Housing for the Historical District Charleston, South Carolina

Robert Earl Epps
Clemson University

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by Robert Earl Eggs

A terminal project submitted to the faculty of the College of Architecture, Clemson University in partial fulfillment of the requirements for the degree of Bachelor of Architecture.

Approved: May 1977

[Signatures]

Kenneth Ross
Chairman

[Signature]

Major Advisor

[Signature]

[Signature]

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Committee Chairman

Major Advisor

Head, Dept. of Architectural Studies

Dean, College of Architecture
## CONTENTS

### Introduction

I. Urban Housing  
   A. Introduction  
   B. Issues  
   C. Low Rise Housing  
   D. Low Rise Sites  

II. Case Studies  
   A. Pembroke Dormitories, Brown University, Providence, Rhode Island  
   B. The Portals, Chicago, Illinois  
   C. Davids' Plaza, Chicago, Illinois  

III. The Site  
   A. The Peninsular  
      1. Population  
      2. Land Use  
      3. Circulation  
      4. Housing Characteristics  
      5. Economic, Occupational Characteristics  
      6. Historic Preservation and Restoration  
   B. Site Selection  
   C. Site Analysis  

IV. Program  
   A. User Profile  
   B. Program  

V. Proposal  

VI. References  
   A. Footnotes  
   B. Bibliography
Introduction

Charleston, like so many cities during the late '60's, has fought a losing battle with Suburbia over residential and retail development. Attempts to revive urban communities through massive physical development such as entertainment and cultural complexes and new retail centers are at best partial solutions to the problem. City fathers, concerned politicians, planners and developers alike have failed to recognize the importance of the residential environ as the nucleus of urban vitality. Participation in urban activity must extend beyond the 9-5 day of the temporary surbanite emigration. Renewed interest in urban residential development offers not only opportunities for new urban vitality but a sense of community and responsibility for the well being of the city.
Introduction

It is time to take a refreshed look at urban environment as a residential community. The problems of crime, pollution, noise and general overcrowding which have been associated with the city in the past have followed their victims into suburbia. Not only have the suburbs inherited the problems of the city, it has created problems unique to its environment. These are:

- Dependence on the automobile to carry out basic daily activities in dispersed population has resulted in an undesirable separation of services.
- Loss of neighborhood identity. (Development of housing has been haphazard. Recognition of neighbors and "shared space" does not exist.)
- Lack of a mass transportation system. (Poor land planning and thus a dispersed populace has made even the simplest transit system, such as buses, non-profitable.)
- Expensive public services. (With a highly dispersed populace, services such as police and fire protection are expensive and inefficient. Recreational services are often minimal if they exist at all.)
Introduction

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- Dependence on the automobile to carry out basic daily activities (a dispersed population has resulted in an undesirable separation of services.)

- Loss of neighborhood identity. (Development of housing has been haphazard. Recognition of neighbors and "shared space" does not exist.)

- Lack of a mass transportation system. (Poor land planning and thus a dispersed populus has made even the simplest transit system, such as buses, non-profitable.)

- Expensive public services. (With a highly dispersed populus, services such as police and fire protection are expensive and inefficient. Recreational services are often minimal if they exist at all.)
Thus, the idea of fleeing the city at the end of the workday to find happiness and bliss in suburbia is becoming more of a myth than reality.

Beyond the more tangible amenities of urban living such as proximity to work, recreation, and cultural events are the less tangible, but no less important opportunities such as interaction and day to day communication. Moshe Safdie, architect of Montreal's Habitat, who has developed modular units for high density community living responded to the question - What makes a city tick with: "I prefer San Francisco to Los Angeles. I prefer New York to Philadelphia. The kind of concentration that is achieved in them creates certain choices in openness of society that is not possible in lower density housing. I want my children to be able to meet, play, and communicate with many other children on their own, not only when they are driven somewhere. I want them to grow up in an environment that is not just a place where people sleep, but where people work."¹

The New York State Urban Development Corporation, in exhausting studies, has reassessed the salient issues which a future housing alternative could be reasonably expected to meet. Among these issues are the following priorities:²
The establishment of a physical environment which could be capable of including simultaneously a sense of propriety and a sense of community. From community and propriety follow many secondary issues such as child supervision from the dwelling and the capacity of the design to include in each household the desire to contribute to the spontaneous maintenance of the scheme as a whole. The latter stems directly from the general sense of ownership induced throughout the scheme while child supervision is derived from an inherent capacity of the arrangement to provide for adequate surveillance. Beyond these concerns there remains the demand for the dwelling to be as responsive as possible to the varying needs of the individual. Typical approaches to this problem "of built in flexibility" might be to provide rooms that could serve as a studio, playroom or bedroom.

With the development of a low-rise high density prototype, based on the constraints of a typical 200' x 800' New York City block, the following conditions were established:
Dwellings were grouped on the block in such a way as to both preserve the spatial profile of the street and at the same time create a sense of neighborhood.

As many private entrances as possible opened directly off the street. Simultaneously, undesignated internal space was minimized.

Surveillance of children play areas was provided far from the dwelling.

Limited access and provisions for spontaneous surveillance over entry to the cluster minimized unseen inactive places and easy recognition of neighbors.

As many exterior private spaces as possible were provided. Public, semi-public (stoops) and private spaces were provided clearly defined.

Storage was provided for bicycles, carriages, etc.

Importance was given to orientation of living space in reference to natural ventilation.

In large family units, provisions were made for the possibility of two living areas to allow for the separation of different living activities (children and adults.)
By developing the unit so as to locate the lower unit at a half level with the street and two level units at the top, walk-up distance was reduced. Distance from parking to unit was minimized by having several small parking areas in lieu of one large one.

From the above conditions, the following issues were defined: (the priority of importance will be established with discussion of user and the site henceforth.)

**Sense of Community**
- cluster units to encourage neighborhood.
- limit number of users to semi-private spaces.
- organize common activities to promote social interaction.

**Responsiveness to Context**
- respect scale, light and views of existing context.
- define public and private space.
- reflect aspirations of users.
- integrate building visually.
- hold existing street lines.

**Maintenance**
- minimize undesignated interior space.
- provide direct individual access.
- reflect maintenance considerations in choice of exterior materials.
Security
minimize unseen, non-active places.
promote recognition of neighbors.
maximize activity and overview of common exterior spaces.
define public and private exterior spaces.

Livability
provide private exterior spaces.
provide exterior storage.
ensure sunlight and ventilation of dwelling unit.

Flexibility
allow varied use of spaces for alternate life styles.
articulate outdoor spaces for multiple uses.

Child Supervision
control size and location of play areas.
maintain proximity to play areas.
provide private exterior spaces.

In response to the context of the historical district of the Charleston Peninsular and to the zoning ordinances of the city, high-rise and mid-rise housing forms are viewed as inappropriate for the site. Thus, housing analysis and case studies will be restricted to low-rise.
General characteristics of low-rise housing are as follows:\(^3\)

In contrast to high-rise/mid-rise housing, low-rise dwelling units are less restrained by their imposing structural systems.

Building codes are more liberal in low-rise units. A wide range of structural options are available from wood frame to load bearing masonry walls, bar joists, precast floor systems with steel pipe columns, etc. Structural systems may be determined by fire codes and maximum floor area permitted.

Exterior walls need less fire protection than high-rise and mid-rise buildings.

The 15% non-rentable space found in high-rises (due to elevators, stairs, refuse chutes, plumbing/mechanical stacks) can be reduced to as little as 5% in low-rise units.

The following types of low-rise housing are based on horizontal and vertical distribution (circulation): \(^4\)

A. **Townhouse**

Row houses stand on the borderline between the single family dwelling which, in fact, they are and the multi-family apartment building which they become because they
are attached to one another. The earliest single-family housing found in Mesopotamia were attached dwellings that made use of common walls (due to the limited space inside the protective walls of the city.) The row house continued in use in the densely built Greek and Roman cities and later in the commercial centers of Northern Europe.

The traditional two-story town house divides living zones on grade level and sleeping zones on the upper floors. This relationship may be reversed when site conditions so dictate. The problem of stair location and its solution may often (along with structure) dictate room layouts. The relationship of the unit components may be dictated by the following systems/activities:

Garbage Collection. Its relationship with the kitchen should be maintained as well as its position to pick up on the exterior.

Visual Surveillance. This is best achieved from the busiest part of the living area. (When the yard is fenced in, less surveillance is required.) What areas demand surveillance?

Garden Maintenance. If yard maintenance is to be performed, where will tool shed be located?

Parking. Do guest and inhabitants enter at the same place? Where do guests park?
B. **Core Type Walk-up**

Core type walk-ups consist of a stair core serving a limited number of apartments (thus the terms: duplex, triplex, and quadraplex.) The number of levels is determined usually by a compromise between economics (density) and comfort (distance one has to climb stairs.) A single stair is desirable not only because of economics but ease of surveillance as well. Ideally, the stair is located so that entry to the apartment is between living and sleeping zone. As the number of stairs increase, the variety of unit arrangements increase.

C. **Corridor Type Walk-up**

The desire to maximize the number of units served by the stair core leads directly from the core type to the corridor type walk-up. Interior corridor systems result in dead end corridors and single loaded exterior corridors result in loss of efficiency. Corridor systems dictate unit layouts and thus flexibility to site layout is restricted.

D. **Mixed Walk-up**

To accommodate a complex mix (very large families, singles, elderly, etc.) a combination of the previous mentioned types of access may be used. Flats may be located at graded level with townhouses above to maximize
density but minimize stairs. The stacking of unlike units may present problems in mechanical and plumbing systems.

property and pedestrian access to individual buildings; vehicular movement and vehicular storage (parking) linked to the dwellings (vehicles belonging to the residents as well as visitors); movement of vehicular services - delivery and pick-up of mail, refuse removal, fire fighting and ambulance calls.

The placement of buildings along the document system network is one site planning factor, their relation to common facilities and recreation areas is another. The opportunity for social contact is a major motivating force. Thus, buildings relate to one another and to the environment surrounding the site.

After fulfilling the needs for social contact, proper orientation, security, and privacy alter solving the multitude of linkage problems. The "human linkage," the quality of the path traveled through the space defined by the buildings, should be considered. Open space is created by all the senses: kinetic - as one walks through; audible - as one hears children at play, the rustle of leaves or the playing of water; tactile - as a bench is touched; olfactory - the fragrance of flowering shrubs. Space "is seen, not as a single view, but in sequence over an extended period of time while the observer is in motion."

From: Housing, Macsai, Holland, Nachman, Yacker
In one sense, the issues of large low-rise sites are those of movement systems: pedestrian movement across the property and pedestrian access to individual buildings; vehicular movement and vehicular storage (parking) linked to the dwellings (vehicles belonging to the residents as well as visitors); movement of vehicular services - delivery and pick-up of mail, refuse removal, fire fighting and ambulance calls.

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SPACE EXPRESSES MOODS

SPACE IS DEFINED BY THINGS

- buildings
- grounds
- joints (between building and ground, between building and sky)
- nature (water, flora)
- artificial light
- natural light
- human activities
- natural cycle (aging)

SPACE IS EXPERIENCED

by entering, passing (using), exiting

SPACE IS PERCEIVED

by all senses: kinetic, audio, tactile, olfactory and visual (serial vision)

With urban land becoming scarcer and exurban land becoming more and more filled around the metropolitan areas, density has become a major issue in planning housing sites and often a major part of the clients program.

Given a particular housing type, there are a multitude of factors influencing the optimum density:

- the apartment size.
- ratio of parking.

From: Housing, Macsai, Holland, Nachman, Yacker
type of parking: structured, non-structured.
amount of outdoor space: private and public.
zoning setbacks and limitations.

Naturally any given site will present problems unique to itself assuming that the previously mentioned factors will be constant, the following chart will give an indication as to the density which can be achieved with a given housing type. 5
TOWNHOUSE

Assumed density: 20 units/acre

Lot area: 535 x 270 ft = 144,450 sf = 3.3 acres.
Number of units: 3.3 acres @ 20 = 66 units.
Parking: 66 @ 1.25 = 83 cars.

Ground utilization:
66 townhouses @ 700 sf = 46,200 sf
66 yards @ 600 sf = 39,600 sf
83 cars @ 300 sf = 24,900 sf
110,700 sf

144,450 sf - 110,700 sf = 33,750 sf (25%).
Open area left for circulation and outdoor recreation (approximately half for recreation).

From: Housing, Macsaï, Holland, Nachman, Yacker
THREE-STORY WALK-UP

Lot area: 535 sf × 270 sf = 144,450 sf
Less 25% of lot for circulation and recreation = 33,750 sf
Left for units and parking = 110,700 sf

Each apartment needs for ground coverage
(114 × 48 ft) ÷ 12 (units per building) = 460 sf

Each apartment "carries" part of yards belonging to first floor apartments
(114 × 30 ft) ÷ 12 (units per building) = 280 sf
Parked 1.25 @ 300 sf = 375 sf

110,700 sf ÷ 1115 sf = 99 units
Because there are 12 units/building
99 ÷ 12 = 8 buildings
8 buildings @ 12 = 96 units
96 ÷ 3.3 acres = 30 units/acre

From: Housing, Macsai, Holland, Nachman, Yacker
Pembroke Dormitories/Brown University
Providence, Rhode Island
MLTW/Moore, Lyndon, Turnbull
1975
Brown University
Living quarters for 196 students
160 single rooms, 68 doubles, 13 student kitchens; total gross floor area 69,000 sq. ft.; retail space 13,400 sq. ft. (this includes storage and 1200 sq. ft. of covered parking.)
39,750 sq. ft. (.91 acres) street corner at the edge of the University, abutting active retail street to the east, street of large detached houses to the north, existing university buildings to the west and south.
Precast concrete plank floors and roof on masonry bearing walls; steel stud interior walls.
Major Materials

Exterior walls faced with plain and glazed brick; built-up roofing; expanded polystyrene insulation; steel casement and aluminum sliding windows; double glazed wire glass skylights in aluminum frames; carpeted floors, except end grain oak block in main lounge.

Mechanical System

Heating by fan coil units, using university hot water; provisions for future air conditions from central chiller.

Construction Costs

2,472,000 excluding furnishings and fees.

Sense of Community. The clustering of the units have a sense of identity of its own though well integrated into the existing neighborhood. The courtyard creates an area for common interaction.

Responsiveness to Context. The cluster is well integrated into the retail facades to the east and the scale of the detached houses to the north. It appears to respond to the general lifestyles of college students.
Thayer Street (South) Retail Street. The relationship of existing buildings to the street is continued with the new housing in scale and general visual appearance.

Maintenance. Maintenance over the courtyard could present a problem, but it is assumed that this will fall within the services of the university. The apparent sense of identity would tend to indicate responsibility among the students to this problem.

Security. Visual control over the courtyard seems adequate. Unseen places appear to be minimal.

Livability. The lack of private exterior space presents a problem which was obviously overlooked. There are a number of spaces in the courtyard which are ambiguous as to user as are the spaces inside the walls at Bowen Street (East site boundary) Sunlight and natural ventilation appear to be available to all units.

Flexibility. Single and double units offer a minimal amount of flexibility of lifestyle.

In summary, the solution to student housing, housing in an urban environment, and response to a complex context problem seems very successful.
<table>
<thead>
<tr>
<th>Project/Location</th>
<th>The Portals, Chicago, Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architect</td>
<td>Booth &amp; Nagle</td>
</tr>
<tr>
<td>Program</td>
<td>50 three bedroom apartments 75,000 sq. ft.</td>
</tr>
<tr>
<td>User</td>
<td>Middle Income</td>
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<tr>
<td>Site</td>
<td>0.94 acres 53 units/acre urban site</td>
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<tr>
<td>Structural System</td>
<td>Flat slab w/load bearing walls</td>
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<tr>
<td>Mechanical</td>
<td>Masonry exterior walls</td>
</tr>
<tr>
<td>Major Materials</td>
<td></td>
</tr>
<tr>
<td>Completion Date</td>
<td>1971</td>
</tr>
<tr>
<td>Construction Costs</td>
<td>$1,350,000 (open, on grade parking)</td>
</tr>
<tr>
<td></td>
<td>$18/s.f.</td>
</tr>
<tr>
<td></td>
<td>$27,000/unit</td>
</tr>
<tr>
<td>Financing</td>
<td>conventional</td>
</tr>
</tbody>
</table>

**Sense of Community.** The exterior corridors lack stoops at units. Corridors have ambiguous space as to maintenance responsibility and definition of public/private space. Though the courtyard permits ample vision over the premises, the number of units make it difficult to differentiate inhabitants from intruders.
Responsiveness to Context... The proposal is an alternative to the potential 206 unit high-rise allowable on the site. The neighborhood consists of townhouses and walk-ups. The inner courtyard is encircled in width (the required setback.) The architect concept van the courtyard as a symbol of an urban life-like sense of living in a compacted system with urban life. The compactness is well to the strong related dwelling/street relationship.

Kitschiness: The ambiguous exterior corridors are detrimental to maintenance. The large courtyard "belongs" to 86 units which is too many for a sense of responsibility. The units will be in need of potential problems of band-in-nature. Users are not citizens. Though the definition of user's definition is not clear, it is more than likely the choice to be in need.
Responsiveness to Context. The proposal is an alternative to the potential 206 unit high-rise allowable on the site. The neighborhood consists of townhouses and walk-ups. The inner courtyard is only 28 ft. in width (due to required setback.) The architects' concept was that the courtyard would become an urban mall (in symbolic form.) The "barracks" like massing and detailing does not support this. The tight spaces dictate few activities possible for the court which are associated symbolically with urban spaces. The complex responds well to the established dwelling/street relationship.

Maintenance. The ambiguous exterior corridors are detrimental to maintenance. The large courtyard "belongs" to 50 units which is too many for a sense of responsibility to be created. Since there is direct access to the units from the street, it is likely that the courtyard will be of little use as an entrance court.

Security. The potential problems of unseen inactive spaces are not evident. Though good definition of user space is evident at the street/court entries, the definition of space falls short at the court interior.

Flexibility. There is none. Though there is a choice of two unit sizes, the floor plans offer vertically the same layout. With three baths in a unit of approximately
1800 sq. ft. the users' profile is ambiguous. The units have a formal kitchen/dining/living room relationship and thus little choice is available for the user to define his life style.

**Child Supervision.** The three baths and three bedrooms would imply large families are anticipated but there are no private spaces for these families at the second level.

**Livability.** There are no designated exterior storage spaces. Private exterior space occurs only at the lower level units. Light penetration into the court could become a problem.
David's Plaza
Project/Location: Davids Plaza/Chicago, Illinois
Architect: Booth & Nagle
Program: Ten Town House Units
User: Upper Income/Middle Income
Site: 0.25 acre
Density: 40 units/acre plus an average 34,560 sq. ft. retail per acre. A vacant lot on the northmost part of the principal commercial street at Old Town, a well preserved late 19th century neighborhood of row houses mixed with shops and pubs on tree lined streets.

Structural System: Slab floors with masonry load bearing walls. The plaza level and shops are poured in place concrete.

Major Materials: Brick Exterior.

Sense of Community. The number of units permit easy recognition of neighbors and interaction in the entry court. The cluster management gives the complex a sense of visual
and spacial identity. The semi-private spaces (entries) are well defined.

Responsiveness to Context. Continuing the retail element at the street level (East boundary of the site) is a direct response to the immediate physical environment. The building height adjacent to the east elevation is continued into the apartment massing. The existing street line is maintained also.

Maintenance. Since all units are entered at the street (pedestrian court) trash removal and associated maintenance services can be carried out in a conventional manner. Each tenant has his own private entrance over which he is responsible. There are no undesignated spaces over which responsibility is ambiguous.

Security. The separation of public at the street level and private at the court yard/plaza level indicate security is well provided. There are no hidden places for intruders.

Flexibility. The 1200 sq. ft. dwelling units offer only one floor plan. The alley units have an exterior private space at the plaza level as well as the penthouse level. The kitchen/dining/living level is open. The interior of the unit seems to have an acceptable amount of built in flexibility.
Child Supervision. The terrace at the plaza level is in direct visual contact with the plaza.

Livability. Ample private exterior space and private entries at the plaza level provide good elements of livability. Exterior storage is also provided.
The Peninsular portion of the city of Charleston is a complex arrangement of places and people in need of work, recreation, goods and services. Its existing character has evolved out of human responses to numerous interrelated economic and social situations unique to this area.

Regardless of whether one regards change as being desirable or undesirable, the Peninsular will change from what it is today. In response to this, the city of Charleston and the Berkeley-Chesnre-Dorchester Regional Planning Council published the Preliminary Development Plan: Peninsular portion of the City in 1971. The information noted in this section is a reflection of assumptions and objectives found in that document. Basic assumptions to this study are:

1. The Peninsular has traditionally served as the major focal point of activity in this part of the state for cultural, governmental, medical and other professional services. This traditional image should be further enhanced with the development of a forthcoming major roadway improvement plan.

2. The predominantly white collar economy of the Peninsular portion of the city should continue to expand with its role as a regional trade and administrative center. A concentration of educational institutions of the college...
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2. The predominantly white collar economy of the Peninsular portion of the city should continue to expand with its role as a regional trade and administrative center. A concentration of educational institutions of the college
(especially post graduate) level and thus professional persons in the labor force should advance opportunities and services to new businesses.

3. With investment in the Peninsula, it should develop a favorable image as a good place to live and supplement that image with those educational facilities essential to employment opportunities. As the social and economic composition of its population becomes more diversified, the "livability" qualities of residential life will be enhanced.

3. Economic investment in the Peninsula is bound to initiate change in its character. The demand for space will rise, land values will increase and basic economics will promote high densities of development. Historic preservation programs will become more costly and their geographic expansion will be subjected to increased question in their terms of economic return to the region. Higher densities of residential development should also be expected to attract families of younger and older age groups with fewer children per household. Families with younger children may be expected to prefer areas of a lower density development outside the Peninsula.

The Preliminary Development Plan is not intended to concern itself with specific proposals for change, but rather with attitudes regarding change.
The general objectives of the Preliminary Development Plan are to:

Establish and promote a specific identity and character to functional areas of the Peninsula.

Insure the adequate areas of properly located land are available for required land uses.

Insure the efficient and economical use of land.

Insure that a variety of living patterns may be accommodated within each of the residential areas of the Peninsula.

Develop a system of in-town recreation areas to accommodate both passive and active recreational interests.

Preserve, enhance and promote the historic heritage of the Peninsula.

Enhance and capitalize upon waterfront settings.

Strengthen the Peninsula's role as the "core city" of a metropolitan region by:

a) expanding employment opportunities.

b) providing a major retail center of activity.

Provide a full range of required public services and facilities for all land areas.
Provide a safe, rapid and economic system for transporting people and goods within and through the Peninsula -- with due regard to the effect on transportation systems on land use.

Eliminate the following:

intermixes of incompatible land uses.
residential areas, and other districts of a size which is too small to economically justify the cost to the community of a complete range of urban services and facilities.
high density development in areas with no open space, no off-street parking and/or provided access by inadequate roadway systems.
areas of decay and obsolescence.
The peninsular portion of the city of Charleston consists of a population of 67,100 (1973) distributed over 18.3 sq. miles.

The following graph indicates that the Peninsula has been decreasing in population since the 1940's (W.W.II).

It should be emphasized that population increase or decrease is not of itself a measure of quality. Decreases in overcrowded areas and areas not conducive to residential life are a desirable change. The Preliminary Development Plan for the Peninsula was designed to accommodate a resident population ranging from 50,000 to 70,000 persons. In order to attain this population within designated
residential areas, higher densities of residential development will be required in some areas.

The following maps illustrate the density and density changes as recorded by the 1970 census.
LEGEND:

- MINUS 0.1 - 4.9%
- MINUS 5.0 - 9.9%
- MINUS 10.0 - 19.9%
- MINUS 20.0 - 29.9%
- MINUS 30.0 - 39.9%
- MINUS 40% OR MORE

The preparation of this map was financed in part through a comprehensive planning grant from the Department of Housing and Urban Development.


Peninsula - City of Charleston


By Census Tract.

Prepared by the Berkeley-Charleston-Dorchester Regional Planning Council.
1970 POPULATION BY BLOCK.


<table>
<thead>
<tr>
<th>PERSONS / ACRE</th>
<th>PERSONS / SQ. MILE</th>
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<td>10.0 - 19.9</td>
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<tr>
<td>70.0 - 79.9</td>
<td>64.000 - 70.284</td>
</tr>
</tbody>
</table>

SOURCE OF INFORMATION: 1970 U. S. CENSUS.
BASE MAP INFORMATION PROVIDED BY THE CHARLESTON COUNTY BOARD OF ASSESSMENT CONTROL.

THE PREPARATION OF THIS MAP WAS FINANCED IN PART THROUGH A COMPREHENSIVE PLANNING GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
Any new housing should be an integral part of a well-planned residential area and thus reflect the following assumptions.\(^7\)

Housing alone cannot provide for more than a small part of the total range of environmental factors which make residential life socially and psychologically pleasing.

The majority of every day residential needs may most efficiently and conveniently be provided for on a residential area basis, i.e., education, leisure time recreation, commercial convenience goods, public safety services, etc.

The geographic area of the Peninsula where community services are most varied and convenient, will be more attractive to residential use than more remote locations.

The following map indicates well-defined residential areas with proposed "Neighborhood Service Centers" which would provide: \(^8\)

- Elementary education
- Adult education
- Public health & welfare services
- Library services
- A polling place
NEIGHBORHOOD SERVICE CENTER

RESIDENTIAL AREAS
Recreation: indoor and outdoor, from pre-school to senior high; a neighborhood park, gymnasium and tennis courts.

A fire station

Despite the glamour and excitement of advanced concepts in transportation, it is expected that transit vehicles similar in operating characteristics to those of today (wheeled vehicles) will continue to provide the predominant form of mass transportation on the Peninsula.

The Peninsula is faced with the problem of the automobile -- its movement in the form of visual intrusion, the divisive and disruptive effect of heavy traffic flows, and increasing congestion, noise and atmospheric pollution.

The state proposed the Chats Plan (Charleston Area Transportation Study) in 1968 and it was adopted by the city as a means of solving Charleston's transportation problems. Due to public opposition (it ignored residential neighborhoods and historical dwellings) the plan has been implemented in fragmented phases and alternative plans.

According to the United States Census, there were 14,745 households located on the pensula in 1970. Of this number, 3,113 were of the multi-family apartment and condominium type.
In a 1976 survey, the Berkeley-Charleston-Dorchester Regional Planning Commission reported the following statistics for multi-family housing.\textsuperscript{9}

<table>
<thead>
<tr>
<th>Description</th>
<th>Total</th>
<th>% Vacant</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Non-subsidized apartments of garden, townhouse type (at least 2 stories)</td>
<td>763</td>
<td>.4</td>
</tr>
<tr>
<td>B. Subsidized multi-family</td>
<td>1737</td>
<td>.0</td>
</tr>
<tr>
<td>C. Condominiums and group sales</td>
<td>199</td>
<td>70.4%*</td>
</tr>
<tr>
<td>D. Duplexes and single floor row housing</td>
<td>214</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

*Vacancy rate is due to the recent completion of the projects.

The Preliminary Development Plan for the Peninsula assumes that most new housing will be of a higher density multi-family character. Less than 15\% of the housing within the Peninsula was constructed after W.W. II. As sub-standard housing is removed, it will be replaced with relatively small dwelling units (number of rooms) as is reflected in the following graph. Trends also indicate dwellings will be of the condominium type.
In recent years, Charleston has developed into an important state/regional medical center. The following constitute those institutions:

*Medical University Hospital 480 beds
*Roper Hospital 420 beds
*VA Hospital 431 beds
*Baker Memorial 57 beds
*Charleston County Hospital 172 beds
*McClennan Banks Memorial 31 beds
6th Naval District Hospital 500 beds
*Retarded Childrens Hospital
*3 Convalescent Homes
*Crippled Childrens Rehabilitation Center

*Located in the Peninsula.

Charleston has long been established as an educational center and boasts the following Colleges:

*The Citadel (3,050 students)
*Medical University (2,020 students)
*College of Charleston (4,562 students)
Baptist College (2,000 students)

*Located in the Peninsula.
GATEWAY DEVELOPMENT AREA

- Area could contain new and rehabilitated housing, light employment opportunities, and a community service center. Potential visitor/tourism center may also be located here.
- New development should be well landscaped with a "campus" like character.
- Area provides "entrance" into lower peninsula, should be clearly identified and visually improved.
- Community service center should relate to existing shopping facility and serve adjacent residential neighborhoods. Existing strong retail uses should be retained.
- Pedestrian movement should be encouraged. East and west through the area to adjacent neighborhoods and along King street.

UPPER KING STREET SHOPPING AREA

- Community shopping encouraged.
- Compactness of shopping district encouraged.
- King Street focus of activity and pedestrian movement. (Non-shopping auto movement discouraged, auto circulation, parking and pedestrian movement encouraged.)
- King Street plaza and streetscape improvements to unify the shopping street.
- Existing parking improved; better design, access and circulation.
- Pedestrian connection to shops made more convenient and attractive.

LOWER KING STREET SHOPPING AREA

- Shopping function encouraged with office, residential and other supportive uses on upper floors.
- King Street focus of retail development and pedestrian movement.
- Unified surface parking in rear of stores.
- King Street de-emphasized as auto corridor. (Sections may be converted to total pedestrian and/or transit usage.)
- Pedestrian connections encouraged to rear parking areas. Rear store entrances also encouraged.
- Consider development of small shops in larger buildings such as old granary and the penway building.
- Consider introduction of financial institutions along the shopping street. Encourage uses that extend activities into the evening hours.

ARCHDALE SQ. ANTIQUE DISTRICT

- Emphasize antique and specialty shops along King street.
- Engage residential units on upper floors.
- Provide joint-use parking in rear (commercial and residential).
- Pedestrian connections should be encouraged to unify parking areas in rear. Encourage landscaped arcades as pedestrian connections.
- King Street should be developed as a modified two-way street with curb parking on one side (short-term only).
- Encourage traffic treatment/King street frontage.
- Open street way provides a good linkage between meeting and King streets.

PREDOMINATING AREA

- Area provides potential for new housing and light employment opportunities. The future of area relates to role of existing rail lines.

MARION SQ DISTRICT

- Major employment and special service uses (office, library, institutional) should capture prominent site and accessible location.
- More active use of park and open space encouraged through design and active sponsorship.
- Joint use of parking encouraged.
- Strong pedestrian linkage needed to King Street district. Encourage east-west movement between Church Street area and Archdale-Sq district.

MARKET DISTRICT

- Encourage tourism-oriented uses (gourmet, entertainment, etc.) in existing buildings.
- Market St. and Market building should be focus of activity and pedestrian movement.
- Market should have visual and pedestrian movement at King St. and should create a linkage to the Cooper River.
- The Grand Cane Island.

MEETING ST. OFFICE/CULTURAL DISTRICT

- Office, institutional, cultural, hotel and housing activities encouraged with concern for tourist orientation.
- Meeting street maintained as a two-way made auto-capable walkable, linear landscape and street furniture to create a good pedestrian transit street.
Preservation and Restoration activities in the Peninsular city have resulted in:
the promotion of a national recognition (image) of Charleston.
a profitable economic income from tourism.
the creation of "prestige" office and residential areas.

The historic buildings, structures, objects and sites on the Peninsula represent the heritage of this part of the nation and should be preserved to the greatest extent possible for educational purposes. The beauty of a historic (or any other) setting involves the esthetic quality of all one sees in moving about, and this goes far beyond the design of individual architectural facades and signs.

The primary objective of Preservation and Restoration activities is to develop blocks and districts which clearly reflect the earlier total physical structure of the community.

The City of Charleston has recently been adopted by the concept development program proposed by the planning consultant firm of Barton-Aschman for the King Street sector of the historical district. As noted in the following maps, the plan proposes the following.
King Street should be de-emphasized as a vehicular street. The scale of the street is more conducive to pedestrian movement than vehicular.

The retail activity should be supplemented with residential development above the existing shops. Activities should be encouraged into the evening hours by introducing more diverse functional elements.

Restaurants and entertainment should be further encouraged in the Market Street area. (The Market is a pedestrian focal point in the historical district.)

More recently, the City has adopted a plan based on the Barton-Aschman plan for the development of the lower Peninsula. As indicated in the following chart, pairs of one way streets are to carry major traffic loads and King Street will be de-emphasized as a vehicular street.
Circulation
Commercial Revitalization Program

City Of Charleston
Barton – Aschman Associates, Inc.
Site Selection

The selection of the site discussed henceforth reflected the following attitudes:

Urban housing should be located to needs and amenities without dependence on the automobile, thus in an area which has a high density of diverse functions.

The housing should be located as close to existing residential development as possible.

The housing should offer amenities beyond those normally associated with urban living when possible.

Natural resources (waterfronts) and existing environments with a sense of identity and history - the historical district.

With this in mind and the overview of the previously discussed Bachman-Harbor Plan, the following site was chosen.

The site is a 2.1 acre tract certain tract bounded by the following:

East King Street 290 ft. frontage.
West Meeting Street 290 ft. frontage.
North Vacant department store (approximately 45 ft. high 250 ft. frontage to site. (Store located at King Street and wholesale/retail store approximately 10 ft., high - empty at Meeting Street.)
South Market Street two-lane, one way, west to east.

The Site
Site Selection

The selection of the site discussed henceforth reflect the following attitudes:

Urban housing should be located to needs and amenities without dependence on the automobile, thus in an area which has a high density of diverse functions.

The housing should be located as close to existing residential development as possible.

The housing should offer amenities beyond those normally associated with urban living when possible. Natural resources (waterfronts) and status environments (environments with a sense of identity and history -- the historical district.)

With this in mind and the overview of the previously discussed Aschman-Barton Plan, the following site was chosen.

The site is a 2.1 acre flat terrain tract bound by the following.

East King Street 200 ft. frontage.
West Meeting Street 200 ft. frontage.
North Vacant department store (approximately 45 ft. high 250 ft. frontage to site. (Store entry at King Street and wholesale/retail store approximately 30 ft. high - entry at Meeting Street.)
South Market Street two-lane, one way, west to east.
As seen in the previous map of the historical map, the neighborhood is abundant in cultural and entertainment facilities. Besides retail to the north and south, King Street offers neighbor services, shoe shops, groceries, hardware shops, drug stores, etc. (mainly below Market Street on King Street) east of the site in the Market area are numerous restaurants of varied appeal. Within five minutes walk of the site are numerous churches, the financial district (Broad Street) the College of Charleston, the Footlight Players Workshop, Dock Street Theatre, Gibbes Art Gallery, the Medical University (10 minutes) and the recreational areas -- Colonial Lake to the west and a waterfront park at Adgers Wharf to the East.

The site is defined by 400' of existing structures to the north which range from 15' to 40' high. The south boundary is Market Street. Market Street is one way east to west. The structures are Market Street (from King to Meeting) are marginal and can assured be subject to change. The site has 200' frontage on King Street to the west. King Street is the major retail area in the lower Peninsular. The East Boundary is Meeting Street, which is a major north-south circulation route in the Peninsular. Beyond Meeting Street to the east is the historical Slave Market. This area has recently developed as a major tourist center for shopping and dining.
The following restrictions are taken from the Historic Preservation Plan:

The site is classified as general business (which may include housing).

Building heights at Market Street and King Street are under Height District 50 which dictates the following:

- The maximum building height in this district should be fifty feet or three stories high, whichever is less.
- Within this district there should also be a minimum height of 25 feet.

These height restrictions extend 100' into the site. The remainder of the site may extend to 90' in height. No setbacks are permitted entrance and exit drives may not exceed forty feet in width and shall not be located closer than 15 feet to an intersection.
User Profile

The high cost of the 2.1 acre site - $900,000 - dictates not only high density but high return from sales. Thus, it can be logically determined that the users will be of the upper income group. From the previously discussed occupational characteristics of the Peninsular and through user profiles of similar projects within the city, the user can be expected to come from the following groups:

- Professionals from the numerous medical institutions.
- Professionals from the financial district.
- Personnel from the area colleges (faculty and administrative.)
- Retired persons.
- Long-time Charleston residents who have found it impractical to maintain large homes they no longer need (due to change in family structure.)

Furthermore, families can be expected to be small in number.
The high cost of the 2.1 acre site - $900,000 dictates not only high density but high return from sales. Thus, it can be logically determined that the user will be of the upper income group. From the previously discussed occupational characteristics of the Peninsular and through user profiles of similar projects within the city, the user can be expected to come from the following groups:

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Personnel from the area colleges (faculty and administrative.)

Retired persons.

Long time Charleston residents who have found it impractical to maintain large homes they no longer need (due to change in family structure.)

Furthermore, families can be expected to be small in number.
Though no market study was attempted to establish merit of ownership by inhabitant versus rental agreement, it is assumed ownership would be more advantageous not only from a financial view, but also from a neighborhood stabilization viewpoint. (Due to a likelihood of strong neighborhood identity, responsibility, and interaction.)

Proposed for development is the following:

66 townhouse and above retail walk-ups including:

25 tri-level townhouse (street) units of approximately 2,000 sq. ft. (There is a variation in floor plan of the units bounding Market Street and those on the internal re-design streets of the site.) Though basically two bedroom units, the units offer open flexible spaces that can be utilized as studies, libraries, or additional "guest" bedrooms.

17 concourse level town house units of approximately 1,700 sq. ft. The plans are developed as two bedroom units, but the flexible spaces allow alternative living, studio, library and sleeping areas. The lower level deck offers the flexibility of an open deck and/or a greenhouse as the season dictates.
24 above retail units. Though not fully developed as part of this project, the following can be assumed.

There exist an opportunity for shop owners to inhabit the unit above their shops. These units could have numerable variations in size and floor plan arrangements. These units might be considered for renter occupation (as opposed to ownership by the previously mentioned.)

Approximately 16,000 sq. ft. of retail space is programmed to be integrated with existing retail on King Street and the renewed retail activity developing on Market Street (in conjunction with tourism developing in the old "Market Area.") The shops can be expected to be specialty boutique shops in the middle to high price sales category. There exists the opportunity for some of the shops to have entrances from the interior of the complex as well as restaurants having cafe type areas inside the complex (at King Street.)

127 parking spaces provide almost two spaces per unit with limited visitor parking. Spaces are
assumed to be allocated and may be rented so that the number per unit may vary as to the needs of the residents.
Housing For The Historical District / Charleston, South Carolina

Submitted To: The Faculty Of The School Of Architecture, Clemson University As A Partial Requirement For The Degree Of Master Of Architecture / Robert Earl Epps
CONCOURSE LEVEL

LOWER PARKING


10. *Commercial Revitalization Program - Charleston, S.C.*
FOOTNOTES


2. *Another Chance For Housing: Low Rise Alternatives*, p. 13.


10. *Commercial Revitalization Program - Charleston, S.C.*
BIBLIOGRAPHY


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