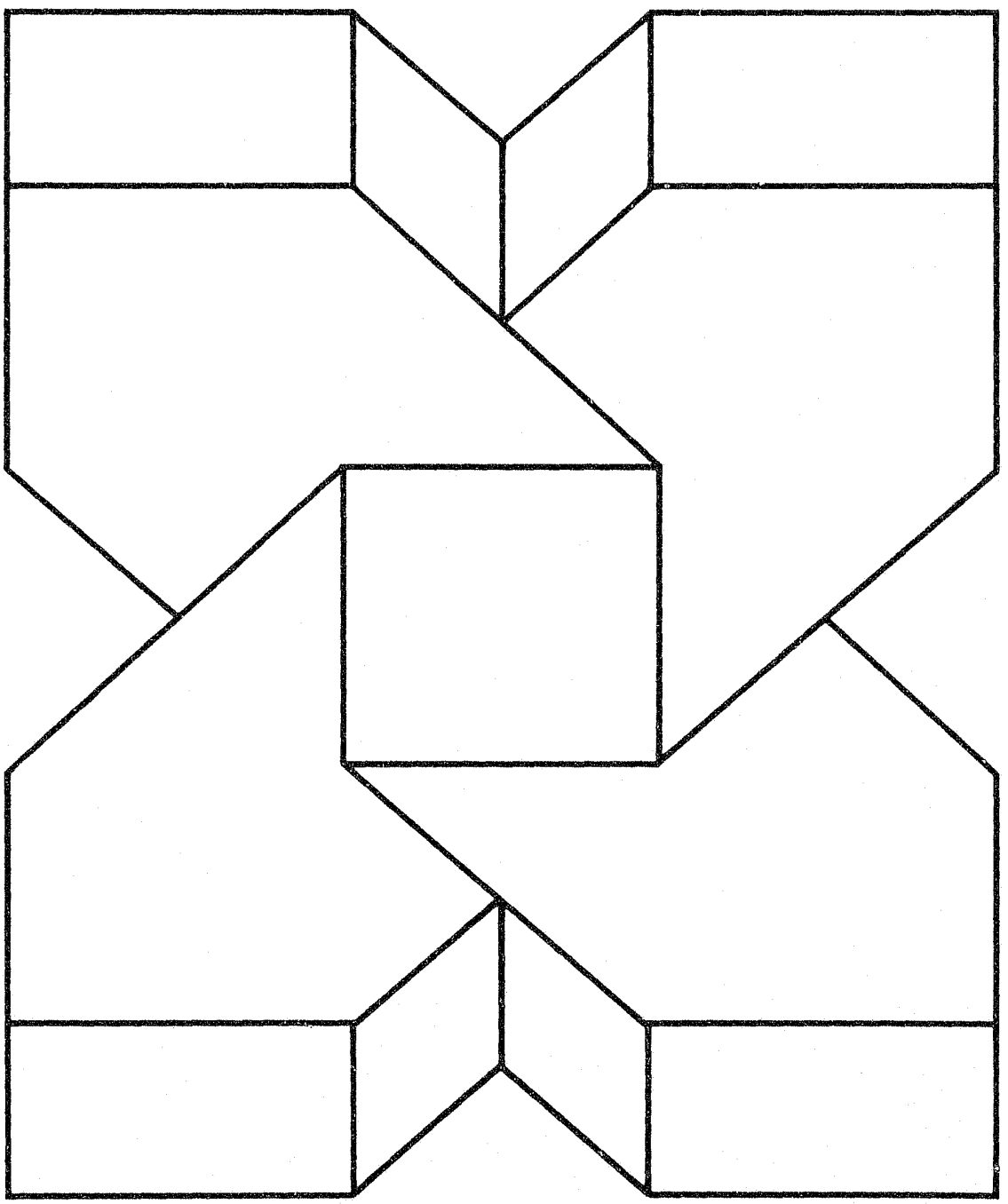
Controlling Access in Highrise Buildings:

Approaches and Guidelines

U.S. Department of Housing and Urban Development
Office of Policy Development and Research



CONTROLLING ACCESS IN HIGHRISE BUILDINGS: APPROACHES AND GUIDELINES

Prepared for

U.S. Department of Housing and Urban Development
Office of Policy Development and Research

Under Contract Number: H-2249

April 1977

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

Stock No. 023-000-00406-2

CONTROLLING ACCESS IN HIGHRISE BUILDINGS: APPROACHES AND GUIDELINES

by

William Brill Associates, Inc.
Annapolis, MD 21401

The research and publication of this report were made possible through a research contract from the Office of Policy Development and Research of the U.S. Department of Housing and Urban Development. The findings presented in this report are those of William Brill Associates, Inc., and do not necessarily represent those of the United States Government in general or HUD in particular.

TABLE OF CONTENTS

	Page
INTRODUCTION	1
CONTROLLED ENTRANCEWAY SYSTEMS IN THREE CITIES: AN OVERVIEW	2
Introduction	2
Cabrini-Green: Chicago, Illinois	2
Lobby Design	
Staffing and Operation Procedures	
Cochran Homes: St. Louis, Missouri	7
Lobby Design	
Electronic Control and Monitoring Capabilities	
Staffing and Operational Procedures	
Murphy Homes: Baltimore, Maryland	13
Overview	
Lobby Design	
Electronic Controls and Monitoring Capabilities	
Staffing and Operational Procedures	
A CASE STUDY OF THE OPERATION OF A CONTROLLED ENTRANCEWAY: MURPHY HOMES	21
The Design of the Entranceways	21
Single Door Access	
Location of Closed-Circuit Television Cameras	
Audio Systems	
Location of Mailboxes	
Fire Codes and Security	24
Staffing and Management	24
Design Conflicts Within the Guard Booth	
Problems in Identifying Residents	
Resident Attitudes Toward the Controlled Entranceways	27
Crime and the Controlled Entranceways	29
SOME GUIDELINES FOR THE DESIGN AND OPERATION OF CONTROLLED ENTRANCEWAYS	31
Introduction	31
The Need for an Integrated Approach	31

TABLE OF CONTENTS (contd.)

	Page
Design Guidelines	33
The Design of the Guard Booth	
Lobby Design	
Fire Codes and Security Planning	
Operating the Controlled Entranceways	37
Identifying Residents	
Making Guards Effective	
THE LIMITATIONS OF CONTROLLED ENTRANCEWAYS	40
APPENDIX A	41

LIST OF TABLES

Table		Page
1	Baltimore Mayor's Coordinating Committee on Criminal Justice Questionnaire Results	28
2	Burglary and Successful Burglary in Highrises and Townhouses	29
3	Rates of Successful Burglary in Murphy Homes' highrises compared to Other Low-Income Groups	30

LIST OF FIGURES

Figure		Page
1	Highrise buildings at Cabrini-Green Homes Chicago, Illinois.	3
2	Lobby design, 365 Oak Street, Cabrini-Green Homes, Chicago, Illinois.	5
3	A view of highrises in Cochran Homes, St. Louis, Missouri.	8
4	Typical lobby design, Cochran Homes.	10
5	Upper floor elevator lobby, Cochran Homes.	12
6	Controlled entranceway in highrise building. Murphy Homes, Baltimore, Maryland.	14
7	Lobby design, 1058 Argyle Avenue building, Murphy Homes.	16
8	Location of electronic monitoring equipment. Ground floor., 1958 Argyle Avenue, Murphy Homes.	17
9	Note problem of single door access: person can enter through door opened by someone leaving, without approval by guard; also note that TV monitors block view of elevators.	22
10	Single audio monitor makes voices difficult to distinguish and location of caller difficult to identify.	23
11	Note that TV monitors block guard's view of lobby and that to view outside area guard must turn away from monitor.	25
12	Location of mailboxes permits perpetrator to use his body as a mask.	34
13	This design optimizes guard's visibility of lobby and provides for separate entrance and exit areas.	36

INTRODUCTION

The surge in crime in recent years has prompted a range of responses designed to make residential environments more secure. One response that has been employed with increasing frequency in highrise buildings has been to try to control access to the building by the installation of a controlled entranceway--an entranceway that by virtue of its design, the use of electronic fixtures and the presence of guards, limits access to residents, their guests or others with a legitimate presence.

Controlled entranceways pose a number of design and operational issues, for in order to be successful there must be a synergism between the design of the entranceway, the conduct of those who staff the entranceway and operate the equipment, and the residents whom the entranceway is designed to protect. Each of these elements must interact positively in order for the objectives to be accomplished.

To gain insight into how controlled entranceways should be designed and operated, William Brill Associates, Inc. (WBA) undertook a study of controlled entranceways in three public housing projects: Murphy Homes, Baltimore, Maryland; Cochran Homes, St. Louis, Missouri; and Cabrini-Green, Chicago, Illinois. This study was undertaken as part of a larger project involving the development and testing of approaches to comprehensive security planning that WBA currently has underway under U.S. Department of Housing and Urban Development (HUD) funding.

This report is designed to provide assistance to those involved in the planning and management of controlled entranceways. The report begins with an overview of the entranceways currently being installed in Cochran Homes and Cabrini-Green. The physical design features of the entranceways are reviewed as well as the plans the housing authorities have for staffing and managing them.

The discussion of the entranceways at Murphy Homes in Baltimore is somewhat broader. Because these entranceways have been in operation for almost two years, it was possible for WBA to conduct a case study identifying some of the operational issues involved in making the concept work.

The final section of this report presents a series of guidelines concerning the design and management of controlled entranceways. These guidelines are based upon the analyses of the three projects.

CONTROLLED ENTRANCEWAY SYSTEMS IN THREE CITIES: AN OVERVIEW

INTRODUCTION

Controlled entranceways have been around since man began claiming areas for shelter and storage of goods. Archaeologists have discovered prehistoric sites in France where early cave dwellers covered the entrances to their caves with rocks and skins to ward off hostile animals. Castle entranceways constructed during the Middle Ages were the single most important design feature of the fortress. Such entranceways were controlled with complex systems utilizing moats, draw bridges, gates and towers, or by simply stationing guards at ingress and egress points.

In a sense, every entranceway is controlled to some extent--secretaries limit access to the boss's office, a step in front of a door can imply a barrier as can a cul de sac, a closed but unlocked door, a walkway, a gate. In the design of residential environments great care is usually taken in the design of entranceways to make them attractive and at the same time to direct who belongs and who does not.

This study concerns one form of the controlled entranceway--that designed to control access to highrise public housing projects. The entranceways described here, unfortunately, do not consist of gentle signs or picket fences. They are composed of inner and outer lobbies, of guard booths, of electronic surveillance and monitoring equipment. Their purpose, however, is a familiar one: to restrict entry to those who belong in the environment. The severity of the response had been dictated by the pressure of crime and the difficulties inherent in large numbers of low-income families living in highrise buildings.

CABRINI-GREEN: CHICAGO, ILLINOIS

The first entranceway system to be discussed is that planned by the Chicago Housing Authority for four of the highrise buildings at Cabrini-Green Homes--two 7-story buildings, one 16-story building and one 19-story building.

The site, located on the near north side of Chicago, covers 70 acres and is comprised of 78 high- and low-rise residential buildings. Cabrini-Green has a population of 14,184 and the density is approximately 212 persons per acre.

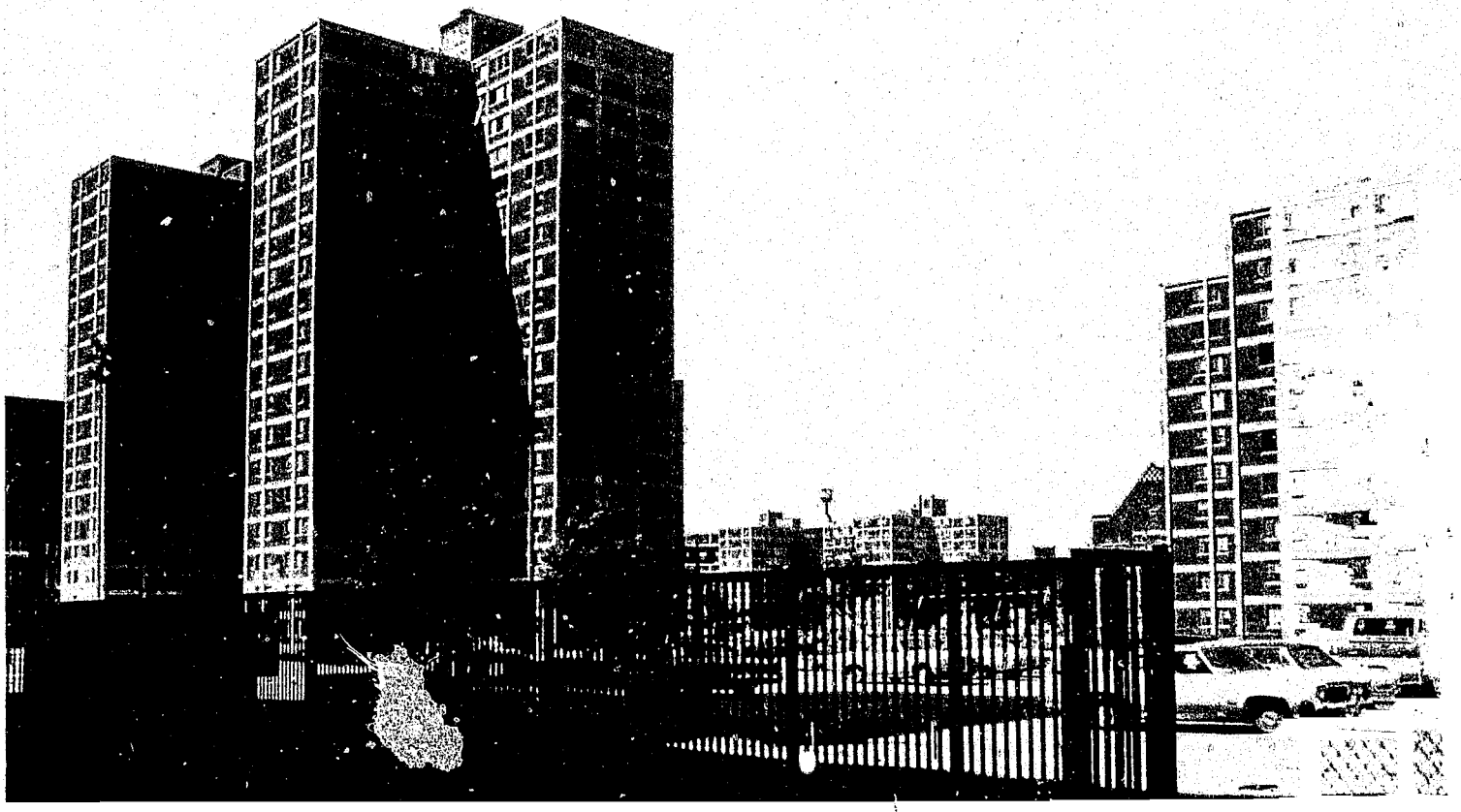


Figure 1.--Highrise buildings at Cabrini-Green Homes, Chicago, Illinois

Lobby design

The Chicago Housing Authority chose a design which divides the lobby area into two areas, an inner lobby and an outer lobby, both of which are enclosed in Lexan. Someone entering the building will be checked through the outer lobby to the inner lobby from which there is access to elevators and the rest of the building. Public restrooms are being built in the outer lobbies, so those playing or relaxing outside the building will not have to go through the inner lobby and up to their apartment to use toilet facilities.

The security stations, which will also be constructed with Lexan, will be situated adjacent to both lobbies and are designed to give the security aide a clear view of the lobby areas, elevators, mailboxes, and public restrooms. A restroom is also being installed in each security station for the safety aides. Figure 2 show the lobby design of one highrise in Cabrini-Green.

Fire doors on every floor will permit entrance into the fire stairs but once a person enters the fire stairs the only exit is into the inner lobby. Ground floor fire exits can be opened from inside the building, but they open to fenced areas which will be locked 24-hours a day.

Locks on the inner lobby doors will be controlled from the security station. Local fire codes do not permit locks to be installed on the outer lobby doors.

The use of closed circuit television surveillance will be limited to the placement of television cameras in the elevators of the 19-story building and either end of the 16-story building. The cameras located on the outside of the 16-story building will be equipped with scanners and zoom lenses which can be operated by the safety aide. The television monitors will be located in the security stations of the respective buildings and have the capability to record any activity taking place.

A two-way audio system will be installed in the elevators and in the inner and outer lobbies. Through this system any excessive or loud sounds coming from the elevator and/or adjacent hallway areas will set off an alarm in the security station. The safety aide can communicate with persons in the elevator, and can activate an elevator override system which will permit him to take control of the elevator's operation. This system will permit the safety aide upon hearing threatening noises in the elevator to bring the cab directly to the ground floor where he can investigate.

Two of the four lobbies under construction will have intercom systems installed in the outer lobbies which will permit

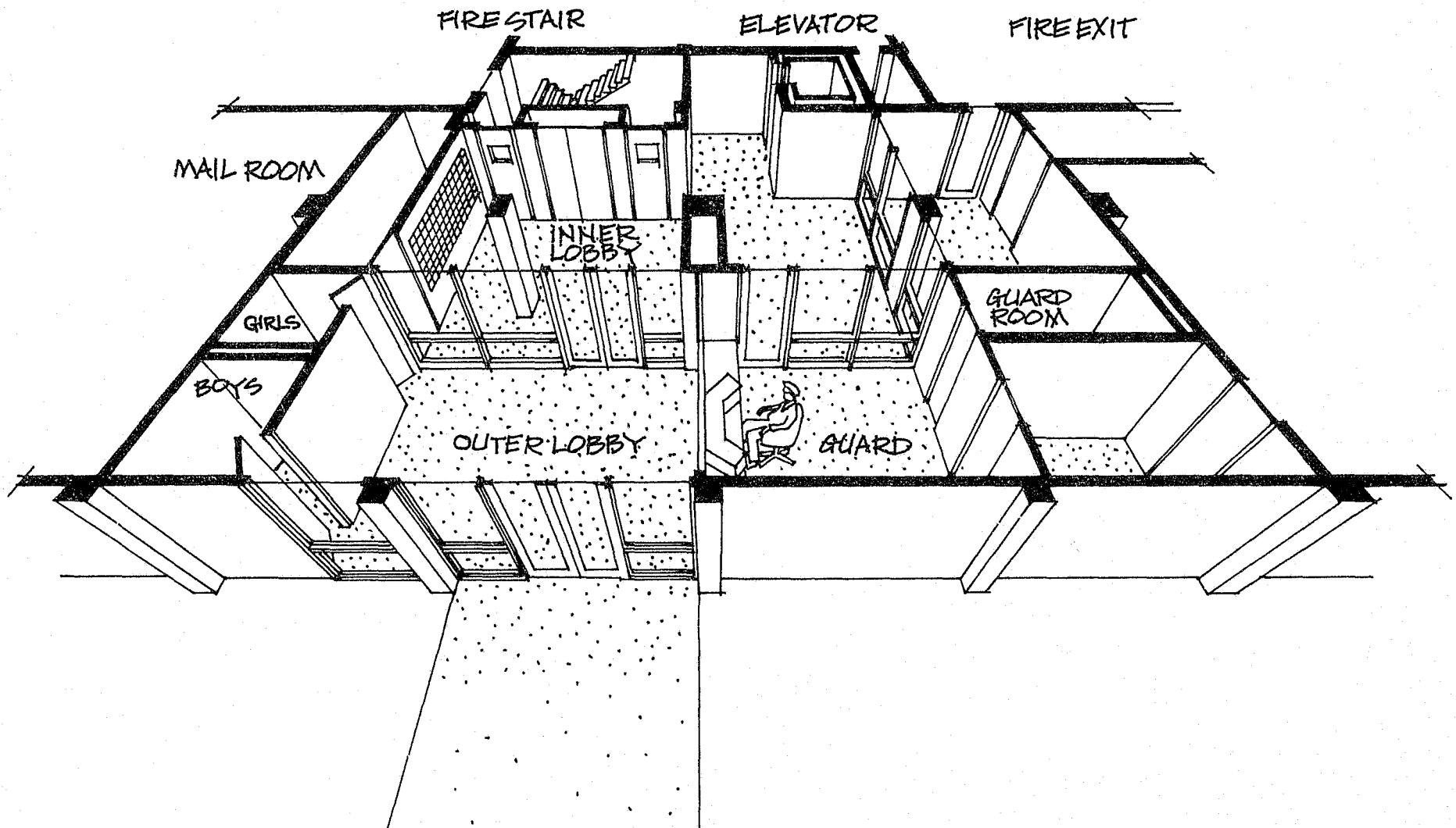


Figure 2.--Lobby design, 365 Oak Street, Cabrini-Green Homes, Chicago, Illinois.

visitors to call residents. The resident may then electronically open the lobby door from his apartment. The other two buildings will have intercoms in the security station and the safety aide will clear the visitor with the resident and then "buzz" the visitor in.

Each security station will be equipped with outside telephone lines which will enable the safety aide to contact the housing managment, police, etc., in case of an emergency.

Staffing and operational procedures

Although the lobbies are not yet finished, the Chicago Housing Authority has hired 29 persons to operate or assist in the operation of the controlled entranceways. The security force consists of a security manager, 3 assistant security managers, 21 senior public safety aides and 4 public safety aides.

Several safety aides are residents of Cabrini-Green Homes, but residency in public housing is not a job requirement. Safety aides do not have arrest powers and do not carry weapons. The housing authority feels that the system of electronic surveillance, physical barriers, control of key areas such as elevators, plus the back-up from the Chicago Police Department provide adequate protection for the safety aides.

The security manager is responsible for the overall day-to-day operation of the program in each building. According to the housing authority, his duties include: maintaining records and preparing reports, supervising and scheduling personnel, giving personal supervision, attention and training to all shifts, and maintaining a liaison with tenants, local civic groups and police.

The assistant security managers will be responsible for the direct supervision of personnel assigned to the security stations. The housing authority has outlined their duties to include on-site training and supervision of public safety aides, assistance to the staff during peak-use hours or emergency situations; relief of staff for meal breaks, and review of reports and records prepared by staff.

Senior public safety aides will operate the security station 24-hours a day under the general supervision of the assistant security manager. According to the housing authority, the senior safety aides will have the following responsibilities:

- maintain order and observe activity in the lobby area;
- check identification of residents and clear visitors before admitting them into the building;

- record all visitors and goods entering or leaving the building;
- monitor all electronic surveillance equipment and sensing devices; and
- operate electronic equipment on all doors, fire doors, elevators and restrooms.

Public safety aides will not operate the controlled entranceway system and will be supervised by the senior public safety aides. Their duties will include:

- supervision of children in the lobbies, elevators and restrooms; and
- assist the senior public safety aides in maintaining order in the lobbies.

Duties of the security manager, assistant security managers and safety aides will not duplicate or replace the present Vertical Patrol Unit of the Chicago Police Department which patrols Cabrini-Green Homes. The Chicago Housing Authority believes the security of the building lobbies will assist the efforts of the Police Department in preventing crimes and apprehending criminals.

The training program for the safety aides was conducted by the Chicago Police Department and the Security Coordinator of the Chicago Housing Authority. Safety aides were first trained in building security and management, human relations, and police techniques. The second phase of the program included training sessions on the use of electronic equipment. Joint classes were held with members of the Chicago Vertical Patrol Unit to familiarize each group with the operating procedures of the other. In the coming months aides will receive ongoing training in the various phases of security operations.

COCHRAN HOMES: ST. LOUIS, MISSOURI

The St. Louis Housing Authority is presently installing controlled entranceway systems in each of the 12 buildings at Cochran Homes. The housing complex, completed in 1953, is located in the southwestern portion of the city. It has 703 apartment units located in six 6-story, two 7-story and four 12-story buildings. The 18 acre site has a population of 161 persons per acre. Figure 3 shows a view of Cochran Homes highrises.

The controlled entranceways under construction at Cochran Homes rely more on resident participation than the system being installed in Cabrini-Green Homes. Less security hardware is being used and the residents, not hired security personnel, will be the

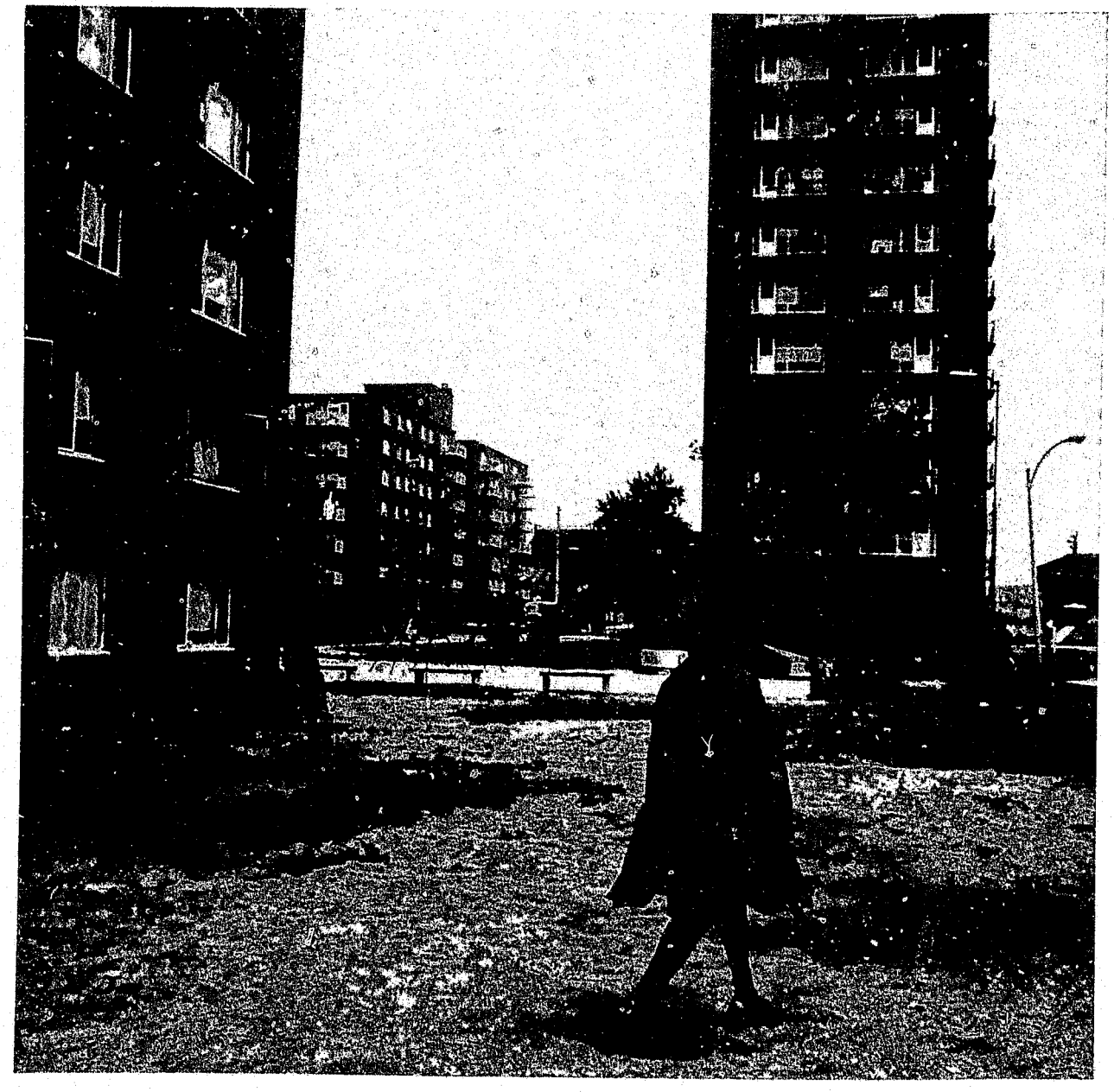


Figure 3.--A view of highrises in Cochran Homes, St. Louis, Missouri

ones who control access to the buildings. According to St. Louis Housing Authority officials, this emphasis is the result of a great deal of tenant participation regarding the design of the system. Tenants wanted to be sure the system did not suggest a prison.

Another important feature of the approach being implemented at Cochran is that there will be two levels of access control in the building. The first level of control is access to the inner lobby and the second level of control is access from the elevator lobby on each floor to hallways and apartments.

Lobby design

The basic lobby design is similar to that of Cabrini-Green. It consists of a large inner lobby area and a small outer lobby, both enclosed with Lexan. The inner lobby, which will be accessible only to residents and their visitors, will be divided into two areas. These two areas will be connected by a short stairway with a four-foot incline. The security station, adjacent to the stairway between the two areas, will be enclosed with brick and Lexan windows with one-way mirrors which will conceal the lobby attendant from outside view, but permit him to observe the lobby areas, fire exits, and elevators. Entrance from outside into the outer lobby and inner lobby will be made through single doors. Figure 4 shows a typical lobby design of a highrise in Cochran Homes.

Electronic control and monitoring capabilities

Electronic locking controls will be located in three areas of the building: the inner lobby, the outer lobby, and the elevator lobby on each floor.

In contrast to Cabrini-Green, which will rely on guards, access to the lobby areas will be gained by inserting a magnetic card into a card reader. The outer lobby door will remain open between 7 A.M. and 12 midnight, after which the lock can only be activated by a magnetic card. The lobby doors will not be controlled from the security station but must be opened from the inside by hand. This means that to open the door the lobby attendant must leave the security station.

Card readers will also be located on every floor near the elevators, a particularly unique feature of the Cochran Homes design. When a resident leaves the elevator at his floor he will enter an enclosed lobby. The card must again be inserted into the card reader which will automatically open doors leading to either hallway. These doors will remain open for a fixed amount of time, then automatically close. Electronic sensors will be installed on the doors which will trigger an alarm in the security station

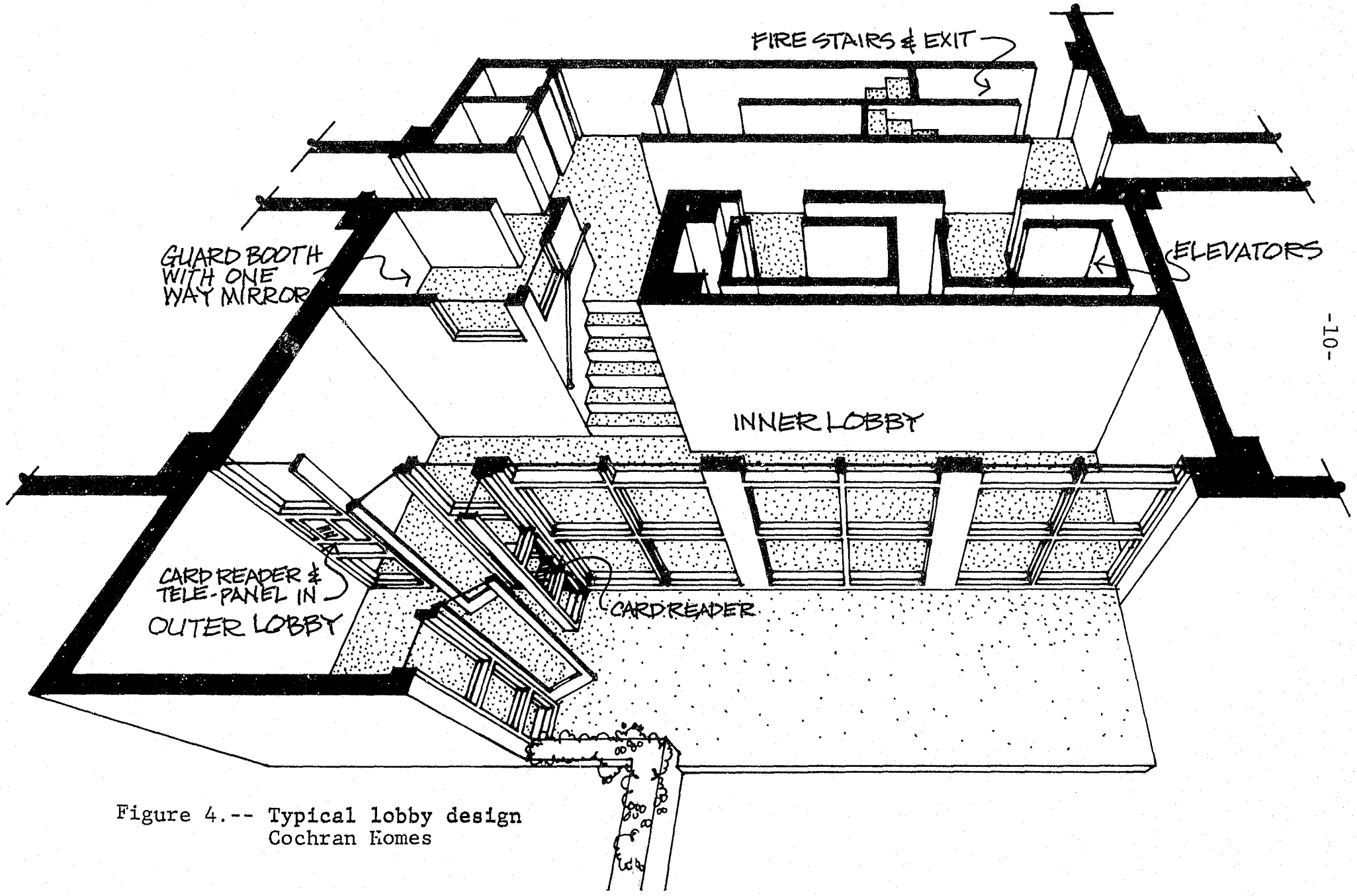


Figure 4.-- Typical lobby design
Cochran Homes

should the doors be tampered with or held open too long. The following drawing (Figure 5) illustrates the location of card readers in the upper-floor lobby of a Cochran Homes highrise.

The housing authority plans to issue magnetic cards to all residents 12 years and older and to charge $3.00 to replace lost cards. When a new card is issued the information about the lost card will be cancelled by the computer. Should an invalid card be inserted in the card reader a warning alarm will go off in the security station alerting the lobby attendant.

Telephone intercoms connected to apartments and to the lobby security station will be located at the inner and outer lobby doors. If a visitor wishes to enter the building he must call the resident to gain admittance. The resident can then release the lock on the door by pushing a button in the apartment, enabling the visitor to enter.

Doors leading to the fire stairs will also be located in the enclosed elevator lobby areas on each floor. These doors will be equipped with electronic sensors which will trigger alarms should they be opened. If a person should open the door and enter the fire stairs he must go all the way down to the ground floor exit because the fire doors can not be opened from inside the fire stairs areas.

An electronic sensor will also be installed on the inner lobby door to alert the lobby attendant should someone tamper with the lock.

Staffing and operational procedures

The controlled entranceway systems will be manned by paid lobby attendants who are residents of public housing. The lobby attendants will be under the supervision of the Director of Security for the St. Louis Housing Authority and will provide support services to the St. Louis Police, who patrol the city's public housing projects.

The security stations will be manned 16-hours a day from 7 A.M. until 12 midnight. Although lobby attendant shifts have not been firmly established, it is expected that at least two attendants will be on duty during peak-activity hours.

According to the housing authority, the lobby attendants' duties will include:

- signing visitors in and out of the building and assisting visitors when they are encountering problems contacting the person they wish to visit;
- checking with the security dispatcher each half hour--giving location and activity occurring during the last half hour;

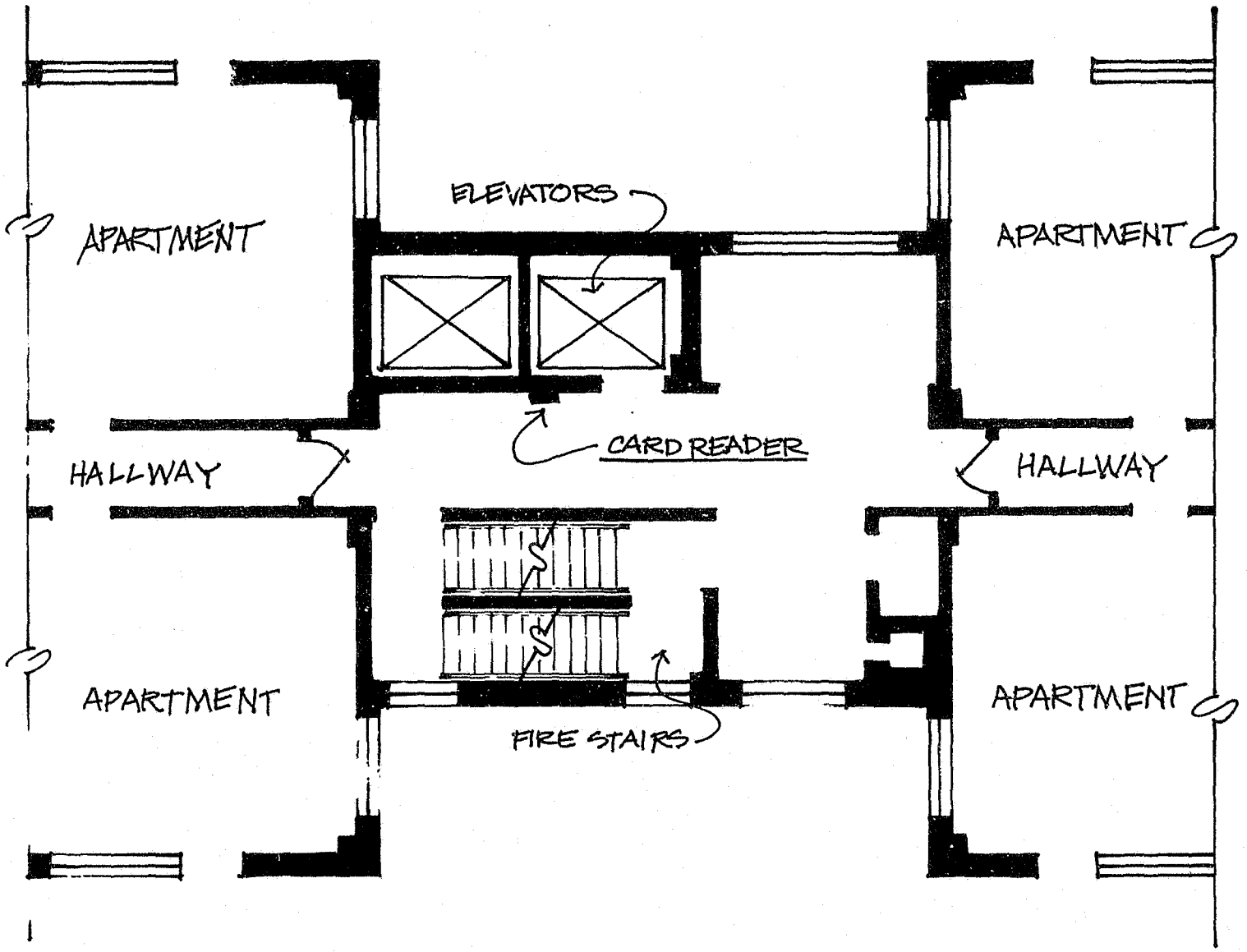


Figure 5.--Upper floor elevator lobby, Cochran Homes

- working in conjunction with the security police force when problems occur which the attendant can not handle;
- reporting any vandalism or other criminal activity to security and management;
- reporting to management all incidents involving tenants where security or police are summoned.

Until the controlled entranceway systems are completed, the lobby attendants are carrying out temporary duties which include patrolling the buildings and grounds and reporting any unusual activity to security police. Before working in the security stations, the lobby attendants will complete a watchman's course at the St. Louis Police Academy and will attend a training and orientation session conducted by the Supervisor of Security for Cochran Homes.

MURPHY HOMES: BALTIMORE, MARYLAND

Overview

A little over two years ago, the Housing Authority of Baltimore City (HABC) embarked on an ambitious security program to provide a safer and more secure environment for their tenants living in highrise public housing. The program called for the installation of controlled lobbies in the HABC highrise buildings and a new security force to operate the systems.

To date, the HABC has installed 12 controlled entranceways in 4 of its housing complexes: Murphy Homes, Lafayette Gardens, Flag House Terraces, and Lexington Homes. Six more controlled entranceways are expected to be installed in the remaining highrise buildings by 1978.

Murphy Homes, which was completed in 1964, has four 14-story highrise apartment buildings and twenty 2- and 3-story low-rise apartment buildings and townhouses. The site, which is located in south Baltimore, consists of 14.7 acres and has a population of 3,020, with a density of 214 persons per acre. There are 758 housing units located in the highrise buildings. The following photograph (Figure 6) depicts the controlled entranceways of the highrise buildings in Murphy Homes.

Controlled entranceway systems have been installed in each of the highrise buildings and are almost identical in design. Basic features of the systems include lock controls and monitoring apparatus which is operated by security guards and covers entrances in the first floor lobbies, hallways and elevators.

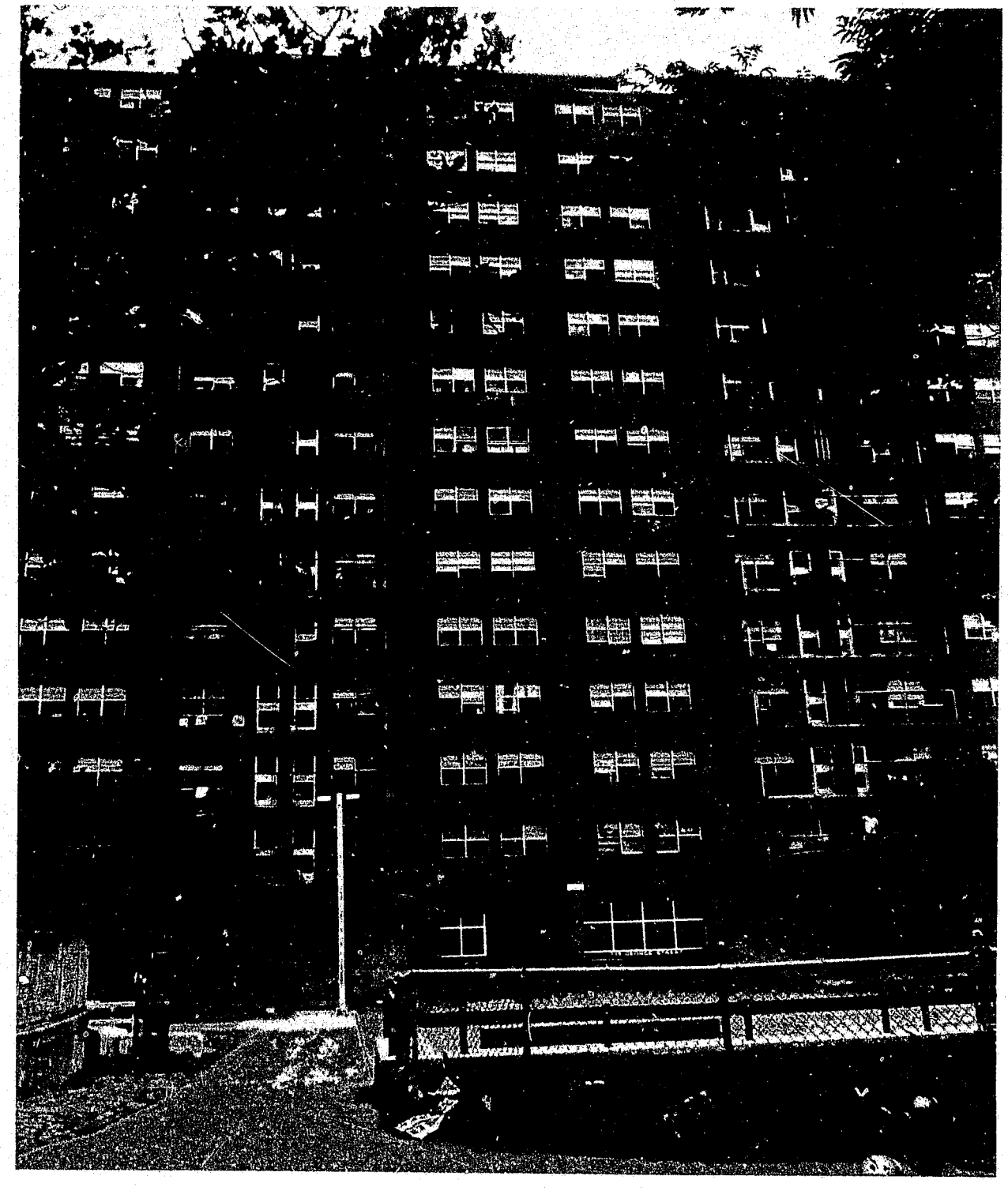


Figure 6.--Controlled entranceway in highrise building.
Murphy Homes, Baltimore, Maryland

Lobby design

Each of the lobbies at Murphy Homes is designed with an inner and outer lobby. The guard booth is adjacent to both lobbies and separated from them by walls made of brick and Lexan to provide protection for the guards. Both the inner and outer lobbies are enclosed in plexiglass.

The lobby design gives the security guard full view of both lobbies, elevators, mailboxes, and the outside area around the building entrance.

Access from the outside into the outer lobby is made through double doors and access from the outer lobby to the inner lobby is made through a single door. All doors shut automatically with spring-loaded closers. Entrance to the guard station can only be made through a locked door off the inner lobby. Figure 7 illustrates a typical lobby design in a highrise building in Murphy Homes.

Electronic controls and monitoring capabilities

There is a slight variance in the electronic monitoring capabilities of the four guard booths because the systems are being updated and new equipment is being installed. Each guard booth at Murphy Homes has, or will have, a complete set of identical equipment within a short period of time.

Guard booths are equipped with audio and video monitoring systems. A two-way audio system permits the guard to communicate with persons outside the building near the entrance, in the outer lobby, at the emergency exits, and in the elevators. A closed-circuit television system (CCTV) provides visual surveillance of the emergency exits, first floor stairs, and corridors. Sensing devices are located at the fire doors which activate alarms in the guard booths should the doors be opened. Figure 8 indicates the locations of the television monitoring system on a typical ground floor of a Murphy Homes highrise building.

A "help" button has been installed in the elevators which, when activated by a person in distress, rings an alarm in the guard booth. The guard can then communicate with the person or persons in the elevator via the two-way audio system. Should the problem be a serious one, an elevator override system has been installed in the guard booth which would bring the elevator cab down to the first floor until help can arrive. A sensing device has also been installed in the elevator which rings an alarm if the elevator door is held open for an unusually long period of time.

Locks on the outer and inner lobby doors and on the first floor fire exits are controlled from the guard booth. The inner and outer lobby door locks can be simultaneously activated to

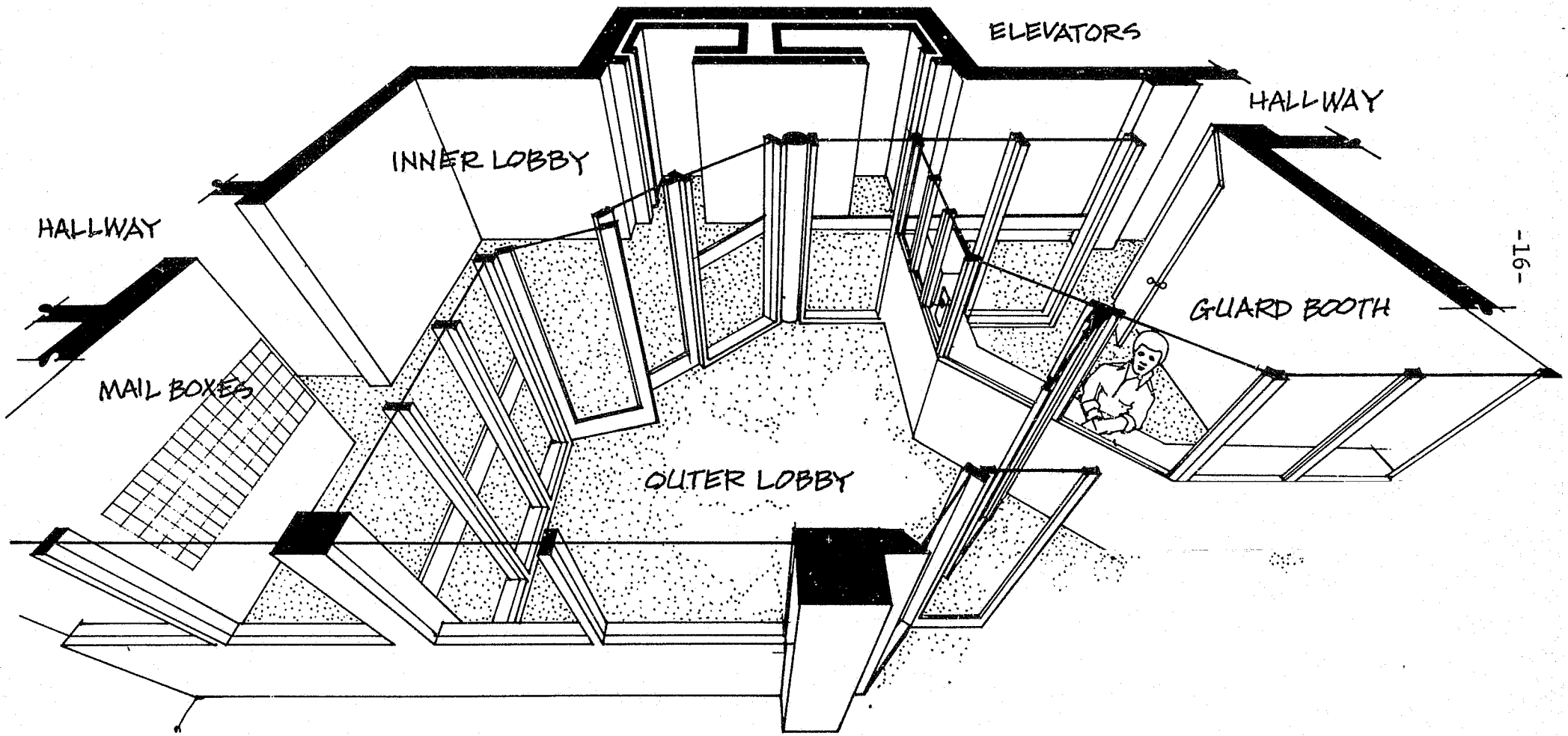


Figure 7.--Lobby design, 1058 Argyle Avenue building, Murphy Homes

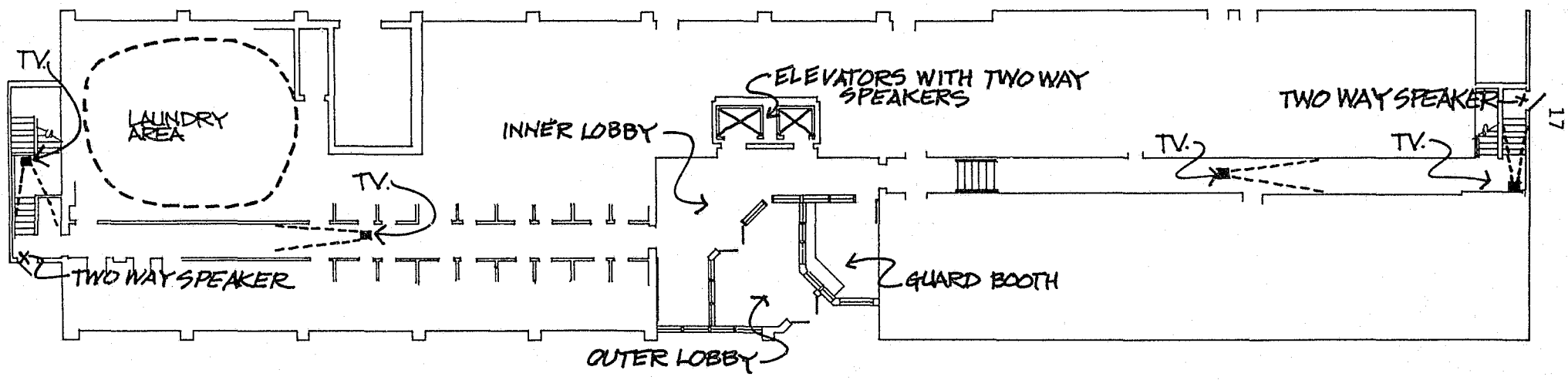


Figure 8.--Location of electronic monitoring equipment.
Ground floor, 1958 Argyle Avenue, Murphy Homes

entrap a person, fleeing from the scene of a crime, in the outer lobby. The emergency fire exits remain locked at all times unless there is an emergency situation when they can be opened electronically from the guard booth or by an automatic "fail safe" system. This system has been approved by the Baltimore Fire Department.

The locks on the outer lobby doors remain open except between the hours of 12 midnight and 7 A.M. If a resident or visitor wishes to enter the building during those hours, he must ring a doorbell, located at the outer door, to alert the guard.

Two telephones are placed in the guard booth. One telephone permits the guard to call residents on their personal phones via an intercom system. This system is used for guards to clear visitors with residents. If a resident is on the phone when the guard is making a call, the system puts the guard's call through and the other call on hold. Residents who don't have phones have intercoms installed in their apartments. A guard cannot eavesdrop on the private call of a resident, nor can a resident call the guard booth on the intercom.

The second phone is an outside line which enables the guard to call the police, housing management, etc., in the case of an emergency.

Push button fire alarm systems have been installed in the guard booths at Murphy Homes which contact the Baltimore Fire Department. Plans are also underway for the installation of a similar device which would contact the area police precinct.

Each guard booth contains the necessary fire fighting equipment (hoses, fittings, etc.) that the fire department needs to extinguish a fire in the building. Hoses and other fire-fighting apparatus were removed from the buildings' corridors because the equipment was being stolen and vandalized.

The guard booths also contain a list of residents which is used for identification purposes.

Staffing and operational procedures

The controlled entranceway systems at Murphy Homes are manned by HABC guards during the morning through late afternoon hours and by contracted security guards in evening and through the night.

Guard booths are manned 24-hours a day. When possible, two HABC guards are on duty during peak-activity hours--in the early morning and late afternoon.

The HABC guards, who have been recruited from public housing sites in Baltimore, have special police powers but carry

no weapons. HABC standard operating procedures outlined the guard's duties to include:

- recording, by serial number and brand name, all articles of value being moved through the lobby by an individual, excepting those individuals identified by the housing authority as moving out. If the individual moving the goods out of the building can't be identified as a resident and if permission to remove the articles from the building can't be obtained from the resident who owns the article, the guard will lock all lobby exit doors, detaining the individual, and call the police;

- keeping all listening intercom monitor speakers and CCTV monitors on at all times to detect any unusual activity;

- controlling ingress and egress to the building and permitting only authorized persons to enter the building. Residents who have been issued ID cards must be properly identified before they are permitted to enter the building. When a teenager or child wishes to bring in a friend, the guard will call the child's parents to ascertain whether they will take responsibility for the child's visitor before admitting them;

- if a resident has lost his ID card the guard must identify the resident before admitting him. Valid identification methods to be used are: matching other ID sources (driver's license, social services card, etc.) with resident file card in guard booth, or questioning the resident to see that the answers given correspond to the information recorded on the file card;

- reporting and recording any malfunctioning equipment to their supervisor and recording any unusual activity in the guard booth log book;

- activating the elevator override system, unlocking all emergency exits and lobby doors in the case of an emergency;

- clearing vistiors with residents before admitting them;

- under no circumstances are guards to leave the guard booth except to use the restroom.

A six-month training program for the resident guards was held at Coppin State College in Baltimore and was designed to provide training in six major areas: human relations, surveillance, self-defense, basic communication skills, health and safety, and the use of firearms and non-lethal weapons.

Resident guards receive ongoing on-the-job training from the Security and Assistant Security Coordinator of the Department of Housing and Community Development of HABC.

The average cost of each entranceway in Murphy Homes, including electronic equipment, mailboxes, and construction costs, was estimated by HABC to be $110,000.

A CASE STUDY OF THE OPERATION OF A CONTROLLED ENTRANCEWAY: MURPHY HOMES

The entranceways at Murphy Homes offer a unique opportunity to understand the actual functioning of a controlled entranceway because, unlike those in St. Louis or Chicago, the ones in Murphy Homes have been operational for two years.

To identify the relevant operational issues in the management, staffing, and design of a controlled entranceway, WBA staff conducted a series of on-site visits to Murphy Homes. During these visits, the guards, housing authority management and security staff, and residents were interviewed regarding the operation of the entranceways. A formal survey of resident reactions to the entranceways was also conducted. WBA staff also directly observed the functioning of the controlled entranceways.

This section presents the findings of this on-site analysis. Its purpose is not to be critical of the Baltimore system, which is similiar in most respects to that being planned in St. Louis and Chicago, but to draw on the Baltimore Housing Authority's experience to identify some of the major issues that must be faced in the design and management of controlled entranceways. It should be remembered that the Baltimore Housing Authority was one of the pioneer authorities in attempting to improve the security of residents in highrises and that the system analyzed below is constantly being upgraded as funds permit.

The following comments are organized around two of the major elements in any controlled entranceway system: the physical design of the entranceway and the orientation and conduct of the guards.

THE DESIGN OF THE ENTRANCEWAYS

There are several design features that limit the effectiveness of the entranceway system to identify those who do not have a legitimate purpose in the building and to prevent their entry.

Single door access

In Murphy Homes, the entrance from the outer lobby to the inner lobby is made through a single door which has a magnetic lock controlled in the guard station. Persons in the outer lobby cannot enter the inner lobby unless the guard releases

the lock. Persons inside the inner lobby can leave freely simply by opening the door. This single door design feature presents a critical problem--a person leaving the inner lobby may cause the door to remain open long enough for an unauthorized person to slip inside. As the intruder disappears into the building, the guard is left helpless because he is under orders not to leave the booth. The only action he can take is to record the incident in the log book and call the police. Figure 9 demonstrates the problem of the single door access.

Figure 9.--Note problem of single door access: person can enter through door opened by someone leaving, without approval by guard; also note that TV monitors block view of elevators.

Location of closed-circuit television cameras

In some instances, the location and positioning of closed circuit television cameras that have been placed at ground-floor fire exits and stairwells to monitor these areas, does not permit the view of the area being monitored.

Audio systems

The two-way audio systems that are located in the elevators, outer lobbies, the fire exits, and outside the buildings have several limitations:

1. On occasion two-way communication is distorted due to poor amplification and the location of the speakers and monitors.

2. They have been tampered with on occasion by children who have been able to get inside the elevator shafts, ride on top of the elevators and vandalize the monitor wires.

3. The fact that the audio speakers are placed in a single unit in the guard booth makes it difficult for the guard to distinguish clearly which area a call for help is coming from when all the monitors are on at once.

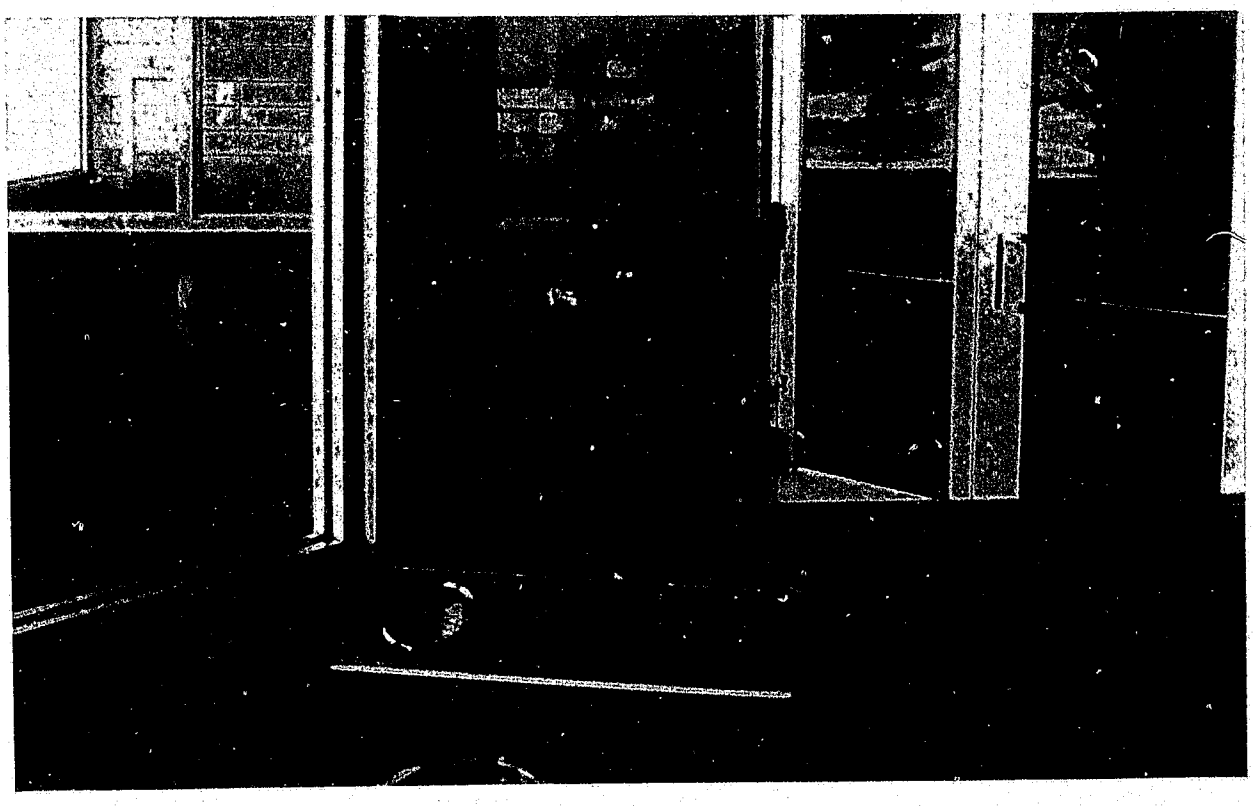


Figure 10.--Single audio monitor makes voices difficult to distinguish and location of caller difficult to identify.

Location of mailboxes

Although the mailboxes are in full view of the guard booth they are located in such a way that someone opening a mailbox has his back to the guard booth. The guard is thus unable to see if the box is pried open or opened legitimately. Figure 12 shows how a perpetrator can use his body to conceal breaking into a mailbox.

FIRE CODES AND SECURITY

There is often conflict between security planning and local fire codes. Security plans and programs are often shelved because local fire codes will simply not permit such measures. These conflicts come into play at Murphy Homes.

When the systems were first installed, the fire exits could be opened from inside the building but not from the outside. If the doors were opened however, an alarm would go off in the guard booth. The HABC found this procedure to be ineffective because too many people were leaving the building by the fire exits. The HABC then padlocked the doors keeping the key in the guard booth. The Baltimore Fire Department objected to this practice and the housing authority has since installed locks on the fire doors, which remain locked at all times but can be opened electronically from the guard booth in the event of an emergency. In the event of power failure, locks have a fail-safe mechanism which opens them automatically. This policy has been approved by the Baltimore Fire Department.

STAFFING AND MANAGEMENT

A key element in the success of a controlled entranceway system is how the guards conduct themselves--their ability to use the equipment available to them, and most importantly, their ability to effectively stop intruders. To prevent intruders from entering it is necessary first to be able to identify them. This in turn requires some form of identification system that can separate residents from non-residents. Through either the use of hardware or guards, it is necessary, in order to protect the building, that a "challenge" be issued--that some sort of inquiry be made about who is entering and what their purpose will be.

In the Murphy Homes system, as is at least partially the case in Cabrini-Green and Cochran Homes, it is the guard's responsibility to screen or challenge people entering the building. He is also responsible, as discussed earlier, for monitoring activity in the building through closed-circuit television and audio monitors.

Design conflicts within the guard booth

The location of the TV monitors, intercoms and audio systems within the guard booth makes it difficult for the guard to talk to a visitor and at the same time be attentive to these monitoring devices. Figure 11 shows the inability of the guard to view the outside area while he is watching the television monitors and lobby areas.

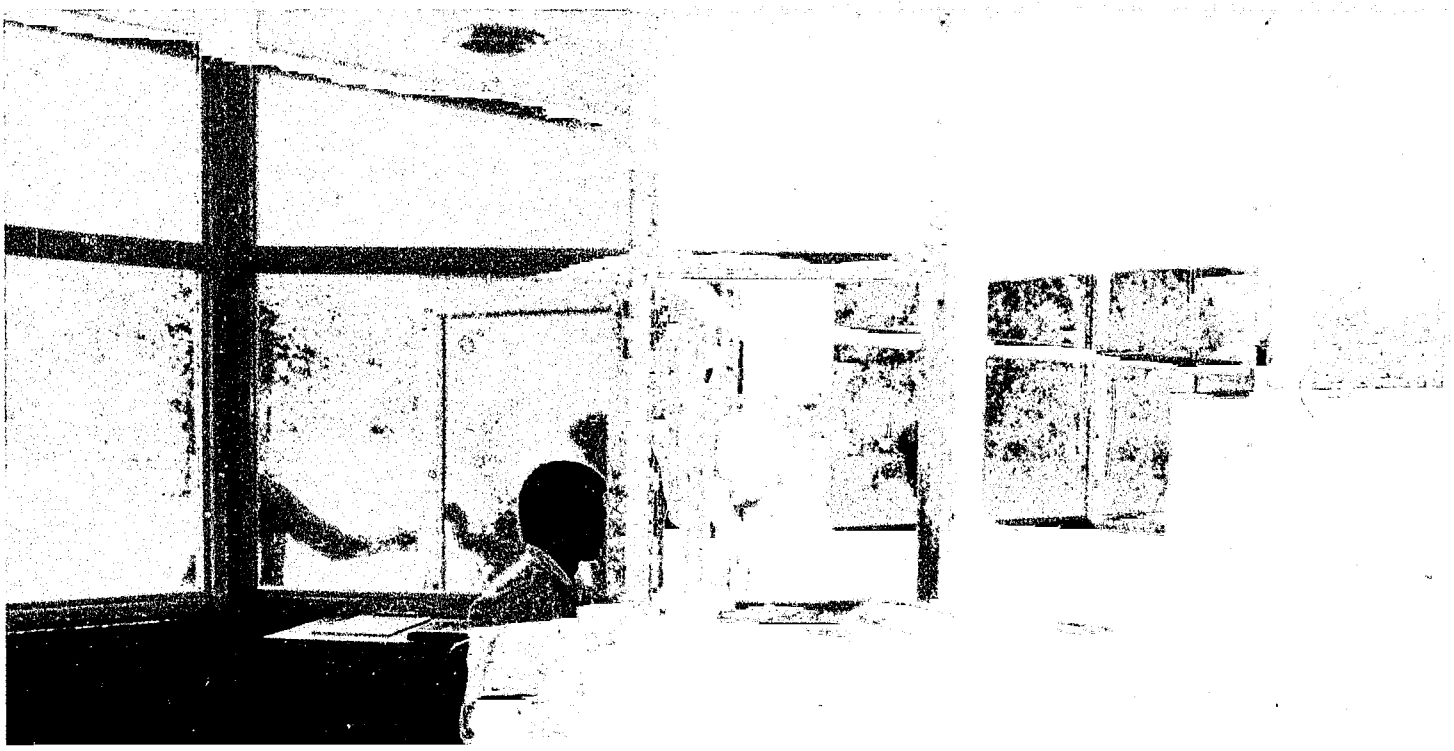


Figure 11.--Note that TV monitors block guard's view of lobby and that to view outside area guard must turn away from monitor.

The location of the television monitors within the guard booth also blocks the guard's view. As a result, the guard could easily miss an assault in the elevator entrance.

The location of the audio monitors near the outer-lobby intercom also makes it difficult for the guard to hear a visitor in the lobby. If the guard turns off the audio monitors to converse with the visitor, a cry for help coming over the audio monitor could go unheard. The location of the outer-lobby intercom and the building audio monitors can be seen in figure 10.

Problems in identifying residents

In Murphy Homes a number of factors have made it difficult for the guard to screen those entering: first, as noted earlier, the single access door makes it possible for someone to slip through the door when it has been opened by someone leaving the inner lobby. This changes things for the guard immediately. He is no longer in the position of "stopping" someone from entering; he must now pursue them, find out if their presence is legitimate and then remove them if it is not legitimate. This places an entirely different burden on the guard, one few guards will accept given the fact they must leave their booth and confront the individual directly. Equally important is the guard's calculation, which is probably correct in most cases, that the individual who just slipped through probably does live there.

A second factor that makes it difficult for the guards to perform the screening function is that no identification system exists in Murphy Homes. Although each resident presumably has an identity card, new ones have not been issued for a long time and the guards have no swift way of checking the validity of the card.

A third factor that might account for the limited screening taking place in Murphy is that guards, in the absence of a formal identification system, may have been forced to rely on whether they "knew" someone to determine whether the person should be admitted or not. While this may have worked for a time, guards can appear (and feel) arbitrary in screening people on this basis, and after a while there may have been a natural inclination not to question anyone rather than appear arbitrary and to be subjected to complaints and protests from those who were asked for identification.

Still another complicating factor is that even someone the guard "knows" may have a change of status and no longer belong. The person could have terminated the lease and no longer have the right to enter the building, or the personal relationship with one of the residents that brought the person in and out of the building so frequently that he or she became known to the guards might have been terminated. If there is

no way for the guard to know of such changes, then these individuals could have a free run of the building, armed with knowledge about the residents and their habits.

Another group that the guards at Murphy Homes are unlikely to challenge are children under 12 years of age. Not only do they come through the entranceway frequently and in large numbers, but they are not issued identity cards and cannot therefore, show identification although their names are on file if they are residents.

Children, therefore, are rarely challenged, yet children under 12, particularly those from outside the buildings can be responsible for acts of burglary, purse snatching and vandalism.

These constraints all make the guard's job extremely difficult, particularly so because he knows, as anyone does in law enforcement, that the overwhelming percentage of people entering the building are residents peacefully on their way to and from their home. They intend to harm no one, yet, if the guard is to do his job he must tirelessly ask for identification. This means their journey is interrupted, that they must stop, put down packages, find wallets and open purses. It is an inconvenient event, and although most residents when asked thought the entranceways were "worth the hassle," as will be discussed shortly, there is still a great deal of natural social pressure not to challenge and to rationalize the practice by saying that they know everyone or that it is too hard to verify identification anyway.

To overcome the pressures that inhibit the guard from performing the role assigned to him, it is necessary, as will be discussed in the Guidelines section of this report, to encourage the development of countervailing pressures in the form of strong management, rigorous training and heavy tenant mobilization.

RESIDENT ATTITUDES TOWARD THE CONTROLLED ENTRANCEWAYS

One of the major issues in controlled entranceways is how the residents respond to them. Do they, once they are installed, feel safe? Do the residents feel the entranceways are worth the inconvenience of being checked by guards or at least surveyed by guards as they enter their building?

To gain insight into these issues, WBA administered a survey instrument prepared by the Baltimore Mayor's Coordinating Committee on Criminal Justice. The survey was part of a larger evaluation being conducted by the Mayor's Committee on the effectiveness of the entranceways. The survey was administered by WBA interviewers at the same time they were administering the WBA Household Safety and Security Survey.

As table 1 indicates, many residents have a favorable orientation toward the entrances, and a substantial majority feel they are necessary.

Table 1.--Baltimore Mayor's Coordinating Committee on Criminal Justice questionnaire results

Question	Response	Total
I feel safer since the lobbies have been enclosed and security guards have been patrolling the grounds.	Yes	56
	No	65
I think that the restrictions to entering my building are a real hassle.	Always	19
	Sometimes	53
	Never	49
I think that the restrictions to entering my building are necessary.	Yes	103
	No	18
I would recommend a building like this one to friends who want to apply.	Yes	47
	No	74
On the whole, the security guards have been polite and cooperative	Yes	81
	No	40

CRIME AND THE CONTROLLED ENTRANCEWAYS

Notwithstanding the favorable view many residents have toward the controlled entranceways, they have, nevertheless, been subjected to criminal victimizations at a relatively high rate.

In the case of burglary, for example, the household survey administered by WBA,[1] found that the rate of successful burglaries in the highrises was not significantly lower than that found in the adjoining townhouses.(see table 2). When compared to the rate experienced by similar income groups in the City of Baltimore, the burglary rate for the households living in the highrises was almost three times higher, and when compared to similar income groups nationally, the rate in the highrises was more than three times higher.(see table 3).

Table 2.--Burglary and successful burglary in highrises and townhouses[a]

	Highrise		Townhouse	
	Number	Percent	Number	Percent
Successful burglary	30	81.1	7	18.9

[a]While more successful burglaries occurred in the highrises, this difference was offset by the fact that 84 percent of the interviews were conducted in highrises.

[1]This survey was administered as part of the planning process WBA is following under its contract with HUD to prepare a comprehensive security plan for Murphy Homes. The complete findings are presented in Victimization, Fear of Crime and Altered Behavior: A Profile of the Crime Problem in Murphy Homes, Baltimore, Maryland, Draft Report (Washington, D.C.: U.S. Department of Housing and Urban Development, 1976).

Table 3.--Rates of successful burglary in Murphy Homes' highrises compared to other low-income groups

	Murphy Homes highrises	Baltimore[a] less than $7,500 income	National[b] less than $7,500 income
Successful burglaries per 1,000 households	245.9	85.6	78.5

[a]Law Enforcement Assistance Administration, Criminal Victimization In the United States, (Washington, D.C.: Government Printing Office, 1976). Obtained prior to publication.

[b]Unpublished Law Enforcement Assistance Administration tables.

It should be realized that the relatively high burglary rate in the highrises does not mean that the controlled entranceways have not been effective. To determine that, it would have been necessary to study the crime rate before the entranceways were installed and then again after a period of time had elapsed, or to have had a control population.

Since these evaluation techniques were not followed, no judgement can be made about whether the entranceways have made a difference. What can be said is that a serious, even desperate crime problem does presently exist in the highrises of Murphy Homes.

SOME GUIDELINES FOR THE DESIGN AND OPERATION OF CONTROLLED ENTRANCEWAYS

INTRODUCTION

This report has described the proposed operation, staffing and design of two controlled entranceways that are presently being installed in the Cabrini-Green housing project in Chicago and the Cochran Homes in St. Louis. The report has also analyzed the actual operation of entranceways that have been functional for two years in Murphy Homes, a public housing project in Baltimore.

This final section presents guidelines for the design and management of controlled entranceways that are based upon the foregoing analysis. Its purpose is to acquaint those involved in the planning of controlled entranceways with some of the hard issues that must be dealt with and to offer guidance on how these kinds of entranceways might optimally be designed and operated. This section focuses on the importance of integrating the design of the entranceway with appropriate conduct by the guards and residents. It includes a section on the limits of controlled entranceways.

THE NEED FOR AN INTEGRATED APPROACH

One of the central findings that has emerged from this review is the need for planners to realize that the success of a controlled entranceway will depend not only on its physical design, such as the placement of cameras, the location of doors, and other purely "physical" features, but success will also be deeply influenced by the training and orientation of the guards as well as the attitudes of the residents. These three elements--the physical design, the guards, and the residents--must not only make their unique contribution but must be organized to operate in a mutually supporting manner.

Physical design features alone cannot screen and select-out unwanted intruders and neither can guards alone do the job, and both together cannot accomplish the objective unless the legitimate residents in the building are cooperative and supportive.

This requirement makes it necessary for anyone planning a controlled entranceway to utilize a planning process that involves active tenant participation. Tenants should not just be acquainted with the potential benefits but also with the fact that the entranceway may impose inconveniences on them and that, in any

case, the entranceway will not work unless they, the residents, are continually supportive both in terms of demanding that the guards do their job but also in supporting them when they do. Ideally, this early planning should establish mechanisms for the residents' continual involvement. Too often a small group of residents are involved in the beginning of a project but then their participation falls off during the actual implementation of the project. As a result, when the project is completed there is not the base of resident support that was anticipated.

The need for an integrated approach shows up in innumerable ways, but particularly in the "challenge" or screening function of the entranceway--the point where people seeking entrance are identified and their entry permitted or not permitted. In order for this critical event to occur, all the elements must work. In terms of physical design, the guard must have operational control over the door. He must also be assertive enough to require the person to identify himself and the guard must then have a means of verifying the person's identify quickly and accurately. If any of these steps fail to occur, the whole system breaks down.

The residents are also an important element in assuring prompt and thorough screening. For if they resist showing identification or otherwise abuse the guard, or question the legitimacy of his conduct, then he will soon withdraw from the role and fail to perform the critical screening function.

In some cases, it may be determined in the course of the planning process that it is impossible to expect to completely control access. What might be decided is to opt for an "interventionist" model--one where the guards do not routinely screen everyone but do so only randomly or when someone looks suspicious. The entranceway thus houses a central guard post that responds to emergencies throughout the project as well as screens individuals on an intermittent basis.

But even this system, which is a less demanding one to operate, still requires a mutually supporting relationship among guards, residents, and the physical layout, and still requires a planning process to identify whether, in fact, it is the best approach and how it should be operated.

Ideally, the decision as to the kind of system--interventionist or controlled--should be made in the course of the planning process. It should be a deliberate decision. An interventionist system should not be arrived at by default--but because the controlled system could not operate. When this happens, it is a defeat for the residents and the guards and there is an accompanying loss of morale and support.

DESIGN GUIDELINES

There are a number of design criteria that have to be met for a controlled entranceway to work. Those discussed below relate to the design of the guard booth, the problem of access to the inner lobby, and the location of monitoring equipment. A following section discusses the role of the guards.

The design of the guard booth

The design of the guard booth is critical because it must provide the guard with the fullest view possible of the lobby area and, at the same time, permit him to read the monitoring equipment reporting on other parts of the building. Additionally, the guard must have direct access to the lobby to be able to handle any difficulty. He must also be protected from assault while in the booth and still be able to converse with people in the outer lobby area.

Most of these criteria were met in the systems reviewed in this report although problems were noted. In Murphy Homes, the mailboxes, although in view of the guard booth, could be blocked from view by the body of someone opening them (see Figure 12), preventing the guard from seeing whether a key or force was being used. And in Cochran Homes, the guard will not have a clear view of the elevator area--a limitation that might be particularly severe since there are no TV or other monitoring systems covering the elevator area.

It is important to avoid conflicts in the design of guard stations, that is, situations where the guard cannot move from one task to another easily or perform more than one task at a time. For example, it is important that the electronic equipment not block the guard's view of the lobby area. The equipment should be placed so as to permit guards to view and electronically monitor activities while they are carrying out other duties. Many times, this can be accomplished by having the television monitor inserted in the guard desk in front of the outer lobby intercom. This permits the guard to check identification and watch the side area while also scanning the monitors.

Audio monitors, if improperly placed and modulated, can also present design conflicts. In Murphy Homes, for example, all the speakers are in one unit which makes it difficult for the guard to distinguish the location of any one voice. Ideally, the speakers should be spread apart and coded to the area they are monitoring; and generally they should be placed in the rear of the booth so as to avoid any need to turn them down in order to talk to residents passing by the guard window.

Consideration should also be given to using audio monitors that are activated only by loud noises. The constant din of audio monitors on all the time is extremely tiring for guards--so much so that they can be expected to turn them off at an early opportunity.

Figure 12.--Location of mailboxes permits perpetrator to use his body as a mask.

Lobby design

Lobby design must meet several criteria.[2] First, the lobby should be as attractive as possible, just as any lobby area should be whether it is part of a controlled access system or not. It is important not to let the need for access control overwhelm the design. A lobby is an important orienting point in the housing environment. It can shape how people feel about their building, their home, and even about themselves and where they are in life. To the extent possible, therefore, the lobby should be made as warm and pleasant as possible. At a minimum, it should have a sitting place for people who are waiting for transportation or for someone from the building to meet them.

A second requirement is the need for an outer and inner lobby area with the guard booth established at a central point. As is the case of the three entranceways reviewed in this report, people should first enter into an outer lobby and then move into an inner lobby upon approval by the guard who controls the doors from the outer to the inner lobby. It is important in lobby design that the guard be able to talk easily from his booth to people requesting entry into the inner lobby.

The third major requirement in lobby design is the need for the guard to be able to control people from entering the inner lobby without his approval. There are a number of factors that impact on this, but in terms of lobby design, the placement and number of doors is extremely important.

In the systems examined in this study, all have single-door access to the inner lobby. This means that people, both coming from and going into the inner lobby, go through the same door. The problem, as observed in Murphy Homes, is that someone can slip through the inner lobby while the door is being opened by someone leaving. This puts the guard in a difficult position. No longer is he controlling entry by relatively passive means. He is now in the position of having to remove someone from the building--someone who, in all probability, belongs there and who just slipped through because it was quick and convenient. In most instances, nothing is done in this situation and a means soon becomes established to enter the building.

One solution to this problem would be to split the outer lobby into two sections--one section for entering, the other for leaving. People would thus leave, as shown in Figure 13, by separate doors.

Another issue in lobby design is the location of mailboxes. Ideally, they should be located in full view of the guard station and, if possible, they should be positioned in such a way as to prevent someone from using his body as a shield.

---

[2]See Appendix A for a "user checklist" for evaluating the design of controlled entranceways.

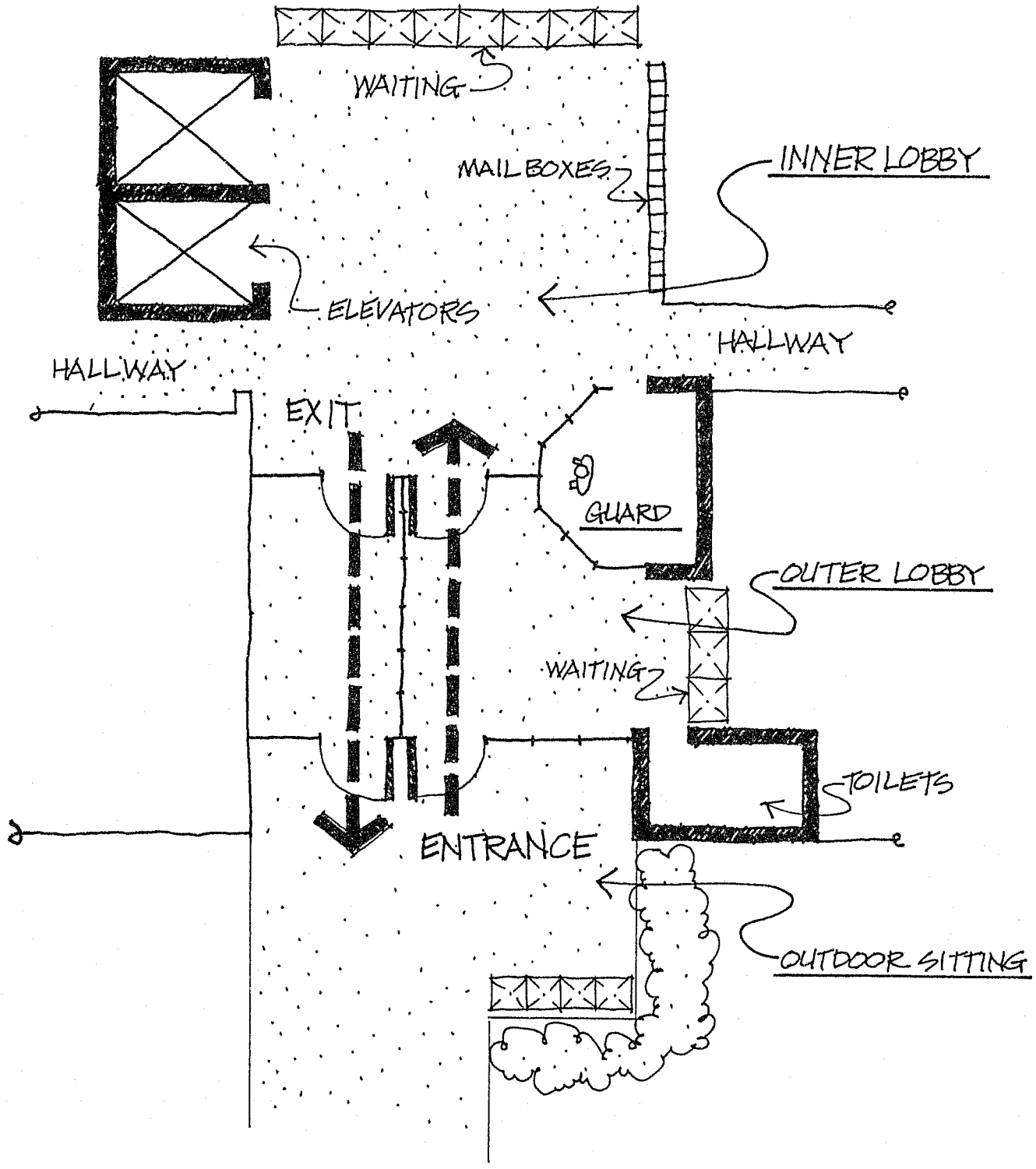


Figure 13.--This design optimizes guard's visibility of lobby and provides for separate entrance and exit areas.

Fire codes and security planning

There is often a built-in conflict between security planning and the need to provide people with safe passage and escape through a building in the case of fire. Security requirements emphasize controlled egress and ingress, fire safety requirements emphasize the need for many exit points.

Adjustments between these frequently competing requirements can be expected to vary somewhat from city to city depending on the fire codes. In Baltimore, fire exit doors are closed but can be opened from the guard booth. In Chicago a large fenced-in area outside each fire door has been constructed to temporarily detain anyone leaving the building via the fire exit. These two approaches, therefore, do offer successful compromises between the competing requirements for security and fire safety.

OPERATING THE CONTROLLED ENTRANCEWAYS

There are basically three operational requirements of a controlled entranceway. First, there must be physical control over the points of ingress and egress; secondly, there must be a way to identify residents; and thirdly, the guards must use the physical controls they have available and enforce the identification system to assure that those entering the building have a legitimate reason for being in the building.

These last two elements--the identification system and the conduct of the guards--are as important as the actual physical design of the entranceways. For if the guards do not use their control over the entrances, or if they do not screen those entering, then there will be no control over access.

Identifying residents

There are a number of different identification techniques that can be used. These include calling on an intercom system directly to the apartment, dialing a special number that opens the door, a key system, the insertion of a card in a card-reader that opens the door, and a range of others.

The two that seem most feasible for the kind of high traffic characteristics of public housing are: (1) issuing identity cards to residents which include photographs, and having a comparison file available to the guard so he can check the photograph and other information with the person presenting the card; or (2) issuing cards to residents that activate the doors once they are inserted in a control mechanism--the system that is going to be utilized in St. Louis.

The two systems differ in that the first relies more heavily on the guard and gives him greater discretion as to whom to check. In the second one, the guard is less important. Adults simply insert their card and those without cards seeking entry (including children) dial the apartment number they want to visit and the occupant then admits them directly.

The latter system is more complicated and more expensive but probably more effective, especially since, as in the St. Louis instance, there is a guard stationed in the lobby to prevent anyone from damaging the locking and control mechanism.

Specific guidelines depend on available funds and the confidence with which guards are viewed. The important thing, however, is that an identification system is an integral part of a controlled entranceway system. Without it, the system simply cannot screen those entering with any degree of reliability.

Making guards effective

In each of the three systems covered in this report, the guard is a critical element. He can do more to shape the meaning of the entranceway to intruders and residents alike than probably any other factor. It is his conduct that will determine who is challenged and under what circumstances. It is therefore necessary that a clear understanding be reached with the guard or guards as to the operational guidelines that will be enforced. And these guidelines must be realistic. If they are not and cannot be implemented, it will be a defeat for all. The guard's morale will suffer as he realizes that his job cannot be done; and the support of tenants will diminish as will their confidence in the system. If they see the system as ineffective in terms of the way they thought it was to operate, they can be expected to become resentful of any inconvenience associated with the way it does operate. In short, defects, however small, must be avoided or else worse consequences will be set in motion.

It is thus important, at the outset, to determine clearly what the guards' responsibilities are to be. Is he, for example, to check everyone, or is he to check only those he does not recognize? This issue must be faced squarely in the planning stage and should be a logical outgrowth of whether an "interventionist" or controlled entranceway system is intended.

In training guards, it is important to acquaint them with some of the pressures they will be under. First, there will be the problem of becoming familiar with the monitoring control equipment and the need not to be overwhelmed by any one system. Secondly, and much more difficult, will be the continuing pressure of dealing with residents, visitors, and unwanted intruders. There will be frequent attempts by people not to show identification, and to bypass screening. Guards can be expected to be criticized or even threatened when they insist on asking for identification.

Guards must also be prepared to check the identification of children, as many will wander in from outside and some are capable of destructive acts. They must also be prepared to check the identification of those who look familiar, particularly if they are males, as many times social relationships terminate and a male who was welcome for a long period of time to a resident is not any longer.

Given these pressures, there is a strong need for guards to have as professional an orientation as possible, which means they should have some emotional distance from the residents. To achieve this, it would seem advisable for guards not to be regularly assigned to the same buildings. Work shifts should be rotated between buildings and at different times of the day. This will prevent the guards from becoming too familiar with residents and frequent visitors and thus provide a greater incentive for them to ask for identification.

If guards are residents of public housing, they should not live in the particular project in which they are working. This will lessen the chances of becoming an easy target of vengeful persons in and around the development. It will also lessen the chance of the guards developing close friends for whom they might sometimes "bend the rules."

Given the traffic in most buildings, there should probably be two guards on duty during each shift to ensure all duties are carried out thoroughly. If the employment of two guards per station is impractical because of cost or other reasons, an extra guard should be stationed in the guard booth during the peak-activity hours of the morning and evening. In any case, guards should be linked to the local police so back-up is available.

THE LIMITATIONS OF CONTROLLED ENTRANCEWAYS

In considering whether to install an entranceway or in making decisions about its design, it is important to be realistic about what can be accomplished. It should be realized that a controlled entranceway--one where the objective is to screen all who are entering--is extremely difficult to operate. As the case study on Murphy Homes indicated, there are a number of pressures on the guards and on the physical system that make it difficult to identify people who don't belong in the building. And even in the best of circumstances--where there is a harmony between the physical layout of the system, the conduct of the guard, and the attitudes of the residents--the entranceway will, in all probability, be penetrated from time to time. Criminals are ingenious, and it is difficult to keep guards alert and motivated and residents continually supportive.

It should also be realized that, even if access is controlled, crime still may not be prevented. For the assumption behind controlled entranceways--that the criminal element is outside the building--may not hold true. In some buildings, the unhappy truth is that individuals capable of committing criminal acts are sometimes in the building and therefore hold adequate credentials for gaining entry to the building through the controlled entranceway. In some cases, an internal criminal economy exists in buildings in which the burglar lives on the 14th floor, steals on the 12th floor and sells on the 6th floor. None of the transactions involve contact with the controlled entranceway.

Controlled entranceways therefore cannot be expected to stop crime. The level of criminal activity is just too high and the causes too deep to expect otherwise. But, if properly designed and properly staffed and managed, they can help. But they should be approached realistically and with the awareness that, in order to achieve any success, there must be a good "fit" between the layout of the entranceway, the behavior of the guards, and the behavior and attitudes of the residents. All of these elements must be mutually supportive.

APPENDIX A

A USER NEEDS CHECKLIST FOR EVALUATING CONTROLLED ENTRANCEWAYS

The following is a list of requirements that a well-designed controlled entranceway should statisfy. The list can be used to identify the strengths and weaknesses of existing entranceways or as design criteria for the evaluation of new entranceways.

ADULT RESIDENTS

Should be able to:

1. Survey the entire lobby area upon entering the front door.
2. Pick up mail in full view of a guard.
3. Directly enter elevator from the front door in view of guard.
4. Read about current events, notice, notes, etc. on a bulletin board centrally located in the lobby.
5. Sit and wait for elevator.
6. Easily communicate with guard.
7. Make calls from public telephone centrally located in the lobby.
8. Sit outside entrance of building in view of guard.

CHILDREN

Should be able to:

1. Have access to restrooms in an outer lobby, without having to enter inner lobby or contact guard.
2. Get a drink of water in outer lobby.
3. Play in an area directly in front of the entrance area under the direct observation of guards or parents.
4. Communicate with parents in building either through guard or through direct intercom system in outer lobby area.

APPENDIX A (contd.)

GUARDS

Should be able to:

1. Have unobstructed view of mailboxes, elevators lobbies, outer lobby area, fire exits leading from lobby, and immediate outside areas.

2. Be protected from violent activities which could take place outside or in the lobby area.

3. Have direct face-to-face contact with people entering or leaving the building in both inner and outer lobby area.

4. Exit guard station quickly into lobby areas.

5. Maintain complete mechanical and visual control over ingress and egress.

6. Register all delivery personnel and visitors permitted to enter building.

DELIVERY PERSONNEL

Should be able to:

1. Gain entrance to the building after being cleared by the resident and registering with the guard.

VISITORS

Should be able to:

1. Gain entrance to the building after being cleared by the resident being visited and registering with the guard.

2. Sit and wait for clearance in outer lobby.

☆ U. S. GOVERNMENT PRINTING OFFICE : 1977 244-850/949

U.S. DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT
WASHINGTON, D.C. 20410

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE, $300

DEPARTMENT OF HOUSING AND
URBAN DEVELOPMENT
POSTAGE AND FEES PAID
HUD-401

FIRST-CLASS

September 1977
HUD-PDR-173(2)

END