URBAN DESIGN, SECURITY AND CRIME

PROCEEDINGS OF A NATIONAL INSTITUTE OF LAW ENFORCEMENT AND CRIMINAL JUSTICE SEMINAR, APRIL 12 AND 13, 1972

143148

U.S. DEPARTMENT OF JUSTICE
Law Enforcement Assistance Administration
National Institute of Law Enforcement and Criminal Justice

URBAN DESIGN, SECURITY AND CRIME

PROCEEDINGS OF A NATIONAL INSTITUTE OF LAW ENFORCEMENT AND CRIMINAL JUSTICE SEMINAR, APRIL 12 AND 13, 1972

January 1973

TABLE OF CONTENTS

INTRODUCTION

     The National Institute of Law Enforcement and Criminal Justice, on
April 12 and 13, 1972, presented a seminar on Urban Design, Security
and Crime. The seminar focused on security measures for preventing
burglary and those stranger-to-stranger crimes that occur in and
around residences and businesses in the urban community. The seminar
reviewed the state-of-the-art and developed proposed research and
action ideas for the future.

     Victimization surveys will shortly provide the research community
with a firm estimate of the actual extent of crime in the nation. The
FBI's Uniform Crime Reports--1970 indicate that over 54% of the
reported crime in that year occurred off the street. Burglary alone
accounted for 39% of the Crime Index offenses, while off-street larceny
($50 or more) and non-bank off-street robbery accounted for more than
15% of the Crime Index offenses.

     One of the means for preventing these crimes is to eliminate the
opportunity for crime. Preliminary studies in this field indicate
that over 75% of today's crime occurs as a result of avoidable victim
inaction or action which presents to the offender the opportunity to
commit the crime. If this is true, elimination of opportunities for
crime should significantly reduce crime. The subject of this seminar,
then, was the reduction of opportunities for crime.

     In 1963, the City of Oakland, California, began to plan, develop,
and implement a sweeping commercial security ordinance to prevent and
reduce commercial burglary. Since then, developmental design and
implementation of residential and commercial security measures has
expanded in breadth and scope throughout the nation. This mass effort
has encompassed towns, cities, states and Federal agencies, and has
involved manufacturers and distributors of security hardware and private
and public research organizations. The Institute felt that it was time
to bring together the representatives of these diverse concerns, so that
the assembled group of dedicated private and public individuals could
review and discuss current developments in security and develop a compre-
hensive plan and direction for the future. Furthermore, by reviewing
the state-of-the-art in this seminar, the Institute hoped to prevent
unnecessary replication in research and development that could hinder
the effort to improve security.

Better planning for future allocation of research and development resources in the area of building security requires coordination of efforts. The development of security system standards has lacked this needed coordination. In 1971, the State of California recognized the pressing need and enacted legislation (title 8, Section 14050 of the Penal Code) that charged the California Department of Justice with the development of building security standards. During the past year, the Institute has planned to develop performance standards for security systems at the Law Enforcement Standards Laboratory of the National Bureau of Standards. Meanwhile, several hardware manufacturers and private associations are planning to develop security device standards. The Institute feels that the generation of an inconsistent assortment of security standards by other governmental and private organizations would only cause delays in the implementation of effective standards.

As part of the review of the state-of-the-art, the seminar included several progress reports from Institute research studies. Mr. Oscar Newman* reported on the Defensible Space Study in New York Public Housing, which has been ongoing for more than two years. Mr. Richard Stevens reported on the Burglary Prevention Study in Alexandria, Virginia, which has entered the implementation phase. Mr. Thomas Repetto reported on the first phase of the HUD-Institute Crime In and Around Residence Study. Reports from other Institute studies were not included for various reasons but primarily because it was felt that their research results would have less immediate impact on improving security than would the results of the studies chosen.**

---

*A list of Seminar Speakers with background sketches is included in Appendix A.

**The Human Sciences Research Study, "Burglary: A Study of Its Character, Correlates, Correctives, and Causes," is examining burglary as a process and is focusing on the offense, the offender, the victim, and the "non-victim." This study's significant contributions to the prevention of burglary were emphasized in the Institute's Fourth National Symposium on Law Enforcement Science and Technology.

The Systems for Residential Security Study is developing a total security system as a second phase of the Crime In and Around Residence Study. It is scheduled for completion in May 1973. The Kansas City Street Lighting Study is presently evaluating the performance of improved street lighting against crime. The first phase, completed in April 1972, developed the evaluation plan only. The Sylvania Burglar Alarm Study, completed by July 1972, studied the effect of alarm systems on burglary and robbery.

The remaining panelists were chosen to include research and development talents not already represented. Thus, Mr. Joseph Coates of the National Science Foundation (NSF) was asked to present an overview of the urban community and its relation to security and crime. Mr. Leo Gulinello was asked to speak on his work with non-police security personnel as Director of Security and Internal Affairs of the Boston Housing Authority. Mr. Hollis DeVines of the Schlage Lock Company was asked to report on several aspects of building security as well as to discuss the program, "Identification of Personal Property." Mr. DeVines' extensive experience in industrial and other security programs throughout the country and his long directorship of the Schlage Security Institute recommended him as a seminar speaker. Finally, Mr. Verne Bunn, of the Small Business Administration's Kansas City Regional Office, presented an address on security as it relates to small business. Mr. Bunn is well qualified to speak on crime against small business. Since 1969 he has conducted about 25 training programs each year on shoplifting, employee pilferage, and fraudulent checks.

The present Federal effort in security can be traced to 1969, when the lack of adequate crime insurance coverage in high crime urban areas contributed to the growing public concern and need for residential and commercial security. The U. S. Senate Select Committee on Small Business, with the assistance of the Small Business Administration, investigated the inadequacies of crime insurance as part of its Crime Against Small Business Study. This committee recommended the adoption of local communities of residential and commercial security ordinances like the Oakland Model Security Code. Sergeant John G. Kearns of the Oakland Police Department, who had been the moving force behind the Oakland Model Code, was a principal consultant to this subcommittee.

As a result, in 1971, Congress required in the original legislation for the Federal Crime Insurance Program that security measures be installed by all prospective policyholders. Subsequently, the Federal Insurance Administration in HUD requested and received from the Institute recommendations for security guidelines for residential and commercial establishments.* The principal contributor and consultant in the development of these recommendations was Sergeant Kearns. This program

---

*The initial draft of these recommendations in the form of Minimum Building Security Guidelines and Cost Estimates for the Security Features is in Appendix B.

went into operation in nine highly urbanized states and the District of Columbia on August 1, 1971. Because of these and many other contributions to public security, the Institute dedicated this seminar to the late Sergeant John G. Kearns.

The Institute has attempted to provide leadership and direction in research and action to the law enforcement and criminal justice community. It has contributed to the development of crime oriented planning, presently being made available by LEAA to state planning agencies and other research organizations throughout the country. This new planning method had as an outgrowth the development of plans for the implementation and evaluation of the LEAA Impact City Program. This program is expected to reduce burglary and stranger-to-stranger street crime by 5% in two years and 20% in five years, in eight high crime cities across the country.

In addition, the Institute has initiated an Equipment Systems Improvement Program to plan and develop new equipment for the criminal justice system. This program will identify equipment needs and perform the required research to develop, test, and evaluate new equipment.

During the four sessions of the seminar, twelve major addresses and reports were presented. Edited transcripts of these addresses and reports are included in the seminar Proceedings.

Richard M. Rau
Panel Moderator
Research Operations Division
National Institute of Law Enforcement
  and Criminal Justice

INSTITUTE SEMINAR

DEDICATION

This seminar is dedicated to the late Sergeant John G. Kearns
in honor of the contribution he made to the field of commercial and
residential security while a member of the Oakland California Police
Department.

The effectiveness of the National Institute depends to a large
extent on the collaboration between Institute scientists and state
and local law enforcement professionals. In many ways, Sergeant
Kearns' career combined law enforcement and technology into a single
discipline. The last seven years of his career were devoted to
educating businessmen and the public in general on how to secure
their homes and businesses against criminal attack. His scientific
and police experience resulted in the development of a model security
code that jurisdictions throughout the country continue to enact.
He flew to Washington in May of 1971, although seriously ill, to
advise the National Institute and the Federal Insurance Administration
in the formulation of building security guidelines that formed the
essence of the security standards established in the new Federal Crime
Insurance Program. In 1969, he counseled the Small Business Administration
and the U. S. Senate Select Committee on Small Business in their study
of Crime Against Small Business.

Shortly before his death in September, 1971, Sergeant Kearns was
honored with a special letter of appreciation from the President.

INSTITUTE SEMINAR

INTRODUCTORY REMARKS

            Delivered by: Martin B. Danziger,
            Assistant Administrator, National
            Institute of Law Enforcement and
            Criminal Justice

During the past few years, whenever I addressed groups that were dedicated to the prosecution or investigation of organized crime, I would comment upon the fact that over the fifteen preceeding years "it would have been impossible to gather people together to discuss organized crime, because, fifteen years ago, we did not recognize that organized crime was a problem." What is particularly fascinating about the business of crime is that fifteen years ago you could not have gathered a group like yourselves together to discuss environmental or physical security, because leaders such as you were not addressing these problems either. We build our homes, our high rises, our offices and our urban centers without considering their impact upon our safety.

It is only by dint of the efforts of persons from whom you **will be hearing** during the course of these next two days that we have begun to deal with the very serious problems of urban security and improvement of the quality of life in our cities.

The Law Enforcement Assistance Administration and in particular the National Institute of Law Enforcement and Criminal Justice recognize, that research and development is by necessity a slow and quite arduous process. It cannot be everything to all men. Some people conceive of research as being able to identify all the problems inherent in the criminal justice system, or all the problems inherent in the society, in an instant; satisfying particular interests of all men for all time. You recognize that is not possible.

This seminar represents a milestone. It is important to discuss and reflect on our future directions. What is our responsibility? How best can we achieve our goals?

I would like to place this meeting in perspective with a quote from "The Persistence of Illusion: Soviet Economic Drive and American National Interest."

> "Our difficulty is that as a nation of short term
> pragmatists, accustomed to dealing with the future
> only when it has become the present, we find it
> hard to regard future trends as serious realities.
> We have not achieved the capacity to treat as real
> and urgent, as demanding action, today's problems
> which appear in critical dimension only at some
> future date. Yet failure to achieve this new
> habit of mind is likely to prove fatal."

I think this statement accurately reflects the seriousness
of conditions existing in our cities today. We were unable or
unwilling to recognize growing problems in our urban centers. We
failed to take action, resulting in a decade of neglect. I think
if we do not take advantage of developing technology now; if we do
not support growth; if we do not become accustomed to dealing with
the future, the problems identified as inherent within urban America
will remain insoluble.

INSTITUTE SEMINAR

ADDRESSES AND REPORTS

Overview: The Urban Community and Its Relation to Security and Crime
Address by: Joseph F. Coates, Program Manager, Exploratory Research
             and Problem Assessment, Research Applications, National
             Science Foundation, Washington, D.C.

The objective of this presentation is to put before you some
basic considerations about the unfolding developments in the structure
of American society; and then to relate these trends to problems of
urban design, urban security, and crime prevention. My suggestions
will largely relate to what might be done on a long-term basis.

In the last generation or so, a new class of intellectual
activities called "Future studies" has been put on a fairly sound
academic and intellectual footing. These studies reveal long-term
trends about U. S. society that are becoming clear and apparent
enough to form the basis for substantial inputs to long-term
public policy formulation.

As a result of the impact of communication and transportation
technologies we have become, for all intents and purposes, one
society--not a one-class society, but culturally a homogeneous one.
You are likely to be equally comfortable and at home in Orlando,
Florida; Seattle, Washington; Bangor, Maine; or Albuquerque,
New Mexico. By implication, crime problems are becoming more alike
than different throughout the Nation. This f- t opens up an interest-
ing set of opportunities for larger-scale comparative research, for
cross-learning, and for aggregate approaches to problems which did
not make sense 50 or 75 years ago.

Urbanization is among the long-term population trends not peculiar
to the United States. All over the world, rural folk find cities
nicer, better, or more attractive than other places to work and live.

In spite of some upper middle-class proclamations to the
contrary, many find city life more exciting, more prosperous, more
interesting. The mass movement in our society is such that a good
70% of the population is now urbanized and perhaps 80 or 90% will
be urbanized by the turn of the century.

Simultaneously, something has occurred which one might call a
political accident--an accident of political boundaries: the
phenomenon of suburbanization. Moving to the suburbs is often
interpreted pejoratively as the white exodus from the cities. But
there is scant evidence that the exodus is in any sense new or
determined by race. Suburbanization is rather part of the long-term,
continuing development of cities in the United States. As people
have become more prosperous, they have moved to the perimeter of
the city.

2.

For example, Columbia University in New York City has had three locations. Each time the relocation has been a move into the countryside. Now it is adjacent to one of the largest black slums in the U. S. It was not a white exodus that moved Columbia to Morningside Heights any more than it is a white exodus for prosperous citizens to move to Hollis, Long Island, or Scarsdale. To fail to understand the long-term phenomena and the dynamics of urban development may set in motion a series of sterile activities and vain handwringing.

Another long-term trend caused by the growth of the cities is the need to metropolitanize some local government functions such as crime fighting. How else can we deal with problems which overflow arbitary political boundaries?

The fundamental conclusion which comes out of many of the analyses of the present state of American society is that the government is intrinsically incompetent--in the literal sense. It is incompetent to do the job required of it, as it is now structured.

After all, the American political structure flows out of the accidents of British imperialism. The republic is founded on 13 arbitrarily formed colonies and strongly influenced by now outdated considerations of the use of water and mountain ranges for transportation and security. That historical circumstance, some argue, results in a fundamental mis-match between the needs of society and the ability of government to deal with them. I believe that crime is one of a large number of problems confounded by the fundamental inadequacies of the governmental structure.

Decentralization is another phenomenon developing in response to a structural problem of government. Government is growing so large that even in modest-sized communities like St. Louis, the citizen is strangely cut off from any response by or satisfactory access to civil servants (in both senses of the adjective). Consequently, to reassert his concern and control over very local government activity, we see a move to participatory democracy and decentralization of government community services such as policing, education, and health care.

Dealing with such frustration of the citizen with the system may go a long way toward dealing with the problems of security. Another major urban factor on the national scene relating to the origins of crime is the matter of new occupations and access to opportunity for satisfactory employment. The job market is acquiring a new nature. The upward mobility ladder, some people argue, has had the bottom few rungs kicked out of it. You can no longer expect to start as a clerk in the corner grocery store and, 30 years later,

3

by dint of hard work, to be the owner of your own store, or chain of stores, or your own company. You now have to have access to knowledge in such a way that you can get a firm hook into the system. Credentials, and often credentials alone, are the key to initial job access.

The knowledge industry, especially the teaching sector, has fundamentally failed with the urban poor and may be rapidly failing the middle class. With the poor, the fundamental failure is to relate people to jobs. And the failure to tie them into jobs or job opportunities is, of course, one basic source of crime.

A question requiring some reconsideration is the perception of crime as largely a local issue to be left to local option and action. The great American myth, fear of the police state from better management, has encouraged the formation of over 25,000 police departments in the U. S. The quality of the employees and freedom from parochial concerns decreases, the suborning of public officials increases, in that same direction.

Some policing problems are caused by the well-established monastic brotherhood attitude of the police, which prevents them from encouraging and receiving, much less embracing, innovation. The same institutional isolation which prevents them from embracing new concepts also causes them to reject criticism.

The point that may on first consideration seem to be remote from the question of security is that by and large the new action for the future is not going to be with physical technology, i.e., gadgets and devices, better locks on doors, or better-shaped hallways in buildings. Rather, the real action for the future, and for most problems affecting U. S. society, is going to be in the area of social invention and institutional change. These are the areas which are the most pregnant for new societal developments with regard to security.

There are other long-term factors affecting personal security in urban life. Group rights have now become the substantial concern. Police and courts can no longer ride roughshod over the rights of individuals. The consequence of that has been the introduction of an experimental question which, as far as I know, has never been examined. The question is, how effective is jail as a deterrent when the criminal may be at liberty five or ten months before he faces a judge? Or, what happens when a person is committed to excessive punishment for a relatively minor crime, i.e., when there is a dissociation of the punishment and the crime? "Justice delayed is justice denied," seems to be acquiring a new significance in contemporary America.

Another long-term trend in our society is "middle classification," i.e., the movement toward middle-class standards. This implies that the standards of deportment and the standards of control appropriate for middle-class citizens are becoming the standards of control which should be and are expected to be applied to all citizens. As we become more universally middle class, the standards of illegal behavior will become more generous, i.e., will embrace more activities and also lead to more demands for government service to deal with them.

Structural problems imply structural solutions. Let me suggest an institutional innovation which reflects these. The nation is full of junk automobiles--cars that people no longer want and have marginal values of three, four, five hundred dollars. What would happen if some public organization, e.g., Red Feather, or the police athletic league, organized a system whereby these junkers would be brought up and put in operating condition? Ghetto kids who do not generally have access to cars could be taught to drive and be provided with some sort of system whereby they can rent a car for a night or for a weekend. I suspect that the joy-riding aspects of stealing an auto-mobiles could in part be undercut by this kind of institutional inno-vation. But the failure to look at the occasions and motivations for stealing automobiles blinds us to a set of institutional innovations that might be worth exploring.

Necessity is often a factor in crime. Many people believe that if one needs food or clothing and they cannot be gotten otherwise, the crime involved in procuring them is more or less justifiable. That line of reasoning brings up the question of whether one needs heroin. Society has structured its institutions in such a way, or so it seems, as to drive some into addiction and then to prevent the addict from meeting his need. Where is the responsibility? Clearly the situation calls for something other than hardening the targets and more effectively enforcing the laws against illicit merchandising.

Crime also has the value of redistributing income. If one had an alternate source of income, presumably there would not be the demand to redistribute it through crime. Stolen goods do not disappear. The stolen goods do not dematerialize. They are bought by people who need them. And the measure of needing them is that they buy them.

I wonder what the trade-off is between the exorbitant rate charged by a so-called bargain center and the prices that one pays when he buys a stolen TV set on the street corner? Clearly there is an opportunity for institutional innovation to bring these two sources of goods into better harmony.

The case of obvious crime such as rape may be an example of the consequences of inadequate education with regard to sexual matters coupled with socially disruptive environments. As far as I know, nobody has ever really posed the notion of approaching the problem of rape as a problem of sex education. And yet it may very well be that that is a major way to deal with the problem.

I also think it should not be overlooked that there is an entertainment aspect to crime. Mr. Cooper, who started the vogue of hijacking airplanes, is not the only one who relates entertainment to crime.

Crime may also be a route to respectability, especially where the criminal is seen as a businessman providing a useful service to the community.

In general, there are five theories of crime. The first one, the Freudian approach, we can dismiss instantly because it has no demonstrable value in doing anything for anybody in regulating crime.

The first substantial theory is that crime is learned behavior. No doubt some crime is taught. And when we understand why it is taught and why some people choose to learn it, perhaps we have the opportunity to invent a new social way to teach them out of it or teach them into something else.

The second theory is that there is a little bit of larceny in all of us. As social controls drop and as opportunities for crime present themselves, the little bit of larceny takes over. Clearly this is the traditional police approach to crime control and implicit in the "growing permissiveness" theory of youth's misbehavior. In this theory, you raise the threshold of social control in a direct way to deter crime. But there is no subtlety to that and obviously it has not worked well.

The third and fourth major theories of crime see it as the result of our affluent society and the inability of large sectors to realize the American Dream. The affluence seen on TV, in the movies and in the shop windows raises hopes. But there is no way for many to attain what they see. Consequently, the combination of frustration and the dreams drive some into crime as a way of achieving the unachievable.

A factor in the causes of crime, however, which tends not to be widely heralded in the textbooks is the basic shift in American values. I believe that many of the kinds of crimes that now occupy substantial amounts of police time and effort ought not and will not within the next 20 years be considered crimes. Sex crimes, gambling and other victimless crimes seem to be on their way off the books. What does that have to do with the criminal justice system?

First, it will allow reallocation of resources for more signifi-
cant things. And secondly, if one consciously recognizes this, as a
long term trend in the changing of societal values, it argues for
making the case more clearly, more crisply and more sharply now.

I see no reason why the criminal justice system ought not be an
advocate of the decriminalization of certain kinds of behavior.
If the evidence demonstrates that there is no social value in penalizing
gambling, that there is no social value and only disutility in pena-
lizing prostitution, if one could make, on an analytical basis, the
case that the department and the system would function more effectively
and efficiently and less corruptly if these activities were under
different institutional auspices, this seems to me to be a perfectly
reasonable basis for presentation as a public policy position.

But the shifts in values are major considerations that are
catching the criminal justice system unprepared. There is very little
future orientation in the planning or orientation of criminal justice
institutions. There generally is not a systems approach to most
problems and hence no accountability, no measurements of effectiveness,
no capability to accommodate the major changes much less to initiate them.

There is no experimental attitude to speak of in the area of
local government and only an extremely limited experimental attitude
in the criminal justice system. What is really needed is an experi-
mental view in which one identifies the problem and establishes five
or six possible ways to solve it. Then, with adequate budget, adequate
time, adequate experimental design, and in a period of four or five
years, one experiments. One may then have sufficient knowledge, based
on trying out ideas, to make sound general public policy decisions.
But there is a rejection of new knowledge and a rejection of the desire
to generate new knowledge in many sectors.

There are several common strategies of crime control. One of them,
hardening the target, obviously has some payoff. For example, there
are keys that spring out of the car lock when you lock the door, and
it makes it difficult to leave the key in the car. You may harden
storefronts by putting up brick walls. I think it even can be done
aesthetically. But that does not really deal with the problem of crime.
That only raises the threshold. It is only a marginal effect.

The other main current strategy is to increase retaliatory capa-
bility. Give cops more hardware. Give them better telecommunications
equipment so that they have faster response, because the data shows
that the faster the response time of the police, the greater the pro-
bability of apprehending a suspect. At the personal level, citizens
carry tear gas cans to defend themselves. Young women take judo lessons.

That is dealing with symptoms. If you have a headache, you may take aspirin, but if the headache continues to recur, perhaps you should do something about your sinusitis which could be the cause of your headache.

I am not saying that the short-term strategies do not have their place, but that they tend to obscure the subtle, longer-term, more significant structural considerations.

A third major strategy is increased surveillance capability, e.g., light up the streets. There is a fantastic amount of money going into lighting up the streets. Where is the study that shows that this is the best, or even a desirable, allocation of that large budget of public resources?

The fourth strategy, better information handling, is partly an outgrowth of the successes of computer technology, which have created a penchant for looking for better ways of shuttling information around.

All these things are symptomatic treatment of the fundamental problems of dealing with crime in an urban society.

We need to look at much more deep-seated structural changes in society if we are going to have any major impact in a reasonable time span on the causes and problems of crime.

<u>Environmental Design</u>. Address by: Oscar Newman, Director of the
                               Institute of Planning and Housing and Associate
                               Professor of City Planning, New York University

     Peter Lejins, in a paper entitled "Recent Changes in the Concept
of Prevention" presented at the 95th Annual Congress of Correction of the
American Correctional Association in Boston in 1965 identified three
categories of crime and delinquency prevention: Punitive Prevention,
Corrective Prevention and Mechanical Prevention.

     <u>Punitive Prevention</u>, he explained, involves efforts by authorities
at forestalling crime by making more evident the threat of punishment.
Operationally this includes: the enactment of new and tougher laws;
the reduction of the period between arrest and trial; and the streamlining
of the process of booking offenders.

     <u>Corrective Prevention</u> begins with the premise that criminal behavior
is <u>caused</u> by various factors. Efforts at corrective prevention therefore
involve understanding and eliminating those causes before their effect
on the individual channels him into crime. Some of the causes identified
involve susceptibility to narcotics addiction, economic instability, a
history of family problems, lack of opportunity for participation in the
accepted life-style of society.

     <u>Mechanical Prevention</u> involves efforts at placing obstacles in
the paths of criminals. It is a policy which accepts the existence
of criminals, their modus operandi and their victims and frames a
program for hardening criminal targets by making them more inaccessible.
This is accomplished by providing more intensive barriers of both a
physical and personnel nature. The operating mechanisms are target
hardening, increasing the risk of apprehension and, finally, increasing
the criminal's awareness of these risks.

     Typical means for improving mechanical prevention include manpower
increases in the form of police, security guards, doormen, tenant patrols
and dogs; and mechanical and electronic devices in the form of more and
better locks, alarms, visual and auditory sensors of an electronic nature;
and motorized vehicles to improve the mobility and surveillance capacity
of personnel.

Current local governmental efforts at crime prevention involve all three of the above categories: Punitive, Corrective and Mechanical. Mechanical Prevention is usually advocated as the most immediate panacea.

The form of crime prevention we will be describing, termed "Defensible Space," was seen initially to be a form of Mechanical Prevention, although it does represent a departure from normal practices. However, as our work in understanding and defining the operating mechanisms of "Defensible Space" progressed over the course of two years of study, it was realized that a good portion of our work was, in fact, a form of Corrective Prevention: a mechanism which also worked to alleviate in part some of the **causes** of criminal behavior.

The particular new area of mechanical crime prevention that we have assigned ourselves to exploring is the improvement of security in urban residential areas through the physical design of the living environment. Urban residential areas, for a series of reasons which have been explored ad nauseum, have of late become particularly prone to various forms of criminal behavior. Society's capacity for coping with these problems does not appear to be able to keep pace with their rate of increase. Those members of the community who are in a position to exercise choice in the housing marketplace are moving their families to the suburban areas. Although many realize that the problems they are trying to escape are following them, they hope it is at a much slower pace.

There are two fundamental differences in designing security for low-income housing as contrasted to middle or high-income housing. In low-income housing some of the residents may also be the criminals and two, there is little to no money available for use of security personnel in low-income housing. A further illustration will perhaps serve to point up the consequence of these differences in security design for low versus middle income housing. Our findings to date seem to indicate a rather simple rule: where the use of a security doorman is possible on a 24-hour, year-round basis, the buildings should be designed to have as many residential units as possible, sharing an entry controlled by the doorman. There really is a break-off point here at about 150 units per doorman. If it is intended that doormen screen every entrant to a building rather than act as a symbolic deterrant, then his capacity is really limited to about 500 people -- after which he acts as a symbol. Where the use of doormen is not possible due to prohibitive costs, and when residents are potential criminals, buildings should be designed to have as few units as possible

sharing a common entry. From the above it can be deduced that those who have been constructing publicly supported housing across the country have been applying a high-density high-rise building solution which is predicated on the use of doorman to a set of circumstances where the use of doormen is impossible economically. High density for a low-income population is better provided with a multi-entry solution, where each entry is restricted to the use of only a few families.

Where both the low-income and middle-income solutions are directed at providing maximum security to their respective inhabitants, there is a fundamental difference in approach and in the beneficiary spin-offs. The middle-income approach is one in which tenants relegate responsibility for security to a hired individual. A doorman guarding one entry to a building complex serving 150 to 500 families is concerned predominantly with restricting entry into the complex. He cannot, by the definition of his job and within the framework of what is physically possible, also be concerned with the bordering streets on which the project sits. In order to restrict entry to one limited point of a large complex, it is usually necessary to wall off those portions of the project bordering the streets. For a two -- ten-acre project this will result in hundreds of feet of street being removed from all forms of social or visual contact. A natural mechanism for providing for the safety of streets has thus been sacrificed to insure only the security of residents within the confines of their living complex. The low-income solution, one in which as few units as possible share a common entry off the street, positions the units, their windows and entries, and proscribes paths of movement and activity to provide a continual form of natural surveillance to the street as well as the buildings. We feel that the fortress-tower response of high-income residents to the increasing crime problem is one which is introverted, withdrawn and involves the restricting and hardening of their areas of private domain for their benefit alone, at the expense of society. This has led to an attitude which essentially foregoes the traditional responsibilities felt by citizenry for insuring the continuance of a viable, functioning living environment for their family and surrounding community.

We are concerned that this response is short-sighted; that with every additional lock and security guard there is a corresponding escalation by the criminal and an increase in fear and paranoia of the victim, with a decrease in the natural mechanisms that have once operated to insure the safety of our streets. Our concern is to try to determine means for improving the security and liability of residential environments, within the urban setting, particularly for low and low-middle income groups. These are groups for whom housing choice is severely limited.

Over the past two years we have been exploring the problem of
security in low and middle income housing where provision of doormen
and expensive security hardware is impossible; we have uncovered
residential environments which by the nature of their physical layout
are able to provide security and continue to function in even high
crime areas. In some instances we have been able to find these
environments in immediate juxtaposition to other residential
environments, of decidedly different design, which are in the throes
of the worst agonies of crime.

In conclusion, we are reasonably certain that the physical
environment provided can directly result in attitudes and behavior on
the part of residents which will insure security--will enable them
to naturally undertake a self-policing role which will act as a very
effective form of target hardening not prone to the changing modus
operandi of criminals---and finally will make evident to prospective
criminals the high degree of probability of their apprehension.

To the non-architect, it may be surprising to learn that the
form of the physical environment can evoke behavioral attitudes and
responses from both inhabitants and outsiders and can set a framework
for a life-style which by its very nature will create a buffer against
intrusion while insuring its intensive use. In its most primitive
form, physical design has the capacity to limit access and activity.
As a simple illustration, a T-shaped intersection in a corridor allows
a turn to either the right or the left; and L-shaped corridor turning
to the left simply does not allow consideration of a turn to the right.
There is no question here of a perceived restriction of choice by the
user: the path of movement is finite and complete. This is, of
course, a very primitive example of the capacity of architecture to delimit
activity and paths of movement. The evidence we have been compiling
over the past two years of study indicates that by delimiting of paths
of movement, by circumscribing areas of activity and zones of influence,
and by providing for the visual surveillance of an area, one can create
in people--inhabitants and strangers--clear feelings as to the function
of a space and who its users are intended to be.

Another point must be made to the non-architect and this is in
the form of an apology for the architectural profession. If it becomes
evident from our presentation that different physical environments can
markedly reduce crime and vandalism rates why then does the architectural

profession continue to provide those environments which result in high crime rates, the destruction of property, the terrorization of inhabitants, and make the residential population particularly prone to criminal action, both impulsive and premeditated? The following disclaimer probably does little to enhance the view of the profession held in the public eye, but we hope that the very act of this research will remedy any critical view we may have been responsible for creating.

Little scientific work has been done to date to accurately measure the impact of physical design of an environment on the social behavior of its users. The number of factors required of architects in the resolution of the design of a building is so large and at times so conflicting that insights which have not been substantiated often go by the wayside. In our work we have encountered many architects who share the opinions that will be expressed here. Many have incorporated these as directives in one building design and then neglected them in another with what may appear as facile inconsistency. The only explanation which seems to justify this action is the uncertainty as to the real effectiveness of these design considerations and the pressures of building codes, fire codes and economics that make one's own insights seem unimportant.

Prior to the development of our hypotheses, a word must be said on the problem of density. Our findings indicate that low density environments have less crime per capita than those of high density. Density is usually expressed in persons or units per acre and particular densities may also denote a residential building prototype. As an example, individual, detached housing in an urban setting usually sits on 1/6 acre and has a corresponding density of 6 units to the acre. Row housing (sometimes called town-housing) has a density of from 12 to 18 units per acre. Walk-up buildings have a density as high as 40 units per acre, depending upon the number of floors. Elevator buildings place no theoretical limit on density and so normally range from 60 units an acre to as high as 400 units to the acre, the latter being rare, the former being more usual. Our regression analysis of housing statistics on 160 projects in the greater New York area has allowed for other variables affecting crime: crime area indices, population characteristics (including income level, age of inhabitants, number of broken families, etc.) and so on.

In a comparison of crime in buildings of different height, type and density a clear pattern emerges. The most significant differences occur in comparing the locations of crime in different types of buildings. High-rise buildings (thirteen stories or over) experience 54.8% of their

13

crime within the interior public spaces; low elevator buildings (six or seven stories with one low speed elevator) 40.2%; and walk-ups of three stories have only 17.2% of their crime in the interior public spaces. The interior public spaces in high-rise buildings not only must be used by all tenants but are difficult for both police and tenants to survey, and there are far too many families using these spaces to make strangers and potential criminals conspicuous to residents. In contrast, crime in the interior public space of walk-up buildings is minimal, as the residents share a joint hallway and stair, and consequently recognize one another (as opposed to an intruder) readily.

This shift in crime location pattern indicates that a form of mechanical prevention is in operation. The trend toward higher overall crime rates in the higher, denser buildings supports the hypothesis that a form of corrective prevention is also functioning.

From this, one may be led to the conclusion that walk-up, low density housing is preferable to high rise, high density housing, as a solution to crime problems. Unfortunately, building density is seldom a matter of choice but is directly determined by the building's economics. Competitive demand for a residential space in particular urban settings will "in a free market economy" drive up the cost of land. Government programs require maximum amounts of land costs per unit. A correspondingly larger number of units must be placed on a higher priced piece of land in order to keep the land and total development cost per unit within fiscal bounds.

High density solutions, however, are not always the result simply of economics but are at times the result of the need to rehouse a low-income population living in a high density slum which will be cleared and where relocation is difficult. This latter may be the result of a more enlightened approach to urban renewal, but clearly brings with it a range of new problems which we are now only beginning to face.

Providing a uniformly low density environment is not a universal solution to crime problems and consideration must now be given to isolating those factors that operate to make low density environments (row housing at 16 units to the acre) operational as crime inhibitors and high density environments (100 to 400 units per acre) magnets and breeders of crime. We have found evidence in a comparison of two housing projects composed of two different housing prototypes: one high-rise slabs, the other densely grouped walk-ups, but sharing identical densities, an identical population, and located across the street from each other -- that density in itself may not be the controlling factor. Other factors affecting crime exist as components of high density and so make crime appear to correlate with high density.

We have therefore developed the concept of Defensible Space to describe the various physical elements that promote security in urban residential areas.

Defensible Space is a surrogate term for the range of mechanisms -- real and symbolic barriers, strongly defined areas of influence, improved opportunities for surveillance -- that combine to bring an environment under the control of its residents. A defensible space is a living residential environment which can be employed by inhabitants for the enhancement of their lives, while providing security for their families, neighbors, and friends. The public areas of a multi-family residential environment devoid of defensible space can make the act of going from street to apartment equivalent to running the gauntlet. The fear and uncertainty generated by living in such an environment can slowly eat away and eventually destroy the security and sanctity of the apartment unit itself. On the other hand, by grouping dwelling units to reinforce association of mutual benefit, by delineating paths of movement, by defining areas of activity for particular users through their juxtaposition with internal living areas, and by providing for natural opportunities for visual surveillance, architects can create a clear understanding of the function of a space, who its users are and ought to be. This, in turn, can lead residents of all income levels to adopt extremely potent teritorial attitudes and policing measures, which act as a strong deterrent to potential criminals.

The spatial layout of the multi-family dwelling, from the arrangement of the building grounds to the interior grouping of apartments, achieves defensible space when residents can easily perceive and control all activity taking place within it. It is not, of course, intended that residents take matters into their own hands and personally restrict intrusion; rather that they employ the full range of encounter mechanisms to indicate concerned observation of activity and control of the situation: offers of assistance to strangers in finding their way as a means for determining intent and legitimate presence; continued presence and the threat of possible interference; questioning glances from windows; finally, the desire to call the police and insist on their intervention. As we have seen too often lately, the ability of even secure middle class Americans to intervene, if only by calling the police, is not something that can be depended on any longer. Similarly, self-initiated police intervention in ghetto areas meets at times with community disproval, even where the community feels intervention is required. The defensible space environment extends the area of the residential unit into the street and within the area of felt responsibility of the dweller -- of both low and middle income.

By contrast, living within large apartment tower developments, the resident is isolated -- he feels his responsibilities begin and end within the confines of his own apartment. He has learned to be detached even from what he sees outside his own window.

In our newly created dense and anonymous residential environments we may be raising generations of young totally lacking any experience of individuality, of personal space, and, by extension, of the personal rights and property of others. In many ways, therefore, defensible space design also attempts to attack the root causes of crime. In the area of crime prevention, physical design has been traditionally relegated the role of <u>mechanical prevention</u>, leaving intact the structure of motivation and attitudes which eventually lead to the criminal event. Defensible space design, while it uses mechanical prevention, aims at formulating an architectural model of <u>corrective prevention</u>. Our present urban environments, created with such speed and determination, may be little more than the spawning grounds of criminal behavior.

These then are the basic ingredients that we believe are effective as crime prohibitive measures. It is possible then, using these means, to design high density environments which also answer the urban expansion needs of the future and without making our cities into high crime areas and our population as prone to victimization as they presently are.

Security Personnel. Address by: Leo Gulinello
                                  Boston Housing Authority

     First of all let me say that my daily work is the here and now
problems of a security chief or police administrator. I do not deal
in theoretical or hypothetical situations. My work deals with the
cold, cruel facts of everyday living as experienced by public housing
tenants, in an atmosphere that seems to be dominated by the criminal
element. My day is a twenty-four hour day that sees a change in the
number, but not the type, of criminal incidents reported. With this
background, I would like to give you a few insights into the problems
a police administrator has in his daily contacts with crime in the city
and in public housing developments.

     It is a well known fact that crime statistics from all over the
nation are rising at almost predictable rates. From these statistics,
we can determine that certain types of crimes occur more often than
others and that they cause the greatest amount of damage and hardship.
These crimes belong to the group of burglary, robbery, larceny, rapes,
assaults and all types of muggings which take place inside buildings
and dwelling houses. The urban dweller is being plagued by repeated
larcency of his mail, especially checks. With the ever increasing
number of apartment houses being built, the crime of larceny on the
first and fifteenth of the month (normal delivery dates of State and
Government checks) has reached epidemic proportions.

     The average police department is hard pressed to keep up with the
increase in crime that is occurring in the street, so that they can
offer only token protection against crimes that occur inside buildings.
A specific example is the crime of Hand-bag Snatching which may take
place at any time and at any place. To defend against this crime
requires specific patrol methods which put the officer on the scene at
the exact moment. In spite of this general increase in crime, the
average police department cannot increase its manpower to offset the
crime growth because of budgetary limitations. The result of this
economic fact is that few, if any, police departments can perform any
"preventive patrolling". This lack of preventive patrolling has
actually encouraged the criminal element to attempt more and more crimes
within buildings because they feel that they have an excellent chance of
getting away with it.

The increase in crimes, the inability to provide preventive patrols and one other unique situation contribute to the overall problem. Many police departments do not include the interior portions of buildings in their regular, routine street patrols. They will go into the building if called upon, but as a regular patrol effort, they say the area is private and therefore not accessible to the foot patrolman. Or they will claim that they do not have enough men to do the job. Or they will state that their men were trained to perform horizontal patrols, not vertical patrols as is needed in the modern apartment complex. The result is that public housing developments have presented the greatest challenge to the modern police force. Tradition and standard operating procedures makes it very difficult to break this chain of circumstances.

To date, police departments have attacked the problem from a past tense, investigatory, crime detection point of view. After a crime occurs, you take as complete a report as you possibly can, gather as much real evidence as you can find, then turn it over to the detectives. By classifying MOs and studying the available evidence, the detectives eventually arrest a defendant who has committed many crimes and the police clear up some old crimes. The number of persons arrested at the scene of the types of crime referred to in this report is not very high. The concept of maximizing apprehension effort is weakened by the lack of preventive patrolling.

If a city or town is fortunate enough to be given a larger operating budget, it usually purchases more cruisers and then puts more rolling stock into the street. That these new cruisers are badly needed cannot be questioned, but their effective use to combat this type of criminal effort can be seriously challenged.

If the modern police department has budgetary limitations and if more rolling stock is not the best attack, then what can be used that may cost less and at the same time be effective?

The facts document the need and honest research will indicate that the average police department cannot provide this type of protection adequately. This statement is not intended to impugn the ability of policemen. It is a statement of fact beyond the control of the police. We will never be able to afford all the trained policemen that will be necessary to combat, control, or prevent these types of crimes.

Out of this real need has arisen the private security guard. He is not usually of the same caliber as the regular policeman, but when carefully selected and specially trained, he does become a valuable adjunct to existing security forces. Many of the larger companies are now able to deliver the younger, highly trained, expertly equipped officer at a lower cost, simply because they have recognized the need and the possibility of increased profits. These officers usually have special arrest powers.

The modern police administrator shies away from the use of security guards in conjunction with his police officers. The common cry is that the "Mickey Mouse Cops" will become another burden to the police -- we will have to go in and bail them out of trouble -- they (security guards) do not know enough about the law of arrest and the rights of prisoners to do an effective job. All of these arguments may have a basis in fact in the past, but the times, the needs, and the economics have necessitated radical changes in the basic patrol methods.

Assuming that one can hire specially trained security guards and there are city or town police available for a program, we could operate a Dual Patrol Concept. This program would attempt to combine the best of the two services in a joint venture to attack these specific indoor crimes. The main thrust of this patrol is directed against crimes occurring in multi-level apartment house complexes.

After an intensive indoctrination period, teams are selected with at least one police officer paired up with one or more security guards. The police officer maintains a constant patrol of the outside area around the buildings while the security guard(s) move throughout the interior portions of the same buildings. The security guard maintains a constant, floor by floor examination of his buildings and when trouble is spotted, he radios for help from his policeman cohort. Whenever an arrest is made in this manner, the security officer is used as a witness.

This procedure is not only designed to make arrests but is well adapted to prevent crime. This type of patrol becomes a crime prevention weapon because it brings to light various conditions that are conducive to successful crime operations - darkened hallways, broken or damaged locks, empty apartments that are used for hideouts, and places where the "loot" is stored for safe keeping. Other side benefits that come from a sincere application of this Dual Patrol are reduced response time for

help when it is needed, prevention of injury to persons by the quick discovery of dangerous conditions and finally a reduction in the number of policemen needed in the program by increasing the area of operation for the police officer. If we increase the risk of capture, we should decrease the desire in the criminal element to operate in that area.

Some cities are experimenting with the use of "Resident or Community Patrols". These may be paid or unpaid. They may be formally organized or just groups of interested citizens who walk the streets acting as eyes and ears of the police. Many of these groups are outgrowths of the Auxiliary policeman who was so valuable during World War II. Examples of these may be found in St. Louis and Kansas City, Missouri. The Boston Housing Authority is trying to implement a paid, uniformed, and trained resident patrol in one of its developments, Bromley-Heath.

In the strict sense of the word, resident or community patrols are not expected to make arrests or to expose themselves to the dangers of a crime in progress. Their greatest value lies in the area of reporting suspicious persons, actions, and conditions to the police as quickly as possible, so that the information may be quickly evaluated, and police action taken without exposing the informant to the slightest danger. The criminal can tell a policeman on patrol, but he can never tell how many residents are on patrol.

A great deal of experimentation with security forces is presently going on and much more must be undertaken to clinically test the capabilities of this source of manpower. Because of the great need, we must find out whether or not the trained security guard can be safely and efficiently used in the fields of crime prevention and detection. If, as many professional security consultants believe, the answer is in the affirmative, there will be an immediate implementation of "radical patrol methods". The primary force behind this change will be an aroused citizenry added to the pressure that private industry with its great wealth and power can bring to bear upon city officials. The citizen (in the form of a security or resident patrol) and the police working together is the only real hope society has to contain this growing problem. This concerted effort would be most successful in public housing developments. It should be given an honest test.

Security Personnel.   Report by: Oscar Newman, Director of the Institute
                        Planning and Housing and Associate Professor of
                        City Planning, New York University

     In our study of the effects of the physical design of residential
environments on crime and vandalism, we have also made studies on the
use of security personnel. We are far from being expert in this area,
but we have examined various types of security personnel and how they
might best serve different roles in varying physical situations. We
have found that although city police are a very useful group of people,
they have, over the years, developed certain modes of operation which
make them quite incapable of providing security for residential environments,
in particular, large, high-rise complexes.

     There is a fundamental difference between security personnel who,
like police, pursue and apprehend criminals and those whose job it is
to prevent the invasion of an environment by criminals. As we see it,
a policeman's function as he has defined it for himself (and as our
society has helped define it) is to apprehend criminals. One of the
reasons the police are ineffectual in patrolling residential environments
or providing security guard service is that frankly there is no real
reward in it for them.

     What one really wants of a residential environment and its security
personnel is the deterrence of criminal invasion. The new large-scale
residential environments being built in cities support anonymity. By
the nature of this anonymity, authority for insuring security is commonly
delegated by citizens to others. Police, guards or doormen assume the
responsibility for insuring the safety of their environment.

     The New York City Housing Authority has a 16,000-man police force
who originally started off as security guards. They disliked the guard
function and desired to be on an equal footing with city police. Over
a period of ten to fifteen years, they have been able to achieve this
goal and have become equal in status to the city police. They now
wear the same uniforms, and get the same benefits and pay. To them, this
arrival is a very prestigious and very important thing. To the
Housing Authority, they have returned the game to "Start". Housing
police are now saying that they do not really like to patrol the insides
of the projects, but would prefer to patrol the periphery of the projects

in pairs and in police cars. It is important to recognize that this is a problem not only of defining duties but of the working of bureaucracies. What has happened here is that the policeman over time have formed their own Benevolent Association which in turn has been instrumental in defeating their real purpose.

Certain incentives are given policemen that allow them to move up in the ranks. When they apprehend criminals, the chances of their becoming a detective or moving up (getting a few more stripes) are increased. A Housing Authority policeman gets very little credit if the project he is taking care of has a reduction in crime. But if he apprehends a couple of addicts, he is on his way to promotion. Unfortunately, a good Housing policeman deters the addict from ever entering his project -- how then can he ever apprehend him?

Housing administrators do not want to see anybody with a uniform chasing criminals. What they want is someone who will "keep the gate," as it were, and deter the criminal from coming in.

We have examined, by comparison, low-middle income, privately owned housing projects which use guards who belong to unions but who are hired and paid by the project owners. We have found that a lower ratio of men to tenants is more effective in reducing crime than are Housing Authority police. They tend to be stationed in guard booths (which the Housing Authority police will not do) where they are available to tenants by phone. This is very important - the tenants know the police by name. They can call them on the phone directly (which the Housing Authority police will not allow) and they are responsible directly to the manager of the complex.

This is a very important difference: That guard must now account, not to the Patrolmen's Benevolent Association, but to the tenants or the manager of that particular complex. Whereas if a patrolman of the Housing Authority police does not do his job and somebody complains, he has the Benevolent Association to protect him and is simply moved to another project.

There is another category of crime committed in low-income housing which does not make the crime statistics records but may well spell the collapse of most housing efforts: vandalism.

There is a fundamental difference between a public housing project and a private development. All private high-rise buildings have resident superintendents. Public housing projects do not. Public housing have maintenance men who live elsewhere and serve the project from nine to five, if that much.

During World War II, public housing authorities, because of the shortage of manpower, started hiring the women who lived in the buildings and performed the function of a "concierge." We looked at some old records, got some of the addresses, and interviewed some of the women and management.

A reconstruction of the situation when projects had resident concierges indicates that there was not only much less vandalism but much less crime in these buildings compared to circumstances before their introduction and since. These women lived in the buildings and took on a social function. They had to clean all the public spaces and knew which kids were the troublemakers. They went after those kids because they did not want any extra workload. In other words, they took on a preventive role. They also began screening the people who came in and out of the building in the traditional concierge way to further insure against possible problems. The important difference is that the concierge was given an area to be responsible for rather than a number of hours of work to put in. If she could keep the place clean and vandal free, she didn't have to account for her hours.

At present, Housing Authorities pay fortunes for maintenance men who are not committed to the projects because they do not live in them or have any feelings of responsibility toward them. Why not take tenants and make them concierges and guards? Let us make it a work ladder, too. In other words, they start off as either a concierge or guard and then become project managers or members of the management staff. They live in the building and are committed to the project and to the community. They are responsible to the community and the community comes to know this.

The question of lines of communication and responsibility is most important. We plotted a chart of responsibility between the hierarchy of the Housing Authority's 16,000-man police force and the hierarchy of the management of the New York City Housing Authority. There is only one place where there is communication between the two hierarchies. The chairman of the Housing Authority speaks to the Chief of Police. Nowhere else along the line do any of the ranks of police and management speak to each other. The Chief of Police is appointed by the chairman, but the Chief has little muscle. It is the Patrolmen's Benevolent Association that runs the Housing Authority Police, and they do not appear to worry very much about what the Chief says. The tenants call the Housing Authority Police when they are desperate because they have no other choice.

In providing security personnel for housing, I do not recommend that an Authority become involved in creating police forces that begin to take on a life of their own, go down a track that nobody anticipated, and end up performing a questionable function.

Building Security: Burglary Prevention Study

Address by: Richard C. Stevens, Member Technical Staff
Research Analysis Corporation, and the Institute's
Burglary Prevention Study, Alexandria, Virginia

My discussion this afternoon will be primarily concerned with the peripheral aspects of a building's security. In other words, what I plan to talk about are the physical items that provide a dwelling with certain levels of security. To begin with I am going to present a rather brief description of the Institute's program in the city of Alexandria, Virginia, and then focus on one particular output product of that program. I think this particular product is rather unique, and it should contribute to this seminar as well as stimulate the audience with questions at the end of my presentation.

The Institute's program in the city of Alexandria is a research grant to the city, and I am a member of the research team performing the study. The study was begun in July 1970, and is currently scheduled to conclude in August of 1973. I mentioned currently because it appears there may be some changes in program scope and with them some extensions in program time.

The study can best be described by reviewing its tasks or phase breakdowns. In its first phase a national survey of measures (procedures, devices, ordinances, etc.) to prevent or deter burglary was made. The purpose of this survey was to establish a data base of programs and so forth that were either currently being run or had previously been run and to include some indicators or evaluation of their impact against the incidence of burglary.

The second phase of the study as it now appears, that is after it has been done, was actually an extension of the first phase survey. In this phase, interviews were held with manufacturers, designers, installers, and security experts -- all involved with the broad scope of security hardware -- in order to compile a master listing of commercially available devices and materials that had some applicability toward the prevention or control of burglary.

The third phase of the study was the assessment of the devices, techniques, procedures, etc., as determined in Phases I and II.

With these three phases completed, the study next directed itself toward the development and preparation of standards or, better still, performance specifications for burglary deterrents and control. The use of the word standard or even performance specifications here is somewhat out of order. What we were and still are attempting to do is to develop the input information that will ultimately take the form of an ordinance or code for the city of Alexandria and will have been proven to be an effective deterrent against burglary.

Continuing to describe the program, the next phase, or what would now be Phase V, was to design an evaluation program to test the effectiveness of the standards and/or specifications and to then on the basis of the test feed the information back into the standards so as to produce what could or probably will be called a minimum standard. Continuing, the program goes through three or four more phases involved with the mechanics of implementing the code or ordinance and educating the population as to its benefits, etc.

However, as I mentioned earlier, I just wanted to provide you with a brief review of the total program and then to discuss in detail one output of the program thus far. In the third and fourth phases, as I mentioned, we have been making assessment of the deterrent value of the technical information obtained, in particular the security hardware. It is these assessments that I feel provide a unique approach toward "rating" or evaluating any particular piece of security equipment.

Comparisons of specific as well as general types of security hardware provide the individual and the business with a defensive tool in screening "junk" hardware. Because of the news media and other program directed at supposedly educating the public relative to protecting their house or business, many companies have produced hardware which does little more than decorate the doors or windows; that is, the item is offered as providing security, but is actually an inferior copy or sham claiming to perform certain functions but not delivering them.

The data collected from manufacturers, from experts in the field of security hardware, from security analysts, from police officials, and from experienced users was compiled in tabular form in an attempt to provide a means for evaluating the worth or function of a particular piece of security equipment. View graph no. 1 is shown here to assist in clarifying how the tables have been constructed and what they can provide.

Item	Generic categories	Costs		Type of attack														
		Range, S	Mode, S, M	Brute force			Unskilled			Semi-skilled			Professional					
				Time to defeat, sec	Preventive factor		Time to defeat, sec	Preventive factor		Time to defeat, sec	Preventive factor		Time to defeat, sec	Preventive factor				
					$\frac{T}{M}$	$\frac{M}{T}$		$\frac{T}{M}$	$\frac{M}{T}$		$\frac{T}{M}$	$\frac{M}{T}$		$\frac{T}{M}$	$\frac{M}{T}$			

27

View Graph No. 1

Item	Generic categories	Costs		Type of attack													
				Brute force			Unskilled			Semi-skilled			Professional				
		Range, $	Mode, $, M	Time to defeat, sec	Preventive factor		Time to defeat, sec	Preventive factor		Time to defeat, sec	Preventive factor		Time to defeat, sec	Preventive factor			
					$\frac{T}{M}$	$\frac{M}{T}$		$\frac{T}{M}$	$\frac{M}{T}$		$\frac{T}{M}$	$\frac{M}{T}$		$\frac{T}{M}$	$\frac{M}{T}$		
	DOOR LOCKS																
1	Key in knob, no dead latch	1.50/25	6—	600	100	.010	120	20	.050	30	5	.200	15	2.5	.		
2	Key in knob, with dead latch	.4/40	12—	600	50	.020	420	35	.028	240	20	.050	60	5.0	.		
3	Key in door, no dead bolt or dead latch	15/65	25	600	24	.042	120	4.8	.208	30	1	.833	15	.8	1.667		
4	Key in door, with dead latch	15/65	30	600	20	.050	420	14	.071	240	8	.125	60	2	.500		
5	Key in door, with dead bolt, no dead latch	20/70	35	1200	34	.029	600	17	.058	360	10	.097	120	3.4	.291		
6	Key in door, no cylinder protection	15/65	25	600	24	.042	600	24	.042	300	12	.033	120	4.8	.208		
7	Key in door, with cylinder protection	20/70	35	1200	34	.029	1200	34	.029	600	17	.058	240	6.8	.145		
8	Latch throw length <½ inch	1.50/10	6—	180	30	.033	120	20	.050	60	10	.100	15	2.5	.400		
9	Latch throw length >½ inch <1 inch	6/40	12—	900	75	.013	300	25	.040	240	20	.050	60	5	.200		
10	Latch throw length ≥1 inch	20/70	35—	1800	51	.019	1800	51	.019	900	26	.038	300	8.5	.117		
11	Dead bolt length <½ inch	15/25	12—	360	30	.033	180	15	.067	60	5	.200	15	1.3	.800		
12	Dead bolt length >½ inch <1 inch	20/40	26—	900	34.6	.029	600	23	.043	300	12	.087	120	4.6	.217		
13	Dead bolt length ≥1 inch	40/70	50—	1800	36	.028	1800	36	.028	900	18	.056	600	12	.083		
14	Secondary dead bolt, key/knob, horizontal	5/25	12	900	75	.013	600	50	.020	180	15	.067	30	2.5	.400		
15	Secondary dead bolt, key/key, horizontal	7/30	15	900	60	.017	900	60	.017	240	16	.062	60	5	.250		
16	Secondary dead bolt, interior surface mount, horizontal	5/15	7	600	88	.011	300	43	.022	120	17	.058	60	8.7	.116		
17	Secondary dead bolt, interior surface mount, horizontal, and jamb mount	10/30	20	1000	90	.011	900	45	.022	300	15	.067	180	9	.111		
18	Secondary dead bolt, interior surface mount, vertical-throw	5/15	7	600	88	.011	300	43	.022	120	17	.058	60	8.7	.116		
19	Secondary dead bolt, interior surface mount, vertical throw, jamb mount	10/30	20	1800	90	.011	1200	60	.017	600	30	.034	300	15	.067		

View Graph No. 2

The approach has been to develop a major listing of categories of hardware, "generic categories," so that reference is not made to any specific product or brand name, but that a specific item can be found through its functional description either as a singly listed item or as a combination of several items. With this list of categories and with the desire to evaluate the item on its cost, the data compiled in the devices survey on costs was next listed. The modal value (the most common cost) was used because of the extreme spread of costs per item. Thus, the comparisons are made on the basis of that cost which the average citizen is most likely to pay. Following this logic, the Type of Attack was listed and divided into four areas: Brute Force, Unskilled, Semi-skilled, and Professional, each of which I will define later. Further breakdowns of each attack area were made in order to provide the use intended for the tables. These areas are Time to Defeat, T/M, a preventive factor, and M/T, another preventive factor.

These tables, therefore, present a comprehensive listing of all security hardware and provide a tool wherein the home owner or the local businessman can begin to evaluate on his own what type of security and security hardware he is getting and buying for his dollar.

As I just mentioned, the categories presented -- I'll show you just one of some fourteen tables developed and submitted to the Institute in my report (second view graph) -- have been ranked in terms of their modal cost on a retail basis, and then an association has been made between this cost and the ability of the item to perform its function when attacked in certain ways. What has been created, then, could be called an entry time per cost, or defeat time per cost, or performance time per cost, or security units (in terms of time) per dollar value. This rating does offer certain cost-effectiveness information, but is more properly a "performance evaluation" ranked by the appropriate cost and has thus been termed "preventive factor."

The general categories have been listed under major points of entry and then subclassified under the major headings into the broadest possible range of security hardware applications by generic description. In this manner a particular hardware configuration can be found in the table and reviewed relative to its preventive factors. However, even with this grouping, and even under any one major category, the best preventive factor in itself cannot be used for selection of the best rated item. Subgroupings of items are comparable on a best rating basis or best T/M but these are rated solely on the functions of the item described. It should then be clear that to properly evaluate a specific piece of hardware,

one or more lines should be reviewed in order to include all the functions which this piece of hardware contains; e.g., if the security equipment were a door with a primary lock, a secondary lock, a certain type of hinge, and a certain construction, then at least five lines of the tabular data would be required to properly evaluate that door. Also, the type attack, which I will more fully describe, is directed solely at the single line item reviewed; that is, even though there may be a much simpler means for gaining entry or effecting defeat of a system, the attack is against only the item or single component described.

Thus, if a comparison is desired of two or more configurations, each configuration by itself must be evaluated with the appropriate preventive factors for the configuration.

In order to provide you with the differences in the four types of attack, I will read a portion of the report I mentioned which describes these attack categories:

Brute Force. This attack has been established as that in which pure physical force only is used to gain entry. The attack is pointed not at the lock or holding device only, but rather at the whole area and all of its components. Certainly it follows that the weakest point would yield first and then become the specific point of attack; however, in general, this category is "brute force" against the item described. Shoulder pressure, kicking, pushing, the use of sledge hammers, axes, saws, etc., are considered normal methods for this type of attack.

Unskilled Attack. This category has been selected to encompass those attacks where a novice or equivalent tries a specific attack on, for example, the lock. No special tools are used other than perhaps a screwdriver, small hammer, short pry bar, tire iron, etc., tools normally available and usable by anyone. The attacker works with this type of tool and solely on the item being evaluated. It is recognized that this may be an unrealistic situation in practice, but it is an important limitation from the standpoint of developing the rating factors.

Semi-Skilled Attacks. In this category the attacker has been assumed to be one with a limited special knowledge of how to defeat the particular item being evaluated. He has certain crude tools, but they are specific to the types of attack this attacker will make. Such items as large channel lock pliers for "knob popping," flexible metal and plastic strips for "slipping" or "loiding," thin pieces of wire for hooking latches, a glass cutter, selected skeleton and master keys, etc.

Professional. This category is for the "pro". Special tools and skills are a must for his attacks. Cylinder poppers, pick sets, pick guns, master keys, punches, tapes, wire, torches are but a few of the specially made tools that the "pro" will use to attack the item being evaluated. He has an intimate working knowledge of a great variety of locks and how they can be opened. In other words, he is the true professional who, if determined and given enough time, will defeat just about any security device.

Certain other areas of these tables require clarification. In the cost column, the range of the item has been given in dollar values, from the cheapest to the most expensive. Because in many cases an average is inappropriate, the mode has been listed and refers to the most common retail dollar value of the item. Under each type of attack, the Time to Defeat is estimated and tabulated in seconds. These times are subjective, judgmental, estimated, and otherwise open to argument. They certainly can be improved upon. The important thing here is the approach. As I have already mentioned, throughout the time frame of this program as well as at least two years prior to that, I have talked with many knowledgeable people, read many publications, and studied many security items, all of which have contributed to what I believe to be a unique summation of information and allowing for the tabulated ranking of the various pieces of security equipment listed in the interim study report.

Returning to the overall Alexandria Program, we are currently preparing to select a controlled sample of the cross-section of dwellings and businesses in the city of Alexandria and then to increase their "building security" by rating them from these tables discussed here today to a predetermined level. Then we will observe and collect the burglary history for this test group for a period of one year, thereby developing the effectiveness of items such as those described in the tables as deterrents to burglary.

Building Security: Crime In and Around Residence Study.
Report by: Thomas Repetto, Associate Professor, John Jay College
            at the City University of New York and Urban Systems
            Research and Engineering, Inc., Institute-HUD Crime
            In and Around Residence Study, Phase I

FACTORS IN URBAN RESIDENTIAL CRIME

I. Objective of the Project

     The objective of Phase I of the study is to determine the
nature and pattern of stranger-to-stranger crime committed on urban
residential premises. Specifically, it seeks to identify, describe,
and, if possible, explain in a systematic and quantitative manner
the rates and patterns of the residential crime and the principal
contributory factors.

Rate is defined as the number of offenses per unit generally measured
in crime/100 households.

Patterns are distinctive characteristics of residential crime in terms
of chronological and spatial distribution, method, and target of attack.

Correlative factors are conditions and circumstances which appear related
to and are possible explanations of rates and patterns of residential
crime.

     At present the project, which is budgeted for 15 months, is just
past mid-point and any findings cited must be regarded as tentative.

II. Research Design

     A. APPROACH AND METHOD

     The research design has kept in mind that the prime emphasis of
LEAA and HUD is to gather information which will be directly useful in
establishing programs to reduce the incidence of residential crime.
Therefore, the design has emphasized research questions which will lead
in this direction rather than questions of an academic or peripheral
interest. In general the project has sought to concentrate on correlative
factors which LEAA and HUD can influence in an immediate and direct sense.

In order to gather information and test hypotheses, the staff is employing five basic tools:

1. A search of the literature, both popular and professional. This is an ongoing process since one work often leads to another.

2. A study of residential offender behavior, including an analysis of the criminal history of cross-sections of adjudicated residential offenders and detailed interviews with 100 of them.

3. An analysis of police records pertaining to residential crime.

4. A survey of households which provides for a detailed interview with victims and non-victims of residential crime and an audit of the security aspects of the dwelling.

5. A field observation study of the characteristics of selected neighborhoods in the Boston SMSA to determine the comparative security features of each neighborhood.

The last three techniques were concentrated on a close study of a representative cross-section of urban American neighborhoods in an attempt to determine their residential crime experience.

B. DEFINITION OF RESIDENTIAL CRIME

One problem which has influenced the work of this project is that there is no such category as residential crime. There clearly is residential burglary--one of the commonest offenses (1 1/4 million reported in the U. S. in 1970) and many residential burglars but few residential robberies and even fewer residential robbers. In most other crime categories, the attack is not often focused toward a residence and the fact of its occurring on residential premises is more a matter of chance than design.

This affects the research since most available data on residential type crime is based on burglary.

C. CONVENTIONAL THEORIES OF RESIDENTIAL CRIME

In essence the central findings and theories about residential crime are:

1. Residential crime like other crimes results from a combination of desire and opportunity. There must be persons who wish to engage in criminal behavior and opportunities for them to do so.

2. There is significant variance in the spatial distribution of the rates of residential crime.

3. Criminal behavior in relation to residential crime follows distinctive patterns.

There is much less agreement over the relative importance of various correlative factors. Among the main explanations of the residential crime phenomenon are those which stress:

1. Environment, in terms of certain characteristics of a neighborhood such as race, class, social disorganization, land use, or traffic patterns.

2. Local security such as police or other patrols, and street lighting.

3. Dwelling characteristics such as housing types, age of housing, spatial location of dwellings (next to alley, vacant lot), affluence or design of the dwelling.

4. Occupant's behavior, including such things as occupancy rates and knowledge and use of security procedures.

5. Dwelling security factors such as the effectiveness of the doors, locks, windows, or special devices.

6. Offender behavior, which explains crime rates and patterns in terms of offender characteristics, such as age, ethnicity, personality and levels of skills.

D. PROBLEMS OF RESEARCH DESIGN

Within the universe of possible correlative factors not all
are of equal significance nor are all of them amenable to direct
corrective programs by HUD or LEAA. In order to lessen the incidence
of residential crime, it is necessary to lessen the amount of desire
or opportunity or both.

For example, among various crime lessening strategies some
operate to affect both desire and opportunity. The classic example
is stationing of policemen in front of a single family house. This
serves primarily to foreclose opportunity in that location by
repressing criminal desire, since most potential offenders will
presumably calculate that the risk of apprehension exceeds possible
gain. Measures such as target hardening; i.e., installation of better
locks, doors, etc., serve primarily to reduce crime opportunity. Job
training programs or drug treatment centers serve primarily to reduce
criminal desire.

Given the contractual objectives of this project (to determine
the nature and pattern of crimes committed against residential
properties in order to assist the Department of Housing and Urban
Development and LEAA in establishing guidelines for residential
security against crime), prime emphasis is directed toward the
immediate lessening of opportunity rather than longer range programs
aimed at lessening desire; however, the latter concept must be borne
in mind.

E. RESEARCH QUESTIONS

In seeking explanation of residential crime, an attempt has been
made to sort out factors of probability and vulnerability. Probability
refers to the chances that a particular dwelling will be attacked.
Vulnerability refers to the relative degree of difficulty in attacking
a particular dwelling.

An important question is to what degree vulnerability influences
probability. For example, the occupant of Residence A may be very
security conscious and utilize procedures and devices which make entry
into his dwelling more difficult than into Residence B located several
miles away. Residence A, however, may be situated in a high crime
neighborhood (environment). And therefore, though Residence B may be
much more vulnerable than A, because it is located in a low crime area
it may have little probability of being attacked.

35

For purposes of research the various correlative factors
have been grouped under two headings: those which relate to the
neighborhood and those which relate to the dwelling. Neighborhood
factors include

1. Social and economic statistics,

2. Physical features of the neighborhood, and

3. Neighborhood security.

Dwelling factors include

1. Physical features of the dwelling,

2. Occupant behavior, and

3. Dwelling security features.

In this way victimized and non-victimized dwellings in the same
neighborhood can be compared and, by holding neighborhood factors
constant, and explanation of differential dwelling crime experience
can be sought in terms of differences in dwelling factors.

F. DETAILS OF RESEARCH METHODS

1. Literature Search

In general the relevant literature could be subsumed under the
following headings:

a. A number of scholarly works on general criminal behavior
without special regard for the problem of residential crime.

b. Literature of a scholarly nature dealing with residential
crime but offering only the most general findings and hypotheses.

c. Popular literature dealing with residential crime offering
common sense prescriptions for residential security but lacking an
empirical base. This type of literature frequently affords general
descriptions of criminal behavior in the most emotional and imprecise
terms.

2. Offender Behavior

In order to determine the patterns of offender behavior in residential crime, the project staff is analyzing the criminal histories of a representative cross-section of adjudicated offenders and is interviewing 100 of them. In the first phase of the interview process, the subject is asked to view a series of slides representing a cross-section of urban neighborhoods and housing types. These interviews are used as a background for a series of questions in regard to the subject's decision to execute an attack on a residence, and collateral factors such as motives for criminal behavior and attitudes toward such things as violence. This takes approximately one hour.

The second phase of the interview involves a skill test. The subject is confronted with a number of props consisting of doors and windows normally found in various urban dwellings. The subject is then asked to state which of these he could open and how. After stating his preferences, he is furnished with the tools he requests and invited to demonstrate. This phase is meant to check on the veracity of the subject as regards his M.O. and skills and as an expansion of the slide phase data. The chief value is to avoid crediting individuals with skills they do not possess. This phase takes approximately 20 minutes.

3. Police Records Analysis

The staff undertook to examine police data on residential crime. For example, in the city of Boston they looked at 39 police reporting areas. Each area comprised a few city blocks with an approximate population of 1,000 persons. The staff reviewed reports on approximately 2,000 residential burglaries and 200 residential robberies which were recorded in these areas in 1969 through 1971.

The staff undertook an examination of all rapes reported in the 39 areas and all the murders in the entire city of Boston during the same period.

The data for all other crimes were determined by the vicitimization studies conducted during the household survey phase. In this respect it should be noted that police data is of limited value in that a large percentage of crime is unrecorded and information on that which is recorded is often sketchy and inaccurate.

4. The Household Survey

The objectives of the household survey are as follows:

a. To attempt to verify the accuracy of police data and to calculate actual crime rates for selected reporting areas through interviews with random samples of victims and non-victims.

b. To expand the details of the police reports in order to develop additional information for calculating crime patterns.

c. To attempt to ascertain differences between victim and non-victim households in respect to such matters as occupant behavior, types of security devices in use, and the general design and location of the dwelling.

d. To assist in ascertaining differences between high crime and low crime neighborhoods in respect to such features as social organization and citizen attitudes toward the community.

5. Site Survey Phase

The reporting areas were also studied for possible differences between high crime and low crime areas. In this phase each reporting area is visited at periodic intervals (day, night, March, June) to ascertain such factors as

1. Police protection,

2. Security patrols,

3. Lighting,

4. Pedestrial and vehicle traffic, and

5. Presence of gangs.

III. Preliminary Findings

A. Crime Rates

In general the spatial distribution of crime rates tends to follow conventional expectations. Rates are highest in the socially disorganized

areas such as the black ghetto and the highly transient areas. They are lowest in the white single family socially stable areas. However, there are some interesting questions which we are now in the process of investigating.

For example, the extremely low rate of burglary in one black housing project area raises the suspicion that this is the result of inadequate reporting rather than actual experience--which illustrates possible danger of working exclusively with reported crime figures.

B. PATTERNS

The staff is now is the process of placing the police data on the Sanborn maps, and the identification of patterns is still in an early stage. An analysis of a small portion of the densely populated Beacon Hill area illustrates the nature of this work. The analysis notes that most burglaries occur on the inner streets rather than well traveled main arteries. Of 89 reported burglaries over a 33-month period, the basic overall finding was that 90 percent took place in apartments and approximately 90 percent were daytime attacks on unoccupied flats. Entry was most often gained by using force versus the front door. Where location of entry was stated, doors were used about four times as frequently as windows, and the front door three times as often as the side or rear. Of attack techniques listed, physical force versus the door was most often cited, other attacks being much less frequent, though there are a number of unknowns which require further analysis. In better than 90 percent of the cases as stated, the dwelling was unoccupied and the burglary was not discovered until the occupant's return. May and June were the most active months and Thursday and Friday the most favored days.

In 90 percent of the cases, the offenders were unknown. In 12 cases where offenders were seen, they were all described as male, mostly white and under 30. Only three of the cases resulted in arrests. The most common losses were cash, jewelry, and hi-fi, radio, TV and stereo equipment, varying from $300-$1000 in value.

OFFENDER BEHAVIOR PATTERNS

Fifty people have been interviewed so far. Forty-two were inmates of local houses of correction, and eight were probationers. The median age of those interviewed was 25. Of these, 35 were white and 15 were black.

The bulk of the remainder of the interviews will be in a house of correction and two district courts. The emphasis will be on juveniles and minority group members.

Since an extensive statistical analysis of the data will be made after the interviews are completed, there will be no attempt to duplicate such an analysis for this presentation. However, some trends can already be discerned from the interviews, and we will outline them briefly in the general context of the study design.

Preferred Targets*

Over 50 percent of the interviewees ranked both single family house neighborhoods as similar to where they worked. They worked there because they were affluent neighborhoods; the houses were relatively isolated, and there was consequently less risk of being noticed.

Forty percent of the interviewees selected the multi-family wooden frame house as similar. They worked in that neighborhood because there were things worth taking and the houses were old and easy to get into. On the other hand, several people said they would never work there for reasons such as "too many nosy neighbors" and, "Don't even like driving down those streets."

Twenty-eight percent rated the middle income apartment building as similar. They worked there because the buildings are again old and easy to get into, and there was a transient population, so strangers were not conspicuous. However, most people said there was little of value there. The luxury apartment building was rated by only 10 percent as similar to the type of area where they normally worked. Although everyone thought that many wealthy people lived there, most thought it would be too risky to work in with a doorman, alarms, and no easy escape route.

No obvious pattern has emerged on how the interviewee selects a particular house in his preferred neighborhood and what, if any, structural, locational and other external features he considers. Answers are extremely varied. Some prefer corner houses; others, houses in the

---

*There may well be a shift in preferred neighborhoods as we increase the number of minority groups and juveniles interviewed.

middle of the block. Some avoid a house on a busy street, others choose it. Good lighting, if the interviewee works at night, is sometimes avoided. Most interviewees prefer a house that does not have another house opposite it, or on either side. Most prefer houses with fences or hedges, since they provide cover. A few walk around the neighborhood to "look for the house that stands out, in really good condition, the lawn really cared for, paint, tv antennas." But most do not.

What most interviewees do is look for signs that a house is unoccupied.

Deterrents

The greatest deterrent is people. Only two interviewees said they would enter a residence if they knew someone was inside. Burglar alarms are also a deterrent. Over half the interviewees said they would not break into a place if they knew it was bugged, particularly if it has a silent alarm. Most will leave immediately if they think they have triggered a silent alarm.

To a few the fact that there is a burglar alarm is a challenge. To others it is a positive sign that there is something worth taking in the residence, and that much more worth a try. Almost everyone says that burglar alarm stickers do not deter them. They have encountered too many fakes.

Dogs are also a deterrent, particularly large "biting" dogs. About a third of the interviewees say they will go elsewhere. The rest deal with dogs in various ways from pepper or poisoned hamburger to mace.

Good outside lighting for those who work at night is a deterrent. Lights on or a TV or radio playing inside the house will deter some but not others from checking further to see if the house is unoccupied.

Regular police or security patrols do not seem a formidable deterrent.

Few admit to encountering many locks that have defeated them. When they do meet one, they will try a window if they can.

Method of Entry

Overall, 49 percent usually entered through windows, 37 percent

usually entered through doors, and 14 percent did both equally. The methods employed were generally crude, such as prying the door with a screwdriver.

Method of Operating

The extent of planning depends on the speed and regularity with which money is required. The majority of interviewees want money quickly. Planning to them consists of driving or walking through a neighborhood, watching people leave in the morning, or seeing where there are no lights at night, ringing the doorbell and, if no one answers, breaking in. Some may find the person's name from the mail box and telephone him. A few do considerably more planning and watch the house for several weeks "to learn the habits of the family," but that is rare.

Very few carry weapons. Only two said they usually carry guns. Some are afraid they might use a weapon if they were surprised. A typical comment was "Kill a man for a color TV, no way." Also the difference in penalty is a deterrent. "If I'm caught in the house, it's 6 months, with a gun, it's 6 years." A few carry a knife, one carries a mace gun.

Half those interviewed usually operate during the day. Most of the rest work in the evening between 6 and 11 p.m. Very few work later than that. A majority wear gloves. They are mainly looking for color TV's, stereos, radios, tapes, cash-goods for which there is a constant and ready market.

The time they stay varies according to the size and type of residence -- the norm is around 20 minutes. The usual way out is through the front door. In an "emergency," they will leave any way they can, possibly through a window, which is one reason why first floor apartments are preferred. An emergency could be triggering a burglar alarm, finding someone already inside, or the police coming. In all these cases, they leave rapidly, avoiding direct confrontation if possible.

After leaving the neighborhood almost everyone gets rid of the score immediately. There seems an abundant number of people, "so-called respectable citizens," ready to receive it. Most people have at least one fence, often several, with whom they normally deal. Interviewees say "after hours joints," "bars," and gas stations are typical places to which they bring the goods. No one leaves the goods before being paid.

Reasons for Breaking and Entering

Over half the interviewees used a sizeable proportion of the
money they stole to support drug habits. The cost of the habits
varied from $50 a week to $200-300 a day. Most were heroin addicts,
some used amphetamines. Others used the money to buy clothes or
alcohol, to "lead the good life," to save, and in a few cases to
support a family. The average score varied from $100-200, with an
outside range of $24-$3,000. The number of hits varied, depending
directly on the amount of money needed, from one or two a month to
three or four a day for those with larger drug habits. Forty-eight of the 50
people interviewed said they would not steal if they had enough money
to cover their needs.

Patterns of Criminal Activity

Interviewees as a group favor working in several types of neighborhoods
both residential and non-residential. Many individuals are still
working in the same type neighborhoods where they began their burglary
careers.

Most interviewees have also engaged in, and, in several cases,
been convicted of, other crimes in addition to burglary. Auto theft,
assault, armed robbery, and possession and sale of narcotics are those
most often mentioned. But in general, interviewees have concentrated
on breaking and entering because they say it is easy, profitable,
there is less chance of being caught, and the penalties are less than
for most other criminal activities.

If the interviewees' present targets hardened, they say they would
move to other targets, to old houses if new houses became more difficult,
to houses if apartments became more difficult, to offices and stores if
residences became more difficult. So far, interviewees seem more prepared
to change their target than their type of criminal activity.

43

Building Security.   Comments by: Hollis DeVines, Director of Schlage
                                    Security Institute, Schlage Lock Company

        I would first like to talk about a security program we have been
running since 1968 along with the Chief of Police in Stockton, California.
Here is how it operates:

        People who wanted their homes inspected called a telephone number
which was publicized by all media. Their names were entered on forms
which were turned over to the police department. The beat officer made
the home inspection and rated the home "good," "fair," or "poor" as
to security, on these forms. The owner returned the forms to the police
department. For those people who wished to do something about securing
their homes, a follow-up inspection with recommendations for improvement
was made by a locksmith --- and the form was completed.

        In the first week, 71 homes showed a poor security rating. It was
almost unbelievable that possibly one in ten would make corrections.
However --- out of those 71 homes, 57 residents made corrections.

        We kept track of per-house correction costs. The average cost was
$178.75 per house, which drove home the fact that when "John Q. Public"
is told what he can do to improve security, he will do it, if he has
good information.

        By the end of the month, there was a drop in burglaries of 38 percent.
The rate stayed down fairly well for four months, and then it started to
creep back up again. Apathy had crept in.

        It was now important that people became aware of and started to use
good locks, alarms, and other devices. At the end of the first week,
however, we began getting telephone calls from neighboring cities saying,
"What are you doing up there in Stockton? Your crime is coming down here."

        Just what does the criminal do if protection makes his crime too
difficult? A program in San Jose against shoplifting is a good example.
Here they succeeded wonderfully in practically knocking shoplifting off the
map. But then they began picking up the burglars, and they turned out
to be the former shoplifters!

We have covered a lot of security developments so far in our discussions. I would like now to discuss a little of what we did not cover. When one starts to talk about building security, it seems there are about as many solutions as there are buildings. There are so many variables, according to where the building is located, its physical design, its contents, and, if it has alarms, will the police respond and how soon.

With all of these variables, you really do not know where to start. Of course, if you are building a new building, the start is right with the architectural design. Unauthorized intrusion to the premises should be made difficult and as uncertain for the would-be criminal as possible. The walls, bars, grills, windows with burglary-resistant glass --- all of these are needed to defeat the intruder. Of course, many burglars can beat these security measures. In fact, given enough time, some burglars would take Fort Knox.

I would next like to refer to detection devices. Perhaps in your police work, you have had people call and ask you when somebody was going to cut off that bell. "What bell?" "The one in the back that has been ringing for two hours."

Local alarms go off so often that people do not pay much attention to them anymore. They do not know if an alarm has been triggered by a burglar or by the teenager who has forgotten to turn it off when he arrived home.

I know of only one case where detection comes first and deterrence is secondary. If you have a good dog, he detects the burglar; he communicates his detection by barking and he deters crime by keeping the burglar out.

In selecting hardware, a security consultant should be called --- that is, a consultant who has credentials to prove his ability. . .I see too many "security consultants" springing up suddenly, and many of them do not seem to know what they are doing. When an architect designs a building, security measures should be considered at the very beginning - and he always engages the services of other engineers. These men have proved their efficiency, and I feel a security consultant should qualify in the same category.

Some security problems get to be quite monumental, and there is a need for a person who keeps abreast of what items are on the market. Also, he must have a good knowledge of the criminal and the way the criminal operates. This is the man I am referring to as the "security consultant."

On standards, it might possibly come about that the government would become the catalyst to bring together the various people in industry to establish a set of security standards. I know the Associated Locksmiths of America are working on them, and so are the American Society for Industrial Security and the Security Equipment Manufacturers Association. I guess I could list some 50 groups that are perhaps doing this. And they are all striving to accomplish the same thing -- but each in its own way!

Many buildings can be secured today and many more should. We have proved it in Oakland. There was a drop in commercial burglary figures when Oakland put its ordinance into effect, but residential burglaries shot way up because, again, we displaced the criminal from the commercial to the residential area.

Records were kept as to how attempted burglaries were thwarted. It was found that in one year, 1967, alarms prevented 95 break-ins: 40 with silent alarms, and 55 with audible alarms. But there were 159 thwarted burglaries because of physical deterrence.

I feel that you must build traps, and you must weigh the amount of security that you can build into a trap. I know of one building that was being plagued with burglaries. They tried all sorts of physical deterrents. The targets were expensive furs and the building was in an isolated area, and it took the police 15 minutes to respond to the alarms.

Finally, we put in traps. We deliberately left a couple of windows open that might be the "enticing area;" they went to dressing rooms. We hooked up the alarm to this area, but left photoelectric cells out on the floor area. These were connected to nothing. As we planned it, the burglars went through the window, and, of course, the minute they opened the dressing room doors to go into the other area, they tripped the silent alarm. To them all the other devices in the outer room seemed to be in operation but they were not connected. So we can imagine how careful they were not to trip the "unconnected" alarms as they lifted things over and back and forth.

The alarms that caught them were the simple ones on the doors of the dressing rooms. Three times apprehensions were made, even with the 15-minute police response time. But suddenly this trap stopped the burglaries.

Again, your locksmith today is a very important source for the statistics of burglaries. He is the man who is usually called for repairs after there has been a burglary. Also, locksmiths are called to make repairs following attempted break-ins in three times as many places as those reported on police records.

A glazier is another good man to keep in mind, if you want to find out if burglaries are taking place. He is the person who is called to replace windows. And, again, the figures are running about the same.

One must start with the very simple thought in mind of what we are trying to accomplish. . .The need "to build a little time." The alarm must come into the picture, particularly in larger buildings. . .Then it is possible to secure an area to prevent reasonable attempts which will be made on it. Alarms will give some time for police response, but also we need to get people who understand security into this area. There are too few at the present time who are truly qualified. I feel that something must be done to develop studies in this area. For a starter --- something in those areas where work is already underway in dropping the burglary rate - both commercial and residential.

Building Security Codes and Ordinances. Address by: Hollis DeVines,
                                          Director of Schlage Security Institute,
                                          Schlage Lock Company

     This seminar was dedicated to the late Sergeant Kearns of the
Oakland Police Department. I would like to discuss his work on
building security codes.

     In 1963, the Oakland Police Department formed the Security Section,
with Sergeant Kearns in charge. At that time, residential and commercial
burglary were rising at the same rate, about 15 percent a year. The
commercial ordinance was passed that year, and it became law in June, 1964.
Immediately, the commercial burglary rate dropped to a 3.4 percent rise,
and to a 2.3 percent rise the next year. Later, it flattened out.

     The residential burglary rate, on the other hand, shot up to a 95 percent
rise. This pointed out very clearly that the criminal had moved from
commercial burglary to residential burglary.

     In 1967, a group of studies was made to determine and ascertain
how well the ordinance had worked. The figures showed that the police
department had contacted 3,692 businesses in the three-and-a-half-year
period that the ordinance had been in effect. Of these, 3,122 companies
had applied the security measures suggested by the Security Section:
666 had installed alarm systems and 1,948 had installed physical security
devices. The remainder took whatever actions were necessary to comply
with the ordinance and to meet their particular problems. There were
534 businesses that were not in violation of the ordinance, and did not
take any action, while only 36 were in violation after three-and-a half
years. (These buildings were too dilapidated for practical repair.)

     Another survey was conducted to ascertain the crime experiences of
those businesses which did comply with the ordinance. The study revealed
that 59 companies had experienced a 91.8 percent decrease in burglary during
the five-year period, 1963 to 1968.

     Now other cities began to pass modifications of this code. I think
Alexandria was the first. These codes varied very little. A few more
cities passed ordinances in 1968.

     In 1969, Indianapolis, one of the bigger cities, passed a code, but
they experienced some problems. They had trouble with the builders. The
code has never been enforced, but it is still in existence. They are
still fighting the battle to enforce it. Included were single family dwellings
the private dwelling, and nobody was contested these yet.

Montgomery County has also passed a code. They were one of the first to make it retroactive, particularly on motels, hotels, and multi-family dwellings. All new construction was to comply with this code, and owners of existing buildings were allowed one year to make the necessary repairs or corrections.

Minneapolis then followed with a retroactive code, again giving one year for owners of existing buildings to comply. About this time two more cities in California passed emergency codes, rather simple codes that included the single family dwelling.

The Los Angeles County Sheriff's Department became interested, and they decided to draft an ordinance to take care of the 14 areas in the Los Angeles basin that contracted for the sheriff's patrolling services. Their ordinance was somewhat more lengthy and was built more on performance, rather than on the type of hardware used. For example, the code states that sliding doors must resist a force of 800 pounds applied in any direction. The doors had to be locked with a key and held secure. This code is now in effect and seems to be doing quite well.

At the end of 1967, Sergeant Kearns then managed to get the fire marshal, representatives from industry, and eight of the major insurance companies together. Their meetings were called by the Oakland Police Department and chaired by Jack Kearns. It was decided that together they should put out a model code. Their conferences resulted in the production of the Model Burglary Security Code, which is very similar to the one LEAA has now. It represented two years' work, and perhaps it was the best that could be done at that particular time. It was an accomplishment.

Since then, that code was worked on and improved here at LEAA. A few things were changed in the performance area, as some new items are on the market that had not been available before. I think there have also been improvements on this code.

If codes are written, it is my firm feeling that they should be based on performance. Knowing about some of the things that are coming in the future, I would hate to see them precluded by a code. There should be some means for constant review of the code. A board or commission should be set up for this purpose.

49

A bill was signed in the early part of 1971 which gives the California Attorney General the power to set up regulations concerning business security on all buildings in the state. The preamble states the reasons for and the intent of the law:

"The Department of Justice shall encourage the use of technology in the prevention of crime, and to this end it shall develop for recommendation to the legislature and thereafter continually review building security standards. In carrying out these duties, the department shall consult with the Office of Architecture and Construction of the Department of General Services and shall, but is not limited to:

"(1) Develop standards for a statewide building security code designed to prevent or reduce the likelihood of burglary or robbery in any building, including new single family residences, apartments, public-owned buildings, and commercial industrial buildings.

"(2) Develop means for testing and certifying the equipment and the materials designed to prevent or reduce the likelihood of burglary or robbery in such buildings.

"In carrying out his duties pursuant to subdivision (A), the Department shall seek the advice of state fire marshals to insure that fire and life safety standards are not impaired, and shall consult with the Office of Architecture and Construction regarding state building standards."

Another thing that should be brought out is that in the field of alarms there have been ordinances written separately from security codes. They are a part of security and should be contained in the security code.

The telephone dialer has been one problem in particular, where there are a lot of false alarms. They have tied up emergency numbers in law enforcement agencies. So some states have immediately passed an ordinance outlawing them completely. Others like Los Angeles said that you cannot use them unless you get written permission from the owner of the telephone number you are calling. It is a way around, but it does not preclude the use of them.

Because of the false alarms and because of the installation of these particular types, alarm standards have come along a little faster perhaps, being set up to limit the ordinances that are being passed on alarms. Some of these are good and some of them are bad. Some of them have practically put the alarm industry out of business in Philadelphia and Washington.

My feeling is that security codes are excellent. They should be on a performance basis and should be carefully written so that they do not preclude any future items which might possibly be of service. The should be built in some way so that they can be constantly updated without going through city councils or government agencies, other than a particular board that is set up to review them.

Perhaps this should be done by industry itself, such as the National Fire Prevention Association's life safety code.

I would hope that the Federal government would be the agency that would bring industry together to accomplish this.

Building Security Codes and Ordinances.   Report by: Janelle Blanchard
                                           for the Project for Security Design,
                                           Institute of Planning and Housing,
                                           New York University

        We have been conducting a general survey of building code
provisions regarding security. We have found that there are a few
such provisions that have been enacted--but very few. There are
a few more that have been proposed at this point. There is the
California bill which was the first of its kind to authorize money-
$40,000, I believe-to their Justice Department to begin looking into
the building security code area. But so far very little has been
accomplished.

        What is especially interesting is that the four nationwide
model building codes which are used by a large number of muncipalities
throughout the country have no provisions at all relating to building
security --not even the simple requirement of a lock on the entrance
door of a dwelling.

        I think it is necessary to briefly consider why the situation
is as it is, and why there has been no consideration of security up
until this point. There seems to be an easy historical explanation.
The traditional aim of building codes was to protect the health and
safety of residents--requirements that pertained to structural
soundness, fire protection, and prevention of health hazards. Building
security--the protection of people and property in buildings--was not
encompassed within this health and safety concept. This was because
crime was not a pressing problem when most building codes were first
developed.

        In the present context, there is no doubt that protection of
persons and property against the criminal in residential buildings
is a necessary part of assuring the health and safety of building
residents. There are dual factors involved: first, the physical
safety of individuals, and second, the psychological health and well-
being which can only come from a reduction of the current pervasive
feeling of fear against crime.

        The major considerations regarding building security provisions
vary depending upon the kind of building involved. Considerations
are different for commercial buildings than for residential buildings.
With respect to commercial buildings, the orientation is mainly to
the protection of property during non-business hours--burglary prevention.
This area has been discussed already by other panelists.

52

When one considers residential buildings, the concern must be the protection of people as well as property, and at all hours of the day and night. Within the residential area there is the distinction between private dwellings, which are usually one and two family, and multiple dwellings. The private home is harder to secure because it has more entrances. Protection is mostly a question of hardware, which is something that I will not go into. There are other people here who are much better able to speak to the various types of hardware that can be used. Another important factor is that the private home owner is relatively free to install various hardware devices if he so chooses. If the crime problem seems important enough, he is in a position to protect himself and thereby reduce his fears.

The area that I would like to deal with mainly is that of multiple dwellings. I think building codes can play an especially important role in building security in this area for a number of reasons.

First of all, normally a landlord-tenant relationship rather than private ownership of a building is involved. Tenants are not as free to act to protect themselves in a building. They could perhaps put a better or an extra lock on their door, but for one thing, there is less incentive; it is not their building in which they are investing.

Also relevant is the ability of tenants to pay for security devices. Low-income tenants in both public housing and privately owned, low-income dwellings are the least able to invest in security hardware, and yet they are most apt to be living in buildings where crime is a major problem and where this hardware is necessary. High-income apartment buildings often already have door guards, intercom systems, and various other means of regulating building entrances. Therefore, their protection problems are solved without governmental mandate.

Another consideration which is unique to multiple dwellings is the question of the public areas of the building. With regard to these areas, individual tenants can exercise little, if any, control. Code requirements would assure tenants that landlords must provide protection over these areas to compensate for tenants' powerlessness.

When one talks about multiple dwellings, much more than commercial
or private residential buildings, the crime problem is nct limited to
burglary. The biggest problems--the ones that generate the greatest
fear--are crimes against people: robbery, assault, rape. The
traditional building code, although it does not encompass the security
area, is devoted basically to the protection of people more than of
property. In this light, the question of security in multiple dwellings
is perhaps the most appropriate building security problem to be met by
building codes. I do not mean to imply from this that security provisions
for commercial or for private residential dwellings are not also an
appropriate part of building codes, merely that multiple dwellings are
likely the best place to begin to tackle the building security problem.

There currently is some disagreement among people that are
considering security code provisions as to whether or not they are an
appropriate part of a building code, or whether they might possibly
be better placed in a separate code. Also related to this is the
question of who is to enforce these provisions: whether the job should
fall to the building department which has traditionally enforced
building code provisions, or whether the police department should
instead become more involved. Although in some cases police involvement
has hastened action in the building security field, I think that on
a long term basis it would be far more effective to include security
within building code provisions. Not only is it more efficient to have
all building inspections conducted by the same governmental unit, but
also installation and maintenance of building security measures should
come to be accepted as an integral aspect of building safety rather
than as a separate, police-related function.

The most common requirement in the various residential building
security codes that have been enacted so far is a lock on the door of
the individual unit within a multiple dwelling. This requirement
has been stated various ways, from just describing a type of lock to
specifying the amount of throw involved and various other hardware
considerations.

What is needed to meet the residential security problem in
multiple dwellings is not merely lock requirements for entrances but an
entire system of security provisions which can protect persons and
property and which cover not only individual units but the common areas
of the building as well. Such a system would include, for example, locks
on the common doors to the building, an intercom system from the main
door to the tenants' units which can control who enters the building,

design of hallways to prevent blind turns or hidden areas, the
strategic placement of mirrors so that tenants can see areas before
they enter them, and sufficient lighting in common areas. In
addition, of course, are the various hardware devices in which
other people invested. A comprehensive building security system
would greatly help to allay the fears of people that are so prevalent
now.

The fire problem which was mentioned before is relevant to the
concept of a security system. Many fire code provisions are to a
greater or a lesser degree deleterious to the maintenance of building
security. This is especially true in multiple dwellings. The
greater the requirement number of means of egress, the harder it is
to prevent intrusions by unwanted outsiders. This is not to suggest
that necessary fire protection should be neglected in any way. But
our preliminary investigations in the buildings of the New York City
Housing Authority indicate that the incidence of crime against persons
is much greater than the incidence of personal injury from fire. Even
though the balancing of fire and security provisions is certainly
necessary, such statistics indicate that the time has come to give
great consideration to security rather than no consideration, which
has been the case up until now.

Stairway areas, which are part of the common areas of a multiple
dwelling, are illustrative of the fire-security balancing issue. Locking
requirements for stairway doors might directly conflict with fire
requirements in that some fire codes require that doors to stairways
be openable from both directions, whereas it is much more effective
in security terms to have stairway doors locked one way so that people
can enter from the hallway into the stairwell but cannot return in the
other direction.

Much study is need to determine to what extent fire protection
requires current code provisions, or to what extent they can give way
to security considerations without sacrificing fire protection. The
main issue, again, is the fact that both security and fire provisions
in this context are looking to the protection of people. Therefore, it
is not just a people versus property balance. By emphasizing this
overriding people-oriented concern, those traditionally involved with
fire protection should be more willing to embrace security concerns as
well.

To complete an examination of possible security code provisions, it is necessary to consider what security measures are appropriate to be put into a building code. The fact that different provisions are necessary for commercial buildings, individual residences, and multiple dwellings should not be any bar. The few current codes that cover all of these areas merely have separate sections for the separate types of buildings.

The four basic nationwide codes that I mentioned before have provisions which have selective applicability--which can be enacted in certain areas when necessary and not in other areas. This is because some building construction considerations differ in different parts of the country. For example, in California there are earthquake problems which don't exist in other parts of the country. In other areas there are hurricanes and other weather variations. Thus, it is not a problem at all to put something into a model code which will not apply over the entire country but which is available so that a particular municipality, if it adopts a model code, can select the parts that are applicable to its needs.

In establishing a model security code, a very important consideration is that of uniformity. As building construction becomes more industrialized--the current modular building trend-- it becomes very important for builders to be able to develop a building design which can be marketed throughout a wide area. The need for wide marketability is hampered by the variation of local building codes within a possible marketing region, for it is often difficult to know, let alone satisfy, all the requirements which might be involved.

In considering a new subject matter area which is still largely untouched by building codes, a goal should be to encourage building security provisions on a uniform basis and thus avoid the diversity problem which already plagues building codes. A well-written model code is a way in which to promote the fastest possible acceptance of building security provisions and at the same time to achieve maximum uniformity. Such a code should not only be made available for adoption by local jurisdictions but should also be presented to the four established model code groups in the hope of gaining their acceptance. The magnitude of the current crime problem in residential buildings calls for fast action.

Small Business Security
Address by: Verne A. Bunn, Deputy Chief, Procurement and Management
Assistance, Region VII, Kansas City, Missouri,
Small Business Administration

For those of you who might not be quite familiar with the role
played by the Small Business Administration: very briefly, it is
to provide financial and management assistance to small firms of all
kinds and types.

There has never been anything said in our mandate about crime
in business. On the other hand, from our standpoint it represents a
matter of business management and we feel (at least I do) a sense of
responsibility to try to do something about it. In its simplest
terms, my job is to help small businesses managerially. I try to
make no distinction as to what represents problems of management
insofar as they are designed to assist somehow the small business
community.

Although there have never been any statistics developed to
authenticate it, there is strong evidence to suggest that many of the
causes of business failure are strongly attributable to crime. The
kind of crime I am talking about, here, is not concerned with what has
been discussed to a large extent, that is, trying to keep the intruder
out. We are equally concerned with trying to keep the individual who
is trying to get inside the premises from getting in to commit
burglary. So, we are concerned with both internal and external security
in business.

I will quote you some figures a little later on that I think
will tend to reflect the awesomeness of this problem. We are not
only concerned with robbery and burglary, but we are also concerned
with the problem of the integrity of employees and with the fact that
most businesses -- and particularly the marketing kind of enterprise,
and retail and service store -- are vulnerable to just about every
kind of crime against property that you could imagine. Many of which
are not protectable in the sense that we talked about here.

I am not a research analyst. I am not a criminologist. I am
simply an individual who sees a problem that has been growing for
years in the small business community without a great deal of effort
being applied, no matter what the intent might be, to assist the
small businessman somehow, if not by stopping the problem, then by
at least giving him some guidelines that he can use.

We do not talk about crime prevention. My approach may be a little different than yours, because I do not think prevention is anything we can really discuss in the area we are talking about. We cannot prevent it. We are primarily concerned with crime control through those types of things that would help the small businessman somehow do a little better job with what he has got. We help in this in terms of training. This is one way we feel that we can generate at least some reasonable degree of community involvement.

Within the past three years, I have personally taken part in roughly sixty-two training programs. I estimate that we have been in contact with something in excess of 5,000 business people.

Most of these are owners and managers of small local independent businesses.

We are not trying to sell them a large bill of goods on security techniques. We are simply trying to acquaint the individual with the nature of the problem that he faces and hopefully generate some degree of motivation on his part so that he will take action by himself. I certainly do not have the time to engage in research or much in the way of follow up. All we can do is try to implant the desire in the individual's mind to improve his operation, give him some guidelines to go on, offer anything in the way of additional assistance, tie him in with his local law enforcement department and hope for the best.

It is not a very good way, but it is all we have got to work with. And perhaps in the long run if enough of this is done, it can make some advances.

So far this year, beginning in September, I have fourteen such programs already scheduled. I have no idea how many more we will be asked to conduct because problems of this type become more common place as we get into the latter part of the selling year. This is especially true in retail businesses.

I suspect over the years I have investigated the premises of several hundred small businesses, retail stores, manufacturing plants, simply from a rather eyeball point of view of what can be done about security.

The unfortunate part of business crime is, we have so little to go on in terms of quantitative information. Most of the crimes, of course, that have happened, we do not know anything about. We can only estimate.

Because of this, four years ago the Small Business Administration, at the request of the Senate, was asked to conduct a year's study on the economic impact of crime in business. Because I had been involved in this from a field point of view for a year or two, I was asked to take part in that study of crime. It was a rather primitive effort.

There is certainly some question to the credibility of this study simply because we had to do it with what resources we had on hand and a very limited budget.

It was a judgment study. All we could do was to have business people who really did not know the extent of the impact of crime on their operations, give at least some indication as to the nature of it.

I will only give just one or two instances of what we found out through that study. It was estimated that for that particular year, the impact of crime on business amounted to something in the nature of three billion dollars, which broke down this way: Burglary at about $958 million, vandalism at $813 million, shoplifting at $504 million, employee theft at $381 million, fraudulent checks at $316 million, and robbery at the very bottom at $77 million.

I feel now as I felt when the study was published: it was a gross underestimate of the magnitude of the problem.

Number one, most crimes in business go unnoticed and unreported. If we are talking about robbery or burglary, where the law enforcement agency is brought into it, and where records are maintained then we have some measure of its nature. But most other kinds of crimes -- employee pilferage, fraudulent checks, vandalism, shoplifting, crimes of those types -- are seldom if ever caught in the process or reported because merchants have a rather unique attitude towards this kind of endeavor.

In the second place, most merchants are to a very large extent unwilling to admit to their losses. If, as a researcher, I were to go into a typical retail store and ask them what has been their experience in crimes of certain types, I could not really be sure in my own mind if they are going to give me valuable information. Maybe this is one of the problems of the independent small businessman. He has difficulty in admitting to the internal weakness of his operation.

On the other hand, most businesses are unwilling to take formal legal action any way. It is a common practice for a retail or other small business, even in dealing with law enforcement people, to want to take the easy way out -- they do not want to get involved in court cases because of the time and the costs. They do not want to get involved period. All they want is their money or their merchandise back with the least amount of effort on their part.

The Senate-SBA study has been widely accepted and widely quoted because at that point at least it was an endeavor to give some dimension to the nature of the crime. The most important part of it was that it did show trends.

It tended to endorse certain things we felt were true, not so much the figures themselves, but the nature of the crimes.

It might be well if I were to identify for you what we call a small business because I think there may be some confusion in people's minds, at least from our agency standpoint what we are talking about.

Small or large I guess depends on your point of view. For practical purposes, a retail service business which does less than a million dollars a year by our standards is termed a small operation; for wholesale businesses, five million dollars or less. For a manu-facturing type of enterprise, we change the denomination and refer to them in terms of employees, two hundred and fifty employees or less.

Now, by those terms, about 95% of all businesses are small, in actual numbers of units. So while their impact perhaps might be less than we might consider, based on their number only, they do represent a rather significant impact on our economy.

This year, the Department of Commerce, for reasons I don't exactly understand, decided to do a separate study on their own. It was not original research; it was simply a compilation of work done earlier by us and some others, perhaps in an attempt to refocus attention on the growing problem of crime in industry.

I will cite just some of the general aspects of it because like the earlier study, I cannot authenticate it. I cannot be sure, nor can any one else, about the reliability of information of this type drawn from other sources, but at least it does give us another indication.

Their report suggests that the total cost of crime in business is sixteen billion dollars. That is roughly five times greater than it was when we did our study. And even if you account for normal increases in crime, certainly it has to be three or four times greater, nevertheless. We broke ours down by type of crime, they break it down by type of industry: retail business, 4.8 billion dollars; manufacturing, 1.8 billion dollars; wholesaling, 1.4 billion dollars; service enterprises, hotels, motels, and educational institutions approximately, two billion dollars.

The transportation industry, generally from dockside to vehicular hijacking, lost about 1.5 billion dollars. Security protection lost about 3.3 billion dollars and this of course includes all categories; hardware as well as the employment of professional protective service, internally and externally.

And other aspects of industry, about 1.2 billion dollars, which ranges over the entire category from security thefts, embezzlements and whatever.

I have talked to other people in this field and to police department individuals and others. They have suggested that even these figures are underestimated by probably at least twenty percent.

What I am suggesting to you is that the impact on crime in business, as we define it here, probably runs as high as twenty-five billion dollars, if we consider crime and the attempt to protect ourselves against it. It has been suggested that in a certain type of enterprise, the cost of crimes runs as high as five percent of the gross revenue of that enterprise. In the retail field, it is suggested that approximately two percent of the cost of merchandise consumers buy is attributed to the crime factor alone.

It is suggested that the cost of crimes against property during the ten year period, 1960-1970, increased one hundred eighty percent, this includes both residential and business because there is no real way to separate them.

I am more concerned of course with the impact of this on the small business community, and there is no doubt that the small businessman suffers to a much greater extent. For one thing he is, in particular, in the retail kind of operation. He is the victim of a much greater variety of crimes.

Let me cite an instance. One of the most important crime factors in retailing is shoplifting. This is something that is common to this kind of enterprise. You do not find it in manufacturing plants. You do not find it appreciably in service institutions. There is some in the wholesaling operation, but shoplifting is a product of the relationship of the general buying public to that institution. And the closer the proximity, of course the greater the magnitude of the problem.

Based on the study done earlier by SBA -- and I can only go on the figures that were the result if we take the impact of crime at an index of one hundred -- its impact on the small businessman is 3.2 times greater.

What I would like to see in the way of research, would be some indication as to the extent to which crimes against businesses are related to business failure. I have no way of knowing.

Dun and Bradstreet does not break it out this way at all. They have a separate category that they call "others" that is difficult to define, but a factor that we cannot really set out.

Perhaps the anomaly of the whole situation is that the cost of crime is the cost of doing business. And are we making quite certain that of other measurable costs in the process of pricing merchandise and realizing a profit, they have equated crime the same way. If the cost of crime is 5%, then like it or not, they have to increase their prices by 5% to come out with the same general profit margin.

As I oftentimes tell people: "You may not be very strongly motivated as a business person towards this matter, but look at it in terms of the impact that you and I are paying for."

And somehow or other it has to come out of there. The businessman is not going to sit still for it, so he has to somehow bury it in the prices of the merchandise that you and I pay for.

Let me speak just briefly to the ins and outs of problems in trying to control crime in small business. First and foremost is a lack of conviction and motivation. Now, we can talk about the importance of law enforcement agencies, et cetera, in the general public domain. In the private sector, in the business enterprise system, this is a management responsibility.

They may look to their police, of course, in a very proper way at certain times. But it is a management problem.

Another matter, of course, is the lack of the effect of crime on their business. They simply do not know what is going on.

I have over the years investigated the laws in all fifty states on what we commonly refer to as the Merchants Protective Act. You very commonly hear retail stores say that they do not want to do anything about it for fear of the suit for false arrest. Roughly forty of the fifty states at this point in time have something in the way of a law that provides for the merchant's protection against this type of a matter.

The laws vary considerably of course from state to state, but the general intent is there in which it says that you as a businessman or your associates and agents have the authority to detain an individual in a reasonable manner for a reasonable period of time if you have reason to believe that the individual has taken something of value without the intention of paying for it. And you are not subject to false arrest.

Out of the 5,000 people that I have talked to, not more than one percent are even aware of the existence of those laws in their states that give them this right. They have never read it, they did not even know it existed.

Another very serious problem, and this one we have got into, is that there is little or no information on training for the small businessman. This certainly is not to criticize the law enforcement agencies. Their hands are well filled with other problems.

This is a management responsibility. It is the need of the individual businessman and his employees to know what to do. Unfortunately, he does not know what to do so he does what you expect him to do and this is absolutely nothing. And the problem gets progressively worse.

We try to become a disseminator of information and a motivator of individuals; singly and collectively, we need to try to do something about the problems of this type.

Another problem is the spread of these types of crime into the smaller community, whether it is a satellite community, such as would be true in a suburban area, or whether it is simply a modern version of the market center, let's say, in a predominantly rural area. Problems of this type are no longer a problem of large cities per se. Crime is an insidious vice that has worked its way down to the smallest enterprise in the smallest community.

The difficulty of course is that security is virtually non-existent in small towns. Now, I spend a lot of time in small communities in the work that I do. I have learned to accept as a basic premise that if I run into anything that represents minimal security, it is a rarity because most of them really do not know what to do.

I would also like to make a special case where the business is located in a high crime area. It is mystifying to me that in our enterprise, the Small Business Administration, that we call the economic opportunity loan program, to engage in a business enterprise where almost invariably that enterprise will be located in an area of extreme high crime incidence.

The individual for all practical purposes is unable to obtain anything in the way of adequate insurance for burglary or robbery. And even there this is not great because most of his problems are theft that do not fall in that category anyhow. They result from employee pilferage and theft from the people in that community.

I have advocated for a long time in our agency that before an individual is considered eligible for a loan, that he must be able to demonstrate minimum security on the premise. So far I have had no takers. Maybe something could be done here to motivate our agency properly in that respect.

I am not talking about sophisticated devices. But the very weaknesses that have been discussed here are almost an absolute fact of existence in most businesses that one goes into. And yet here we are attempting to encourage individuals to go into business in a situation which almost predicts failure. Lord knows a guy has a tough enough time just being a solid business manager, without being confronted by these kinds of problems over which he has little control and very little knowledge. And I think that this is something that needs to be done.

Let me speak just briefly to the inadequacy of the law enforcement agencies to cope with the problem. Let me also say this is not intended to be a criticism.

Surely when there are thousands and thousands of small businesses in every major metropolitan area, and with the awesome weight of responsibility placed on the Metropolitan Police Department for all kinds of situations, it hardly seems fair to criticize the law enforcement agency for inadequate protection, if you will. For one thing it is not their problem -- it is the businessman's problem. This is as true in urban areas as it is in suburban areas and rural areas.

I have already mentioned some of the reasons of course why this is true. The small businessman generally is unwilling to press formal charges. He wants the police department to do it for him, or the prosecuting attorney.

He is unwilling to take bad check cases to court. All he wants is for the prosecuting attorney's office to be a collection agency for him.

The same thing is true with merchandise that has been stolen and recovered. Yet the demands placed on the law enforcement agencies and prosecuting attorney offices is totally unreasonable in most cases. The guy just simply does not do what he is supposed to, and looks to others as a means of protection.

For all practical purposes, a law enforcement agency can not get involved anyway, until such times as a formal request is made or a complaint is signed.

64

It used to be, in the smaller community, that the cop on the street went around at night with a flashlight and shook every door. It might have been a good idea in times past. But we are beyond that now -- especially in the major metropolitan areas.

We might look at other devices perhaps. But as far as a law enforcement agency is concerned this is not their responsibility. But it is their job to assist. They should be there to consult and advise. This is their kind of responsibility. But they are not to determine what must be done, on a business by business basis.

The inadequacy of records and systems of records in business is another major problem. Most businesses, even if they are burglarized, do not really know what is missing. Most of them can not ascertain what kind of shortage has taken place no matter what their nature. They know their merchandise but they do not know what is missing.

I have no idea in how many cases individuals have come to me and said: "I don't understand it. I'm selling more merchandise but making less profits." "And yet my costs don't seem to be out of line." And I can, almost by intuition, suggest that the fellow probably is losing merchandise through theft. But he really does not know it. This is not only true for retail businesses and service institutions, but also for the manufacturing plant, the wholesaler, whoever.

Most small businesses use little, if any security -- professional security particularly. For another, he may have a few security hardware items such as, anti-theft mirrors, for example, or a fake television camera that is quickly spotted and known by good theives anyway. They read the trade journals just as well as anybody else I assure you.

Small businesses do not generally have an internal security system. Large businesses employ their own people. They have a director of security and have trained individuals permanently employed to deal with matters of this type.

The small firm cannot and does not have these resources. He has to depend on incidental means. He turns, of course, to physical items as much as possible. And most of these are inadequately used.

Most anti-theft mirrors that I have looked at in operation are not placed right and do not do an adequate job. The small business has a false sense of security in terms of their actual use because they are ineffective.

This is our task -- to create a sense of public involvement. To get business people to singly and collectively try to do something with the problem. We do it through publications. I've listed about six or seven of the standard publications that SBA makes available. We give those out by the tens of thousands.

We offer training sessions to individuals and to companies. If a large enterprise wants a hundred or two hundred or five hundred of this publication, we will make it available.

We have a series of films that have been developed by the small business administration that zero in on certain types of crimes. We do this of course primarily through our training and education, to create a sense of awareness, to bring people together, to give them the chance to ask questions if they will, but invariably they will not, unfortunately.

This is our endeaver. That is an edict on the part of the small business administration, self-induced -- to try to get into the mainstream of the small business economy and cause something to happen.

I can only respond to it in the sense that we are asked continuously to conduct programs of this type. I sometimes have the feeling however that people come to us out of curiousity as much as a sense of urgency -- especially in some of the smaller communities -- but that is all right.

If out of fifty people that attend one of our programs, five of them find a way of tightening up their security, those are five that did not have it before we came into that town. And if the rest of them got a little enjoyment out of it, that is great because at least they have been made aware of the fact that we are concerned and trying to do something about it.

But certainly we are not alone in it -- merchants' associations, trade groups, and chambers of commerce contribute through their collective efforts.

We try to reach into other groups. I have a colored sign called "teenagers beware," which attempts to bring to the junior citizen an awareness of his responsibility and the futility of engaging in activities of this type.

We have conducted dozens and dozens of seminars, talk sessions, in high schools, before groups of boy scouts and girl scouts, through churches, through merchants' institutions and so forth -- to at least try to make the young people aware of their responsibility. I do not know how much good it does. I have never seen any research done on it.

But this again is a matter of total public involvement. The business-men have to subscribe to this. They have to agree to make it available through their own resources. It is a means to an end. And that is all I am really concerned with here.

Others of course do get involved in it: police departments; private security businesses, certainly, with their own special type of interest; educational institutions, either with their own students or most of the work that we do in our training program, done in co-sponsorship with educational institutions.

Some suggestions on our part as to what we think might be done to improve the level of security.

Number one on my list is the establishment of security building codes.

Number two; the availability of some effective low cost alarm systems.

Then there is the availability of security consultants in police departments. If I were a small businessman I would want someone to come in and investigate my premises from a security standpoint -- not just perimeter security, but internal layout security as well.

We need technical help. So does everyone else who is trying to assist the small businessman in the sense that I have defined it here, to try to somehow or other stem this problem.

Any suggestions you have, believe me, we will take back and try to see if we can not use them in our operation.

Identification of Personal Property.   Address by: Hollis DeVines, Director of
                                        Schlage Security Institute, Schlage
                                        Lock Company

        I am going to talk about identification of personal property -- or
"Operation Identification." First started in 1963, it was the idea of
the Chief of Police of Monterey Park, California. It operates with a
very simple device -- identification by driver's license number.

        In the State of California, your driver's license number stays with
you for life. This number assigned to you goes into a computer at the
Department of Motor Vehciles at Sacramento and is readily available to
law enforcement agencies for identification.

        Similarly, your car license can be quickly verified. For example,
should you break a traffic law and be spotted by a policemen, you will
probably drive another four or five blocks before he catches up to you.
In that brief period, he will pick up his mike and ask for a "make" on
your registration. . . .The dispatcher will run your tag number into
the computer and within 30 seconds the officer will be supplied with the
name of the owner of the car, his address, the make of the car, whether
there are any outstanding warrants, and other pertinent information.
This routine has helped to save many lives as the information could be:
"Stolen -- driver suspect is armed -- approach with caution."

        The speed of providing this type of information is, of course,
duplicated with the use of a driver's license. . . .In addition to
identifying a person, it now becomes an irrevocable means for
identifying personal property when engraved on household items of value.

        When first put into operation in Monterey Park, the Exchange Club
initiated the purchase of electric engravers, which they supplied to the
Police Department. In turn, this equipment was loaned to residents with
instructions for marking household items with driver's license numbers.
Then with the return of the engraver, each resident completed a record
form and was supplied with a decal to place on a window, stating that "all
items of value are identified and registered."

        I first met the Chief of Police of Monterey Park in 1968. At that
time, he had some 1,000 residents who had marked their property on a voluntary
basis, and he was particularly pleased that within a four-year period only
one burglary had been reported in the registered group.

To date, more than half of the 11,000 residents have marked their property. Those who have not complied have reported some 2100 burglaries. The registered group has reported only 23 burglaries. . . .In other words, "Operation Identification" has made the usually popular "haul" of a burglar "too hot to handle." No "fence" will take a piece of merchandise that is identifiable by means of electrically engraved numbers.

Burglars, generally, do not want the material that they take from your home for their own use. They expect to convert it to money -- maybe, in many cases, to support a drug habit. So it pays to "advertise" -- by means of a decal -- that you have identified and registered your property.

The second city to my knowledge to start a security program of this type is Ventura, California. I provided the Chief of Police with the details of putting the project into operation, and, again, the results were the same -- a tremendous drop in burglaries. . . .Today, there are one or more cities in 38 states that have implemented this program.

Throughout these many cities, there has been a tremendous drop in burglaries in the areas where residents have participated in "Operation Identification." Again -- the point is that the public is "participating;" this is an area in which the public can operate very effectively.

I know of several manufacturers of electric engraving tools that have started security programs of their own; one calls it "Operation Safeguard." Also, a number of locksmiths are marking articles of value for neighborhood residents.

I also know of security officers running private patrols who are engraving household items. . . .In the city where I live such a patrol will mark 10 articles for $10, and they charge 50 cents for each article thereafter.

Another innovation is a "warning seal" that can be attached to an article, worded as follows: "WARNING -- IDENTIFICATION: This property has been marked for ready identification of law enforcement officers." Should a burglar miss your engraved number on the chassis of your TV set, for example, he might not realize that it is identifiable until after he has stolen it. Then he will probably throw it over the hill and down into junk pile. However, if he sees the seal (to be placed in a fairly conspicuous position), he is reminded that "there is no point in stealing the set as he won't be able to get anything for it."

Actually, merchandise has been recovered and, occasionally, returned to the owners before they knew it was missing. . . .With an item such as jewlry -- or silverware, it is suggested that photographs be taken with a duplicate set for the police in the event that there is a loss.

Of course, the key to this program comes back to the cooperation of the public with the police. These successes show that when the public is made aware of a good security program it is generally willing. to cooperate.

Future Research Directions. Report by: Thomas Repetto, Associate Professor,
                               John Jay College of the City University of New York
                               and Urban Systems Research and Engineering, Inc.,
                               Institute-HUD Crime In and Around Residence
                               Study, Phase I

I would like to look at the crime picture from a rather broad and
maybe somewhat distant view, given the immediate concerns of the audience.
Future research directions should build on previous work done in order to
maintain a momentum and maximize investments LEAA has made. If we take as
the ultimate goal the reduction of crime, then, in this context, I think
we mean by crime the common stranger-to-stranger, predatory crimes whether
against persons or property.

In order to do this we have to reduce either desire, opportunity, or
both. If we were to attempt to look at crime in a metropolitan area and
make a strategic analysis, it could not be done. There is no agency that
I know of in a metropolitan area charged with the overall responsibility for
the control of crime. There are city governments, there are town governments,
there are state and local criminal justice planning agencies, and there are
police departments; but none encompasses an entire metropolitan area and
deals with the total crime control problem. This relates, to some extent,
to problems in our governmental organization, because city boundaries no
longer define coherent economic and social areas.

If we look at optimum crime prevention strategies, I would see them
as perhaps three-fold. The first is what might be termed the apprehension
maximizing strategy used by the police and by the criminal justice system--
police, courts, and corrections--in general. This strategy posits that
crime is deterred by the fear of apprehension. Many years ago it was
the fear of punishment, but today we argue that it is the certainty of
apprehension which deters crime.

Therefore, the police attempt to maximize something they call
omnipresence, that is, to project to the community the sense that the
police are around every corner, and that they may show up at any time.
The detective force attempts to aid in this by apprehending offenders
when crimes occur, thereby adding to the sense of certainty of
apprehension.

As we know, this strategy is presently applied in a very loose fashion and in very imprecise ways. For example, the police often lack information abcut crimes and much of their effort is directed toward non-criminal activities that are very important to the maintenance of public order, but it is not particularly designed to deal with crime.

In general, this strategy has minimal credibility among the offender population. For instance, it is likely that only one burglary in fifty or sixty results in an arrest. Furthermore, a good many of the people arrested are never prosecuted. A good many of those prosecuted are not convicted and many of those convicted are not incarcerated. Aside from this it is not certain to what extent apprehension and incarceration deter crime.

Taken on its own terms, the apprehension strategy does not appear to work. Indeed if it were to work more effectively the criminal justice system might become totally overloaded so that it could not function or would have to function at a virtually ludicrous level.

At present the criminal justice system avoids a breakdown largely by the process of plea bargaining, that is, bargaining with prosecuting authorities for lesser sentences in return for a plea of guilty. If the system became overloaded in some areas, e.g. an increase in arrests, plea bargaining would be carried out to such an extent that we would see ten day sentences for armed robbery--something totally out of all proportion to the magnitude of the offense. Therefore, maximizing the apprehension strategy in its present form probably would not be a productive approach.

A second broad strategy is what I call opportunity minimizing. We have spent a lot time talking about it at this conference. It includes target hardening, site inspection, liaison with builders, and design of model security codes. Also it includes such things as working with victims and citizen education. Industry has long operated on the premise that there are accident prone people. We have reasons to believe that there are crime prone individuals. These are individuals who, because of their carelessness or because of some deeper psychological motivation, are repeatedly victims of crime.

Opportunity minimizing would require a more accurate profile of criminal behavior. We have for example speculated to some extent on what motivates criminals and what deters criminals. How do criminals tend to attack a particular target? We know very little about the criminal population, today, in terms that are useful for the concerns we have discussed.

A third possible strategy is desire minimizing. Desire lessening would involve working with offenders. From a logical standpoint and looking at this from a systems approach, there a lot of crime targets available - millions of structures and two hundred million American citizens. Luckily, there are a lot fewer offenders. Therefore, it might be more productive to try to work with the smaller population instead of trying to safeguard every possible target.

Here we can concentrate on determining at what point offenders drop out. We could safely agree that if a typical burglar made forty thousand dollars a year in a legitimate occupation, he would not burglarize.

Some of the people we have interviewed in the residential crime project are skilled at not only burglary but other occupations. It is possible that some of these individuals, given a very small improvement to their life circumstances, might get out of the burglary business or out of the robbery business. There is probably also a psychological dropout point, where life is so satisfying to an individual that he would not engage in criminal behavior.

There are also a number of collateral problems that we have touched on such as the problem of crime displacement. Clearly, if we do an export-import analysis between neighborhoods, we find that some neighborhoods import crime and some neighborhoods export it. If our target hardening were not applied uniformly throughout the country overnight, the effect would be to export some crime to other neighborhoods.

We would also be engaging in risk transfer. Mr. Devine mentioned that when they hardened the commercial targets, attacks were transferred to residences. These are policy questions which the LEAA must address in terms of the larger goals of the United States government as to who is going to bear the risks in the society both in terms of persons and geography.

There is also the problem of functional change. It is possible that if burglary were made more difficult, burglars might switch to armed robbery or to home invasion, a very vicious type of crime which is always very upsetting to the community and to the individuals who are attacked. In our study we are tentatively satisfied that the run-of-the-mill burglars that we have encountered would not be inclined to switch to that category, but, from a policy standpoint, it is always something that we must be concerned with.

If we viewed crime lessening strategies from the metropolitan perspective, it would involve setting priorities and grouping strategies along the systems approach of the type that was brought into the Pentagon in the early 1960's.

For example, and this is pure conjecture, we might decide that apprehension strategies should be aimed at street crime, that is, the sort of socially dangerous conduct wherein people are attacked on the streets, which in turn causes the larger public to forego using the public ways to some extent. This is a much easier type of crime in which to maximize apprehension because: it does happen in the public ways, it clusters by time and area much more than other types of crime, the police resources can be manipulated, and we have certain technologies that are available to assist us in this problem. Therefore, we might very well be able to increase considerably apprehensions for street crimes.

Property crime, in contrast, is very difficult to combat with an apprehension strategy for the reasons we have discussed at this conference. This type crime might be handled through opportunity minimizing efforts.

The foregoing has been a general outline of the type of strategic approach we might follow. Within that sort of overall layout, we might stake out certain pieces for further work. We might, for instance, make some tactical approaches to specific aspects of these problems, perhaps via the route of demonstration projects.

As I inferred from our opportunity minimizing problem discussed in the last couple of days, I would think there are perhaps three main types of program areas. One I would call people-oriented - get out and improve community organization and citizen education, organize citizen patrol groups and citizen surveillance. A second is perhaps material oriented - stress the physical features of the dwelling, evaluate and install certain security hardware. And a third perhaps is what I term municipally oriented in that we would beef up police protection or street lighting and other services of local government. We might, for example, run a demonstration project on target hardening. There apparently have been some in the past, but they have been on a small scale and lack the data base that we are now in the process of developing.

An even smaller range of activity within this general approach would be to continue problem definition. We might, for example, take a full-scale look at the desire lessening problem. We might conduct large scale studies of the offender population. The offender population seems to be of great interest to many people, yet we really know very little about it.

This then seems to be, from the overview prespective, the general direction in which we might build on our present information.

INSTITUTE SEMINAR

APPENDIX A

LIST OF SPEAKERS WITH BACKGROUND SKETCHES

JOSEPH F. COATES, Program Manager, Exploratory Research and
                  Problem Assessment
                  Research Applications
                  National Science Foundation

        Mr. Coates is a Program Manager in the Office of Exploratory
Research and Problem Assessment at the National Science Foundation.
His job is to encourage and support scientific research relevant
to the problems of our society. Among his responsibilities is coordination
of projects relating to alternative futures and institutional innovation.
A particular concern is a program in telecommunications intended to explore
the development and consequences of alternative strategies for technical
and operational development in the telecommunications industry. Special
concerns are cable TV in urban areas, new towns, and the implications
for broad-band communications in the home. Mr. Coates' interest in the
future and telecommunications come together in another way. For the past
two years he has moderated a nationally distributed radio series on
society's alternative futures for The World Future Society.

        Mr. Coates received a Bachelor of Science degree in Chemistry
from the Polytechnic Institute of Brooklyn and a Master of Science
in Organic Chemistry from Pennsylvania State University. He did
additional graduate work in philosophy at the University of Pennsylvania.
He pursued his career in industrial organic chemistry for ten years with
a major petroleum company. Prior to joining the NSF in 1971, Mr. Coates
spent eight years as a senior staff member at the Institute for Defense
Analyses.

OSCAR NEWMAN, Director of the Institute of Planning and Housing
and Associate Professor of City Planning
New York University

Mr. Newman is both director of the Institute of Planning and Housing, and Associate Professor of City Planning at New York University. He also serves as an architectual and planning consultant to HUD, New York City Housing Authority, and Cleveland Metropolitan Housing Authority.

Currently, he is working on an LEAA grant concerning the "Design of Residential Environments to Improve Security"; he recently completed research on means for providing recreational and institutional facilities in Chicago (Park-Moll: Lawndale), and a "Design in Community Renewal Programs", for HUD.

Born in Montreal, Canada, Mr. Newman received his Bachelor of Architecture from McGill University in 1959. He has been a practicing architect and city planner with experience as project director of many planning and urban design programs. The last ten years he has been a professor of Architecture and City Planning.

Mr. Newman is the author of numerous books and articles; he now has two major books in preparation.

LEO GULINELLO, Director of Security and Internal Affairs,
Boston Housing Authority

   Mr. Gulinello is the Director of Security and Internal
Affairs for the Boston Housing Authority. He also serves as a
staff Lecturer for the National Association of Housing and
Redevelopment Officials (NAHRO). He is the co-founder and
legal officer of the Municipal Police Science Institute and a
member of the Massachusetts and Federal Bars. He has done
consultant work on Security Practices and Procedures in the
Boston Community and various other communities throughout
the country.

   Mr. Gulinello received the Bachelor of Arts and Doctor
of Jurisprudence from Boston University. He joined the Boston
Police Department in 1947 and served in all capacities involving
street duty, detective and office work. When the department was
reorganized, he was assigned to Planning and Research and
prepared statistical analyses and evaluation reports on Crime
Trends and Patterns in addition to the annual report of the
Police Commissioner. He was later assigned to the Mayor's office
as consultant on Crime and Civil Affairs.

RICHARD STEVENS, Technical Staff, Research Analysis Corporation,
          and the Institute's Burglary Prevention Study,
          Alexandria, Virginia

Mr. Stevens has been a member of the Technical Staff of the
Research Analysis Corporation since 1967. Currently, he is directing
a study in the Development of Standards for Burglary Prevention
(City of Alexandria, Virginia) and has recently completed an
analysis of Washington area crime, identifying the most significant
crime categories, and formulating research projects in crime
prevention to reduce their incidence. His recent experience with
RAC has been directed toward the system analysis of crime, crime
statistics, and the role of environment in crime, and particularly
with the development of complete systems for the protection of
dwellings.

Mr. Stevens has a Bachelor of Mechanical Engineering from
George Washington University and both the M.E.S. and the M.E.A.
from George Washington University. Prior to joining RAC, he was
with the Atlantic Research Corporation where, as Head Advanced
Systems Analysis and Design, he was involved with airborne
munitions systems. As a Project Manager, Systems Analysis and
Engineering Department in the American Machine and Foundry Company,
Mr. Stevens was responsible for systems analysis and design in a
widely diversified area.

Mr. Stevens is author of several publications in the field
of public safety.

THOMAS REPETTO, Associate Professor, John Jay College at the
              City University of New York; Urban Systems
              Research and Engineering, Inc.,
              Institute-HUD Crime In and Around Residence Study, Phase I

        Thomas A. Repetto is presently an associate professor of
criminal justice at the John Jay College of Criminal Justice of the
City University of New York. From 1952 to 1967 he was a member of
the Chicago police department rising from patrolman through sergeant,
lieutenant and captain to commander of detectives. His last assignment
was commander of the burglary section where he directed 350 detectives
and supervisory personnel. During his career he also served in the
patrol, traffic and juvenile divisions.

        Professor Repetto holds a B.A. degree in political science
and Masters and Doctoral degrees in public administration. From
1967 to 1970 he was Littauer Fellow at the John F. Kennedy School
of Government at Harvard University. In 1970 he received his
doctorate from that institution. His fields of study were, public
administration, public law, criminology, and American government.

        Professor Repetto has served as a research associate at the
MIT-Harvard Joint Center for Urban Studies and as a consultant or
advisor to various governmental and private organizations including
the LEAA, HUD, New England Governors Conference, City of Boston
and the Ford Foundation. He is the author of several papers as
well as longer studies on various aspects of the criminal justice
system.

HOLLIS L. DEVINES, Director of Schlage Security Institute,
            Schlage Lock Company

     Mr. DeVines is the Director of the Schlage Security Institute,
Schlage Lock Company in San Francisco. He is a member of the
International Association of Chiefs of Police; his services and
research provide information on "resources" for the crime prevention
committee of this organization. He is Western Vice President and
Board Member of Security Equipment Industry Association. He was
a member of the Police, Fire and Insurance Coordinating Committee
that developed the Oakland "Model Burglary Security Code". He is
a member of the American Society of Industrial Security; California
Locksmiths' Association, The Texas Locksmiths Association and the
Associated Locksmiths of America.

     A native of Connecticut, he received his education in
engineering at the University of Nebraska, later returning to
his home state as an Audio-Visual Engineer. He served in the
Research Division of the U. S. Army Air Force until 1945, and then
was a Consulting Engineer in Houston until he joined Schlage Lock
Co. in 1949.

     Mr. DeVines has been the recipient of many awards from
police departments, as well as the Gold Key Award in 1968 for
his outstanding contribution to public security and Man-of-the-
Year Award in 1966--both presented by the California Locksmiths'
Association. He has been active as a lecturer and consultant in
the field of security for the past ten years.

VERNE A. BUNN, Deputy Chief, Procurement and Management
Assistance, Region VII, Kansas City, Missouri
Small Business Administration

Mr. Bunn has been Deputy Chief of Procurement and Management
Assistance in Region VII, Kansas City, Missouri, of the Small
Business Administration, since 1966. His responsibilities
include management counseling and training activities for Kansas,
Missouri, Nebraska, and Iowa, and supervising Management Assistance
Officers in Wichita, Kansas City, Des Moines, Omaha, and St. Louis.
He personally conducts about 25 training programs a year on shoplifting,
employee pilferage, and fraudulent checks.

Mr. Bunn received a Bachelor of Science in Business Administration
from the University of Idaho, and a Master of Letters from the University
of Pittsburgh plus additional graduate studies. He assisted in the
direction of the SBA Crime Against Small Business Study in 1968 and helped
write the final report submitted to the U. S. Senate Select Committee
on Small Business. He assisted in the production of four films on
crime in business now used extensively in management training. For
two years, he was a research analyst with Midwest Research Institute in
Kansas City, conducting numerous economic research studies for government
and business. For ten years, he was Associate Professor of Business
Administration and Director, Center for Business Management Services,
Wichita State University.

Mr. Bunn is the author of "Buying and Selling a Small Business",
and other various articles and research reports.

84

APPENDIX B

INITIAL DRAFT

MINIMUM BUILDING SECURITY GUIDELINES

AND

COST ESTIMATES FOR THE SECURITY FEATURES

TABLE OF CONTENTS

NOTE: The security guidelines presented in this code represented, at the time of drafting, the best measures, at the lowest cost, **available to secure** residential and commercial property and safeguard public welfare against burglary. These are, the best available measures until such time as the National Institute develops standards for the security features referred to in the guidelines. Presently, the National Bureau of Standards is developing performance standards for doors and windows under the Institute's Equipment Systems Improvement Program. The language used is non-technical and should be easily understood by an owner, builder, or hardware dealer. In general, the guidelines were chosen not to conflict with local, state or federal laws, regulations, or codes dealing with the life-safety factors. In those instances where a guideline may conclict, the Exception sections (Section VII in Part 1., and Section VI in Part 2.), state that the security guidelines shall be superseded by these laws, regulations, and codes.

DRAFT

CODE: RULES AND REGULATIONS

PURPOSE:

The purpose of this Code is to provide minimum guidelines to safeguard property and public welfare by regulating and controlling the design, construction, and quality of material as related to the security of building and structures within a city and certain equipment specifically regulated herein.

SCOPE:

The provisions of this Code shall apply to all existing and future buildings or structures.

ALTERNATE MATERIALS AND METHODS OF CONSTRUCTION:

The provisions of this Code are not intended to prevent the use of any material or method of construction not specifically prescribed by this Code, provided any such alternate has been approved, nor is it the intention of this Code to exclude any sound method of structural design or analysis not specifically provided for in this Code. Structural design limitations given in this Code are to be used as a guide only, and exceptions thereto may be made if substantiated to the enforcing authority.

The enforcing authority may approve any such alternate provided he finds the proposed design is satisfactory and the material, method or work offered is, for the purpose intended, at least equivalent to that prescribed in this Code in quality, strength, effectiveness, burglary resistance, durability and safety.

Tests may be required as proof of compliance at the discretion of the enforcing authority.

In those instances where a guideline conflicts with local, state or Federal laws, regulations or codes dealing with the life-safety factors, the regulations are presented in the Exception Sections, (See Section VII in Part 1., and Section VI in Part 2.).

ENFORCEMENT:

Enforcement shall be the joint responsibility of the Building Commissioner or equivalent and the Chief of Police.

Plans and specifications for new construction must be approved by the enforcing authority.

RESPONSIBILITY:

The owner or his designated agent shall be responsible for compliance with this Code.

VIOLATIONS AND PENALTIES:

It shall be unlawful for any person, firm or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure in the city, or cause the same to be done, contrary to or in violation of any of the provisions of this code.

Any person, firm, or corporation violating any of the provisions of this Code shall be deemed guilty of a misdemeanor.

APPEALS:

In order to prevent or lessen unnecessary hardship or practical difficulties in exceptional cases where it is difficult or impossible to

comply with the strict letter of this Code, and in order to determine

the suitability of alternate materials and types of construction and to

provide for reasonable interpretations of the provisions of this

Code, there shall be created a Board of Examiners and Appeals (if none

exists). The Board shall exercise its power on these matters in such

a way that the public welfare is secured and that substantial justice

is done most nearly in accord with the intent and purpose of this

Code.

MINIMUM BUILDING SECURITY GUIDELINES

Part 1.   Commercial Security Guidelines

I. Exterior Doors:

(Any building requiring panic proof hardware locks on exit doors shall be exempt from the exterior door locking security guidelines).

All exterior doors shall be secured as follows:

A. A single door shall be secured with either a double cylinder deadbolt or a single cylinder deadbolt without a turnpiece with a minimum throw of one inch. Any deadbolt must contain hardened material to repel attempts at cutting through the bolt.

B. On pairs of doors, the active leaf (door) shall be secured with the type lock required for single doors in (A) above. The inactive leaf shall be equipped with throw bolts at top and bottom with a minimum throw of 5/8 inch. The throw bolts must contain hardened material.

C. All doors which require locking at top and bottom shall be secured with throw bolts at both top and bottom with a minimum throw of 5/8 inch. The throw bolts must contain hardened material.

D. Lock cylinders shall be designed or protected so they cannot be gripped by pliers or other wrenching devices.

E. Rolling doors, solid swinging, sliding or accordion garage-type doors, both vertical and horizontal, shall be secured with a cylinder lock, when not otherwise controlled or locked by electric power operation.

F. Metal accordion, grate, or grill-type doors shall be equipped with metal guide track at top and bottom, and a cylinder lock and/or padlock with hardened steel shackle and minimum five pin tumbler operation,

90

with non-removable key when in an unlocked position. The bottom track shall be so designed that the door cannot be lifted from the track when the door is in a locked position.

G. Outside hinges on all exterior doors shall be provided with non-removable pins when using pin-type hinges. If the hinge screws are accessible, the screws shall be of non-removable type.

H. Glass panel doors and glass panels adjacent to the door frame shall be secured as follows:

1. rated burglary resistant glass or glass-like material, or

2. the glass shall be covered with iron bars of at least one half-inch round or 1" x 1/4" flat steel material, spaced not more than five inches apart, fastened on the inside of the glazing, or

3. iron or steel grills of at least 1/8" material of 2" mesh fastened on the inside of the glazing.

I. Inswinging doors shall have rabbeted jambs.

J. Wood doors, not of solid core construction, or with panels therein less than 1 3/8" thick, shall be covered on the outside with at least 16 gauge sheet steel or its equivalent attached with 1/4" carriage bolts on minimum 18" centers penetrating through the door and fastened on the inside with nuts and flat washers.

K. Jambs for all doors shall be constructed or protected so as to prevent violation of the function of the strike.

L. All exterior doors shall be illuminated with a minimum of a 60 watt bulb. Such bulb shall be protected with a vapor-tight cover

or cover of equal break resistant material.

II. Sliding Patio Doors opening onto patios or balconies which are
at ground level or which are otherwise accessible from the outside:

A. All single sliding patio doors shall have the movable section
of the door sliding on the inside of the fixed portion of the door,
or so protected that when the door is locked it cannot be lifted from
its track.

B. Dead locks shall be provided on all single sliding patio
doors. The lock shall be operable from the outside by a key utilizing
a bored lock cylinder of pin tumbler construction. Mounting screws for
the lock case shall be inaccessible from the outside. Lock bolts shall
contain hardened material and shall be capable of withstanding a force
of 800 pounds applied in any direction. The lock bolt shall engage
the strike sufficiently to prevent its being disengaged by any possible
movement of the door within the space or clearances provided for installation
and operation. The strike area shall be reinforced to maintain effectiveness
of bolt strength.

C. Double sliding patio doors must be locked at the meeting rail
and meet the locking requirements of "B" above.

III. Glass Windows:

A. All windows with opening sash within eight feet of ground
level or otherwise readily accessible shall be protected with either of
the following:

1. rated burglary resistant glass or glass-like material, or

2. outside iron bars of at least 1/2" round or 1" x 1/4" flat steel material, spaced no more than 5" apart, or

3. outside iron or steel grills of at least 1/8" material of 2" mesh, and the window barrier shall be secured with carriage bolts with the head outside.

B. If the accessible window is of the openable type, it shall be secured on the inside with a locking device capable of withstanding a force of 300 pounds applied in any direction on the frame.

C. Jalousie windows shall not be used within eight feet of ground level, adjacent structures or fire escapes.

D. Outside hinges on all accessible windows shall be provided with non-removable pins. If the hinge screws are accessible, the screws shall be of non-removable type.

IV. Roof Openings:

A. All glass skylights on the roof of any building or premises used for business purposes shall be provided with:

1. rated burglary resistant glass or glass-like material, or

2. iron bars of at least 1/2" round or 1" x 1/4" flat steel material, spaced no more than 5 inches apart, inside the skylight and securely fastened, or

3. an iron or steel grill of at least 1/8" material of 2" mesh inside the skylight and securely fastened.

B. All hatchway openings on the roof of any building shall be secured as follows:

1. If the hatchway is of wooden material, it shall be covered on the outside with at least 16 gauge sheet steel flanged over the vertical edges of the hatch, or its equivalent attached with 1/4" carriage bolts on minimum 18" centers penetrating through the door and fastened on the inside with nuts and washers.

2. The hatchway shall be secured from the inside with a slide bar or slide bolts.

3. Outside hinges on all hatchway openings shall be provided with non-removable pins when using pin-type hinges. If the hinge screws are accessible, the screws shall be of the non-removable type.

C. All accessible airduct or vent openings exceeding 8" x 12" on the roof or exterior walls of any building shall be secured by covering the same with the following:

1. iron or steel bars of at least 1/2" round or 1" x 1/4" flat steel material, spaced no more than 5" apart and securely fastened, or

2. iron or steel grill of at least 1/8" material of 2" mesh and securely fastened, and if the barrier is on the outside, it shall be secured with carriage bolts with the head outside.

V. Special Security Measures:

A. Safes: Commercial establishments having $1,000 or more in cash on the premises after closing hours shall lock such money in a

94

Class "E" safe after closing hours.

B. Office Buildings (Multiple Occupancy): All entrance doors to individual office suites shall have a deadbolt lock with a minimum one inch throw bolt which can be opened from the inside. The throw bolt must contain hardened material.

VI. Intrusion Detection Devices:

A. If it is determined by the enforcing authority of this code that the security measures and locking devices described in this code do not adequately secure the building, he may require the installation and maintenance of an intrusion detection device (burglary alarm system).

B. Establishments having specific type inventories shall be protected by the following type alarm service:

1. Silent Alarm - Central Station - Supervised Service

   a. Jewelry store - Manufacturing, wholesale, and retail

   b. Guns and ammunition shops

   c. Wholesale liquor

   d. Wholesale tobacco

   e. Wholesale drugs

   f. Fur stores

2. Silent Alarm

   a. Liquor stores

   b. Pawn shops

   c. Electronic equipment

   d. Wig stores

      e. Clothing (new)

      f. Coins and stamps

      g. Industrial tool supply houses

      h. Camera stores

      i. Precious metal storage facility

   3. Local Alarm (bell outside premise)

      a. Antique dealers

      b. Art galleries

      c. Service stations

VII. <u>Exceptions</u>:

No portion of this Code shall supersede any local, state, or Federal laws, regulations, or codes dealing with the life-safety factors.

Enforcement of this code should be developed with the cooperation of the local fire authority to avoid possible conflict with fire laws.

Part 2. Residential Security Guidelines

<u>Single Family Dwelling</u>

I. <u>Exterior Doors</u>:

A. Exterior doors (non-glass panel doors) and doors leading from garage areas into private family dwellings shall be of solid core no less than 1 3/4 inches·thickness.

B. Exterior doors and doors leading from garage areas shall have self-locking latch devices with a minimum throw of one-half inch.

C. Glass panel doors and glass panels adjacent to the door frame shall be secured as follows:

1. rated burglary resistant glass or glass-like material, or

2. the glass shall be covered with iron or steel bars of at least one-half inch round or 1" x 1/4" flat steel material, spaced not more than five inches apart, fastened on the inside of the glazing, or

3. iron or steel grills of at least 1/8" material of 2" mesh fastened on the inside of the glazing.

D. Exterior doors swinging out shall have non-removable hinge pins. If the hinge screws are accessible, the screws shall be of non-removable type.

E. Exterior doors swinging in shall have rabbeted jambs.

F. Jambs for all doors shall be constructed or protected to prevent violation of the function of the strike.

II. Sliding Patio Type Doors opening onto patios or balconies which are at ground level or which are otherwise accessible from the outside:

A. All single sliding patio doors shall have the movable section of the door sliding on the inside of the fixed portion of the door, or be so protected that when the door is locked it cannot be lifted from its track.

B. Dead locks shall be provided on all single sliding patio doors. The lock shall be operable from the outside by a key utilizing a bored lock cylinder of pin tumbler construction. Mounting screws for the lock case shall be inaccessible from the outside. Lock bolts shall contain hardened material and shall be capable of withstanding a force of 800 pounds applied in any direction. The lock bolt shall engage the strike sufficiently to prevent its being disengaged by any possible movement of the door within the space or clearances provided for installation and operation. The strike area shall be reinforced to maintain effectiveness of bolt strength.

C. Double sliding patio doors must be locked at the meeting rail and meet the locking requirements of "B" above.

III. Window and Transom Protection:

A. Windows shall be so constructed that when the window is locked it cannot be lifted from the mounting frame.

B. Window locking devices shall be capable of withstanding a force of 300 pounds applied in any direction on the frame and be unaffected by manually applied vibrating motion.

C. All windows with opening sash within eight feet of ground level or otherwise accessible shall be protected with any of the following:

1. rated burglary resistant glass or glass-like material, or

2. iron or steel bars of at least one-half inch round or 1" x 1/4" flat steel material, spaced not more than five inches apart, fastened on the inside of the glazing, and covering the glass, or

3. iron or steel grills of at least 1/8" material of 2" mesh fastened on the inside of the glazing.

Multiple Family Dwellings, Motels and Hotels

I. Exterior Doors:

Exterior doors into these structures shall be equipped with self-closing devices.

A. Main Entrance Doors shall have self-locking dead latch devices with a minimum throw of 1/2 inch requiring a key to be used to gain access to the interior.

B. Secondary Doors to fire stairs, incinerators, and service areas shall have self-locking dead latch devices with a minimum throw of 1/2 inch. No provision of knob, key, or other hardware shall be provided on the exterior of the door.

C. In Hotels and Motels where exterior doors give direct access to the dwelling unit, the dwelling unit door shall be secured the same as required by item III Interior Doors below.

II. Garage Doors:

Whenever parking facilities are provided either under or within the confines of the perimeter walls of any multiple dwelling, such facility shall be fully enclosed and its entrance doors shall be provided with a locking device.

III. Interior Doors: (other than doors in living units)

The doors shall be equipped with self-closing devices.

A. Garage doors shall have self-locking dead latch devices with a minimum of 1/2 inch throw requiring a key to be used to gain access to the interior.

B. Stairwell doors shall have self-locking dead latch devices with a minimum 1/2 inch throw. The door shall allow entrance to the stairwell but not exit from the stairwell, except that exit from the stairwell will be provided on all floors six stories and above.

C. Doors to Dwelling Units

1. All wood doors shall be of solid core with a minimum thickness of 1 3/4 inches.

2. Swinging entrance doors to individual units shall have deadbolts with one inch minimum throw hardened material in addition to deadlatches with 1/2 inch minimum throw. The locks shall be so constructed that both deadbolt and deadlatch can be retracted by a single action of the inside door knob.

3. An interviewer or peephole shall be provided in each individual unit entrance door.

4. Doors swinging out shall have non-removable hinge pins. If the hinge screws are accessible the screws shall be of the non-removable type.

5. Doors swinging in shall have rabbeted jambs.

6. Jambs for all doors shall be so constructed or protected so as to prevent violation of the function of the strike.

IV. Sliding Patio Type Doors:

(See Item III of Single Family Dwelling.)

V. Window Protection:

(See Item III of Single Family Dwelling.)

VI. Exceptions:

No portion of this Code shall supersede any local, state, or Federal laws, regulations, or codes dealing with the life-safety factors.

Enforcement of this ordinance should be developed with the cooperation of the local fire authority to avoid possible conflict with fire laws.

COST ESTIMATES

FOR

THE SECURITY FEATURES

Listed below are the preliminary estimates of the cost for, and installation of, the security feature in each individual code. Replacement cost estimates only are listed. New construction costs would be substantially lower.

Basic Installation Costs
$10/hr.

Part I.

Commercial:

I. A - Item - $24.00

Install - $20.00

B - Item - $5.00

Install - $10.00

C - Item-$5.00

Install - $10.00

D - Item - $10.00

Install - $10.00

E - Item - $8.00

Install - $10.00

F - Item - $8.00

Install - $10.00

G - Item-$6.00

Install - $10.00

H-1 2 to 5 times cost of plate glass (plate glass - $2.00/sq. ft.)

H-2 Average Window - 3'x5'

Item - $30.00

Install - $15.00

H-3 Average Window - 3'x5'

Item - $15.00

Install - $10.00

I - Item $10.00

Install - $40.00

J - Item - $25.00

Install - $30.00

K - Item - $0

Install - $20.00

L - Item - $10.00

Install - $22.50

(assume already wired)

II. A - Item - $2.00

Install - $5.00

B - Item - $8.00

Install - $40.00

C - See II. A & II. B above

III. A - (see I-H) above

    B - Item - $3.50

       Install - $0

    C - Item - (Window replacement cost)

    D - (See I-G above)

IV. A - Items (See I-H)

    B - 1. Item - $20.00

          Install - $20.00

       2. Item - $20.00

          Install - $10.00

       3. (See I-G above)

    C - 1. Item - $15.00

          Install - $10.00

       2. Item - $10.00

          Install - $10.00

V. A - Item - $150.00 - to $500.00

    B - Item - $24.00

       Install $20.00

VI. A - Unassignable

    B - 1. Install - $500.00

          Per month - $50 - $60
          (average small business)

       2. Install - $500

          per month - $20 - $30

3. Install - $500

       (Lease) $12 to $15/month

Part II.

    Residential Single Family

    I - A-Item $26.00

        Install $40.00

      B-Item - $5.00

      Install - $10.00

      C-(See I-H in Commercial Code)

      D-(See I-G in Commercial Code)

      E-(See I-I in Commercial Code)

      F-(See I-K in Commercial Code)

   II-A-Item - $2.00

      Install - $5.00

    B-Item - $8.00

     Labor - $40.00

    C-(See II A & II B above)

  III-A-Item - $0

      Install - $5.00

    B-Item - $3.50

     Install - $0

    C-(See I-H in Commercial Code)

   Multiple Dwellings

   I-A Item $8.00/per door

Install $10.00/per door

   B Item $8.00/door

      Install $10.00/per door

   C (See Item III below)

II. Unassignable

III-A Item $8.00

      Install - $10.00

   B Item - $8.00

      Install - $10.00

   C - 1. Item - $26.00

        Install - $40.00

     2. Item - $40.00

        Install $40.00

     3. Item - $5.00

        Install $5.00

     4. Item - $6.00

        Install - $10.00

     5. Item - $10.00

        Install - $40.00

     6. Item - $0

        Install - $20.00

IV. (See II Single Family)

 V. (See III Single Family)

APPENDIX C

BIBLIOGRAPHY

The Institute has several major studies that are relevant
to the Seminar topics. These studies along with their objectives
and products are listed below.

a. NI 70-088: Burglary Prevention
    Grantee: City of Alexandria, Alexandria, Va.
    Duration: 6/30/70 - 8/1/73

    Objective: To develop and evaluate a model city building
                security code.
    Products: 1. Security codes for the defense of property
                    against illegal intrusions.
                2. Cost Effectiveness Standards for readily
                    available defensive devices.
                3. An Educational Program to utilize the above
                    Codes and Cost Effectiveness Standards.

b. NI 71-026-C-1: Crime In and Around Residences (joint with HUD)
    Grantee: Urban Systems Research and Engineering, Inc.
    Duration: 8/12/71 - 5/12/73

    Objective: To determine nature and pattern of crimes
                occurring in and around residential areas.
    Products: Classification and criminal information on
                the nature and patterns of crime in and around
                residences.

c. NI 71-026-C-2: Systems for Residential Security (joint with HUD)
    Grantee: Boise Cascade Center for Community Involvement,
              Washington, D. C.
    Duration: 8/13/71 - 5/12/73

    Objective: To develop a total security system to reduce the
                number and severity of the crimes identified in
                Phase I.
    Products: Security Systems for reducing identified crimes
                (Phase II).

d. NI 71-091-G: Tactical Analysis of Street Crime
    Grantee: Office of the Sheriff, Jacksonville, Florida
    Duration: 5/15/71 - 1/18/73

    Objective: To develop information that will be useful to local
                authorities in the design or redesign of neighborhood
                street environments for increased citizen safety.
    Products: The identification of factors relevant to the inter-
                action of victim environment and assailant in street
                crimes.

e. NI 71-114-PG: An Examination of the Impact of Intensive Police
                   Patrol
    Grantee: University of Rhode Island, Kingston
    Duration: 6/1/71 - 10/31/72

    Objectives: 1. To investigate the impact of police presence
                     upon crime and the effect of intensive police
                     patrol on the displacement of crime.
                 2. To characterize targets of commercial and bank
                     robbery by such factors as financial and
                     demographic types.
    Products: 1. Guidelines for predicting the direction of
                     spatial deflection in commercial and bank
                     robberies.
                 2. The effectiveness of intensive police patrol
                     activities, on crime and its displacement.
                 3. How to assess patrol strategies.

f. NI 71-127-G: Architectural Design to Improve Security in Urban
                  Residential Areas
    Grantee: New York University
    Duration: 6/25/71 - 12/31/72

    Objective: To determine whether the physical design or residen-
                tial complexes and their disposition in the urban
                setting can significantly affect rates of serious
                crime and vandalism which occur within public
                housing units.
    Products: 1. The improvement of at least two test projects
                    under the New York Housing Authority.
                2. Guidelines for specific design or modification of
                    housing projects across the country.

g. NI 71-132-G: Kansas City Street Lighting Study
    Grantee: Kansas City, Mo. Public Works Department
    Duration: 7/1/71 - 3/31/73

    Objectives: To provide a clearer basis for allocating lighting
                 and planning their future utilization.
    Products: 1. Research Design for testing street lighting
                     performance in reducing street crime.
                 2. The performance of street lighting in reducing
                     street crime in specific urban areas.

h. NI 72-99-002: Burglary: A Study of the Character, Correlates,
                   Correctives and Causes
    Grantee: Human Sciences Research, Inc., McLean, Va.
    Duration: 10/1/71 - 10/31/72

    Objectives: To determine the context in which burglary occurs,
                 thrives and the psychology that causes burglars.
    Products: The causes, character, correctives and correlation
                 of burglary.

i. 72 NI-0001-A, B & C: Law Enforcement Standards Laboratory and
                          Support Services
    Grantee: National Bureau of Standards
    Duration: 7/1/72 - 5/1/72

    Objective: To establish and maintain a Law Enforcement
                Standards Laboratory.
    Products: 1. Performance Standards for Various Law Enforcement
                    Systems and equipment.
                2. Design standards for equipment or components.
                3. Program for inspecting and certifying commercial
                    testing laboratories.

j. NI 72-026: Analysis Group: Equipment Systems Improvement Program.
    Grantee: The MITRE Corporation
    Duration: 7/1/72 - 6/30/73

    Objective: Identify and define law enforcement and criminal
                justice system problem which require equipment
                systems.

k. NI 72-027: Development Group: Equipment Systems Improvement
                Program
    Grantee: The Aerospace Corporation
    Duration: 7/1/72 - 6/30/73

    Objective: Develop equipment systems to solve law enforcement
                and criminal justice system problems.