of outsiders. With labor costs high, it is impractical to assign employees to watch every corner of public space. Therefore, choppy channels backfire, helping offenders to take over the area. No where was this more evident than the Port Authority Bus Terminal.

The impact of chunking and channeling is also consistent with the stop-and-go analysis presented in Section 14.5. When chunking serves to produce legitimate behavior settings and to keep a stable presence in these settings, the result is a high level of control. When chunking lacks assigned responsibility and legitimate activity, its result is interstitial inertia and low levels of control. When channeling leads to steady flows, control is at least moderate. When channeling leads to turbulent movements, control drops.

To minimize crime and disorder, a public transit authority should follow some simple rules. Streamline paths. Speed up and even out flows. Fill up areas off the beaten track. And whatever else you do, don't let a few offenders seize public space for their own illegal purposes.



Acknowledgements: We especially acknowledge the assistance of Ken Philmus, Manager of the Port Authority Bus Terminal, and Ronald V. Clarke. We are also grateful for the assistance and information provided by John Brendlen, Steve Davies, Jerry Del Tufo, John Dunham, Thomas Farrell, John Gammino, Fred Kent, Alfonzo Peace, Thomas Roballey, Janice Sazallai, Rita Schwartz, Ed Swanston, Theresa Tessler and Rashi Shukla. Ronald Clarke, John Eck, Graham Farrell and Coretta Phillips offered detailed suggestions for improving the manuscript. We gained the background for this research while funded by the National Institute of Justice, Grant #91-IJ-CX-KO21.

REFERENCES

Barker, R. (1963). *The Stream of Behavior*. New York, NY: Appleton-Century-Crofts.

- Barnes, G.C. (1995). "Defining and Optimizing Displacement." In: J.E. Eck and D. Weisburd (eds.), *Crime and Place* (Crime Prevention Studies, vol. 4). Monsey, NY: Criminal Justice Press.
- Barr, R. and K. Pease (1990). "Crime Placement, Displacement and Deflection." In: *Crime and Justice: A Review of Research*, vol. 12. Chicago, IL: University of Chicago Press.
- Beavon, D.J., P.L. Brantingham and P.J. Brantingham (1994). "The Influence of Street Networks on the Patterning of Property Offenses." In: R.V. Clarke (ed.), *Crime Prevention Studies*, vol. 2. Monsey, NY: Criminal Justice Press.
- Bentham, J. (1789) *An Introduction to the Principles of Morals and Legislation*. New York, NY: Hafner (1948 edition).
- Block, R.L. and C.R. Block (1995). "Space, Place and Crime: Hot Spot Areas and Hot Places of Liquor-Related Crime." In: J.E. Eck and D. Weisburd (eds.), *Crime and Place*, (Crime Prevention Studies, vol. 4.) Monsey, NY: Criminal Justice Press.
- Brand, S. (1994). *How Buildings Learn: What Happens After They're Built*. New York, NY: Penguin.
- Brantingham, P.J. and P.L. Brantingham (1977). "Perceptions of Crime in a Dreadful Enclosure." *Ohio Journal of Science* 77:256-261.
- and P.L. Brantingham (1991). *Environmental Criminology*. Prospect Heights, IL: Waveland Press.
- Brantingham, P.L. and P.J. Brantingham (1981). "Mobility, Notoriety and Crime: A Study in the Crime Patterns of Urban Nodal Points." *Journal of Environmental Systems* 11:89-99.
- and P.J. Brantingham (1993a). "Environment, Routine and Situation: Toward a Pattern Theory of Crime." In: M. Felson and R.V. Clarke, eds., *Advances in Criminological Theory* vol. 5, pp.259-294.
- and P.J. Brantingham (1993b). "Nodes, Paths and Edges: Considerations on Environmental Criminology." *Journal of Environmental Psychology* 13:3-28.
- and P.J. Brantingham (1995). "Criminality of Place: Crime Generators and Crime Attractors." *European Journal of Criminal Policy and Research* 3:5-26. (Special journal issue on "Crime Environments and Situational Prevention," edited by M. Hough and J. Marshall.)
- P.J. Brantingham, and P.S. Wong. (1991). "How Public Transit Feeds Private Crime: Notes on the Vancouver 'Skytrain' Experience." *Security Journal* 2:91-95.

- Chambers, G. and J. Tombs (1984). *The British Crime Survey, Scotland*. A Scottish Office Social Research Study. Edinburgh, SCOT: Her Majesty's Stationery Office.
- Christian Science Monitor* (1993). "Times Square Poised for Comeback." November 1, p.9.
- Clarke, R.V. (1983). "Situational Crime Prevention: Its Theoretical Basis and Practical Scope." In: M. Tonry and N. Morris (eds.), *Crime and Justice: A Review of Research*, vol. 4. Chicago, IL: University of Chicago Press.
- (ed.) (1992). *Situational Crime Prevention: Successful Case Studies*. Albany, NY: Harrow and Heston.
- (1995). "Situational Crime Prevention: Its Achievements and Challenges." In: M. Tonry and D. Farrington (eds.), *Crime and Justice: A Review of Research*, vol. 19. Chicago, IL: University of Chicago Press.
- and D. Weisburd. (1994). "Diffusion of Crime Control Benefits: Observations on the Reverse of Displacement." In: R.V. Clarke (ed.), *Crime Prevention Studies*, vol. 2. Monsey, NY: Criminal Justice Press.
- Cohen, A.K. (1966). *Deviance and Control* Englewood Cliffs, NJ: Prentice-Hall.
- Cohen, L.E. and M. Felson (1979). "Social Change and Crime Rate Trends: a Routine Activity Approach." *American Sociological Review* 44:588-608.
- Cornish, D.B. and R.V. Clarke (1986). *The Reasoning Criminal* New York, NY: Springer-Verlag.
- Cromwell, P. (ed.) (1996). *In their Own Words: Criminals on Crime*. Los Angeles, CA: Roxbury.
- Deitch, J. (1993). "New Jersey Q & A: Stephen J. Bocian; On Homeless Beat at the Bus Terminal." *New York Times*, New Jersey Edition, January 10, p.1.
- Eck, J.E. (1993). "The Threat of Crime Displacement." *Criminal Justice Abstracts* 25:527-546.
- (1995). "A General Model of the Geography of Illicit Retail Marketplaces." In: J.E. Eck and D. Weisburd (eds.), *Crime and Place* (Crime Prevention Studies, vol. 4). Monsey, NY: Criminal Justice Press.
- Fattah, E.A. (1991). *Understanding Criminal Victimization: An Introduction to Theoretical Victimology*. Scarborough, CAN: Prentice-Hall Canada.
- Felson, M. (1983). "The Ecology of Crime." In: S.H. Kadish (ed.), *Encyclopedia of Crime and Justice*. New York, NY: Free Press.

- (1986a). "Routine Activities, Social Controls, Rational Decisions and Criminal Outcomes." In: D. Cornish and R.V. Clarke (eds.), *The Reasoning Criminal*. New York, NY: Springer-Verlag.
- (1986b). "Predicting Crime at Any Point on the City Map." In: R.M. Figlio, S. Hakim, and G. Rengert (eds.), *Metropolitan Crime Patterns*. Monsey, NY: Criminal Justice Press.
- (1987). "Routine Activities and Crime Prevention in the Developing Metropolis." *Criminology* 25:911-932.
- (1992). "Routine Activities and Crime Prevention: Armchair Concepts and Practical Action." *Studies on Crime and Crime Prevention* 1(1):31 - 34.
- (1994a). *Crime and Everyday Life: Insights and Implications for Society*. Thousand Oaks, CA: Pine Forge Press.
- (1994b). "A Crime Prevention Extension Service." In: R.V. Clarke (ed.), *Crime Prevention Studies*, vol. 3. Monsey, NY: Criminal Justice Press.
- (1995a). "Those Who Discourage Crime." In: J.E. Eck and D. Weisburd (eds.), *Crime and Place* (Crime Prevention Studies, vol. 4). Monsey, NY: Criminal Justice Press.
- (1995b). "How Buildings Can Protect Themselves Against Crime." *Lusk Review for Real Estate Development and Urban Transformation* 1(1): 1-7.
- and R.V. Clarke (1995). "Routine Precautions, Criminology, and Crime Prevention." In: H.D. Barlow (ed.), *Crime and Public Policy: Putting Theory to Work*. Boulder, CO: Westview Press.
- R. Berends, B. Richardson and A. Veno (forthcoming). "Reducing Pub Hopping and Related Crime." *Crime Prevention Studies*.
- D.E. Dickman, D.E. Glenn, L.M. Kelly, G.A. Lambard, L.S. Maher, L.L. Nelson-Green, C.S. Ortega, T.J. Preiser, A. Rajendran, T.E. Ross, L. Tous and J.M. Veil (1990). "Preventing Crime at Newark Subway Stations." *Security Journal* 1(1): 137-142.
- Fisher, B.S. and J.L. Nasar (1992). "Fear of Crime in Relation to Three Exterior Site Features." *Environment and Behavior* 24:35-65.
- Gabor, T. (1990). "Crime Displacement and Situational Crime Prevention: Toward the Development of Some Principles." *Canadian Journal of Criminology* 32:41-73.
- Gilfoyle, T.J. (1992). *City of Eros: New York City, Prostitution, and the Commercialization of Sex, 1790-1920*. New York, NY: W.W. Norton.
- Gladwell, M. (1995). "In Today's Cities There's No Room for Seclusion; Fear Forces New York To Pry Wide Open Its Intimate Havens." *Washington Post*, February 11, p.A1.

- Gleick, J. (1987). *Chaos: Making A New Science*. New York, NY: Penguin.
- Gordy, M. (1994). "Phone Scams; Con Artists Go Long Distance." *Newsday*, March 3, p. 15.
- Gottfredson, M.R. (1984). *Victims of Crime: The Dimensions of Risk*. Home Office Research and Planning Unit Report, No. 81. London, UK: Her Majesty's Stationery Office.
- Henican, E. (1993). "Phone Scam Bad for Stats." *Newsday* May 4, p.8.
- Hesseling, R. (1995). "Theft from Cars: Reduced or Displaced?" *European Journal of Criminal Policy and Research* 3:79-92.
- Hindelang, M., M. Gottfredson and J. Garofalo. (1978). *Victims of Personal Crime: An Empirical Foundation for a Theory of Personal Victimization*. Cambridge, MA: Ballinger.
- Hirschi, T. (1969). *Causes of Delinquency*. Berkeley, CA: University of California Press.
- Holloway, L. (1992). "Shoulder Surfing; Life in Phone Credit-Card Theft." *New York Times* November 20, p.B3.
- Homel, R. and J. Clarke (1995). "The Prediction and Prevention of Violence in Pubs and Clubs." In: R.V. Clarke (ed.), *Crime Prevention Studies*, vol. 3. Monsey, NY: Criminal Justice Press.
- Jacobs, J. (1961). *Death and Life of Great American Cities*. New York, NY: Vintage.
- Jansen, A.C.M. (1995). "The Development of a 'Legal' Consumers' Market for Cannabis: The 'Coffee Shop' Phenomenon." In: E. Leuw and I.H. Marshall, (eds., *Between Prohibition and Legalization: The Dutch Experiment in Drug Policy*. Amsterdam, Holland: Kugler.
- Jeffery, C.R. (1971). *Crime Prevention Through Environmental Design*. Beverly Hills, CA: Sage.
- Lambert, B. (1995a). "Neighborhood Report: Midtown; Shoppers' Choice? The Bus Terminal." *New York Times*, March 5, p.6.
- (1995b). "Croissants? A Clam Bar? Is This the Port Authority Terminal?" *New York Times*, New Jersey Edition, August 6, p.6.
- Manegold, C.S. (1992). "Port Authority Helps Homeless Find an Exit." *New York Times*, August 17, p.A1.
- Martin, D. (1993). "Strictly Business; 42nd Street Project Remains on Track." *New York Times*, January 25, p.B3.
- Mattson, M. and G. Rengert (1995). "Danger, Distance, and Desirability: Perceptions of Inner City Neighbourhoods." *European Journal of Criminal Policy and Research* 3:70-78. (Special journal issue on "Crime Environments and Situational Prevention," edited by M. Hough and J. Marshall.)

- McNamara, R.P. (1994a). *The Times Square Hustler: Male Prostitution in New York City*. Westport, CT: Praeger.
- (1994b). "Crime Displacement and Male Prostitution in Times Square." In: R.P. McNamara (ed.), *Crime Displacement: The Other Side of Prevention*. New York, NY: Cummings and Hathaway.
- (1995). *Sex, Scams, and Street Life: The Sociology of New York City's Times Square*. Westport, CT: Praeger.
- Nasar, J.L. and B.S. Fisher (1992). "Design for Vulnerability: Cues and Reactions to Fear of Crime." *Sociology and Social Research* 76:48-58.
- (1993). "Hot Spots of Fear and Crime: a Multi-Method Investigation." *Journal of Environmental Psychology* 13:187-206.
- Newman, O. (1972). *Defensible Space: Crime Prevention through Urban Design*. New York, NY: Macmillan.
- Philmus, K. (1995). Personal communication with the manager of Port Authority Bus Terminal.
- Poyner, B. (1983). *Design Against Crime: Beyond Defensible Space*. London, UK: Butterworths.
- Rengert, G.F. (1996). *The Geography of Illegal Drugs*. Boulder, CO: Westview Press.
- Roncek, D. and P.A. Maier (1991). "Bars, Blocks and Crime Revisited: Linking the Theory of Routine Activities to the Empiricism of Hot Spots." *Criminology* 19:725-753.
- Roncek, D. and M.A. Pravatiner (1989). "Additional Evidence that Taverns Enhance Nearby Crime." *Sociology and Social Research* 73:185-188.
- Rowe, D.C., D.W. Osgood and W.A. Nicewander (1990). "A Latent Trait Approach to Unifying Criminal Careers." *Criminology* 28(2):237-270.
- Shearing, C.D. and P.C. Stenning (1992). "From the Panopticon to Disney World: The Development of Discipline." In: Clarke (ed.),
- Sherman, L.W. (1990). "Police Crackdowns: Initial and Residual Deterrence." In: M. Tonry and N. Morris (eds.), *Crime and Justice: A Review of Research*, vol. 12. Chicago, IL: University of Chicago Press.
- (1995). "Hot Spots of Crime and Criminal Careers of Places." In: J.E. Eck and D. Weisburd (eds.), *Crime and Place* (Crime Prevention Studies, vol. 4). Monsey, NY: Criminal Justice Press.
- Singer, S. (1981). "Homogeneous Victim-Offender Populations: A Review and Some Research Implications." *Journal of Criminal Law and Criminology* 72 (2):737-742.
- Skogan, W.G. (1990). *Disorder and Decline: Crime and the Sptal of Decay in American Neighborhoods*. New York, NY: Free Press.

- Sparks, R., H.G. Genn and D.J. Dodd (1977). *Surveying Victims*. Toronto, CAN: Wiley and Sons.
- Steinberg, J (1991). "The Homeless are Moving on but the Criminals Still Linger." *New York Times*, December 15, p.6.
- Tedeschi, J. and R.B. Felson (1995). *Violence, Aggression and Coercive Action*. Washington, DC: American Psychological Association Books.
- Van Dijk, J. and C. Steinmetz (1983). "Victimization Surveys: Beyond Measuring the Volume of Crime." *Victimology: An International Journal* (8):291-301.
- van Gemert, F. and H. Verbraeck (1995). "Snacks, Sex and Smack — the Ecology of the Drug Trade in the Inner City of Amsterdam." In: *Between Prohibition and Legalization: The Dutch Experiment in Drug Policy*, edited by E. Leuw and I.H. Marshall. Amsterdam, NETH: Kugler.
- Wade, B. (1993). "Practical Traveler; Phoning Is an Art in the Age of the Shoulder Surfers." *New York Times*, March 28, p.3.
- Weisburd, D. and L. Green (1995) In: J.E. Eck and D. Weisburd (eds.), *Crime and Place* (Crime Prevention Studies, vol. 4). Monsey, NY: Criminal Justice Press.
- West, D.J. (1993) *Male Prostitution*. New York, NY: Harrington Park Press.
- Wilke, M. (1991). "Reviving a Terminal Case." *Newsday*, November 4, p. 35.
- Wilson, J.Q. and G.L. Kelling (1982) "Broken Windows." *Atlantic Monthly* March:29-38.
- Wolff, C. (1990). "U.S. Appeals Court Upholds Ban on Begging in New York Subways." *New York Times*, May 11, p.A1.
- Zipf, G. (1949). *Human Behavior and the Principle of Least Effort*. Cambridge, MA: Addison-Wesley.



Appendix 1: Customer Survey Methodology

The Customer Attitude Tracking Study has been conducted annually since the spring of 1991 by the Port Authority. It is designed to measure the attitudes and perceptions of bus terminal customers.

Response rates would have been low if the Port Authority had tried to interview rushing customers or to hand out questionnaires to be returned

later. Their solution was ingenious. The Port Authority drew a sample of outgoing buses (excluding those taking long distance trips) and placed a representative aboard. After the bus had departed, he or she would hand out a questionnaire to be completed during the trip. The Port Authority representative would collect these questionnaires as each customer arrived at the destination. This procedure produced a very high response rate and high completion rates for each item.

The sampling method was to select 150 buses from those departing on weekdays between the hours of 7:00 a.m. and 8:00 p.m. (Note that the sample is not designed for long haul, weekend, or off-hour passengers.) The sample covers about 87% of the bus commuter population passing through the station. In 1991, 3,581 questionnaires were completed and returned, a 72% response rate with a sampling error of 2.5 percentage points in either direction (95% confidence level). The N in 1992 was 3,733, the response rate 76%, and the margin of error 2.2%. In 1993, the N was 3,827, with a 76% response rate and a margin of error at 2.2%. The N in 1994 was 3,540, a 73% response rate with a 2.6% error rate. Comparisons between paired years have sampling errors of from 3.1% to 3.6%, the latter applying to 1991-1994 comparisons. The demographic profile of bus passengers who participated in the 1991 study remained virtually unchanged through the four years of the study.

The 1994 Customer Survey produced this customer profile. Some 73% of respondents use the bus station five days per week, and 14% use it one to four days per week. The other 13% use the bus station less often. In all, 83% report that the main purpose of "your trip today" was "going to or coming from work." The other purposes include "conducting company business" (4%), shopping (1%), recreation and visiting (6%), school (3%) and other uses (3%). This survey design neglects long haul travelers. Respondents were 56% male, and their age distribution was as follows: under 25 (9%); 25 to 44 (61%); 45 to 64 (27%); 65 and older (3%).

**Appendix 2: Complaints to Port Authority Police
Omitted from Main Tables (8 and 9) due to Very
Small Numbers, Miscellany, or Classification
Changes**

Port Authority Bus Terminal, New York City, 1988-1994,
Annually

	1988	1989	1990	1991	1992	1993	1994
Arson	1	1	3	-	-	-	0
Cargo Thefts	3	2	-	-	-	-	0
DWI	3	7	8	5	3	5	5
Forgery	3	7	9	1	5	12	4
Kidnap	2	2	1	1	1	1	6
Murder	1	1	1	1	1	0	0
Stolen MV	12	10	9	13	2	0	2
Unauthorized Use	1	1	3	-	1	0	0
All other offenses	274	199	106	106	350	196	136
Bribery	-	-	-	-	0	1	0
Fugitive, bail jump	-	-	-	-	31	35	28
Leave scene	-	-	-	-	3	1	4
Liquor law viol	-	-	-	-	1	0	0
Offense to family	-	-	-	-	10	11	2
Poss. of burg. tools	-	-	-	-	4	0	0
Simple assault	-	-	-	-	1	3	2
Soliciting	-	-	-	-	7	3	3
Total Omitted from Main Tables	300	230	140	127	420	268	192
Total Complaints Each Year	5650	6153	4616	4081	4119	3169	2888
% Omitted from Main Tables	5.3	3.7	3.0	3.1	10.3	8.5	6.6