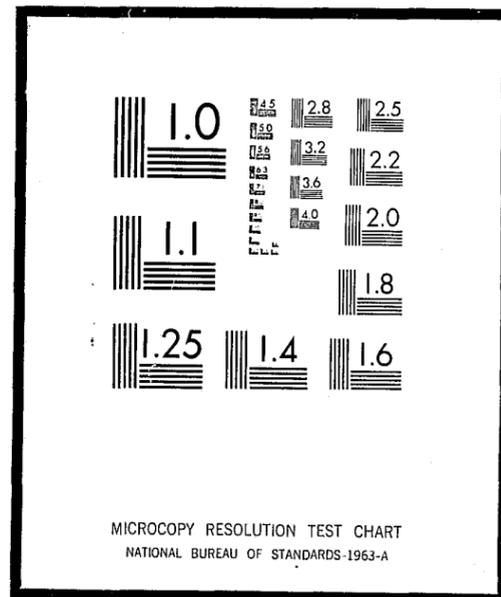


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HANDBOOK OF CRIME PREVENTION BULLETINS

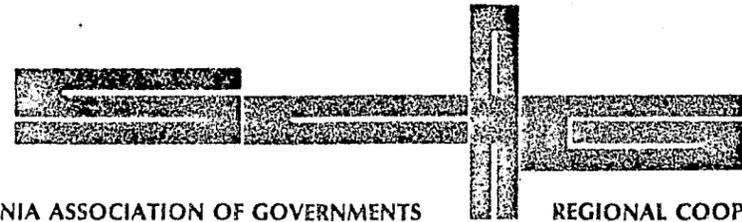
CRIME PREVENTION THROUGH PHYSICAL PLANNING

THE
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

September, 1971

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SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS REGIONAL COOPERATION FOR REGIONAL PROBLEMS

1111 WEST SIXTH STREET • SUITE 400 • LOS ANGELES • CALIFORNIA • 90017 • 213/481-0095

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JOHN T. CONLAN
President
Southern California
Association of Governments

RAY REMY
Executive Director
Southern California
Association of Governments

NAT TRIVES
Committee Chairman

L. P. GALLAGHER
Director
Criminal Justice Planning

TABLE OF CONTENTS
HANDBOOK OF CRIME PREVENTION BULLETINS

	<u>Page</u>
INTRODUCTION	i
CRIME PREVENTION BULLETIN #1 - Industrial Park	1-1
#2 - Commercial Development	2-1
#3 - Residential Subdivision	3-1
#4 - Apartment Complex	4-1
#5 - Public Building	5-1
#6 - School Plan	6-1
#7 - Public Park or Open Space	7-1
#8 - Opening or Closing of a Street or Alley	8-1
#9 - Trailer/Mobile Home Park	9-1
#10- Second Home Development (Recreational Community)	10-1
#11- Commercial Recreation Development	11-1
#12- Planning and Design Oversight	12-1
#13- Outline of Program to Train Personnel in Physical Planning and Crime Prevention	13-1
#14- Issuance of a Building Permit for a Commercial Structure	14-1
#15- Issuance of a Building Permit for a Single-Family Residential Structure	15-1
#16- A Case Study - Introduction of Anti-intrusion Standards and Devices into a Building Code	16-1

INTRODUCTION

This handbook is aimed at providing the form and substance of materials to increase the consideration of crime prevention possibilities in the physical planning processes. The form prescribed by the handbook is the Crime Prevention Bulletin (CPB), i.e., a series of single topic bulletins which can be conveniently refined and updated. The substance of the handbook is information on means of preventing crime through the planning and design of physical characteristics and a systematic approach to apply the information to specific projects.

The intended audience is the planner or designer who can influence decisions on physical characteristics in the creative or review stages of a project. The material and analytical techniques may be applied by the architect, landscape architect, city planner, building code administrator, law enforcement personnel and any others who have responsibilities for insuring that prevention of crime is considered along with other basic planning and design objectives. Important goals of the handbook are: providing means by which the knowledge and experience of law enforcement personnel can be included in the physical planning processes; and providing physical planners with an organized body of knowledge on crime prevention possibilities.

Background

The neglect of crime prevention in the physical planning processes, on the part of law enforcement and planning personnel, can be explained by: a lack of awareness of the possible contributions which could be made by physical planning and, therefore, the lack of support in the form of codes, policies, and manpower; the lack of incentives to include crime prevention measures by insurance companies and underwriters; and the lack of a body of knowledge and the education and training efforts to produce personnel skilled in the application of crime prevention in the physical planning processes.

This situation will change and crime prevention will be given more consideration in the physical planning processes in the future. This will be due to: an increasing awareness of the effects of physical

As the body of knowledge grows and codes and standards develop, the procedures can become much more formal. That is, there will be mandatory requirements for such items as lighting levels, and plans will be carefully checked to insure that the crime prevention measures have been included.

It is hoped that the handbook will be useful in the stages from informal to formal. In the early stages the handbook will provide a valuable compendium of information for the individual who has responsibility for improving the planning and design of new developments. The handbook can be used as a training device and information resource for an individual. Because of the relative uniqueness of the concepts and analytical approaches, the handbook may find its greatest utility as a training device for a group of individuals in a formal course, organized training program or informal inter-departmental discussion of a particular project. A ten-session training program outline has been included in a Crime Prevention Bulletin in the handbook.

Future of the Handbook

The handbook has been designed to expand and refine as the subject matter in the field grows. From the initial publication on, it is intended that the format will be that of individual CPB's, each on a particular subject. They will be printed in loose-leaf format so that they can be readily revised as additional pertinent information is available. Users of the handbook are urged to submit material for inclusion and suggestions on improving the handbook.

CRIME PREVENTION BULLETIN #1

SUBJECT: ANALYSIS OF A PROPOSED INDUSTRIAL PARK TO IDENTIFY
POTENTIAL PHYSICAL CRIME PREVENTION POSSIBILITIES

INTRODUCTION

Prior to the introduction of an industrial area into a given jurisdiction, the law enforcement agency can anticipate a relatively long planning period. It is essential that during this period they involve themselves in the planning process. This involvement should take place through the planning agency and take the form of formal and informal consultations with the developers or builders who are considering the industrial park.

Some aspects of physical crime prevention for industrial areas may be included in building and zoning codes which would delineate certain minimum security standards. These standards might direct the type of setbacks, lighting, street access, and general location of spur tracks in relationship to the building.

However, the majority of physical prevention steps cannot be formalized into law as they vary so much dependent upon the type of industry. Therefore, the law enforcement personnel will need to meet informally with the individual companies and their planners, to adapt the jurisdiction's security requirements to the company's operating needs. A long-range objective could well be the development of a set of basic criteria with additions or modifications for individual cases.

Procedures should also be established for review of physical security requirements whenever an industrial site changes ownership. In this manner, the security standards are continually tailored to meet the individual company's need.

Can parking layout permit close-in parking for late shift workers?

Does the landscape provide concealment?

Are parking stalls laid out to permit maximum observation by patrol, other people, or the attendants? Can the lot be at a lower grade than the surrounding streets enabling the patrol to look down upon it without unduly hampering design problems and increasing site development costs?

Will the lot be cleared at off-hours so that isolated vehicles can be checked out more readily?

Will all the parking be located in central areas?

Will the lot be secured by chain link fence and permit only controlled entry through a check point?

B. Parking Structures

Is there adequate lighting day and night?

Is it situated relative to the rest of the buildings in the area so it does not provide access to the roofs of any of the adjoining buildings?

Can night parking stalls be closer to pedestrian traffic and other activities?

Can attendant's station be located to provide maximum observation possibilities?

III. Structural

Are all entrances well lighted?

Are the entrances held to a minimum? Are the windows on the first floor? If so, are they well lighted?

Are the entrances clearly visible to patrol and the public? If not, can extra physical security be provided for off-hours, i.e. screening, etc.? Can they be oriented to increase visibility for patrol?

Have all means of gaining access to the roofs been removed, e.g. standpipes, flagpole, pallet storage, etc.?

Are there separate entrances for public, employees, and deliveries?

Can entrances for employees be situated adjacent to their designated parking areas?

Has night time parking been provided so that service entrances can be kept free of vehicles and trucks during

WHAT TO LOOK FOR

The following list considers eight major components of an industrial park development in which design and planning considerations can play an important part in crime prevention. For each component a list of questions is given:

I. Street Patterns and Lot Plan

Are streets straight and wide enough for effective patrol observation?

Are the industrial buildings set back so far from any patrollable street that observation is hindered?

Is vehicle access provided to the front and back of all buildings in the industrial park? If this is impossible, is foot access provided?

Would any proposed street closing adversely affect patrol observation?

Have provisions been made for emergency access for police vehicles to closed areas?

Are dead end streets and alleys avoided, such as sometimes found adjacent to service entrances?

Does the planning permit industries to be clustered by operating hours, so that industries operating all night or late can be adjacent?

Is adequate lighting provided along the streets?

Would any of the adjacent areas to the industrial park be likely to cause a crime problem?

Is the park located adjacent to streets which have a relatively high degree of traffic at all hours?

Does the industrial park have only the minimum number of streets entering it which could be blocked, secured or controlled if required?

II. ParkingA. Parking Lots

Is there adequate lighting throughout with emphasis on the interior? Have the advantages of low and high profile lighting been evaluated for this location?

Can late hour parkers be brought closer to high-volume traffic to reduce isolation?

off-hours to increase visibility of non-authorized vehicles?

Are service entrances located so they can be seen easily by random patrol?

Are the buildings situated so as to provide no indentations or alley ways which could be used by assailants for concealment?

Are the buildings planned so that access to one will not give access to other buildings (interconnecting basements and attics, etc.)? Are the larger buildings planned so that access to one part of the building does not give access to the entire building? Has special "target hardening" consideration been given to the office portion of each of the industrial buildings? Are these located in an area readily patrolled?

IV. Spur Tracks

Can access roads be provided along spur tracks to make patrol easier or can they be paved to enable a patrol car to patrol them? If not, is there a possibility of barricading the spur tracks to deter truck or vehicle passage during off-hours?

Can extra lighting be provided along the spur tracks?

V. Storage Yards and Service Areas

Are they situated so as to permit clear observation for patrol?

Are they in open areas for clear observation, i.e. free of parked vehicles, railroad cars, etc.?

Are they adequately lighted?

Can extra security be provided, e.g. chain link fence -- especially if pallets are stacked?

If supplies are stacked, is there enough area available so it might be done in a systematic manner allowing adequate lane space for a patrol vehicle?

Will these storage areas have at least a 50 foot cleared perimeter surrounding them?

VI. Walkways

Are the walkways situated to generate enough traffic to provide a deterrent by virtue of the number of people using them?

Are they routed past areas where the public is likely to congregate?

Are they wide enough to permit clear observation?

Are they sufficiently straight to provide adequate observation?

If they will be utilized at night, are they adequately lighted?

Have the walkways been landscaped in a manner as to provide minimum concealment for would-be attackers?

Are there access roads nearby so that emergency vehicles can get relatively close to any point on the walkways?

Are there any unnecessary indentations which would provide hiding places for would-be assailants?

VII. Landscaping

Is the landscaping of the type and situated in locations so as to maximize observation while providing the desired degree of aesthetics?

Is lighting used in the landscaping both for security and aesthetics?

Are walls planned only where they would create a desirable buffer? Then are they sufficiently high to deter circumvention? Are they situated in a manner so as not to provide concealment for a would-be attacker? Are they set back from sidewalks and walkways? Would it be feasible to use a chain link fence instead?

VIII. Miscellaneous

Has some sort of buffer been provided between the industrial park and the surrounding areas -- one which would deter a person crossing it with stolen goods?

Can access to the industrial park be controlled with a guard on duty or can it be equipped with an intrusion alarm system?

Does the industrial park employ its own security force? Can the law enforcement agency assist with the selection and training of the force?

CRIME PREVENTION BULLETIN #2

SUBJECT: ANALYSIS OF A PROPOSED COMMERCIAL DEVELOPMENT TO IDENTIFY POTENTIAL PHYSICAL CRIME PREVENTION POSSIBILITIES

INTRODUCTION

This CPB presents a series of questions to be asked about a proposed commercial development which could be the renovation of an existing area to create a mall or the planning of a new shopping center complex. The intent of these questions is to illuminate potential crime problems and to suggest ways to avoid them at the planning and design stages.

In all cases, a problem arises in balancing crime prevention with economic and aesthetic factors and such things as shopper habits and traditions. Decisions of this sort must be made in consultation with owners, builders, planning officials, fire officials, etc. Even if a crime hazard is allowed to remain because, for example, its aesthetic value is too important to eliminate, all people involved in the development should be aware of the nature of the crime hazard and the full extent of the trade-offs involved and other steps planned.

A sketch of a mall proposal has been included to illustrate some of the factors involved.

WHAT TO LOOK FOR

The following list considers six major components of a commercial development in which design considerations can play an important part in crime prevention. For each component, a list of questions is given to illuminate these design considerations.

I. Street Patterns and Site Plan

Is vehicle access provided to the front and back of all buildings in a shopping center, mall, or strip commercial area? If this is impossible, is foot access provided?

Would any street closing necessary to effect a shopping mall adversely affect patrol observation?

Has access to closed areas been provided for emergency vehicles?

Are dead-end streets and alleys avoided, such as sometimes found adjacent to service entrances?

Does the layout permit stores to be clustered by operating hours so that stores open after normal shopping hours can be together?

Is adequate lighting provided along the streets?

Would any of the adjacent areas be likely to cause a crime problem for this commercial area? Are these areas located adjacent to streets which have a relatively high degree of traffic at all hours?

II. Parking

A. Parking Lots

Is there adequate lighting throughout with emphasis on the interior? Have the advantages of low and high profile lighting been evaluated for this location?

Can late hour parkers be brought closer to high volume traffic to reduce isolation?

Is employee parking provided in an area with constant traffic or observation from surrounding activities to preclude isolation? Is it enclosed by a fence? If not, would it be better to inter-mix the employee and the customer parking?

Does the type of landscaping material provide concealment?

Are parking stalls laid out to permit maximum observation by patrol, other people, or the attendants? Can the lot be at a lower grade than the surrounding streets to increase patrol observation without creating design problems and increasing site construction costs?

Will the lot be cleared at off-hours so that isolated vehicles can be checked out more readily?

Will all the parking be located in central areas?

If there is an attendant, will a strong box be available and correct change be demanded so that minimum cash will be on hand? Can attendant's station be located to provide maximum observation of the parking area?

Is there a way to control access and egress? Would it be feasible to do so?

B. Parking Structures

Is there adequate lighting day and night?

Is it situated relative to the rest of the buildings in the area so that it does not provide access to the roofs of any of the adjoining buildings?

Can night parking stalls be closer to the attendants?

If it is out of operation during a portion of the day, can it be completely sealed off alleviating the need to patrol it?

Can the attendant's station be located to provide maximum observation if one is required? Should closed circuit T.V. be installed and monitored? Should a listening system be employed?

Can elevators be monitored? Can doors of elevators be oriented so that departing passengers will be seen by attendants?

Can shops be located in the parking ramp to increase the number of people in the ramp during operating hours?

III. Structural

If it is an interior mall, can it be sealed off after business hours so that the only building access points can be seen from the streets and parking areas surrounding it?

Are the entrances held to a minimum?

Are entrances well lighted?

Are the entrances clearly visible to patrol and public? If not, can extra physical security be provided for off-hours, i.e. screening, etc.? Can they be oriented to increase visibility for patrol?

Have all means of gaining access to the roofs been removed without conflicting with fire regulations?

Are there separate entrances for public, employees, and deliveries?

Can entrances for customers and employees be situated adjacent to their designated parking areas?

Can service entrances be kept free of vehicles and trucks during off-hours to increase visibility of non-authorized vehicles?

Are service entrances located so they can be seen easily by random patrol?

Are the buildings situated so that they provide no indentations or alley ways which could be used by assailants for concealment?

Are the stores structured so that access to one store will not give access to all stores in the mall or shopping center (interconnecting basements and attics, etc.)? Are the larger stores structured so that access to one part of the store does not give access to the entire store?

IV. Walkways

Are the walkways situated to generate enough traffic to provide a deterrent by virtue of the number of people using the walkway at all times?

Are they routed past areas where the public is likely to congregate?

Are they wide enough to permit clear observation?

Are they sufficiently straight to provide adequate observation?

If they will be utilized at night, are they adequately lighted?

Have the walkways been landscaped in a manner so as to provide minimum concealment for would-be attackers?

Are there access roads nearby so that emergency vehicles can get relatively close to any point on the walkways?

Are there any unnecessary indentations which would provide hiding places for would-be assailants?

V. Landscaping

Is the landscaping of the type and situated in locations so as to maximize observation while providing the desired degree of aesthetics? Will landscaping obscure observation from patrol helicopters?

Is lighting used in the landscaping both for security and aesthetics?

Are walls planned only where they would create a desirable buffer? Then, are they sufficiently high to deter circumvention? Are they situated in a manner so as not to provide concealment for a would-be attacker? Are they set back from sidewalks and walkways? Would it be feasible to use a chain link instead?

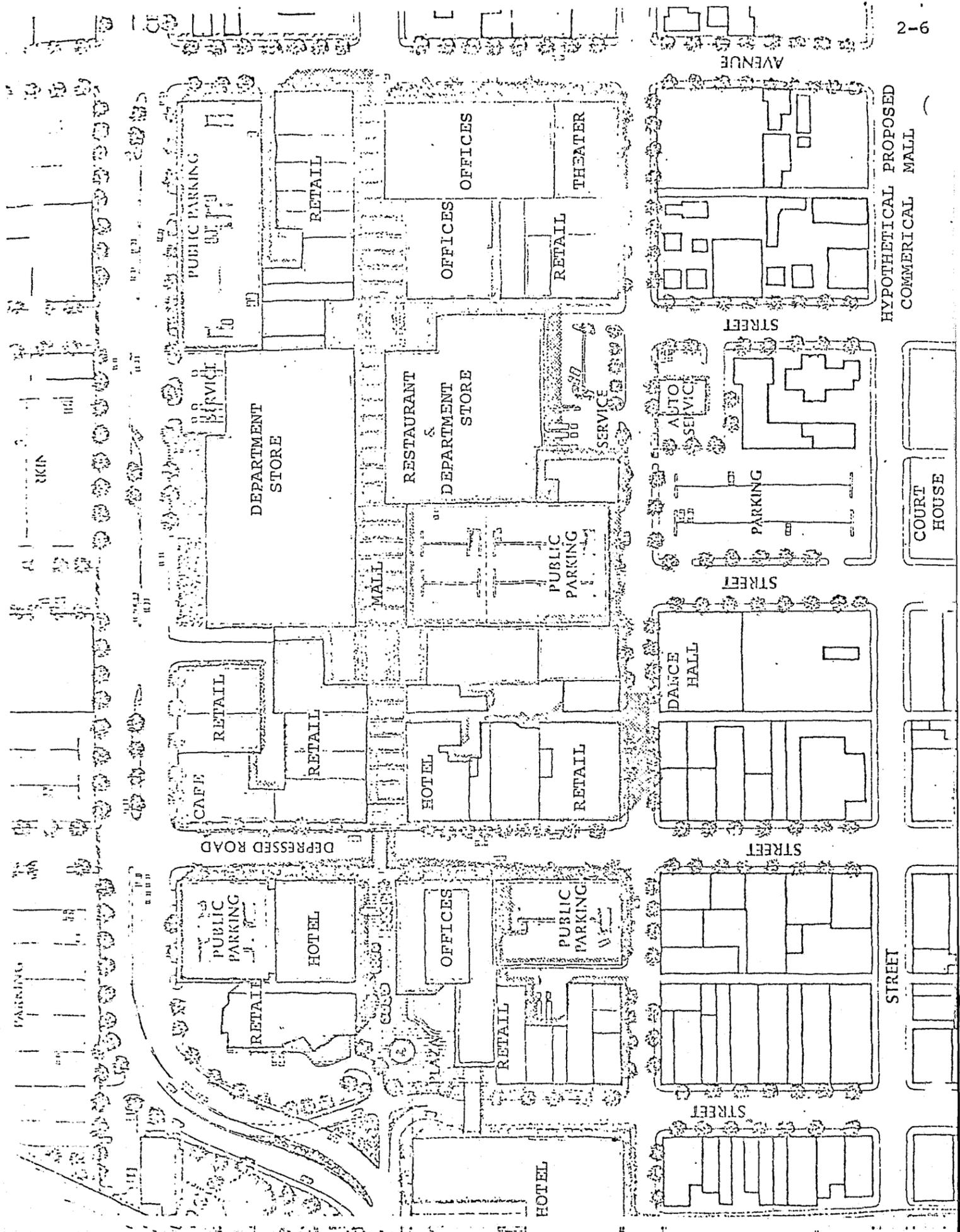
VI. Miscellaneous

If there are facilities in the shopping center or mall remaining open later than the majority of the stores, are they located adjacent to the main access streets, grouped together?

Is there a buffer zone (such as lower density commercial, office buildings, parks) between the commercial area and the adjoining areas which would deter a person from parking in one area and walking to another? Would this buffer zone inhibit persons from carrying stolen goods across it?

Is it possible to regulate deliveries to the commercial area so that there is at least one period of time during the night that no trucks or cars should be in the area?

Have provisions for an intrusion alarm system been included in the planning for the commercial area? Can a zone system be used so the entire mall does not have to be sealed off?



CRIME PREVENTION BULLETIN #3

SUBJECT: ANALYSIS OF A PROPOSED RESIDENTIAL SUBDIVISION TO IDENTIFY POTENTIAL CRIME PREVENTION POSSIBILITIES

INTRODUCTION

The law enforcement and planning agencies should recommend that the jurisdiction enact an ordinance which delineates minimum security standards for all residential buildings. The enforcement of this ordinance should be the primary responsibility of the department enforcing the building code. In addition, guidelines for street patterns and placement of dwellings on their lot should be established.

It is anticipated, however, that the ordinance will not be able to cover every aspect of each residential development, thus, it will be necessary for the law enforcement officials to meet either with the developer and with the jurisdiction's planners to tailor their security needs to the particular subdivision under consideration. These factors are also applicable in cases of residential renewal areas.

WHAT TO LOOK FOR

The following list considers six major components of a residential development in which design considerations can play an important part in crime prevention. For each component, a list of questions is presented.

I. Street Patterns and Lot Plan

Do street patterns and lot plans maximize social deterrents to crime by enhancing intra-neighbor observation and recognition?

Are houses clustered into small neighborhoods which are removed from thoroughways, thus making strangers in the neighborhood more obvious?

Are the houses situated on the lots in a manner to facilitate patrol observation?

Is the entire clustered neighborhood (at least the residents) located within one jurisdiction to reduce confusion in police responses?

Are the cul-de-sacs relatively short so not to hinder patrol and to increase intra-neighbor observation?
Are they wide enough to permit a patrol car to turn around? Do the backs of the cul-de-sacs border on a central open neighborhood park area as opposed to a possible escape route such as a thoroughfare or another cul-de-sac?

Are the streets wide enough to permit clear observation?
Are they sufficiently straight to provide for adequate patrol observation?

Are the major through streets sufficient in number and laid out in a manner to facilitate the police when responding to an emergency? Are their patterns and names systemized to facilitate emergency responses?

Are the streets well lighted?

II. Parking

Have provisions been made for sufficient off-street parking so the streets will be clear of vehicles at night?

Have enclosed garages been planned instead of open carports?

Are the garages situated so they cannot be observed easily from the street?

III. Structural

Could all the entrances be clearly visible to patrols or neighbors if the resident chose not to obscure them?

Is there adequate lighting at the entrances?

Are unobservable windows kept to a minimum? Are the unobservable windows small enough to prevent an average sized person from gaining access through them?

Are the residences clearly identified by house numbers and are addresses visual at all times?

IV. Walkways

Are the walkways situated to generate enough traffic to provide a deterrent by virtue of the number of people using the walkway at all times?

Are they routed past areas where the public is likely to congregate?

Are they wide enough to permit clear observation?

Are they sufficiently straight to provide adequate observation?

If they will be utilized at night, are they adequately lighted?

Will the walkways be landscaped in a manner so as to provide minimum concealment for would-be attackers?

Are there access roads nearby so that emergency vehicles can get relatively close to any point on the walkways?

Are there any unnecessary indentations which would provide hiding places for would-be assailants?

V. Landscaping

Is the landscaping of the type and situated in locations so as to maximize observation while providing the desired degree of aesthetics?

Is lighting used in the landscaping both for security and aesthetics?

Are walls planned only where they would create a desirable buffer? Then, are they sufficiently high to deter circumvention? Are they situated in a manner so as not to provide concealment for a would-be attacker? Are they set back from sidewalks and walkways? Would it be feasible to use a chain link fence instead?

VI. Miscellaneous

In those neighborhoods which are clustered, has the developer provided recreational facilities or other community facilities which would facilitate neighbors becoming acquainted with one another?

If the neighborhood is located adjacent to a commercial zone, a school, etc., is there some buffer between them such as a large expanse of park land or high wall?

When an area is being developed at one time, has the developer included provisions for intrusion alarm systems?

CRIME PREVENTION BULLETIN #4

SUBJECT: ANALYSIS OF A PROPOSED APARTMENT COMPLEX TO
IDENTIFY POTENTIAL CRIME PREVENTION POSSIBILITIES

INTRODUCTION

This CPB covers a variety of types of apartments from the small building with only a few units to the large complex encompassing several apartment buildings. This includes the multi-storied apartments as well as the sprawling garden variety.

WHAT TO LOOK FOR

The following list considers six major components of an apartment complex in which design considerations can play an important part in crime prevention. For each component, a list of questions is presented:

I. Street Patterns and Lot Plans

Have large complexes of apartments eliminated all but essential thoroughfares through the apartment areas without reducing fire suppression capabilities?

In the large apartment complexes, are the apartment buildings set back sufficiently from the perimeter streets to deter the casual passerby from entering the complex area?

Do street patterns and lot plans maximize social deterrents to crime by enhancing neighborhood observation and recognition?

Are the apartments situated on the lots to facilitate patrol observation and allow patrol access to all sides of the apartments?

Are the apartments arranged on the site with adequate access streets to enable the police to respond quickly in an emergency?

Are the streets well lighted?

II. Parking

Is an off-street garage parking area available for tenants and some spaces for visitors to reduce on-street parking to a minimum?

Is the tenant off-street parking area in a secure place, with an access control device which limits entrance and exit from the area to authorized tenants only?

Is this well lighted?

Are technological devices needed in the parking area, such as CCTV and sound devices, to provide adequate security?

Is the parking area situated in a manner that it does not provide access to any of the apartments other than for authorized persons?

III. Structural

Are all the entrances clearly visible to patrols or neighbors?

Are the number of entrances at a minimum and, where possible, require passage through some central point such as the lobby where a clerk could be on duty?

Can entrances to the building from the parking structure be tightly secured?

Is there adequate lighting at the entrances?

Are unobservable windows kept to a minimum, especially on the first floor?

Are the stairwells open and able to be observed at all times from public areas?

Could the elevator use a shaft that would be observable from a public area -- such as a glass shaft on the outside of the building?

Is the elevator equipped with a security alarm button that would sound a silent alarm and automatically send the elevator to the first floor?

For the smaller apartment building, do the apartments open onto a central court and face one another without unduly increasing the noise factor?

Are the number of units per building relatively limited to facilitate a sense of community and mutual observations?

Are storage areas outside of the tenants' apartments required? If so, are they located in a secure area, i.e. somewhere remote and not visible from an adjacent street?

Does each apartment have their own storage area with access limited to their use only? Are storage areas secure?

Is there need for a service entrance? Is it located to provide selective access and not to create an entrance way for criminals into the complex?

IV. Walkways

Are the walkways situated to generate enough traffic to provide a deterrent by virtue of the number of people using or observing the walkway at all times?

Are they routed past areas where the public is likely to congregate?

Are they wide enough to permit clear observation?

Are they sufficiently straight to provide adequate observation?

If they will be utilized at night, are they adequately lighted?

Have the walkways been landscaped in a manner as to provide minimum concealment for would-be attackers?

Are there access roads nearby so that emergency vehicles can get relatively close to any point on the walkways?

Are there any unnecessary indentations which would provide hiding places for would-be assailants?

V. Landscaping

Is the landscaping of the type and situated in locations so as to maximize observation while providing the desired degree of aesthetics?

Is lighting used in the landscaping both for security and aesthetics?

Are walks planned only where they would create a desirable buffer? Then are they sufficiently high to deter circumvention? Are they situated in a manner so as not to provide concealment for a would-be attacker? Are they set back from sidewalks and walkways? Would it be feasible to use a chain link fence instead?

VI. Miscellaneous

In those apartments which are clustered, has the developer provided recreational facilities or other community facilities which would facilitate neighbors becoming acquainted with one another? Are these areas located in places where they will receive a maximum amount of observation from the tenants?

If the apartments are located adjacent to a commercial zone, a school, etc., is there some buffer between them such as a large expanse of park land or high wall?

Has the developer included provisions for intrusion alarm systems?

CRIME PREVENTION BULLETIN #5

SUBJECT: ANALYSIS OF A PROPOSED PUBLIC BUILDING TO IDENTIFY POTENTIAL CRIME PREVENTION POSSIBILITIES

INTRODUCTION

Public buildings range widely in size, function and types of occupancies. No one set of considerations for crime prevention will exactly fit the entire range. Law enforcement and physical planning personnel reviewing plans for proposed public buildings should have a detailed understanding of the activities to be housed in the building to insure that recommendations on crime prevention possibilities are truly functional. For example, if prisoners are to be transported in and out of the building, special precautions may be required in prisoner movement systems. The changing demands on governmental services dictate that new, multi-purpose public buildings should have a great deal of planning flexibility built into them to permit adaptation to future changes. This adaptability need not be compromised for crime prevention purposes if basic principles, e.g. limited accesses and zone security, are introduced in the early planning processes.

WHAT TO LOOK FOR

The following list includes major factors which should be considered in the planning and design of a public building, to prevent future crimes in or around the building.

I. Orientation on the Site

If a single building, are there sufficient open areas on all sides of the building to allow for easy movement and surveillance around and from within the building?

If more than one building on the site, is there suitable open space between buildings in addition to that around the outside perimeter of all the buildings?

Is it possible to locate building(s) on the site to allow for maximum observation of all sides from adjacent street(s)?

Has obscurity or partial obscurity been avoided by proper planning of site features such as trees, mounds, slopes, walls, monuments, etc.?

Is there unobstructed observation of and access to entrances from adjacent streets?

II. Building Design

Are offsets in building configuration kept to a minimum, in order to avoid areas obscured from surveillance?

Are the number of entrances to the building kept to a bare minimum consistent with efficiency, public convenience, code regulations and other factors?

Is there an unobstructed view of the entrances, as well as access from adjacent street(s)?

If building must be in operation during off hours, are unlocked entrance doors restricted to one only?

Are the latest in building security control devices being used, wherever practicality and economics permit, e.g. T.V. surveillance of corridors, electronic locking devices, electronic warning devices, central security control station, etc.?

Have recesses, offsets, and exposed columns in or off interior public areas been restricted to a minimum?

Can public corridors be limited to one per floor? Have offsets and turns been kept to a minimum?

Are there suitable alarms or detection devices in stairwells wherever such stairs must remain open and are otherwise non-securable or patrolable without use of extra manpower?

Are windows of fixed glass (non-openable)? Can windows be eliminated entirely on lower floors? If not, is glass shatterproof? Has the amount of window glass been kept to a minimum (that is, have floor to ceiling windows been eliminated or used sparingly)?

If prisoner traffic in the building is more than moderate, are there special security entrances, separate security elevators, and, possibly, special corridors?

Have closets and special compartments which open onto public corridors been kept to a minimum, and is there a locking system on all such doors which are necessary?

Are heavy public contact functions located on the lower floors with limited public access to the remainder of the building?

Where practical and possible, have escalators been substituted for elevators for public use?

Have the complaint/information and payment counters been located on the ground or first floor close to the public entrance? Are there suitable open areas around such counters for easy surveillance? Where cash is handled, is there a security system installation?

Have sensitive functions and equipment, such as communications, computer operations, telephone equipment, police property and evidence, been located in areas that can be easily restricted to authorized personnel only?

Is the lighting throughout the building adequate for sound surveillance and security practices?

III. Yard and Parking Areas

Are yards and parking areas sufficiently illuminated at night, wherever economically feasible, to increase patrol observation effectiveness?

Is the landscaping planned so that it does not provide places of concealment for would-be vandals?

Are emergency and police patrol vehicles in an enclosed, securable structure and inaccessible to the public?

Does the parking system permit ease of surveillance of autos and areaways? Are night-time parking areas illuminated adequately?

Is ingress and egress from the parking areas effectively controlled and patrolled?

Are there suitable alarm or detection devices in the stairwells or elevators of parking structures?

CRIME PREVENTION BULLETIN #6

SUBJECT: ANALYSIS OF A PROPOSED SCHOOL PLAN TO IDENTIFY
POTENTIAL CRIME PREVENTION POSSIBILITIES

INTRODUCTION

The security and crime prevention problems of schools vary considerably, depending on a wide variety of factors. These factors include the location of the school, the history of vandalism and other crimes in the area, the orientation of the school on the site, the availability and effectiveness of patrol by the school's security force, local law enforcement agencies, and others. These factors should be considered at the earliest possible time in the planning and design of a new school.

The questions presented in the following sections seek to illustrate how these factors and others can be considered in the planning and design stages. It is recognized that not all of these questions are applicable to every proposed school and that certain restrictions, e.g. economic, aesthetic, and climatic, may need to outweigh the crime prevention provisions.

WHAT TO LOOK FOR

The following list considers four major components of a school plan in which planning and design considerations can provide significant crime prevention possibilities. A list of questions is presented for each component. Additional experience and research in these areas will, hopefully, produce specific guidelines and standards for future planning.

I. Site

Is the proposed site in a location which will permit close coordination of patrol of the school with regular patrol of the general area? Is the location readily accessible if additional police units are needed in emergencies?

Is the site in a location where large turn-outs for after-school activities, e.g. night football games, could create vandalism and other crime problems for surrounding property owners?

Can all areas of the site be observed from regular patrol cars during off-school hours to detect unauthorized activities?

Are there off-site areas where crowds can congregate but police units cannot readily patrol?

II. Structural

Is it possible to have a multi-storied structure? If so, can windows on the first level be eliminated, reduced in number, or made of vandal-proof materials?

Can walkway covers be eliminated or designed to avoid their use in gaining access to the roof of the school? Are there other structural or landscaping features which could afford access to the roof?

Can functional areas be grouped together so that they can be secured when not in use as, for example, isolating recreational areas and classrooms from administrative areas when the former are used for after-school activities?

Do electrical plans provide for intrusion alarms in the areas of high crime incidence, e.g. offices, cafeterias, band rooms, shops and typing and office machine classrooms?

If the school is to be one building, can it be planned and designed so that entry to one area does not permit ready access to all areas during off-school hours?

Are entrances readily observable by patrol units? Can entrances be minimized? Are they adequately lighted?

III. Parking

Can access to the parking areas be controlled so that only authorized vehicles can enter? Can parking areas be secured when not in use?

Can sufficient parking be provided on or immediately adjacent to the proposed school site so that adjoining property owners will not be burdened and so that crimes against the parked vehicles can be minimized through more concentrated patrol and increased lighting?

Can parking lots be lighted, if they are to be used with some frequency for night-time parking?

Does the proposed landscaping of the parking area obscure observation?

Can police units easily patrol all sides of the parking areas? Can parking areas be depressed for more effective observation without creating undue design problems and increased site development costs?

Can there be designated areas for parking bicycles? Are the bicycle racks in readily observable areas? Are racks immovable?

IV. Grounds

Can chain link fencing be used instead of solid walls?

Does the landscape plan increase the observability of most areas of the school property? Will the specified landscaping materials provide hiding places for would-be attackers?

Is adequate lighting available to permit observation by patrol units during non-school hours?

V. Miscellaneous

If dormitories are to be provided, are they situated away from the academic areas so that unauthorized activities around the academic areas can be more readily observed during non-school hours? Are the dormitories adjacent to permit observation of criminal acts? Have entrances been minimized? Is adequate security provided for property storage areas? (For additional questions, see CPB on apartment complexes).

CRIME PREVENTION BULLETIN #7

SUBJECT: ANALYSIS OF A PROPOSED PUBLIC PARK OR OPEN SPACE TO IDENTIFY POTENTIAL CRIME PREVENTION POSSIBILITIES

INTRODUCTION

This CPB covers the factors to consider in the planning and design of a wide variety of public park areas and open spaces ranging from the small, compact park in a commercial area through the vast regional parks. The park layouts may range from highly structured and very formalized usages, e.g. tennis courts, baseball diamonds, shuffleboard courts, etc. to less formal areas for picnics, nature trails and just open expanses.

The crime potential for these areas can range across the entire spectrum of anti-social behavior, from petty vandalism through grievous assaults and mass disturbances. Physical planners and law enforcement personnel should be involved in the early stages of planning and design to introduce suggestions for physical features which might serve to prevent the commission of crimes and/or increase the ability of law enforcement agencies to respond in the event of a crime.

WHAT TO LOOK FOR

The following list considers six major components of a public park or open space in which physical features might make a significant contribution to the prevention or deterrence of crime. The questions are designed to illuminate the crime prevention possibilities.

I. Street Patterns and Park Layout

Are adjoining streets planned to permit observation of park areas by regular police units or special park patrols?

Can an access street be provided through the park without destroying the character of the park? If full access for all types of vehicular traffic would be destructive, is it possible to provide for occasional patrol and emergency vehicles?

Does the proposed park require the closing of a major street with potential problems for other patrol activities?

Can the high volume park activities be located close to the patrol observation points?

Can buildings be located close to access roads to permit maximum observation?

Can access roads be provided to reservoirs and similar "targets" to permit maximum patrol observations?

Can access, or patrol roads, be laid out to permit efficient patrol and maximum observation of major park activities, buildings, equipment storage areas, reservoirs and other possible crime "targets"?

II. Parking

Can off-street parking be situated so that it can be readily observed from patrol and so that it does not obscure patrol observation of other park areas?

Is parking provided in a secure, well-lighted area? Is the parking for night activities located adjacent to the activity centers to reduce isolation? Is there adequate lighting of these areas?

Are parking stalls laid out to improve, not hinder, patrol observations?

III. Buildings

Are buildings located near regularly patrolled streets and in areas of high activity? Are the number of entrances held to a minimum? Are entrances observable from patrol points? Are there means of gaining access to the roof? Can windows be reduced to a minimum without impairing park-like qualities? Are buildings well lighted?

Are restrooms located on the perimeter of the park or adjacent to patrolled streets? Can entrances be seen from the street? Are entrances unobstructed without blindwalls and small access ways? Are restrooms well lighted inside and out? Are lighting fixtures tamper-proof?

IV. Storage Areas

Are storage areas located on perimeters and close to patrolled roads to permit maximum observation by regular patrol units?

Is parking provided for equipment away from buildings and fueling facilities so that unauthorized vehicles can be readily observed by patrol units?

Is area well lighted?

Does landscaping permit places of concealment from patrol units?

Can chain link fencing be used instead of block walls?

V. Walkways

Are they wide enough to permit clear observation?

Are they adequately lighted if to be used at night?

Does adjacent landscaping provide concealment opportunities?

Can walkways be routed through areas where there are usually some people to reduce isolation?

VI. Recreational Equipment

Can recreational equipment be located close to other activity centers to reduce isolation?

Can it be located close to patrolled roads?

Can it be secured at night?

Can the area be lighted at night?

CRIME PREVENTION BULLETIN #8

SUBJECT: ANALYSIS OF PROPOSED OPENING OR CLOSING OF A STREET OR ALLEY TO IDENTIFY POTENTIAL CRIME PREVENTION POSSIBILITIES

INTRODUCTION

The opening or closing of a street or alley could have a substantial effect on police patrol and beat configurations as well as on means of preventing crime. The participation of law enforcement personnel in the early planning and decision stages may help to reduce or eliminate some serious future operational problems. Their participation may help to eliminate changes in physical characteristics which could make the commission of crimes much easier.

WHAT TO LOOK FOR

The following list of questions are designed to illuminate factors which should be considered in the analysis of a proposed change in a street or alley.

I. Opening of a Street or Alley

Will the opening provide a would-be criminal with easier access to residences, stores, industries or other targets?

Does the proposed alignment of the street or alley provide for unobstructed patrol observation?

Will it increase or decrease traffic congestion at certain times, thereby affecting police response times?

Will the street opening provide additional off-street parking areas with greater opportunities for car thefts, etc.?

Is adequate lighting provided?

II. Closing of a Street or Alley

Will the closing make patrol less effective because it reduces the patrol observation of certain high-risk buildings or areas?

Does the closing produce a dead-end area increasing patrol difficulties and providing concealment place? Will it increase response time to certain areas?

Does the closing produce a "pocket" which will be difficult to police?

What will replace the vacated street or alley? Will the intended use create additional policing problems? (See other CPB's for questions on particular uses).

CRIME PREVENTION BULLETIN #9

SUBJECT: ANALYSIS OF A PROPOSED TRAILER/MOBILE HOME PARK TO IDENTIFY POTENTIAL CRIME PREVENTION POSSIBILITIES

INTRODUCTION

This CPB presents a series of questions to be asked about a proposed trailer/mobile home park development. The intent of these questions is to illuminate potential crime problems and to suggest ways to avoid them at the planning and design stages.

Although these developments have many common physical characteristics, e.g. "pads" for individual units and certain centralized services, they vary widely as to the value of individual units, monthly rentals, density, landscaping treatments, provision of security forces and occupancy. The physical planning for crime prevention should capitalize on two important facets: the relatively high density which increases the opportunity to observe unlawful activities; and, the high degree of community interaction which develops in these parks.

The following questions seek to illustrate how these factors and others can be considered in the planning and design stages.

WHAT TO LOOK FOR

The following list considers four major components of a mobile home park in which design considerations can play an important part in crime prevention. For each component a list of questions is presented:

I. Street Patterns and Lot Plans

Are street patterns and lot plans designed to permit maximum observation by patrol (private or public)?

Is sufficient side yard clearance provided for unobstructed vision for patrol?

Is access to the area limited to one or two roads which pass an office or check point?

II. Parking

Is sufficient off-street parking provided so that streets may be cleared at night?

III. Storage

Has secure, central storage place been provided to reduce the valuables which have to be stored within the mobile homes or in adjoining sheds?

Has a separate, secure area been provided for the storage of smaller trailers and boats? Will a chain link fence be provided? Will area be lighted? Does street pattern permit easy patrol observation from all sides?

IV. Landscaping

Does landscaping (walls and shrubs) reduce patrol visibility or visibility from one section to another?

CRIME PREVENTION BULLETIN #10

SUBJECT: ANALYSIS OF A PROPOSED SECOND HOME DEVELOPMENT (RECREATIONAL COMMUNITY) TO IDENTIFY POTENTIAL CRIME PREVENTION POSSIBILITIES

INTRODUCTION

Because these areas are likely to be entirely or partially abandoned during portions of the year, they present a serious problem to the law enforcement agency having jurisdiction over the area. Most of these developments are now being planned as an entire community. The consideration of crime prevention possibilities in the early planning and design stages can serve to reduce future crime problems.

Procedures should be established to encourage or require all developers to check proposed developments with the law enforcement agency in the planning processes.

Some physical security requirements may be standardized and enacted into law, but substantial coordination will be required to accommodate the security requirements in each development. Much of the security requirements will depend upon the site, the type of recreation available, the anticipated use of the residences, and the type of population attracted to this type of development.

WHAT TO LOOK FOR

The following list considers four major components of a second home development in which design considerations can play an important part in crime prevention. For each component a list of questions is presented:

I. Street Patterns and Lot Plan

Unless contrary to fire regulations, can egress and ingress be limited to one road? Can access be controlled at a security gate? If not, do the access road(s) pass some commercial or populated area where unauthorized persons entering the area would be observed? Can this access road(s) be closed during off seasons?

Can the high value items of recreational equipment, such as boats, ski centers, etc., be clustered in areas which will be occupied by some inhabitants year round?

Can the residences be clustered in a manner which would aid in their security, i.e. unoccupied residences might be totally sealed off or comingled with those residences occupied year round?

II. Parking

Does each resident have a secure vehicle and recreational equipment parking area? Is it fenced, lockable, and lighted, if necessary?

Do the recreational areas of the development have secure parking, especially for persons leaving their vehicles overnight? Can the yard be secured with locks? Is it in an area which can easily be patrolled, etc.?

III. Storage Areas

Is there adequate secure storage areas adjacent to the docks or other recreational areas where owners can store valuables while engaged in recreational activities?

Does each resident have a secure bulk storage area adjacent to his residence?

Can the security of commercial storage areas be improved by improving patrol observation, fencing or other means?

IV. Walkways

If the walkway will not generate enough traffic to provide the safety of numbers for the walker, can all shrubbery and other plants providing concealment be eliminated?

Has night lighting been provided?

CRIME PREVENTION BULLETIN #11

SUBJECT: ANALYSIS OF A PROPOSED COMMERCIAL RECREATION DEVELOPMENT TO IDENTIFY POTENTIAL CRIME PREVENTION POSSIBILITIES

INTRODUCTION

Commercial recreation developments can range widely in size, function, the number and types of persons attending and the crime problems which may be created. Law enforcement and physical planning personnel reviewing plans for the proposed developments should have a good understanding of these factors in addition to thorough knowledge of the surrounding area. Large developments will have substantial effects on traffic patterns within a wide radius and, if reasonable parking is not provided on-site, the pedestrian traffic and crimes may be spread over an area which is extremely difficult to patrol. While many problems will be operational in nature, as in ticket scalping and purse-snatching, the application of some basic concepts of crime prevention in the early planning and design stages may serve to reduce law enforcement problems in the future.

WHAT TO LOOK FOR

The following list includes major factors which should be considered in the planning and design of commercial recreation development.

I. Location

Is the proposed site in a location which will permit a close coordination of the regular patrol of the area with the additional patrol that might be required due to the new recreational development? Is the location readily accessible if additional police units are needed in emergencies?

Can buffers of any type be created to isolate the recreation development from the adjoining property owners? For example, will the location force a great many vehicles to be parked in adjoining areas, thereby increasing the exposure to crimes against cars and adjoining properties?

Are there off-site areas where crowds can congregate but police units cannot readily patrol?

II. Structural

Are entrances and exits located so they can be observed from regular patrol during off-hours?

Can cashier booths be grouped to prevent isolation of a single booth?

Can windows on the first level be eliminated, reduced in number, or made of vandal-proof materials?

Have facilities been provided for a police sub-station?

Can storage areas be adequately secured?

Can stairwells, elevators and pedestrian ways in the building be opened to observation through use of transparent, but vandal-proof, materials?

III. Parking

Is sufficient parking provided so that adjoining areas will not be burdened with on-street parking? If there is no alternative to on-street parking in the adjoining areas, can restrictions be imposed which will increase the ability of police units to patrol the area?

Is adequate lighting specified for the parking lots?

Are stalls designed to permit maximum patrol observation?

Can patrol units easily patrol all sides and through the lanes of the parking areas?

Can attendant stations be situated to provide maximum observation of parking areas?

If parking structures are to be provided, are they well lighted? Are attendant stations located to permit maximum observation of the structure? Do elevators off-load within sight of the parking attendants?

Can parking for late workers be provided near activity centers to avoid isolation?

Does landscaping in the parking areas provide places of concealment?

IV. Walkways

Have walkways been designed to increase observability? Are they routed so as to minimize areas of very limited use and pockets of isolation?

Does landscaping of walkways provide concealment areas?

Can lighting be provided?

CRIME PREVENTION BULLETIN #12

SUBJECT: PLANNING AND DESIGN OVERSIGHTS

This CPB is aimed at identifying planning and design oversights which created crime prevention problems for law enforcement. The CPB defines a means of accumulating and disseminating this type of information to physical planners and law enforcement officials so that these oversights will not be replicated.

OVERSIGHTS

Only six inches of side clearance was provided for patrol or emergency vehicles in the accessway to a new mall.

Tree plantings in a new mall obscure observation from helicopter patrol.

A block wall, installed to screen the parking lot from the unsightly rear entrances of a line of stores, presents a difficult patrol observation problem and a place of concealment for would-be burglars.

Parking spaces for vehicles next to an industrial building presents a difficult patrol observation problem at night.

Locating the gas pumps in an unlighted and obscure corner of a large commercial warehouse complex presents a difficult patrol observation problem.

Locating the pallet storage area next to the industrial building presented easy access to the roof.

A flagpole next to a building presented easy access to the roof.

* NOTICE *

If you know of a planning or design oversight which should be brought to the attention of other physical planners and law enforcement officials, please write it up and mail it to:

Director, Criminal Justice Planning
Southern California Association of Governments
Suite 400
1111 West Sixth Street
Los Angeles, California 90017

CRIME PREVENTION BULLETIN #13

SUBJECT: OUTLINE OF PROGRAM TO TRAIN PERSONNEL IN PHYSICAL PLANNING AND CRIME PREVENTION

INTRODUCTION

This program has been designed for the technician or first-line supervisor who will be involved in analyzing proposed developments as part of a program to reduce crime through physical planning. The program can be conducted on a full-time, continuous seven day schedule if sufficient participants are available. The attached schedule depicts an alternate arrangement which could be completed in five or ten weeks in half-day sessions recognizing the possible manpower shortages but also providing time between sessions to identify and analyze "real-life" applications of the material covered in the program.

The major purposes of the program are:

1. To describe the results which can be gained by including crime prevention considerations in the physical planning processes.
2. To describe how personnel in the law enforcement agencies can be involved in these processes on informal and formal bases.
3. To provide information on crime prevention measures which are applicable in various types of developments.
4. To provide training in skills development in applying the information.
5. To provide suggestions on implementing the program through inter-departmental coordination, formal policy statements, ordinances and other means.

SUGGESTED TRAINEES:

Law enforcement officers who will supervise or conduct these activities in their departments; personnel from planning, urban renewal, and redevelopment agencies.

FIRST SESSION (Three Hours)

This session will aim at providing:

- an overview of the physical planning processes; the difference between analysis of the physical characteristics of future developments and the analysis of existing structures and operating procedures;
- information on how the knowledge of crime prevention measures can be applied in these processes;
- information on how the planning function can be incorporated into existing organizations and procedures on formal and informal bases;
- information on programs of other jurisdictions and the benefits which can accrue from such programs.

<u>Topics</u>	<u>Training Method</u>	<u>Time Allowed</u>
1. Introductions Participants Schedule Training Methods	Lecture	30 min.
2. Physical Planning Concepts and Trade-offs	Lecture	30 min.
3. Physical Planning Techniques and How Organized in Cities and Counties	Lecture	30 min.
4. Law Enforcement Involvement in Physical Planning Processes Formal Informal	Lecture	30 min.
5. Case Studies on How Law Enforcement Agencies Became Involved in Physical Planning	Discussion	30 min.
6. Discussion of Observations to Make Prior to next Session on Jurisdictions, i.e. physical planning processes and organization, crime prevention possibilities in residential, commercial and industrial developments	Discussion	30 min.

SECOND SESSION (Three Hours)

This session will aim at providing:

- an understanding of planning, zoning, subdivision, urban renewal, redevelopment, annexation and other physical planning processes with particular emphasis on how crime prevention measures might be introduced at various stages.

<u>Topics</u>	<u>Training Method</u>	<u>Time Allowed</u>
1. Review of Previous Material and Week's Observations	Discussion	30 min.
2. Planning and Zoning	Lecture	15 min.
3. Subdivision	Lecture	15 min.
4. Building Permits	Lecture	15 min.
5. Urban Renewal	Lecture	15 min.
6. Redevelopment	Lecture	15 min.
7. Annexation	Lecture	15 min.
8. Implications for Crime Prevention in the Planning of new developments, in "target hardening" for existing structures, and in operating procedures	Lecture) Discussion)	45 min.
9. Discussion of Observations to Make Prior to Next Session on Commercial Developments	Discussion	15 min.

THIRD SESSION (Three Hours)

This session will aim at providing:

- a thorough discussion of the analysis of a proposed commercial development
- an understanding of the analytical techniques employed
- an awareness of the trade-offs involved in applying security requirements to various types of commercial developments including economic, aesthetic, and public convenience.

<u>Topics</u>	<u>Training Method</u>	<u>Time Allowed</u>
1. Analysis of a Proposed Shopping Center	Lecture Discussion Simulation Models	60 min.
2. Analysis of a Proposed Renewal of a Downtown Commercial Area into a Shopping Mall	"	60 min.
3. Analysis of a Proposed Enclosed Shopping Mall	"	15 min.
4. Analysis of new Proposed Strip Commercial Shopping Area	"	30 min.
5. Discussion of Observations to Make Prior to the Next Session on Subdivisions	"	15 min.

FOURTH SESSION (Three Hours)

This session will aim at providing:

- a thorough discussion of the analysis of a proposed subdivision
- an understanding of the analytical technique employed
- an awareness of the trade-offs involved in applying security requirements to various types of subdivisions (single family dwellings).

<u>Topics</u>	<u>Training Method</u>	<u>Time Allowed</u>
1. General Trends in New Developments	Lecture	30 min.
2. Analysis of a Proposed Large Residential Development	Lecture Discussion Simulation Models	45 min.
3. Analysis of a Proposed Medium Residential Development	"	30 min.
4. Analysis of a Small Proposed Residential Development	"	30 min.
5. Discussion of Observations to Make Prior to the Next Session on Multi-Occupancy Structures (Apartments)	"	15 min.

FIFTH SESSION (Three Hours)

This session will aim at providing:

- a thorough discussion of the analysis of a proposed multi-family dwellings development (apartments primarily).
- an understanding of the analytical technique employed
- an awareness of the trade-offs involved in applying security requirements to various types of multi-family dwellings.

<u>Topics</u>	<u>Training Method</u>	<u>Time Allowed</u>
1. Analysis of a Proposed Garden Apartment Complex	Lecture Discussion Simulation Models	60 min.
2. Analysis of a Proposed Tower Apartment Complex	"	45 min.
3. Analysis of a Proposed Large Low Level Apartment Complex	"	30 min.
4. Analysis of Plan to Develop Multi-Family Dwelling Residential Zone	"	30 min.
5. Discussion of Observations to Make Prior to Next Session on Existing Industrial Areas	"	15 min.

SIXTH SESSION (Three Hours)

This session will aim at providing:

- a thorough discussion of analysis of a proposed industrial area
- an understanding of the analytical techniques employed
- an awareness of the trade-offs involved in applying security requirements to various types of industrial areas.

<u>Topics</u>	<u>Method</u>	<u>Time Allowed</u>
1. Analysis of a Proposed Industrial Park	Lecture/ Discussion/ Simulation Model	90 min.
2. Analysis of a Proposed Industrial Area	Lecture/ Discussion/ Simulation Model	60 min.
3. Analysis of a Proposed Industrial Site (Single Industry)	Lecture/ Discussion/ Simulation Model	15 min.
4. Discussion of Observations to Make Prior to the Next Session on Physical Security of Existing Structure	Lecture/ Discussion/ Simulation Model	15 min.

13-8

SEVENTH SESSION (Three Hours)

This session will aim at providing:

- information on Building Code Provisions on anti-intrusion devices for residential and commercial structures
- information on adopting and enforcing the Building Code Provisions.

<u>Topics</u>	<u>Method</u>	<u>Time Allowed</u>
1. Discussion of Building Code Provisions on Anti-Intrusion Devices for Residential Structure	Lecture Discussion	60 min.
2. Discussion of Building Code Provisions on Anti-Intrusion Devices for Commercial Structure	Lecture Discussion	60 min.
3. Discussion of Case Study on Implementing Building Code Provision	Lecture Discussion	45 min.
4. Discussion of Observation to Make Prior to the Next Session on Building Codes and Extent of Use of Anti-Intrusion Devices in Various Structures	Discussion	15 min.

EIGHTH SESSION (Three Hours)

This session will aim at providing:

- information on the formal and informal areas of involving law enforcement in physical planning processes
- information on determining needs, establishing priorities
- information on use of community resources.

<u>Topics</u>	<u>Method</u>	<u>Time Allowed</u>
1. Identifying Needs for Crime Prevention Program From Stand-point of Law Enforcement, Residents, Businessmen	Lecture Discussion	30 min.
2. Formal and informal Means of Law Enforcement Involvement	Lecture Discussion	60 min.
3. Developing Cooperative Arrangements With Planning and Building Departments	Lecture Discussion	30 min.
4. Discussion of Additional Types of Developments to be Analyzed by the Group in the Next Session	Discussion	30 min.
5. Discussion of Observations to be Made Prior to the Next Session	Discussion	30 min.

NINTH SESSION (Three Hours)

This session will be aimed at providing:

- discussion of additional types of developments not covered in previous sessions (e.g. public buildings, parks, marinas, commercial recreation)
- opportunity to develop skills in analyzing these developments.

<u>Topics</u>	<u>Method</u>	<u>Time Allowed</u>
(To be determined by group in Eighth Session with Training Coordinator preparing necessary materials during the week)		

At the end of the session, discuss the material to be covered during the next and final session including additional information on any particular development, possible role playing to expose law enforcement officers to the attitudes of others involved in the planning process, etc.

TENTH SESSION (Three Hours)

This session will be aimed at providing:

- opportunity to discuss any items which need additional clarification or amplification
- opportunity to participate in role playing to provide exposure to problems and attitudes of other participants in the planning processes.

<u>Topics</u>	<u>Method</u>	<u>Time Allowed</u>
1. Discussion of items needing amplification and clarification	Discussion	60 min.
2. Role playing (Training Coordinator to develop role playing situation on basis of major interests of trainees)	Role playing	45 min.
3. Discussion of needs for additional training, more advanced training and/or refresher training.	Discussion	60 min.

CRIME PREVENTION BULLETIN #14

SUBJECT: ISSUANCE OF A BUILDING PERMIT FOR A COMMERCIAL STRUCTURE

INTRODUCTION

This CPB is aimed at providing specific information to those who will be enforcing a building code which has been amended to include anti-intrusion devices. It also includes a discussion of the types of information which should be included in informal advisory services to be offered to builders and owners. A case study on the steps to be taken in the amendment process and a sample code section may be found in another CPB.

This CPB is divided into three main sections. Following this introduction, there is a discussion of the steps in the formal building permit and inspection process. The next section provides an elaboration of the sample building codes by describing the provisions for doors, locks and windows. The last section includes a discussion of the informal advisory services which law enforcement or building officials might provide to prospective owners or builders as a means of crime prevention. These services may extend considerations beyond those provided in the normal building code enforcement process.

In adopting ordinances designed to make a building more secure from an unwanted intruder, the legislative bodies expand the more traditional role of the building code, i.e. the safety of the occupants from fire or structural deficiencies to provide occupant safety against the unlawful intruder and to protect the occupant's goods.

STEPS IN THE BUILDING PERMIT PROCESS

There are three main steps in the process: the review of plans and issuance of permit; the appeals and decisions on alternative devices; and inspections during construction and upon completion. It is to be noted that these steps all follow the planning agency's approval, as required, on such factors as use, site and aesthetics.

The first stage is the application for the permit and checking of plans. The builder, architect or developer formally makes application for the building permit, pays the required fees, and submits the necessary plans. The plans are checked within the building safety division and then referred to other appropriate agencies for approval (fire department, health department, etc.). In actual practice, the building safety division checks the plans for fire department or health department regulations, and approval by these departments is handled routinely except for unusual conditions. This CPB assumes that the building division will

also check the plans for the anti-intrusion devices.

The second stage makes provision for appeal and the possibility of alternative security devices. Because of the limited experience in this general field, as well as the multitude of ways of accomplishing the objective, it is important to provide the architect, builder or developer with the means of gaining approval of alternative security methods. These are primarily in the area of substitution as, for example, in permitting the use of alternative types of locks.

The third stage is the inspection stage to insure that the requirements of the building code as noted on the plans and the permit are met.

WHAT TO LOOK FOR IN PLAN CHECKING A COMMERCIAL STRUCTURE

The following discussion is intended to provide some elaboration of the sample codes in the Appendix, as they apply to Commercial Structures. The provisions of the sample codes may be different from a code adopted in another jurisdiction; the discussion is intended to illustrate what things to look for and why they are important.

I. Exterior Doors

Doors ranked second only to show windows as the most commonly used point of entry for burglar attempts in 1969 (1969 Field Service Record, Bulletin #30, Underwriter's Laboratory). The construction of existing doors and their locking mechanisms is often so inadequate as to allow easy access to an intruder. While many doors are protected by alarm detection devices, these systems can provide a false sense of security. Of 968 attempted burglaries in 1969 where an alarm was sounded by a door mounted sensory device, only 289 people were apprehended - about 30%. These figures consider only those establishments equipped with central station alarms; the rate was only about 16% for those establishments having local alarms. (UL Field Service Record, 1969)

A. Swinging Doors

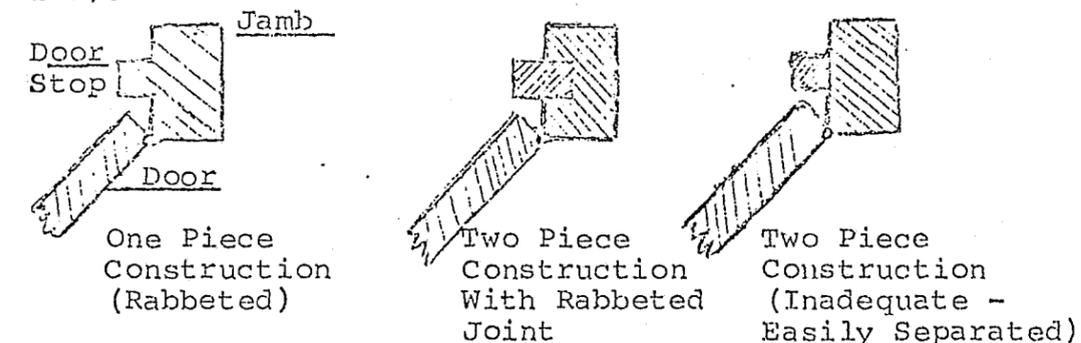
1. Type of Construction

Wood Doors Wood doors which are too thin or of hollow core construction can be easily kicked in allowing the intruder to unlatch the door. In some cases, a large enough hole can be quickly made to allow passage through the hole itself without opening the door and tripping alarm devices. All three ordinances considered require that doors less than 1 3/8" thick, or not of solid core construction, be protected with metal sheathing of at least 16 gage in the interior. (The requirements in Oakland for residential construction are more stringent: doors must be solid core and at least 1-3/4 inch thick.

Doors with Glass Panels. Glass, of course, is very easily cut or broken. A small section can be cut from the glass, allowing access to the door lock without breaking the foils used for burglar alarms. The city of Oakland and Los Angeles County require burglar resistant glass or glass covered with iron bars 1/2" round or 1"x1/4" flat steel or iron or steel grills 1/8" thick of 2" mesh on the inside of the glass. The city of Monterey Park makes the same requirement for rear, side, basement and roof doors but exempts front doors, probably on the supposition that unusual activities at the front door can be easily spotted by passing patrol cars or civilians.

2. Construction of Door Jamb. Even with adequate locks, a solidly built door can be easily opened if the door jamb is not properly constructed and protected.

The Oakland ordinance requires a protective plate or other strengthening device at the point where the lock engages the door frame. All ordinances considered require that inwardly swinging doors be equipped with door stops that are either the same piece as the rest of the jamb or that are set in a groove in the jamb itself. (See illustration below).



3. Hinges. All codes considered require non-removable hinge pins on those doors swinging to the exterior. Without these, the door can be easily and quietly removed.
4. Locks. The Oakland Commercial Burglary Ordinance requires all doors to be equipped with either a double cylinder deadbolt (locks with key inside and outside) or a single cylinder deadbolt without a turnpiece (locks from inside or outside with key only). The Los Angeles County ordinance allows these kinds of locks only in those cases where life safety portions of the code do not require doors which can be opened from the inside without a key. Otherwise, the locks must have a turnpiece on the interior side.

While cylinder locks, which are actuated only by a key, offer maximum amount of security, in case of fire or other emergency they can inhibit rapid exit.

Monterey Park prohibits key-only locks on all front doors except those with glass panels not of tempered glass, in which case key-only locks are required. An intruder can easily break the glass panel, reach inside and release the locking mechanism unless it is key operated.

Oakland and Los Angeles County both require that the cylinder deadbolt have a minimum throw of one inch. Monterey Park allows the substitution of a dead locking latch for the cylinder deadbolt. (See Chapter ___ on Locks). This type of latch prevents "slipping" the lock with a plastic card, but is more susceptible to prying and jimmying.

Los Angeles County makes the further requirement that each deadbolt contain hardened inserts to prevent cutting. In Los Angeles County and Oakland, cylinder guards are also required for all cylinder locks protruding from the surface of the door in order to inhibit wrenching or pulling of the cylinder. Both ordinances also suggest alternative locks (e.g. two deadbolts embedding a half-inch can be substituted for a deadbolt with a one-inch throw).

B. Double Swinging Doors

All three codes considered require the active leaf to be secured with the same type of locks required for single swinging doors. The Los Angeles County ordinance also requires equivalent deadbolts to be installed on the inactive leaf, while Monterey Park and Oakland ordinances require it to be equipped with flush bolts at head and foot. (Oakland specifies that these bolts must have a minimum throw of 5/8-inch).

C. Sliding Glass Doors

Because of poor construction, sliding glass doors can often be easily lifted from their tracks, disengaging the lock or allowing the door itself to be lifted from its frame. The ordinances adopted by the cities of Monterey Park and Oakland both require these doors to be protected in the same manner as swinging doors. Los Angeles County requires the same kind of locks on this type of door as on swinging doors, but also demands that the following performance test be met:

With the door locked and the window lifted to its highest point in the frame, three hundred pounds of pressure is to be applied in the opening direction of the door. At the same time, 150 pounds of pressure is to be

applied perpendicular to the panel, alternately in either direction. The panel must remain intact and engaged.

D. Overhead Doors (Swinging, Sliding, or Accordion Type)

1. Locks. This type of door is often an easy target for an intruder. The construction of the door itself is usually massive enough to resist easy entry by a burglar, but locking devices used are often inadequate and easily violated.

Consequently, none of the sample codes considered make any requirements about the construction of the doors but are explicit about the type of locks used. If such a door is not locked electrically, all three ordinances specify that they must be secured by a cylinder lock or padlock with hardened steel shackle. If a padlock is used, Monterey Park specifies it must be of pin tumbler operation; the Oakland ordinance further specifies that it be of five pin tumbler operation with non-removable key when unlocked. The non-removable key provision is designed to prevent the lock being taken and then returned after a key has been made. This provision also reduces the chances of a lock being stolen in the hopes that a weaker lock or, no lock at all, will be used when the establishment closes.

In addition to padlocks and cylinder locks, both Monterey Park and Los Angeles County allow metal slide bars, bolts, or crossbars when operated on the inside.

Oakland, however, states that padlocks or cylinder locks must be used and further specifies that these be operated only from the inside. This stipulation inhibits those types of burglaries in which the intruder enters through another entry and then opens the overhead door from inside to allow easy loading to a vehicle.

E. Overhead Doors (Rolling Type)

Los Angeles County and Oakland both treat this type of door in the same fashion as the other overhead doors considered. The Monterey Park ordinance, however, treats these doors in a separate fashion, requiring locking slide bolts on the inside if they are not locked electrically. However, if the door is chain operated, then the chain must be provided with a metal keeper and pin to secure the chain, or if it is crank operated, then the operating shaft must be secured in the same way. By securing the operating mechanism, the door itself cannot be easily forced.

F. Metal Accordion Grate or Grill Type Doors

1. Construction. All three ordinances require that these doors be equipped with metal guide tracks at top and bottom. If they are not so equipped, the door could have a sufficient amount of play for someone to crawl under or for easy disengagement or destruction of the locking mechanism.
2. Locks. All three ordinances considered require cylinder locks or padlocks with hardened steel shackles. As in the case of overhead doors, Oakland requires that a padlock, if used, be of at least five tumbler operation and have a non-removable key when in an unlocked position.

G. Interior Doors (Office Building)

1. Locks. Oakland provides that all entrance doors to individual office suites must have a dead-bolt lock with at least a one-inch throw bolt. This provision is designed to prevent burglaries of offices if the intruder once gets inside the building.

II. Windows.

According to the Underwriters Laboratory Field Service Record for 1969, in almost one half of all burglaries the point of entry was a window.

Show windows are especially vulnerable to quick "break and run" attacks. Even if the window is equipped with alarm devices, the burglar spends so little time at the scene that he is rarely apprehended.

Other windows are also vulnerable even when protected by alarm systems. The UL Field Service Record reports that less than one burglar is apprehended for every five attacks made on windows (excluding show windows) protected by central station alarm systems.

None of the ordinances considered make any requirements about show windows and only two, Los Angeles County's and Oakland's, place any restrictions on other windows.

A. Louvered Windows

1. Type of Construction. Los Angeles County specifies that these windows must be made of tempered glass, burglary resistant material, or else guarded by metal bars, screens, or grills in an approved manner. This type of window is easily opened, if one pane can be broken or otherwise removed. Los Angeles County also requires that individual panes

be fastened with devices that require a special tool for removal and which can only be removed from the inside. The Oakland ordinance treats this type of window as it does all other openable windows.

B. Sliding Windows

1. Type of Construction and Locks. This type of window is often so constructed as to be easily violated. Therefore, Los Angeles County requires that a special test be made on these windows and their locks. When the window is locked, it must stay intact and engaged while lifted to its maximum travel with an opening direction force of 150 pounds applied simultaneously to 75 pound forces perpendicular to the panel. Here again the Oakland ordinance makes no separate requirements for this type of window beyond the requirements for all other openable windows.

C. Openable Windows

1. Type of Construction. Oakland requires all rear and side windows not visible from the street to be made of burglar resistant material. Los Angeles County makes the same requirement for all windows between six and forty-eight inches in width.
2. Locks. Both Oakland and Los Angeles County require approved locking devices on all openable windows. (Oakland exempts front windows). Los Angeles County specifies what devices are approved: glide bar, bolt, crossbar, or padlock with a hardened steel hasp.
3. Hinges and Screws. The Oakland ordinance specifies that all accessible side and rear windows be provided with non-removable pins if the hinges are on the outside. All accessible hinge screws must be non-removable.

D. Stationary Windows

1. Type of Construction. As in the case of openable windows, Oakland requires rear and side windows to be of burglar resistant material. Los Angeles County makes the same requirement for all windows more than six and less than forty-eight inches in width. Show windows, then, are effectively exempted by both ordinances since they are usually larger than 48 inches and are usually in front.

E. Transoms

1. Type of Construction. Oakland's ordinance requires any transom larger than 8"x12" on the rear or side of a commercial building to be made of burglar resistant materials, like other types of windows, or to be protected with bars or grills. It further requires them to be secured with rounded head flush bolts on the side.

III. Roof Openings

While roof hatches, skylights and roof vents are fairly inaccessible, a burglar who climbs to the roof is not usually visible from below and consequently, has more time in which to work. All three ordinances considered require that these openings be properly secured and protected.

A. Skylights

1. Type of Construction. All three ordinances require that skylights be made of burglar resistant material or be protected from the inside with properly fastened iron bars or grills.

B. Hatchways

1. Type of Construction. Los Angeles County requires that all hatchways less than 1-3/4 inch solid wood be covered on the inside with 16 gage sheet metal. The other two ordinances make this covering mandatory for all wooden hatch covers.
2. Locks. Los Angeles County and Oakland specify that the hatchway be secured with a slide bar, slide bolt, crossbar or padlock with hardened steel shackle. Oakland requires approval of the Fire Marshal if a crossbar or padlock is used.
3. Hinges. Here again all ordinances specify that non-removable pins be used if outside hinges are employed.

C. Air Vents and Air Ducts

1. Type of Construction. All ordinances require that all openings exceeding 8"x12" be secured with metal bars or grills.

IV. Lighting

Adequately lit premises discourage illegal intrusions and increase the chances of an intruder being spotted

while attempting entry.

A. Entryway Lights

1. Size. Oakland requires 60 watt and Monterey Park specifies that 100 watt bulbs must be placed over all exterior doors except the front doors. The assumption is that front doors are already visible enough without special lighting.
2. Type of Construction. Oakland requires that the bulbs used be protected with a vapor cover or cover of equal breaking resistance, in order to prevent these lights from being extinguished by burglars or vandals.

V. Safes

The Oakland ordinance requires that all establishments having more than \$1,000.00 in cash in the premises shall have a class "E" safe to lock it in after hours.

VI. Intrusion Detection

Both Monterey Park and Los Angeles County stipulate that detection devices specifically approved for a particular installation by the appropriate law enforcement agency may be used in lieu of other anti-intrusion devices normally required.

The Oakland ordinance, however, provides that the Oakland Police Chief may require intrusion detection devices in addition to the other devices specified in the ordinance, if he feels the particular establishment requires it.

In addition, the ordinance itself requires establishments having specific inventories to install and maintain certain types of burglar alarms. (Refer to the ordinance for the list of establishments requiring various anti-intrusion devices).

VII. Conflict with Fire Regulations

In all cases, the ordinances provide exemptions for regulations which might conflict with existing fire safety regulations, and provide for consultation and collaboration with the Fire Department.

INFORMAL ADVISORY SERVICES

In addition to those measures required by the sample codes considered, further requirements may be made by a particular jurisdiction. In all cases, provision should be made for an informal advisory service to offer advice, upon request, to a business owner, firm or builder as to how the particular

residence may be made more secure than allowed for by the building code. This informal service could be furnished by building inspectors prior to or while performing plan checks. More likely, the builder or owner would be referred to the local law enforcement agency for advice of this kind. Additionally, many of the items might be specified by the planning department as a condition of issuing a use permit.

Some crime prevention possibilities that could be included in an advisory service program will be discussed in the following paragraphs.

I. Exterior Lighting

Lights on and near business premises increase the chances of a night time intruder being observed and eliminate dark spots that allow him to hide if his activities become noticed. These lights should be somewhat protected to prevent the intruder from breaking them.

II. Landscaping

A landscaping program could be recommended to businessmen to reduce number of large, bushy plants which provide good hiding places for intruders particularly near entranceways.

III. Fences

Low or open mesh fencing allow easy surveillance and eliminate hiding places. Barbed wire fencing with adequate gates should be installed wherever possible in industrial areas.

IV. Address Placards

Softly illuminated or fluorescent address markers will allow the police easy recognition of a particular business if trouble does occur. For the same reason, some cities require businesses to be marked on the alley side also.

V. Position on the Lot Site

The informal advisory service should include the capability of offering advice as to the relative advantages and disadvantages of various positionings of the building on the site. Some factors to consider in maximizing the security of a business structure are: (1) is the entranceway visible from the street? (2) does the position of the house itself provide any hiding places, particularly on corner lots? (3) are overnight parking facilities located close to the establishment, providing hiding places? (4) are storage facilities close by for the same reason? (5) is the building away from any thing that allows access to the roof?

VI. Interior Lighting

Lights should be placed over safes and cash registers so that they are clearly visible from the street. Alarms should be connected to the light circuit to signal that they have been turned off. Utility companies often provide advisory services on lighting problems.

VII. Show Windows

Because of the high incidence of break-and-run burglaries and vandalism, show windows should be made of burglar resistant material. Moreover, the view through the show window into the establishment should be as uncluttered as possible.

VIII. Locks

- a. The serial number on locks should, whenever possible, be filed off particularly in the case of padlocks. This step will make unauthorized key duplications more difficult.
- b. In establishments where large numbers of people have keys, electronic locking devices should be considered, both because of their amenability to complicated master keying schemes and because of the ease with which the entire keying system can be changed if a key is lost or stolen.
- c. Relocking devices, when economically feasible, should be installed on safes, cabinets or vaults storing valuables. These devices automatically relock the equipment when the original lock is destroyed or tampered with.

IX. Intrusion Detection Devices

- a. Hold up alarms which cannot be inadvertently set off and which do not allow the robber to see any unusual movement of the victim should be installed in those types of establishments where robberies often occur, e.g. financial establishments, liquor stores.
- b. In that same type of establishment, where robberies tend to occur, the installation of photographic cameras or a videotape system should be recommended. The cost of a videotape is much higher initially, but the tape can be reused every day and allowed to run throughout the business day.
- c. In those places where a watchman is employed, the installation of closed circuit television can help the watchman in his surveillance of the premises.

X. Building Walls

Certain building shapes furnish a burglar or other intruder a place where he can work unobserved. The builder or owner should be aware of these potential trouble spots. They should be eliminated whenever possible, or if not, the wall at that point should be strengthened or protected by an intrusion detection device.

XI. Safes

Any safe weighing less than 750 pounds should be firmly anchored to the floor. Otherwise, the safe itself can be easily taken.

CRIME PREVENTION BULLETIN #15

SUBJECT: ISSUANCE OF A BUILDING PERMIT FOR A SINGLE-FAMILY RESIDENTIAL STRUCTURE

INTRODUCTION

This CPB is aimed at providing specific information to those who will be enforcing a building code which has been amended to include anti-intrusion devices. A case study on the steps to be taken in this amendment process and a sample code section may be found in another CPB.

This CPB is divided into three main sections. Following this introduction, there is a discussion of the steps in the formal building permit and inspection process. The next section provides an elaboration of the sample building codes by describing the provisions for doors, locks and windows. The last section includes a discussion of the informal advisory services which law enforcement or building officials might provide to prospective owners or builders as a means of crime prevention. These services may extend considerations beyond those provided in the normal building code enforcement process.

The principal objective in requiring anti-intrusion devices for new, single-family residences is in protection of the occupants against the unlawful intruder. In adopting the enabling ordinances, the legislative bodies expand the more traditional role of the building code, i.e. the safety of the occupant from fire or structural deficiencies, to provide occupant safety against the unlawful intruder.

It is to be noted that: the standards are minimum, i.e. designed to deter the burglar, rather than to provide absolute exclusion; alternative security devices are accepted upon approval by a law enforcement agency; and consistency with fire codes must be recognized.

STEPS IN THE BUILDING PERMIT PROCESS

There are three main steps in the process: the review of plans and issuance of permit; the appeals and decisions on alternative devices; and inspections during construction and upon completion.

The first stage is the application for the permit and checking of plans. The builder, architect or developer formally makes application for the building permit, pays the required fees, and submits the necessary plans. In the case of single-family residential structures, the plans are usually checked completely within the building division without referral to

other departments, unless unusual conditions prevail. This CPB assumes that the building division will also check the plans for the anti-intrusion devices.

The second stage makes provision for appeal and the possibility of alternative security devices. Because of the limited experience in this general field, as well as the multitude of ways of accomplishing the objective, it is important to provide the architect, builder or developer with the means of gaining approval of alternative security methods. These are primarily in the area of substitution as, for example, in permitting the use of alternative types of locks.

The third stage is the inspection stage to insure that the requirements of the building code as noted on the plans and the permit are met.

WHAT TO LOOK FOR IN PLAN CHECKING A SINGLE-FAMILY RESIDENTIAL STRUCTURE

The following discussion is intended to provide some elaboration of the sample codes in the Appendix, as they apply to single-family residences. The provisions of the sample code may be different from a code adopted in another jurisdiction; the discussion is intended to illustrate what to look for and why they are important.

I. Doors

Probably the easiest access point for an unlawful intruder is a door. There is no need to climb through a window, no need to shatter glass, and no need to be obtrusive in daylight. Several types of doors are commonly used in residential construction; these types and the various means for securing them are discussed in the following narrative.

A. Exterior Swinging Doors and Garage-to-Residence Doors

1. Type of Construction. Most exterior doors for single-family residences are made of wood or pressed hardboard. Metal doors, if properly reinforced at the locking mechanism provide the greatest security against unlawful entry.

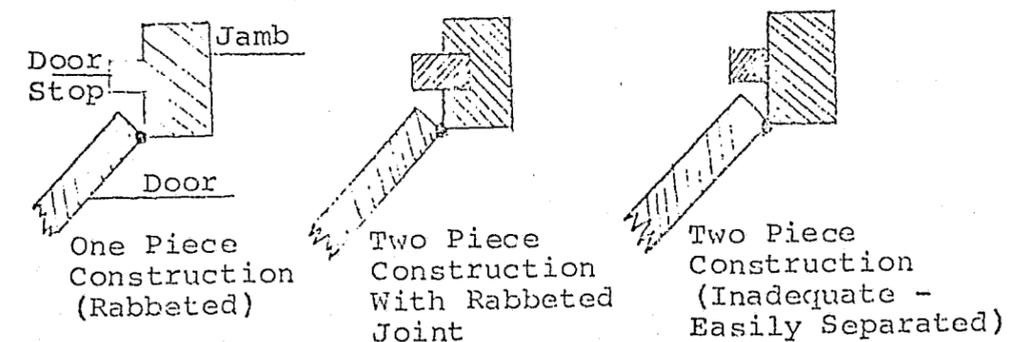
Wood or hardboard doors can be of either solid core or hollow core construction. Hollow core doors can be easily kicked in or pried open and are prohibited by the Oakland model ordinance. Los Angeles County requires that such doors, if used, be sheathed on the interior side with 16

gauge metal sheeting securely fastened.

Some exterior swinging doors are provided with decorative or vision panels made of glass or other transparent or translucent material. The sample codes require these panels to be made of burglar resistant materials. Ordinary glass can be easily shattered allowing the burglar to reach in and release the various locking devices.

2. Thickness of Construction. The strength of a door is directly proportional to its thickness. Most new residential developments utilize doors 1-3/4" thick; doors at least this thick are required by the Oakland model ordinance. Los Angeles County permits doors 1-3/8" thick. Any smaller than these must be metal sheathed on the interior.
3. Construction of Door Jamb. A strong door and adequate locking system will be of little value if the door frame itself is weak. By prying or chiseling an inadequate door jamb or door stop, an intruder can open the door without operating the locking mechanism.

The Oakland ordinance requires a protective plate or other strengthening device at the strike (the place where the lock engages the door frame) for all doors. Both ordinances considered require inwardly swinging doors to have door stops that are either the same piece as the rest of the jamb or that are set in a groove in the jamb itself. (See illustration below).



4. Hinges. Both codes require non-removable hinge pins on those doors swinging to the exterior. Without these, the door can be easily and quietly removed.
5. Locks. Both ordinances considered require self-locking dead latches on all doors. This type of latch cannot be opened by inserting a plastic or metal card through the door jamb. The Oakland ordinance requires a throw of at least $\frac{1}{2}$ " for these latches (the typical latch has a $\frac{3}{8}$ " throw) to make it more difficult to pry the door from its jamb. Los Angeles County makes no throw requirements but does require, in addition to the dead latch, a dead bolt for each door which must have a minimum throw of one inch imbedding itself in the door jamb at least $\frac{5}{8}$ ". Provision is made for equivalent locks of unusual construction. If cylinder locks are used and the cylinder protrudes from the door surface, cylinder guards must also be installed to prevent the cylinder from being pulled out with pliers or vice-grips. The bolt of the lock must also have hardened inserts to prevent cutting.

The Los Angeles County ordinance does not require such sturdy locks if more than one is used on each door. Unusual doors larger than five feet in width are exempted from these requirements and treated in the same manner as garage doors (see below).

B. Exterior Sliding Doors

1. Type of Construction. Most existing sliding doors present little problem to intruders. The doors are generally so loosely fitted to their frames that a slight upward pressure on the movable panel will release the door from its catch or out of its guide rail entirely. To prevent easy removal from their mountings, the Oakland ordinance requires that the movable panels be mounted to the interior of the stationary panels so that the stationary panel protects the movable panel.
2. Locks. The Oakland ordinance specifically requires a cylinder type, key operated lock on sliding doors. Mounting screws must only be accessible from the inside and the lock bolt must withstand a force of 800 lbs. applied in any direction. Any double sliding doors must be locked at the meeting rail.

The Los Angeles County ordinance does not make any specific requirement as to the type of construction or lock used, except that a lock be used and, if it is a cylinder lock which is accessible to tools, that a cylinder guard be installed. Instead, a performance test of the system as a whole is made. The locked door panel must remain intact and engaged with the movable panel lifted upwards to its full limit while an opening direction force of 300 lbs. is applied simultaneous to forces of 150 lbs. perpendicular to the panel in either direction.

C. Overhead Garage Doors

1. Type of Construction. Garage doors are often the easiest points of entry for an intruder, providing quick access to storage areas. Moreover, once inside a garage, a burglar is protected from surveillance and can break in through a garage to residence door. Because of their size, garage doors are usually constructed solidly enough to resist forceful entry, their weak point being the locking mechanism. However, some garage doors contain bottom vents allowing an intruder to crawl through and into the garage. For this reason, the Oakland ordinance bans such construction.
2. Locks. Most garages are presently equipped with locking devices, but because of their inconvenience, the resident leaves them open a good part of the time. Los Angeles County ordinance requires either a cylinder lock (with appropriate cylinder guard), a padlock, a slide bar or bolt (operated from the interior) or equivalent if the door is not locked by an electrical mechanism.

II. Windows

Next to doors, windows are the most convenient means of entry for an intruder. Window locking mechanisms are often so feeble that a simple prying or pulling will violate their function.

A. Louvered Windows

1. Materials. Because of the small size of the panes, an individual pane on this type of window can be easily and quietly broken or cut. Once a pane is cut, an intruder's hand can reach in, open the locking mechanism and remove the panes one by one. For this reason, Los Angeles County requires the panes to be made of burglar resistant material.

2. Type of Construction. In this type of window, the framing holding the individual panes is usually so inadequate that through prying and tugging the panes may be removed from the outside. For this reason, Los Angeles County requires that individual panes be fastened by devices that require a special tool for removal and that can only be removed from the interior when the window is locked.

Oakland goes so far as to prohibit any louvered windows at all within eight feet of ground level, adjacent structures or fire escapes, the implication being that louvered windows, no matter how strengthened, are inherently weak.

3. Locks. Los Angeles County requires all windows, including louvered types, to be equipped with "substantial" locking devices.

B. Vision Panels or Windows Near a Door

1. Materials. If a vision panel is less than 40 inches away from a required door lock that is not key operated from the inside, Los Angeles County requires that it be made of burglar resistant material, otherwise an intruder could break the panel, reach in and unlock the door.

C. Sliding Glass Windows

1. Type of Construction. Because of their similar construction, this type of window is subject to the same weaknesses as sliding glass doors. The Oakland ordinance requires that all windows be so constructed that when locked it cannot be lifted from the frame.
2. Locks. Both codes considered require locks for all windows; Oakland specifies that they be capable of withstanding a force of 300 lbs. applied in any direction.

Here, as with sliding doors, Los Angeles County makes no requirements as to the specific type of construction or lock to be used. A performance test of the system as a whole is made: the window must stay intact and engaged when, with the window forced upwards to its maximum, an opening force of 150 lbs. is applied simultaneous to forces of 75 lbs. in either direction perpendicular to the pane.

D. Other Windows

1. Type of Construction. The Oakland ordinance requires that all windows be so constructed that when locked it cannot be lifted from the frame.
2. Locks. Both ordinances state that locking devices are required; Oakland specifying they be capable of withstanding 300 lbs. of force applied in any direction; Los Angeles requiring only that they be "substantial." Perhaps an equivalent performance test to that one required for sliding glass windows could be used, since those forces represent approximately the maximum force the average person can apply with simple prying without actually shattering the glass itself.

III. Conflict with Fire Regulations

In both cases, the ordinances provide exemptions for regulations which might conflict with existing fire safety regulations, and provide for consultation and collaboration with the Fire Department.

INFORMAL ADVISORY SERVICES

In addition to those measures required by the sample codes considered, further requirements may be made by a particular jurisdiction. In all cases, provision should be made for an informal advisory service to offer advice, upon request, to a homeowner or builder as to how the particular residence may be made more secure than allowed for by the building code. This informal service could be furnished by building inspectors prior to or while performing plan checks. For highly technical crime prevention problems, the builder or owner would be referred to the local law enforcement agency for assistance.

Some crime prevention possibilities that could be included in an advisory service program will be discussed in the following paragraphs.

I. Exterior Lighting

Lights in yards and above entranceways increase the chances of a night time intruder being observed and eliminate dark spots that allow him to hide if his activities become noticed. These lights should be somewhat protected, if possible, to prevent the intruder from breaking them. Utility companies often provide advisory services on lighting problems.

II. Door Viewer

The Oakland model ordinance requires a door viewer or peep hole in the entry door to each unit of a multiple dwelling. This is not a requirement for single-family residences, but the installation of such a device allows the resident to see who is at the door before opening it.

III. Landscaping

A landscaping program could be recommended to homeowners to reduce number of large, bushy plants which provide good hiding places for burglars and peeping toms, particularly near entranceways.

IV. Mail Slots

Mail slots instead of mail boxes would reduce the number of mail thefts and should be recommended to builders and homeowners.

V. Fences

Low or open mesh fencing allow easy surveillance and eliminate hiding places.

VI. Address Placards

Softly illuminated or fluorescent address markers will allow the police easy recognition of a particular residence, if trouble does occur. House numbering ordinances often require such posting in front and also on the alley side, when appropriate.

VII. Locks

A. Door Latches. Locks are available whose exterior knob spins free when locked. This feature prevents a potential intruder from using tools to twist the knob, either breaking and releasing the locking mechanism, or removing the knob so the locking mechanism is exposed.

B. Chain Locks. Strong chain night locks should be recommended because they allow the resident to see who is at the door before fully opening it.

C. Sliding Door Locks (Auxiliary). A rod placed in the track of a sliding door will prevent it from being opened even if the lock is broken.

VIII. Garages

A garage represents a significant financial investment,

but should be recommended in lieu of carports when the crime prevention benefits can be demonstrated.

IX. Window Gratings

In extreme situations, decorative cast iron gratings can be recommended to be placed over window openings. However, the cost of these installations are very high and they are only as strong as their mountings.

X. Burglar Alarms

Because of the high rate of false alarms (95-99%) and because of the expense involved, burglar alarms should only be recommended in high risk situations. Underwriters Laboratory (1655 Scott Boulevard, Santa Clara, California 95050) maintains a list of approved alarm devices and approved installation and maintenance companies.

XI. Position on the Lot Site

The informal advisory service should include the capability of offering advice as to the relative advantages and disadvantages of various positionings of the building on the site. Some factors to consider in maximizing the security of a residential structure are: (1) is the entranceway visible from the street? (2) does the position of the house itself provide any hiding places, particularly on corner lots?

CRIME PREVENTION BULLETIN #16

SUBJECT: A CASE STUDY - INTRODUCTION OF ANTI-INTRUSION
STANDARDS AND DEVICES INTO A BUILDING CODE

INTRODUCTION

This CPB illustrates how one community, Los Angeles County, amended its building code to include anti-intrusion standards and devices. While every community government functions in its own manner, the structures of each are similar enough so the experiences of one can often be translated to fit the needs of another.

THE CASE STUDY

Upon noting a high rate of burglaries in residences and business establishments in Los Angeles County, the Los Angeles County Sheriff's Department conducted inter-departmental discussions of methods to deter such activities. These discussions led to the conclusion that this rate could be reduced by hardening the targets through the requirement of certain anti-intrusion devices and standards in the County Building Code.

The County Board of Supervisors, in response to the initial request of the Sheriff's Department, and after investigation and recommendation by the County Engineer, adopted an ordinance expanding the building code to include minimum requirements for resistance to unlawful entry.

In developing the ordinance, consultations were held with various manufacturers of anti-intrusion devices, security specialists, and builders to solicit recommendations as to the feasibility and need for anti-intrusion standards and devices in protecting residences, commercial establishments and other buildings against unlawful intrusion. In addition to these outside consultations, the County investigated available methods and devices. Upon completion of the above consultations and investigations, a proposal ordinance was drafted.

The proposal ordinance was discussed with various community groups and associations to solicit their community. The strongest point of opposition held that the individual builder or owner should have the right to decide which, if any devices, be included, and that the building code was not a proper vehicle for security standards.

Upon submission of the proposed ordinance and completion of hearings before the County Board of Supervisors, the ordinance was adopted. As adopted, the ordinance provided for the enforcement of the amended sections of the Building Code by the County Engineering Department which was already responsible for enforcement of other sections of the Building Code. Utilization of Plan Checkers and Inspectors of the County Engineering Department enabled the County to provide a much broader range of coverage than would enforcement by a limited number of Sheriff's personnel if enforcement were the responsibility of the Sheriff's Department.

The adopted ordinance provides for an alternative to the standards and devices explicitly set forth in the Code. This alternative permits the owner or builder to substitute an alternative security method provided it is approved by the Sheriff's Department as providing equivalent security to that specified in the Code. In those cases, the County Engineer forwards the application and plans to the Sheriff's Department.

To effectuate the enforcement required by the amended Building Code, the Training Officer of the County Engineering Department developed and conducted training programs for Plan Checkers and Inspectors to acquaint them with the purposes of the Code provisions and the procedures for enforcement.

Since passage of this ordinance, several cities in Los Angeles County, which contract with the County for their building enforcement, have adopted similar amendments to their own building codes.

The County has encountered some difficulties in enforcing the amended Building Code. Some equipment manufacturers of anti-intrusion devices have complained that the standards established by the Code are too restrictive. The field inspectors encountered initial difficulties in matching some of the anti-intrusion hardware to the ordinance specifications. These have been overcome as the procedures have been clarified.

ORDINANCE NO. 10,163

An ordinance adding Chapter 67 to Ordinance No. 2225, the Building Code, relating to security provisions.

The Board of Supervisors of the County of Los Angeles do ordain as follows:

Section 1. Chapter 67 (beginning with Section 6701) is added to Ordinance No. 2225 entitled "Building Code" adopted March 20, 1933 to read:

CHAPTER 67
SECURITY PROVISIONS

SECTION 6701 - PURPOSE

The purpose of this chapter is to set forth minimum standards of construction for resistance to unlawful entry.

SECTION 6702 - SCOPE

The provisions of this chapter shall apply to enclosed Group F, G, H, I, and J Occupancies regulated by this Code. EXCEPTION: The requirements shall not apply to enclosed Group J Occupancies having no opening to an attached building or which are completely detached.

SECTION 6703 - LIMITATIONS

No provision of this Chapter shall require or be construed to require devices on exit doors contrary to the requirements specified in Chapter 33.

SECTION 6704 - ALTERNATE SECURITY PROVISIONS

The provisions of this Chapter are not intended to prevent the use of any device or method of construction not specifically prescribed by this Code when such alternate provides equivalent security based upon a recommendation of the County Sheriff.

SECTION 6705 - DEFINITIONS

For the purpose of this Chapter, certain terms are defined as follows:

1. CYLINDER GUARD is a hardened ring surrounding the exposed portion of the lock cylinder or other

device which is so fastened as to protect the cylinder from wrenching, prying, cutting or pulling by attack tools.

2. DEADLOCKING LATCH is a latch in which the latch bolt is positively held in the projected position by a guard bolt, plunger, or auxiliary mechanism.
3. DEADBOLT is a bolt which has no automatic spring action and which is operated by a key cylinder, thumbturn, or lever, and is positively held fast when in the projected position.
4. LATCH is a device for automatically retaining the door in a closed position upon its closing.

SECTION 6706 - TESTS

Sliding glass doors. Panels shall be closed and locked. Tests shall be performed in the following order:

- a. Test A. With the panels in the normal position, a concentrated load of 300 pounds shall be applied separately to each vertical pull stile incorporating a locking device at a point on the stile within six inches of the locking device in the direction parallel to the plane of glass that would tend to open the door.
- b. Test B. Repeat Test A while simultaneously adding a concentrated load of 150 pounds to the same area of the same stile in a direction perpendicular to the plane of glass toward the interior side of the door.
- c. Test C. Repeat Test B with the 150 pound force in the reversed direction towards the exterior side of the door.
- d. Test D, E, and F. Repeat A, B, and C with the movable panel lifted upwards to its full limit within the confines of the door frame.

SECTION 6707 - TESTS

Sliding Glass Windows. Sash shall be closed and locked. Tests shall be performed in the following order:

- a. Test A. With the sliding sash in the normal position a concentrated load of 150 pounds shall be applied separately to each sash member incorporating a

locking device at a point on the sash member within six (6) inches of the locking device in the direction parallel to the plane of glass that would tend to open the window.

- b. Test B. Repeat Test A while simultaneously adding a concentrated load of 75 pounds to the same area of the same sash member in the direction perpendicular to the plane of glass toward the interior side of the window.
- c. Test C. Repeat Test B with the 75 pounds force in the reversed direction towards the exterior side of the window.
- d. Test D, E, and F. Repeat Tests A, B, and C with the movable sash lifted upwards to its full limit within the confines of the window frame.

SECTION 6708 - DOORS - General

A door forming a part of the enclosure of a dwelling unit or of an area occupied by one tenant of a building shall be constructed, installed, and secured as set forth in Sections 6709, 6710, 6711, and 6712, when such door is directly reachable or capable of being reached from a street, highway, yard, court, passageway, corridor, balcony, patio, breezeway, private garage, portion of the building which is available for use by the public or other tenants or similar area. A door enclosing a private garage with an interior opening leading directly to a dwelling unit shall also comply with said Sections 6709, 6710, 6711, and 6712.

SECTION 6709 - DOORS - Swinging Doors

- a. Swinging wooden doors, openable from the inside without the use of a key and which are either of hollow core construction or less than 1 3/8 inches in thickness, shall be covered on the inside face with 16 gage sheet metal attached with screws at six (6) inch maximum centers around the perimeter or equivalent. Lights in doors shall be as set forth in Sections 6714 and 6715.
- b. A single swinging door, the active leaf of a pair of doors, and the bottom leaf of Dutch doors shall be equipped with a deadbolt and a deadlocking latch. The deadbolt and latch may be activated by one lock or by individual locks. Deadbolts shall contain hardened inserts or equivalent, so as to repel cutting tool attack. The lock or locks shall

be key operated from the exterior side of the door and engaged or disengaged from the interior side of the door by a device not requiring a key or special knowledge or effort. EXCEPTION:

1. The latch may be omitted from doors in Group F and G occupancies.
 2. Locks may be key or otherwise operated from the inside when not prohibited by Chapter 33 or other laws and regulations.
 3. A swinging door of width greater than five (5) feet may be secured as set forth in Section 6711. A straight deadbolt shall have a minimum throw of one inch and the embedment shall be not less than 5/8 inch into the holding device receiving the projected bolt, a hook shape or expending lug deadbolt shall have a minimum throw of 3/4 inch. All deadbolts of locks which automatically activate two or more deadbolts shall embed at least 1/2 inch but need not exceed 3/4 inch into the holding devices receiving the projected bolts.
- c. The inactive leaf of a pair of doors and the upper leaf of Dutch doors shall be equipped with a deadbolt or deadbolts as set forth in Subsection (b). EXCEPTION:
1. The bolt or bolts need not be key operated, but shall not be otherwise activated from the exterior side of the door.
 2. The bolt or bolts may be engaged or disengaged automatically with the deadbolt or by another device on the active leaf or lower leaf.
 3. Manually operated hardened bolts at the top and bottom of the leaf and which embed a minimum of 1/2 inch into the device receiving the projected bolt may be used when not prohibited by Chapter 33 or other laws and regulations.
- d. Door stops on wooden jambs for in-swinging doors shall be of one piece construction with the jamb or joined by a rabbet.
- e. Nonremovable pins shall be used in pin type hinges which are accessible from the outside when the door is closed.

- f. Cylinder guards shall be installed on all mortise or rim type cylinder locks installed in hollow metal doors whenever the cylinder projects beyond the face of the door or is otherwise accessible to gripping tools.

SECTION 6710 - DOORS - Sliding Glass Doors.

Sliding glass doors shall be equipped with locking devices and shall be so installed that, when subjected to tests specified in Section 6706, remain intact and engaged. Movable panels shall not be rendered easily openable or removable from the frame during or after the tests. Cylinder guards shall be installed on all mortise or rim type cylinder locks installed in hollow metal doors whenever the cylinder projects beyond the face of the door or is otherwise accessible to gripping tools.

SECTION 6711 - DOORS - Overhead and Sliding Doors.

Metal or wooden overhead and sliding doors shall be secured with a cylinder lock, padlock with a hardened steel shackle, metal slide bar, bolt or equivalent when not otherwise locked by electric power operation.

Cylinder guards shall be installed on all mortise or rim type cylinder locks installed in hollow metal doors whenever the cylinder projects beyond the face of the door or is otherwise accessible to gripping tools.

SECTION 6712 - DOORS - Metal Accordion grate or grille type doors.

Metal accordion grate or grille-type doors shall be equipped with metal guides at top and bottom and a cylinder lock or padlock and hardened steel shackle shall be provided. Cylinder guards shall be installed on all mortise or rim type cylinder locks installed in hollow metal doors whenever the cylinder projects beyond the face of the door or is otherwise accessible to gripping tools.

SECTION 6713 - LIGHTS - In General.

A window, skylight, or other light forming a part of the enclosure of a dwelling unit or of an area occupied by one tenant of a building shall be constructed, installed and secured as set forth in Section 6714, and 6715, when the bottom of such window, skylight or light is not more than a street, highway, yard, court, passageway, corridor, balcony, patio, breezeway, private garage, portion of the building which is available for use by the public or other tenants or similar area.

A window enclosing a private garage with an interior opening leading directly to a dwelling unit shall also comply with said Sections 6714 and 6715.

SECTION 6714 - LIGHTS - Material.

Lights within forty (40) inches of a required locking device on a door when in the closed and locked position and openable from the inside without the use of a key, and lights with a least dimension greater than six (6) inches but less than forty-eight (48) inches in F and G Occupancies, shall be fully tempered glass approved burglary resistant material or guarded by metal bars, screens or grilles in an approved manner.

SECTION 6715 - LIGHTS - Locking Devices.

- a. Sliding glass windows shall be provided with locking devices that, when subjected to the tests specified in Section 6707, remain intact and engaged. Movable panels shall not be rendered easily openable or removable from the frame during or after the tests.
- b. Other openable windows shall be provided with substantial locking devices which render the building as secure as the devices required by this section. In Group F and G Occupancies, such devices shall be a glide bar, bolt, cross bar, and/or padlock with hardened steel shackle.
- c. Special Louvered windows, except those above the first story in Group H and I Occupancies which cannot be reached without a ladder, shall be of material or guarded as specified in Section 6714 and individual panes shall be securely fastened by mechanical fasteners requiring a tool for removal and not accessible from the outside when the window is in the closed position.

SECTION 6716 - OTHER OPENINGS - In General.

Openings, other than doors or lights, which form a part of the enclosure, or portion thereof, housing a single occupant and the bottom of which is not more than sixteen (16) feet above the grade of a street, highway, yard, court, passageway, corridor, balcony, patio, breezeway, or similar area, or from a private garage, or from a portion of the building which is occupied, used or available for use by the public or other tenants, or an opening enclosing a private garage attached to a dwelling unit which openings therein shall be constructed, installed and secured as set forth in Section 6717.

SECTION 6717 - HATCHWAYS, SCUTTLES AND SIMILAR OPENINGS

- a. Wooden hatchways less than 1-3/4 inch thick solid wood shall be covered on the inside with 16 gage sheet metal attached with screws at six (6) inch maximum centers around perimeter.
- b. The hatchway shall be secured from the inside with a slide bar, slide bolts, and/or padlock with a hardened steel shackle.
- c. Outside pin-type hinges shall be provided with non-removable pins.
- d. Other openings exceeding ninety-six (96) square inches with a least dimension exceeding eight (8) inches shall be secured by metal bars, screens, or grilles in an approved manner.

Section 2. This ordinance shall be published in the Journal of Commerce and Independent Review, a newspaper printed and published in the County of Los Angeles.

(Seal)

WARREN M. DORN
Chairman.

Attest:
Executive Officer-Clerk of the Board of Supervisors of the
County of Los Angeles

JAMES S. MIZE

I hereby certify that at its meeting of December 8, 1970, the foregoing ordinance was adopted by the Board of Supervisors of said County of Los Angeles by the following vote, to wit:

Ayes: Supervisors Kenneth Hahn, Ernest E. Debs, Burton W. Chace and Warren M. Dorn.

Noes: None.

(Seal)

JAMES S. MIZE
Executive Officer-Clerk of the Board of Supervisors of the
County of Los Angeles.

Effective date January 8, 1971.

(95918) Dec. 18

END