CRAWFORD CENTER:
HOUSING FOR AN URBAN REVIVAL

THESIS PROPOSAL
JAMES P. MACK
AUGUST 17, 1978

COLLEGE OF ARCHITECTURE
BALL STATE UNIVERSITY
MUNCIE, INDIANA
The concept of this thesis developed from two major concerns. The first, on the macro scale, deals with the problem of a deteriorating central business district of a small city. The second issue deals specifically with the housing needs, both physical and psychological, of the senior citizen.

The proposal is designed to satisfy the needs of both of these issues; revitalizing the town and the people by integrating within the CBD, housing, new shops, offices, student housing, parking and a public meeting space. The town benefits from renewed business revenues and civic pride, as does the elderly individual from his proximity to physicians, stores, entertainment, and government offices.

Admittedly, the problems of urban neglect cannot be solved on an architectural level alone, but it can provide the initial confidence required to stem the exodus from our urban centers to satellite malls. It is not suggested that this project alone will revitalize the CBD of Crawfordsville, Indiana, but that it act as an inspiration to private developers and entrepreneurs.

The project specifically deals with the idea of community involvement as a method of discouraging senility and withdrawal in the senior citizen. Shared community facilities, apartment entrances, and dining room encourage interaction between the residents and local senior citizenry. The need for privacy is also acknowledged by private balconies and individual kitchen units which allow the residents to retain their autonomy. Even these so-called "private" balconies, however, discourage withdrawal by allowing the resident to "people watch" in the public space on the ground level below.

This study investigated the compatibility of elderly housing and urban environment on purely an academic level, but I feel that the results warrant additional study and development. The needs of the senior citizen can best be provided in an urban environment and the city, in turn, can benefit from the introduction of a full time residential community and its accompanying economic advantages.
I wish to thank the following people for their invaluable help and guidance during completion of this thesis:

FACULTY:  Mr. Paul Laseau AIA - Studio Critic
          Mr. Anthony Costello AIA
          Mr. Stanley Adams AIA
          Mr. Allan Wallace AIA
          Mr. Jack Wyman AIA
          Mr. Omar Faruque ASLA

ADVISORS: Mr. Charles Akers AIA
          Mr. Steven Akers AIA
          Mr. Timothy Gagen - City Planner
          Crawfordsville, Indiana
          Ms. Rita Hamm - Director
          Park & Recreation
          Crawfordsville, Indiana
          Mr. G. Dreyer - Director
          Crawfordsville Housing Authority
          Crawfordsville, Indiana
## CONTENTS

1  **INTRODUCTION**  
   - BACKGROUND 1  
   - PROPOSAL 1  
   - DESIGN GOALS 2

2  **PROGRAM**  
   - BUILDING TYPES 7  
   - SITE ANALYSIS 15  
   - SPACIAL REQUIREMENTS 26

3  **PRELIMINARY CONCEPTS**  
   - CONCEPT A 33  
   - CONCEPT B 37  
   - CONCEPT C 40

4  **DESIGN DEVELOPMENT**  
   - SCHEME ONE 44  
   - SCHEME TWO 53  
   - FINAL SCHEME 64

5  **CONCLUSION**  

6  **APPENDIX**  
   - BIBLIOGRAPHY A1  
   - ORIGINAL QUANTITIES A2  
   - REVISED QUANTITIES A3
BACKGROUND

The development of Crawford Center was the final outcome of a concern much more important than a single elderly housing project. It is a project directed at the most serious problem facing the American city — urban neglect.

The five functions included within the project context are tailored to combat specific problems of deterioration in the central business district of Crawfordsville, Indiana. Crawfordsville is located in the western half of the north-central portion of the state and is the seat of Montgomery County. (see map) It has a population of 16,000 people within the city limits and 6,000 other residents within the county.

The project introduces housing and other ancillary facilities to the CBD in an attempt to stem the tide of businesses which are leaving the city to take up residence at the satellite malls on the outskirts of town. This migration is becoming increasingly more evident as many 19th century landmarks give way to the wrecking ball and inevitably become parking lots. Crawfordsville, unlike many other municipalities, still has a viable downtown area. It is, however, fading fast due to a number of recently opened malls appealing to an automobile oriented society. Some of the more positive characteristics of the CBD is the existence of a large number of finely detailed 19th century buildings and a strong downtown merchant's association.

PROPOSAL

The proposal is to locate housing and other ancillary facilities in the heart of the central business district on the block of the existing Montgomery County courthouse. The intention is to retain the existing courthouse building, a fine example of Second Empire style. In addition to the courthouse, the central block shall include housing, commercial space, a large public space and an addition to the existing courthouse building to allow concentration of several agencies thus far dispersed throughout the city because of limited space. Also to be included in the master plan is the introduction of a parking structure to ease the existing and future parking problem which is bound to worsen with the addition of full-time downtown residents.

When initially developing the general concept of this thesis it had been the intention to inhabit the new complex with elderly people and married students attending nearby Wabash College. These two age groups could be ideal for an urban housing scheme, since both could likely do without the use of a car in their daily routine. The concept was to allow each to occupy separate wings of living quarters and provide certain common areas for interaction within the age groups. This interaction, it was felt, would be beneficial to both age groups and create a stimulating atmosphere in which to live.
Unfortunately, after further study it was determined that there was neither room on site nor sufficient commonality between the groups, since the students would most likely spend their socializing hours on and around the campus. At this point, it was decided that the students should be located offsite, although still in the CBD, in renovated upper floor apartments.

The client sponsoring the project is the city of Crawfordsville which would benefit in numerous ways from the addition of this urban revitalization project. Some of these benefits are: increased tax revenues from new and enlarged businesses in the downtown; creation of direly needed housing for senior citizens; and a renewed civic awareness of their architectural heritage.

The major funding for the project will probably come from federal housing agencies; but because of the multi-purpose definition of the facility, complete funding is unlikely. A popular federal funding ratio in such cases has been a 90% / 10% division with the remainder of the cost being absorbed by the state or local government.

In the final outcome, however, the facility should be able to absorb the cost as a long term financial commitment.

The design project from this point consists of the following elements:

1. elderly housing
2. public space
3. commercial space
4. courthouse annex
5. parking structure

ELDERLY HOUSING: The project should be designed to fit into the aesthetic fabric of a 19th century midwestern town. The quality of older buildings and conservative temperament of the people would reject the intrusion of a modernistic structure in their midst. The existing building scale limits the complex to a maximum of 4 stories; utilizing a much smaller floor-to-ceiling height than the existing 3 story older structures.

The philosophy of community involvement as a deterrent to senility is the major theme of the complex. Spaces for community gathering, socializing, and classroom instruction should be provided. The elderly center shall be utilized as a meeting place for elderly throughout the county and shall provide space and activities to encourage involvement and self-improvement in the senior citizen.

The complex should also include "neighborhood" lounges for small gatherings of residents which might encourage friendships and involvement. Use of localized services, shared entryways and acknowledgement of geriatric disabilities might also contribute indirectly to discouraging withdrawal and senility in the older adult.
Privacy is also an important human requirement and should be provided for in numerous ways. People should have the ability to be alone when they desire and remain independent. Use of small kitchen units with oven, stove, sink and refrigerator has become popular in many retirement villages, even those with a central dining service, as planned for this complex. The unit allows the resident to retain a sense of independence whether he wishes to entertain friends or be alone. The existence of private terraces is another method of allowing the individual his privacy without cutting him off, visually, from his "neighborhood".

Many people enjoy individual forms of self-betterment such as gardening or recreation and these also should be encouraged.

One aspect of housing not yet discussed is the conflict of locating a housing project in the heart of a business district. The public nature of a business district and semi-public character of a multi-unit housing project is in conflict with both individual requirements. This conflict shall need to be solved architecturally if the housing and the commercial areas, respectively, shall be considered successful schemes.

PUBLIC SPACE: The public space will provide an oasis in the heart of the city where public assemblies, concerts, temporary exhibitions and relaxation can take place. The atmosphere should be parklike and offer relief from the hard surfaces and lack of vegetation found in the downtown area. It should be surrounded by new commercial establishments which should relate directly to the space, to assure an active, bustling atmosphere.

The semi-public nature of the housing surrounding the public space should be designed such that people do not feel that they are intruding upon the residents when they enter it. This effect would be disastrous and eliminate the majority of patrons for which it was intended.

The most likely method of separating housing from public space is a change of level similar to the Roman Piazza Nobile, where the living quarters of the family were located on the second floor; service functions taking place on the ground floor. This form of separation would be ideal in several respects; the housing would not be a pervasive influence upon the public space, and the elderly housing residents would occupy an excellent vantage point for "people-watching" in their idle hours.
COMMERCIAL SPACE: The speculative commercial space in the new facility will most likely occupy the ground level of the building. It should relate to the street as it's neighbors do, and also to the new public space. The double exposure should increase the volume of business in the shops and the public space as well.

Service for the building provides a special type of problem; since the site is in the very heart of the CBD there should be no back side to the building and as little as possible of valuable commercial space should be turned over to service.

Much of the popularity of modern malls can be attributed to the ability of shoppers to browse from shop to shop without worrying about the weather and bulky clothing. Ideally, this concept could be extended to this urban project to improve business during inclement parts of the year. At the very least, building overhangs or canopies might be used to protect the shopper from the sun and rain.

COURT HOUSE ANNEX: The court house addition is intended to provide additional office space for municipal and county agencies presently located throughout the city because of a spatial shortage in the existing court house.

It should be noted that although a shortage of space exists in the court house, it is largely due to the inappropriate allocation of space, rather than a shortage of it. A building study ordered to project future spacial needs suggested that the required square footage is only slightly larger than the existing building provides.

The court house annex, therefore, shall house agencies that deal with the senior citizen; such as social security and the Crawfordsville Housing Authority which directs rent supplements. The Housing Authority will also administrate the operation of the entire new complex and be responsible for keeping the commercial and residential spaces filled.

The alleged spatial shortage present in the existing building can most likely be eliminated by the utilization of the present attic which currently is occupied by only a caretaker's apartment. The renovation of the existing court house, however, extends beyond the scope of this thesis and shall not obtain an in-depth investigation.

1. Elston Bank Spatial Study-Henry G. Meir AIA
The problem of making a physical connection to the existing Second Empire style building is one that will need considerable study. The alternatives appear to be numerous; imitation, emulation, or complete disregard for the existing, being the obvious choices.

PARKING FACILITY: The proposed parking facility shall serve a dual purpose; it shall provide long term parking for CBD residents with a car and also be used as a major parking area for downtown shoppers and employees.

The amount of parking spaces available is inadequate with the present amount of business and the new facility is needed to absorb some of this as well as future parking considerations. The planning commission suggests that a structure of approximately 200 spaces would eliminate the present congestion.

Since many of the residents will not have cars, nor will they need them, resident parking spaces will be rented exclusive of the apartment. Of the approximately 120 downtown apartments, probably 2/3 rds shall have cars. The allotment of 100 spaces for resident parking should allow for this, plus overflow parking when it is needed.

Although the parking structure is an integral part of the overall plan of this project, time does not permit the actual design of the facility. The capacity has been determined and square footage requirements reveal that there is room for the structure on the vacant 1/4 block east of the site.

2. 1967 Planning Study
Crawfordsville Planning Commission
OVERALL GOALS: It was accepted in the formulation of this thesis that a high degree of refinement could not be obtained because of the relatively short period of nine months available for its completion.

On a macro scale, it would have been desirable to extend the revitalization much more comprehensively. Renovated apartments and commercial spaces, urban landscaping, facade restoration, and store signage are only several of the issues I would have desired to explore. The design project itself has only scratched the surface of righting the wrongs committed against our cities.

On a micro scale, I feel that the problems of urban elderly housing are definitely worth exploring. The diversity of social, professional, and commercial concerns offered by a city make it an obvious advantage for the senior citizen, with or without a car.

The goals I have set for this project are more humanistic than they are architectural. It is hoped that by understanding the psychological and physical needs of the senior citizen, that architecture can assist them in leading rewarding and productive lives. It is important that the designer understand his client and offer him alternatives that allow him to express his individuality.

Even the design project, because of its size, will not obtain a high degree of comprehensive refinement. The majority of time will, of necessity, be concerned with the basic layout of spaces and will not be as concerned with other important elements such as texture and color; items of considerable importance to people with failing senses.

I do not feel the project a failure because of its lack of comprehensive development; many projects never go beyond this level of understanding, and many succeed due to lucky breaks. I feel that the project will be successful if I can open my eyes and other's to the damage that lack of sensitivity can cause in the elderly citizen.
For the purpose of determining desirable characteristics to be included in the design project, a study was undertaken of facilities of similar function. Unfortunately, few examples of urban housing worthy of study are in existence and even fewer exist which incorporate functions such as are to be dealt with in this project.

The method undertaken was to analyze several different types of housing, including student dormitories, urban housing and suburban elderly housing, and obtain applicable points of information that might be significant to this project. None of the projects are comprehensive, but were selected because of a particularly desirable attribute which each possessed.
This corridor in a Finnish old age home is a most unusual articulation. Gathering nodes located in a single loaded corridor scheme promote interaction in an otherwise transitory space. In addition, they provide visual relief from the monotony of the corridor and small living quarters.

C. M. Sappenfield, Dean
College of Architecture and Planning
Ball State University
CENTERVILLE COURT: by architects Scheicher & Soper, North Syracuse, New York, is a publicly-aided elderly housing project which takes the form of a middle class condominium neighborhood. Actually made up of 4 smaller neighborhoods, each relates to a common community center which is the focal point of activities.

I believe the concept of smaller neighborhood units is an excellent one for reducing the scale of such a project; 152 units are all located on a 14 acre site.

People can relate better to the smaller group, while a centralized congregating space provides for interaction on a macro scale.

In an urban scheme, units might be clustered around semi-public courtyards or interior lounges. Those neighborhood units could relate to a larger scale community space which provides for maximum interaction.

NEIGHBORHOOD GROUPINGS:

House and Home Magazine, May, 1974
This Government Retirement Center in Finland displays an excellent method of integrating two separate communities under one roof.

In this particular case, ambulatory retirees are separated from sickly ones by a common lobby area. This lobby offers the additional benefit of having a view and being adjacent to the entryways, characteristics not obtainable in any other location in the building. These benefits act as an additional incentive for the residents to utilize the space, thus, indirectly promoting social interaction.

C. M. Sappenfield, Dean
College of Architecture & Planning
Ball State University
EASTFIELDS: by architects B. Ward and P. J. Whittle, represents London's answer to low-rise housing of heavy density. Limited to 3 stories, the scheme is broken into neighborhood spaces which in turn relate to a large public space.

I believe the sub-courtyards and service entries work extremely well to break down scale in this scheme.

The success of the project lies, not necessarily in the architecture, but in the handling of common space. These spaces psychologically promote a common sense of ownership, yet also allow for interaction within the larger community.

The Architect's Journal, January 23, 1974
This anonymous Finnish high rise has an unusual combination of functions; elderly and student housing. The upper floors offer an excellent vantage point for the elderly residents who enjoy "people watching". The more transient students occupy the lower stories.

The unfortunate problem with the design is that the floor level lobby acts as only a brief transitional space and does not encourage interaction between the two age groups; they might as well live in separate buildings.

C. M. Sappenfield, Dean
College of Architecture & Planning
Ball State University
THE BOWMAN COLLEGE DORMS, by Design Five Maine Inc., utilize some unusual design requirements which combine to make this complex unique.

The complex resembles a chalet proto-type so that they might be individually rented during the summer.

Exterior socializing takes place on a public boardwalk that is separated from the units by a semi-public terrace which is at a different level. The interior is completely private and contains individual bath and laundry facilities.

I find this gradation of private, semi-public and public space very successful and could be applied to a scheme that requires urban housing to be adjacent to a public space.

House & Home, May 1974
CONCLUSIONS

The examples discussed in this building type study were by no means comprehensive. The examples depicted had various characteristics that might be applied to the most pressing design challenge of this thesis; the integration of elderly housing into a public market place.

A summary of design goals obtained from this study is as follows:

1. Differentiation must be made between public and residential areas via change of level, architectural barriers, etc.

2. When a large degree of social interaction is desired, it should be planned at the neighborhood level as well as at the macro community. This neighborhood level may take many forms including shared apartment entries, laundry rooms, lounges, etc.

3. Apartment windows and terraces should ideally be located at upper vantage points for view and privacy from the ground.

4. The community facilities should offer additional benefits for people utilizing the spaces besides social interaction. Some of these benefits might include a view, exterior space, etc.
The city of Crawfordsville, seat of Montgomery County, lies approximately 40 miles northwest of Indianapolis, the geographical center of the state. The largest cities of any consequence nearby are Indianapolis and Lafayette, located 30 miles to the north. This places residents of the city and county in a highly dependent position upon the social and commercial offerings of the city of Crawfordsville.

The present social and commercial offerings of Crawfordsville are somewhat limited in comparison with larger cities. Local merchants and businessmen have cautiously avoided making any large investments in deference to the tentative nature of the central business district. The major thrust of local entertainment takes several forms including: movie theaters, restaurants, high school and college athletic events, and occasional dramatic performances presented by Wabash College. Many citizens have accepted the attitude that "an evening out" means driving to Indianapolis or Lafayette. It is this attitude that renewed interest in the downtown is intended to alter.

As previously stated, the project site is located in the heart of the CBD, on the block of the existing county courthouse. The block is zoned B-1 and is bordered by Market Street on the north, Green, Main and Washington Streets on the east, south and west, respectively.

Future growth in the downtown will take place to the north along the State Road 431 Bypass that will soon be completed.

The most active commercial areas in the downtown are located on Main and Washington Streets and this should be a major determinate of the public space design.

The central business district contains the majority of social, professional, and commercial establishments that the elderly resident shall require; all within walking distance of the building site.
The final building program went through a dramatic change during the process of the design. The total amount of residential units was reduced and limited to elderly; not students as had been originally planned. The amount of community areas also increased with the project scope, as it had become a center for elderly residents and townspeople. The public courtyard became an urban place, as opposed to a naturalistic park; and what was once speculative office space became solely a court house annex. The program evolved along with the design to what is believed to be the most efficient utilization of space to obtain the desired urban regeneration.

The following pages illustrate a breakdown of the five project functions and their qualitative divisions.
4. **NEIGHBORHOOD LOUNGES:** Neighborhood lounges shall be located in different wings of the residential complex for the purpose of allowing neighbors to socialize in small groups. The lounges are intended to provide space for games, meetings, and simple conversation. The feeling of group ownership that the lounges will provide may eliminate maintenance and theft problems inherent in many urban housing schemes.

5. **GREENHOUSE:** A greenhouse will be located within the facility to provide year-round gardening instruction and insure greenery throughout the complex. A garden club might take responsibility for growing and caring for the plantings dispersed throughout the project.

6. **LIBRARY:** To provide a passive form of recreation and entertainment, the facility will include space for a library in a more isolated section of the building. The room may also double as a board room for private meetings.

**SERVICE FUNCTIONS**

1. **RESIDENTIAL MANAGEMENT:** The management of the entire new facility will be a division office of the Crawfordsville Housing Authority. The office shall be located in the lobby of the housing complex. It's responsibilities shall include rent collection, filling of commercial and residential vacancies, and security precautions in the facility, together with maintenance and janitorial service.

2. **RESIDENTIAL STORAGE:** Because of spatial constraints associated with apartment living, additional storage space will be provided. Each apartment will be allocated a storage recepticle in a central location in the basement. This location shall be available at all times to the resident.

3. **LAUNDRY FACILITIES:** To avoid long traveling distances, yet avoid the expense of individual units, several laundry facilities will be available on each floor. These shared facilities will also have the effect of further promoting social interaction among neighbors.

Space shall also be provided for outdoor clothes drying in a common area. This will prevent the unsightly view from below of clothing hanging on individual balconies.
4. **VENDING ROOMS**: Space shall be provided on each floor for the inclusion of vending machines. These objects may prove to be very popular between meals, especially with the single population.

5. **KITCHEN**: The dining room shall be serviced by a full scale kitchen which will be responsible for preparing the food for approximately 200 diners. In addition to the food preparation area, the kitchen shall require management offices and a service elevator. Special care shall be taken to avoid noise and vibration traveling through the structure to the housing.

**OUTDOOR SPACE**

1. **ACTIVITY TERRACE**: To provide recreational space for fun and interaction, an exterior space will be planned. It will supply such activities as bocci, horseshoes and flower gardening, as well as space for many impromptu activities. A close relationship to the public space is a desirable station point for this function.

2. **GARDEN PLOTS**: Space for residents enjoying gardening shall be available upon the rooftop. This shall require special handling of plumbing and air conditioning vents to avoid dangerous and space-consuming obstructions. An area to withdraw from the sun is also desirable to avoid sun stroke and heat exhaustion.
1. **THE APARTMENT**: The interior apartment is the only space of private nature within the building. It should offer the resident the complete freedom of being alone or with company.

The privacy and independence of the individual is enhanced by including such items as kitchen units and private balconies within the unit.

This concept of privacy must also be extended to sound transmission through walls and ceilings. The common walls, ceilings and floors must be sound insulated to an STC rating of 45.

A one bedroom unit was chosen to be used throughout because of its overall popularity with the elderly. Westminster Village in Muncie, Indiana, has discontinued studio apartments due to lack of demand and replaced them with one bedroom units.

Two bedroom units, it was felt, would be uneconomical and provide problems fitting within the structural bay.

An additional feature of the apartments is the consideration of handicapped individuals in its design.

1. **AMPHI-THEATER**: To provide the public space with an area for exterior concerts and speakers, an amphi-theater is planned to be an integral part of the space. The amphi-theater may also be utilized by senior citizen groups for pageants and shows, or as seating in inactive times.

2. **PASSIVE RECREATION SPACE**: A large seating area should be located upon the public space. This seating area could either remain autonomous, to be used for reading and outdoor lunches, or be used as an overflow from the amphi-theater when large crowds gather.

3. **EXTERIOR PLAYGROUND**: A Day Care Center is planned for the new facility to care for children while parents work or shop in the downtown. An exterior playground connected with the facility can provide a dynamic atmosphere in the public space and provide entertainment for the elderly who assist or live nearby. Care must be taken to separate the playground from the public space to prohibit the children from wandering off. It should also be located in a sunny area to allow for their greatest comfort.

4. **OUTDOOR DINING**: Outdoor dining also has the characteristic of creating a dynamic atmosphere in a space. This area is zoned apart but visually connected to the public space. It is an exterior expression of the new restaurant function which is to be located in the basement of the existing courthouse.

1. SPECULATIVE COMMERCIAL SPACE: The commercial space shall occupy the lucrative ground floor positions and relate to the street and public meeting space. It is not within the scope of this thesis to determine acceptable tenants for the project, but considerable thought should be given for their ability to serve the CBD residents and insure a high draw of local shoppers.

2. DELIVERY SERVICE: Because of the centralized nature of the building site, no "backside" will be available from which to service the building. A common delivery point shall be required for all shops from which merchandise shall be dispersed to the shops via a service corridor.

3. STORAGE ROOMS: Individual storage space will be required by each shop for storage of merchandise.

4. REST ROOMS AND OFFICE: Each commercial space shall be equipped with an office and public rest rooms. In the event that the establishment does not require an office or utilizes two or more rental bays, the space may be utilized for additional showroom space.

5. MAINTENANCE STORAGE: Space shall be made available on the ground level for a maintenance storage area. The responsibilities of the maintenance department shall include the public space, commercial space and residential areas.

THE INDETERMINATE NATURE OF THE EXISTING SPATIAL AVAILABILITY IN THE PRESENT COURTHOUSE MAKES IT DIFFICULT TO ANALYZE FUTURE REQUIRED SPATIAL NEEDS. AS STATED WITHIN THE DESIGN GOALS, A GREAT DEAL OF SPACE CAN BE REMODELED IN THE COURTHOUSE ATTIC TO PROVIDE ROOM FOR MANY AGENCIES WITH A HOUSING SHORTAGE.

The courthouse addition, therefore, provides space for agencies currently displaced, that have responsibilities dealing with public exposure; specifically with the elderly.

1. SOCIAL SECURITY DIVISION: The new addition shall provide space for this vital elderly function which now occupies an isolated building several miles from town.

2. HOUSING AUTHORITY: The Housing Authority has responsibilities which include disbursement of monthly subsidization checks for individuals of lower income. Since the elderly represent the largest group of lower income individuals, this office can best serve its clients in a centralized location.

This particular housing authority also has the responsibility of managing this new facility and can best fulfill its function in a close proximity.*

*The responsibility of managing a public housing facility has already been successfully experimented with by the New Castle, Indiana Housing Authority.
3. COUNTY CLERK'S OFFICE: The office of the county clerk is one of the most publically oriented courthouse functions. It was determined during the design process that certain existing offices were to be displaced by the connection to the new addition. The present county clerk's office fell in this position and it was felt could best serve the public in a new, more prominent location in the new building.

4. LOBBY: A general lobby function absent in the existing courthouse is included in the new addition. An Information Office, Directory Information, rest rooms and general seating are required to better serve residents with official business.

The following lists an abbreviated summary of square footages in the final project. The allotments are summarized for the main facility divisions to allow the reader to sense the overall scale of the project. A more comprehensive listing of the original and final program can be seen in the appendix.

<table>
<thead>
<tr>
<th>Description</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPREHENSIVE SITE AREA</td>
<td>133,225 sq. ft.</td>
</tr>
<tr>
<td>Housing Project</td>
<td>83,100 sq. ft.</td>
</tr>
<tr>
<td>Commercial space</td>
<td>53,350 sq. ft.</td>
</tr>
<tr>
<td>Governmental space</td>
<td>11,000 sq. ft.</td>
</tr>
<tr>
<td>Parking Structure</td>
<td>90,000 sq. ft.</td>
</tr>
<tr>
<td>TOTAL PROJECT SIZE</td>
<td>237,450 sq. ft.</td>
</tr>
</tbody>
</table>

FINIAL GROUND LEVEL OPEN SPACE TO BUILDING RATIO:

<table>
<thead>
<tr>
<th>Description</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Area:</td>
<td>42,900 sq. ft.</td>
</tr>
<tr>
<td>Open Area:</td>
<td>90,325 sq. ft.</td>
</tr>
</tbody>
</table>
UNIT RELATIONSHIPS
PRELIMINARY CONCEPTS
CONCEPTS

In the beginning of the design process several schemes were investigated for their applicability in this particular situation. All three schemes located elderly and married student housing on site. It was not until later in the design development that it was determined the students would be better located offsite; also in the downtown.

As in the beginning of every design project, these schematics represent immature concepts that can develop only with the expenditure of time and investigation. An adaption of these preliminary schemes was deemed worthy of further investigation.

The following pages describe the original three concepts, their advantages and disadvantages.
CONCEPT A

This scheme utilizes a single large public space. The space is surrounded on the periphery by separate elderly and student housing units and office space which is connected to the existing courthouse. Retail space is located also on the periphery, on ground level, and is oriented to both the public space and street. The parking is located underground and will be serviced on the avenue of least traffic volume, Green Street. Recreation for housing residents is located on the rooftop.

ADVANTAGES:

1. Good orientation of public space to main pedestrian flow on Main and Washington Streets.

2. Good separation of housing from public space.

3. Good orientation of shops for greatest commercial exposure.

4. Good screening of vehicular traffic and noise.

5. Good location of community facility for service and pedestrian dropoff.

6. Good relationship of offices to courthouse.

DISADVANTAGES:

1. Bad relationship of exterior recreation area to public space on ground level.

2. Weak relationship of student and elderly housing.

3. Expensive and limited parking solution for a city with relatively low land costs.

4. Weak relationship to existing courthouse.
CONCEPT B

This scheme is based upon the development of 2 plaza spaces; one semi-public, and one public. The semi-public space is oriented to the housing complex and is surrounded on ground level by externally oriented shops. The public space also is surrounded by shops on the ground level and is extended visually across Green Street to a detached parking structure. The office space occupies the southern part of the site and has shops located on the ground level.

ADVANTAGES:

1. Acknowledgement of need for semi-public exterior space for residents.

2. Good separation of elderly and student housing for desired interaction.

3. Economical solution to parking situation.

4. Good relationship of offices to courthouse.

5. Good shielding of housing from noise and traffic.

DISADVANTAGES:

1. Questionable location of community function for service and vehicular dropoff.

2. Broken visual effect of public space.

3. Failure of majority of shops to orient to street and public space.

4. Questionable success of the scale of the semi-public space to act as an exterior recreation area.

5. Failure of elderly housing to relate to an active public space.
The main concepts of this scheme are the existence of a single large public space and the development of a second level pedestrian street throughout the CBD. The elderly and student housing are separated by a common community facility. Commercial space is available throughout the ground level and on the second level, below the student housing. This scheme also utilizes a detached parking structure to eliminate the parking congestion. Office space, as in the other schemes, occupies the upper floors of an addition to the courthouse.

**ADVANTAGES:**

1. Good zoning separation of housing from public space.

2. Maximum exposure for new and existing commercial areas by the development of second level storage and vacant space.

3. Good separation of student and elderly housing by community facility.

**DISADVANTAGES:**

1. Lack of a ground level lobby to act as a formal entrance to the residential facility and also as an overseer of service functions.

2. The community facility's location on Market Street is questionable for vehicular dropoff and service accessibility.

3. Lack of a grand entrance to the public space on the most active pedestrian avenue, Main Street.

4. Weak relationship of exterior recreation and public space.

5. Lack of a single orienting view for the elderly apartments.

6. High cost and impracticality of a second level scheme in a small city which still has ground level commercial space available.
Circulation Parti

Rooftop Recreation

Elderly

Community Facilities

Student Housing

Shops

Aerial Walkway

Existing Block

Section C
The initial inspection of all of these schemes uncovered a great many problems as well as advantages inherent in each. It was felt that none of these initial concepts succeeded in accomplishing the design goals in their present state. In addition, further study at this point revealed that spatial and tempermental requirements pointed to the removal of the married student housing from the site; and from the design program. Therefore, the scheme selected for further development was a combination of what is believed to have been the best points of the original three concepts, now applied to only elderly residents.
DESIGN DEVELOPMENT 4
INTRODUCTION

It was stated in the conclusion of the schematic design process that the scheme deemed worthy of further development was a combination of the best points of the original three concepts. This collage of information, however, is not a refined design in itself and simply served as a point of departure for further development.

The next three presentations represent the developments and refinements which the project was subjected to over a period of approximately 4 months. It was expressed in the Design Goals that a great deal of comprehensive development would not be possible in the short period of time available, considering the size of the project. The refinement that was obtained, however, speaks for itself as to the validity of the project.

SCHEME ONE

This scheme utilizes the concept of a single large public courtyard around which commercial, residential and court house functions are organized. The entire ground floor, with the exception of the housing lobby, is occupied by commercial establishments which orient to the courtyard and exterior street.

The change of level within the shops, and unobstructed showroom areas are intended to encourage people to browse through the shops and eventually be drawn into the courtyard. Rest rooms and offices for the shops are located at an intermediate level between the showroom and basement storage room. This intermediate level can also provide for future expansion of the individual shop.

Service for the commercial spaces and housing project takes place at the basement level where delivery trucks unload. Merchandise is temporarily stored at the unloading dock and then distributed to the storerooms of individual shops. This elaborate delivery scheme was necessary to avoid an unsightly "backside" of the building, since the building occupies the nucleus of the CBD.

The courtyard is lowered approximately 5 feet from the street level to lower the scale of the new building and provide the opportunity of being able to look down into the space from street level. The majority of non-traffic areas are covered by natural forms of ground cover and berms which is intended to offer relief from hard surfaces and concrete.
The exterior playground is located out of the mainstream of activities to allow for careful supervision of the inquisitive youngsters.

The housing facility occupies the upper three floors of the building with the exception of the western second and third floors which is occupied by courthouse functions. The apartment units have private terraces which are all oriented inwardly to overlook the courtyard. Their entrances open off the single loaded corridor on the building perimeter which periodically steps back to provide shared entryways. Service facilities and community spaces are provided at the corners of the building and directly over the lobby, where classrooms, cafeteria, and reception hall are located. The pedestrian street located at the second floor level provides access to the residential activity terrace, as well as providing additional privacy for the second level terraces and protection from the elements for shoppers below.

The courthouse addition occupies the Washington Street exposure of the second and third floor. It has a secondary entrance that includes a small reception function on the second floor. The courtyard side of the building has an exterior deck which is elevated several feet higher than the activity terrace it overlooks, to provide a differentiation between the spaces.

PROBLEMS TO BE RESOLVED:

1. The "park-like" setting suggested for the courtyard is unrealistically natural. The soft surfaces provided can neither fulfill the need for display and meeting space, nor withstand the high concentration of traffic it will bear.

2. The location of residential lobby on Market Street does not provide an inactive area for passenger dropoff; nor supervision of the maintenance and delivery areas.

3. The courtyard makes no effort to acknowledge the existing courthouse and involve it within the design scheme.

4. The exterior playground lies in a good position for supervision purposes but the shadow of the activity terrace above causes it to lie largely in shade for the majority of the day.

5. The location of the library within the first floor lobby places it in a position susceptible to many distractions.

6. The position of the courthouse addition requires readjustment to avoid the public and courthouse employees overlooking the semi-public activity terrace.

7. The secondary courthouse entrance provided by the new addition is weak and would have a difficult time drawing people to the second level.
8. The two bedroom units located near the corners of the housing levels do not obtain a view commensurate with the increased rent they would be paying. The two bed unit also creates a problem fitting within the strict 40 X 25 foot apartment bay.

9. The cafeteria shall require a much larger dining and kitchen facility to service 200 patrons.

10. The location of the reception hall on the fourth floor is acceptable only because of the view it will provide; the zoning problems it will cause, however, are not worth the expense of allowing a public function to intrude upon the housing.

11. The elevations of the exterior building have not been developed.
At this point in the design process, Major changes were still taking place. Many of the unresolved pieces of the first scheme were highly important to the success of the project and needed to be approached in this phase.

The major points of development since scheme one are:

1. The theme of the public courtyard changed from a park to an urban space which includes active and passive recreation areas.

2. The basement of the existing courthouse was developed as a fine restaurant which features outdoor dining. This feature is intended to make the courthouse an active participant in the design scheme.

3. The lobby and many other community functions were moved from the north to east part of the site; to allow for a vehicular dropoff on a street with a much lower traffic volume.

4. The playground was raised 1/2 level above the courtyard to allow light to penetrate throughout the day.

5. The courthouse addition was moved to the southern part of the site to allow it a more direct connection with the public space and provide a more satisfactory connection to the existing courthouse.

6. The activity terrace has begun to be organized into a number of recreational areas which will be used by the elderly.

7. Exterior balconies have been provided at each neighborhood lounge to allow for semi-public exterior spaces where residents might gather.

8. The kitchen has been removed to a separate floor to provide a larger dining room area. The dining room is serviced by an elevator which transports the food from the fourth to the third floor where it is set up in a buffet style arrangement.

9. The library has been removed from the first floor to the fourth, to provide a more distraction free atmosphere in which to read.

10. A greenhouse has been located on the rooftop to provide the greatest amount of available sunlight.

11. The elevations of the exterior block have been experimented with. The approach was to imitate the older structures in the downtown by utilizing a monolithic surface texture and rhythmic pattern of "punctured" window bays.
PROBLEMS TO BE RESOLVED:

1. The courtyard plaza is presently too rigid, and does not include enough areas for passive recreation.

   A stronger articulation of the exterior dining and traffic area is required to prohibit "short cuts" across the dining areas.

2. The courtyard addition, which is located on the second floor, has a very weak visual connection to the ground level, and virtually no prominent entrance of its own.

3. The activity terrace on the second level requires further development, and should provide areas for informal entertainment.

4. The combination of housing and courthouse on the second level needs a more distinct separation to prohibit public infiltration of the housing project.

5. The elderly require more exterior space which might be utilized more by individuals than groups of people.

6. The structure and visual appearance of the balconies of the community functions need further development.

7. The exterior elevations presently represent an extremely literal method of fitting into a nineteenth century town. Further refinement is required to assure that the elevations reflect their function, and modern construction techniques.
FINAL SCHEME

The final presentation reflects the ultimate refinement achieved during the design process. That is not to say further development was impossible; for I have stated several times that a comprehensive development would not be achieved because of time and the size of the project. It simply means that the refinement was sufficient to approach the majority of design requirements deemed important to insure the projects "success".

The major points of development in the final presentation are:

1. The activation of the building rooftop to provide individual garden plots and an outdoor area for the drying of clothes.

2. The enlargement of the courthouse addition to include the second and ground levels of the southern part of the site. This was provided to allow for a stronger connection with the street level through the establishment of a lobby and information center, presently deficient in the existing courthouse.

3. The public courtyard was refined to provide areas for reading and relaxation, and differentiation of passive and traffic areas. This was accomplished through use of material and level changes. An attempt was also made to eliminate some of the rigidity of the last scheme through use of curvilinear forms, and varied seating and planter heights.

4. The residential activity terrace located at the second level was a major point of development. It now includes areas for observation and informal gatherings under a pavilion in addition to the games and gardening previously provided.

5. The exterior elevations have been resolved so they now express the basic characteristics of the older structures, while utilizing modern design concepts and construction techniques. The rhythmic, single bay puncture common on most of the older buildings, was captured on the new facades. The "modern" design concept expressed, was the idea that "form follows function" which dictated the rhythm of the fenestration.

The interior corridor also dictated the arrangement of natural lighting which was meant to scale down the length of the corridor by "bright spots" which coincide with widenings in the hall demarking apartment entrances.

6. The circulation in the corners of the building was streamlined to allow for greater accessibility by the handicapped.
MAIN STREET COURT ENTRANCE
CONCLUSION

This thesis was never intended to be a design project that simply fulfilled a prerequisite for graduation. While searching for a topic, I felt the candidates must meet two self-imposed requirements. The first requirement was that a profound need exist in society or by a client with no profit motivation. The second prerequisite was that the project provide a challenge to my design ability.

I feel that this project, as it developed, met and far surpassed the personal goals I set at its conception. It was not intended to be the universal prototype of urban housing, but simply a specific answer to a common problem; urban decline.

To judge whether this project is a success or failure one must understand the context from which it is derived; the relatively crime free environment of smalltown America. I chose to direct my energies at the small city because I believe it is the hardest hit by urban decline, yet does not share the high crime rate of its larger neighbors. I felt this atmosphere a much more acceptable one to inspire a new confidence in our urban centers.

If cities, both large and small, are to succeed in this country, an allout effort must be made to educate our population of the city's benefits and it's problems. It is to this effort that this thesis is dedicated.
BIBLIOGRAPHY

Abrams, Charles - Man's Struggle for Shelter
M.I.T. Press 1964

Center for Housing and Environmental Studies - Community Aspects of Housing for the Aged
Cornell University, Ithaca, New York 1962

Center for Housing and Environmental Studies - Living and Activity Patterns of the Aged
Cornell University, Ithaca, New York

Crawfordsville Park and Recreation Dept. - Annual Report
Crawfordsville, Indiana 1976


Gerontological Society - Housing and Environment for the Elderly, Washington, D.C. 1973

Green, Issac - Housing for the Elderly - the Development and Design Process
Van Nostrand Reinhold Co.
New York, New York

Koncelik, Joseph A. - Designing the Open Nursing Home
Dowden, Hutchinson & Ross, Inc. Stroudsburg, Pa. 1976

Macsai, John - Housing
John Wiley & Sons, New York 1976

Muir, Tom and Dilys, Page - New Housing for the Elderly

New York City Planning Commission - Zoning for Housing Quality
New York, 1975

Roanoke, Virginia Planning Commission - Housing Needs for the Senior Citizen

U.S. Dept. of Housing and Development - Housing for the Physically Impaired
Washington, D.C.

Weiss, Joseph D. - Better Buildings for the Aged
Hopkinson & Blake
New York, New York 1969

Wheaton, William C. - Urban Housing
New York Free Press
New York, New York 1966
# ORIGINAL PROGRAM

## APPROXIMATE SQUARE FOOTAGE ALLOTMENTS

### HOUSING

<table>
<thead>
<tr>
<th>1 bedroom unit</th>
<th>living room</th>
<th>225</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kitchenette</td>
<td>100</td>
</tr>
<tr>
<td>(60 total units)</td>
<td>dining room</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>bedroom</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>bathroom</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>closets</td>
<td>40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>square foot per unit</th>
<th>705</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>2 bedroom unit</th>
<th>living room</th>
<th>225</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kitchenette</td>
<td>100</td>
</tr>
<tr>
<td>(60 total units)</td>
<td>dining room</td>
<td>120</td>
</tr>
<tr>
<td>(2)bedrooms</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td></td>
<td>bathroom</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>closets</td>
<td>55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>square foot per unit</th>
<th>870</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Total housing allotment</th>
<th>94,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>15% circulation</td>
<td>14,175</td>
</tr>
<tr>
<td>total</td>
<td>108,675</td>
</tr>
</tbody>
</table>

### PARKING FACILITY

<table>
<thead>
<tr>
<th>(300 cars)</th>
<th>300 cars @ 300 sq. ft. each</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>total 90,000</td>
</tr>
</tbody>
</table>

### RETAIL AND OFFICE SPACE

<table>
<thead>
<tr>
<th>Display and office areas-54,000</th>
<th>Basement storage-25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>54,000</td>
<td>13,000</td>
</tr>
<tr>
<td>total</td>
<td>67,500</td>
</tr>
</tbody>
</table>

| TOTAL PROJECT SIZE | 266,175 square feet |
The following pages list an approximate quantitative breakdown of the final design project.

## HOUSING:

<table>
<thead>
<tr>
<th>Item</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Lobby</td>
<td>1,575 sq. ft.</td>
</tr>
<tr>
<td>B. Classrooms (3) @ 875</td>
<td>2,625 sq. ft.</td>
</tr>
<tr>
<td>C. Dining Room (200 diners)</td>
<td>2,625 sq. ft.</td>
</tr>
<tr>
<td>D. Lounges (9) @ 700</td>
<td>6,300 sq. ft.</td>
</tr>
<tr>
<td>E. Greenhouse</td>
<td>2,625 sq. ft.</td>
</tr>
<tr>
<td>F. Library</td>
<td>576 sq. ft.</td>
</tr>
<tr>
<td>G. Management</td>
<td>1,050 sq. ft.</td>
</tr>
<tr>
<td>H. Residential Storage</td>
<td>2,625 sq. ft.</td>
</tr>
<tr>
<td>I. Laundry Rooms (5) @ 400</td>
<td>2,000 sq. ft.</td>
</tr>
<tr>
<td>J. Vending Rooms (3) @ 400</td>
<td>1,200 sq. ft.</td>
</tr>
<tr>
<td>K. Kitchen</td>
<td>1,200 sq. ft.</td>
</tr>
<tr>
<td>L. Apartments (69) @ 650</td>
<td>44,850 sq. ft.</td>
</tr>
<tr>
<td>M. Circulation</td>
<td>69,251 sq. ft.</td>
</tr>
</tbody>
</table>

### TOTAL HOUSING

**83,101 sq. ft.**

## EXTERIOR SPACE

<table>
<thead>
<tr>
<th>Item</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Amphitheater (250 persons)</td>
<td>4,400 sq. ft.</td>
</tr>
<tr>
<td>B. Exterior Dining (250 persons)</td>
<td>3,700 sq. ft.</td>
</tr>
<tr>
<td>C. Playground</td>
<td>2,700 sq. ft.</td>
</tr>
<tr>
<td>D. Total Interior Courtyard</td>
<td>50,300 sq. ft.</td>
</tr>
</tbody>
</table>

## COMMERCIAL SPACE:

<table>
<thead>
<tr>
<th>Item</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Showroom Space</td>
<td>23,000 sq. ft.</td>
</tr>
<tr>
<td>B. Rest Rooms and Offices</td>
<td>6,825 sq. ft.</td>
</tr>
<tr>
<td>C. Storage Space</td>
<td>17,000 sq. ft.</td>
</tr>
<tr>
<td>2. Restaurant</td>
<td></td>
</tr>
<tr>
<td>a. Dining area, 250 diners</td>
<td>3,872 sq. ft.</td>
</tr>
<tr>
<td>b. kitchen</td>
<td>1,456 sq. ft.</td>
</tr>
<tr>
<td>c. service &amp; circulation</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>53,350 sq. ft.</td>
</tr>
</tbody>
</table>

## GOVERNMENTAL AREA:

<table>
<thead>
<tr>
<th>Item</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. General Office Space</td>
<td>4,675 sq. ft.</td>
</tr>
<tr>
<td>B. Circulation and Waiting Areas</td>
<td>1,100 sq. ft.</td>
</tr>
<tr>
<td>C. Rest Rooms</td>
<td>330 sq. ft.</td>
</tr>
<tr>
<td>D. Governmental Storage</td>
<td>4,900 sq. ft.</td>
</tr>
<tr>
<td></td>
<td>11,005 sq. ft.</td>
</tr>
</tbody>
</table>
PARKING STRUCTURE

300 cars @ 300 sq. ft.  90,000 sq. ft.

TOTAL PROJECT SIZE

237,450 sq. ft.