Community Resilience:
Investing in walkability

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

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In Partial Fulfillment of the Requirements of the Degree of
Bachelors of Landscape Architecture

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May 2011
Fargo, North Dakota
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Currently, Main Avenue is lacking character and connection to the rest of Fargo, North Dakota. Most of Main Avenue is zoned commercial, and it appears to be highly industrialized because of full scale billboards, concrete buildings and lack of visual aesthetic toward the roadway, greenspace and sidewalks.

This thesis investigates how balancing pedestrian and vehicular traffic could positively impact Main Avenue by increasing economic development and safety. The thesis further investigates how the integration of environmentally conscious and sustainable initiatives can contribute to the socio-economic resilience of the streetscape.
Thesis Problem Statement

How can walkability contribute to the socio-economic resilience of a streetscape and community?
Statement of Intent
Project Typology
An environmentally sustainable and balanced streetscape renovation.

The Claim:
Designing streetscapes that utilize sustainable design strategies and construction practices can improve the environmental, economic, social well-being and social and economic resilience of neighborhoods and communities.

Premise
Using elements of sustainable design such as site evaluation, energy efficiency and renewable energy, water efficiency, and material selection will create a balance between social, environmental and economic goals (Newman, Beatley, & Boyer, 2009).

The complete street policy strives to achieve safety and convenience while equally balancing all users of transportation such as pedestrians, bicyclists, transit, freight and motor vehicles (Daley & Attarian, 2008).

Increasing walkability within a neighborhood can help increase the economic development and safety of the neighborhood and its surroundings (Litman, 2010).

Theoretical Premise/ Unifying Idea
Conventional transportation planning practices suggested that personal motor vehicle travel was more important than walking even though walking is considered the most basic form of transport (Litman, 2010). This form of transport has the ability to increase the economic development of a neighborhood (Litman, 2010). Even when most streets have high levels of service, a balance of vehicular traffic and foot traffic may have its benefits (Daley & Attarian, 2008).

Project justification
The intention of sustainable design is to strive to eliminate negative environmental impacts through well planned and skillful design. The driving factor for this type of design is meeting the needs of today while not compromising the needs of future generations. Recent history has shown more than ever the importance of environmentally conscious planning due to climate change and peak oil usage (Newman, Beatley, & Boyer, 2009). By investing environmentally sustainable principles and initiatives into a declining community; a resilient community and its future can cooperatively thrive.
Conventional planning tends to evaluate transportation systems based on mobility, travel speed and distance. This perspective heavily favors faster modes of transportation such as vehicular over slower modes such as walking or cycling. However, a shift is occurring toward pedestrian accessibility, which refers to a person’s ability to reach desired services and activities such as work, school and stores (Litman, 2010).

This thesis strives to overcome the preconceived notions of vehicular traffic taking precedence over pedestrian traffic. This thesis investigates walkability, sustainability and complete streets and how their ideologies can benefit and balance a streetscape. Further investigation will be done on how balancing vehicular and pedestrian traffic can economically help develop the streetscape and surrounding neighborhoods.
User/Client Description

The clients/owner
The federal government, the state of North Dakota and the City of Fargo will be the primary owners and clients of the project.

There are will be a variety of spaces for store-owners to own and operate; these owners will be considered secondary owners.

Users

Store owners/renters or operators - Store owners and operators will face the street with their store fronts, which will enhance the walkability of Main Avenue. A majority of the shops and businesses are currently open from 9:00 a.m. to 5:00 p.m. However, to attract people to visit and stay, the critical mass 10-10-10 rule will be applied. This rule proposes that within every two to three lineal blocks there should be at least 10 destination retail shops, 10 venues for dining and treats, and 10 places open after 6:00 p.m (Brooks, & Forman, 2003).

Vehicular users - Vehicular users typically do not stay within the space but are large in numbers. They use Main Avenue primarily as a thoroughfare. The peak usage will fall between rush hour times during the work week; however, these users do not require parking.

Pedestrian users - This is the target group of users, and the portion of Main Avenue in proximity to the downtown core of Fargo will be designed to accommodate both large and small numbers of this group. The projected peak usage will be during the warmer spring, summer and fall months. Consideration will be made for the cooler winter months. The parking requirements will correspond to the requirements of the store owners and operators.

Walkability Intervention
Currently, Main Avenue has very few pedestrians even though it is connected to Broadway, which is a popular pedestrian thoroughfare. By establishing and following the walkability ratios of 1:1, 1:3 and 1:6; a pedestrian entrance to the city will be established. The walkability ratio can be described as the enclosure a person feels in relation to building height as shown below (Institute of Transportation Engineers, 2006). A person feels safer and more secure walking in areas that have 1:1 and 1:3 ratios when compared to areas that have a higher ratio.

Streetscape Improvement
Parts of Main Avenue are covered with billboards and industrial components which give it a feeling of clutter unlike other parts of Fargo. By improving the streetscape with design elements such as street lights, trees and landscaping, the unique character of the street can be established or a connection can be made to the existing character of surrounding streets.

Greenspace
Currently there are no identifiable greenspaces along Main Avenue. Greenspaces are important and create a more enjoyable experience for a visitor. Greenspaces can be explored by visitors on the ground plane or in the form of green roofs of restaurants. There will be a variety of aesthetic, passive and active spaces.

Industrial, Residential and Commercial Integration
Currently Main Avenue appears to be a very unattractive, general commercial part of Fargo with most of the site zoned industrial and commercial. Without significantly compromising the needs of vehicular users, residential and commercial units should be introduced into the site. These units can be implemented either or through the use of mixed use buildings.
Site Information

State and Region
North Dakota is located in the Midwestern region of the United States, and is bordered to the north by Canada. While North Dakota is the 19th largest state in the USA, it is the third least populated state.

City
The city of Fargo, founded in 1871, is located on the eastern border of the state just to the west of the Red River of the North. The population of Fargo is close to 100,000 people; however, when combined with closely adjacent cities (Moorhead, Dilworth and West Fargo) the population is closer to 200,000 (City data, 2010).

Due to Fargo's location in the Great Plains Region the city has an extreme climate. The city features a long, cold, windy and snowy winter and averages approximately 46 inches of snow a year. Spring and autumn are typically very short in relation to other locations in the United States. Summers are very warm and are often humid with frequent thunderstorms (City data, 2010). This information is important because it can help predict the pedestrian's peak usage.

The site is a roadway that lies between Interstate 29 and the Red River of the North. This segment is approximately three miles long and currently serves as a gateway from the interstate to downtown Fargo and eventually connects to Moorhead through the Veterans Memorial Bridge. Main Avenue was chosen for this thesis because of its lack of aesthetic character and walkability but also for the potential the site can serve for the Fargo-Moorhead communities.

The site is currently mostly zoned commercial in the eastern portion and industrial in the west. Main Avenue consists of full scale billboards, concrete buildings with no visual aesthetic toward the roadway and lacks all forms of greenspace and sidewalks. Currently there appears to be a significant number of vacant buildings and buildings for sale which gives the street a run-down appearance. There is little to no residential land use apparent along Main Avenue.

Very few people are observed walking in this area due to heavy vehicular traffic.
Project Emphasis

The emphasis will be on how incorporating elements of sustainable and urban design can propel a lacking site into the futuristic realm of urbanism.

The research for the design will look at how environmental sustainability can influence the social resilience of the surrounding neighborhoods and how balancing walkability with vehicular traffic can create a sense of place and increase economic development.

A Plan for Proceeding

Definition of Research Direction

This thesis will further investigate the theoretical premise, project typology, historical context, site analysis, and programmatic requirements to ensure an in-depth, mixed-method quantitative/qualitative research. Qualitative information will be gathered through experiencing and observing the site. It will also utilize the observation of other sustainable streetscapes and resilient communities either through direct observation or local and archival documents. Quantitative data will be collected from previously published books, journals, archives, and government documents. The statistical and scientific research from these sources will be analyzed and presented graphically and through text.

This thesis will follow a concurrent transformative strategy and will be directed by the theoretical premise and unifying idea. The quantitative and qualitative information will be synthesized and interpreted.

Documentation of the design process will be done in a continuous manner. Submissions will occur on a biweekly basis to ensure the thesis documentation is up to date and accurate. The submission will include research, sketches, drawings and 3D representation models.

All work will be compiled and stored digitally. The final presentation and submission will be created and made available to future scholars in a digital thesis book.
The program
Theoretical Premise Research Summary

Conventional transportation practices have suggested that personal motor vehicles are more important than walking, even though walking is considered the most basic form of transport (Litman, 2010). An increase in walkability has the ability to increase the economic development of a neighborhood (Litman, 2010). Even when streets have high levels of service, a balance of vehicular traffic and foot traffic may have its economic benefits (Daley & Attarian, 2008).

The main priority for researching the premise and unifying idea is to understand the costs and benefits of increasing pedestrian traffic in a site where typically vehicular traffic has been of the utmost importance, and if creating a balance of all transportation modes will benefit Main Avenue and its business economically.

This balance can be established by introducing walkability into the streetscape. Introducing walkability has been shown to improve community interaction and increase local shopping, which in turn can increase the local economy.

There has been a direct link between walkability and the increase of safety in a neighborhood or streetscape. Natural surveillance occurs when people frequently use the streetscape and watch out for potential acts of crime. Traffic safety is directly related to walkability, and the number of vehicular impacts typically decreases when walkability increases (Daley & Attarian, 2008).

The best way to establish walkability on a street is to create a pedestrian friendly environment, which in most cases is a streetscape and its context (Litman, 2010).

A streetscape can serve people without depleting the world’s natural resources. These sustainable streetscapes typically differ from regular streetscapes because they focus on stormwater management, water efficiency, transportation, energy efficiency and material selection (Daley & Attarian, 2008). Sustainability has shown to improve qualities of life, neighborhood restoration and reduce health risks (Litman, 2010).

One way to ensure a balance of pedestrian and vehicular traffic on site is a complete street. Complete streets are designed and operated to enable safe access to all spaces within a site for all users (McCann, 2005) while still providing a level of convenience for users of transportation such as pedestrians, bicyclists, transit, freight and motor vehicles (Daley & Attarian, 2008).

By increasing the accessibility for everyone there is a chance to increase the economic conditions for businesses and residents, which is something that can benefit Fargo.
Bioswales or vegetative swales are used as a form of bioretention and are used partially to treat water quality, decrease flooding potential and direct stormwater away from critical infrastructure. They can be an aesthetic part of a landscape and are typically integrated into parking lots or in road medians (Clark, 2008).

Social benefits of sustainable design and greenspace
The social benefits of sustainable design are related to improvements in the quality of life, health and well being. These improvements are related to improved environmental quality, neighborhood restoration and reduced health risks from pollutants associated with building energy use and vehicular use (US Department of Energy, Social benefits of sustainable design).

Psychologists have found that spending time in natural environments can have positive psychological effects on the human mind (Okhovat, Iran, Amirkhani, & Pourjafar, 2009). Vegetation in these areas can work as a “natural tranquilizer” because it has a tendency to lower stress levels and induce a feeling of relaxation (Okhovat, Iran, Amirkhani, & Pourjafar, 2009).

Economic benefits of sustainable design
Sustainable buildings and spaces can provide financial rewards due to lower annual costs of energy, water, maintenance and repair (US Department of Energy, economic benefits of sustainable design).

Despite the initial upfront costs which can increase a project cost between two to seven percent, studies show that the costs should be weighed heavily against future lowered building life cycle costs, increased worker productivity and a structure’s decreased environmental impact (Worth, 2006).

Environmental benefits of sustainable design
The main goal of sustainable design is to limit the impact of a project on the environment and to reduce natural resource depletion (US Department of Energy, Environmental benefits of sustainable design).

Large amounts of land are used for buildings and infrastructure, leading to the degradation of the ecosystem (US Department of Energy, Environmental benefits of sustainable design).

Complete streets
According to a national survey completed in 2002 by the Federal Bureau of Transportation Statistics, about one quarter of all walking trips take place on roads without sidewalks or shoulders (McCann, 2005).
According to the National Complete Streets Coalition, “The streets of our cities and towns are an important part of the livability of our communities. They ought to be for everyone, whether young or old, motorist or bicyclist, walker or wheelchair user, bus rider or storekeeper. But too many of our streets are designed for speeding cars, or worse, a creeping traffic jam” (National Complete the Streets Coalition, 2005, page 2).

Complete streets are designed and operated to enable safe access for all users (McCann, 2005) while still providing a level of convenience for all users of transportation, including pedestrians, bicyclists, transit, freight and motor vehicles (Daley & Attarian, 2008).

In order to create complete streets, transportation agencies must shift away from building infrastructure primarily for cars. A complete streets policy ensures that transportation agencies will design and operate the entire right of way for safe access for all users (National Complete the Streets Coalition, 2005).

Appearance of complete streets

There is no design prescription for how a complete street will look. A complete street in a small rural area could look completely different than one in an urban area (National Complete the Streets Coalition, 2005).

In a rural setting a complete street may involve simply providing a wide shoulder or a separate multi use path instead of a sidewalk (Smith, 2010).

A multi-use path is defined as a bikeway physically separated from motorized vehicular traffic. This separation can be achieved by an open space or barrier. Shared use paths may also be used by pedestrians, skaters, wheelchair users, runners and other non-motorized users (Freeland, Wilson, & Lewandowski, 2009).

According to the National Complete Streets Coalition the most common features of a complete street are:
- sidewalks
- bike lanes
- wide shoulders
- plenty of crossing opportunities
- refuge medians
- bus shelters and crossings
- special bus lanes
- raised crosswalks
- audible pedestrian signals
- sidewalk bulb-outs

Benefits of complete streets

Mobility benefits. Complete streets allow and plan for everyone to travel with the same level of safety whether or not they have a disability. Wide intersections are typically designed to move vehicles at a fast pace but may not leave enough time for someone with a disability to cross safely. For this reason, specific attention needs to be paid to intersections, such as installing curb ramps, audible or tactile signals for blind pedestrians and/or providing longer crossing times (National Complete the Streets Coalition, 2005).

Economic benefits. Creating infrastructure for non-motorized transportation and lowering automobile speeds can improve economic conditions for both business owners and residents (National Complete the Streets Coalition, 2005).

When a street in San Francisco’s Mission District “slimmed” its traffic lanes to slow down traffic and accommodate other users, 40 percent of merchants along the street reported increased sales and 60 percent reported more area residents shopping locally due to reduced travel time and convenience. Overall, two-thirds of respondents described the increased levels of bicycling activity and other street changes improved their business and sales (McCann, 2005).

Complete streets have also boosted the economy in neighborhoods by boosting property values, including residential properties because generally property owners are willing to pay more to live in walkable communities (National Complete the Streets Coalition, 2005).

Safety benefits. Complete streets reduce crashes through comprehensive safety improvements. Some features, such as medians, improve the safety for all users; they enable pedestrians to cross busy roads in two stages, and reduce left-turning motorist crashes to almost zero (National Complete the Streets Coalition, 2005).

Sustainable complete streets

Complete streets are natural complements to sustainability efforts because they ensure benefits for mobility, community and the environment (National Complete the Streets Coalition, 2005).

Many of the elements and goals of complete streets overlap with green streets which serve environmental sustainability. These include:

Pavement. Many communities are narrowing travel lanes, swapping one automobile lane for two bike lanes (which is referred to as a ‘road diet’) or taking other
measures to ensure there is enough space for bicyclists, pedestrians and public transportation (National Complete the Streets Coalition, 2005).

**Landscaping.** Landscape elements such as bioswales, planters, rain gardens, and street trees are ways to help curb stormwater runoff (National Complete the Streets Coalition, 2005). It has been found that landscape elements can play an important role in deterring crashes and injuries (Dumrbaugh, 2005). Traffic calming elements like chicanes, islands, and curb extensions, which are popular for creating complete streets, are opportunities for bioswales, street trees, and rain gardens (National Complete the Streets Coalition, 2005).

Chicanes are curb extensions that alternate from one side of the street to the other. They discourage high traffic speeds and can be implemented simply by installing raised, landscaped islands. Curb extensions differ because they extend the sidewalk or curb line out into the parking lane or driving lane, which improves the ability of pedestrians and motorists to see each other.

**Climate.** Complete streets make their most basic contribution to green streets by providing space along the right-of-way for low-emission travel (National Complete the Streets Coalition, 2005).

Walking and bicycling for short trips (less than one mile), rather than taking a car, can reduce CO2 emissions by 12 to 22 million tons per year in the US alone (Gotschi & Mills, 2008). Add in the benefits of public transit, which already cuts CO2 emissions by 37 million metric tons every year in the United States, and it is a significant decrease. (Gotschi & Mills, 2008).

**Economic benefits of a walkable community**

According to a report prepared by the Main Development Foundation, “walking improves community interaction as people are more likely to talk with neighbors and shop in local stores when they are walking through a community (Ryan, 2003, page 2).

**Housing values.** A study by the Urban Land Institute determined that on average home buyers were willing to pay $20,000 more for homes in walkable areas (Ryan, 2003). Another study found that a five to ten mph reduction in traffic speeds increased adjacent residential property value on average 20% (Burden, 2009).

**Retail sales.** Walkable downtowns offer a mix of restaurants, offices and housing that promote interaction. This interaction is key since a local economy depends on accessibility, networking and creativity (Burden, 2009). Some cities have reported that the more pedestrian-friendly their infrastructure was the higher the economic return per square foot of retail space, when compared to automotive - friendly retail space (Garcia, 2009).

Walkable communities and their downtowns attract a large amount of tourist dollars. Towns that are designed on a human scale have been shown to have the most tourist economic increase into a community.

**Safety benefits of a walkable community**

Pedestrians add to the ambience and security of streets (Nasri, 2008).

Traffic calming is a way to minimize the negative impacts of traffic collisions to improve safety. There are a variety of things that can be done to reduce the severity and number of accidents: road humps, speed cushions, raised junction plateaux, chicanes, road narrowing and mini-roundabouts (Nasri, 2008).

Researchers at Harvard University found that rates of violent crimes in neighborhoods where residents knew and were active in the community were as much as 40% lower than in neighborhoods where a sense of community was lacking. Walkability gets people out of their houses and walking, which can increase surveillance. The presence of trees and grass has also been associated with reduced crime rates (Davis, 2007).

**Factors of walkability**

There are several things that contribute to the success of walkability in a neighborhood (Nasri, 2008):

- Land use mix: ensuring there is a variety of land uses in an area.
- Street connectivity. Making sure that the walkable street or neighborhood connects to ther areas that are walkable.
- Residential density.
- Transparency of windows and doors
- Ample amount of things to do and see
This thesis tried to research as many applicable case studies as possible. The research included streetscapes, sustainable streetscapes and complete streets. The scope of the research to be included in the thesis was limited to the United States; however, case studies were researched internationally.

The first case study is the product of a pocket park catalyst near its location in Detroit, Michigan. Because the boulevard was originally an arterial street there was opposition when the project was first proposed; however, the project will soon be built. Walkability and sustainability were the main objectives of this case study.

The second case study is a major thoroughfare that is striving to not only be the “greenest” stretch of roadway and streetscape in Chicago, Illinois but in the United States. The project incorporates a variety of sustainable practices in the streetscape.

The final case study is a complete street in San Francisco. The four lane road underwent a “road diet” and increased the number of bicyclists 140 percent, with most of the surrounding business owners stating that they saw a significant increase in their sales.

The case studies that were included in the thesis are community supported projects to increase the economic development, visitor and pedestrian usage.
Typological Research

Oakman Boulevard, Detroit, Michigan

The recent pocket park construction served as a catalyst for the proposed sustainable streetscape in a historic district in Detroit, MI. Detroit wanted to enhance the pedestrian environment that was both functional and attractive.

Oakman Blvd is a 120’ wide arterial street. The street is configured with two travel lanes in each direction as well as parking lanes on either side.

While walkability is a key objective of good streetscape design, streetscapes have the potential to meet several additional sustainable design objectives. The following are the design objectives that Detroit designed into its proposal.

**Improving air quality.** The link between human health and air quality is becoming a concern. Detroit wanted to help reduce the amount of transportation pollution by providing space for increased walking and bicycling.

**Enhance the pedestrian environment.** Detroit listed design priorities to create a successful pedestrian environment: introduce attractive elements (shade, furniture, art), way finding (signage, community identification), security (reduced visual obstructions), and universal accessibility.

**Street trees to reduce heat island effects.** On streets in Detroit where trees create a continuous tree canopy a differential of 5-15 degrees is felt.

**Stormwater management.** The street design strives to provide as many opportunities to detain, filter, and infiltrate as much stormwater as possible.

**Reduce light pollution.** Pedestrian safety and nighttime aesthetics often seem to be at odds with anti-light pollution standards. This is done by directing light on the path and minimizing spillage.

text courtesy of Tetra Tech, 2008
Cermak Road and Blue Island Avenue, Chicago, IL

Cermak Road is a major thoroughfare that connects the neighborhoods of Chinatown, Pilsen and a warehouse district. The daily traffic volume ranges from 13,400 and 22,100 with an average of 17,225.

The 2.13 mile streetscape will be the “greenest” stretch of roadway in Chicago (Ware, 2010), and has the potential to be the “greenest” in the country. It is a step toward Chicago’s Mayor Richard M. Daley’s goal of transforming Chicago into the greenest city in the nation (Womack, 2010).

Cermak Road and Blue Island Avenue is Chicago’s first sustainable streetscape (Ware, 2010) and could possibly be the most sustainable streetscape in the United States (Womack, 2010). It is being designed by the Chicago Department of Transportation (CDOT).

The two and a quarter mile streetscape highlights:
- self-cleaning pollution reducing concrete
- concrete and/or glass cullet below the sidewalks for stormwater detention
- bioswales between the sidewalk and street to clean road runoff
- light colored pavement and pervious pavement parking lanes to reduce urban heat island effects
- Solar hybrid lights as community identifiers
- Recycling 90% of the construction materials
- Reduction/elimination of potable irrigation (Daley & Attarian, 2008)

On the north side of Cermak Road the runoff is collected in sidewalk stormwater planters connected to large expanses of open-graded aggregate below the sidewalk.

On the south side of Cermak Road an existing railroad embankment is used to incorporate a bioswale.

Along Blue Island Avenue a new bike lane and on-street parking both feature permeable pavers and are coated with photocatalytic cement, which is used as a smog-eating concrete (Ware, 2010).

The project is being completed in four phases:
- Phase I was completed in the summer of 2010
- Phase II was completed in the fall of 2010
- Phase III to be completed in the spring 2011
- Phase IV to be completed at the end of summer 2011
Valencia Street, San Francisco, CA

Valencia Street is located in the Mission District, which is one of San Francisco’s oldest neighborhoods. It had become a primarily low-income, working class and immigrant neighborhood (Drennen, 2003).

Valencia is a 62’-6” wide arterial through a shared-use area of mostly two and three story buildings. Before the “road diet” project, the arterial was a four lane road with an average daily traffic rate of approximately 22,000 vehicles a day (Sallaberry, 2000). The project is part of the Great Streets Program, adopted in 2005 and is being designed as a partnership between the Metropolitan Transportation Commission, The City and Livable City. Livable City is a group of neighbors that formed The Better Valencia Project to push city officials for change (Aparton, 2008).

In 1998 the city board voted to remove two lanes of traffic and install bicycle lanes and a median lane for left-hand turns to create a complete street. In order to ensure the level of service was still met the timing of signals was increased in a few spots (Sallaberry, 2000).

Sidewalks were widened from 10 feet to 13-15 feet, allowing for more foot traffic and outside seating for cafes. New trees and pedestrian lighting was applied to increase safety (Kahn, 2008).

Studies were done to see if traffic diverted to other roads and if there was an increase in bicycling. The studies showed that only 10 percent of the traffic diverted to parallel running streets. Total collisions had declined by 20 percent (Drennen, 2003).

The most impressive part of the study was a 140 percent increase in bicycle ridership along the street. The bicycle count taken before the road diet showed 88 bicyclists per afternoon. After the road diet a count yielded 215 bicyclists per hour (Drennen, 2003).

Two thirds of business owners said they saw a significant increase in business after the bicycle lanes were implemented and there were no commercial businesses reporting a decline in sales. More than 73 percent responded that the street was “nicer or more attractive.” Overall, the business owners thought the bicycle lanes were beneficial to the area (Drennen, 2003).
Main Avenue, formally known as Front Street, plays an important role in Fargo’s history. It was where the original town of “Fargo on the Prairie” began and has been considered the entryway to the city.

This thesis takes an extensive look at the history of Main Avenue to find events and locations that can be synthesized and used in the design process. For that reason there is an extensive amount of historical information regarding the walkability, urban renewal, historic events and sites included in this thesis. These experiences have been fundamental in the collection of narratives and have shaped what Main Avenue is today.
The 1800s

Two communities appeared on the west side of the Red River. The first “Fargo in the timber” was located along the banks of the Red River while “Fargo on the Prairie” was a tent town built approximately at the present intersection of Broadway and Front Street. “Fargo on the Prairie” was made up of mostly railroad engineers, surveyors and their families. This community consisted of approximately 100 people in about 50 tents. On October 6, 1871, a post office was established at the site and the name was changed to Centralia. After complaints from the NP Railroad officials, the name was changed to Fargo on February 14, 1872, after William G. Fargo, a director and financial backer of the railroad (Caron, 2004).

Front Street was the first thoroughfare in Fargo. It began at the Red River and paralleled the Northern Pacific Railroad tracks. On November 22, 1953, the Fargo City Commission voted unanimously to change Front Street to Main Avenue after more than 100 years. The name change came shortly before a repaving project began (Caron, 2004).

The Headquarters Hotel was the first major building in Fargo. It was constructed by the Northern Pacific Railroad to house guests, government offices, and to serve as the railroad station. The hotel was completed in 1872 and burned down in 1874. A second hotel was built in just 90 days; the new hotel had three floors instead of the original two. The hotel survived the fire of 1893 but burned down in 1897. By then it was considered by most of the town to be somewhat of an eyesore (Caron, 2004).

The Northern Pacific Park was on the east and west side of the NP depot. There was a bandstand at the east end of the park. In 1900 the mayor of Fargo acquired a cannon captured by Rear Admiral Dewey in 1898 during the Spanish - American War. The cannon was 15 feet long and weighed 13,000 pounds. The west park was demolished in 1964 and is currently a parking lot. After Shotwell’s florist exploded and burned in 1968, the east park was converted into parking lot as well (Caron, 2004).
The original Fargo House was built in the Dakota Territory days. The Fargo House was used as a hotel. The original building was built of wood but it later was partially veneered to include brick. While staying at the hotel one could get a bath, shave, haircut and a shoe shine. The hotel was still in operation in 1953 after more than 70 years (Caron, 2004).

The Dakota Business College was located on Eighth Street and Front Street. The building was designed in 1884 as Fargo’s first masonic temple. It was established by F. Leland Watkins in 1890 with five students. It was owned by the Watkins family until it closed in 1978; it began with one building but expanded later into two. The college advertised courses in letter writing, penmanship, spelling, typewriting, shorthand, English, science and mathematics. This building is currently the oldest commercial building in Fargo (Caron, 2004).

The fire of 1893 began at 3 p.m. on the afternoon of June 7, 1983; the worst fire in the history of Fargo began downtown, reportedly at the Little Gem Restaurant on Front Street. The fire spread from Front Street to the north. By the end of the day, downtown Fargo was almost completely burned. More than 160 acres were in ashes and more than 31 blocks consisting of 140 residences and 219 businesses were destroyed (Caron, 2004).

The 1900s

In 1908 an unnamed statue of a male Native American was erected at the head of Broadway, on Front Street. The statue was cast by Iron Works in New York City. It rested in the center of the intersection for 40 years. The statue was purchased by the Fargo Humane Society with the idea that the base would serve as a watering trough for horses.

It stood there until the mid 1940s when a truck ran into it and damaged it. It was dismantled and put in a shed until 1949 when it was rebronzed and put in NP Park. After the park was demolished the statue was stored again. The location of the statue has been unknown for last 50 years (Caron, 2004).

The Monson Trunk Company, located on Front Street, built the Largest Trunk in the World in the early 1910s. The trunk measured 18 feet long, 10.5 feet high and 10 feet wide. It was exhibited at the Fair Grounds in Fargo. The company moved in the mid-30s and changed its name to Monson’s Luggage (Caron, 2004).
The Fargo Street Railway accepted its first passenger in 1904. The street railway ran through the center of Front Street. The project was completed for approximately $200,000 (for Fargo and Moorhead). Fare was five cents per person and service ran from 6 a.m. to midnight every day except Sunday. There were electric wires that ran overhead to supply electricity to the cars.

The line in Fargo had more than seven miles of track. Each car had rattan seats, electric lighting and was warmed with hot water heaters (Caron, 2004).

The Urban Renewal Agency was established and was responsible for carrying out renewal planning and redevelopment. The objective of the city-wide renewal project was to provide a living and working environment that was above the minimum standards. It was extremely hard to shape the physical environment in which we live, work and play so it improves the health, welfare and happiness of all of the citizens of Fargo (Lashkowitz, 1956).

Research began to evaluate the potential for economic growth from stores in the central business district, which is located along Broadway and Main Avenue. Downtown was described as an “active area experiencing renewal. The downtown shops offer a quality and variety of merchandise that is not available elsewhere” (Morrow 1985). The corner of Broadway and Main is considered to be the area with the highest pedestrian foot traffic in the area. In 1972, with the opening of West Acres (a shopping mall located south of Main Avenue) three of the four main stores left the central business district (Morrow, 1985).

The Red River Mall was completed in 1975. It was an attempt to promote downtown shopping by slowing vehicular traffic. This was done by placing pillars and flower beds on Broadway between Main Avenue and Second Avenue in a winding pattern.

The mall was created to bring shopping back to the downtown area after the creation of West Acres. The plan took Broadway, a two lane street with parking on each side, and created “a winding, parking-less, snake-like street emulating the curvy nature of the Red River.” To keep rain and snow off pedestrians overhanging roofs lined the street.

The lack of accessibility and loss of large stores caused the near collapse of the downtown in the 1970s (Caron, 2004).
The construction of Broadway's streetscape began in April 2002. The three-year downtown revitalization project cost $8 million and upgraded the existing roadway, storm sewer, and water main along Broadway. Landscape enhancements were combined with plantings, benches, ornamental fences and decorative pavers to beautify historic downtown Fargo (Caron, 2004).

The main goals of the streetscape were:
- Generate activity downtown
- Create walkable district, by making blocks slower and increasing the amount of glass on storefronts
- Ground floor uses. Creating a mix of shops, offices, and restaurants
- Create a pedestrian friendly neighborhood
- Diversify transportation uses
- Create safe streets by natural surveillance. This was aided by the increase in pedestrian foot traffic
- Incorporate historic information and open spaces
- Enhance the automobile entry ways by increasing landscape elements

(City of Fargo, 1999)

History of Sustainability

In the United States the first establishment of a national policy for environmental sustainability came in 1969 with the passage of the National Environmental Policy (NEPA). The purpose of NEPA was to "foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic and other requirements of the present and future generations" (United States Environmental Protection Agency, 2010, page 5).

Global climate change is a factor that has unified many nations on the sustainability issue. In December 1997, more than 150 nations adopted a historic agreement known as the Kyoto Climate Agreement to protect the earth's atmosphere and climate. For the first time, nations agreed to place limits on their emissions of heat trapping greenhouse gases (United States Environmental Protection Agency, 2010).
The main academic goal of this thesis is to create a valuable contribution for future students. This thesis strives to continue the walkability of Broadway onto Main Avenue without significantly compromising the current level of service. The academic goals of the thesis will be achieved by producing a quality booklet that clearly shows my intentions and ideas.

The professional goals relate to the process and completion. The final thesis should consist of an accurate depiction of the overall process and design that is consistent with the professional requirements of landscape architecture.

The professional goal of this thesis will be completed when the thesis is suitable to distribute to professionals outside of the academic setting.

The personal goals set for this project are related to the academic and professional goals. In order to create a valuable thesis in both the academic and professional realms, I have to strive to complete all parts of the thesis project with dedication. It is important for me to synthesize all aspects of my collegiate career to ensure the academic aspects are complete.

I hope this thesis is the capstone to my education at North Dakota State University and helps me transition to my next academic endeavor in urban planning.
The Narrative

I remember the first time I came to visit Fargo as a senior in high school with my family. We had exited off the interstate too early and ended up on Main Avenue. I remember the vast number of empty buildings and the overwhelming amount of concrete. The road was lined with parking lots and concrete walls right up to the road. There was not a single person walking on the site and the only apparent sound was the humming of vehicle engines. I began to second guess my choice of North Dakota State University because of the overwhelming lack of comfort.

The site has not changed much in five years. Businesses have changed hands and more pavement has been poured. The old brick and concrete walls have continued to crack from the vibrations of the train that goes rumbling by.

In Fargo’s history Main Avenue was the most pedestrian-friendly avenue in town, and has the potential to bring people back downtown.
Site character

The site is void of Fargo’s welcoming character. The site feels heavily industrial despite its current commercial zoning.
Looking north most of the site shows buildings and the Northern Pacific Railroad. The railroad is often frequented by trains and will prove to be a constraint in the project because it creates a barrier to the north.

In the eastern portion of the site, located in the renaissance zone, is the most vegetation. In this section there are a number of stores that were revitalized during the renaissance revitalization project.

Looking south from the sidewalk is a large number of parking lots and businesses. Behind Main Avenue is a large area of residential housing.

A large number of businesses in this area have elevated signs. In the eastern portion there are full-size billboards over the tops of buildings and streets.

The urban fabric overwhelmingly dominates the green fabric in this site.

The limited amount of greenspace is comprised of deciduous plant material. During the fall and winter months the existing greenspace appears to be invisible due to the lack of leaves. The site would benefit from coniferous plant material that keep their needles and green into the fall and winter months.

Most of the buildings along Main Avenue have either a square or rectilinear footprint. The forms appear to be at a right angle to the street, with very little variation.

Textures and materials are comprised of mostly brick and concrete masonry units with only a few facades comprised of glass. Glass typically can increase pedestrian use and for this reason many urban streetscapes are lined with glass facades.
Soils and Erosion

The site contains three soil complexes. Orthents - aquents hiwaycomplexmakeupthesmallest portion and has the steepest slopes. This soil complex is located near the interstate as shown in the picture labeled. This soil complex has slopes that range from 0-32%. The other two soil complexes are urban land endoaquents complex and urban land. Both of these soil complexes have small slopes of 0-3%.

The terrain will make it easy for pedestrians to walk since there are no significant slopes along the majority of the site that need to be addressed.

The highest potential for erosion appears to be along the railroad tracks north of the site shown in the picture on the right. The slope is steep and has little vegetation to prevent the rock/soil mixture from eroding. None of this erosion will affect pedestrian traffic along the streetscape.
Transportation

There are currently no designated bus stops in the thesis focus area as shown in the Metro Area transit map below. The transit system crosses the focus area on University and 10th Street. These buses make a stop one block south of the site.

The primary transportation use is vehicular traffic as shown in the average annual daily traffic volumes. The most current information is from 2006. Traffic ranges from 4,800 cars to 27,400 cars daily.

Through most of site the speed limit is 30 mph and when approaching the interstate the speed limit is 40 mph. This is shown in the speed limit map below.

There are eight traffic signal lights in the focus area. These are the best places on site for pedestrians to cross. It is hard at several of these intersections to cross in the allotted time. There are 15 southbound traffic stops and one northbound stop sign. The stop signs do not provide a sufficient place for pedestrians to cross.

Currently, the safest points for pedestrians to cross are at the 30 mph traffic signals.
Weather
Due to Fargo’s location in the Great Plains Region the city is subject to extreme climate. The city features a long, cold, windy and snowy winter and very warm summers (City data, 2010).

Included are graphs showing weather patterns specific to Fargo. It is predicted that the heaviest pedestrian traffic will occur when temperatures are moderate, with low amounts of precipitation or snowfall, low amounts of wind and sunny. These conditions are favorable to pedestrians (Nasri, 2008).

Light Quality and Temperature
The site is subject to constant natural light; however, the built structures on or around the site create shadows at various points along Main Avenue.

There is a significant amount of constructed light in the manner of street lights, upcast lights to billboards and lighted store signs. These create a significant amount of light pollution in this area. There is the potential to switch the large street lights to pedestrian lights which create a safer light for pedestrians while decreasing the amount of light pollution.
Zoning Study

A zoning study was conducted to observe the relationships of the zoning allocations of the site and its surroundings. The site is comprised primarily of commercial, industrial and mixed use. The mixed-use zoning is primarily in the downtown Fargo area.

Historical district

This study explores the locations within the site that exist within historical district and within the downtown district.
The city of Fargo has plans to redo parts of Main Avenue.
A large portion of Main Avenue falls into low income and minority concentrations. Some minority populations have been observed walking from the low income housing to the existing cultural businesses on Main.

Main Avenue from 10th Street to the Interstate has the highest risk of foreclosure in Fargo. It is a level five risk which is halfway between no risk and extreme risk.
Roadway Infrastructure and Building Footprint

For the purpose of identification in this analysis, each of Main Avenue’s buildings was assigned a number. Main Avenue is dissected by four arterials which include I-29, 25th Street, University Drive and 10th Street. A set of railroad tracks spans the entire north side of the site.

A large majority of the eastern portion of the site is commercial while a majority of the western portion is industrial. The Burlington Northern Sante Fe’s property makes up most of the “other” portion.
Currently there are only five restaurants and three coffee shops along Main Avenue. Most of these are on the eastern portion of Main Avenue. There are four small grocery stores dispersed along Main Avenue. There are a variety of walkable amenities along Main Avenue.
Building Aesthetic Survey

All buildings along Main Avenue were surveyed and given a rating. The rating is based on aesthetic quality, current condition of the building, architectural interest and an approximation of how much work it would take to improve the area for walkability.
Walkability Survey
There are sidewalks along Main Avenue that are unfavorable for pedestrians; however, in many of Fargo’s future plans there is mention of improving walkability along Main. The least walkable areas fall within the low income neighborhoods where the most pedestrians are observed.

Lower Level Window Survey
Studies have shown that a higher percentage of windows on the lower level will increase walkability, street interest and surveillance. This survey looks at the number of windows on the main level only.
Vacant Buildings compared to Low Aesthetic Buildings

There are a significant number of buildings on Main Avenue that are for sale or currently appear to be vacant. Six of these buildings are also buildings that ranked very low on the aesthetic scale.

Vacant Buildings compared to Low Building Value

There are a number of parcels that have a higher land value than building value. This indicates that the building is in disrepair and can be considered for removal. The parcels that have higher land values are compared to buildings that are currently vacant.
For this thesis Main Avenue is broken up into three typologies. The western portion will focus on bicycling and bicycle connections. The central portion of the site will focus on connections to the south as well as improving walkability. This section will incorporate retail as well as places to eat. The eastern portion of the site will focus on walkability and the connection to the downtown atmosphere.
There are very few greenspaces on Main Avenue, so a focus was put on incorporating both active and passive greenspaces. Six buildings are proposed to be removed based on high land value and low building value, their vacancy, and their low aesthetics. Only one building proposed to be removed is currently not vacant. Four buildings need to be refitted to serve another purpose. There are a few areas proposed for infill and these areas are within the walkability focus.
Design Phase
Design Goals
There were specific goals set and used as parameters for this design thesis.

1. Provide infrastructure to allow for amenities and businesses to relocate to Main Avenue
   - By providing infill areas to create opportunities for businesses to relocate to Main Avenue. This will create room for economic growth as well revenue retention.

2. Provide a public realm on Main Avenue that increases pedestrian interest
   - Create spaces in the pedestrian realm that feels inviting to pedestrians
   - Create glazed store fronts in areas where heavier pedestrian traffic is expected
   - Utilize extra sidewalk space for dining tables and benches

3. Increase the safety of pedestrians
   - Relocate parking lots from current location to the rear of businesses to decrease the amount of pedestrian and vehicular impact points
   - Ensure a buffer or barrier zone between pedestrians and vehicular traffic

4. Support the neighborhood vitality
   - Encourage neighborhood connections to Main Avenue
   - Provide amenities that are within walking distances from residential zones
   - Houses that are linked to walkable neighborhoods see an increase in housing properties. Which will benefit local neighborhoods that are low income concentrations
   - Incorporate characteristics from neighboring communities
Overall Master Plan

The overall master plan is divided up into three Districts based on their design needs, location and opportunities for connection. Within the three districts are focus areas which are to be designed as typologies.

Infill is provided in a majority of the Madison District and the Downtown West District to help retain revenue on Main Avenue. There are only five restaurants on Main Avenue. However Main has a significant amount of businesses and warehouses where workers must get into their cars and go elsewhere for lunch. By providing restaurants on Main Avenue people are more likely to walk two blocks and eat lunch at a cafe than get into their cars and drive elsewhere. Infill opportunities also include retail, residential, office and civic space.

The Downtown District is retaining the most existing buildings when compared to the other two districts.
Gateway District:
Creating an entrance to the city

The Gateway District
Historically Main Avenue was Fargo’s most prized street because it was the gateway to the city. Currently the Gateway District lacks the “hometown” feeling Fargo prides itself in. It has become heavily focused on vehicular traffic and has left little planning for pedestrians and cyclists.

Currently the Gateway District buildings are at a walkability ratio of 1:13. This vast ratio makes this area the most uncomfortable to walk, even though the sidewalks are in very good condition. This coupled with the 40 mph speed limit creates an unfriendly pedestrian environment.

In this area, focus is given to creating a better entry for the city from I-29 for pedestrians and vehicular traffic. Emphasis is also given to increasing pedestrian and cyclist circulation.
Current Gateway Entrance
The current entrance to the city lacks landscaping and visual interest. It is plagued with wide streets, front facing parking lots and frontage roads. The overwhelming amount of concrete portrays an un-welcoming, dirty and industrial part of town.

Most of this area is zoned industrial. A majority of these buildings have been owned and operated under the same business for long periods of time. The design challenge in this area is to incorporate a majority of the current buildings and encourage a building facade to adhere to district codes.

Proposed Gateway Entrance
The proposed Gateway District entrance uses landscaped berms, boulevard trees and plantings to soften the site as well as create an interesting entryway for pedestrians and vehicular traffic. The naturalistic and flowing paths bring pedestrians safely from the intersections to the business fronts.

The frontage roads are rerouted to the rear of the buildings for a safer and enhanced pedestrian environment. Parking lots are moved behind buildings to decrease the amount of pedestrian-vehicular impact points.

Greenroofs are used on some buildings to mitigate the loss of greenspace on the ground plane.

Entrance signs help denote the entrance of Fargo.
Existing Gateway
This focus area is characteristic of what is happening in the Gateway District, large warehouses and parking lots. This portion of the site has an overwhelming amount of parking lots compared to greenspace. The unequal proportion combined with the massive size of the buildings, especially the Nash Finch Warehouse, creates an uninteresting environment for pedestrians.

Proposed Gateway
Through the use of berms, landscaping, boulevard plantings and naturalistic pathways the overwhelming feeling of concrete is softened. To create a more pedestrian-friendly environment, trees are used alongside Main Avenue to calm traffic and serve as a barrier between vehicular and pedestrian traffic.

The outdoor gymnastic area will help bring people outside and give other pedestrians the perception of safety.

Green roofs are used on larger buildings to mitigate the loss of greenspace on the ground plane. Parking area is retained and moved to the rear of businesses to create less pedestrian/vehicular impact points. On-street parking is provided on smaller access roads.
Walkability in the Gateway District

Through the use of plantings and trees, the once vast walkability ratio is shrunk down creating a more inviting environment for pedestrians. The barriers of trees help separate the direct path from vehicular traffic, while the naturalistic paths direct pedestrians to the building doors.

The lighting choice illuminates the pedestrian paths as well as the vehicular traffic. The median is vegetative and only allows vehicles to turn at block intersections, which will create fewer vehicular-pedestrian impact points.
Gateway District Guidelines

Pedestrian guidelines
- Create a connection from 25th Street bike path to Main Avenue’s pedestrian interstate overpass
- Bring pedestrians to businesses, while still providing a direct path

Landscape guidelines
- Create a grand entrance to the city with tall canopy trees which also slow traffic
- Plantings will consist of plants that utilize small qualities of water such as aspen, ornamental crabapple, euonymus, lilac, fescue grass, and ribbon grass

Building guidelines
- Maximum 22’ feet (2 story)
- Preferred street facing materials are brick, stone, cast stone and stucco
- All buildings are required to implement preferred street facade
- Minimum of 50% of ground level will be glazed
- Material selection must consider impacts on surrounding buildings.

Street and parking guidelines
- All parking lots are moved from the front to the rear of businesses
- For every 1,000 square feet of building space two parking spaces will be provided within 1/4 of a mile of destination

Architecture guidelines
- Awnings are permitted above commercial uses and have headroom of 6.5 feet
- Marquee signs, blade signs, and wall signs are permitted. Signs are suggested to match the architectural style of the building

Landscaping guidelines
1. A consistent design pattern for sidewalk through district
2. Benches and seating areas are encouraged
3. Landscaping should contribute to the physical definition of public and private spaces
4. Street exposed parking lots must be screened with planting
5. To soften surface parking, 10% of surface parking shall accommodate landscaping and shade trees
6. Street lights should be located in the tree box zone
7. Street lights should look like example to give light on pedestrian pathway and roadway
8. Tree grates should be used when pedestrian traffic is anticipated
Madison District:
Connecting to Jefferson West Park and southern residential

The Madison District
The Madison District is located in the Madison - Unicorn Park neighborhood. This portion of the site has a high concentration of minorities and low income housing when compared to other areas in Fargo.

Currently this portion of the site has the highest amount of vacant and low aesthetic buildings. Currently there is a very weak connection from Main Avenue to Jefferson West Park.

The district is ideal for urban infill and a Jefferson West Park connection. This connection will provide access to Main Avenue’s amenities which will increase the District’s economy.
Existing Madison

There is a massive amount of parking lots in this area however, a majority of them are underutilized and have the potential to serve another purpose. Some areas of the sidewalk are too narrow for a pedestrian to feel comfortable walking. In some places the sidewalk is 3.5 feet wide and shared with a street light.

Currently the Jefferson West Park connection is ten feet wide and marked by a planter and pine trees. The connection is very easily missed by both pedestrians and vehicular traffic despite the opportunities for southern residential connections.

Proposed Madison

Providing parking only in the rear of businesses and limiting access to parking only at block intersections the amount of pedestrian - vehicular impact points are significantly reduced.

By incorporating mixed use buildings (commercial / office and commercial / residential), space is provided for amenities as well as residential living space.

The connection to the Jefferson West Park is widened to include a very distinct entrance point. The connection has active and passive spaces.

A percentage of the buildings in this area have greenroofs to mitigate greenspace loss. The parking lots have included two parking spaces per 1,000 square feet of building space, which is considered appropriate for the population of Fargo.

On-street parking is provided along the Jefferson West Park connection and along smaller parking lot access roads to provide extra parking.
Madison Walkability
By planting trees in the boulevards, a barrier is created for pedestrians from the vehicular traffic on Main Avenue. Plazas are incorporated into this district for added pedestrian and outdoor retail space.

The sidewalk is widened to allow for pedestrian sidewalk amenities such as benches and dining tables, but still provide a direct access space on the sidewalk.

The vegetated median only allows vehicles to turn at block intersections eliminating the pedestrian sidewalk breaks that currently exist on Main Avenue. This will help keep the pedestrian flow on Main Avenue.
Gateway District Guidelines

Pedestrian guidelines
- Create an environment that increases safety for pedestrians by limiting the amount of pedestrian and automobile impact points
- Strengthen connection from Main Avenue to Jefferson West Park and southern neighborhood

Landscape guidelines
- Establish parks and greenspaces with active and passive spaces
- Plantings will consist of plants that utilize small qualities of water such as aspen, ornamental crabapple, euonymus, lilac, fescue grass, and ribbon grass
- Landscaping should contribute to the definition of public and private spaces

Building guidelines
- Maximum 34’ feet (3 story)
- Preferred street facing materials are brick, stone, cast stone and stucco
- All buildings are required to implement preferred street facade
- Minimum of 60% of ground level will be glazed
- Material selection must consider impacts on surrounding building
- Build to line of 14’ (allows 5’ for tree box zone, 13’ sidewalk and seating area with 1’ shy zone)

Street and parking guidelines
- All parking lots are moved from the front to the rear
- For every 1,000 square feet of building space two parking spaces will be provided within 1/4 of a mile of destination

Architecture guidelines
- Awnings are permitted above commercial uses and have headroom of 6.5 feet
- Marquee signs, blade signs, and wall signs are permitted. Signs are suggested to match the architectural style of the building

Landscaping guidelines
1. A consistent design pattern for sidewalk through district
2. Benches and seating areas are encouraged
3. Landscaping should contribute to the physical definition of public and private spaces
4. To soften surface parking, 10% of surface parking shall accommodate landscaping and shade trees
5. Plazas to be flush with sidewalk space
6. Street lights should be located in the tree box zone
7. Street lights should look like example
8. Tree grates should be used when pedestrian traffic is anticipated
Downtown West:
Connecting to Fargo’s Downtown

Downtown West District
Downtown West currently has more mixed use and commercial buildings than any of the other districts. This district currently has buildings that need only minor modifications to be architecturally interesting and become a destination.

This area has the opportunity to serve as a continuation of the Fargo’s successful downtown.
Existing Downtown West
This area has a very high number of possible vehicular - pedestrian impact points when compared to the other districts. The sidewalks on the north-side are narrow, and in some areas hard to walk. The sidewalks on the southern side are for the most part adequately sized.

This district has the highest number of mixed-use buildings facing the road. This area also has the highest number of buildings to be kept and remodeled when compared to the other areas.

Proposed Downtown West
The atmosphere and character of Fargo’s existing downtown is extended into the Downtown West District. This gives the opportunity for businesses such as boutiques, bars and restaurants to expand and locate onto Main Avenue.

Greenspaces are added to create destination points. The sculpture garden can be used as an outdoor eating area for the surrounding proposed restaurants.

Residential is incorporated into the upper levels of buildings to increase density. Greenroofs are used to mitigate the loss of greenspace on the ground plane.
Downtown West Walkability

Traffic calming will be achieved through street trees and a landscaped median. The boulevard trees will serve as a barrier between vehicular and pedestrians.

Lamp posts will serve as a transitional lighting between the Madison District and the lamp posts of the current downtown. The lamp posts will have hanging planters to bring the down scale of the buildings to the pedestrian level.

Sidewalks are widened to allow for direct unobstructed zones as well as room for pedestrian seating. There are plazas flush with the sidewalk to allow for additional pedestrian seating as well as outdoor retail areas.
Gateway District Guidelines

Pedestrian guidelines
- Create an environment that increases safety for pedestrians by limiting the amount of pedestrian and automobile impact points
- Extend Fargo’s downtown character onto Main Avenue
- Space provided for pedestrian amenities

Landscape guidelines
- Utilize locations with little service for greenspaces
- Plantings will consist of plants that utilize small qualities of water such as aspen, ornamental crabapple, euonymus, lilac, fescue grass, and ribbon grass
- Landscaping should contribute to the definition of public and private spaces

Building guidelines
- Infill a variety of mixed use buildings
- Maximum 45’ feet (4 story)
- Preferred street facing materials are brick, stone, cast stone and stucco
- All buildings are required to implement preferred street facade
- Minimum of 70% of ground level will be glazed
- Material selection must consider impacts on surrounding building
- Build to line of 14’ (allows 5’ for tree box zone, 13’ sidewalk and seating area with 1’ shy zone)

Street and parking guidelines
- All parking lots are moved from the front to the rear
- For every 1,000 square feet of building space two parking spaces will be provided within 1/4 of a mile of destination

Architecture guidelines
- Awnings are permitted above commercial uses and have headroom of 6.5 feet
- Marquee signs, blade signs, and wall signs are permitted. Signs are suggested to match the architectural style of the building
- Vertical signs are encouraged for walkability

Landscaping guidelines
1. A consistent design pattern for sidewalk through district
2. Benches and seating areas are encouraged
3. Landscaping should contribute to the physical definition of public and private spaces
4. To soften surface parking, 10% of surface parking shall accommodate landscaping and shade trees
5. Canopy trees planted in center median where ever turn lane is present
6. Plazas to be flush with sidewalk space
7. Street lights should be located in the tree box zone
8. Street lights should have decorative lamp post with hanging planters
9. Tree grates should be used when pedestrian traffic is anticipated
10. Designated pedestrians crossings should be clearly indicated
Previous Studio Experience

Second year - fall 2007 - Kathleen Pepple
Kennedy Court - Fargo, ND
Waster Hall - NDSU Campus, Fargo, ND
Klai Hall - NDSU Downtown campus, Fargo, ND

Second year - spring 2008 - Mark Lindquist
Pioneer Park Redesign - Valley City, ND
Waterfront Park Development - Winnipeg, Manitoba, Canada

Third year - fall 2008 - Stevie Famulari
Fargo Dike Project - Form over function - Fargo, ND
Symphonic Alley - Amplifying the Silence - Fargo, ND

Third year - spring 2009 - Kathleen Pepple
Battle Lake Park Redevelopment - Battle Lake, MN
Residential Scale Sustainability - Fargo, ND
Crossroads Community Gardens Charette - Fargo, ND

Fourth year - fall 2009 - Mark Lindquist
Moody Avenue Riverfront Development - Portland, OR
Sandy Boulevard Urban Development - Portland, OR

Fourth Year - spring 2010 - Stevie Famulari
Acid Canyon Phytoremediation - Los Alamos, NM
HESCO Barrier Long-term Flood Protection - Fargo, ND

Fifth year - Fall 2010 - Catherine Wiley
Sheyenne National Grasslands - ND
Reference List


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“North Dakota State University exists as a human endeavor; a means to accomplish a greater good.”
-NDSU mission and core values (NDSU, 2006)