THE DESIGN OF A LOW-INCOME HOUSING NEIGHBORHOOD FOR KANSAS CITY, MISSOURI

by

SHAOXUAN ZHU

B.S. Tsinghua University,
Beijing, People's Republic of China, 1983

A THESIS

Submitted in partial fulfillment of the

requirements for the degree

MASTER OF ARCHITECTURE

KANSAS STATE UNIVERSITY
Manhattan, Kansas
1992

Approved by:

Ray Weisenburger

Ray Weisenburger
Major Advisor

LD
2668
.T4
ARCH
1992
Z58
c.2

A11210189873

ACKNOWLEDGEMENTS:

I would like to extend gratitude to my major advisor, Prof. R. Weisenburger, for his guidance and supervision throughout this study. Thanks are extended also to the other two members of my advisory committee, Prof. Bernd Foerster and Prof. Gene Ernst, for their advice and help.

I acknowledge my appreciation to the faculty and staff of Architecture Department at Kansas State University for their direct and indirect assistance during my stay here.

Finally, I would like to thank my family, my father, mother, brother, and my lovely wife Jiang, Ye. Without their continual love, encouragement, and support I could not have completed this study.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....i

TABLE OF CONTENTS.....ii

TABLEOFIGURES.....iv

INTRODUCTION.....1

CHAPTER I: DESCRIPTION OF THE SITE AND THE

SURROUNDING AREA.....3

I-1. SITE LOCATION.....3

I-2 STUDY AREA.....3

I-2.1. Existing Land Use.....6

I-2.2. Site History.....6

I-2.3. Circulation.....8

I-2.4. Visual Characteristics.....10

I-2.5. Spatial Dimensions.....19

I-2.6. Population.....26

I-2.7. Crime.....29

CHAPTER II: SYNTHESIS.....30

II-1. PROBLEMS AND LIMITS.....30

II-1.1. Lost Spaces.....30

II-1.2. Weak Identification.....31

II-1.3. Poor Environment.....31

II-1.4. Interstate - 70.....31

II-2. OPPORTUNITIES.....32

CHAPTER III: STRATEGIES FOR RENOVATION.....33

III-1. SENSE OF COMMUNITY.....33

III-2. ECONOMIC DEVELOPMENT.....34

III-3. DESIGN CONSIDERATION.....34

III-4. NEIGHBORHOOD PROMOTION AND MANAGEMENT.....35
CHAPTER IV: PLANNING AND DESIGN CONCEPTS.....37
IV-1. IDENTIFICATION HOUSING TYPES.....37
IV-2. DENSITY 39
IV-3. LAND USE CONCEPT.....40
IV-4. HOUSING ARRANGEMENT.....42
IV-5. OPEN SPACES.....43
IV-6. CIRCULATION.....45
IV-7. PARKING.....47
CHAPTER V: DESIGN STATEMENT.....51
V-1. PROGRAM BRIEF.....51
V-2. THE SITE PLAN.....52
V-3. CIRCULATION.....55
V-4. PARKING.....57
V-5. HOUSING DEVELOPMENT.....57
V-6. DESIGN GUIDELINES.....63
V-6. 1. Public Open Areas.....63
V-6. 2. Single Family Houses.....68
V-6. 3. Semidetached Town Houses.....70
V-6. 4. Apartments.....73
CHAPTER VI: CONCLUSION.....75
APPENDIX: CASE STUDY.....78
BIBLIOGRAPHY.....103
ABSTRACT

TABLE OF FIGURES

F1: Site Location.....4

F2: Study Area.....5

F3: Existing Land Use.....7

F4: Existing Circulation.....9

F5: The Community Center.....11

F6: Church.....11

F7: Plan of Regional Commercial Center.....13

F8: Plan of Religious Center.....13

F9: Memorial Structures / Trellis on the Paseo....14

F10: I - 70 Highway.....14

F11: Housing Districts Within the Study Area.....15

F12: Woodland High School.....17

F13: 12th Street Commercial Center.....18

F14: Downtown Highrise Building.....18

F15: Typical Apartment Style.....20

F16: Typical Single Family Housing Style.....20

F17: Spatial Dimension of Parker Square.....22

F18: Spatial Dimension of Wayne Minor.....23

F19: Spatial Dimension of Single Family House.....24

F20: Spatial Dimension of Freeway Home.....25

F21: Age Characteristics Within the 12 Street Area.27

F22: Family type Within the 12th Street Area.....27

F23: Population Change Within the 12th Street Area.28

F24: Race Characteristics.....28

F25: Concept of Land Use Within the Site.....41

F26: Patterns of Housing Arrangement.....44

F27: Concept of Open Space.....46
F28: Concept of Circulation.....49
F29: Concept of Parking Layout.....50
F30: Master Plan.....53
F31: Typical Block Plan.....54
F32: Perspective of Public Service Facilities.....56
F33: Perspective of Common Open Space.....56
F34: Alley Within Each Block.....58
F35: Parking Layout Within the Site.....58
F36: Infill Single Family House.....59
F37: Semidetached Town House.....61
F38: Perspective of Street Corner Plaza.....65
F39: Perspective of Rear Yard.....65
F40: Perspective of Balcony in Town House.....72
F41: Perspective of Front Yard.....72
F42: Site Plan of Easter Hill Village.....80
F43: Site Plan of Orton Keyes Court.....81
F44: Site Plan of St. Francis Square.....82
F45: Front Porch in Easter Hill Village.....84
F46: Front Entrance in Orton Keyes Court.....84
F47: Lobby Plan in St. Francis Square.....86
F48: The Front Yard at Easter Hill Village.....86
F49: Front Yard in Orton Keyes Court.....88
F50: Front Yard in St. Francis Square.....88
F51: The Back Yard in Easter Hill Village.....90
F52: Back Yard in Francis Square.....90
F53: Back Yard in Orton Keyes Court.....91

F54: Common Open Space in the Easter Hill Village..91

F55: Common Open Space in St. Francis Square.....94

F56: Common Open Space in Orton Keyes Court.....94

F57: Traffic Street System in Easter Hill Village..97

F58: Traffic Street System in St. Francis Square...97

F59: Traffic Street System in Orton Keyes Court....98

F60: Foot Path System in Easter Hill Village.....98

F61: Foot Path System in St. Francis Square.....100

F62: Foot Path System in Orton Keyes Court.....100

F63: Parking Arrangement in Easter Hill Village...102

F64: Parking Arrangement in St. Francis Square....102

INTRODUCTION

Public housing in the United States has changed radically in recent years in terms of environmental quality, housing design, and housing policy. Although most American families may now be classified as "new" traditional families -- a married couple with one working parent or both working parents and young children -- other households such as single person households and single parent households are growing rapidly. Meanwhile, because of the influence of social and physical factors, crime and vacancy rates have risen to a higher level in public housing than in other neighborhoods. These changes have presented architects and planners with a challenge to explore new concepts for public housing and new housing types in general, which reflect contemporary need.

The Forgotten Home neighborhood is one of the neighborhoods in the 12th Street residential area in Kansas City, Missouri. As a typical low income urban residential area, it is experiencing a decline in the number of residents and a rapid rise in its vacant lands and crime rate. This shift represents a threat to the environmental quality in the area. In response to these issues, a non profit group, the Twelfth Street Heritage Development Corporation, was formed by Ollie Gates and others in 1984. The purpose of the Corporation is to explore approaches for renovating neighborhoods so that businesses and residents will return to the area. During the

Spring and Fall semester of 1990, a large scale proposal for the entire 12th Street area along with some detailed housing development schemes were prepared by students in architecture, interior architecture, and landscape architecture at Kansas State University.

The proposal presented here is a continuation of a series of studies in this area. It concentrates on the physical man-made environment -- the physical site plan of a housing development and its effects upon the quality of the residential environment. The investigation also addresses the way in which variations in the physical form and density of housing can better serve different age and life-style groups such as households for single parent, single person and the elderly.

CHAPTER I. DESCRIPTION OF THE SITE AND SURROUNDING AREA

I-1. SITE LOCATION

The Forgotten Home neighborhood is located in Kansas City, Mo. Its boundaries (Fig. 1) are 14th Street to the south, 12th Street to the north, Woodland Avenue to the west, and Brooklyn Avenue on the east.

The site is conveniently located on the eastern edge of the downtown area near major business and commercial districts. It is one of the neighborhoods in the 12th Street residential area. Most of the land in the site is vacant. The 26.9 acre site measures over 900 feet in length between 12th Street and 14th Street, and 1200 feet between Woodland Ave. and Brooklyn Ave.

I-2. STUDY AREA

In order to establish planning and design goals for the site and to develop an understanding of the context, the surrounding area was studied. This study area was defined between 9th and 14th Streets and between Prospect Ave. and the Paseo (Fig. 2). The environmental and social factors such as land use, circulation, open spaces, visual characteristics, history, household types, and crime were studied and are described as follows:

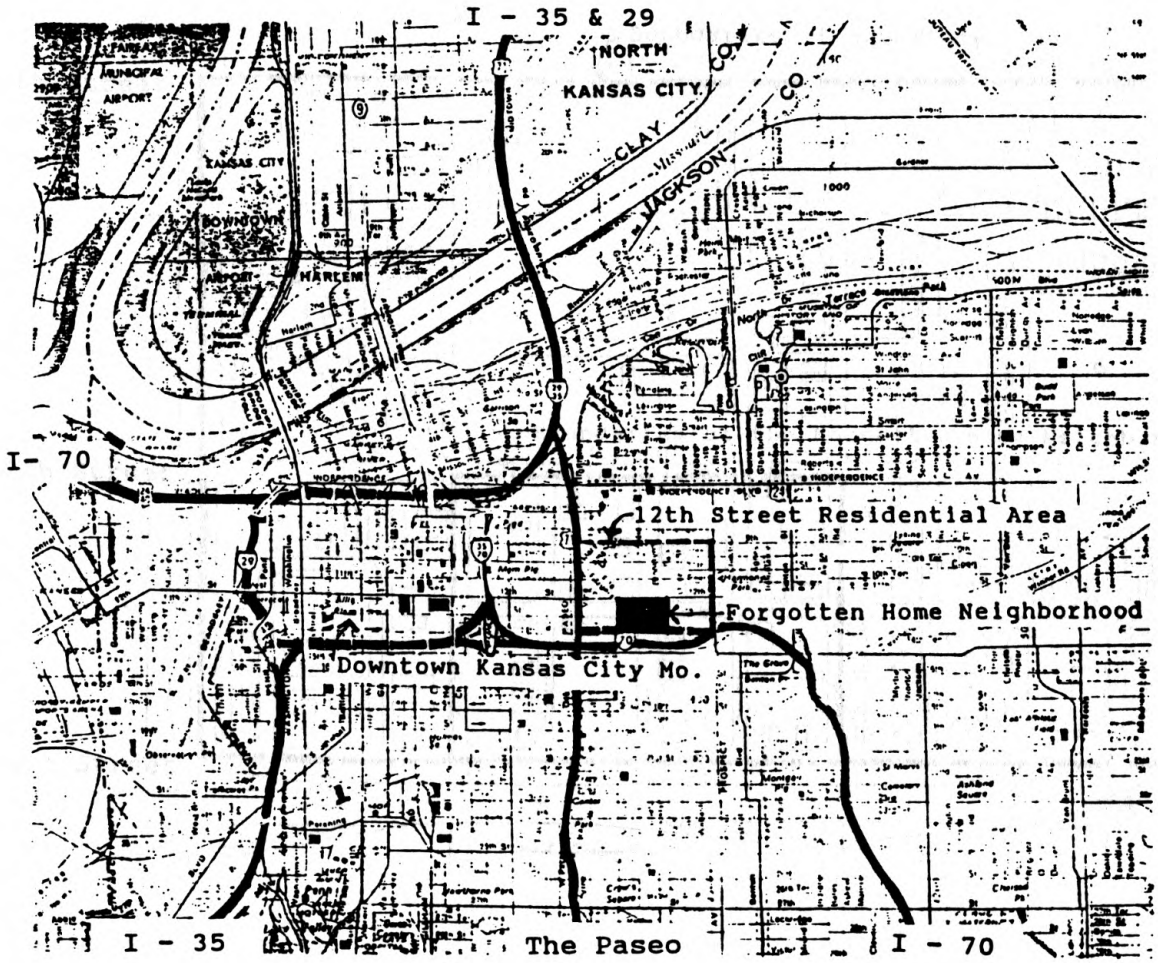


Fig. 1 Site Location

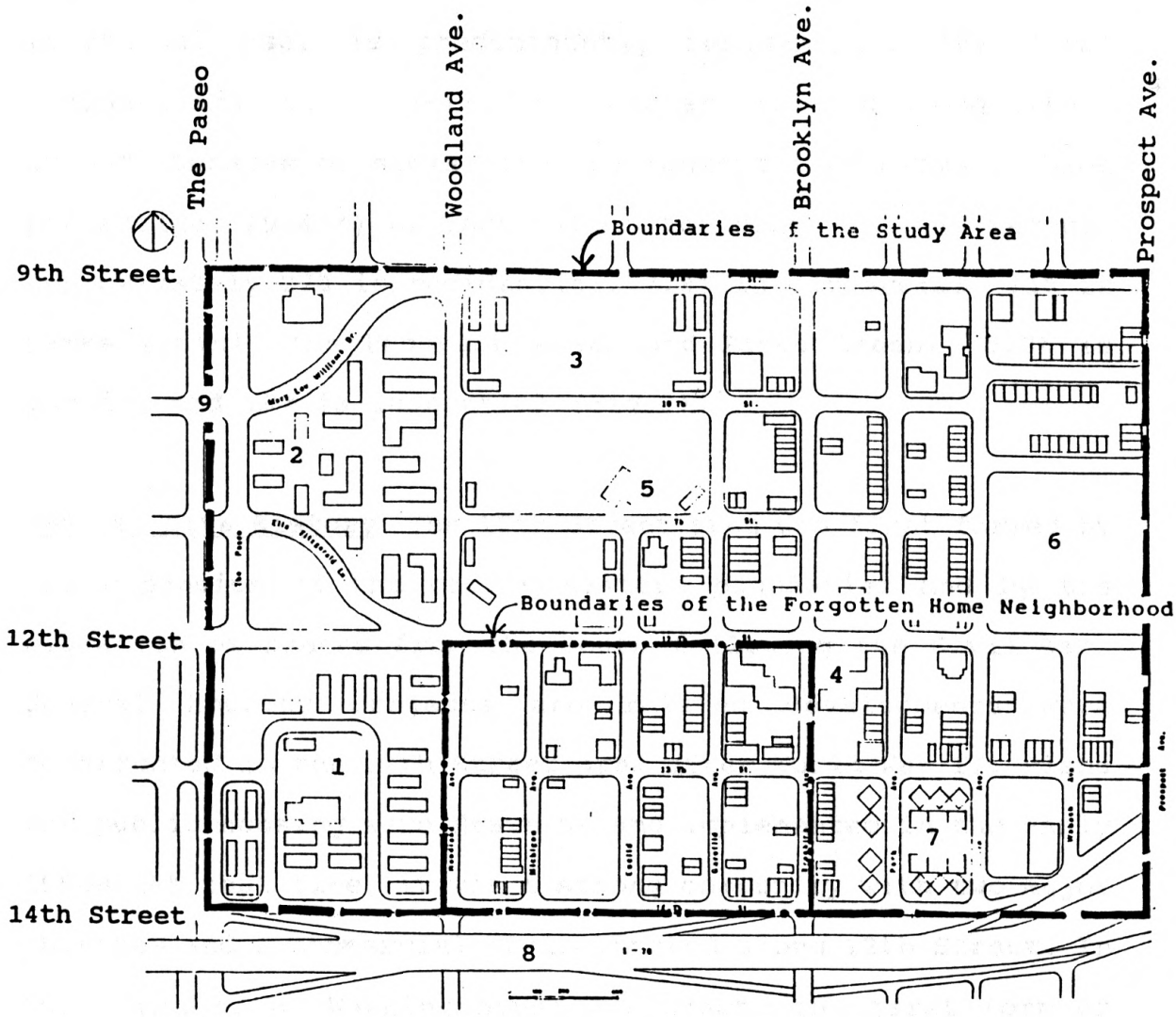


Fig. 2 Study Area

Legend
1 T. B. Watkins Neighborhood
2 Park Square Neighborhood
3 Wayne Minor Neighborhood
4 Local Commercial Center
5 Community Center
6 Prospect Park
7 Free Way Neighborhood
8 I - 70 Highway
9 The Paseo Boulevard

I-2. 1. Existing Land Use The 12th Street area, in terms of functional use, is predominantly residential. The local business and retail districts areas are located along 12th Street. Because of social and environmental problems, a high percentage (29.4 %) of land within the study area is vacant. Approximately 27% is residential, 7.8% is commercial, 11% is parks (mainly the Prospect Plaza and Paseo Green), 5.8% is public, and 19% is industrial (Fig 3).[1]

I-2. 2. Site History The 12th Street area was first formed by the expansion of the city's eastern boundaries and by the migration of blacks from the South following the Civil War. Several housing projects and related developments were constructed in the 12th Street area after World War II. Plans for public housing were drawn up and implemented in the early 1950s. At that time, it was a strong community with two major churches and a commercial strip located along 12th Street. In 1954, the T. B. Watkins housing project, the first form of public housing in the area, was constructed; its construction caused about six square blocks of single family homes to be demolished. In 1960, The Wayne Minor housing project was built and was the first high density public housing in the Kansas City area. This project was expected to be a model, a new way to provide low income housing. From 1970, the study area began

---

[1] Source from survey by students in architecture, interior architecture, and landscape architecture at Kansas State University. Fall 1990.

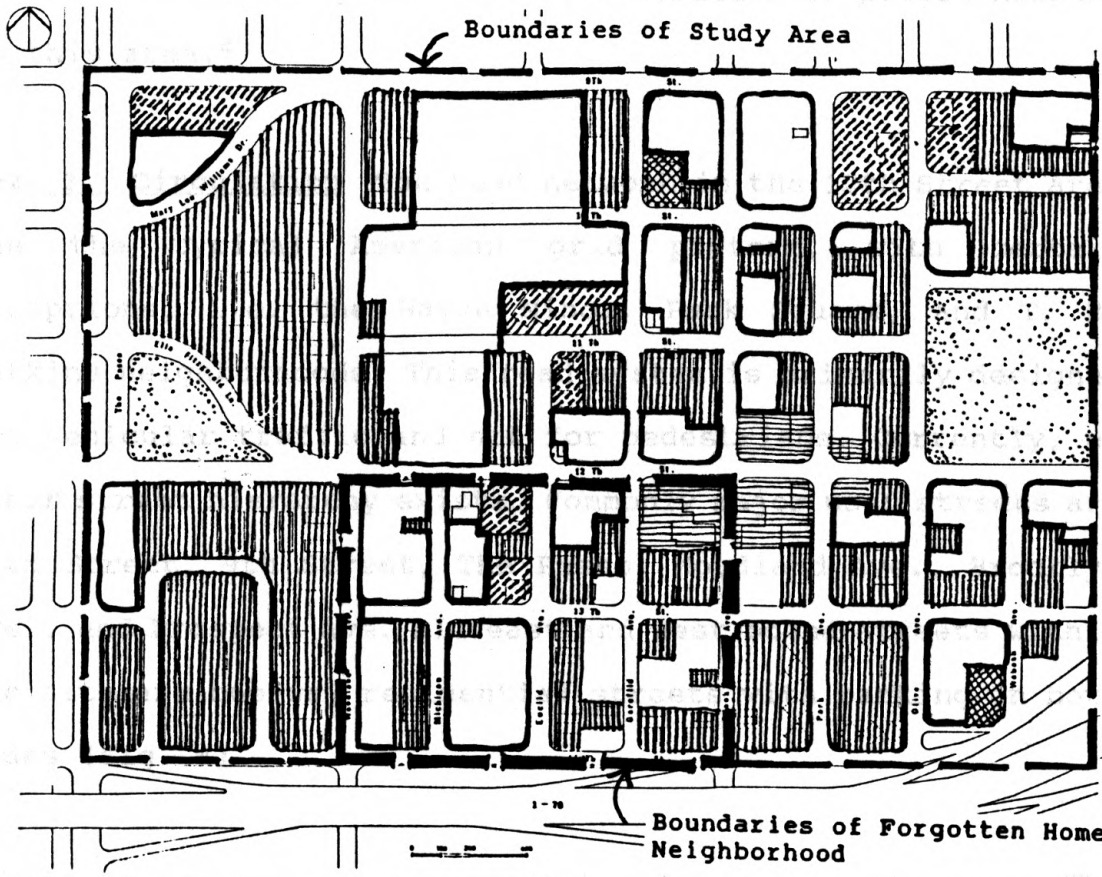


Fig. 3 Existing Land Use

Legend

- Residential
- Vacant Land
- Parks
- Commercial
- Cultural/Religious
- Light Industry

to decline because of poor management of the project, increasing crime, and relocation of home owners. In 1987, the Wayne Minor public housing highrise apartments were demolished, reducing the high concentration of public housing in this area.[2]

I-2. 3. Circulation The road network in the 12th Street area was the typical American grid pattern, with certain exceptions, i.e. the Wayne Minor, Park Square, and T. B. Watkins neighborhoods. This road system is primarily designed for vehicular traffic and not for pedestrians. Currently, no clear street hierarchy exists. Commonly major used streets are 12th Street, 9th Street, The Paseo, Woodland Ave., Brooklyn Ave., and Prospect Ave. All east and west bound streets within the site are one-way residential streets with parking on both sides (Fig. 4).

Public transportation is accessible throughout the site. The Kansas City Metro bus system runs along 9th Street, 12th Street, Woodland Ave. and Prospect Ave. This transportation system provides excellent convenience for the residents to a commercial area in downtown and to work places.

---

[2] Source from survey by students in architecture, interior architecture, and landscape architecture at Kansas State University. Fall 1990.

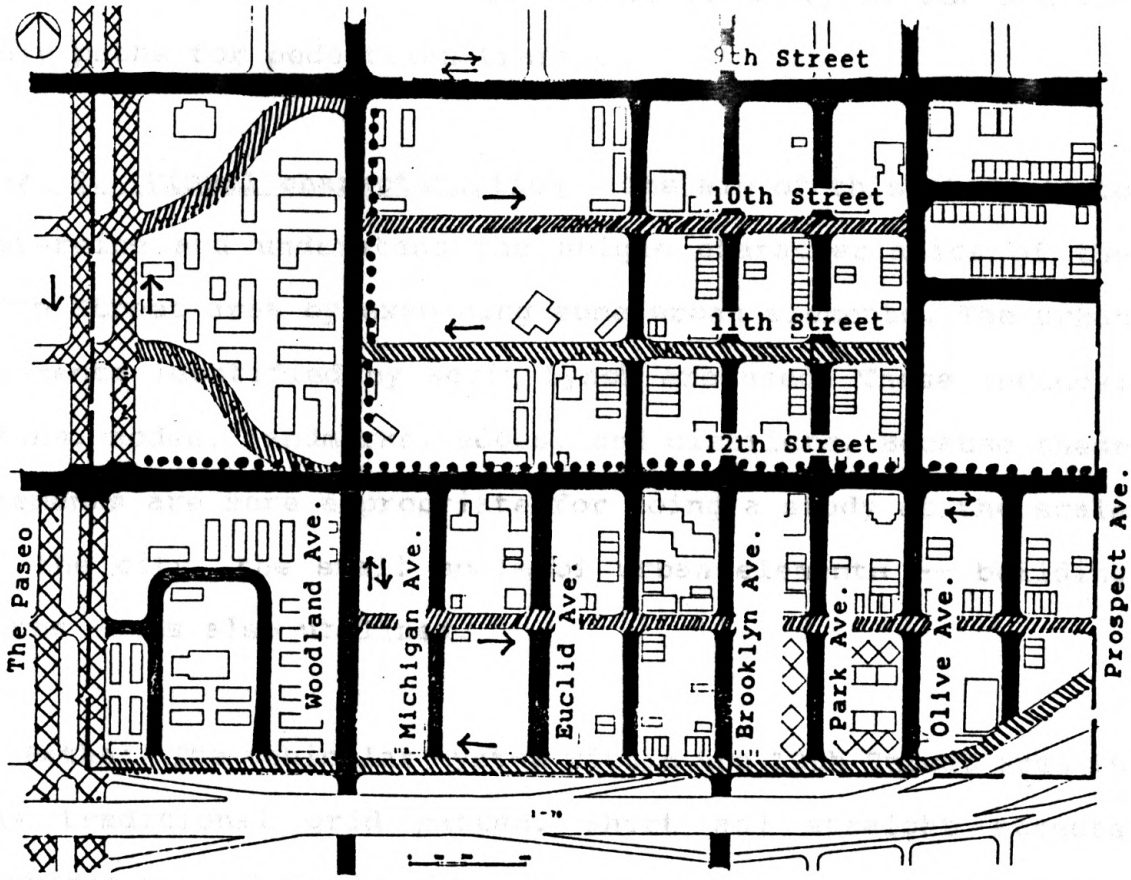


Fig. 4 Existing Circulation

Legend

- Two Way
- East Bound
- West Bound
- North/South Bound
- The Paseo
- Public Transportation

There are no internal pedestrian networks within the 12th Street area. Sidewalks on both side of every street are the only paths for pedestrian traffic.

I-2. 4. Visual characteristics. The aim of this study is to determine and understand the unique characteristics of the 12th Street area by examining some urban elements. The urban elements identified by Kevin Lynch are used. These include: paths, nodes, landmarks, edges, and districts. Because these elements are more appropriate for doing a study at the scale of the city, the small scale of urban elements -- building forms -- is also utilized.

* **Paths:** The vehicular system within the 12th Street area is the traditional grid patten. Short and straight streets provides a psychologically comforting structure. Some streets with visual terminations provide visual identification, such as the community center at the end of Euclid Ave. (Fig. 5) and a church at the end of 10th Street (Fig. 6). 12th Street is a major path which acts as central circulation space for this area. The unique quality of it is achieved through some special uses and activities such as residential and commercial areas, and a public park occur along this margin. Woodland Ave. may also be known by its variety of housing facades, human scale, and tree-lined street. Other streets within the study area lack the quality of continuity and unity because

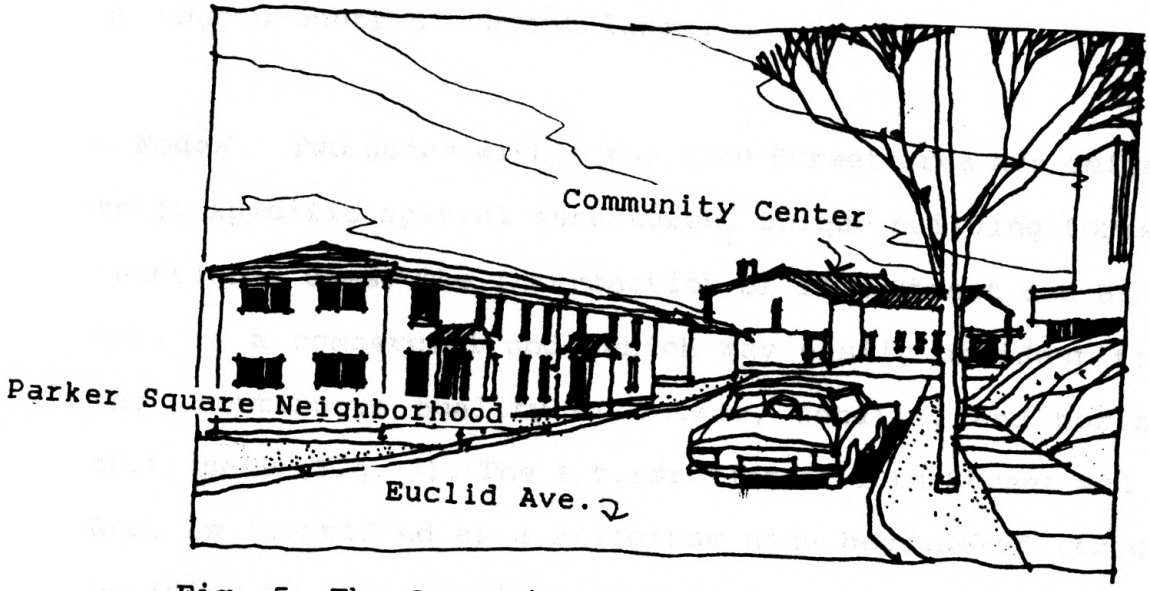


Fig. 5 The Community Center

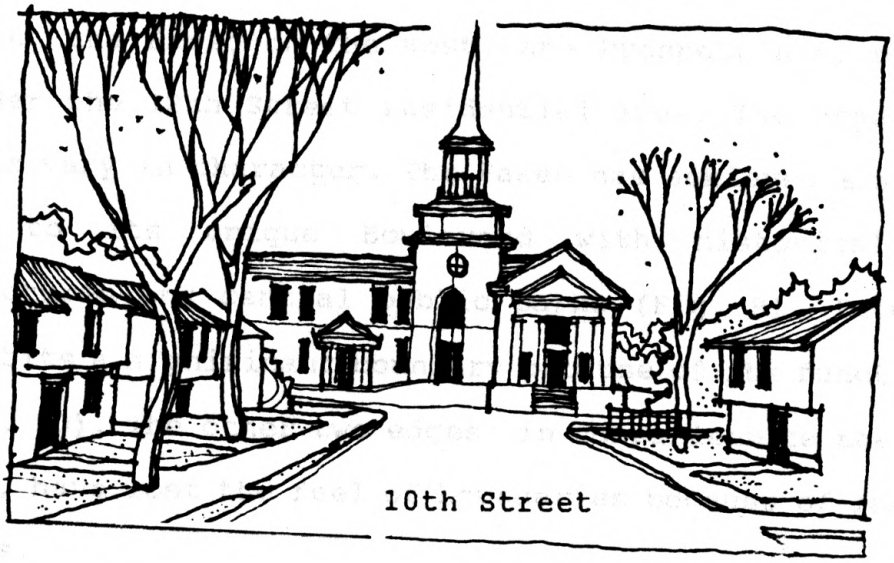


Fig. 6 Church

of huge amounts of vacant lands.

* **Nodes** Two nodes within the 12th Street area are defined by their specific spatial structures, unique building forms, and functional uses. The intersection of 12th Street and Brooklyn Ave. is a commercial node which may easily be identified by the continuous quality of facade, details, and horizontal open space (Fig. 7). The intersection of 10th Street and Olive Ave. is identified as a religious node because of its unique building types, materials, and details (Fig. 8).

* **Edges** The I-70 highway to the south, 9th Street to the north, the Paseo on the west, and Prospect Ave. on the east border the 12th Street residential area. The edges of these paths vary in character. The Paseo has achieved a strong edge due to its unique Boulevard with historical memorial structures and central public parks (Fig. 9). Interstate-70 exhibits a significant boundary because of its functional role (Fig. 10). The other two edges, in comparison to the Paseo and I-70, have lost the feel of boundaries because of large vacant lands.

* **Districts** The study area is a large residential area that could be subdivided into districts only by means of existing neighborhood organization and housing types. Five major districts are defined as follows: Parker Square, T. B Watkins,

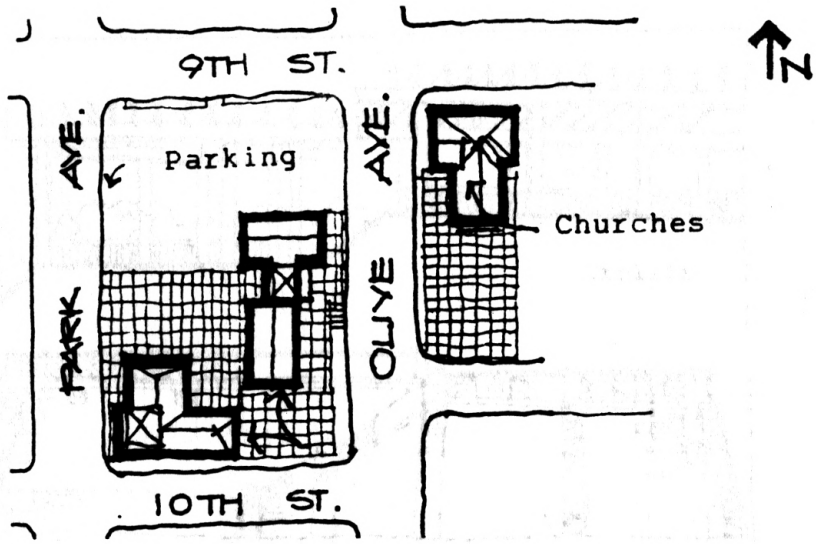


Fig. 7 Plan of Religious Center

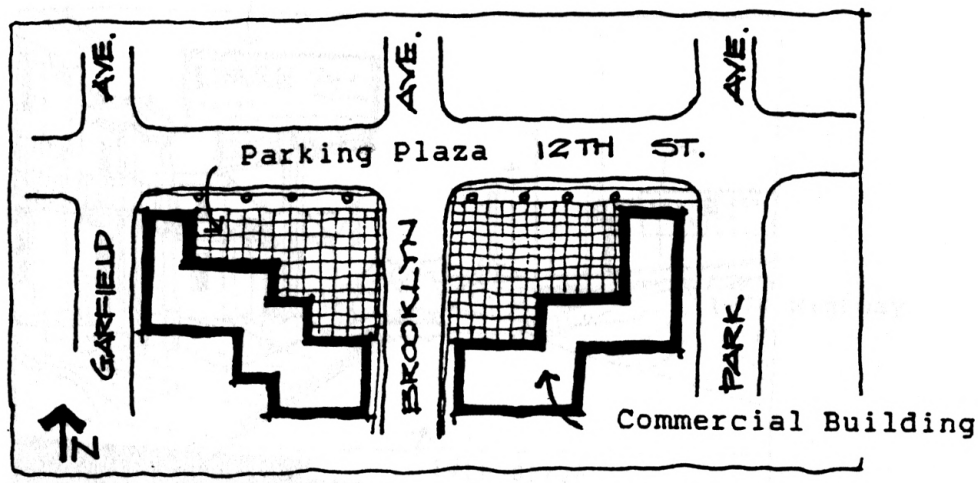


Fig. 8 Plan of Regional Commercial Center

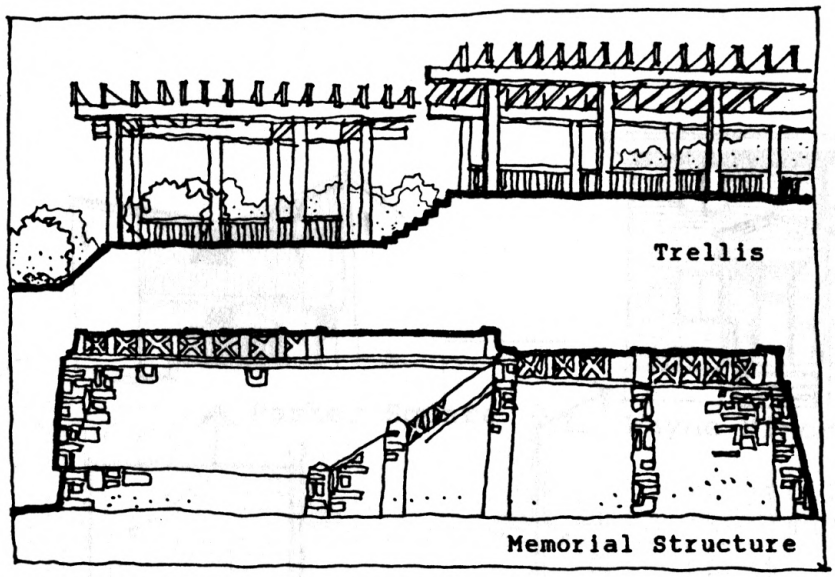


Fig. 9 Memorial Structure / Trellis on The Paseo

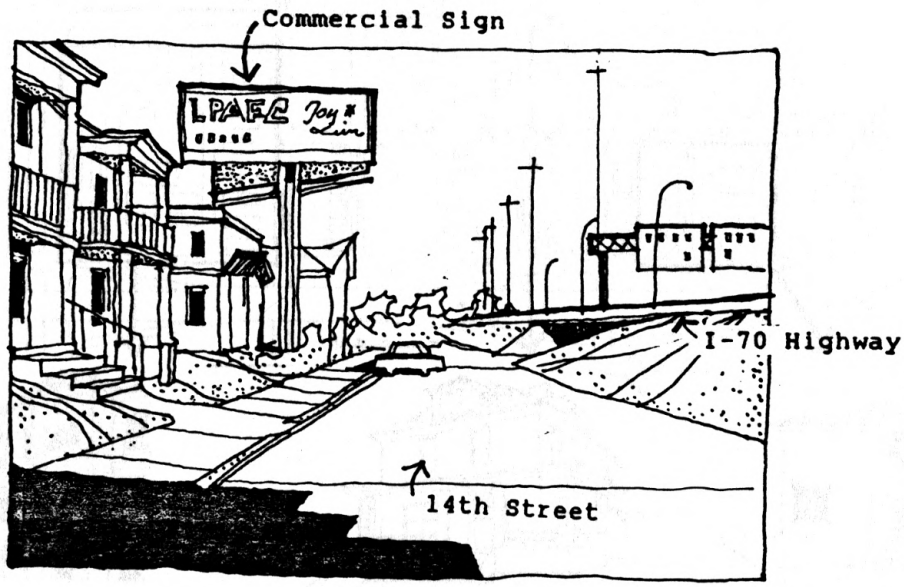


Fig. 10 I-70 Highway

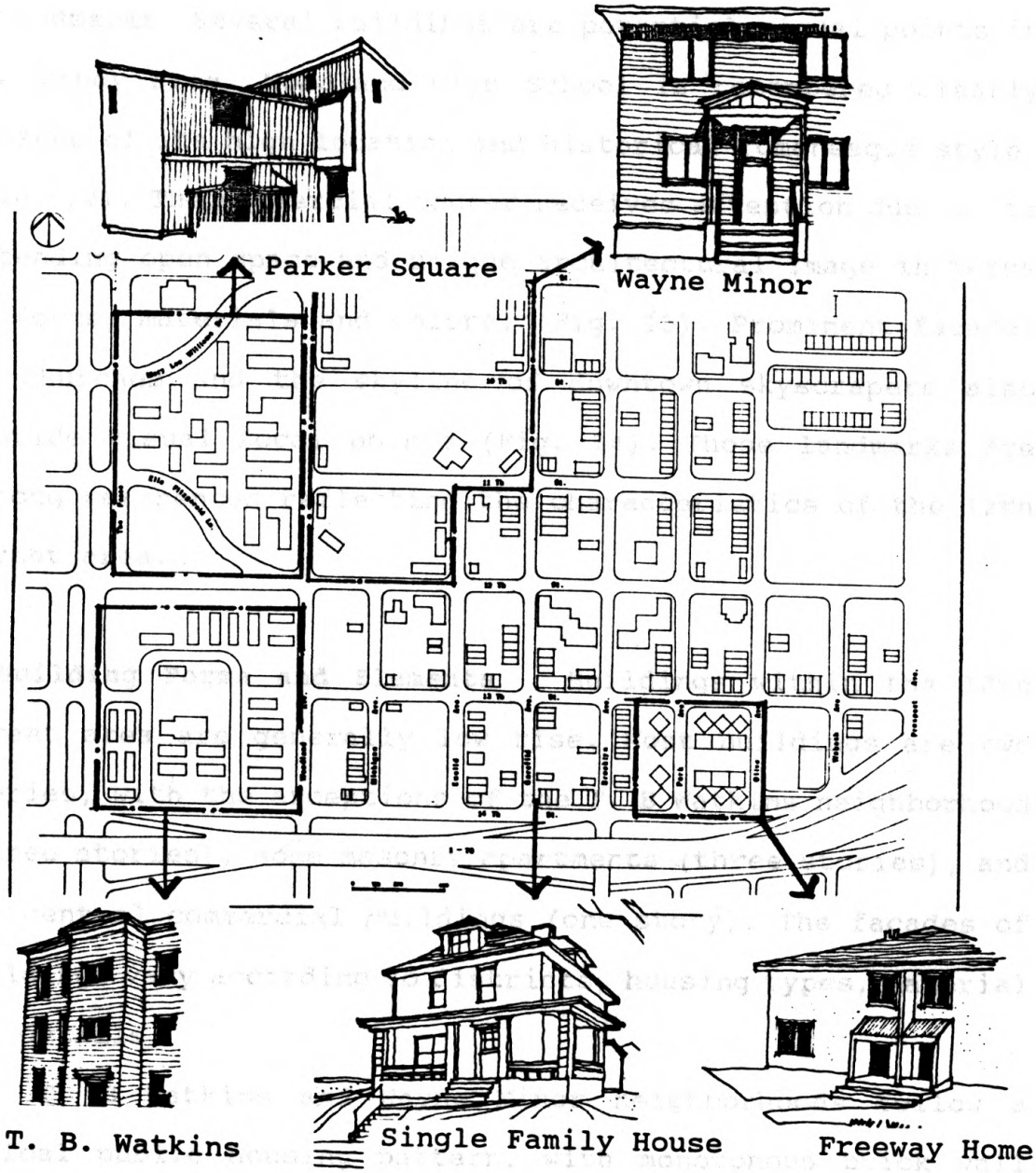


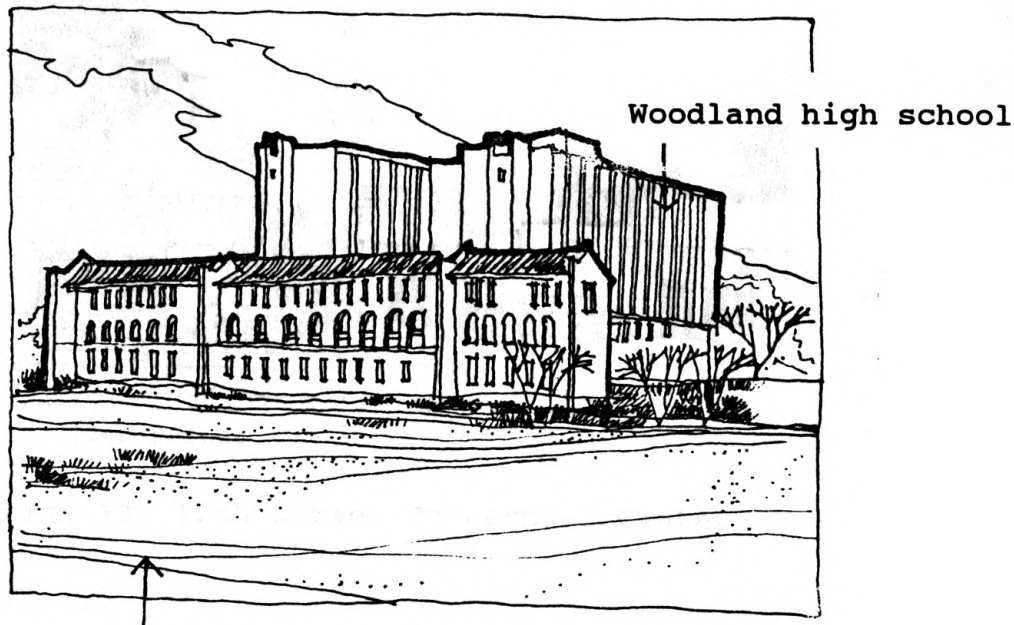
Fig. 11 Housing Districts Within the Study Area

Wayne Minor, Single family style, and Freeway Homes (Fig. 11).

* **Landmarks** Several buildings are potential visual points in the study area. Woodland High School is remembered clearly because of its high location and historical romanesque style (Fig. 12). The commercial center receives attention due to its extending open space and unique architectural image in terms of forms, materials and colors. (Fig. 13). Prominent facades of churches and the skyline of downtown skyscrapers also provide visual focal points (Fig. 14). Those landmarks are strong references reflecting the characteristics of the 12th Street area.

* **Building Forms and Elements** Buildings within the 12th Street area are generally low rise. Most buildings are two stories, with the exceptions of the T. B Watkins neighborhood (three stories), some masonry apartments (three stories), and the central commercial buildings (one story). The facades of buildings vary according to districts, housing types, material and details.

T. B Watkins and Wayne Minor neighborhoods follow a typical public housing pattern, with monotonous brick wall surfaces, standard double hung windows, and dark colors. Neither the vertical nor the horizontal is emphasized, and entrances are not properly stressed. However, a few masonry apartments within the site strongly resemble Greek renaissance



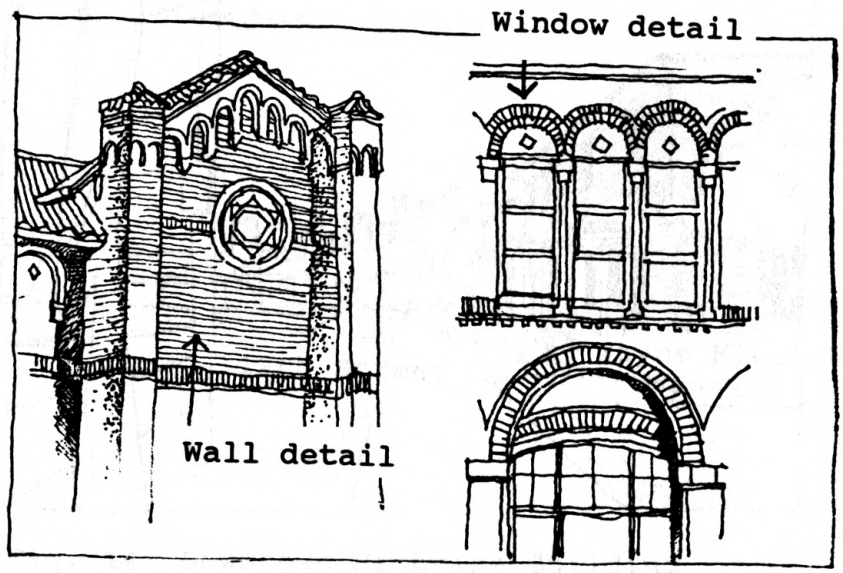


Fig. 12 Woodland High School

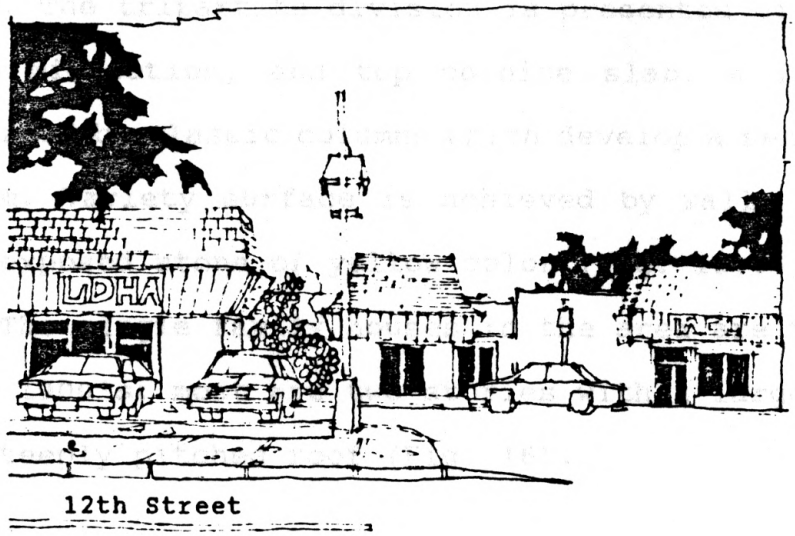


Fig. 13 12th Street Commercial Center

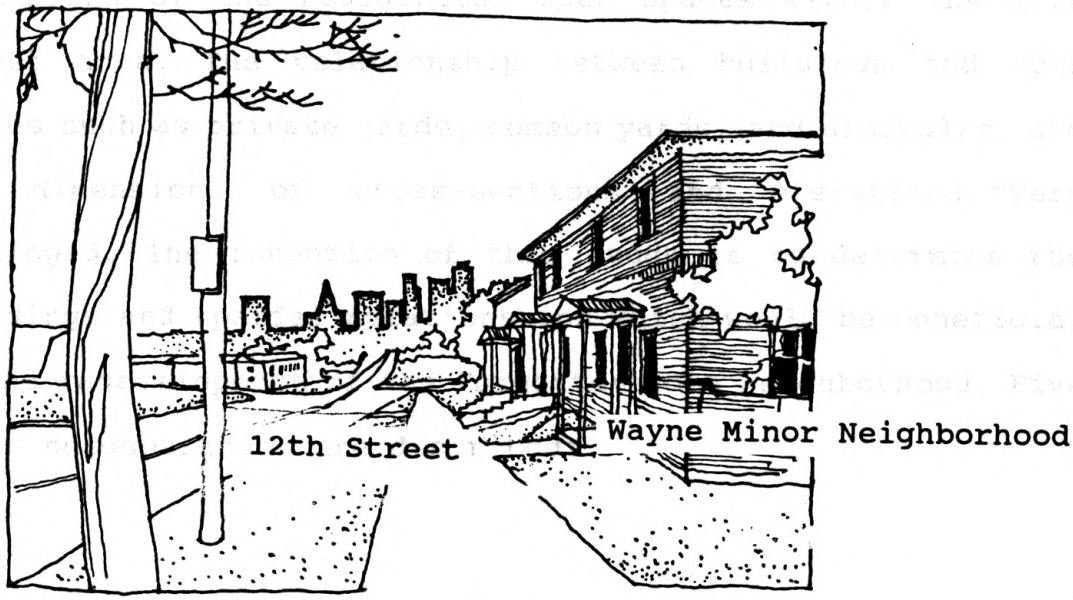


Fig. 14 Downtown Highrise Building

style. The tripartite division is presented with stone base, brick midsection, and top cornice slab. A large porch is supported by classic columns which develop a sense of vertical rhythm. Variety surface is achieved by walls of dark color with exposed stone of yellow color (Fig. 15).

The single family houses in the area are typical of the early 1900's: most are two-stories with a large front porch, and steeply pitched roof (Fig. 16).

I-2. 5. SPATIAL DIMENSIONS

This section summarizes an investigation of the criteria dimensions of the residential open spaces within the 12th Street area. The relationship between buildings and open spaces such as private yards, common yards, and sidewalks, and the dimensions of cross-sections and elevations were cataloged. The intention of this study is to determine the buildings and spatial relationships which would be beneficial in the redevelopment of the Forgotten Home Neighborhood. Five major neighborhoods are described:

* **T. B. Watkins** T. B. Watkins neighborhood lacks outdoor private spaces. Buildings are arranged parallel to each other along the streets. Because there is little privacy and the ground level is the same as the street, there is no sense of neighborhood or definable, defensible space.

Fig. 15 Typical Apartment Style

Fig. 16 Typical Single Family Housing Style

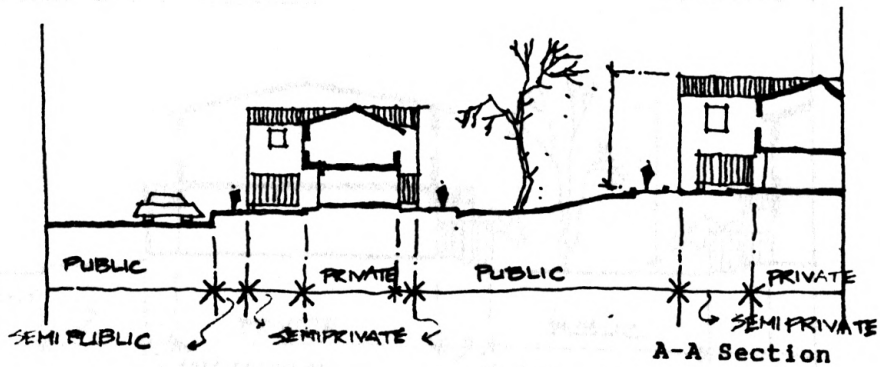
* **Parker Square** The Parker Square neighborhood contains a good open space hierarchy. Its public, semi-public, and private spaces are well designed. Each unit has a semiprivate patio space with access to the central open spaces. The proportion of building height to the central open space is about 1 : 2.5 (Fig. 17).

* **Wayne Minor** The housing arrangement in Wayne Minor neighborhood is similar that of T. B Watkins. The scattered buildings do not relate to one another because of the removal of the high rise buildings. The proportion of building height to common open spaces is about 1 : 2.5 (Fig. 18).

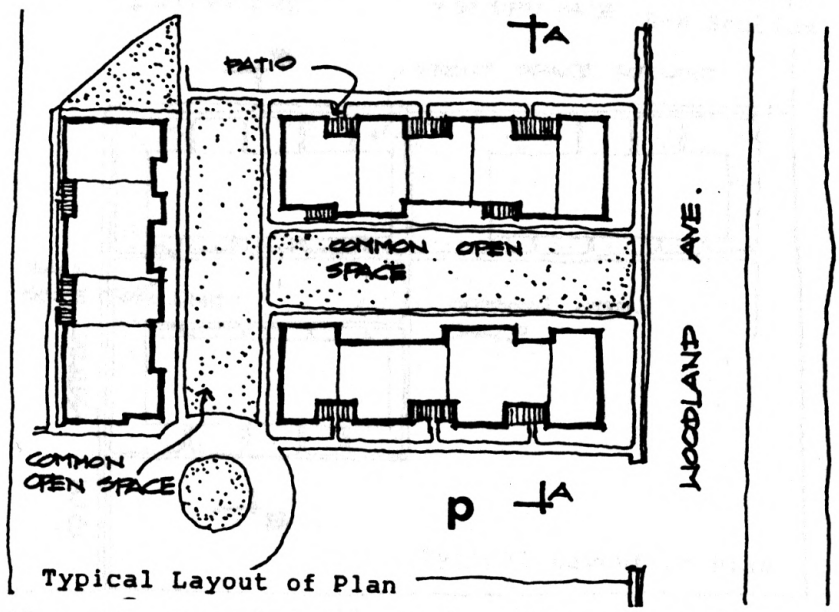
* **Single Family House** The single family house is the dominant type of housing in the study area. It establishes distinct zones among public open space, private building, and private back yard. The houses are typically of brick and stone and have steeply pitched roofs. These houses provide the area with visual and historic character (Fig. 19).

* **Freeway Houses** These are two-story 4-plexes with private entries for each unit. Each cluster is grouped facing a central common yard. The parking is located on the street and behind the buildings in small parking lots. Each unit has small a private yard. The proportion of building height to the common open space is about 1 : 1.5 (Fig. 20).

Perspective

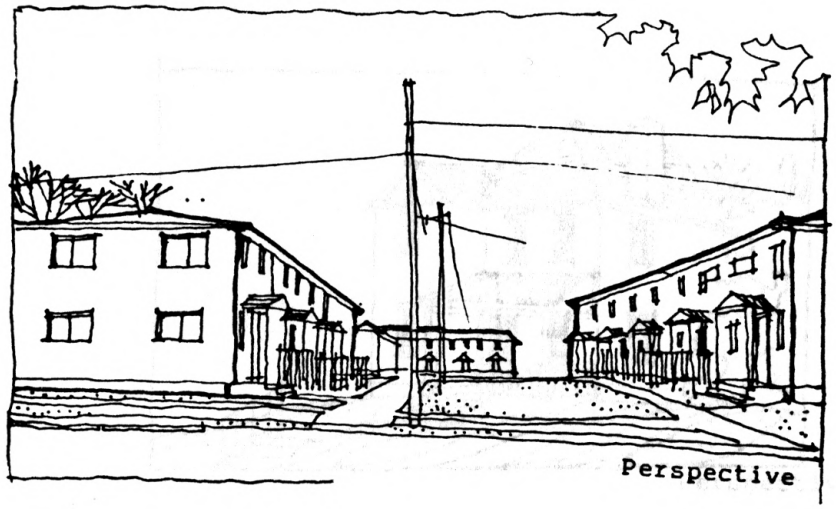


A-A Section

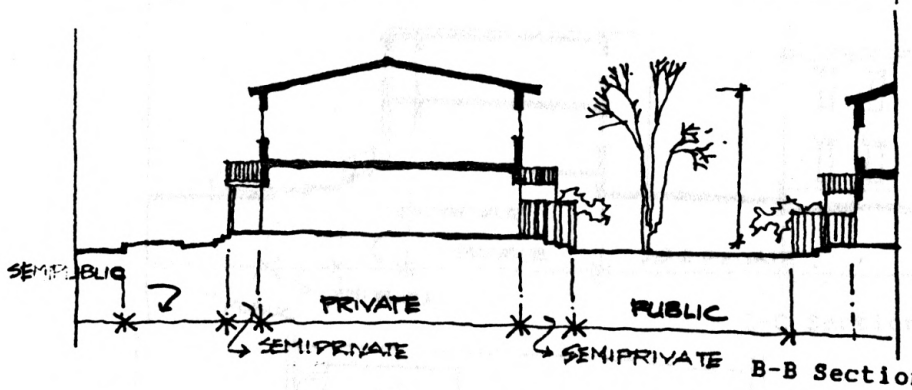


Typical Layout of Plan

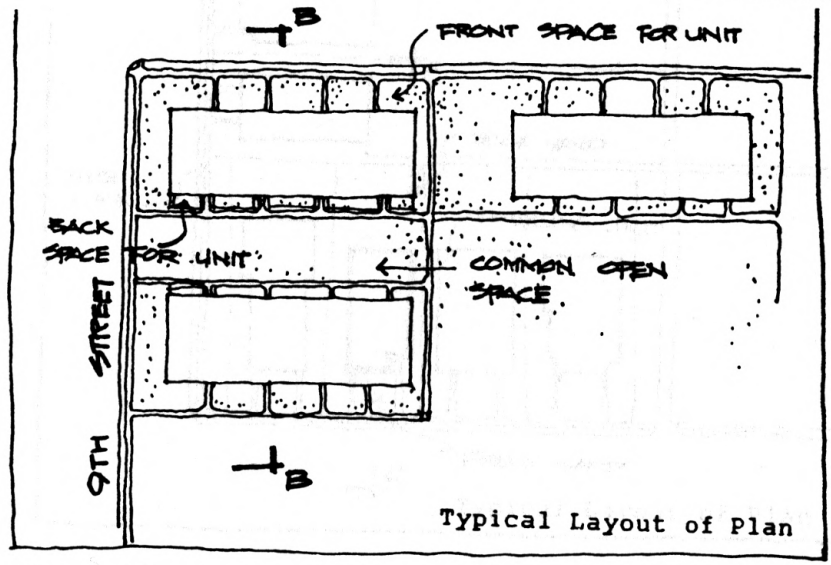
Fig. 17 Spatial Dimension of Parker Square



Perspective

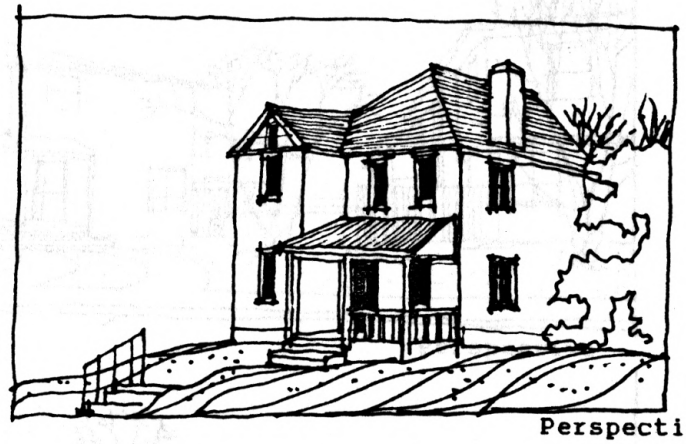


B-B Section

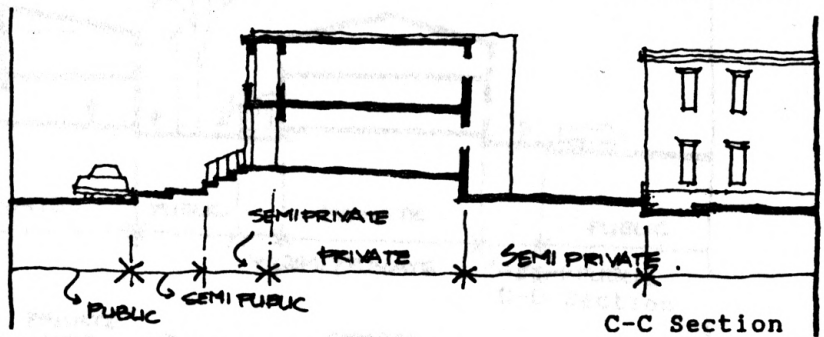


Typical Layout of Plan

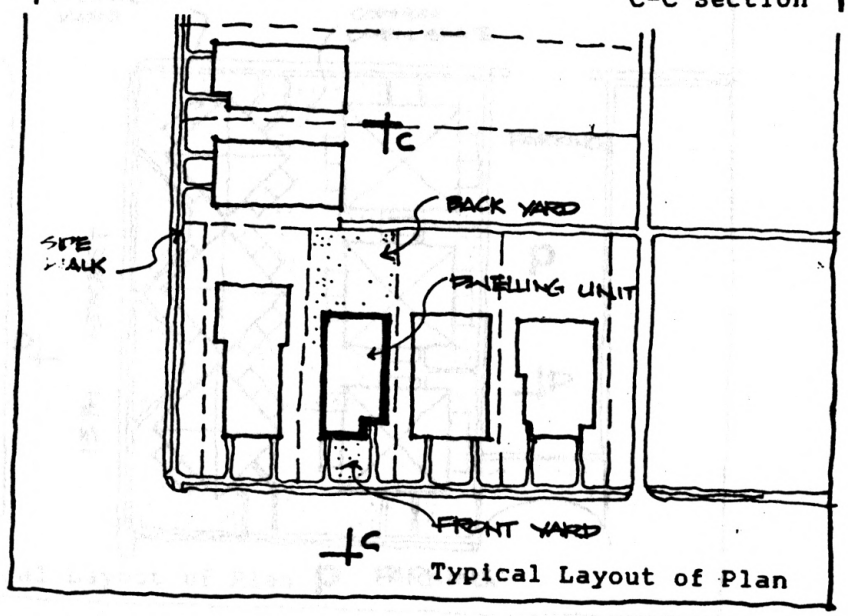
Fig. 18 Spatial Dimension of Wayne Minor



Perspective



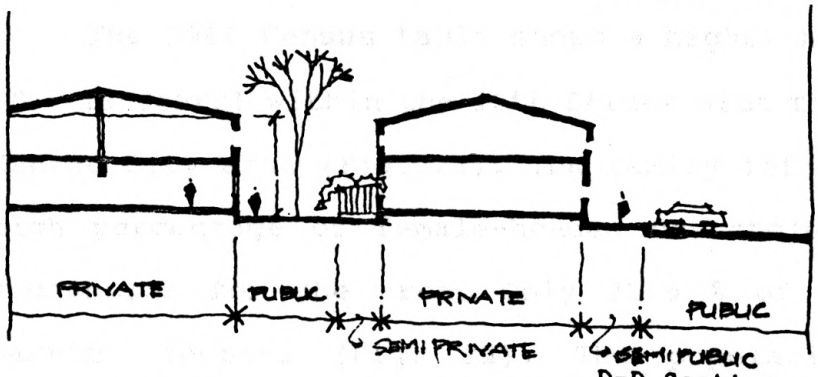
C-C Section



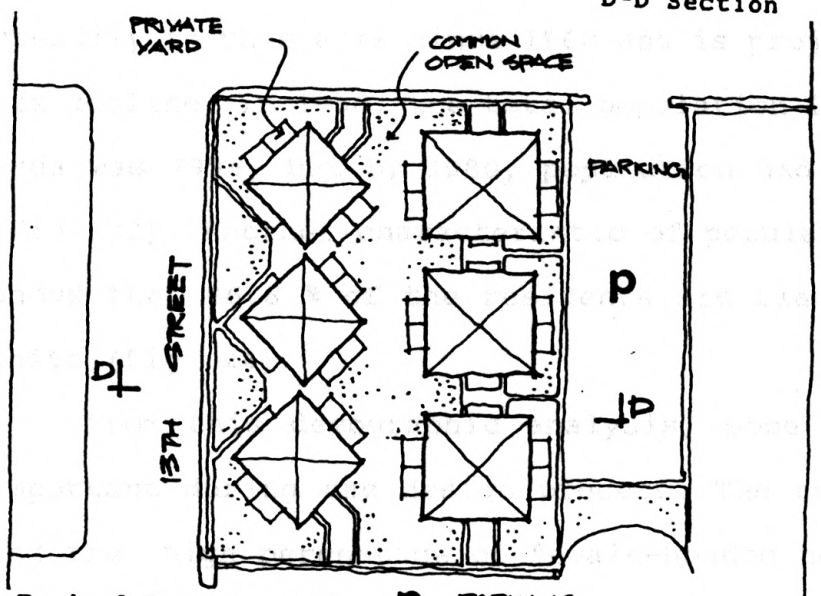
Typical Layout of Plan

Fig. 19 Spacial Dimension of Single Family House

Perspective



D-D Section



Typical Layout of Plan P PARKING

Fig. 20 Spacial Dimension of Freeway Home

I-2. 6. POPULATION

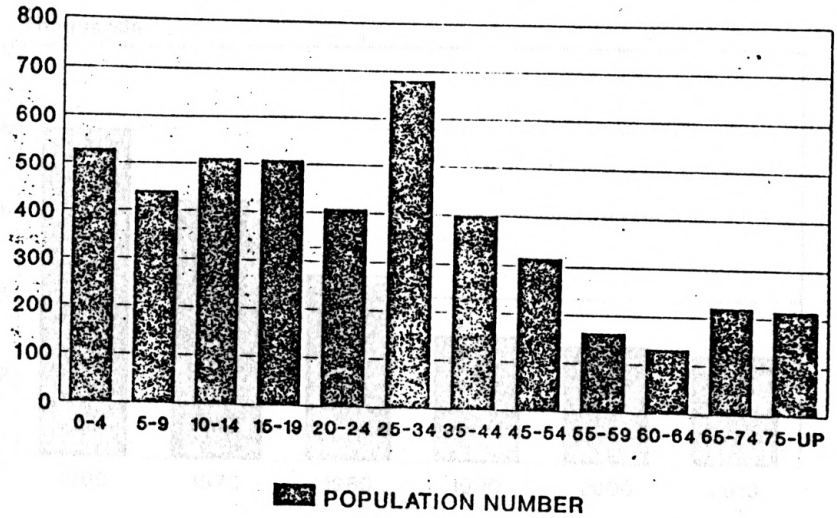
The 1980 United States Census provides population information consisting of age and race characteristics for the 12th Street area, and population change from 1960 to an estimate for the year 2010. The aim of this section is to provide a basis for a design program.

The 1980 Census table shows a higher number of children (0 - 19 years) within the 12th Street area than in the overall Kansas City area (Fig. 21). The family information reveals a high percentage of female-headed households and non-family households for the area. Only 21.5 % of the families are married couples (Fig. 22). The population has declined steadily in this area since 1960 and is projected to continue its decline. In 1960, the total population in the 12th Street area was 7996, but by 1980, population had declined to 4523 (Fig. 23). Another characteristic of population demographics shows that 86.8 % of the residents are black and 10.8 % are white (Fig. 24).[3]

From this demographic analysis, some issues emerge as important during the design process. The number of children and the high percentage of female-headed households suggest the need to provide more facilities such as day care centers, laundry facilities, recreational areas, and new housing types.

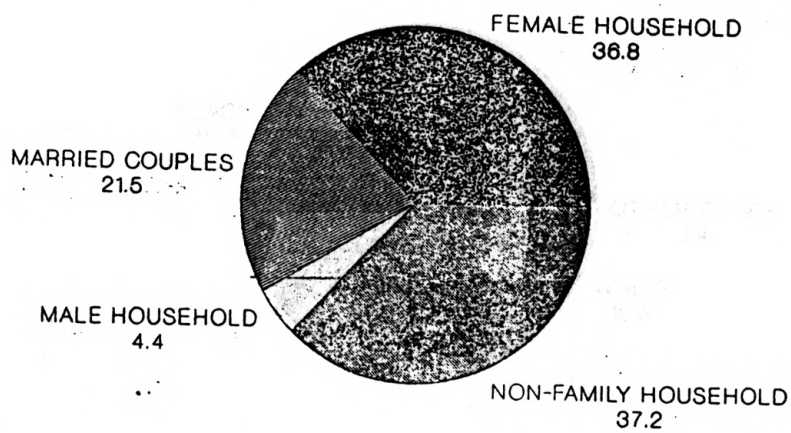
---

[3] Source from survey by students in architecture, interior architecture, and landscape architecture at Kansas State University. Fall 1990.



SOURCE: 1980 US CENSUS

Fig. 21 Age Characteristics Within the 12th Street Area



SOURCE: 1980 US CENSUS

Fig. 22 Family Type Within the 12th Street Area

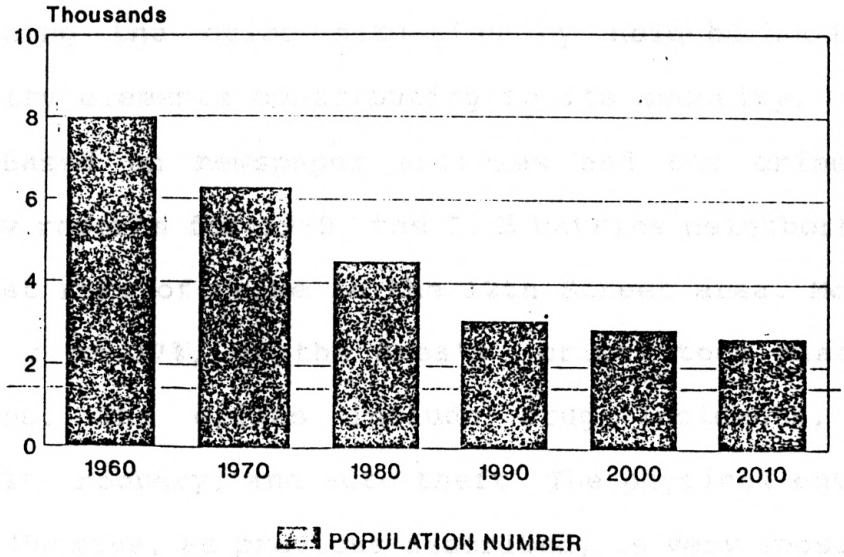
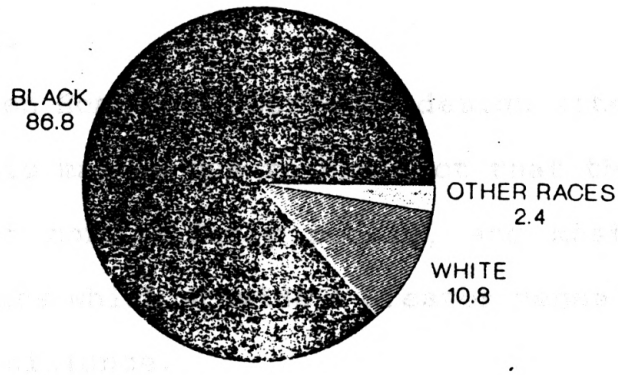


Fig. 23 Population Change Within the 12th Street Area



SOURCE: 1890 US CENSUS

Fig. 24 Race Characteristics Within the 12th Street Area

I-2. 7. CRIME

Crime is the most critical issue in 12th Street area. Examining the crime situation by neighborhoods may help identify elements contributing to its security.

Based on newspaper articles and the crime index and survey reports for 1989, the T. B Watkins neighborhood has the highest rate of crime in the 12th Street area. More than one third ; or 37%, of the area's crimes took place in T. B. Watkins. The crimes include drug incidents, aggravated assault, robbery, and auto theft. The physical environment in T. B. Watkins, as previous described, is very loosely defined. No real or symbolic barriers define the periphery of the neighborhood; buildings within the neighborhood are arranged by parallel pattern instead of cluster pattern; and about half the buildings are vacant. All these factors contribute to the high crime rates.

The Forgotten Home neighborhood (design site) is a safer neighborhood. This may be due to the fact that the population is comprised of more elderly people, and most houses are single family homes which provide a greater sense of territory and natural surveillance.

CHAPTER II SYNTHESIS

The existing conditions pose a distinct set of problems and opportunities which site planning and housing design must take into consideration. The following is a discussion of these problems and opportunities.

II-1. PROBLEMS AND LIMITS

II-1. Lost Spaces

The major problems in the 12th Street area are related to the large amounts of lost space. Lost spaces, in terms of Trancik's definition, "are the undesirable urban areas that are in need of redesign -- antispaces, making no positive contribution to the surrounding or users. They are ill-defined without measurable boundaries, and fail to connect elements in a coherent way."[4] Within the 12th Street area, lost spaces are the large surface parking lots that sever the connection between the commercial or instituted activities and residential area. They are also the vacant sites -- remnants of the urban renewal projects such as the corners of T. B. Watkins and Parker Square neighborhood, or remnants of deteriorated public housing projects that have to be rebuilt because they no longer serve their intended purpose, such as Wayne Minor neighborhood.

---

[4] Roger Trancik, Finding Lost Space (Van Nostrand Reinhold Company, 1986), Pg. 3.

Although the Forgotten Home neighborhood is located near the downtown which has attractive and popular commercial activities and amenities, the site seems a ghost neighborhood. A few single family houses and apartments are spreading into the site; however, most of land is vacant, littered with abandoned cars and refuse.

II-1 2. Weak Identification

Although Forgotten Home is officially named as one of neighborhoods within the 12th Street area, it lacks a sense of neighborhood. The weak physical and psychological boundaries with a few scattered houses make the continuation of the streetscape impossible. Vacant land around each main access does not provide an identifiable gateway.

II-1 3. Poor Environment

The site is located in a low-income residential area. The west part of it is the T. B. Watkins neighborhood, a neighborhood with severely limited environmental assets. The high rates of abandonment and deterioration of dwelling units and the high rates of crimes make walking around this neighborhood unsafe.

II-1 4. Interstate-70

The highway, I - 70, causes site specific problems of noise from the traffic and visual eyesores from overscaled

signs and supporting concrete structures.

II-2. OPPORTUNITIES

One of the best features of the site is its location. Although the adjacent neighborhoods provide a poor environment, Forgotten Home is convenient to downtown Kansas City, public transportation on 12th Street, and a local commercial center. Together, these positive characteristic present an opportunity to provide convenience for residents, especially single parent households and elderly people. The location compensates for many adverse conditions of the site. If properly planned and designed, the site and the surrounding area would benefit from the location. It would reutilize all the blocks and add new energy by drawing people into the area.

The other positive feature of the site is the existing grid path system which provides an opportunity to maintain the connection between the site and other neighborhoods within the 12th Street area. This connection could conceivably improve the visual identification of the entire area.

Much of the vacant land in the site offers a challenge to create an ideal low-income neighborhood which would integrate the site within the existing contextual area.

CHAPTER III STRATEGIES FOR RENOVATION

Housing is one of the most serious social problems of our time. In order to increase the chances of attaining an acceptable solution, housing must be viewed in the context of social, economic, political, and physical concerns. Based on existing site analysis, condition of the surrounding area, and an understanding of the problems and opportunities they present, the following planning and design strategies have been established.

III-1. Sense of Community

People need an identifiable spatial unit to belong to within a residential neighborhood. In order to achieve a sense of community, the following principles should be followed:

1. Emphasize rehabilitation, not demolition.
2. Maintain a social balance through an organized neighborhood which has relative homogeneity of income, life-style, and educational level.
3. Provide appropriate social services such as carefully managed day care centers, laundry rooms, community meeting rooms, etc., in which residents can meet, talk, and watch over their children.
4. Minimize the negative impacts of Interstate 70 on the neighborhood.

III-2. Economic Development

Since neighborhoods are housing markets, indicators of economic conditions are the most important measures of neighborhood health. The basic goals of economic development within 12th Street area is to create an economically diverse community, which offers viable commercial development and employment opportunities. The principles include:

1. Identify and promote development of special facilities and programs needed to support 12th Street area residents such as grocery stores, neighborhood retail shops, child care facilities, as well as job training centers.
2. Identify and promote employment types that are suitable for the character of 12th Street area residents.
3. Strengthen the relationship between the 12th Street neighborhood and downtown Kansas City. Efforts must continually be made to promote the development of jobs in downtown Kansas City; jobs developed there will indirectly help improve the stability of the 12th Street area.
4. Promote lending organizations to get involved in the neighborhood rehabilitation.

III-3. Design Consideration

Design is the fundamental skill required to restructure

urban environment. The general principles include:

1. Retain the previous street grid to give social and environmental continuity between the site and whole 12th Street area.
2. Retain, infill, and modify existing buildings within the neighborhood.
3. Retain the visual corridors focusing on skyscrapers in downtown Kansas City.
4. Utilize consistent streetscape elements and reinforce main accesses of the site to strengthen the neighborhood boundaries and visual identification.
5. Use existing building forms such as single family houses and masonry apartments in new structures to reinforce the identification of the place.
6. Use locally acceptable materials to avoid construction which could be considered institutional or not homelike.
7. Subdivide the residential environment into specific territorial zones such as private open spaces, common open spaces, and areas for children, etc. for safety.

III-4. Neighborhood Promotion and Management

Neighborhood decline is caused, in part, by a collection of pessimistic attitudes. Therefore, revitalization strategies must be concerned with creating more positive attitudes by residents and government as well as investors. Principles of

promotion include:

1. Publicize distinct features of a neighborhood to communicate change to those outside of its boundaries, including financial institutions and even the public sector.
2. Publicize unique shops such as Ollie Gates B. B. Q. restaurant to attract residents from many other sections of the city.
3. Manage and maintain the site arrangement and building design.
4. Locate the management office in or near the neighborhood served. Location insures the office's availability to tenants who call about maintenance or social problems.
5. Prepare and distribute to all residents a booklet describing rules for the neighborhood.
6. Consider the opportunity to increase the amount of resident participation in management.

CHAPTER IV. PLANNING AND DESIGN CONCEPTS

Conceptual considerations were developed which were then translated into site plans. Conceptual considerations were developed for identifying housing types, density, land use, housing arrangement, open space, circulation, and parking.

IV-1. Identification of Housing Types

Based on the American culture and life style, several common residential building types exist. They are: 1) single family house, 2) semidetached home, 3) row or town house, 4) flat or garden apartment, and 5) elevator apartment.

The advantages of one- or two-story single family houses are well known. They generally have adequate light and air, as well as spaces for gardening, playing, and parking. They also have direct access to the street and to their own private ground. This type of house symbolizes the individual family.

The semidetached house is frequently used because it is generally cheaper to build than the single family house. It can be built at higher density, while retaining the advantages of adequate light and air, access privacy and individual yard.

The row or town house is generally the least expensive non-apartment housing type to build. Although each unit has a

separate entrance, pure privacy is somewhat minimized by the closeness of other units. It may have a private, although small rear yard. Unfortunately, in an effort to cut cost, private rear yards are many times not developed. In advantage of these continuous units is the coherent visual space achieved.

Flats or garden apartments are generally the least expensive housing available. Unlike any previously described housing, most units do not have private outdoor space on the ground. They rely on commonly shared stairs and halls for access. Some main floor apartments may have small terraces, while second floor apartments look out onto balconies.

The elevator apartment is a response to the need of increased densities. Although elevator apartments have some advantages, they have experienced a concentration of social problems in low income housing and have, therefore, been severely criticized. [5]

The population demographics show that the 12th Street area has a high number of children, and a high percentage of female-headed, and non-family households. For them, housing should be affordable, safe and secure, and convenient to social support facilities such as day care.

---

[5] Kevin Lynch, Site Planning (The M.I.T. Press, 1962).

The spatial characteristic of the 12th Street area is primarily horizontal. Most buildings within the area are two stories. Therefore the semidetached house and the town house have been adopted as the major housing type in this study. Other housing types such as single family house and garden apartment were also considered and used according to detailed location characteristics.

IV-2. DENSITY

Each housing type has its own appropriate density. As a general guide to the site planning, the following densities are considered reasonable for the normal housing types:

Single family house	5 families / acre
Semidetached house	7.5 families / acre
Row / Town house	11.5 families / acre
Garden apartment	20 families / acre [6]

In his book Site Planning, Kevin Lynch studied and analyzed the issues of density and its effects on residents and the environment. He found that at a density of about 12 families to the acre, the problems of noise are controlled and privacy is provided. Below this density, it becomes difficult to provide adequate maintenance to the site or to the units themselves. Lynch recommended 20 families to the acre as the density appearing to be near the point of maximum economy today.

---

[6] Kevin Lynch, (Site Planning M.I.T. Press, 1962).

In Housing as if People matter, Cooper studied the relationship between density and resident satisfaction. She concluded that there is no simple relationship between density and satisfaction, and that other significant variables such as overall size of project, spacing of units, protection of privacy, and housing arrangement affect the perceived density and influence satisfaction. Although she did not recommend an ideal density, two successful housing projects presented in her book (St. Francis Square in San Francisco and Easter Hill Village in Richmond) have demonstrated that 17 - 20 families per acre is a reasonable density for a low-rise housing neighborhood.

The proposal for the Twelfth Street neighborhood was designed for a density of 9 to 11 dwelling units per acre. Both St. Francis Square and Easter Hill Village were studied (see appendix), as well as other successful projects. Since Kansas City densities tend to be lower than other major cities, this number appears to be appropriate.

IV-3. LAND USE CONCEPT

Residential is the primary proposed land use type in the Forgotten Home neighborhood. Three different residential zoning categories were defined through previous social and physical environmental analysis. They are apartment housing, infill single family housing, and semidetached or town house

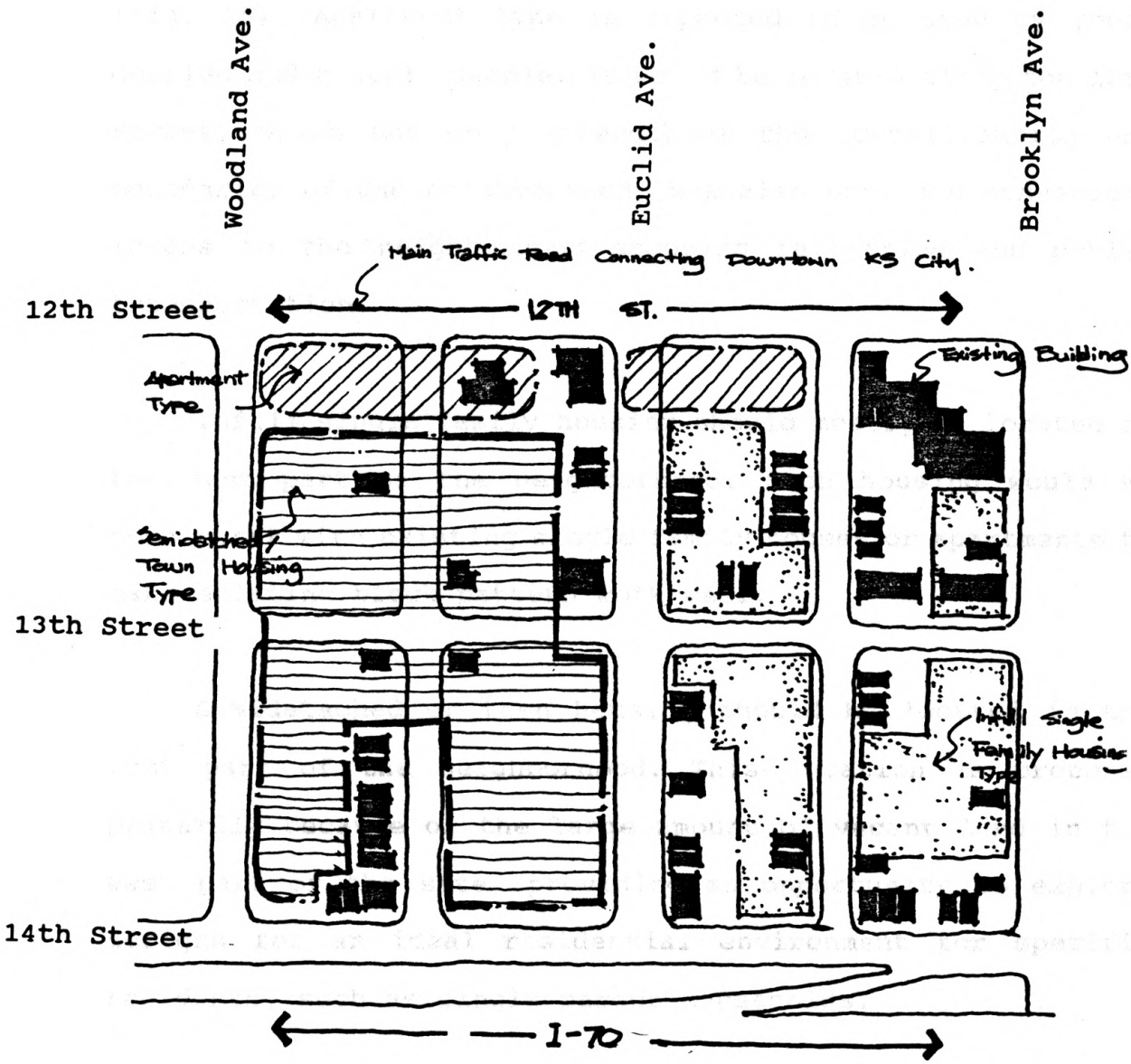


Fig. 25 Concept of Land Use Within the Site

Legend

- Apartment Type
- Infill Single Family House
- Semidetached / Town House
- Existing Building

(Fig. 25). Apartment type is expected to be used by young couples and elderly people. It would be located along the 12th Street, which not only strengthens the identification and boundaries of the neighborhood, but also provides convenient access to the neighborhood shopping facilities and public transportation.

Infill single family housing should mostly be located on the east part of the neighborhood. Such housing would be consistent with existing single family houses or apartments to make existing block pattern work well.

Semidetached or town housing should be located in the west part of the neighborhood. This location is proposed primarily because of the large amount of vacant land in the west part of the site, providing an opportunity to explore designs for an ideal residential environment for specific residents, such as single parent households.

IV-4. HOUSING ARRANGEMENT

The arrangement of individual buildings may first be studied at the level of a small group of structures which is considered as a repeated unit. There are three basic arrangement patterns. One is simply to line housing along both sides of the street. This is a typical layout of residential townscape in American cities.

Another is to have the ends of units facing the street. In this kind of layout units are generally removed from the street noise; however, they also miss its convenience.

The third is a court arrangement pattern. This is a popular arrangement pattern. Groups of units face inward towards a common open space, providing a pleasant enclosed space for people's outdoor activities and social communication (Fig. 26).[7]

Based on the existing context, street-facing and court-arrangement pattern should be considered as a repeated pattern in this housing proposal. The street-facing pattern would be used in the single family zone, maintaining the continuity of the existing structures. The court arrangement pattern could be used in the semidetached or town house zone, because it provides more outdoor space for children and reinforces the sense of enclosure and safety.

IV-5. OPEN SPACES

Open spaces are vital elements in the community, since they provide the core around which community life revolves. A variety of open spaces is needed to support the activities of all age groups and their different needs. For this reason, a hierarchy of open spaces should be provided within the

---

[7] Kevin Lynch, (Site Planning The M.I.T. Press, 1962).

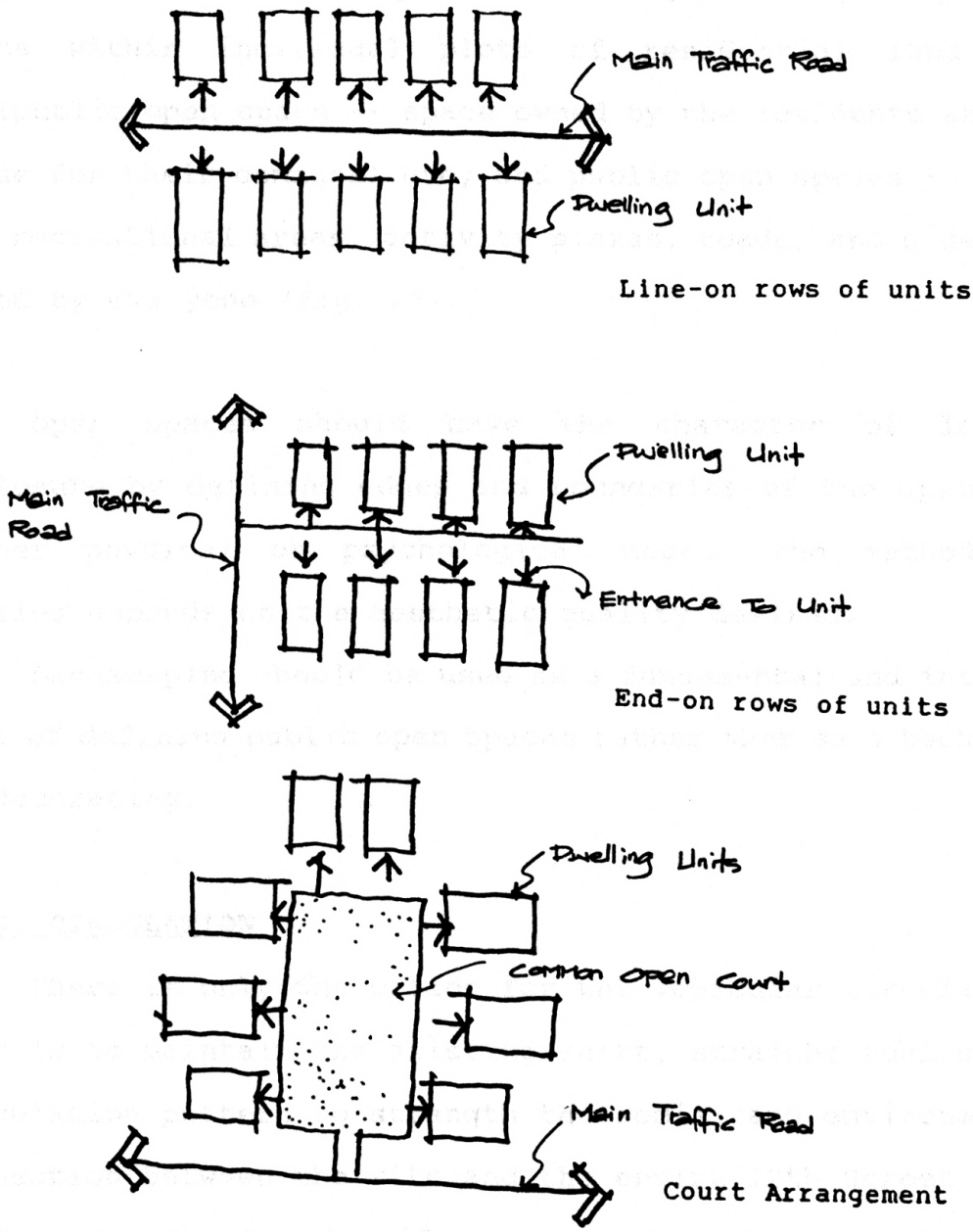


Fig. 26 Patterns of Housing Arrangement

neighborhood. The open spaces include private open space -- Space within individual plots of residential land use; semipublic open space -- space owned by the residents and set aside for their communal use; and public open spaces -- parks and recreational areas, activity plazas, roads, and sidewalks owned by everyone (Fig. 27).

Open spaces should have the character of lateral enclosure by defining edges and boundaries of the spaces by either physical or psychological means. The methodology applied depends on the aesthetic quality desired.

Landscaping should be used as a fundamental and integral part of defining public open spaces rather than as a technique of decorating.

IV-6. CIRCULATION

There is only one option for the vehicular circulation. That is to maintain the existing short, straight vehicular circulation pattern to strength the social and environmental connection between the site and the entire 12th Street area. It is necessary to classify the street system clearly. 12th Street and Brooklyn Ave. are the most important arterial paths, as they provide major links to the downtown area and other residential districts. Woodland Ave. is classified as a residential street which serves mainly residential traffic, although it also serves public transportation. Other streets

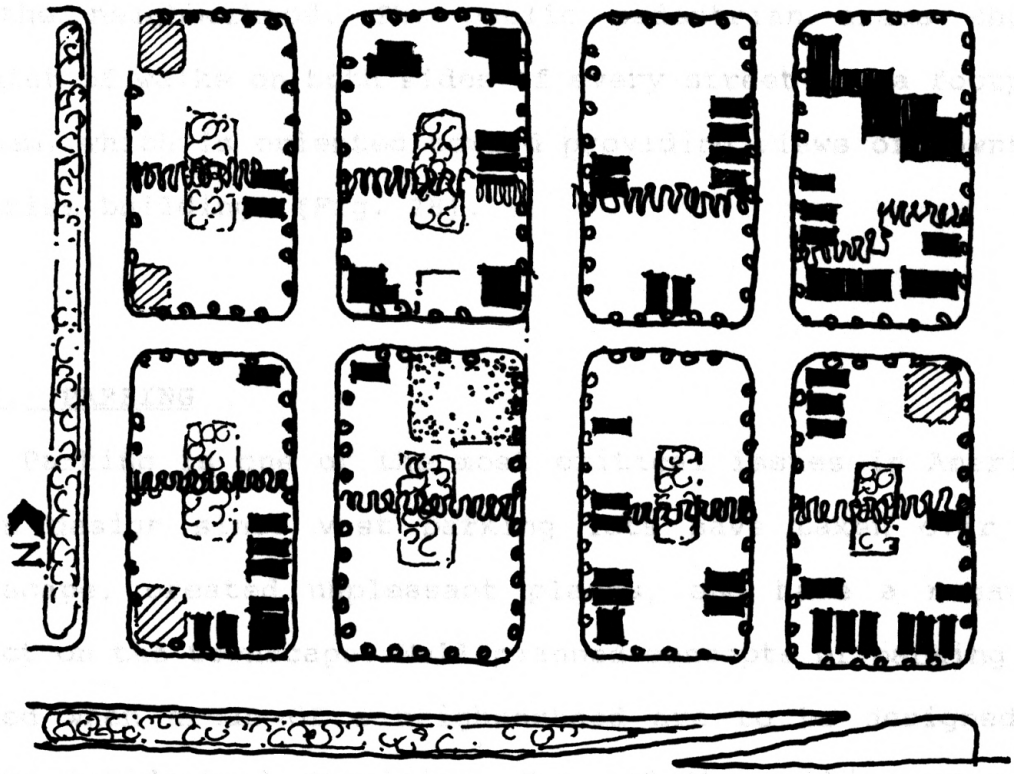


Fig. 27 Concept of Open Space

Legend

Central Recreational Area

Street Corner Green Space

Common Open Path

Sidewalk Tree

are residential streets which serve neighborhood traffic. They are narrow in width, allowing only two cars to pass comfortably.

Beyond the vehicular network, a secondary level of circulation -- pedestrian circulation -- should be considered in the neighborhood. The public pedestrian areas should consist of walks on both sides of every street and a footpath system, which is oriented toward providing views of downtown highrise buildings (Fig. 28).

IV-7. PARKING

Parking is one of the most critical issues in American urban design since vast parking lots have taken over the landscape, created unpleasant places, and have a negative effect on the townscape. Well-planned concepts of parking are needed when areas of a neighborhood are to be designed to higher residential densities. Some of the parking concepts used in the Forgotten Home Neighborhood are described below.

1. Encourage on street parking, which slows traffic and improves street space. Streets do not look like parking lots when cars are gone from streets. The parking lot, on the other hand, is always a parking lot, and quite unpleasant, whether cars are there or not.

2. Use standard parallel parking on streets serving a low housing density. Angled parking should be used on streets serving town houses and small apartment buildings. Since the paved area will be enlarged with the angled parking, the lot areas should be developed with trees at appropriate intervals and other landscape relief.

The concept of the small parking lot has been described by Alexander in Pattern Language. According Alexander's observation, parking lots for four cars are still essentially pedestrian and human in character, and lots for six cars are acceptable; but parking lots which hold eight cars are clearly identifiable as "car dominated territory." The conclusion is to "make parking lots small, serving no more than five to seven cars, each lot surrounded by garden walls, hedges, fences, so that from outside the cars are almost invisible."[8]

3. Encourage garage parking in the back of lots, making the facades of housing much more sociable (Fig. 29).

[8] Christopher Alexander, A Pattern Language (Oxford University Press, 1977) Pg. 506.

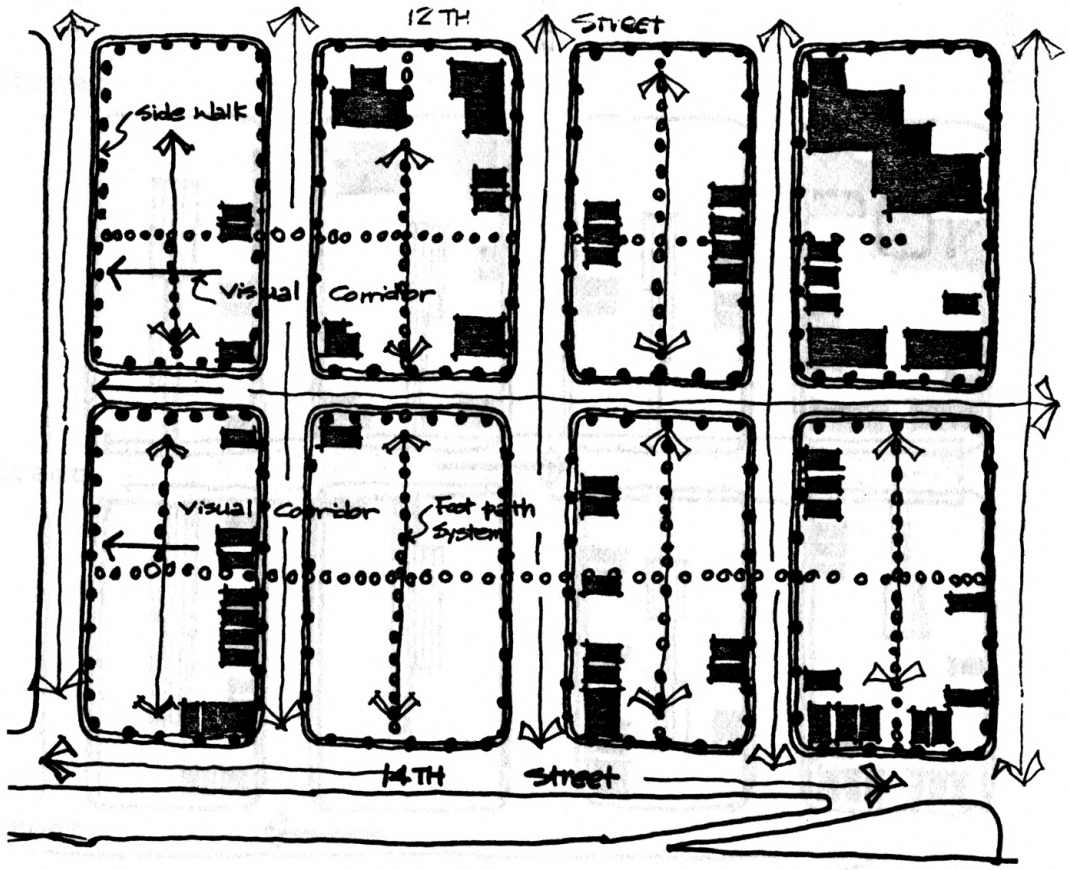


Fig. 28 Concept of Circulation

Legend

⟷ Traffic Circulation

ooo Footpath System

●●● Site Walk

Note: Footpaths are only for pedestrian

All N/S auto ways may be used as footpaths although they are primarily used to serve off street parking.

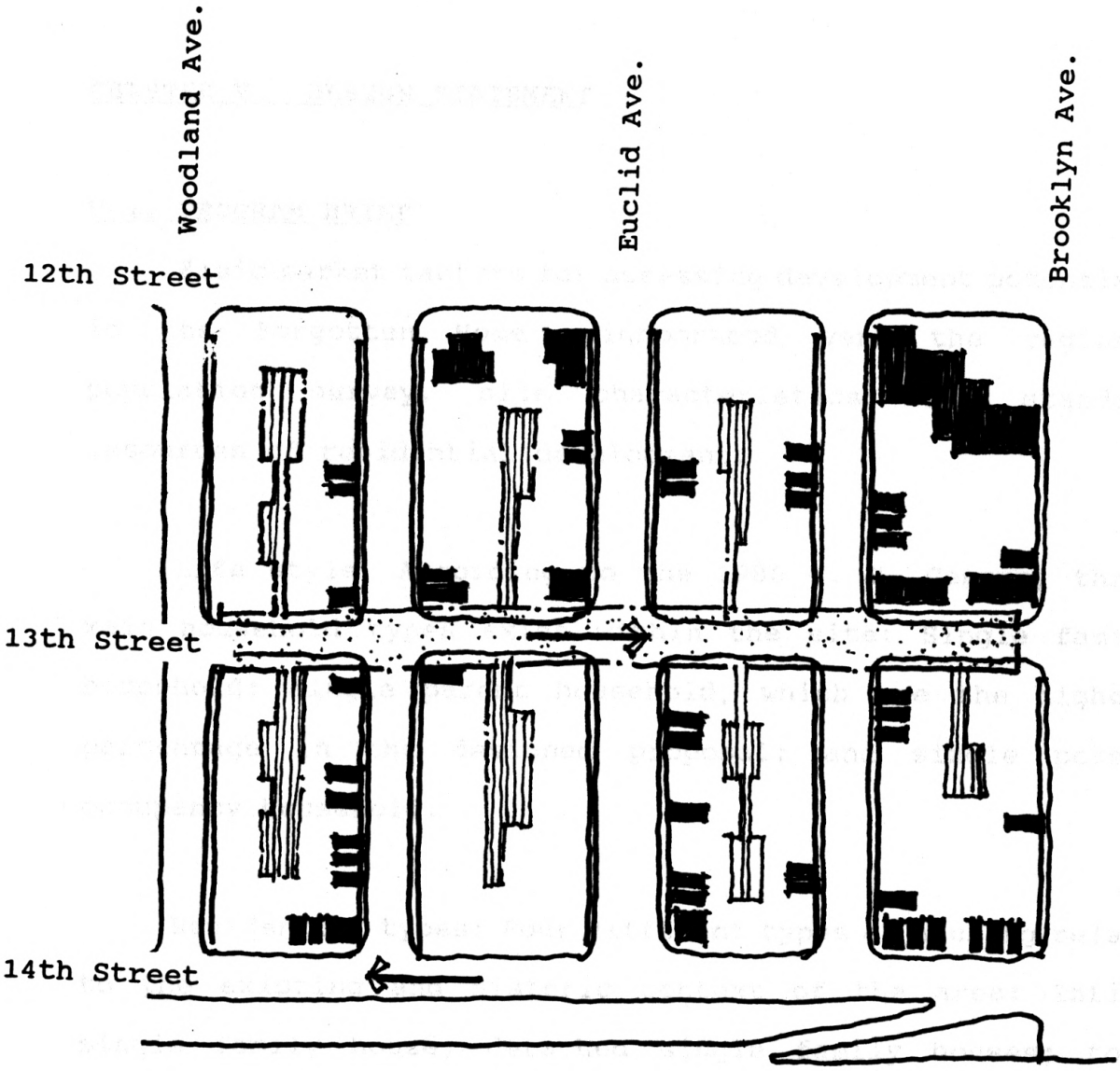


Fig. 29 Concept of Parking Layout

Legend

On Street Parking (Parallel)

On Street Parking (Angled)

Small Parking Lots

CHAPTER V DESIGN STATEMENT

V-1. PROGRAM BRIEF

Basic market factors for assessing development potentials in the Forgotten Home neighborhood were the regional population survey, site characteristics, and standard resources of residential development.

Life style: According to the 1980 U. S. Census, three main household types exist within the site: Single family household; single parent household, which are the highest percentage in the designed proposal; and single person occupancy household.

Residential types: Four different types of housing relate to the existing and historic context of the area: Infill single family house; detached single family houses; town houses; and garden apartment buildings.

Density: There is no such thing as an ideal density. The suitability of a density varies from site to site and dwelling type to dwelling type. The average density for the entire neighborhood should be between 9 - 11 units / acre.

The success of a housing proposal is related to the density of the development and the design of the site to accommodate the design density. The analysis of the Twelfth

Street Area indicates that a density of between 9 to 11 dwelling units per acre provides an acceptable "higher density" that is in context with the surrounding neighborhoods.

Total number of units: In the residential area, the dwelling units are divided as follows: Existing houses, 79 unit; proposed dwelling units, 153 units. The total number of dwellings in the neighborhood, 232 units can be broken down by number of bedrooms: 8.9% one-bedroom units, 21% two-bedroom, 47% three-bedroom, and 22% four-bedroom.

Day care center: Based on the population survey and planning standard, the day care center would require 4000 sqf.

Public and community services: Some public and community services such as laundries and meeting rooms exist in the site development.

V-2. THE SITE PLAN

Figure 30 illustrates the proposed development. The master plan reveals that the buildings are well defined around the existing grid street system. This layout allows for a better physical integration with the surrounding area (Fig. 31). The existing churches received a special treatment to enhance their importance with the design of adjacent open

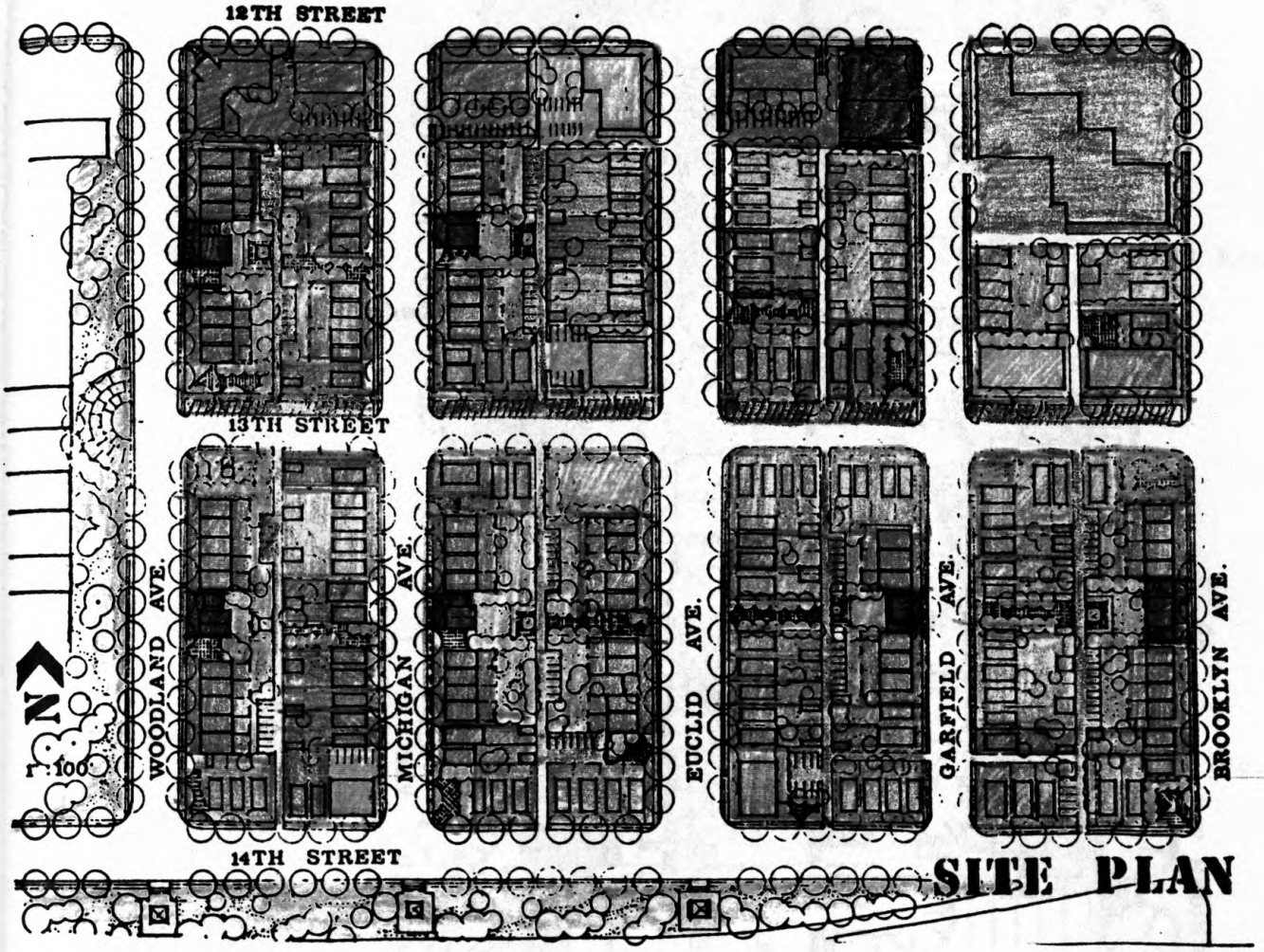
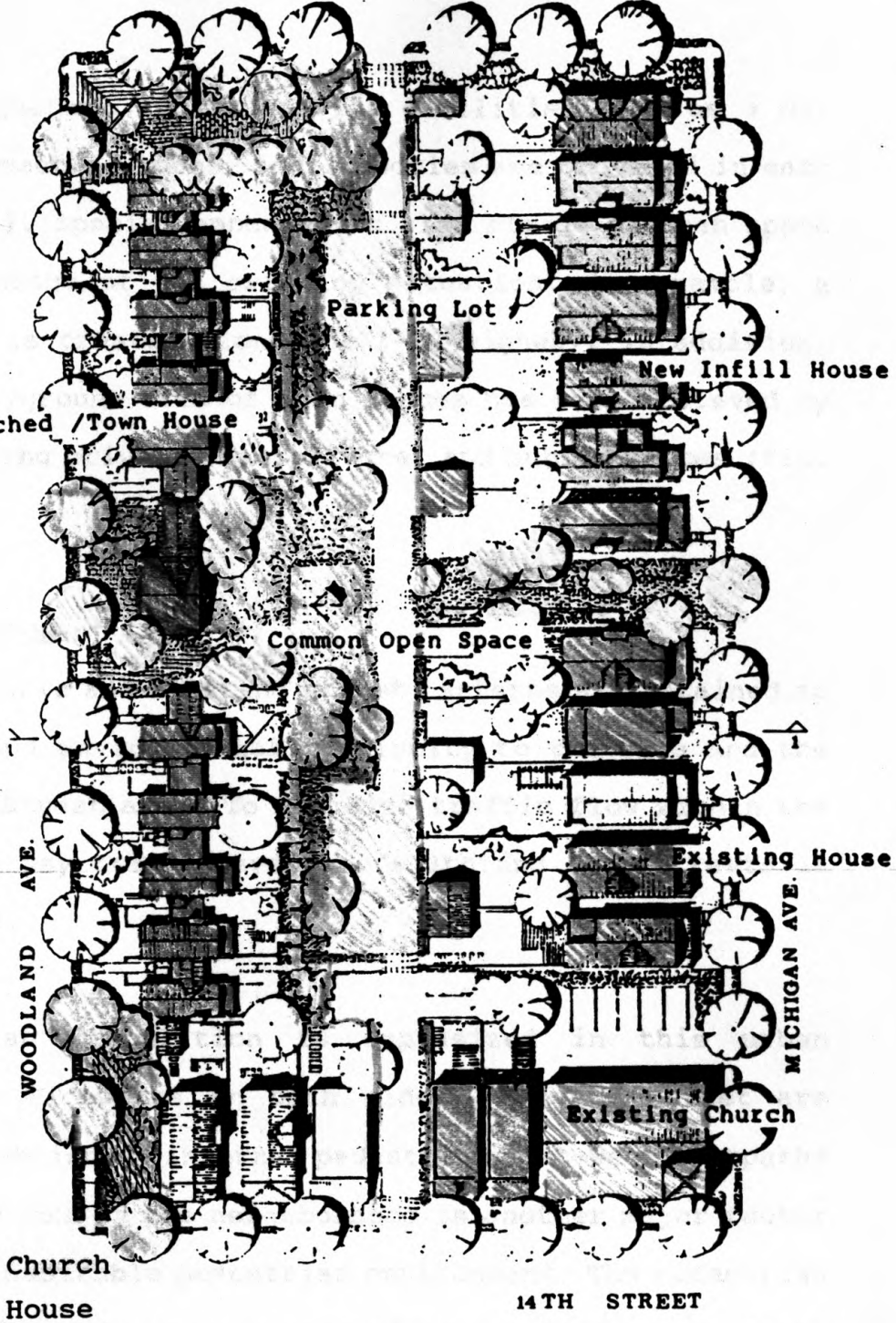


Fig. 30 Master Plan

Legend

- Existing Church
- Existing Commercial Center
- Existing House
- Infill Single Family House
- Semidetached Town House
- Apartment
- Public Building
- Common Open Space
- Parking



Legend

- Existing Church
- Existing House
- Semidetached House
- Infill Single Family House
- Public Service Building
- Pedestrian
- Common Open Space
- Parking

Fig. 31 Typical Block Plan

spaces and squares. Public service facilities such as a day care center, meeting rooms, and laundries are provided in each block (Fig 32). Special emphasis is also placed on open space to take advantage of the existing situation. For example, a green buffer is created along the I-70 highway. In addition, a central playground area of open spaces has been achieved by clearly defining private, semiprivate, and public spaces (Fig. 33).

V-3. CIRCULATION

The historic and existing street patterns are retained to give social and environmental continuity to the site and the related 12th Street area. To minimize traffic flow within the site, the one way traffic system of 13th and 14th Streets is also retained.

Pedestrian circulation is emphasized in this urban neighborhood. Sidewalks on both sides of every street are retained. Establishing internal pedestrian East-West footpaths to link all blocks of the neighborhood is another major factor in creating a desirable pedestrian environment. The pedestrian system is designed to provide ease of access from homes to the community public service facilities and at the same time to provide a visual corridor for viewing the downtown high rise buildings. South-North alleys through the each of the blocks serve the parking areas and also provided access to the public

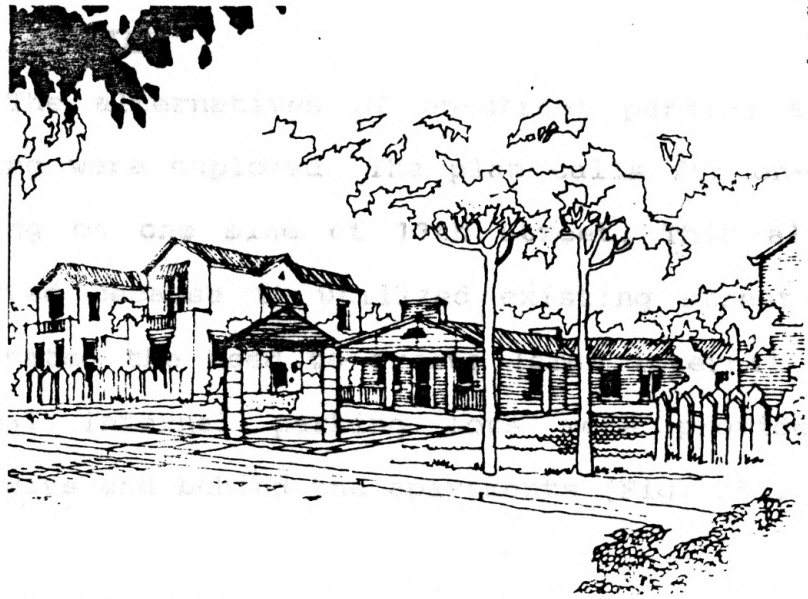


Fig. 32 Perspective of Public Service Facilities

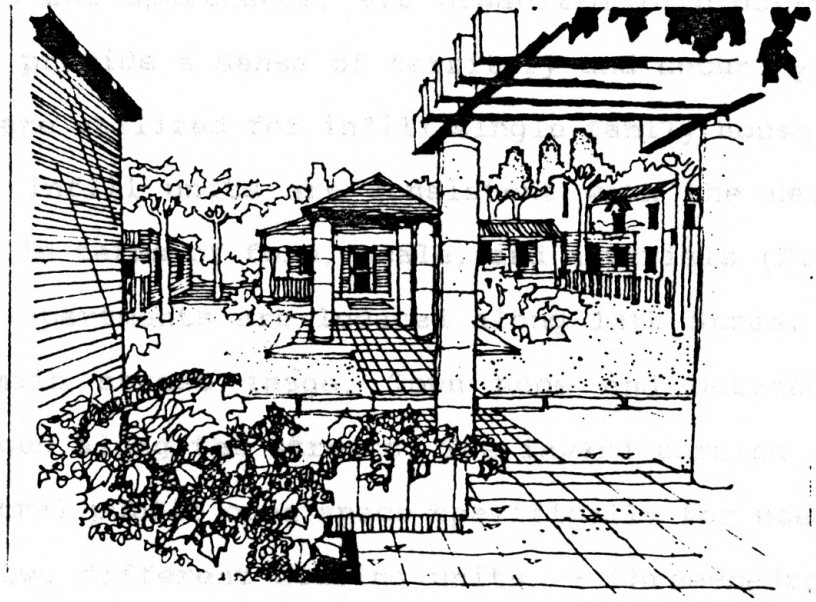


Fig. 33 Perspective of Common Open Space

facilities (Fig. 34).

V-4. PARKING

The alternatives of on-street parking and off-street parking were explored. The plan calls for on-street angled parking on one side of 13th Street. This alternative was selected because it utilized existing street patterns and eliminated the need to create large internal parking lots. Minimal internal parking lots were provided along the alleyways and behind the apartments (Fig. 35).

V-5. HOUSING DEVELOPMENT

The houses, both infill single family houses and new town houses and apartments, are organized in block-type layouts, which provide a sense of territory and security. Some vacant lots are utilized for infill single family house development. These infill units are consistent with the nearby existing units in terms of form, scale, and materials (Fig. 36). Three story apartments are located along 12th Street to reinforce the main street image. Town home and detached units are arranged along the streets. The inward turning units provide a central public open space specifically for use by children. Here two different housing units -- three-bedroom and four-bedrooms -- are considered (Fig. 37).

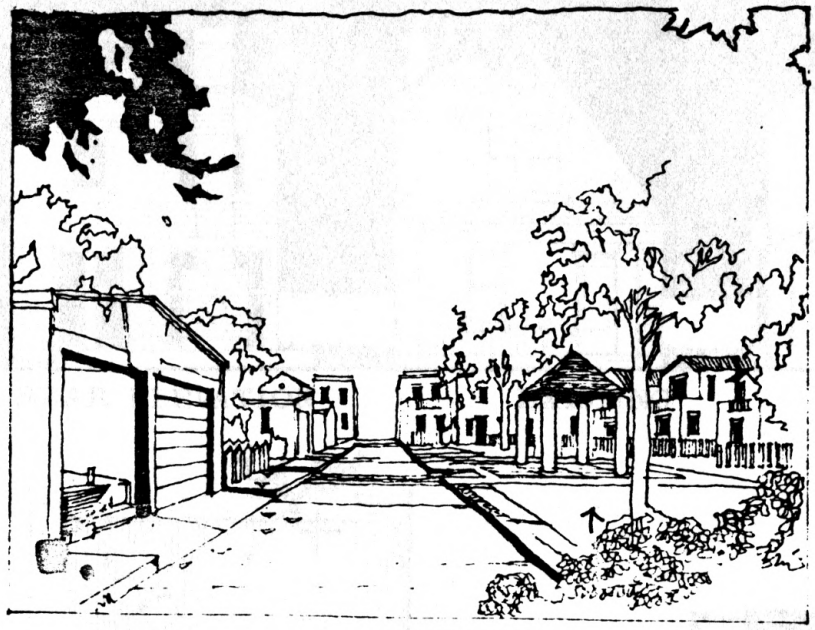


Fig. 34 Alley Within Each Block

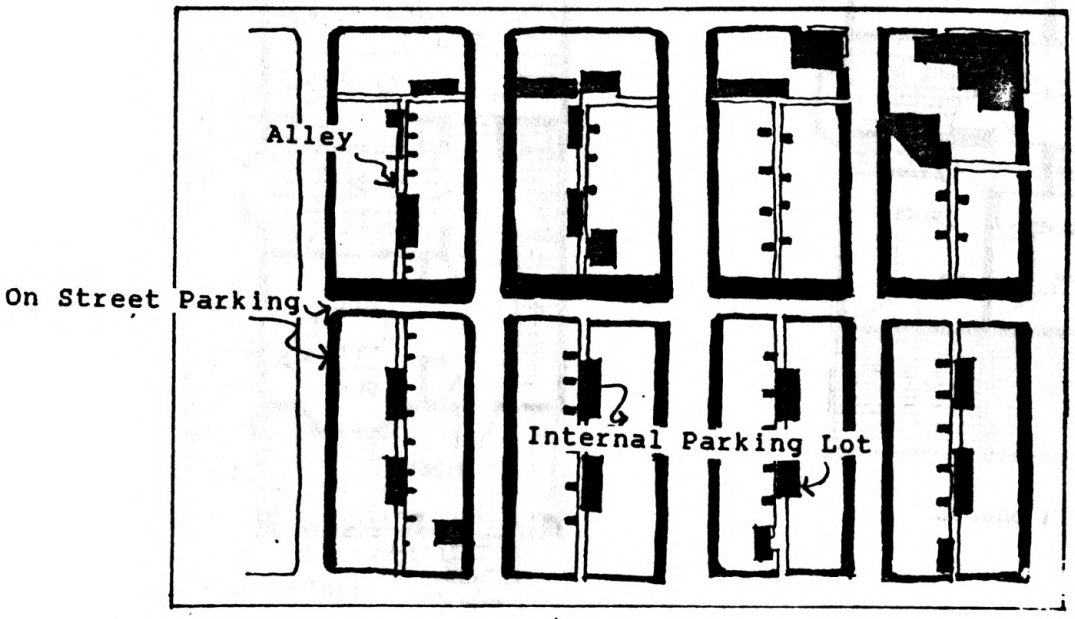
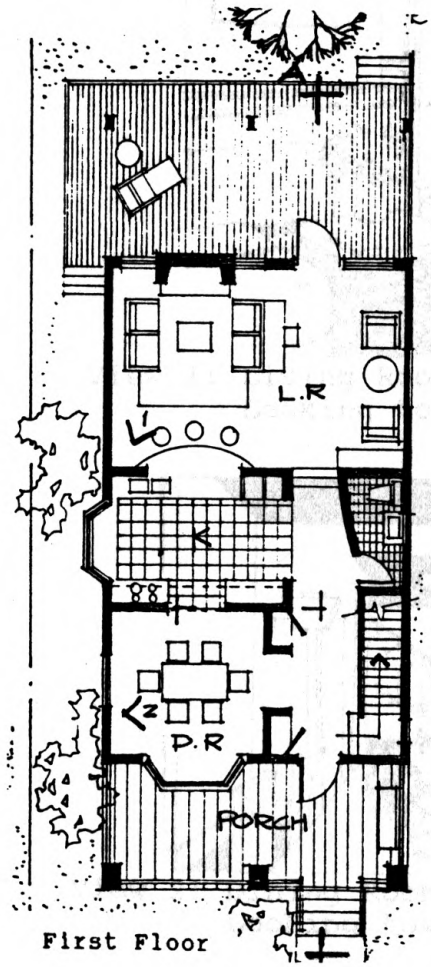
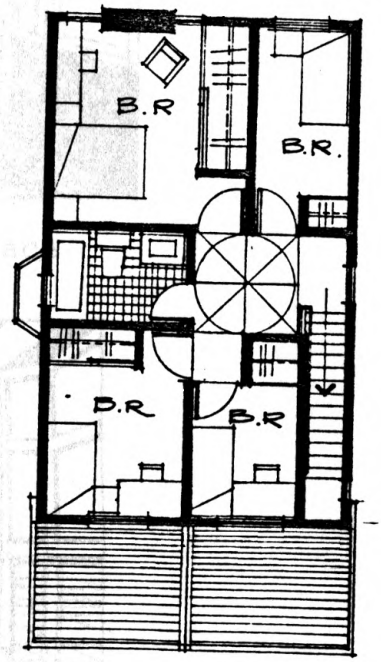


Fig. 35 Parking Layout Within the Site

REAR ELEVATION EXISTING FRONT

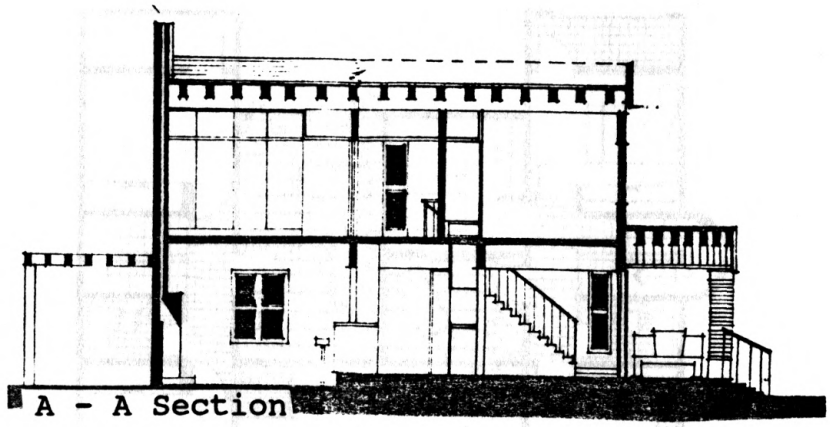


First Floor

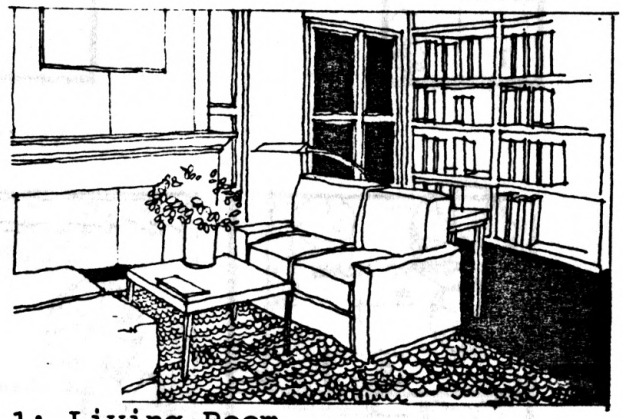


Second Floor

Fig. 36 Infill Single Family House (Page 1)



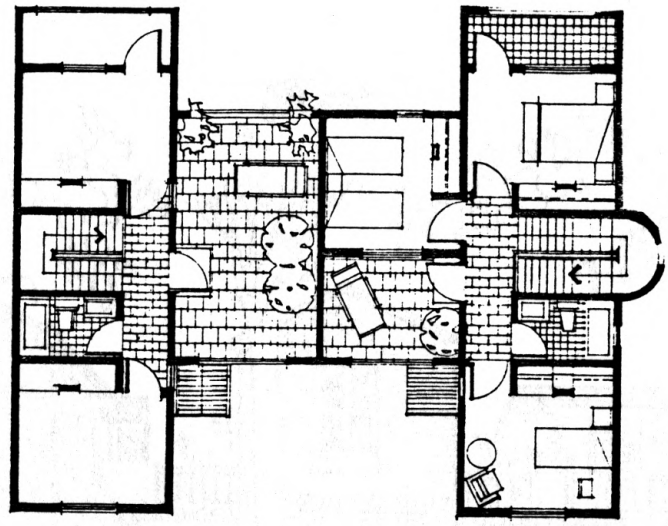
A - A Section



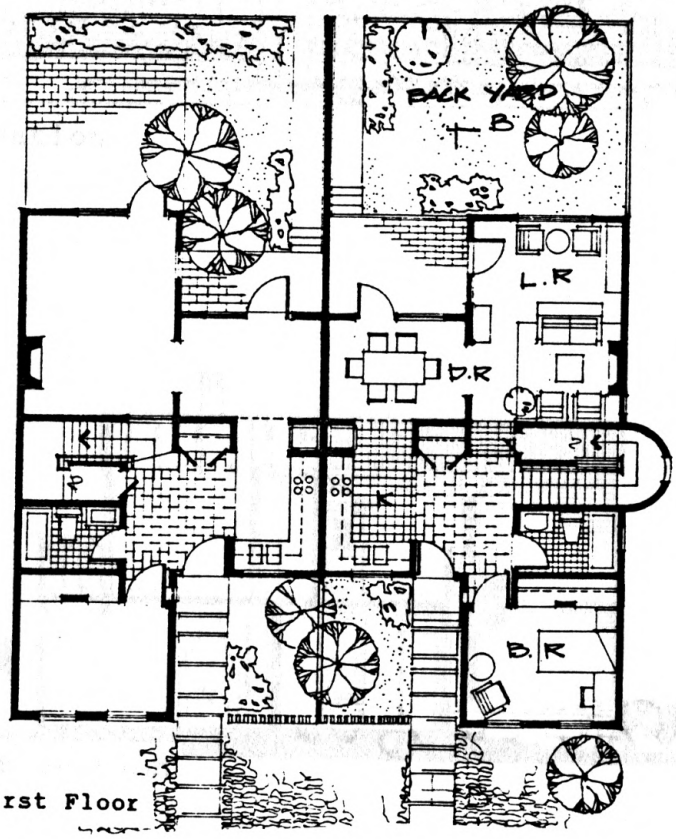
View 1: Living Room
Looking toward fireplace

View 2: Dining Room
Looking toward hallway

Fig. 36 Infill Single Family House (Page 2)



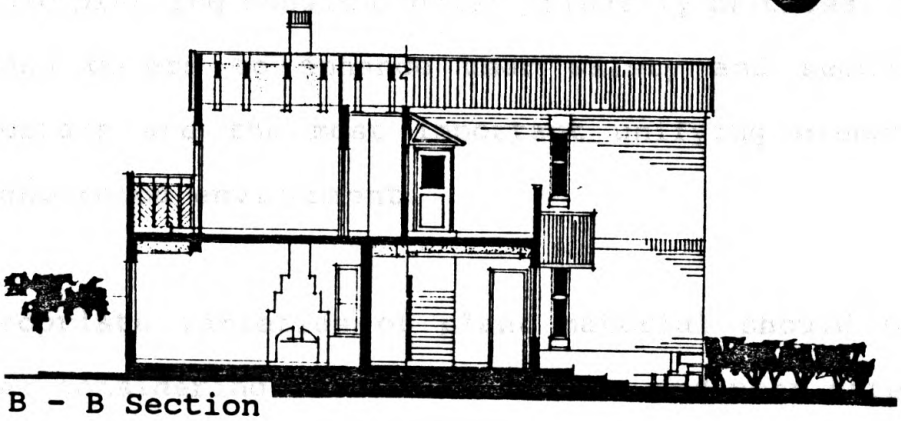
Second Floor



First Floor

Fig. 37 Semidetached Town House (Page 1)

Elevation



B - B Section

Fig. 37 Semidetached Town House (Page 2)

V-6. DESIGN GUIDELINES

Design guidelines are provided to establish a minimum level of quality in site environment and building designs. For convenience and clarity, three housing types and public open areas will be separately described. Within each part, the design guidelines are organized into two categories: site environment and architectural considerations.

V-6. 1. Public Open Areas

Site environment

Planting: Plants have the ability to unify diverse architecture, provide a pleasant environment, ensure lasting values, create shade and color, and define spaces. These standards for planting should be followed:

Public planting should consist primarily of trees, shrubs, and ground covers to enhance user safety and security. Plant materials are the most important unifying elements of the neighborhood environment.

Appropriate varieties of plant material should be selected after considering the site situation and user safety.

Open space tree planting and shrub planting should be used to satisfy functional and aesthetic needs, such as shade, privacy, buffer for traffic noise, and beauty.

Trees along the edge of I-70 and T. B. Watkins should be considered as buffer to protect from noise and to define the neighborhood.

Trees and shrubs should be provided in some special areas, such as the street corner plaza, the playground, and areas around the community buildings to define the territory or assure safety (Fig. 38).

Informal tree planting should be considered within the common open areas which create a visual image.

Safety is an essential concern of any low income housing neighborhood. In selecting plant materials, the arrangement of trees, shrubs, and plants chosen should provide the best opportunity for informal surveillance by residents from within their dwellings and by passersby.

Pavement: Paving is the one of the most prominent elements of the development and should be used wisely to define spaces. The following principles should be considered:

In the site, some specific public areas such as street corner plazas, lands adjacent to churches, and community buildings should receive special paving celebrating the importance of the site.

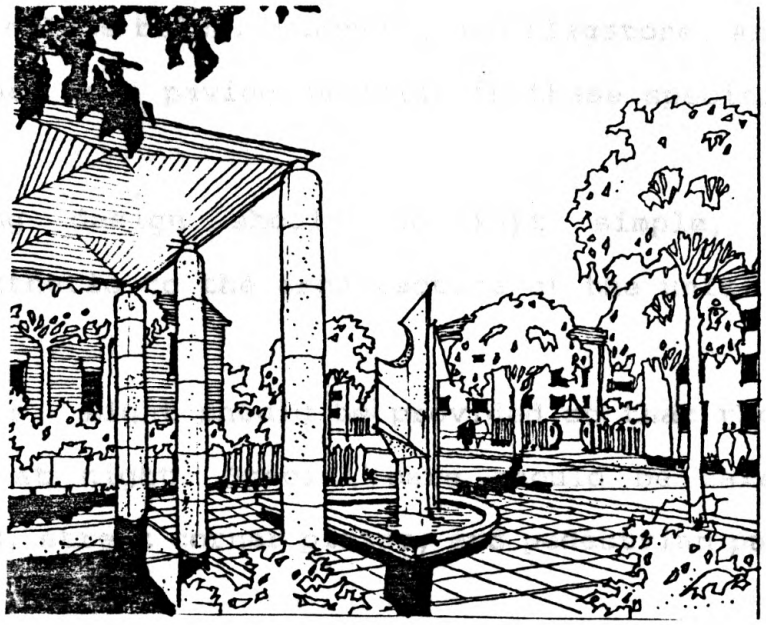


Fig. 38 Perspective of Street Corner Plaza

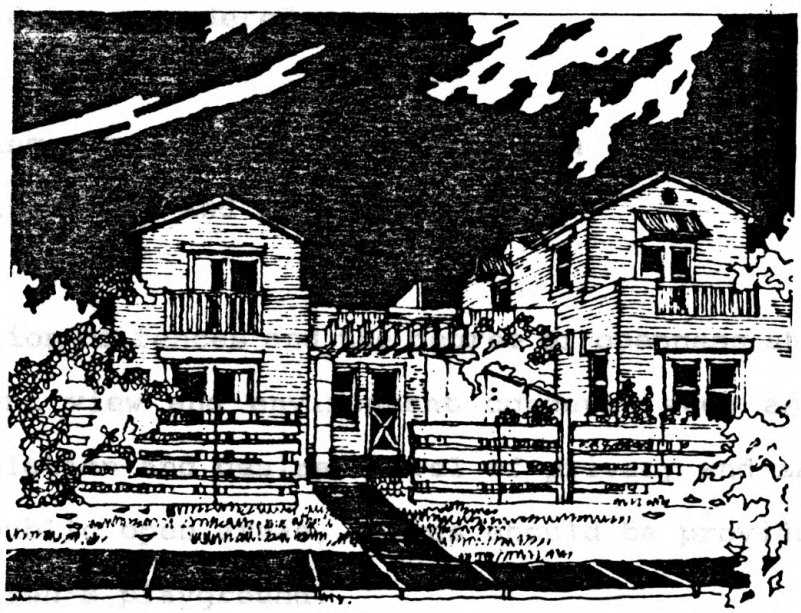


Fig. 39 Perspective of Real Yard

Appropriate paving material within these specific public areas may include brick, concrete, and flagstone. Asphalt should not be used as a paving material in these special places.

Paving design should be kept simple, functional and sympathetic to the architecture of the unit.

Light: Light should be provided so that the whole site is safe at night. Special care should be taken with parking areas, street corner plazas, and pedestrian paths and alleys.

Fences: The proper fencing should not only create a sense of territory and security, but also affect the visual and psychological harmony of an area. The following principles should be considered:

Fencing should be considered an integral part of the architectural and site design.

Location of fences and the degree of openness should take into account view and environment concerns such as wind and air circulation and desired level of privacy and safety. Within the public open areas, fences should be provided around the children's playground.

Fencing materials should be limited to wood and iron mesh.

Street Furniture: Street furniture such as benches, tables, and planters should be provided somewhere on the site. The locations of benches should provide the best opportunity for surveillance by residents.

Architectural considerations

Although design variety for individual residential units is necessary, the architectural character throughout the neighborhood (both residential and public service buildings) should be maintained and enhanced. Traditional building forms and materials must be respected. Also characteristic features including proportional relationships, facade compositions, and textural qualities should be adopted in new building design to relate to the existing neighborhood character.

Public service buildings consist of the day care center, managers's office, meeting rooms, as well as laundries.

Location of public service buildings should be in highly visible, well-trafficked areas for safety.

The maximum height for these buildings should be one story.

The pitched roof is an integral element of the regional building design and is strongly recommended for use in these new developments.

Proportion of the windows is determined by functional requirement and the relationship to the proportions of adjacent buildings.

Strongly recommended are lintels and sills, which come in a variety of sizes, shapes, and materials.

Front stoops or entrance steps should be integrated with the accompanying the site requirements.

The traditional siding materials such as brick, stone, and wood may be considered acceptable.

Wrought iron handrails should be provided for safety and be of a clean simple design.

V-6. 2. Single Family Housing

Site environment

Planting: All existing trees should be retained if possible.

A shrub hedge is recommended along the edge of each front yard for privacy as well as aesthetics.

Residents are encouraged to coordinate their individual planting efforts with the overall public planting plan.

Appropriate planting beds are provided within the private yards where residents can create individual landscapes.

Pavement: Paving use should be considered in back yards to fulfill functional walking needs, such as clothes drying, children play, and eating.

The texture of paving in the private yard should be determined by the resident.

Fences: Fencing should be considered an integral part of the infill single family housing design district.

Light fences are strongly recommended in the back yard for privacy and safety (Fig. 39).

Fencing material will be limited to brick and wood Planting shrubs and clinging vines should be considered to help visually soften the "hard edge" of the fences.

Architectural considerations

The maximum height for a single family house is two stories.

Pitched roofs should be used to match the characteristics of existing single family buildings.

The front porch, as a transition space, should be provided in each unit. The width, depth, and form of the porch should allow for variety.

The dormer windows appearing on the two or three story units should be provided in new structures with suitable materials.

The windows should be vertically proportioned openings which enhance the existing pattern.

Consideration of lintels and sills, front stoops or entrance steps, siding materials, and handrails is the same as for public service buildings.

V-6. 3. Semidetached or Town House

Site environment

Different from a single family housing type, semidetached or town-house and apartments typically have minimal landscape areas for individuals. As a result, the objective of site development is to provide opportunities for physical and visual extension of interior activities into the outdoors.

In the semidetached or town-housing scheme, an inviting entry courtyard is created by an inward entrance, which increases the unit's outdoor living space.

Planting beds are also considered near the front door, in the back yard, and on the balcony (Fig. 40).

Some intermediate focus flowering trees and shrub hedge are considered in the entry courtyard and back yard for enclosure, privacy, and aesthetics.

The low picket fence should be optional in the front yard. Consideration of pavement is the same as for the single family housing type (Fig. 41).

Architectural considerations

The maximum height of this type is two stories.

Pitched roofs are acceptable roof types.

A front porch or overhang should considered for front doors.

Balconies should be considered for visual extension of interior activities outdoor.

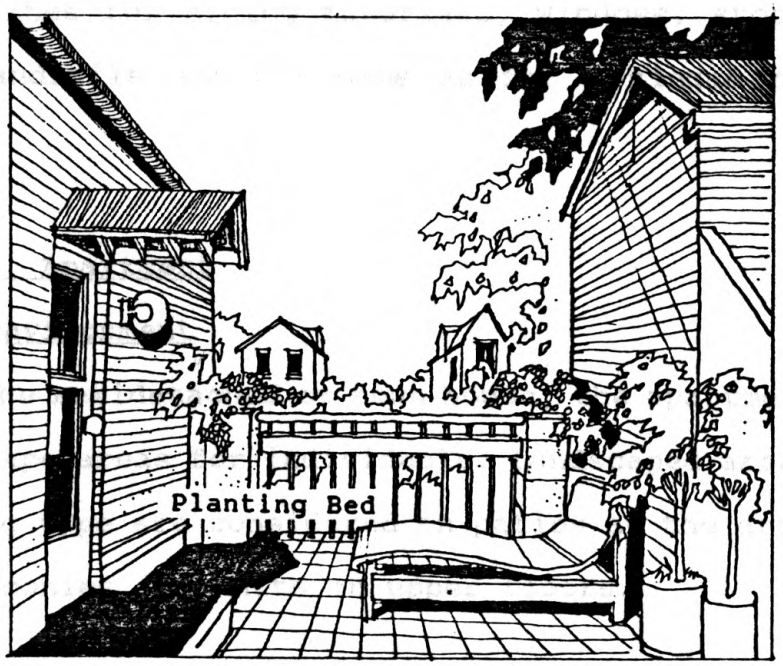


Fig. 40 Perspective of Balcony in Town House

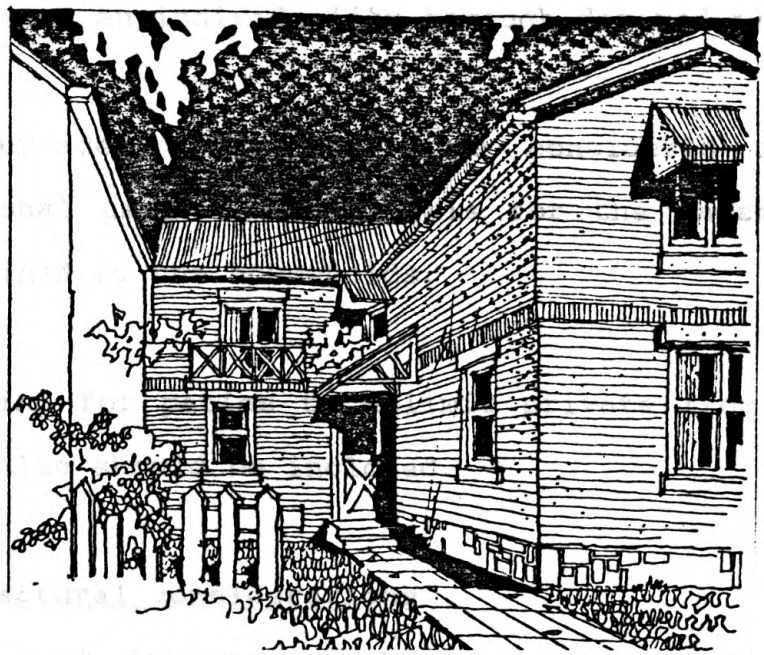


Fig. 41 Perspective of Front Yard

Guidelines for siding materials, windows, stoops and steps, and handrails are the same as for a single family housing type.

V-6. 4. Apartment

Site environment

Like the semidetached or town house, the apartment has minimal landscape areas for individuals. Landscaped areas within this housing type are considered in patios at the ground level and in balconies for units on upper floors.

Planting beds are provided near the front entrance, as part of the patios, and on balconies where individual households can create an individuality through desired planting.

Hard-surfaced areas should be considered in patios for functional uses. The materials for the pavement should be determined by the households.

Screening for patios to delimit private from communal open space also should be inclosed.

Architectural considerations

The biggest difference between apartment and single family housing type or semidetached / town-house is that the apartment has a common shared entry lobby.

The number of households sharing each building entrance should be limited to between three and eight. Few households using an entry yield greater privacy, more surveillance, and a greater concern for maintenance of the area.

Around the main entrance should be an area clearly distinguishable from public walkways.

The maximum height for apartment structures is three stories.

The flat roof is an acceptable roof type, providing strong and visual termination. It is often elaborately ornamented and reflect in the form and detailing of historic building styles.

Considerations of other details such as siding materials, windows, stoops and steps, and handrails are the same as for detached and town-houses.

CHAPTER VI. CONCLUSION

The Forgotten Home Neighborhood, like most low-income housing neighborhoods in many America cities, is facing social, economic, and political problems which have resulted in vandalism, a high crime rate, and a generally undesirable living environment. Today, many architects, planners, and social scientists have studied various problems and issues regarding low-income housing environment, such as rehabilitation of the existing housing, the harmony the surrounding communities, the dependency on the automobile, maintenance and use of public and private spaces, security, crime, etc.

While studying the Forgotten Home Neighborhood, the author realized that the issues of rehabilitation, design in context with its surrounding, and careful detailing of the basic design are important but often ignored issues in public housing redevelopment. Therefore families have been "warehoused" and accommodated with few of the amenities and little of the ambiance desired by persons of any income in their housing.

Many successful public housing projects have illustrated the importance of rehabilitating old neighborhoods in the inner city instead of demolishing them. First, tearing down the existing community brings with it the wrenching

dislocation of a large number of families, with its devastating social, political, and human problems. On the other hand, redevelopment can be achieved in small increments. Second, remodeling is somewhat more economical that new construction. Finally, rehabilitation is an expression of confidence in the existing community.

Another important issue in neighborhood redevelopment concerns the design in context. Housing design not be involved only in building physical shelters or in recognizing the need to provide environmental amenities; it must illustrate an understanding of the relationship between physical, social and cultural issues. "People require a relatively stable system of places in which to develop themselves, their social lives, and their culture. These needs give manmade space an emotional content -- a presence that is more than physical."[9] Therefore, in rehabilitation of a unique housing neighborhood, designers must, more than superficially, explore local history, traditions of urban patterns, and political and economic realities of the community, before responding with a proposal to enhance environmental identity and the sense of place.

---

[9]. Roger Trancik, Finding Lost Space (Van Nostrand Company 1986), Pg. 113.

Last, detailed design and guidelines for accomplishing design detailing are important rather than merely following a few general design strategies. As has been stated, housing development involves social, economic, and political factors. Therefore various strategies such as building infill houses and modifying existing structures, promoting and managing neighborhoods, collaborating with other professionals and the public, and understanding social, economic and political factors should be carefully considered. Without these strategies for implementation, the design solutions are futile. However, design is the fundamental skill required to restructure urban spaces. Without detailed designs, the redevelopments would evolve in absence of judgements on aesthetics, visual quality, and social concerns. Design cannot cause human behavior, but it can offer the possibility of certain activities taking place. Design is supposed to create order, beauty, and scale. The logical, comprehensible arrangement of separate elements, the aesthetics and visual impression, and appropriate proportion of elements to the human figure should give people a sense of well-being in comfortable surroundings.

APPENDIX: CASE STUDY

A. Objectives

In this study, three public housing projects in the United States are presented. They are Easter Hill Village in Richmond, California; Orton Keyes Court in Rockford, Illinois; and St. Francis Square in San Francisco, California. These cases were reviewed predominately based on the survey reports as well as related literature. The purposes of this study are as follows:

Describe the particular aspects of residents' actual activities and attitudes in a residential settings.

Describe the physical characteristics of the residential environment.

Develop general design principles that will benefit a quality residential environment.

B. Study Methods

The study will focus on describing and evaluating the qualities of open spaces in the housing environment. The open spaces are divided into specific places as follows: front porch, front yard, back yard, street, pedestrian areas, common open spaces, and parking, etc. These physical characteristics and associated activities are described individually.

C. Background of Three selected Housing Sites

Easter Hill Village, Richmond, California (1954)
Architects: Donald L. Hardison and Vernon De Mars

Easter Hill Village is a low income housing development located east of downtown Richmond. Completed in 1954, the project consists of 294 units, mostly 2- and 3-bedrooms. The buildings are all two stories. on a total site area of 21.5 acres. Overall density is 13.7 dwellings per acre (Fig. 42). This project was well documented and won honor awards during the late 1960's and early 1970's.

Orton Keyes Court, Rockford, Illinois (1970)
Architect: Bruce Ream

Orton Keyes Court is a low-income housing project. The site is in a mixed industrial and residential area, approximately two and a half miles south of the Rockford central business district. The housing comprises 180 one- and two-story rental units, ranging in size from one to six bedrooms. The housing was completed in 1970. Total site is 19.09 acres, and overall density is 9.2 dwellings per acre (Fig. 43).

St. Francis Square, San Francisco, California (1969)
Architect: R.B Marquis and C. Stoller

St. Francis Square is a moderate-income housing development, located in a San Francisco redevelopment area.

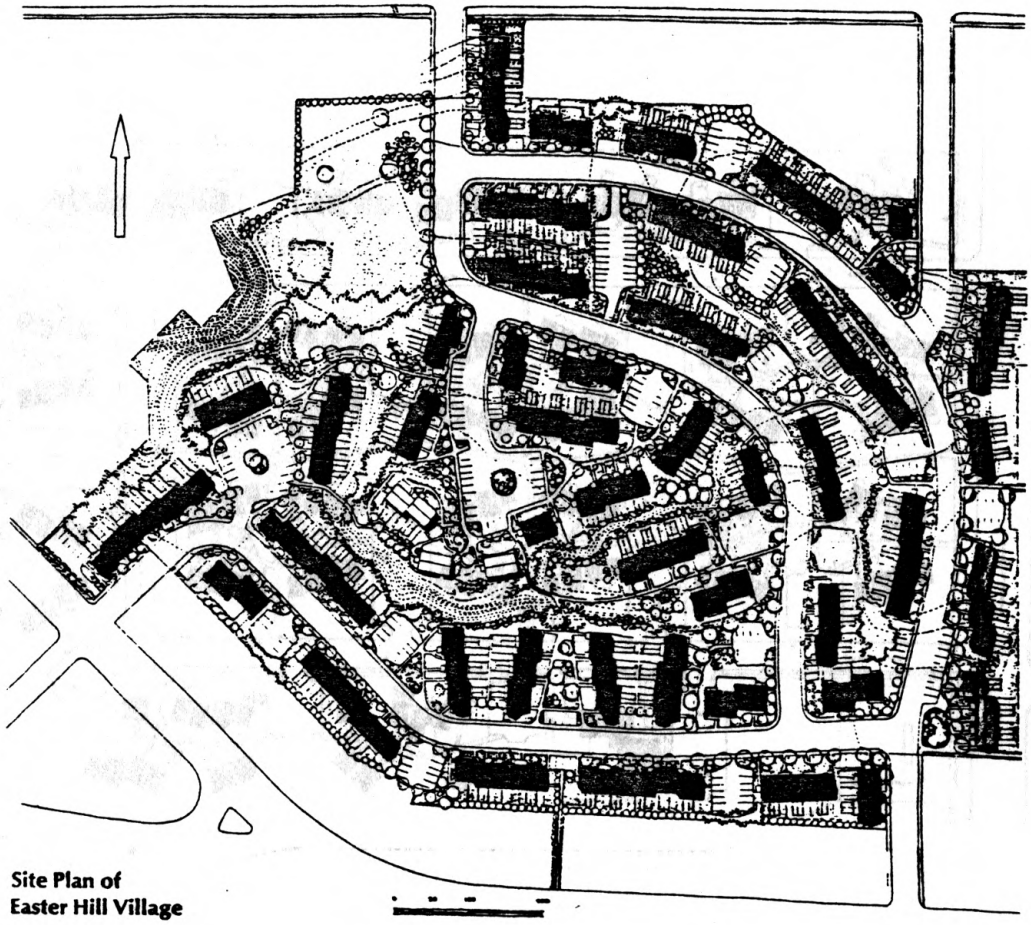


Fig. 42 Site Plan of Easter Hill Village

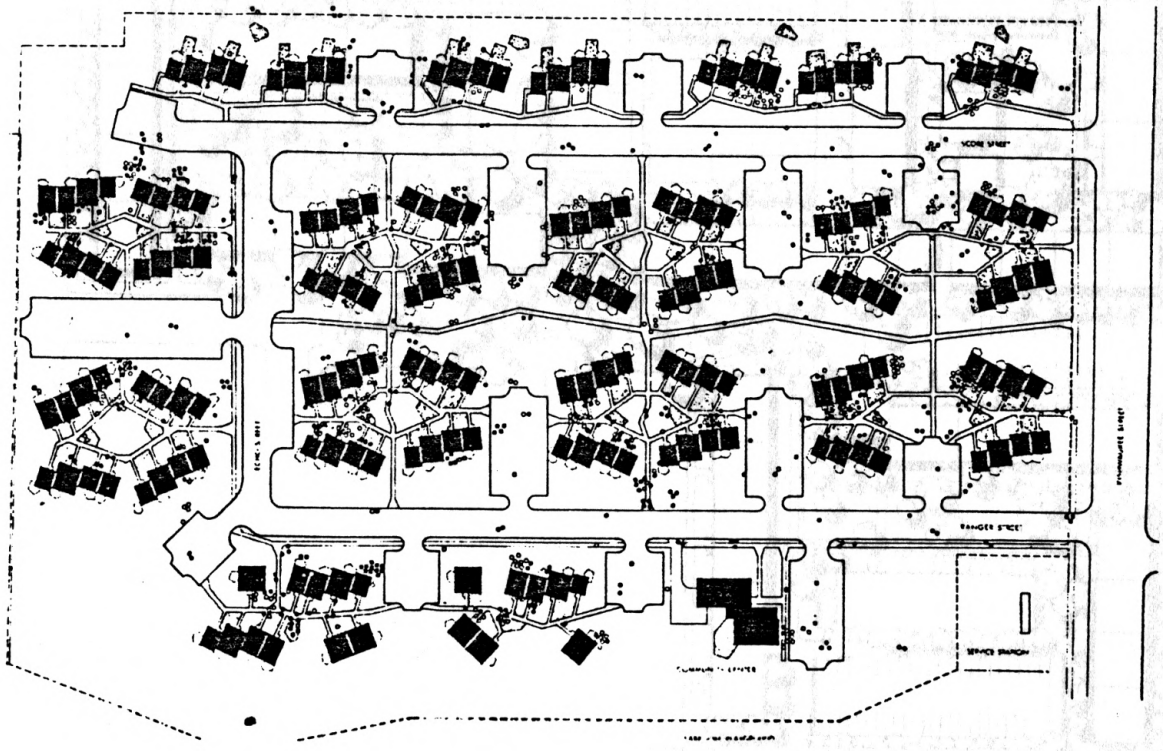


Fig. 43 Site Plan of Orton Keyes Court

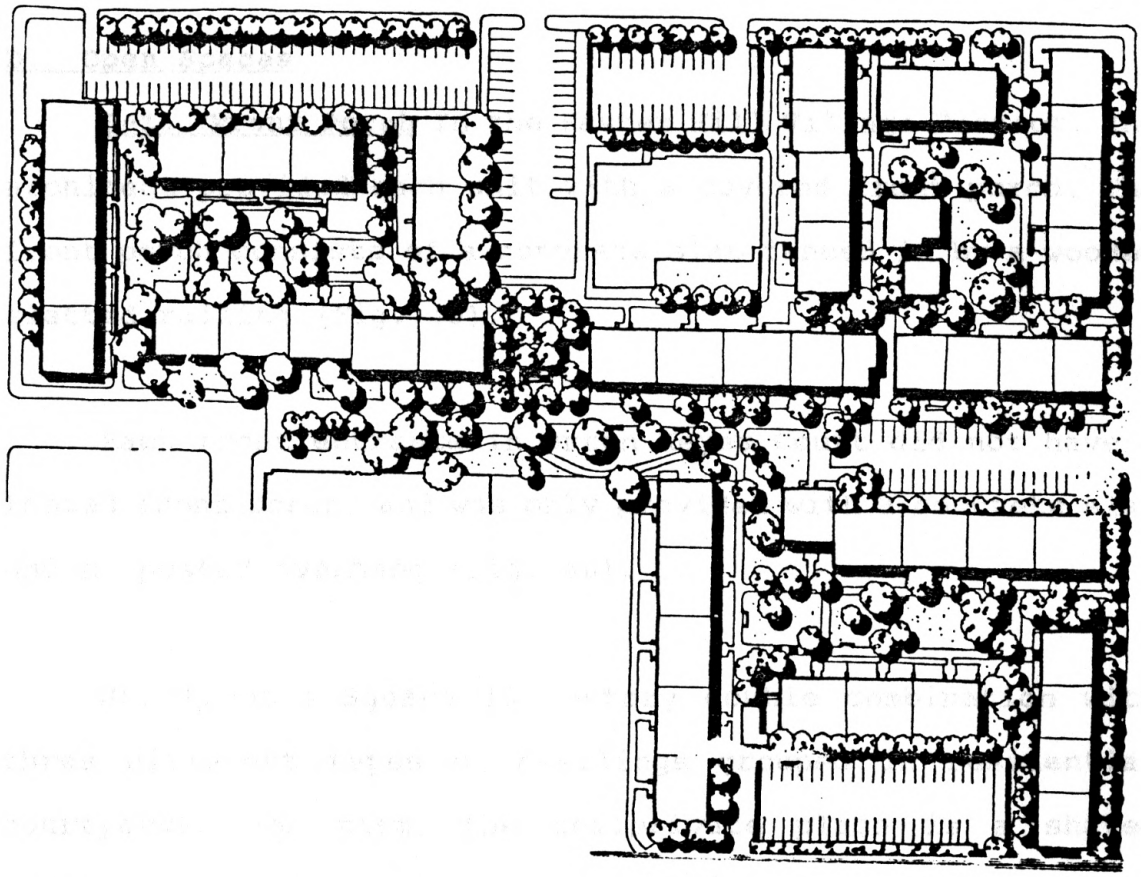


Fig. 44 Site Plan of St. Francis Square

The housing comprises 299 garden apartments, mostly 2- and 3-bedrooms. All buildings three stories. The site area is about 12.02 acres, and overall density is 24.8 dwelling units per acre. The project was completed in 1964 (Fig. 44).

D. Open Spaces

D-1. Front Porch In the Easter Hill Village Project, the architect provided each unit with a covered front porch. The front porch consists of a concrete slab fenced in by a wooden slatted railing (Fig. 45).

Each front entrance in Orton Keyes Court did not have a fenced front porch, and was only provided with a concrete slab and no posted overhang (Fig. 46).

St. Francis Square is 3-story double combination with three different types of dwellings grouped in residential courtyards. For them, the semiprivate place is a shared stairway and enclosed hallway (Fig. 47). Six families provide a suitable "social group," small tables with bowls of flowers or pictures decorate and provide a "homey" entrance way to the apartments, and the windows beyond the entrance encourage casual surveillance for the neighborhood.

A front porch is a place which provides a transition space between the home and the more pubic footpath.

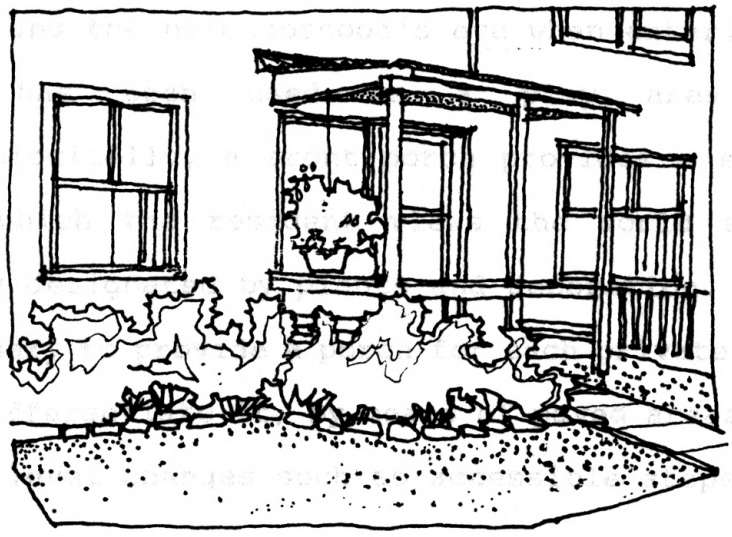


Fig. 45 Front Porch in Easter Hill Village

Fig. 46 Front Entrance in Orton Keyes Court

Functionally, it provides some protection from the rain, the wind, and the neighborhood's eye when entering the house. It also has been used as a play area for children. Psychologically, a front porch provides a semiprivate place from which the resident views the world and introduces a subtly designated by plants and decoration. Therefore, it is necessary to provide a porch for each private unit and express and differentiate it, by means of paved areas, overhangs, and small level changes such as accessible steps and ramps.

D-2. Front Yard The front yards of the houses at Easter Hill Village are pieces of unfenced lawn separating the facade of the house from the public sidewalk. Most are 16 feet wide and they vary in depth according to the setback of the house. A narrow concrete path leads from the public sidewalk to the front porch of the house. A small flower bed provides an opportunity for residents to create an individuality to their houses through desired plantings. In terms of territory and safety, the architect has provided a number of house with low picket fences (Fig. 48).

The front yard in Orton Keyes Court is actually a drying area. A large concrete slab is provided before each dwelling unit (Fig. 49). According to survey done by the University of Illinois in 1972, the drying areas at Orton Keyes Court received the most intensive use of all areas in the site. They

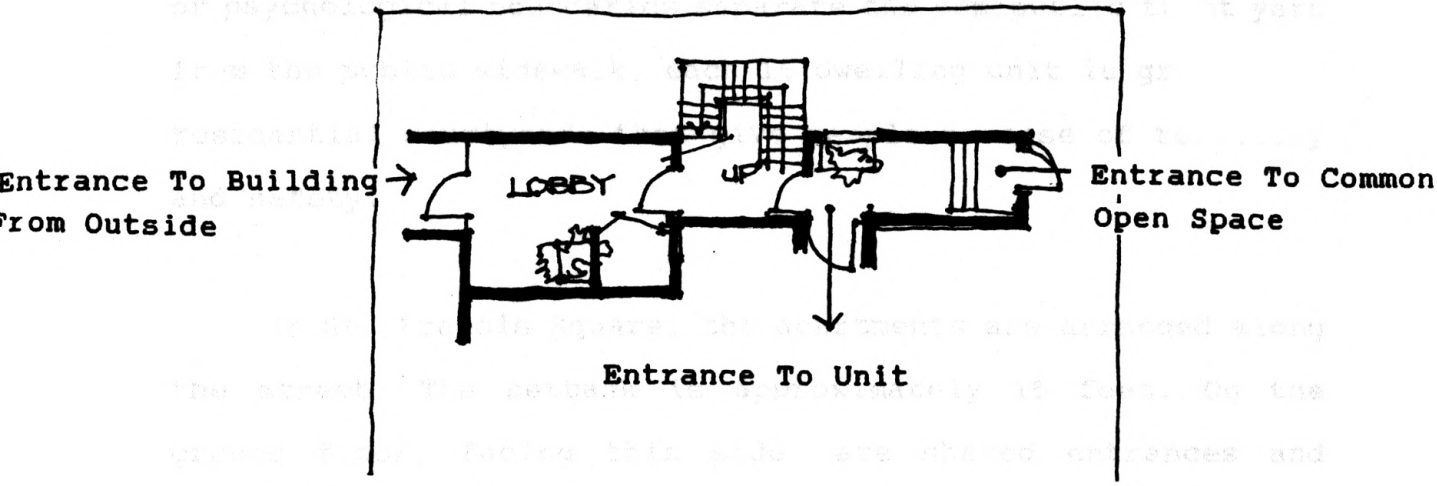


Fig. 47 Lobby Plan in St. Francis Square

Fig. 48 The Front Yard at Easter Hill Village

are used mainly for children's play, sitting out by all ages, drying clothes, and minor repair works. Although no physical or psychological boundaries separate the semipublic front yard from the public sidewalk, each 16 dwelling unit is grouped in residential courtyards that give people a sense of territory and safety.

In St. Francis Square, the apartments are arranged along the street. The setback is approximately 15 feet. On the ground floor, facing this side, are shared entrances and bedrooms for one bedroom units. The front open spaces here do not have specific functions. Shrubs have been planted to create a green boundary (Fig. 50).

A front yard is a place which provides a valuable freedom of choice between venturing onto the public side of the house and staying on the private site. The use of the front yard varies by region, life-style, and class. Generally speaking, Some activities such as mowing the lawn, repairing cars, socializing through nodding and chatting to passersby, and playing take place within this semi-private open space; therefore, a paved area, laundry poles, and enough space for the children should be considered. In addition, a fence should also be considered in terms of security and safety.

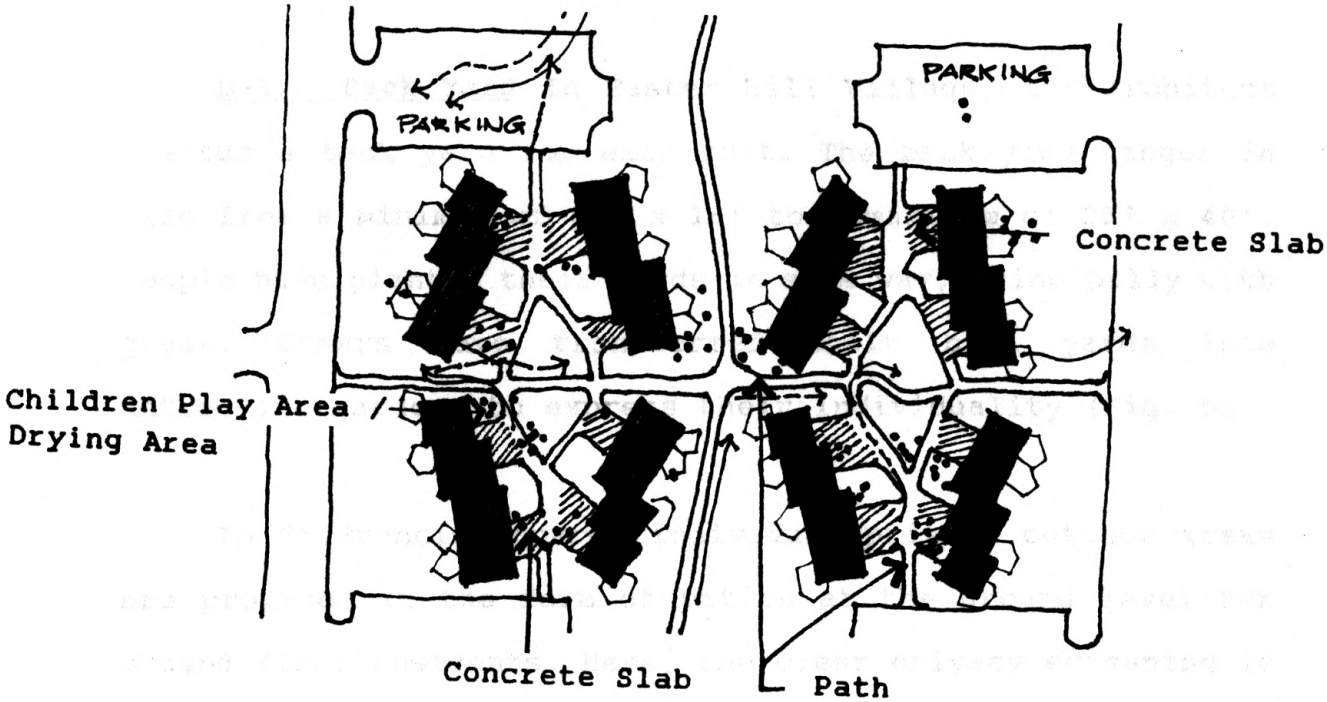


Fig. 49 Front Yard in Orton Keyes Court

Fig. 50 Front Yard in St. Francis Square

D-3. Back Yard In Easter Hill Village, the architect creates a back yard for each unit. The back yard ranges in size from a minimum of 24' x 15' to a maximum of 35' x 40'. People have planted their yards in some way, principally with grass. Others have transformed their back yards into attractive gardens to express their individuality (Fig. 51)

In St.Francis Square, individual private outdoor areas are provided in the form of patios at the ground level for ground floor residents. Here, the clear privacy screening is provided by fences that surround the patio. The sliding glass doors provide access from living room to the enclosed patios, creating a comfortable outdoor room feeling (Fig. 52). In the second and third floor dwelling units, the designer provides balconies for each unit. Most residents preferred this semiprivate space. It extended additional interior space while maintaining privacy through both side of fences.

A patio is laid outside each unit in the Orton Keyes Court, but it is used rarely because it lacks an enclosure. The patio is surrounded by bare earth, and does not even have partial visual screening (Fig. 53). One of the major problems mentioned by the residents was the grassed space in the back side of the house which was neither private nor attractively planted. About three quarters of the respondents in the site thought that having a fenced yard is an important thing for

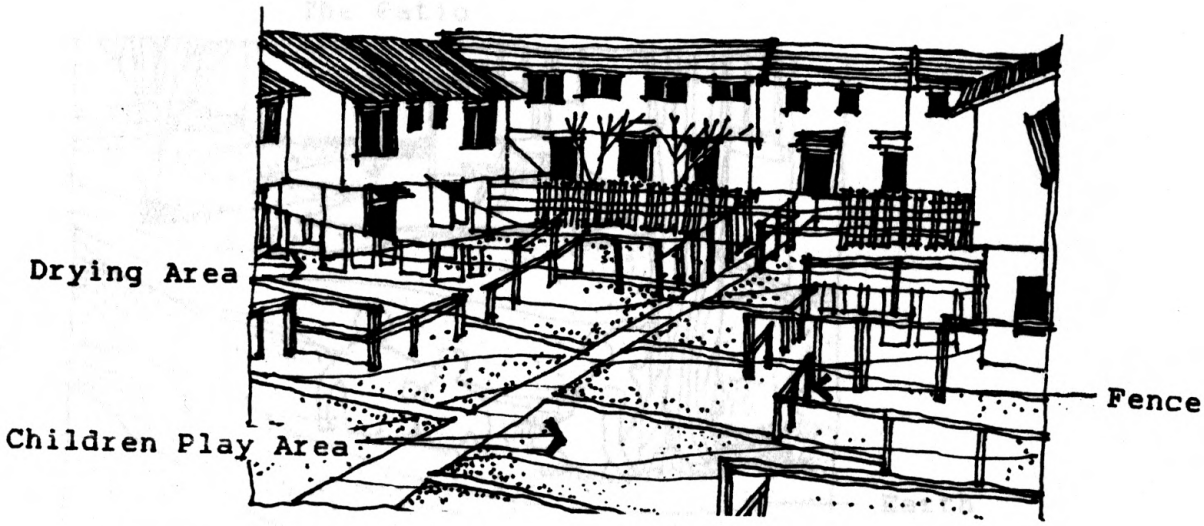


Fig. 51 The Back Yard in Easter Hill Village

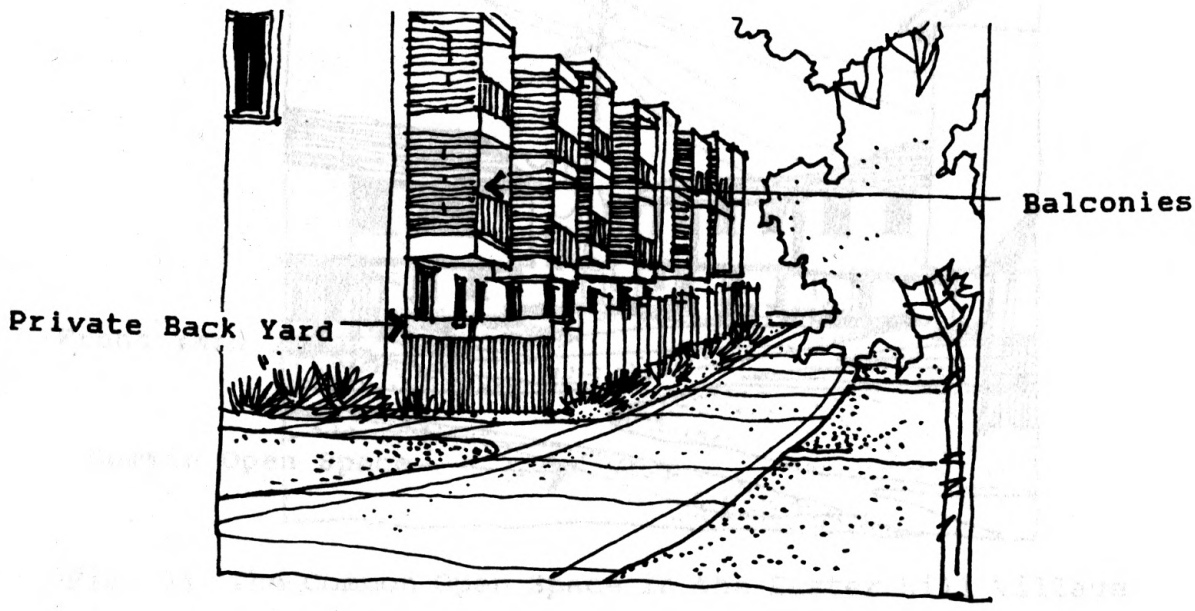


Fig. 52 Back Yard in St. Francis Square

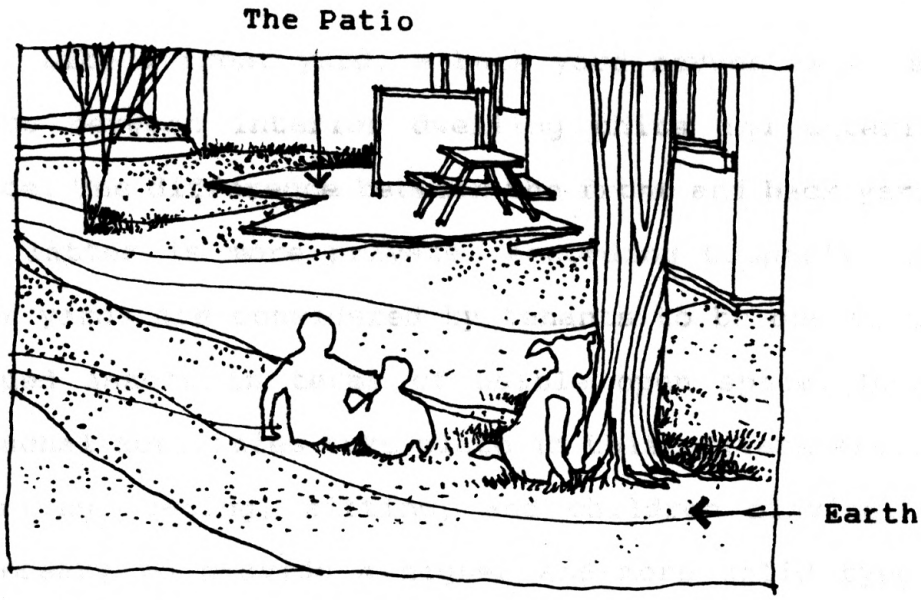


Fig. 53 Back Yard in Orton Keyes Court

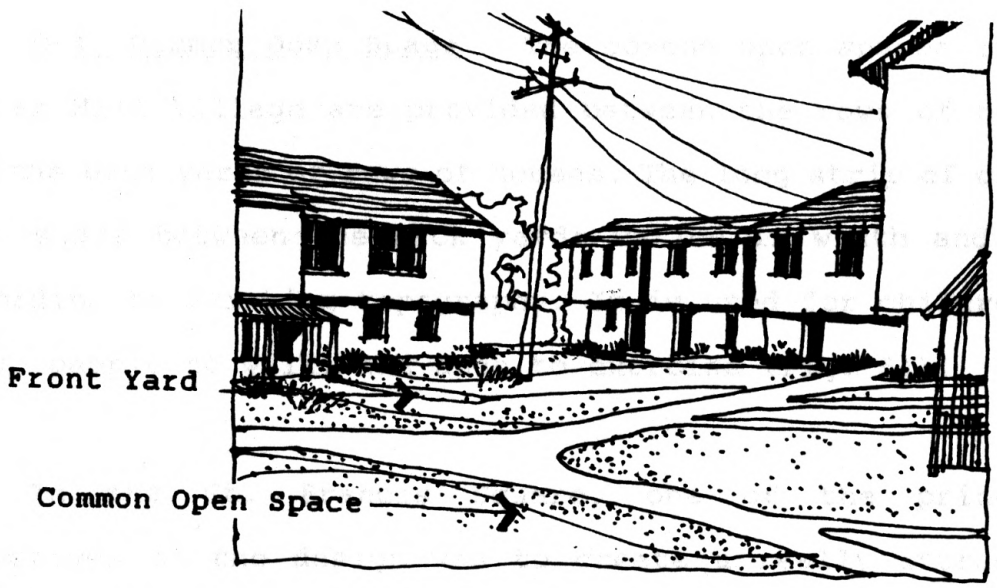


Fig. 54 The Common Open Space in the Easter Hill Village

safety, privacy, and property reasons.

Like a front yard, a back yard serves as a semiprivate place between interior dwelling units and exterior public space. The difference between the front and back yards is that the latter is more private. According Cooper's survey, the back yards are considered by tenants to be one of their most valued assets in terms of usable open space. Domestic and personal activities take place in this private areas, such as planting, eating, sitting, and children playing. So it is necessary to provide a higher and more solid type of fence which separates the back yard from view of public areas.

D-4. Common Open Space The common open spaces in the Easter Hill Village are provided between the rows of houses and the back yards of rows of houses. The long strip of common open space between the back yards varies in width and size according to existing topography. It is used for children to play, people to walk, and dogs to exercise (Fig. 54).

In the St. Francis Square, one of the principle objectives of the design was to create a really attractive outside environment in which residents might walk, sit, and take their children out to play safely. For this purpose, the designer cut two streets to form three blocks, and arranged the house around these three blocks. The chief benefit of

these enclosed common open spaces which avoid through traffic is that children can move around within the three blocks to use different kind of play areas and find a variety of friends. Many residents also feel that the arrangement encourages walking and casual encounters and at the same time discourages large numbers of strangers from wandering about. People are especially pleased with these common open spaces, because of their dimensions, clearly defined play and green areas, quality landscaping, and designed details (Fig. 55).

However, other common open spaces and the central sitting plaza are less used by the residents because they lack a sense of territory.

The designers provided central common open spaces for Orton Keyes Court. The basic idea was to create this pedestrian way as the major route to Kishwaukee street for public transportation and shopping. As observed activities show (Fig. 56), the walking routes have been encouraged through the parking areas and across the central green space to residents' various homes. But few stationary activities occur in this central area for two reasons. First, the space lacks a sense of belonging to any one particular group. It is just land with no boundaries. Second, it lacks site details, such as children's equipment and outdoor furniture, necessary for the various on-site activities.

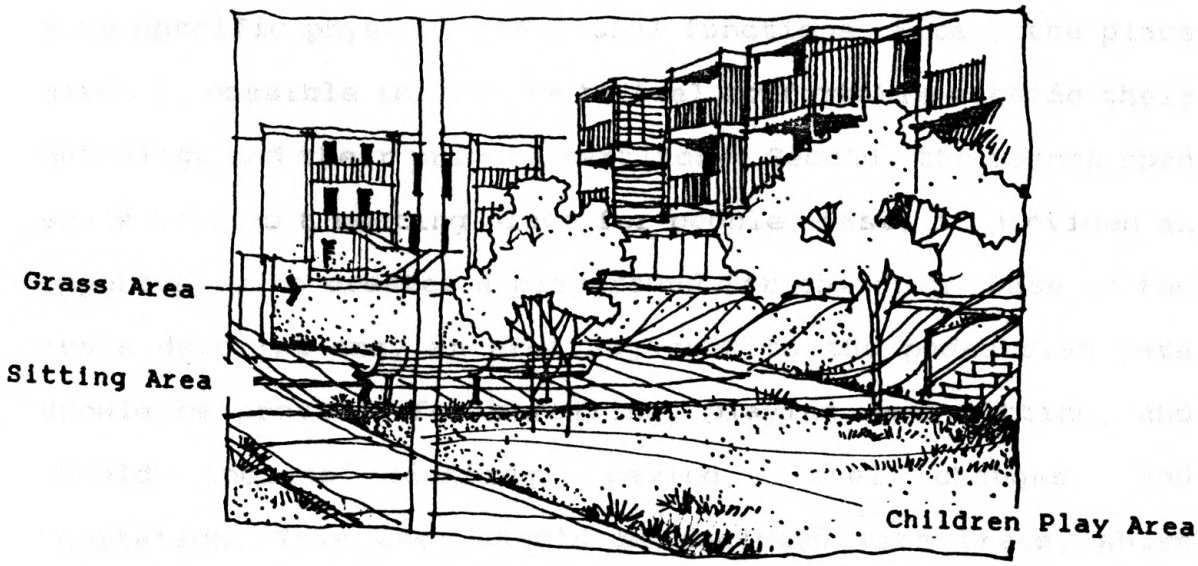


Fig. 55 Common Open Space in St. Francis Square

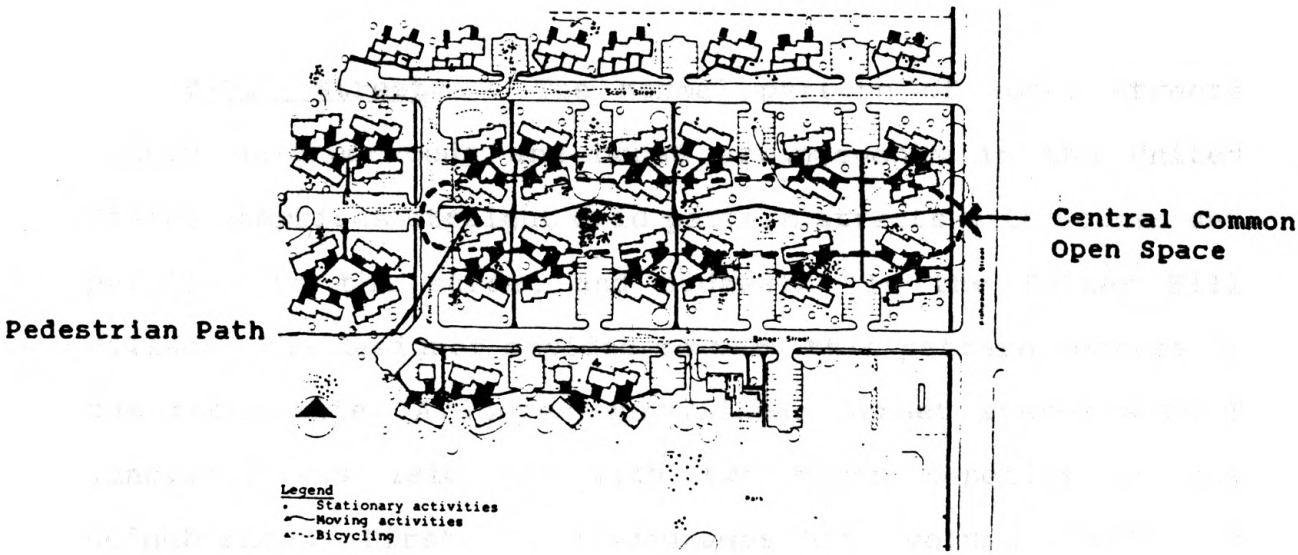


Fig. 56 Common Open Space in Orton Keyes Court

Common open space is a place inserted into group dwelling units and used by all residents. The common open spaces have some specific physical and social functions. First, the place makes it possible for people to feel comfortable outside their buildings and their private territory. Second, the common open space acts as a meeting place for people. Last, it provides an opportunity to creates a playground for children. Base on the above descriptions, an area adjacent to the pedestrian path should be provided for strolling, playing, and sitting, and should include lighting, paving, level changes, and vegetation. This area should be enclosed with trees, short walls, fences or level changes to increase a sense of territory.

D-5. Street The normal pattern of local streets within neighborhoods and house arrangements in the United States comprises straight grid pattern streets with houses set parallel to the street and sidewalk. In the Easter Hill Village, the designer decided to vary this pattern because of the rocky site. A looped curvilinear street system with T junctions was laid out with two major benefits to the neighborhood. First, it discourages high volume traffic or high speed inside the neighborhood. Second, it introduces variety into the visual screen of the site (Fig. 57).

The designer closed off through-streets to create three superblocks in the St. Francis Square neighborhood. This layout had considerable effect on the day-to-day living pattern of residents. Children can play outside alone safely and walk to school by themselves (Fig. 58).

Like the Easter Hill Village, the basic local street in Orton Keyes Court neighborhood is a loop street which connects each housing cluster and parking lot (Fig. 59).

Base on the above case studies, it is a good idea to lay out local roads as a loop, which discourages a high volume of cars, high speeds, and noise.

D-6. Foot Paths There are two pedestrian areas in the Easter Hill Village. One is a sidewalk on both sides of streets, and the other is a footpath which was laid out inside the common open space to connect the residents' access, parking lots, and sidewalk. The second footpath is used by few adult or children because of its unclear function and lack of design details (Fig. 60).

The footpath in St. Francis Square runs parallel to the residential buildings and forms a tight network because access to the staircases is from both sides. A main footpath with a wide green area runs from east to west. In each residential

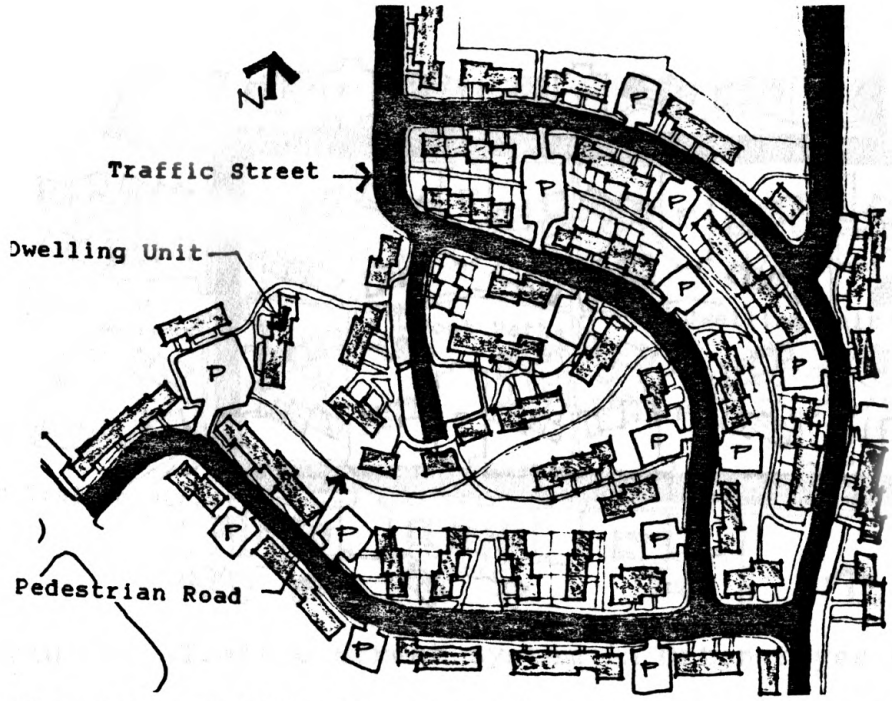


Fig. 57 Traffic Street System in Easter Hill Village

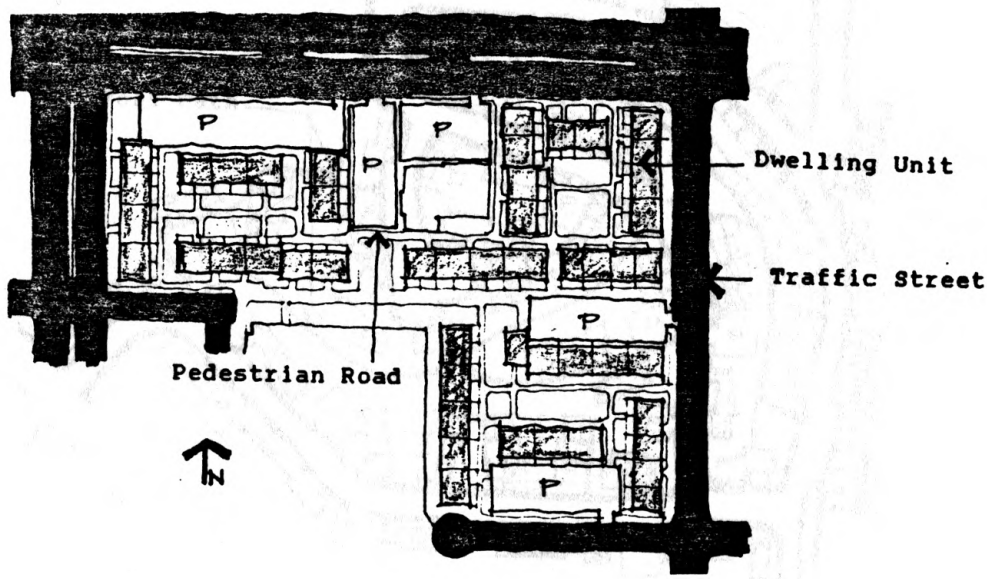


Fig. 58 Traffic Street System in St. Francis Square

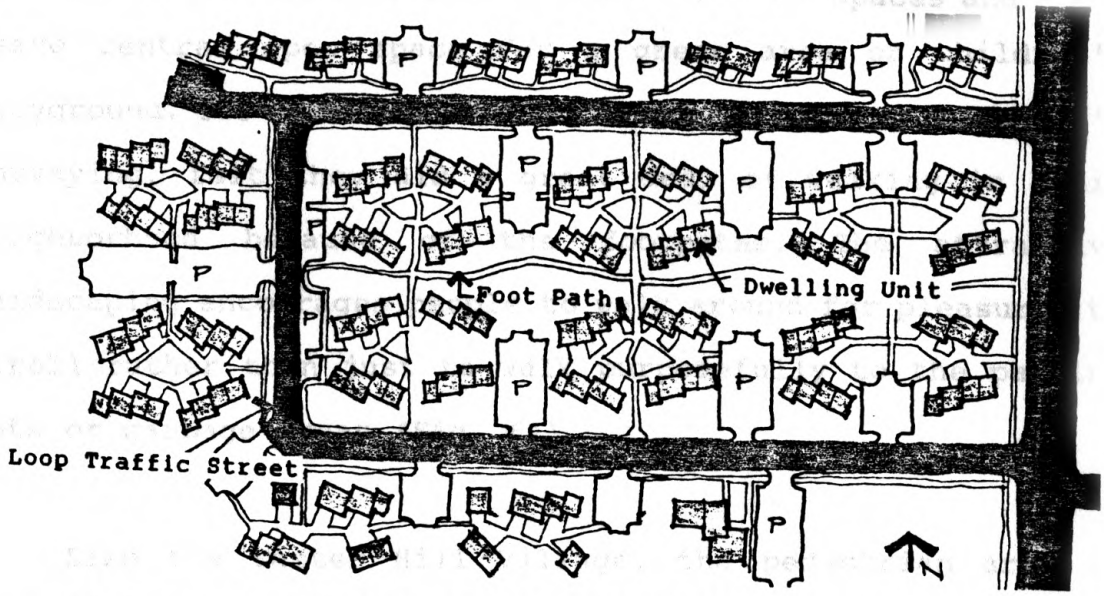


Fig. 59 Traffic Street System in Orton Keyes Court

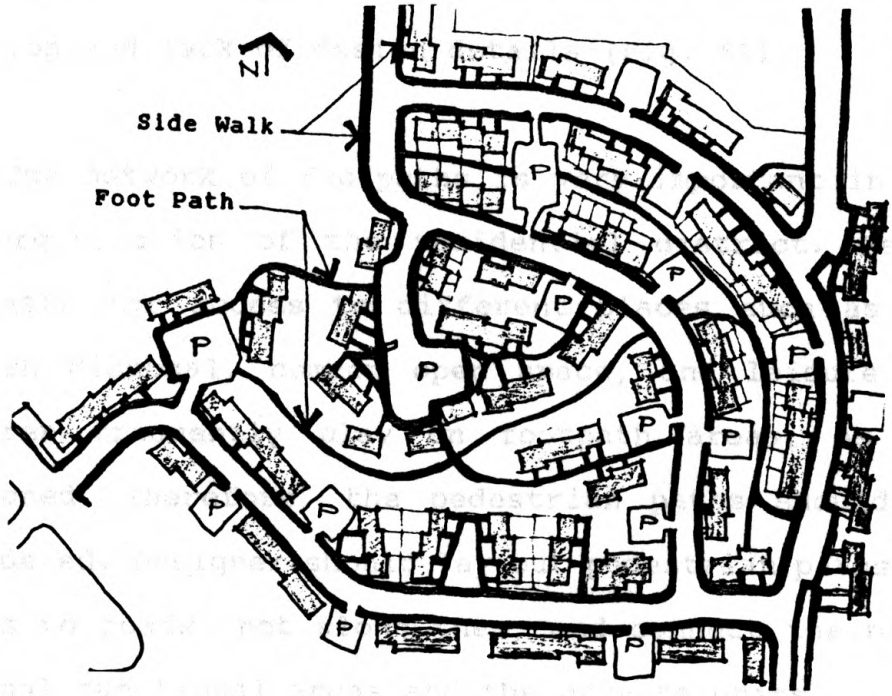


Fig. 60 Foot Path System in Easter Hill Village

courtyard, the paths keep close to the private open spaces and leave central open space for a green area or children's playground. Two-fifths of the residents, according to Cooper's surveying, felt they did a great deal of walking in their neighborhood because of the footpaths. The attractive landscaping encourages people to walk around for pleasure, to stroll rather than just to walk purposefully to the parking lots or garbage areas (Fig. 61).

Like the Easter Hill Village, the pedestrian area in Orton Keyes Court neighborhood comprises a sidewalk and a central footpath which shares some of the problems of unclear function and lack of design details (Fig. 62).

The network of footpaths is very important in terms of the organization of the residential district. People use footpaths for access to different places such as parking, rubbish disposal, common open space, and leisure walking. Children frequently play on footpath areas, as previous mentioned. Therefore, the pedestrian paths should be well considered. Designer should lay out pedestrian paths at right angles to roads, not along them, and connect the paths with communal functional areas and the private units.

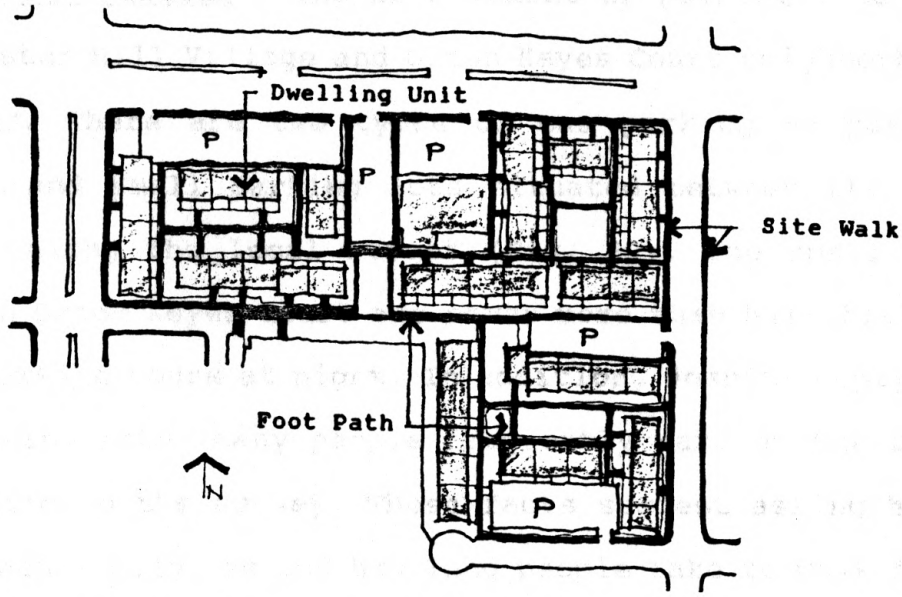


Fig. 61 Foot Path System in St. Francis Square

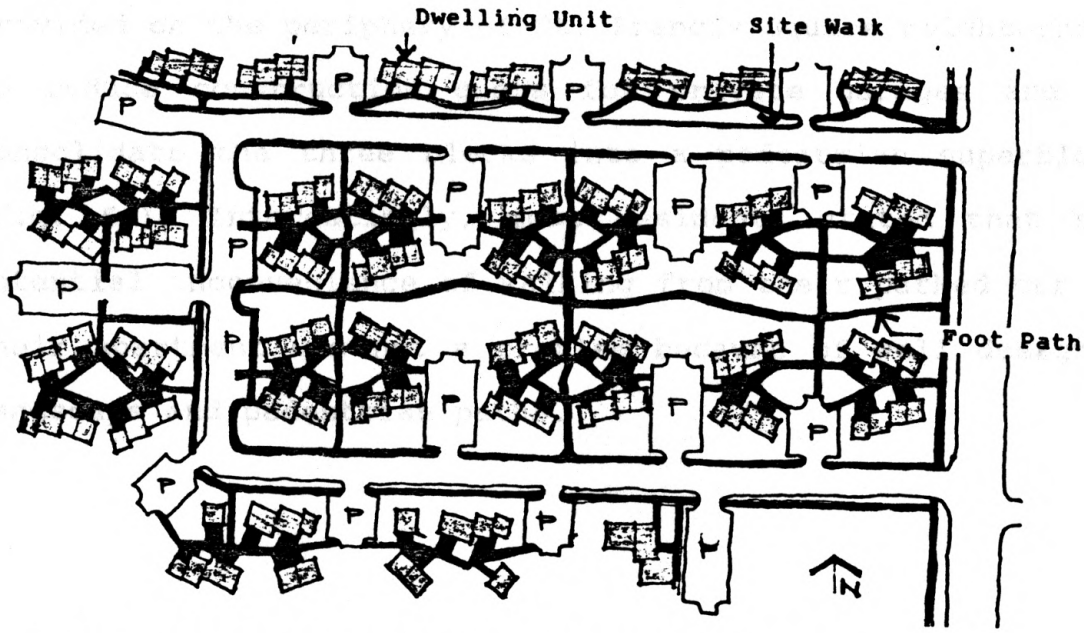


Fig. 62 Foot Path System in Orton Keyes Court

D-7. Parking The arrangement of parking lots in both the Easter Hill Village and Orton Keyes Court neighborhoods is similar. There are two types of car parking -- parking on street and small parking lots situated between the housing groups along the local street (Fig. 63). The small parking lots in Orton Keyes Court are never more than half full at the peak parking hours at night. In addition, despite empty spaces in parking lots, many people frequently park on the streets, according to the survey. These facts suggest asking how many cars each family has and how long people take to walk from the small parking lots to their dwelling units.

Two, 2-story garages and three open parking lots were provided on the periphery of St. Francis Square neighborhood to reduce construction costs for private garages and to consolidate the three blocks into a pedestrian superblock (Fig. 64). Interestingly, most residents stated that the potential inconvenience of walking from their parked car to their apartment was not a problem because of well designed landscape and pedestrian paths.

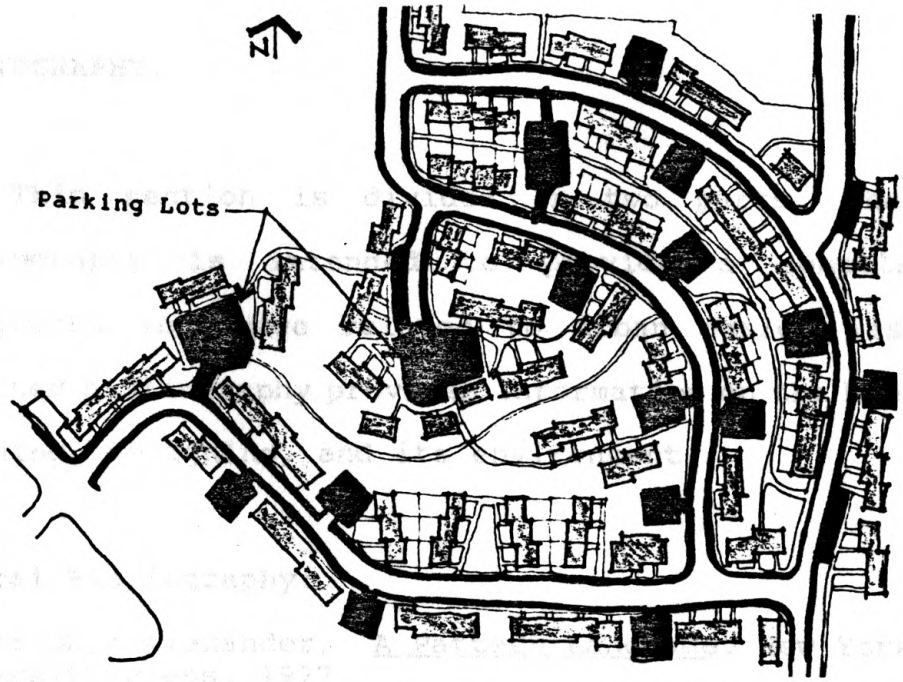


Fig. 63 Parking Arrangement in Easter Hill Village

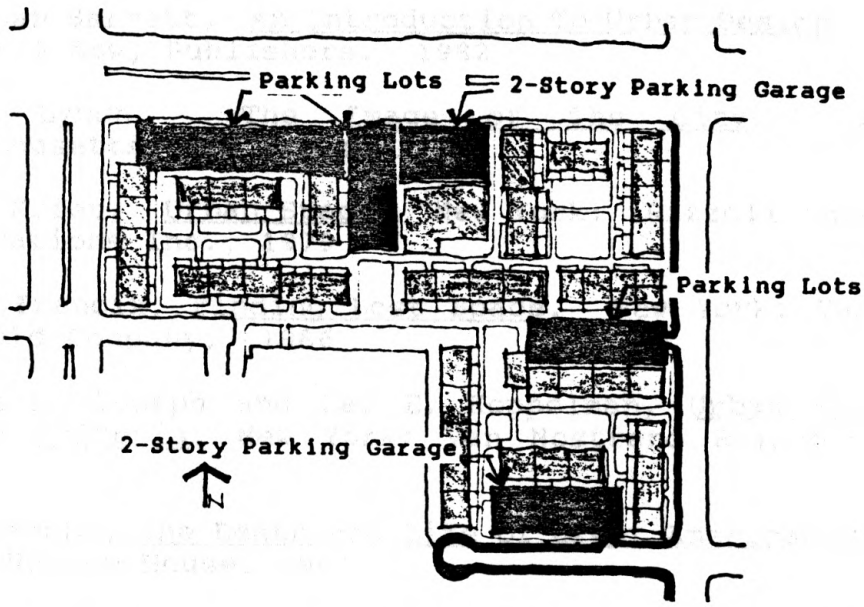


Fig. 64 Parking Arrangement in St. Francis Square

BIBLIOGRAPHY.

This section is divided in two parts. The general bibliography is intended to provide a compilation of background knowledge related to urban design issues. The selected bibliography provides information on the housing site planning, designing, and its environment.

General Bibliography:

Christopher Alexander, A Pattern Language. New York: Oxford University Press, 1977

Oscar Newman, Community of Interest. New York: Anchor Press / Doubleday, 1980

Jonathan Barnett, An Introduction To Urban Design. New York: Harper & Row, Publishers, 1982

Kevin Lynch, The Image of The City. Cambridge: Massachusetts: MIT Press, 1979

Rober Krier, Urban Space. New York: Rizzoli International Publications Inc., 1979

Roger Trancik, Finding Lost Space. New York: Van Nostrand Reinhold Company, 1986

DeChiara, Joseph and Lee E. Koppelman, Urban Planning and Design Criteria. New York: Van Nostrand Reinhold Company, 1975

Jane Jacobs, The Death and Life of great American Cities. New York: Random House, 1961

Selected Bibliography:

Mandelker & Montgomery, Housing in America. The Bobbs-Merril Company, Inc. 1979

Karen A. Franck & Sherry Ahrentzen, New Household New Housing. New York: Van Nostrand Reinhold Company, 1980

Clare Cooper Marcus & Wendy Sarkissian, Housing As if People Mattered. University of California Press, 1986

Oscar Newman, Defensible Space. New York: The Macmillan Company, 1972

Richard Unterman & Robert Small, Site Planning for Cluster Housing. New York: Van Nostrand Reinhold, 1977

Mitchell, K. Paul, Federal Housing Policy and Programs. New Brunswick: New Jersey, Center For Urban Policy Reserach, New 1985

Dolores Hayden, A New American House: Architectural Design Competition. Minneapolis College of Art and Design, 1984

Amos Rapoport, House Form and Culture. Englewood Cliffs: N. J. Prentice-Hall 1969

Periodical Articles:

Clare Cooper. " St. Francis Square: Attitudes of Its Residents." AIA Journal December 1971

Clare Cooper Marcus. "Evaluation: Salvaging a Troubled Housing Project" AIA Journal September 1978

Clare Cooper Marcus. "Children in residential areas: Guiding for designers." Landscaper Architecture October 1974

Robert B. Marquis and J. Peter Winkelstein. "Public Housing in United States - Demolition or Rehabilitation" Process: Architecture No. 14

John Sharratt. "Urban neighborhood preservation and development." Process: Architecture NO. 14

Florence C. Ladd' "Black youths view their environments: Some views of housing." AIA Journal March 1972

Theodore Liebman, J. Michael "Housing criteria drawn from human Kirkland and Anthony Pangaro response" AIA Journal March 1974

John E. Bridges. "Marking public housing unit" Journal of Housing August/September 1977

Amos Rapopport. "The personal element in housing: An argument for open-ended design"

Theodore Liebman. "Learning from experience The Evaluation of housing criteria." Progressive Architecture November 1974

James Pratt. "Neighborhoods: A matter of choice." AIA Journal May 1970

" Who's going to live here, anyhow ? " The low income family as 'client' Progressive Architecture May 1971

Irving Rosow. "The Social effects of the environment." Journal of the American Institute of Planners

Denise Scott Brown. "Changing family forms" Journal of American Planning Association Vol. 49 Spring 1983

Kathleen Gerson. "Changing family structure and the position of women: A review of the trend." Journal of American Planning Association Vol. 49 Spring 1983

Marc Fried and Peggy Gleicher. "Some sources of residential satisfaction in an urban slum." Journal of American Planning Association Vol. 27

Louis Kriesberg. "Neighborhood setting and the isolation of public housing tenants." Journal of American Planning Association Vol.34

John b. Lansng and Robert W. Marans. "Evaluation of neighborhood quality." Journal of American Planning Association Vol. 35

Daniel U. Levine, Norman S. Fiddmont, Robert S. Stephenson, and Charles Wikerson. "Are the black poor satisfied with conditions in their neighborhood ?" Journal of American Planning Association Vol. 38

Howard W. Hallman. "Citizens and Professional reconsider the neighborhood." Journal of American Planning Association Vol. 25

Marc Fried. "Functions of the working-class community in modern urban society." Journal of American Planning Association Vol. 33

Setphanie W. Greenberg and William M. Rohn. "Neighborhood Design and Crime." Journal of American Planning Association

Donald Appleyard. "Livable Streets: Protected neighborhoods." The urban street as a center of community life Ekistics Vol. 45 November/December 1978

Henry Sanoff. "User assessments of a low-income residential environment: Chapel Hill North Carolina USA." Ekistics Vol. 39 July 1975

THE DESIGN OF A LOW-INCOME HOUSING NEIGHBORHOOD FOR KANSAS CITY, MISSOURI

by

SHAOXUAN ZHU

B.S. Tsinghua University,
Beijing, People's Republic of China, 1983

AN ABSTRACT OF A THESIS

Submitted in partial fulfillment of the

requirements for the degree

MASTER OF ARCHITECTURE

KANSAS STATE UNIVERSITY
Manhattan, Kansas
1992

ABSTRACT

Public housing in the United States has changed radically in recent years. Fast growth of new households, high crime and vacancy rates, and a generally undesirable living environment have presented legislators, social scientists, architects, and planners with a challenge to explore new policies and concepts for public housing development.

The Forgotten Home Neighborhood, as a typical low-income housing neighborhood located east of the central business district in Kansas City, Missouri, is a community facing these problems.

This thesis concentrates on the physical man-made environment -- the physical site plan and buildings and their effects upon the quality of the residential environment. Therefore the emphasis of this study is on briefly developing a program which is based on observing and analyzing the site situation, preparing a preliminary site plan and housing design, and finally providing a series guidelines for design development which are intended to promote a neighborhood, a "sense of place."

It is hoped that the design solutions and recommended guidelines would have some positive effect upon the revitalization of the Twelfth Street area and the Forgotten Home Neighborhood.