Adapting the City
Recentralization of Housing Developments

Housing at City Perimeter
Sprawled Commercial
Residential
City Center
ADAPTING THE CITY
Recentralization of Housing Developments

A Design Thesis Submitted to the
Department of Architecture and Landscape Architecture
of North Dakota State University

By
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In Partial Fulfillment of the Requirements
for the Degree of
Master of Architecture

Primary Thesis Advisor

Thesis Committee Chair

September 2011
Fargo, North Dakota
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The title of this thesis is “Adapting the City Center” and explores the question of how do the long-term effects of rapid housing development at Fargo, North Dakota’s perimeter compare to those of adaptive reuse, interwoven toward the city center. The typology for this design is residential mixed-use housing—adaptable and at the city center. In the end product this design is approximately a 51,400 square foot project located in Fargo, North Dakota. The guiding idea is, “land is perhaps our most important limited resource, and current urban development patterns are clearly consuming the landscape in unsustainable ways (Wheeler, 1998).” The project justification is, rather than continuing this city expansion pattern, evident in the decentralization of housing, the solution is recentralizing residential developments, and in turn maintaining the livability of the city.

Keywords: urban development patterns, livability, residential, decentralization, recentralization
Thesis Problem Statement

How do the long-term effects of rapid housing development at a city’s perimeter compare to those of adaptive reuse, interwoven toward the city center?
Statement of Intent

Project Typology:

Adaptable Inner City Residential Housing

State the Claim:

Rapidly built new housing developments at a city’s perimeter complicate livability at a pedestrian scale, resulting in residential sprawl and disconnect to everyday purposes. Developing residential units throughout existing inner city lots provides maintenance to abandoned, run-down, and vacant lots, while increasing a pedestrian oriented community.

The actors-designers, contractors, builders, property owners, city officials, and residents themselves-are expanding housing opportunities to city edges with disregard to inner city options for integration and improvements.

These methods of urban sprawl-developing the undeveloped, populating the uninhabited, growth and expansion-are negatively impacting existing inner city lots/parcels and inhabitants.

Theoretical Premise/Unifying Idea:

Developers are contributing to and profiting from the problem of urban sprawl. Residents are contributing to the issue by going where housing is available and affordable. The action of providing residential housing is inefficiently planned for livability and functionality. Inner city lots in need of repair/reuse are in distress. Urban sprawl is quick and initially profitable, resulting in long-term consequences, such as poor inner city residential environments, disconnection from distant housing to inner city, and a less pedestrian oriented city.

“Land is perhaps our most important limited resource, and current urban development patterns are clearly consuming the landscape in unsustainable ways (Wheeler, 1998).”

Project Justification:

Repairing and maintaining inner city neighborhoods support growth for pedestrian activities, nodes, and niches. Expanding at the outskirts creates automobile dependency and separation among community necessities. Bringing residential developmental focus back to where the existing amenities are at the center will bring back the livability aspect of the city. The final result also preserves undeveloped land and maintains the existing land.
PROPOSAL
I am interested in pursuing a design solution which addresses the city of Fargo’s residential development issues. Fargo’s current approach to residential sprawl leaves our inner city poorly maintained and disconnected.

With a brief background providing the number and locations of recent and future mass residential new construction typology the issue of decentralization becomes very apparent. Decentralization is a problem because it divides the city and caters to a non-pedestrian lifestyle.

As a solution, I propose a very minimally mixed-use typology building design prototype consisting of a three-story multi-dwelling unit with the option for community retail space at ground level. This design approach will allow for integrated commercial and residential development. A second but no less important requirement to my proposal is site. The focus of this thesis design is recentralization; this design is ideally the start of many more to come that would dot the existing city development. Required steps to make this happen are rezoning, as well as owner participation. The initial design focus is the area west of University Drive, north of Main Avenue, east of 25th Street and south of 7th Avenue known as Unicorn Park. Fargo’s north-central region is a mix of residential zoning decorated with scattered ruins of warehouses, run-down commercial buildings, and even junk yard lots.

The underlying issue in the current city planning and organization is that it is taking the quick and easy way out. Try to picture 20 or 40 years down the road and what the city of Fargo would look like. Imagine that the path we are on continues at full speed. Residential complexes are continuing to be added quickly and inefficiently, further and further away from commercial amenities, work places, and institutions. It is easy to design in this manner because this is where the land is untouched. Imagine further that we keep disregarding the existing built environment, while developing the perimeter. At some point the inner city becomes so run down and forgotten that it is just easier to ignore it. What kind of livable community would that be?

In my proposal, the city center is what is growing. Integration of dwellings, retail, workplaces, institution, and amenities continue to interweave, and that way the entire city remains a pedestrian friendly pattern undivided. Existing structure is continually adapting, as are the newly incorporated designs.
User / Client Description

This design typology is suited for its residents, as well as small scale retail establishments of Fargo. It will be owned by a separate individual, business, or partnership and rented or leased to prospective inhabitants.

Those who own and those who inhabit need to be invested and supportive of an adaptable future. The environment of these residents will cater toward more human scale activity within a community in comparison to existing multi dwelling units outside the city center. Automotive storage will be available, but means of alternate transportation are encouraged. More amenities will be designed for bike storage, connections to metro transit, and carpooling and will be encouraged with this lifestyle.

The ideal client/user will support recentralization and inner city patterning and therefore inhabit a better livable environment.
Major Project Elements

Residential
30-40, 1 and 2 bedroom dwelling units
- Private balconies
- Bedroom(s)
- Combined living: Kitchen, Dining, Living
- Bathroom(s)
Rooftop communal green space

Commercial
4 to 5 Retail spaces at ground level
- Laundry Facility
- Fitness Space
- Cafe
- Whole Foods Co-op
- Childcare

Site
Minimal parking spaces available
Minimal storage/garage units available
Outdoor recreation space incorporated on site
Site Information

Region: Upper Midwest, United States, North Dakota

City: Fargo, ND

Site: Boundaries: North-7th Avenue N, East-University Drive, South-Main Avenue, West-25th Street

Address/Parcel Identification Number:
414 14th St N, 01-2340-00623-00

Two other possible site opportunities not chosen for thesis:
302 19th St N, 01-3300-02190-00
312 21st St N, 01-3300-01680-00

This particular site is of interest to me because it is the nearest region to the major downtown area of Fargo, with minimal maintenance or new development, and it has the best potential for city center growth in the path of this thesis project. Major landmarks in this direct region are a city park, the mix of residential, commercial and industrial, railroad, and proximity to downtown.
Project Emphasis

The emphasis of this design project is to recentralize the residential development of the city of Fargo, resulting in a human-scale, livable environment, and improved future planning for new development.
Research Direction
Research conducted for this thesis design will be in the following areas: theoretical premise/unifying idea, project typology, historical context, site analysis, and programmatic requirements.

Design Methodology
I will employ mixed method analysis throughout my project, both quantitative and qualitative. Throughout my research process I will be using the concurrent transformative strategy, analyzing, interpreting and reporting results throughout.

Statistical data gathered will be gained locally through the City of Fargo offices, as well as archival searches. Scientific data will be gathered on-site using data instrumentation, as well as through archival search.

Qualitative data will be gathered personally on site and through interpretation of archival searched data. Local surveys and direct interviews will be conducted casually and professionally throughout this thesis project.

Documenting the Design Process
I will compile my preliminary data through field notes and digital compilations. Presentation boards and digital layouts of my process will be on exhibit temporarily. All of my process will be preserved digitally and be made available through the NDSU library’s digital repository.
### A Plan for Proceeding

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**Figure 7**
Previous Studio Experience

University of Minnesota-College of Design
Bachelor of Design, Architecture, 2009

Second Year
Spring 2007
  Arch 1281, Design Fundamentals I
  Leslie Van Duzer

Third Year
Fall 2007
  Arch 1301, Arch Drawing
  Andrzej Piotrowski

Spring 2008
  Arch 2281, Design Fundamentals II
  John Comazzi and Benjamin Ibarra Sevilla

Fourth Year
Fall 2008
  Arch 3250, DisCards, Thomas Westbrook
  Arch 3250, Portfolio Design, Jeanne Lee
  Arch 3250, Arch + Branding = Comprehension
  Jeremy Clark and Bruce Wright

Spring 2009
  Arch 3250, Writing Architecture, Camille LeFevre
  Arch 3250, The Body Acoustic, Leslie Van Duzer
  Arch 3250, Design Games, Aaron Westre
North Dakota State University
Master of Architecture, 2012

Fourth Year
Fall 2010
  Arch 471, Highrise
  David Crutchfield

Spring 2011
  Arch 472, Design Build
  Malini Srivastava

Fifth Year
Fall 2011
  Arch 771, Advanced Architectural Design
  A Minnesota City for the Future
  Cindy Urness
The content areas of research—urban communities, housing, and site—provide the background and facts to guide in the design solution for how the long-term effects of rapid housing development at a city’s perimeter compare to those of adaptive reuse, interwoven toward the city center. Adaptable inner city housing is one part to the whole solution for “planning sustainable and livable cities” (Wheeler, 1998). Neighborhood inhabitants of this thesis site are the main actors regarded as Premise 1 in this research. As the workers and residents in this location of north Fargo, they are the main players portraying the aspect of community and connectedness as the action, Premise 2. The actions these residents take or currently struggle with are in maintaining a livable environment. Connectivity ties directly to the community inhabitants, as well as the site itself, Premise 3. People of this region struggle with a human scale mode of transportation, with the current development it is near impossible to afford a lifestyle without a personal automobile. Site, referring to this local region, is the underlying theme that extends larger than this individual design can address. As one piece to the larger puzzle, this thesis design proposes a sustainable, affordable, addition to a community in need. “It is no longer enough to just throw up cities and suburbs that are ugly, uncoordinated, automobile-dominated, and lacking in parks, sidewalks, local shops, community vitality, and sense of place. How do we make these places green, safe, convenient, and human-oriented (Wheeler, 1998, 490)?”
The surrounding area of this north Fargo region is patterned with a mix of both residential and commercial zoning (reference figure 3 on page 13). Much of the industrial sites are inactive, taking up useable space; current with ownership responsibilities, not abandoned, while also not benefiting the business of this neighborhood. This inactive site is a key example, one of many, that lies between the active downtown circle and the outer ring of suburban housing. It is these forgotten, ill-maintained communities that lead to human disconnect in livability. A great example of this very issue is the city of Bogota, as seen in the PBS series: “Bogota: Building a Sustainable City.” By cleaning the streets up in a pedestrian friendly manner--wide sidewalks, designated mass transportation lanes, green space, parks--they managed to go from being in the top ranked crime cities of the world to being in the top fifteen safest. “A city more for people, not very much for cars-sustainable urban design can be the foundation for social justice” (Enrique Peñalosa, Bogota Mayor, PBS E^2). The mixed-use typology proposed in this thesis design exercises a similar theory. This thesis design proposal will provide its residents with affordable housing while adapting a sustainable site and development for connecting the local surrounding region, allowing for human scale lifestyle.

Precisely what Jane Jacobs warns us of in the need for primary mixed uses is in its early stages at the location of this thesis site- “If the neighborhood were to lose the industries, it would be a disaster for us residents.
Many enterprises, unable to exist on residential trade by itself, would disappear. Or if the industries were to lose us residents, enterprises unable to exist on the working people by themselves would disappear” (Jacobs, 1961, p. 153). Inefficient planning and development is endlessly leading Fargo to an automobile dependent city dotted with waste and disrepair. This is a result of seeking an easy, immediate answer for urban sprawl. Fargo’s transit system is not a convenient means for reaching the big box stores containing resident’s living necessities. Traditional community stores are unable to compete. Along with the lack of residential development to this region comes the lack local industrial/commercial success; the two go hand in hand. By proposing a multi-unit mixed-use building, it not only promotes a healthy, affordable lifestyle but also local business profit and community outreach, with retail/offices at the main level.

The solution to the disregarded north region of Fargo, forgotten in the path of urban sprawl, looks to rezone and repair three neighboring lots at 4th avenue north between 14th and 15th streets north. Currently the lots are inhabited with yet to be determined industrial warehouses. Research to this point indicates that necessary to this solution, the design must include the following: pedestrian oriented site, greening landscape, community beneficial business, connection to surrounding amenities and affordable and sustainable housing. The additional benefit to using an existing site is that it is in need of repairs, providing varied solutions. The struggle for this design typology lays only in the existing
The main similarity that is important to remember is that these disregarded lots in need of repair can also be thought of as a useable canvas. "Urban and rural wastelands already serve as a new wilderness."

Designs proactively solve problems in future planning.

"If these phenomena (derelict mines and buildings, vacant lots, abandoned tenements) are simply regarded with distaste, if our only hope is to hide them or push them farther away from wherever we happen to be, then in a continuous cycle of use," (Lynch, p. 190).

By redeveloping these lots, the thesis design building will provide the first of a mixed-use typology that can be proposed in site-specific variations all over this region. An end goal is to be able to connect and adapt the space between downtown and urban sprawl, taking a step back to analyze the existing problem, as seen in this thesis site.

If these phenomena are simply regarded with distaste, if our only hope is to hide them or push them farther away from wherever we happen to be, then in a continuous cycle of use." (Lynch, p. 190).

Perhaps not as blank a canvas as untouched rural sites, however, by choosing to develop the inner city wastelands, designs proactively solve problems in future planning.
Current statistics provided by the “Fargo Department of Planning and Development (2011)” graph a use by acreage ratio resulting in commercial use with 75%, single-family 7% and multifamily with only 2%. What their plan for improving the neighborhood also includes is a recommendation for further development of single-family homes in the area. This is not the approach this thesis is pursuing, rather the goal is to correct the sprawl from downtown through to the residential neighborhoods. Providing a greater imprint of multifamily dwellings will open the opportunities for affordable housing, families, and pedestrian walkability, which are three other important pieces to the city’s future planning. The issue in Unicorn Park neighborhood is its disconnect from downtown to commercial and industrial, to residential. There is no smooth transition and provided from a second graph portraying land use by number of properties single family homes are already at 40% where multifamily stays fairly consistent with 5%.

Three goals are currently established for the “Unicorn Park Neighborhood Plan” in which this thesis site lies. Goal number one is safety, which entails “crime deterrence: increasing pathway lighting, increase number of families with children and increased police security.” Goal number two entails “property maintenance: increasing homeownership and single family units, maintenance and affordability.” Lastly goal three is “quality of life: parks, walkability and traffic regulations.” This thesis supports some of what the city planning is initiating, however there are arguably other options that this design will further pursue and develop each area in some differing ways to prove a better approach.
Goal number one is not arguable; safety is a goal in contributing to the future design of the neighborhood. It also comes hand in hand with properly detailed pedestrian friendly design. Currently, it is notable that the sidewalks and street layouts are so poorly ornamented and maintained that alleyways have become more of a main route for the inhabitants of this area. This is where crime becomes a concern, and the obvious point of good lighting is inevitable. By recentralizing a multi-unit complex with commercial space at ground level, not only will lighting be efficiently present, but also sidewalks would cater toward pedestrian traffic. The east to west traffic direction currently holds a dilapidated view toward what could be a terrific social hub, once again at Unicorn Park, the west end of 4th Avenue North at the thesis site.

The vision going forward for the pedestrian safety and police security will be incorporated in the site planning of this design. One of the ways in which to connect the downtown pedestrian traffic through this residential and industrial neighborhood and on to the densely populated residential neighborhoods to the west is to provide a pedestrian corridor. The intentions would be to provide a community walking and biking system, well lit and securely monitored to direct people toward Unicorn Park. This approach will create a natural flow through the light industrial and commercial space, while simultaneously connecting the families and children to a revitalized social hot spot that once was and will be again Unicorn Park.
Goal number two of addressing property maintenance and supporting the idea of single family units is heading in a similar direction to this thesis design. However, the idea proposed for more single-family units is simply not enough. Housing in Fargo is in high demand, affordable multi-unit housing even more so. So far the greatest implementation of multi-unit complexes is skipping this neighborhood and the next, heading straight for undeveloped land at the furthest pedestrian disconnect to already developed pathways downtown. The multi-unit dwelling proposed here will integrate the industrial neighborhood and residential neighborhood. Integrating the two zones with this thesis typology poses a smooth transition and connection to the downtown neighborhood, allowing for further sprawl of this connection toward already existing developments all over the inner city of Fargo, where its current absence is destructive.

Part two of goal number two, maintenance and affordability, pair identically to part of this thesis intent. The exact site of the thesis mixed-use design is on a lot currently housing three industrial warehouses in need of maintenance and repair. At the corner of 14th Street North and 4th Avenue North is the main structure that will be carefully evaluated and considered for reuse in the future design for this site. It, along with many neighboring structures, house what can easily be mistaken for a junk yard of abandoned collectibles. Part of cleaning up these three structures and adapting the site for the proposed design is salvaging any and all structure possible, thus tending toward affordability from the very first steps.
Quality of life and goal three of the city’s current plan for the neighborhood overlaps with the previous two goals a bit in addressing safety and livability. Aside from walkability and pedestrian safety, quality of life in this design proposal also aims toward community outreach. The other important piece to improving the quality of life to the inhabitants of this neighborhood is providing the amenities necessary to be more accessible. Among the commercial tenant spaces provided at ground level will be a daycare, fitness center, and community whole foods co-op. Storefront space at the sidewalk will provide breakouts for community gardens and socializing spaces. A private community garden for the live-in residences of the building will be provided at an elevated or rooftop level.

A big part of creating a pedestrian level functioning neighborhood is having the necessary niches. Currently, Unicorn Park area is lacking in this manner. This is also a strong contributing factor to the disconnect from downtown to the urban sprawl that skips this region. Part of the reason this region cannot function well on a pedestrian level is that without these retail resources available nearby it creates an automobile dependent lifestyle. It becomes much simpler to have personal vehicles when there are no connections to lifestyle necessities.
Every aspect of academic research and current City of Fargo Planning studies reveal a similar design technique dating back to the standard neighborhood necessities, as provided by Lynch, paths, edges, districts, nodes, and landmarks.

In regards to the site analysis and development, every goal can be examined through these five Lynch concepts. The paths are the pedestrian corridors that need to be integrated through the thesis neighborhood adaptation. Edges should be the Park, which also serves as a node and landmark. The districts are residential and industrial or commercial, each of which is lacking in productivity, and the thesis design will pose as a solution to the connectivity and support of the districts. The Railroad, University Drive, and 3rd Avenue North serve as edges to this region by means of main traffic routes or transitions to a separate neighborhood typology. The basic problem in Unicorn Park Neighborhood is that it lacks maintenance, though it has all the pieces to be a perfectly well functioning region.

The mixed-use residential, commercial, and community development that is this thesis design answers to the issues of the area through the above aspects of district and node. Together, the goal requests of the city planning and the Lynch aspects of edges, paths, and landmarks will be addressed through site development and context.
To summarize this research and conclusion for the thesis design typology, the ground level will address the pedestrian and community connectedness. At the exterior pathways and community, green space will provide direction, as well as a social and involved niche. The ground level interior is accessible to public and private residential users. The first floor is entirely designated as community and commercial space through a fitness facility, laundry, whole foods co-op, and daycare. The fitness and laundry tenants are necessary for the residents, as well as the community. The daycare is in an effort to support the idea of bringing in families to the neighborhood and supporting the safety and pedestrian activity on the site, as well as at the neighborhood landmark, Unicorn Park. The whole foods co-op, is the ultimate lacking node in the area. There is not a single pedestrian level accessible convenience niche in the region. By providing a community garden at ground level and a private residential rooftop garden, the whole foods co-op can contribute to the education of involvement and healthy nutrition for its families and residents.

Finally, the actual residential contribution that this building design will provide begins at the second level and will especially have the ability to cater to family lifestyles. The tenants for this building will need to be interested and willing to support the plan for the neighborhood. By providing the co-op and gardens in addition to the site renovation, all of the stepping stones will be provided for them.
Work Architecture Company (WORKac) renovated this 19th century brick warehouse, which, as of September 2007, houses fashion designer Diane von Furstenberg Studio Headquarters. This preserved warehouse is the first of its kind to be fully updated in the New York City’s historic Gansevoort Market district.

Programmatically, the headquarters fully encases every aspect of the design company’s inner working from retail, showroom, and offices at street level to a fully glass enclosed penthouse apartment protruding atop the fifth floor. Each of the five floor plans is almost entirely wide open, aside from a grandeur central staircase striking through the building as a modern juxtaposition to the building’s original architecture.

The restoration in this project is admirable for its ability to create a successful transition in program from industrial to retail, office, and residential, as well as the success in modernizing. A sense of historical context is maintained, which is important to make this addition to the neighborhood a welcomed and well fit integration, while an efficient and innovative design approach is also integrated (Stephens, S. 2008, p 134).
Figure 10

Diane Von Furstenberg
Studio Headquarters
New York City
Work Architecture Company
September 2007

Structure

Geometry

Natural Light

Plan to Section

Hierarchy

Massing

Circulation to Use Space

Diagrammatical Analysis
Case Studies

Project: The Waterhouse at South Bend
Location: Shanghai
Architect: Neri & Hu Design and Research Office
Date of Completion: May 2010

The Waterhouse at South Bend is a programmatic design for a hotel converted from three industrial buildings. The original three were built in the 1930s, and it is important case study for this thesis because of the essence of its industrial history coinciding with a modern multi-dwelling hotel.

This building responds to its given site so well; environmentally, it has preserved the original foundation of the original industry; it meets the needs the neighborhood planning and is itself a story of the culture and place. Located in Shanghai in an industrial “docks area,” painted concrete, Cor-Ten, and a rooftop garden exhibit appropriate design strategies in integrating the history, modernity, and program of this hotel completed in May of 2010.

“We wanted to demonstrate a new way of preserving things...You don’t have to clean it all up.”
-Neri

Figure 11

Main Level Floor Plan

Figure 12

East-West Building Section

South Exterior Elevation
Case Studies

Project: Proyecto Yungay  
Location: Santiago, Chile  
Architect: Smiljan Radic  
Date of Completion: September 2007

The design execution for Yungay in Santiago, Chile, works with the remains from eight homes damaged by fire and earthquake. The homes, no longer livable, left a ruinous site with only the facade intact for architect Smiljan Radic to work with. This provides an interesting approach to renovation by leaving the exterior frame completely separate to the new build within. The remaining facade acts as a perimeter or barrier for the outdoor stage area, courtyard, and an enclosed two-story studio and workspace. The site selection and rebuild process are unique and efficiently carried out. The design crew was able to keep a socially respectable process while simultaneously easing their “town planning regulations protecting the building from intervention that would lead to its ruin (GA Document, 2011, p 174-178).”
Figure 15

Structure

Geometry

Natural Light

Plan to Section

Hierarchy

Massing

Circulation to Use Space

Diagrammatical Analysis

Proyecto Yungay
Santiago, Chile
Smiljan Radic
September 2007
Each of the previously examined case studies exhibits an adaptation of an existing industrial building. They differ in the renovated program typologies; however, as a mixed-use thesis design, each aspect of the three studies contributes to the typology.

**Commonalities**
The integration and transition from what the building had originally been to what it has become is the exact juxtaposition this design is pursuing. For example, The Waterhouse at South Bend in Shanghai uses the existing foundation and facade of the original building, while the addition on top contains a modern and innovative sense. It still provides a smooth merge from old to new.

**Socially**
The Diane Von Furstenberg Studio Headquarters takes a more drastic approach and makes a statement in saying this building has been renovated. The glass central staircase, leading up and out the top of the renovated brick facade, tells the history and transition of the structure without saying anything. This method is an approach this thesis will take through materials, structure, and statement. Advertising a design in the way that WorkAC did in this case study is risky, especially for the neighborhood of this thesis being a mix of residential and commercial. However, the integration and transition that this mixed-use design will provide is the exact statement the neighborhood needs.
Uncommon

Site and environmental influences impact the designs differently in each case study. Ranging from the original program of downtown factory, bay area warehouse and housing complex each has a different story as does this thesis design. This thesis relates most closely site and environmentally to the New York Studio however it pulls the program mostly from the housing with the intent of a design most closely related to the bay area warehouse.

The renewed programs are also very different however through material use and systematic specifications even these differences can positively contribute to this thesis program. For example the New York Studio managed to include “geothermal heating and cooling with three wells extending 1,500 feet into the ground” as well as provided maximum day lighting through a “heliostat mirror system in which rotating mirrors tracked the sun and bounced down from a nine-square grid of mirrors at the top, in turn refracting light to a series of mirrors mounted in a descending order (Stephens, S. 2008, p. 134-139).”

Conceptual Underpinnings

In all, each case study has inspired an overall necessity to express the transition that the thesis design will be providing through its presence and addition to the neighborhood alone. By exhibiting the story of transition through the structure and material use itself the design tells its own story. A mixed-use residential, commercial, community structure with ties to residential and industrial is the exact integration that this lost region between downtown and urban sprawl needs.
Background

Unicorn Park is a neighborhood that branched off from an industrial railroad line connection. The line is a system for industrial transportation, running north of the site and diagonally, southeast to northwest, and quickly brought in the addition of several factories and warehouses we see in the neighborhood today. When the city of Fargo was in its earliest developmental stages a lake bounded its west boarder just two blocks west of this thesis design lot. Long lake was drained in 1935 with the idea that a well-landscaped park would be more beneficial to the community. As industrial businesses further patterned the lots of Unicorn Park so did single-family housing. Back in the early to mid 20th century, this neighborhood functioned well with the workers being so close to their local employment facilities with family nearby.

“It is this mix of residential and commercial land uses that make the Unicorn Park neighborhood a unique and vibrant place (Unicorn Park Plan, City of Fargo).”

Railroad

The railroad line historically is one of two main cores to this thesis areas branching development. Steel frame warehouse, much like the three existing at this thesis site, were located close to this rail line and at most often built with dock high concrete floors. This design typology created a close proximity for the transition step of transporting manufacturing goods and products from the train to truck and back to then to the warehouse. Today business has sprawled and the close-knit system that this neighborhood had such great success in starting is no longer the case. Many of these warehouses and commercial buildings are either currently abandoned or poorly maintained to the point that it would appear more or less a junk yard than functioning business. The negative effects this type of disregard has on any neighborhood are tremendous.
Long Lake

Long Lake, now Unicorn Park, was once the areas social hub. As businesses grew the number of single family homes did the same and Long Lake existed as the recreational, socializing hot spot. The lake provided swimming, fishing and hunting to the residents not all of which we could ever legally bring back to the area. However, the thought to recreate a sort of wetland and recreational source of water will bring a historical context and richen the culture in the neighborhood. Unicorn Park is where visitors are naturally directed, with the help of a pedestrian pathway, this directing can be enhanced and reintegrate a community necessity.

Single Family Homes

Residential life consists of nearly 100% single-family homes, some lots are patterned within the commercial lots, and for the most part, they are pushed to the south edge of the neighborhood lines. The proposal in planning is for more single-family homes which this thesis program disagrees. Multi-family mixed-use residential and commercial buildings being integrated within the area will bring the number of people necessary to create the type of pedestrian life and traffic all of these goals are aiming to achieve.
Relation to Social Trends

Renovation and turnover of industrial warehouse buildings are present all over the world, especially in larger metropolitan regions. Larger cities have greater resources available for the historical warehouse based on the fact that most downtown areas originally got their developmental start in that same region, leaving many old buildings in need of regeneration. More recently, there is less of a trend to preserve and rather integrate and adapt existing buildings to an efficient, innovative program. This is the same approach this thesis will take, in hopes that as much of the building materials can be reintroduced somewhere in the project. The history of the buildings provides much of the culture and context for the neighborhood. This fact is not evident enough today but it will be because it is important to a healthy functioning society. One of the obvious visual ways in achieving this design goal is in incorporating an industrialized building itself. A traditional single family home just will not do.

The example projects (at right) are done by a firm, Archipelontwerpers, that specialize in repurposed warehouse residence. Most forms are light-weight steel construction, similar to the existing buildings on this thesis site. The example here pictures a steel frame and brick facade warehouse with which the a firm repurposed and added on top of to provide residential units.
Relation to Similar Projects Undertaken Throughout History

The Ford Assembly Plant in Richmond, California is an example standing for the large typology sharing a similar industrial deterioration and opportunity for repurposing. In the case picture to the left (on page 41) the automobile assembly plant has simply been restored into a modern day manufacturing factory.

“The Ford Assembly Plant in Richmond, California, was the largest of its ilk on the West Coast: a 517,000-square-foot factory on the edge of San Francisco Bay supplied by water and conceived as a single linear space beneath a sawtooth roof that flooded the work spaces with indirect daylight. Designed by Albert Kahn in 1931 with minimal ornamentation except for the streamlined deco detailing at either end, the 1/4-mile-long behemoth languished after Ford moved to suburban pastures in the 1950s (King, J. 2010).”

Other valid examples and proof of this need to take care of the crumbling industrial beginnings are present all around. Minneapolis, MN for example houses several offices and restaurants in old warehouse buildings. HGA architects, the old Spaghetti factory. In Fargo, North Dakota the University’s architecture program in Renaissance Hall is housed in a renovated warehouse.
Historical Concept of Thesis

Summary

The goal in the preservation aspect of this thesis program is not so much that these buildings are historic and need to be preserved. Rather, the point is, that the buildings are in need of repair and while they will be deconstructed, the available and usable materials may as well be taken advantage of. By making the reused process apparent for the community to observe in passing, it allows the future design to preserve a historical story and aid in the transition from industrial to residential.

Supporting the history of how this neighborhood came to be is a good tool in providing an advertised public space at Unicorn Park. The neighborhood will be more inclined to maintain something that stands for the region as outsiders will be drawn in not only to a public amenity but perhaps with an interest in the history.

In going forward, it is necessary to provide more of a downtown sprawl into this smaller niche neighborhood in order to reconnect it on a pedestrian scale. Right now it is so entirely automobile dependent and commercial necessities have sprawled too far from the area, without bringing in more retail and commercial spaces the disconnect from human scale would only worsen.
At one point the neighborhood had all it needed, the train, the lake, the industry and the housing. Since the surrounding city has developed around it many of the industries have moved leaving the problem of ruinous warehouses, not enough business and not enough people. Had the neighborhood kept up and maintained the growth of downtown rather than passing over it and onto undeveloped land, the entire city may be better off today. As it is, and it is in total disconnect, areas like Unicorn Park are prone to higher crime rates. The more it is disregarded the more it becomes forgotten and the community will try to avoid it. If the rejuvenation begins now, while the city is in a major master planning change process, it may be able to get back onto the pedestrian grid.

It is so important that it be realized multi-unit housing is necessary. These types of complexes are what provide more amounts of people in smaller areas. The problem is that without being mixed use, also providing some sort of commercial aspect and community outreach, these masses just add to the disconnect. In all, learning from the past, providing affordable housing, a connection from residential to industrial, maintaining the historical context and culture of the past and creating walkable pedestrian friendly streets and amenities will be the ultimate solution in Unicorn Park Neighborhood.
Goals for Thesis Project

Academic
My academic goals for this thesis project are to fully understand and be able to implement a neighborhood solution through bridging the gap from downtown to urban sprawl. The skipped or forgotten region is not uncommon. I have studied it in Minneapolis and Duluth, Minnesota and most recently Fargo, North Dakota. When a downtown area begins to sprawl it is inevitable that a region will be skipped for concerns of difficulty and process. This approach too often leads toward higher crime rates and entire community disconnects. I hope to prove and discover factual solutions through my own thesis design that I will be able to carry with me in the professional world.

Professional
By practicing and perfecting my area of interest in existing renovations to the best of my ability I can provide a true understanding and experience to benefit the professional world in my future design contributions. Renovations are the design of the past, present and future. It is not just a trend but becoming a movement to stop and look back at what the human impact on our environment is and what to do about it. Constant technological advances have our designs refreshing and this will undoubtedly never change. Having a design showing understanding of a historical, environmental and neighborhood context will help me on the level of architecture I hope to find myself practicing in the immediate future.
Personal

Personally, I have a passion for the issues that this thesis is examining. I am extremely interested in coming up with a sort of design standard that can be referenced in communities with this same problem all over the country. The automobile dependency that makes it impossible to connect a region through pedestrian walkability and mass transit is frustrating to no end. This design will prove that an innovative solution combining the past, present and future of a community can be the first step in a “domino effect” or modern movement in society. It is a unifying idea that this thesis will explore, and a city developmental problem for which it will pose a solution.
Site Analysis

Overview/Plan
In examining the site analysis it is important to note the need for adaptation and regeneration at the thesis site. Beginning in plan view one can start to see the industrial textures of the neighborhood. Keeping in mind it is a solid mixture of single-family housing and commercial, it is clear there is a lack of pedestrian friendly space in the area. There is one main opportunity for connecting a pedestrian corridor along through the site, it is found at the largely green textured area of the map, Unicorn Park just two blocks west of the site.

Views/Vistas and the Grid
Current view and vistas are lacking however it is easy to see a parallel when looking to the grid and street map diagram. When standing one block south of the site corner, along 14th Street North and looking west along 3rd Avenue North, a view toward the park is already in existence. With this thesis design a similar view will be provided looking west along 4th Avenue North providing a historical context heading north along the map. At third avenue this vista portrays single family homes along the south avenue and mixed homes with small commercial along the north side. At 4th Avenue the north side and south side is predominantly light industrial and commercial, the design will allow for a better integrated transition with small commercial addition to ground level and residential above.
The number of built commercial/industrial structures immediately surrounding the site are very dense and at similar heights to the existing buildings on site. Several of these buildings appear to be vacant and/or are poorly maintained. At the north side, across the street is a recreational sports retail facility. Both east and west of the site are loading dock warehouses that are rarely in a regular human interaction, for the most part just the occasional semi will come into these buildings. **Light quality** is excellent, there is enough open space via parking lots and truck storage lots that natural light penetrates the site nicely. This leads into great opportunity for greening in the vegetation textures that the site lacks. Aside from one or two trees along the north sidewalk of the lot there is nothing vegetated about it. No water is on or near the site, however with the historically rich content of Long Lake at Unicorn Park opportunity for allowing a wetland area to return in some form or another is inspiring. Doing so would add to the culture of the community and provide varied recreation, leisure and social gathering space.

**Distress** covers the entire neighborhood. Anywhere on this map and walking these streets, unnecessary storage overflow, vacant structures, garbage/litter and lingering vehicles fill the space. Beginning with this one site and three buildings, the hope is to be the first step in amending these issues and adapting to an innovative future for Unicorn Park.
Site Analysis

Views/Vistas

At opposite corner to intersection of site, view looking west toward Unicron Park

This is the main approach from the future pedestrian corridor, the current facade for the future thesis proposed mixed-used design.

View from west of site looking east toward University Drive
Material textures

-Dock High concrete building pad

-Steel frame structure

-Metal siding

-Wood frame openings and operable overhead doors
Site Analysis

Surrounding built features and their locations:

Sports retail facility, north and across 4th Avenue from site

Commercial industry west of site

Commercial industry west of site

Transition from commercial to residential, west of site
View from south looking at existing site
building through alley/driveway

Shared parking lot and commercial business to south

Single family homes to south of site
Site Analysis

Light Quality

Two of three buildings at west side of lot

Main one of three buildings at east of lot
Distress/Human Characteristics

Abandoned, boarded up commercial building, north of site

On site, look to overflow of storage effecting the maintainance of the neighborhood

Human Characteristics, distress
Site Analysis

AG Class
clayey lacustrine deposits
110-135 frost free days per year

Engineering Class
0-7” - Silty Clay
7-29” - Silty Clay
29-35” Silty Caly
35-47” Silty Caly Loam
47-60” Silty caly

Water Table
Depth - 18-42” - fluctuates seasonally
High water capacity - about 9.1”
Well Drained
No Popping
Low- frequency of flooding

*information gathered from,
http://websoilsurvey.nrcs.usda.gov
Looking north, Unicorn Park

Looking west toward park on 3rd Avenue north, also note vehicular/human traffic

Looking south, Unicorn Park

South rear corridor on site
Site Analysis

Photo Grid

North

East
### Average Wind Speed

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<th>Prevailing Wind Direction</th>
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<tr>
<td>Dec</td>
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Slope factor in elevation non beneficial in proposed site. Surroundings maintain a consistent elevation at 901.97.
Above: June 21, 10:00 am
Right: June 21, 2:00 pm

Lower Left: December 21, 10:00 am
Lower Right: December 21, 2:00 pm

Right: March/Sept 21, 10:00 am
Far Right: March/Sept 21, 2:00 pm
Topography and Air Movement

- Feb-May Average North Winds
- Jun-Jan Average South-SSE Winds

Noise

- Industrial Noise
- Trains
- Park Noise
- Main Traffic Route
- Residential Noise
- Secondary Traffic Route

Proposed Site

901.97
Program Requirements

Legend:
- Formal Connection
- Informal Connection
- Casual Connection

Community Space: Garden
Residential Space: Apt. Units
Commercial Space: Retail

Diagram showing connections between different areas such as Entry, Parking, Elevator/ Stair, Corridor, Restrooms, Lobby, Rooftop Garden, Bike/ Walk Path, Laundry facility, Exercise Facility, Whole Foods co-op, Retail Tenant, Day Care Facility, Banquet Room, Rooftop Garden, Apt. Units, Balcony.
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<th>Parking Entry</th>
<th>Bike/Walk Path</th>
<th>Corridor</th>
<th>Elev/Stair</th>
<th>Laundry Facility</th>
<th>Exercise Facility</th>
<th>Whole Foods Co-op</th>
<th>Retail/Tenant</th>
<th>Day Care Facility</th>
<th>Public Restrooms</th>
<th>Lobby</th>
<th>Banquet Room</th>
<th>Apartment Units</th>
<th>Balconies per unit</th>
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Parking:  
Entry:  
Bike/Walk Path:  
Rooftop Garden:  
Corridor:  
Elev/Stair:  
Laundry Facility:  
Exercise Facility:  
Whole Foods Co-op:  
Retail/Tenant:  
Day Care Facility:  
Public Restrooms:  
Lobby:  
Banquet Room:  
Apartment Units:  
Balconies per unit:  

- Essential: yellow circle
- Desirable: green circle
- Not Needed: brown circle
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<tr>
<td>Day Care Facility</td>
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<td>Public Restrooms</td>
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</table>
Lobby

Banquet Room

Apartment Units

Balconies per unit

46,000 sf
DESIGN DOCUMENTATION
Parklex 1000® is an exterior grade, high performance, composite panel finished with specially treated natural timber veners and is impervious to termite attack. Highly resistant to varying climatic conditions, including freeze/thaw, salt spray, dry climate and UV ray exposure. It is non-toxic and resists mold, mildew and fungus.

- Zinc Roofing (with integrated photovoltaic module)
- Rammed Earth (repurposed excavated soils)
- Salvaged aluminum siding
- Light weight steel construction


Figures List

Figures 1-5, 16-20
Stevens, Caralyn M. Photographs taken on October 5, 2011.

Figure 6-7
Stevens, Caralyn M. Graphic diagrammed on October 6, 2011.

Figure 8-9
Retrieved from Stephens, S. in *Architectural Record* on October 6, 2011.

Figure 10, 13, 15
Stevens, Caralyn M. Graphic diagrammed on November 11, 2011.

Figure 11, 12

Figure 14

Caralyn M. Stevens
Master of Architecture, NDSU 2012
Bachelor of Design in Architecture

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Email: caralyn.stevens@gmail.com

Hometown: Superior, WI

“Go confidently in the direction of your dreams!
Live the life you’ve imagined.” - Thoreau