Independence through Interdependence

~Different Lifestyle for the Young and the Old Housing with Work Opportunities~

Undergraduate Thesis Report

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Independence through Interdependence

~Different Lifestyle for the Young and the Old Housing with Work Opportunities~
Thank You...

I would like to take this opportunity to express my gratitude to those of you who have contributed to my thesis project. Without your help this project would not have been the same.

Thank you my advisors and professors for sharing your expertise…

Thank you state government officials for sharing information…

Thank you local residents of Indianapolis for sharing your opinion…

Thank you computer lab specialists for sharing your knowledge…

Thank you my friends and boyfriend for always supporting me…
**Thesis Topic:**

Life is much richer when shared with other people, regardless of what shared is good or bad. As the trend in the American society shifts more toward catering to individual needs, people live increasingly separated from the rest of the world. However, this is not to say that people are becoming less sociable. There are numerous benefits, including social and economical aspects, in sharing daily experiences with others as opposed to staying isolated from each other. The very act of sharing an experience with others can mitigate the feelings of sadness or disappointment while it can amplify happiness.
**Thesis Issues:**

Indianapolis is the largest city in Indiana, yet it is weak in providing housing for a specific group of people. Residential options in downtown for those who are unattached to a conventional family or home are very much limited. At the same time the city must respond to the increasing population of a richer diversity, backgrounds and values. Their needs include affordable rent, convenient proximity, flexibility in length of their lease, a carefree lifestyle with greater mobility, and dependable public transportation. They are largely single who want to live independently but still maintain social interaction on daily basis. Also, they are hesitant to live in assisted care or nursing homes. From these factors arise the concept “*independence through interdependence.*”
Different forms of individual contribution...

**Thesis Positions:**

A shared lifestyle yields a number of social advantages. It can offset loneliness and isolation since there always will be companions in communal areas. Moreover, it encourages a casual and informal dependency such as asking a neighbor to babysit for an hour while going for grocery shopping.

This lifestyle has certain economic advantages as well. Each resident has a power to choose the most accommodating private unit, based on how much the resident is willing to pay in rent. By sharing, residents are able to afford services and amenities that are otherwise not available. Retail tenants on the ground floor provide opportunities for in-house employment for the residents, conveniently located in the same built environment.

In addition, such environment with a diverse residents stimulates the local economy and becomes an integral part of the vitalization of the city.
Background:

In 1997 HUD concluded that at least 5.4 million working-poor families were paying more than a half of their income for housing. It was recommended in 1980 to spend 25% of income for housing. Shown on the right are some rental apartments available in downtown Indianapolis as of 2006. These figures affirm that people consequently spend much more than the recommended percentage.

Developers, state and local governments have experimented with LIHTC (low-income housing tax credit), the most powerful force of affordable rental housing in the United States. In 1998 Indiana Housing Finance Authority modified its LIHTC to give more weight to mixed-income developments. Points are awarded to projects which lease units to households whose income are at or below 40% of the area median; and the number of points increase if at least 20% of the units are allocated to this income bracket. More points are awarded to projects in which up to 50% of units are reserved for market-rate tenants.

In spite of these endeavors, reality is that the market is yet out of reach for the most singles.

Riley Towers Apartments
(1/2 mile north of Monument Circle):
- Studio 500 sqft; $650/mo
- 1-Bed 650-730 sqft; $760-1010/mo
- 2-Bed 960-2000 sqft; $1020-3050/mo
- 3-Bed 1200-1500 sqft; $1500/mo

Canal Square Apartments
(1 mile northeast of Monument Circle):
- 1-Bed 484-1125 sqft; $710-1100/mo
- 2-Bed 973-1120 sqft; $944-1160/mo

The Whitaker
(1-1/2 mile north of Monument Circle):
- 1-Bed 580-730 sqft; $400-1130/mo
- 2-Bed 650-1030 sqft; $540-1525/mo

The Marott Apartments
(2-1/2 mile north of Monument Circle):
- 1-Bed 610-660 sqft; $570-700/mo
- 2-Bed 720-1100 sqft; $700-900/mo
Conceptual Interrelational Diagram

House with Work Opportunities

The thesis of a shared lifestyle for independence is experimented through a multi-use building design comprising of the following two components of housing and working:

First component is for residential use, designed as a rental collaborative housing with much flexibility. Each unit has a basic necessity (efficiency kitchen, bathroom) since communal area has various kinds of shared amenities and spaces. There is a wide choice of private units ranging from the most luxurious to the most affordable. The resident chooses a unit type, based on the budget.

The second component is for commercial use, which provides “live-and-work” program that benefits both residents and the retail tenants. The retail negotiates with the owner for a reasonable rent, in return gives residents opportunities for in-house employment.
Through Interdependence...

Through the experience of sharing what is available, people eventually obtain independence. As an integral part of the process, as much as objectives of this thesis project, the environment must be designed to foster independence, human interactions and employment. At the very end, the designed environment makes living in downtown Indianapolis more appealing and affordable for all.
PRECEDENT STUDIES

Collaborative Housing:

This type of shared lifestyle features common areas and facilities combined with private units for each resident. A wide range of social and supportive services, all governed by the residents, explains the intergenerational mix. This environment resembles a home with more practical and social opportunities. Due to its unique arrangement, committed support from government and the society is crucial.

Normally problems arise from miscommunications, territoriality, expectations, as well as differences in personality and values.

Trudeslund Community, Denmark:

Located in the suburbs, this is one of the earliest prototypes of collaborative housing. Community participation is critical, as the place has been designed and managed mainly by the residents. It is easy to observe that the interest of the community supercedes that of an individual. Given its remote location, two families share a car and almost everyone commutes to work. A single unit ranges from 970 sqft to 1500 sqft. A grocery store within the community meets the basic needs. One remarkable service of child care corps allows parents to work outside.
**Collaborative Housing:**

**Sun and Wind, Denmark (1980):**

This community emphasizes on energy efficiency where its solar panels generate 30% of total energy requirement. However, given its remote location, cars are necessary and are parked at periphery to be less visible.

**Jystrup Savvaerket, Denmark (1984):**

Their communal area is quite successful in giving people a variety of social spaces. Since there are many children of different age groups, the common area consists of multi-level spaces with mezzanine playrooms. Hence, children can play with a certain group while adults can easily keep an eye on them.

**Egebjerggaard:**

Units for the elderly and the handicapped are intermixed within four rental developments. The mixture encourages residents to have a daily contact with those with different background. Also, those who are in need can share one caretaker. The place is also great for youngsters who are taking a first step away from their parents’ home.
**Collaborative Housing:**

**Stacken, Sweden (1980):**

This is a renovated high-density “Rental Tower.” Instead of allocating common areas on every floor, the entire floors on ground and fifth are for communal use. Irony is that residents have difficulty in having informal and spontaneous gathering on other non-communal floors.

**American Collaborative Housing:**

In general the U.S. faces difficulty in obtaining governmental support through lower-income developments. As a result, the elderly, single parents, handicapped, young couples with children lack much needed governmental assistance.

**Reservoir, Madison, WI (1988):**

This is one of the earliest examples of affordable collaborative housing in the U.S. It features a rigorous structure consisting of a cooperative board, resident council, and a common house. One unit ranges between 680 and 1300 sqft. Emphasis is placed upon pedestrian interaction where the streets meander along cluster of houses.
**Shared Housing:**
This type of shared arrangement involves several people, usually elders, renting or buying a house together. Each resident occupies a private room and the rest is shared. The house is usually subleased or owned by a private or public agency. Residents make monthly contributions in forms of rent and/or chores. It fosters a life with maximum independence without institutional constraints.

**Cooperative Housing:**
This shared lifestyle in mixed-income environment is best for those who are neither poor enough to live in public housing nor wealthy enough to purchase a home. Community participation such as common dinners is mandatory but it also values a carefree, flexible life. Residents are intergenerational and range in many household types.

**Congregate Living:**
This is a “transition” for those facing a family or work-related emergencies. Residents tend to be a well-educated homogeneous mix. Its semi-urban location requires a good public transit. Units are smaller, ranging between 300 and 600 sqft.
**Utopia:**

This lifestyle features shared spaces and work, and ideologies. The community is often nature-oriented and self-sufficient, but skeptical of new technology. Common dilemmas include striking a balance between authority and participation, and between community and privacy.

**Hull House, Chicago (late 1800):**

This new living arrangement called for “self-supporting unmarried women or widows without dependent children, between 18-45 with good moral character.” Each woman paid $3 per week and assisted house work.

**Lincoln House Settlement, Boston (1887):**

Career women with modern lifestyle shared communal rooms in a house and housework. Shared workload eliminated servants, and raised money for higher education.

**Twin Oaks, Virginia (1967):**

This income-sharing utopia often faces issues with insufficient personal spending money. Average annual income is $5000 per resident. Smallest unit is 6’x12’ while largest is 10’x16’.
**Efficiency Apartment:**

A unit comes with a bare minimum in order to maximize the open space. It encourages spatial conservation such as stacking up cubbyhole storage units for stairs. In a downtown setting, residents consist of single professionals, married couples seeking shorter commutes, and empty nesters downsizing for more convenience and less labor who can afford luxury, services, and security.

**Luxurious Apartment:**

*Attic in Vienna by Lichtbalu & Wagner (1998):*

The attic features luxurious space in height and views. It consists of 530 sqft of four basic units, organized in pairs and with additional space that may be added to one apartment. Residents share common storage, laundry, sitting room, and multipurpose space. A studio features a bedroom and bath above on loft level.

*Kanchanjunga, Bombay by C. Correa (1983):*

This interlocking high riser features 28 stories of different types of unit, including 1.5-story and split-levels. Ingenuity is that all units have a great view of the city.
**Mixed-Income Housing:**

It attracts population with a wider diversity of social and economical needs. In order to meet their unique needs, the existing retails and services in the community responds with more depth and breadth. Such diversity promotes additional investment on goods and services. As a consequence, community retains or attracts back mid-income taxpayers.

**Benefits of Downtown Location:**

Level of safety and liveliness of on-street activities is increased. Housing in currently an 8 to 5 business district brings another demand for services and entertainment sectors to cater residents’ needs. Opportunity to live and work in a proximity reduces commutes, traffic, fuel consumption, and psychological stress.
Degree of Sharing:

In a shared lifestyle it is necessary to have boundaries clearly marked between communal and private spaces to avoid future problems with territorial issues. Within given boundaries, residents can control degree of exposure to the community from the private unit.

Communal area works better in multi-levels to capitalize on the feeling of sharing the space both horizontally and vertically.

Interaction among residents are very likely to occur in front of private units, as if a part of main street of the community.

Residents can share storage, laundry, and flexible spaces to accommodate individual needs.

Individual spatial luxury in private units can be achieved by height and views, as seen in loft units.

Smaller efficiency units: 300-600 sqft
Common private units: 680-1500 sqft
Living in the middle of everything...
In order to serve a group of people who:
  depend on public transportation; and
  want convenience and proximity;

The site should...

...be in or close to downtown
...be en route of IndyGo bus system
...provide ample off-site parking spaces
...be at the intersection of commercial-residential zones
...be attractive to all kinds of residents and retails
...be large enough to maintain a commercial base

Observation of the selected site:

...Delaware Street is quite busy for taxi/bus pickups
...needs an extra offset space for entrance
...needs separate entrances for retail and residents
...needs a covered waiting space at the entrances
...Riley Tower coffee shop is unapproachable
...retail spaces need to be closer to the sidewalk
...closest foodservice is Subway, two blocks SE
...retail needs to include inexpensive foodservices
...Riley Towers would attract wealthier individuals
...but existing apartments are not as intimidating
...buildable area is 199’ x 120’ = 23880 sqft
The area needs a...
“Convenient store with gas station and mid-priced apartment that is not as SLUMMISH.”
(white female, 35)

Aya (African-American female, early 20s)
Sunday, September 4th, 2005
Aya has lived in the adjacent apartment for two years with her mother and brother. She likes the neighborhood, but for her commute on foot to her work at Hard Rock Café on Meridian Street is tiring. She feels a need for a convenient store, since the closest store is currently located four blocks away.

Sirjames (African-American male, 22)
Saturday, September 24th, 2005
Sirjames lives a few blocks on south and shops at O’Malia’s nearby the site. He prefers shopping at Wal-Mart but it is not located within a walking distance. He commutes to housekeeping job by driving or taking a bus, depending on his mood. His children love playing at the nearby Military Park. He likes the idea of increased commercial activities in the area.

Riley Tower Resident (white female, 65)
Saturday, October 15th, 2005
She has “done it all” - luxurious life in Phoenix, a ranch in Oklahoma, 8-bedroom beach house in Florida - but prefers living in Indianapolis for its convenient location. She also owns two homes in downtown. She sees a need for a gas station and a grocery store.

Resident in the neighborhood (African-American male, 45)
Saturday, October 15th, 2005
He feels a need for a small scale grocery store since O’Malia is not very known to many of the current residents.
Given its rectilinear shape of the site, this conceptual form with a main central core works efficiently with views, light and circulation factors taken into consideration.
## PROCESS - SPATIAL PROGRAMME

### Exterior

<table>
<thead>
<tr>
<th>Area Name</th>
<th>#</th>
<th>SQFT</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dumpsters</td>
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<td>25</td>
<td>50</td>
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Exterior Total: 50

### Retail Floor

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<th>SQFT</th>
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<tr>
<td>Bathroom</td>
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<tr>
<td>Service</td>
<td>1</td>
<td>3,710</td>
<td>3,710</td>
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<tr>
<td>Elevator</td>
<td>2</td>
<td>80</td>
<td>160</td>
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<tr>
<td>Fire Escape</td>
<td>2</td>
<td>200</td>
<td>400</td>
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<tr>
<td>Corridor &amp; Social</td>
<td>1</td>
<td>3,200</td>
<td>3,200</td>
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<tr>
<td>Retail #1</td>
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<td>2,300</td>
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<tr>
<td>Retail #2-5, #8</td>
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<td>1,900</td>
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<td>Retail #6</td>
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<td>Retail #7</td>
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</table>

Retail Floor Total: 23,280

### Residential Floor, Typical Lower Level

**Communal Area**

<table>
<thead>
<tr>
<th>Area Name</th>
<th>#</th>
<th>SQFT</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Kitchen &amp; Bar</td>
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<td>290</td>
<td>290</td>
</tr>
<tr>
<td>Dining Room</td>
<td>1</td>
<td>250</td>
<td>250</td>
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<tr>
<td>Movie Room</td>
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<td>330</td>
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<td>Computer Room</td>
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<tr>
<td>Flexible Space</td>
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<td>560</td>
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<tr>
<td>Spiral Staircase</td>
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<td>Social Circles</td>
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<td></td>
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<td>14</td>
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<tr>
<td>Service Area</td>
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<td>180</td>
</tr>
<tr>
<td>Service Elevator</td>
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<td>80</td>
<td>160</td>
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<tr>
<td>Fire Escape</td>
<td>2</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Corridor</td>
<td>1</td>
<td>1,800</td>
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Communal Area Total: 4,920

### Private Units

**Loft Area**

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<td>2,260</td>
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<td></td>
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<td>930</td>
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<td>730</td>
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</tr>
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<td></td>
<td>1</td>
<td>670</td>
<td>670</td>
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<tr>
<td>Efficiency Unit &quot;A&quot;</td>
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<td>400</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>540</td>
<td>540</td>
</tr>
<tr>
<td>Efficiency Unit &quot;B&quot;</td>
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<td>630</td>
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<td></td>
<td>4</td>
<td>620</td>
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<tr>
<td></td>
<td>2</td>
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<td></td>
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<td>430</td>
<td>430</td>
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<tr>
<td>Efficiency Unit &quot;C&quot;</td>
<td>3</td>
<td>460</td>
<td>1,380</td>
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</table>

Private Units Total: 17,970

### Lower Residential Floor Total:

22,890
Design Concept of a Tree

~Share a trunk to individually blossom while everyone contributes to the whole in return~

Architecture responds to the diverse clients by offering...

Connection to offset isolation
Convenience of available amenities and services
Choices to give control
**SCHEMATIC DESIGN**

**Graphic Diagram**

**Connecting... within Plan**

**Connection**
Physical & visual interaction

**Convenience**
Social areas throughout the core trunk of circulation

**Choices**
Wide variety of scales
Connecting...  
in Section

Connection
Physical & visual interaction

Convenience
Social areas throughout the vertical trunk of circulation

Choices
Wide variety of units
Connecting... 
Idea into Plan

Principles of
Connection
Convenience
Choices
are carried through the plan
Connecting... in Section

Principles of Connection Convenience Choices are carried through section
Connecting in...
All Dimensions

Smallest Efficiency Unit: 394 sqft
Largest Efficiency Unit: 632 sqft
Average Efficiency Unit: 540 sqft

Smallest Loft: 670 sqft
Largest Loft: 1136 sqft
Average Loft: 859 sqft

Total retail: 14694 sqft
Average retail: 1836 sqft
FINAL DESIGN

Connecting...
in the Context

CIRCULATION FLOW TO DOWNTOWN

RECESSED FACADE FOR VARIETY AND VIEWS

VISUAL CONTINUITY WITH SIMILAR HEIGHT

GROUNDFLOOR SCALED WITHIN THE CONTEXT

PROMINENT CORNER FOR RETAIL & LANDMARK

RESIDENTS ACCESS
Looking Back...

One of the motives behind this thesis project was to design a place for myself when I looked for an apartment for three-month summer internship. Needless to say, it was a difficult search since I would hit a limit on money, distance, convenience or all of these factors at once. Nonetheless the search was worthwhile. The search opened my eyes to this phenomenon well under the way in the real estate industry: downtown housing is NOT meeting the need of single people.

As a part of process I particularly enjoyed getting down to the site and talking to those who actually live in the area. Instead of sitting in the college, dreaming up what they could possibly want, I figured the easiest way was to ask. Also, it was gratifying when people got excited upon hearing about my thesis project. I felt like now I have a larger client base and audience.

As with any other project, there are endless potentials for improvement of the design. But I can picture myself happily living here so the main motive of the project has been fulfilled. As my status as a student ends and professional career begins, I hope to grow strongly from this thesis as well as all other experiences I have had at Ball State University.


