



URBAN GREENWAY TRANSFORMATION

multi-functional design alternatives for the fargo community

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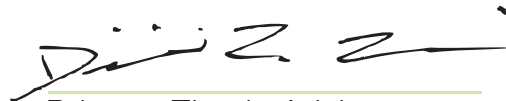
URBAN GREENWAY TRANSFORMATION

multi-functional design alternatives for the fargo community

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
Bachelor of Landscape Architecture



Primary Thesis Advisor



Thesis Committee Chair

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◆ Abstract

This study assesses how citywide greenway systems connect and strengthen neighborhoods, provide recreational opportunities, enhance options to use multi-modal transportation, and expand usable green spaces. A pedestrian trail-greenway system can link spaces to enrich the dynamics within city neighborhoods by creating efficient, invigorating and adaptable spaces. With the ability to augment social attributes within various neighborhoods, this cohesive pedestrian spine throughout the city of Fargo helps to generate a unified, lasting, and healthy community. The proposal provides access to various amenities within this central spine while diverse uses encourage social interaction and safety.

◆ Key Terms

greenway, corridors, stormwater management, residual space development, trail systems, green network



PROBLEM STATEMENT

- ◆ How can a greenway trail system enhance multi-modal transportation, pedestrian and recreational needs in an ecologically friendly urban environment?



STATEMENT OF INTENT

◆ Typology

A trail system that connects greenspaces, neighborhoods, and zones within the city of Fargo, North Dakota

◆ The Claim

Trails and greenspaces are valuable to both the city and environment, but are often neglected and lack connections

◆ Premises

A multi-use trail system that accomodates various types of users while enhancing connections between underutilized spaces

The greenway itself will focus on unifying different corridors and zones with a common idea and site character

The synthesis of these two will serve the community in such a way as to provide sustainable access to amenities

◆ Theoretical Premise/Unifying Idea

Multi-Use Trails and Greenways:
Mixed use paths and linked themed spaces used for recreation and transportation while educating and providing ecological benefits to the city

◆ The Project Justification

A properly designed green infrastructure system within an urban area encourages and supports stormwater management practices, social interaction, and the use of multi-modal transportation which create cohesion and unification that is essential for a healthy growing community



◆ Narrative:

Being born and raised in Fargo North Dakota, I have always been biased to projects taking place in Fargo. With my family being closely integrated to farming, but holding city jobs consisting of engineering and marketing, Landscape Architecture was my synthesis of compiling all of these attributes.

I grew up not watching TV or playing video games, but instead playing baseball with my dad, or creating huge messes in my mother's garden, but some of my most fond childhood memories took place in a river scar that horse shoed around our neighborhood. This was just an undeveloped greenspace with a drainage ditch running through the center, but it was the only green space near us. I feel like this is now a foreign concept because seemingly in today's society, the up and coming generation is so instant gratification hungry, that open spaces seem like so much work, when in reality, it is a space to let the imagination run.

Knowing and understanding how technology immersed our culture is, I think this is why creating green infrastructure is so important, but it must be function-connective-interactive, and of sustainable.



USER/CLIENT DESCRIPTION

◆ Client

The city of Fargo and its residents

◆ Users

Commuters:

Users who are willing to seek out alternate forms of transportation, looking for new ways to navigate and save money in the process, and those looking for a more enjoyable but still direct access to amenities.

▣ College Students

These users are generally willing to make more sacrifices to save some money by using public transit or non-motorized forms. Peak usage will be during spring and fall month during school semesters.

▣ Community Residents

Mostly families and individuals with specific agendas for reasons why they seek out green spaces. Many of those reasons are due to needs such as work, schools, parks, and other service amenities. Usage will be heaviest again during warmer seasons after work or on the weekends.

◆ Pedestrian Trail System

The various trail types will serve as direct routes connecting major business and industrial districts while accomodating the thousands of residents and student influx each year.

◆ Greenway Public Transit Crossings

Larger greenways that run linearly along the site serve as alternative direct routes between destinations. Through non-motorized transportation, these spaces provide both functional and aestheitic appeal for many underdeveloped ares.

◆ Destinations and Nodes

Connecting existing green spaces, parks, and shared use paths along with creating parks and open spaces serve as new points of interest along the central portions of the city creating social interaction and new forms of ciruclation within the urban fabric.

◆ Retention and Stormwater Management Areas

By creating and parternring with the City of Fargo in storm water management practices and projects, educating the community on rentention, water flows, the red river, reducing runoff, and pollution will be some of the primary charges of this greenway system. While also being functino in maininting clean water and inhibiting erosion.

◆ Character and Themes

In such a large system, the character mimics the native lands of north dakota. Focusing on helping the user identify exactly where they are at in the system on a larger scale is crucial in giving each neighborhood corridor ownership in deciding how that particular portion of the greenway will fit in with the whole.



SITE INFORMATION

◆ Region

📍 North Dakota Demographics

population :: 683,932
land area :: 68, 975 sq. mi.
counties :: 53
persons/sq. mile :: 9.3
state bird :: Western Meadowlark
state tree :: American Elm
state grass :: Western Wheatgrass



◆ Regional Context

📍 Neighbors

North Dakota is bordered by three states and one country: Minnesota, South Dakota, and Montana. The country to the north is Canada with its territories Manitoba and Saskatchewan in direct relation to the border.

📍 Cass County City Populations

Fargo :: 105,549	Davenport :: 252
West Fargo :: 25,830	Page :: 232
Horace :: 2,430	Leonard :: 223
Casselton :: 2,329	Frontier :: 214
Mapleton :: 762	Buffalo :: 188
Harwood :: 718	Grandin :: 173
Kindred :: 692	Amenia :: 94
Reile's Acres :: 513	Gardner :: 74
Argusville :: 475	Briarwood :: 73
Arthur :: 337	Prairie Rose :: 73
Oxbow :: 305	North River :: 56
Hunter :: 261	Alice :: 40
Tower City :: 253	Ayr :: 17

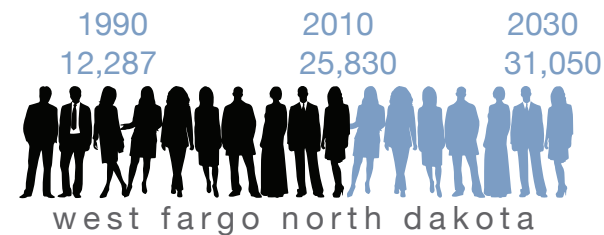
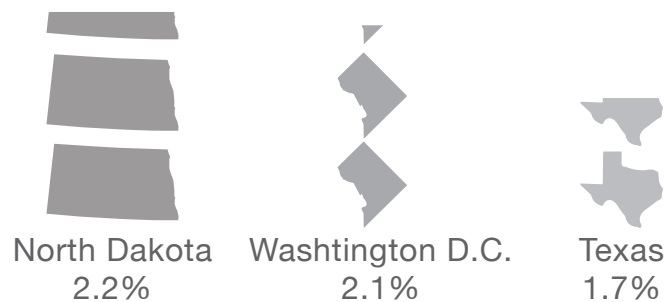
◆ Fargo Metro

□ Fargo-Moorhead Community
 population :: 151, 855
 median age :: 31.5
 average age :: 34.9
 collegiate background :: 64, 882
 male population :: 76, 992
 female population :: 74, 863
 median household income :: 45,132

FM Community Acreage

Fargo :: 30,752
 West Fargo :: 9,701
 Moorhead :: 12,621
 Total Acreage ::
 53,074

◆ 2011-2012
Fastest
State
Growth



0

1 mi.

2 mi.



◆ The Big Idea

The main goal for the project is to investigate and determine the need for alternative modes of transportation and a greenway system that will allow corridors, neighborhoods, destinations, and recreational spaces to be intertwined and connected through various pedestrian friendly forms of green infrastructure.

◉ The Intention

Fargo struggles with places that have a unique identity or sense of place. Many neighborhoods lack community, while many commercial districts lack connection to other types of infrastructure.

The synthesis of a connecting system enhances the quality of life between neighbors and businesses while allowing for both physical and mental stimulation as users commute in a more enjoyable manner.

This multi-functional trail system serves as not only a transit oriented network, but also incorporates educational functions, parks, destination points and nodes, and serve as a unique space within the larger framework of Fargo and its trail system.

◆ Research Direction

This study is based off of various case studies, in-depth inventory and analysis of the site itself and surrounding neighborhoods. In order to successfully reach the goal of designing an effective greenway, quantitative and qualitative research methods will be employed.

◆ Design Methodology

Various research methods and strategies were used that include a synthesis of quantitative and qualitative analysis. Quantitative data will include statistical information and scientific findings, whereas qualitative will include site observations and interviews.

◆ Documentation of Design

Using a synthesis of quantitative and qualitative analysis techniques, the design process displayed clear graphics, text, and other presentation tools. The primary method of displaying the design and scientific research studies for this project is in digital format.

The design process and documents use a variety of elements, including sketches, photographs, graphics, drawings, research findings, and maps. The project deliverables are both presented through a digital presentation and in a digital book. In addition, North Dakota State University will have a digital record of the presentation boards and files for future viewing purposes.



◆ Greenways

There are a multitude of questions and angles with which to approach this design project, but other designers and authors delve into answering some of the issues outlined above. Recent studies address many of the issues proposed in this project. Crosstown is outlined by the efforts of Greenways Inc., a company that specializes in urban greenways, and defines these spaces as “corridors of land recognized for the ability to connect people and places together. Most greenways contain trails, which enhance existing recreational opportunities, provide routes for alternative transportation, and improve the overall quality of life in an area” (Flink, 2010). This definition is specifically pertinent to the proposed space, with one exception. Greenways Inc. leaves out the social and psychological elements that are key to transforming a corridor from a success on paper, to a long-term built solution. The idea of the greenways is directly relatable to the plan for Fargo since it would include conjoined spaces used for recreation and relaxation; dedicated routes for alternate modes of transportation, and a design that provides multiple ecological benefits. Fargo’s existing greenways serve a functional purpose, but often lack design and connection to their surroundings.

The Crosstown Trail project allows for these integral green spaces to reach into neighborhoods previously untouched by formal landscape planning efforts, and create connecting corridors that not only enhance the neighborhoods, but also allow thoughtful, creative links to other key areas of the community.

The areas along this greenway are broken down into three primary corridors. They are as follows from North to South:

Bison Corridor

Crossover Corridor

Catalyst Corridor

These create nodes along streets, open spaces, and other valuable spaces that unify the site through signage, flora, and increased habitats for fauna while also tackling stormwater management practices and residual development.



Jack Ahern focuses on both the holistic elements of landscape architecture and regional planning and has published extensively on the topic of green infrastructure.

“Connectivity is defined here as a spatial characteristic of systems (i.e. landscapes) which enables and supports the occurrence of specific processes and functions, through adjacency, proximity or functional linkage and connection. The various landscape processes and their vitality is dependent on connectivity. These processes include, for example, the movement of wildlife species and populations, the flow of water, the flux of nutrients, and human movement. Besides ecological benefits, other benefits of connectivity that can be supported by greenways include alternative forms of transportation, trail recreation, and the human need or preference for nearby nature and recreation.” (2003, p. 43)

Crosstown Trail seeks to adapt Ahern’s theories to a city-scale project, and serve as an exemplary overview because it examines and connects the spaces using multiple scales. Ahern’s theories, and this thesis, work on dealing with the city as a whole, as a neighborhood connector, and as a destination point with specific nodes throughout the project.

◆ Benefits of Activity and Nature

Cara Kappler and Lindsey Miller, two master students working at the University of Michigan, focus on re-imagining the urban greenway. Their paper illustrates how planning a regional multi-modal transportation effort can incorporate both vehicular and pedestrian elements (Kappler & Miller, 2009). In their study, Kappler and Miller take a look at desired amenities on a given site and what they perceive as essential to the site. Their project focuses on the creation and enhancement of greenways and bike land use plans, along with educational, recreational, and reclamation practices that are being proposed for use.

The study of Kappler and Miller (2009) provides useful background research since it focuses primarily on vehicular and pedestrian circulation with an emphasis on the relationship with the local ecology and wildlife. Through incorporating diverse social interaction, they propose that the sense of safety and community should also be healthy. Crosstown Trail works through similar methods and processes as it determined and answered related questions and issues with a greenway proposition.

Research done by Mark Benedict and Edward McMahon (2000) also stresses the need to connect green infrastructure with local ecosystems as well as the human participants. Their study is part of a large-scale project group called the Sacramento Tree Foundation. Benedict and McMahon specifically focus on green infrastructure and its applicability in the 21st century.

They define green infrastructure “as an interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to human populations” (Benedict & McMahon, 2000). This study focused heavily on the natural benefits of greenways. Many of the policies and ideals mentioned are pertinent to land development uses, but few describe the relationship that correlates between the term “smart growth” and what is actually affecting the sprawl of our modern city.



Green infrastructures generates connections and create networks within neighborhoods and communities that bind us to the ecological side of the city. Working through a synthesis of woodlands, wildlife habitats, and other eco-systems, holistic land use plans have the opportunity to become something better than most would have ever dreamed. Benedict & McMahon (2000) expand the areas of concern to include a wide variety of topics that are not generally thought of in relation to green in frastructures, such as sewage, impact of airports, and fiber optic cables. Even though their article does not go into real depth, long-term planning that affects the foundational elements of the community is a forefront concept.

Another concept to consider is found in a waterfront revitalization project called North Wharf (Lethlean, 2012), which is classified as an urban promenade. This once run-down and abandoned area has gone through a total transformation that gave new life and purpose into a space that was previously only used for function and transport. Defining this area in a postindustrial age, rebranding has generated a new social and ecological stance on how users view the significance of public and private spaces.

This project offered a useful perspective on bringing attractions of the past back into the public realm. Call it eco-tourism or smart growth, either way this North Wharf promenade did an excellent job at preserving the character and history while maintaining a progressive attitude towards effective and efficient urban planning (Lethlean, 2012).

◆ Typology

The introduction of the Urban Revitalization and Livable Communities Act in conjunction with the Community Parks Revitalization Act (US Senate, 2012) provided grants to states and local government programs to create, restore, and maintain its green infrastructure. The Secretary of Housing and Urban Development authorized special projects that would focus on connecting both the young and the old members of the community to the outdoors. Through greenways, like what Crosstown proposed to be, the idea and ability to enjoy outdoor physical activity, connection to public transportation and safe trails becomes an actual opportunity for those who live near these corridors. The National Recreation and Park Association (NRPA, 2012) is the parent organization of the Urban Park Coalition, which is a group of like-minded national organizations that focus on projects that create sustainable and livable communities, just like the Crosstown Trail proposal did. Federal, state and local measures like these encourage communities in their endeavors to implement land use plans and apply for grants that can boost economic development and other essential community needs.

These capital grants encourage regional governments to invest in public transit, complete streets, and brownfield redevelopment by providing the research or development startup funding.

Comprehensive and sustainable development can provide planning opportunities that promote smart growth for urban environments. Along with introducing greenways and other various promenades into localities, reduced traffic, affordable housing, and sustainable energy goals are also integrated within the comprehensive approach.

The Office of Sustainable Housing and Communities within the Department of Housing and Urban Development (HUD) (HUD, 2012) collaborates with other governmental agencies, such as the Department of Transportation and the Environmental Protection Agency, to serve and provide opportunities to create healthy and livable communities like Fargo.



As all sections of government recognize, transportation networks serve a far greater purpose than transporting people from point A to B. When corridors and greenways are designed and implemented correctly, city-wide grids can create a wealth of life and safety that no camera or law could ever bring. These various trails and promenades all help people feel comfortable, safe and that it is worth their effort to get out of their car-centric lives and be a part of a low carbon footprint system.

Redesigning networks that are more walkable, bikeable, and better connected to public transit enables people to avoid using their carbon-based modes of transportation. With the design of a greenway, safety also is incorporated into the benefits. According to the Urban Park Coalition some 5,000 reported pedestrian and bicycle deaths happen each year because of our current road systems. With an urban corridor these numbers could be drastically reduced along with reducing the 120,000 plus reported injuries from pedestrian and bicycle deaths. Because of the lack of safe places to walk and bike, many of those injured or killed are children.

Another advantage to creating a greenway system is found in the economic development aspect of the construction. According to the American Society of Landscape Architects (ASLA, 2012), 14 jobs are created per \$1 million spent on bike infrastructure in comparison to only seven jobs per million on road repair work. Greenways also explore other design techniques such as porous paving, swales, and other infrastructure upgrades that are helping save local entities millions of dollars each year (ASLA, 2012).

The Center for City Park Excellence (Harnik, 2012) recommends that we look at restructuring our current road system. With the integration of urban promenades, a city has the capability of reducing traffic and promoting multi-modal transit such as rail or non-motorized forms. By integrating alternative transportation options, urban promenades also have the potential to get people more physically active on a daily basis, which currently more than a third of Americans lack.

◆ Typology

Overall, various governmental entities promote that communities should have well-connected, easily accessible transportation networks that provide attractive, safe, comfortable, and cost-effective access; improve mobility; and support economic vitality in conjunction with environmental quality. Comprehensive transportation planning should be a component of regional and local land use planning, matching infrastructure capacity with current and proposed land uses.

Well-managed transportation corridors should preserve the inherent natural and cultural characteristics, while balancing transportation, community, and environmental considerations.

The Crosstown Trail project demonstrates how landscape architects, working as members of interdisciplinary teams, can help locate transportation corridors and facilities, fit roadways to the terrain, reduce the impact to the natural landscape, and enhance travel experiences. Communities with urban promenades encourage alternative transportation uses by including provision of safe sidewalks and bicycle lanes enhanced with appropriate plantings. Multi-modal streets provide mobility to people of all ages and abilities. Safe routes to schools are critical and encourage physical exercise.



Additionally, obsolete or abandoned corridors such as rail rights-of-way can be repurposed and converted to new uses to provide additional safe mobility within or between communities. The Crosstown Trail project repurposed an existing drainage and storm water retention system into an active and vibrant element within the community. It also served as an example to other cities with similar inner city areas. Collectively, the transportation support facilities greatly affect a community's character and quality of life, and must be carefully designed and sited. Framing views and screening eyesores, developing appropriate signage and managing vegetation, can improve the visual impacts of all transportation corridors and facilities. Transportation facilities should be sited to protect wildlife corridors and avoid fragmentation of wildlife habitat. Where habitat impacts cannot be avoided, innovative techniques such as wildlife over- and underpasses should be considered as corridors like Crosstown Trail will be going through both open and industrialized spaces.

Pedestrian and bicycling infrastructure such as sidewalks, bike lanes, and trails, can all be used for transportation, recreation, and fitness. These types of infrastructure have been shown to create many benefits for their users as well as the rest of the community. Some of these benefits are not directly relatable to Crosstown Trail due to insufficient collection methods. Some of the factors that are hard to directly correlate would be areas such as traffic congestion, overall air quality, and safer traffic routes. Many of these studies that ASLA has conducted have not analyzed the employment that results from the design and construction of these projects because of the length of time many of these projects take to finally implement. The data for these studies were gathered from departments of transportation and public works departments from 11 cities in the United States. Overall ASLA found that green infrastructure created the most jobs (ASLA, 2012).

◆ Logistics Summary

The site has the potential to support a regional recreational amenity, such as a farmer's market, public art space, or a conservatory. This amenity would provide year-round recreation in Fargo and attract regional visitors. Fargo is unique compared to most communities across the country who have adopted minimum park land dedication standards or fees in lieu of park land dedication, whereas the City of Fargo Planning Department works with land developers to secure green corridors and funding sources for park improvements (City of Fargo 2012). The City has no set minimum green space dedication standard, but typically secures between 6 and 8 percent of the land within the development for parks, trails, and open space (GO 2030).

In summary, there is great evidence and support for implementing urban greenways within the metropolitan area. The Crosstown Trail project offers the City of Fargo an opportunity to re-purpose a unique area within the city. What had been simply undeveloped green spaces and water run-off areas can be restructured into an important connecting link between key destination points in the community, provide recreational and neighborhood development opportunities, while enhancing the availability of multi-modal transportation, wildlife habitat and individual enjoyment of a renewed green landscape.





(Franklin, 2009)

Change of pavement at pedestrian crossings for safety



(Franklin, 2009)

Rendering featuring monument and pedestrian gateway



(Franklin, 2009)

Greenway trail marker



(Franklin, 2009)

Typical asphalt path



(Franklin, 2009)

Urban trail: concrete paver with mulch border



(Franklin, 2009)

Urban trail: cast scored concrete with plantings

◆ Franklin, Indiana

Gateways, Greenways, and Downtown Redevelopment is the name of the project in Franklin, Indiana (Remenschneider, 2012). A 2009 city redevelopment greenway project, much like Cut Way, that focused on adaptive reuse in Franklin's downtown core. Functions such as swales, rain gardens, paths, and other stormwater retention features were created throughout the 20-acre project, making this case study very relevant in how to plan and implement a natural core in the midst of commercial zoning. Similarly to Cut Way, initial costs were higher to build green infrastructure, but estimated savings are about 9%. The project was meant to clean and recharge groundwater for events that produced up to 1" of water, which are 88% of Franklin's annual storms. This case study is relevant but leaves out some other key components such as public transit and other amenities that are crucial to the sustainability of the urban landscape.

The benefits of this greenway, much like Crosstown Trail are aspects such as improved health, alternative transportation opportunities, social engagements or gather points, and of course a connected linear green infrastructure and parkway system that appeal to community involvement and unification.

With both of these systems functioning as a spine for the city, it moves beyond flora and fauna and becomes architectural, in the sense that it supports and provides structural integrity for city development.

According to AmericanTrails.org

"There are many benefits of trails and greenways that planners, funders, and the public need to know about: they make our communities more liveable, improve the economy through tourism and civic improvement; preserve and restore open space; and provide opportunities for physical activity to improve fitness and mental health."





Chibroski, G. 2012.

Wide enough for bikes and ped. comfort and safety



Chibroski, G. 2012.

Permitted usage and activity typical signage



Chibroski, G. 2012.

Showing other trails and park systems and how they connect through major arteries and neighborhoods. This is a connector trail vs a destination trail like the adjacent Back Cove Trail.

◆ **Portland, Maine**

The Bayside Promenade Trail in Portland, Maine was chosen because of its relevancy to an urban trail through the center dense Portland (Farmer, 2012). It also had similar end connections such as creating trailheads that focused on connecting existing parks and educational amenities.

Both safety and economic vitality were key design elements; making this site an ideal project to understand how civic and political issues could be addressed in the future. This trail project was also an unprecedented opportunity for this city to incorporate open spaces, access to public amenities, and green infrastructure. This becomes a core comparison to why this site is relevant for better understanding how Cut Way will affect and be received by the city of Fargo.

The key factor to take away from this case study though is to understand that this trail is not a highly populous or trail system where you will see crowds gather, but instead see users and commuters pass through it to get from point A to point B in a manner that is not only healthy for them, but beneficial to the surrounding environments and urban fabric.

Crosstown trail system is also a connector trail where it does in fact have nodes with gathering spaces, but is primarily consisting of long shared use paths with pedestrians, cyclists, and automobiles alike.

These systems integrate commuters and users into a once motorized dominated grid system and breaks it up with well designed green space corridors paralleling main arteries in order to be of the most benefit and greatest visibility.



Tujunga Wash (2011).



2-mile bike path along the wash connecting to a 6.5 trail and more

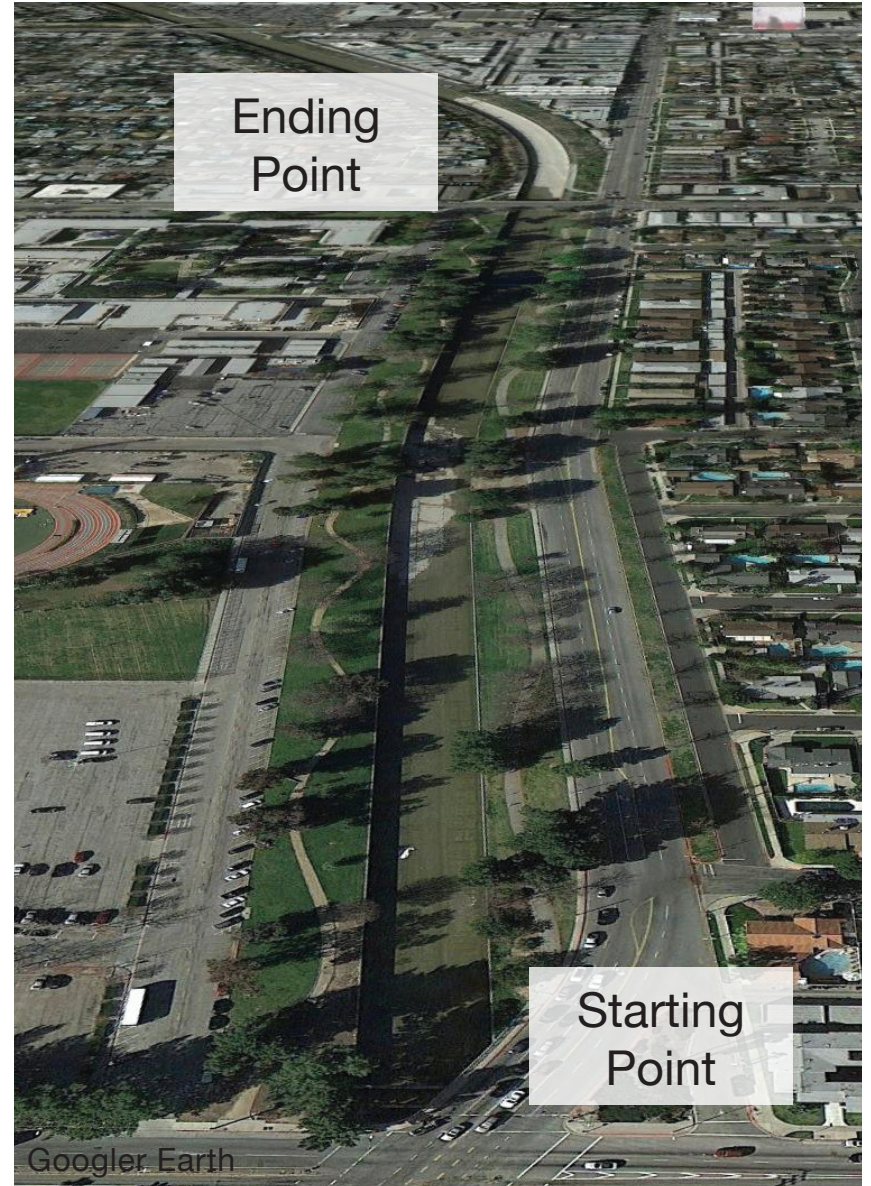
The City Project (2011).



This stream alongside diversit water from the Wash into the aquifer



Ending
Point



Starting
Point

Googler Earth

This loop is full of grassy, tree-lined features that showcase public art and let users escape typical Los Angeles

◆ Los Angeles, California

The third primary case study that I investigated was Tujunga Wash in Los Angeles, California (Landregan & Jordan 2012).

This is the first flood control park that incorporates a combination of features such as streams, paths, and the ability to provide clean drinking water for almost 800 downstream homes. Elements of this project were similar, but on a larger scale, to how Cut Way was assessed. Community workshops collaboration with the city was crucial to making this effective. The natural and innovative solutions for clean water in this project include gravity fed pipes that collect local run off and feeding them through natural ecosystems to clean and return the water to either residents or the ocean. Door to door involvement was needed as well because of the impacts it had on surrounding communities.

In comparison to the Tujunga Wash, the Crosstown Trail is a loop that lets those escape the business of gray fabric. Cutting through different zones, displaying public art, and creating safe access for various types of users, both loops offer the chance for community involvement and unity under a cause to integrate new green infrastructure.

These systems are crucial because they explore how to create access to amenities in underutilized areas while redesigning areas that are socially blighted or neglected by other redevelopment projects.



HISTORICAL FOUNDATIONS

◆ Research

Working through various case studies, gathering existing site information and data, and listening to residents near the proposed site has all been apart of the shaping process. The greenway's foundation is centered around what the best opportunities for Fargo will be.

◆ Analyze

With the vast amounts of inventory and data collected, ideas can be generated with the intent of seeking out new initiatives that solve and create long term solutions and opportunities for the Fargo-Moorhead metro.



Expand upon the central framework that the current Fargo-Moorhead metropolitan area is proposing in the form of a pedestrian oriented greenway stormwater trail system.



Energy Independence



Efficient and Renewable

Preserve and Protect



Embrace and Educate

Promote Infill



Best Management Practices

◆ Playgrounds

- service radius of .25 mile
- 2-4 acres in size

◆ Neighborhood Parks

- service radius .5-1 mile
- 5-20 acres in size

◆ Community Parks

- service radius 2-3 miles
- 40-100 acres in size

◆ Metropolitan Parks

- service radius 3-4 miles
- 100-300 acres in size

HISTORICAL RESEARCH

◆ Region

◻ Foundation

Founded in the 1870's, the city revolved around the railroad industry. It was settled due to it's natural crossroad characteristics.

With the Red River becoming a primary trade route with what is now Winnipeg, it was a sure staple for the upper midwest.



Island Park Postcard in 1970 By Hatlen

◆ Parks and Recreation

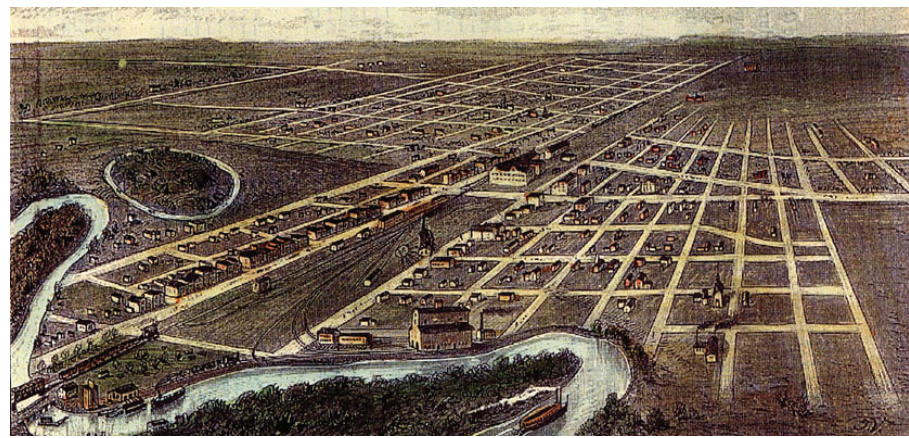
Island Park was and remains to this day, one of Fargo's most prominent outdoor spaces. Originally set to be zoned for other uses, Jacob Lowell and J.B. Power stepped in and made sure that it was deeded to be a public city park.

◆ Regional Context

In the late 1800's the Street Railway was established and created opportunity for expansion. By 1922, Fargo's first annexation was being processed, and growth began to happen for this newly born city.

◆ Then and Now

Prior to World War II, Fargo was struggling, being the divorce capital while also suffering severe natural disasters. Post the 1950's though, Fargo has boomed, growing steadily every year while maintaining a stable, but positive economic growth.

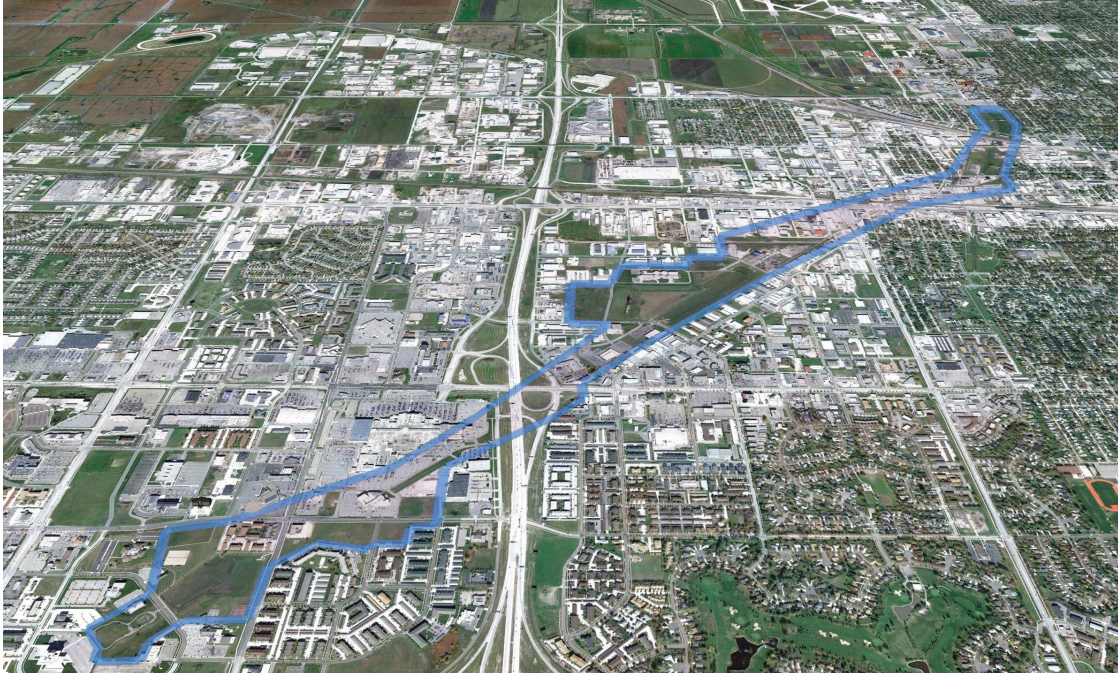
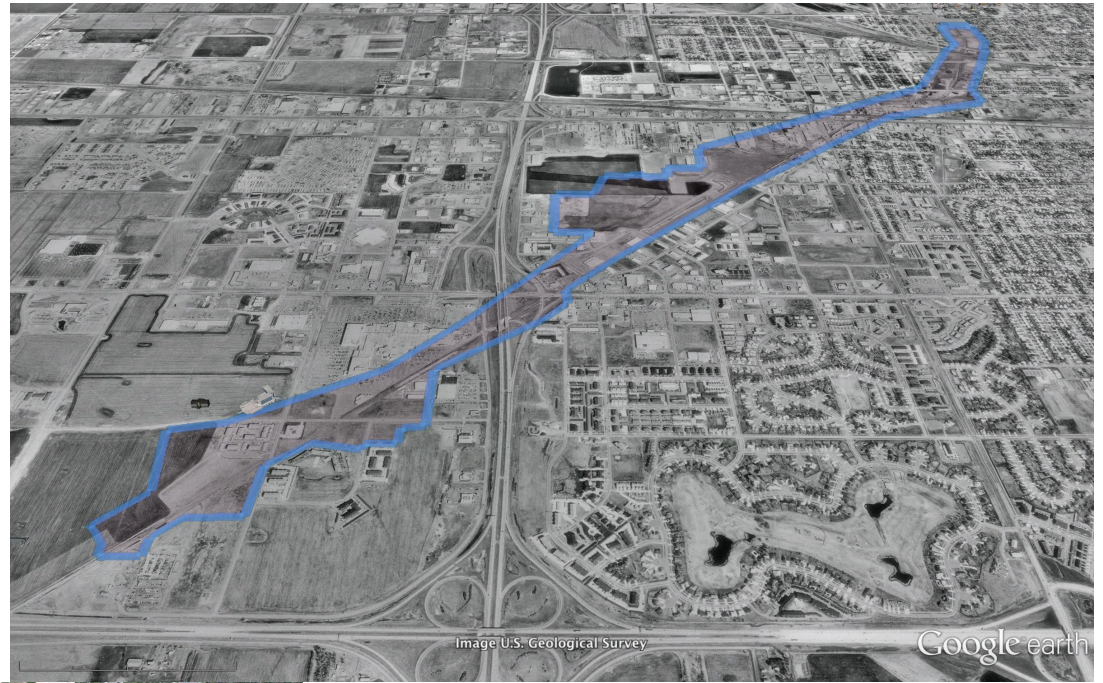


Fargo map in 1880 photo by F.J. Haynes, drawn by T.M. Fowler



OLD VS. NEW

The site in 1990 was considered an outlier in many instances with large amounts of open space. This is still the feeling that was needed as it was engulfed by growth and commercial infill. The need for parks was not as necessary back then, but as they were demolished and turned into parking lots, the need became precedent as Fargo grows smart.



In 2012 we can see that the site is still fights to hold onto just even the most basic of functional retention basins. With greenways evolving now and the landscape architecture profession gaining credibility, these spaces can now become multi-functional and create dynamic working spaces for the community.

◆ Primary Objectives

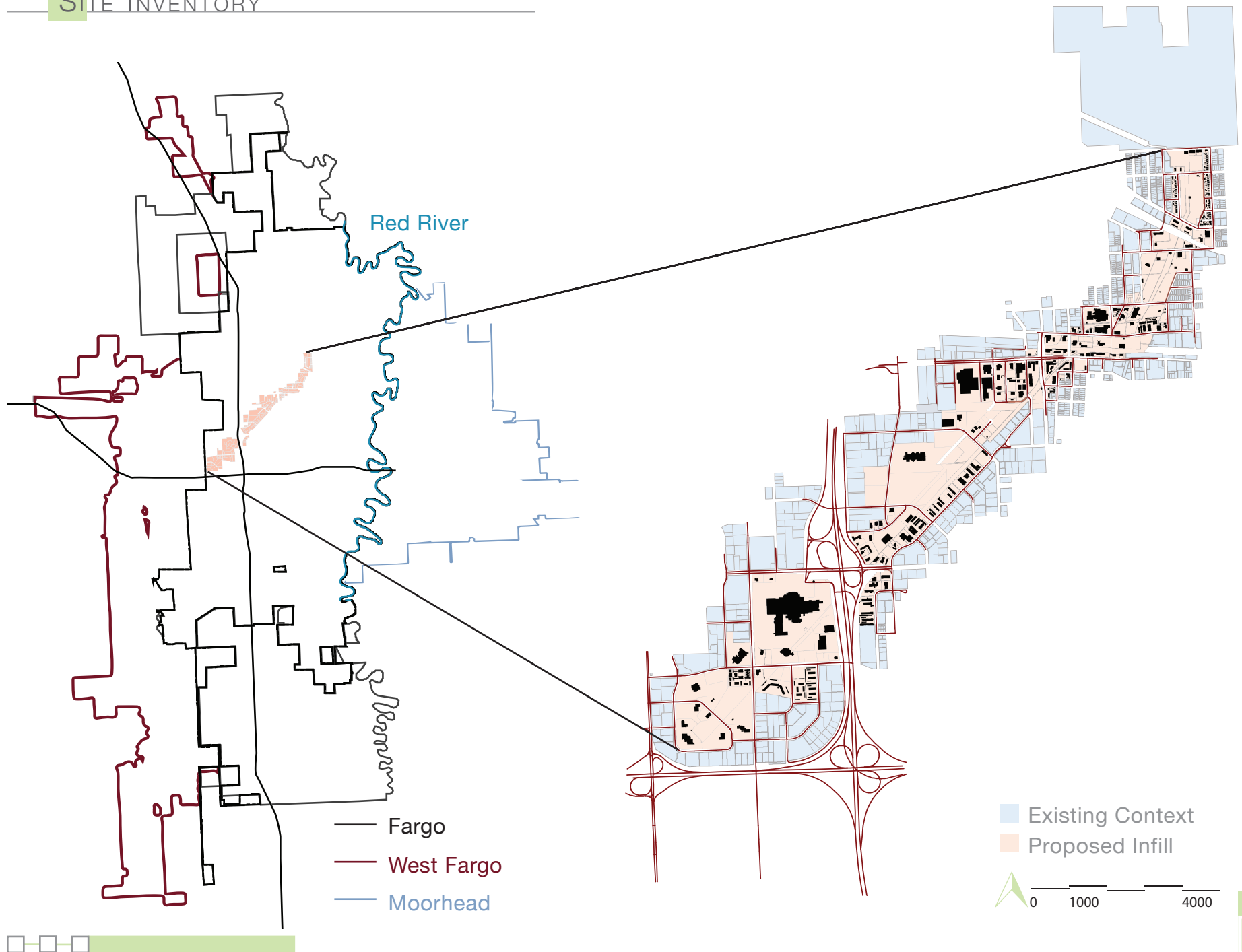
Academic: The study should be able to contribute valuable insight in relation to greenway systems and communities. The relationship within would revolve around how the two entities can function in unison instead of working independently. With the results being unknown at this point, investigating existing greenways and identifying absent or over-looked connections at the neighborhood and city level will help carry this idea to success.

Professional: Comprehensive and sustainable development that can provide planning opportunities that promote smart growth for urban environments. Along with introducing greenways and other various promenades into localities, reduced traffic, affordable housing, and sustainable energy goals are also integrated within the comprehensive approach.

Personal: To put into action the skills and design education that I have undergone in a project that is both interesting to me personally, and also informative to others. Hopefully that this project will be able to serve as a tool transitioning into the professional world.



SITE INVENTORY



EXISTING FRAMEWORK PROBLEM

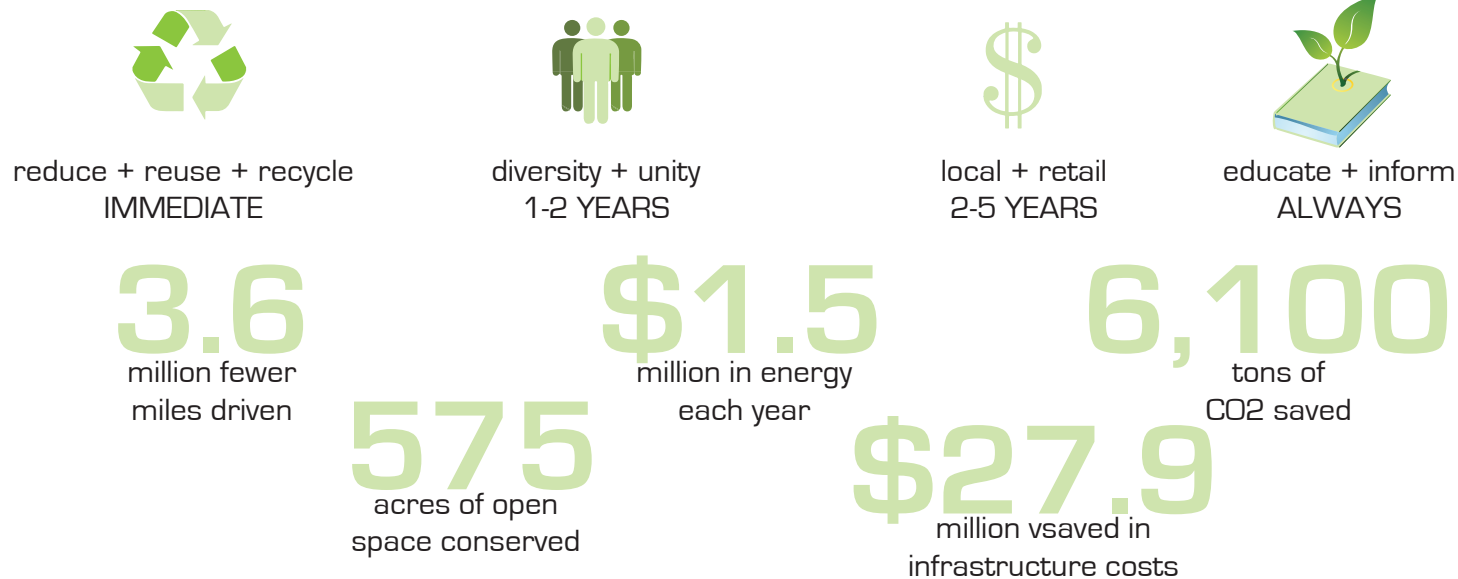
PROJECT EMPHASIS

+ to establish a greenway that can be modulated for mid-size metropolitan areas in a way that can strengthen and connect various zones such as residential, industrial, and commercial.

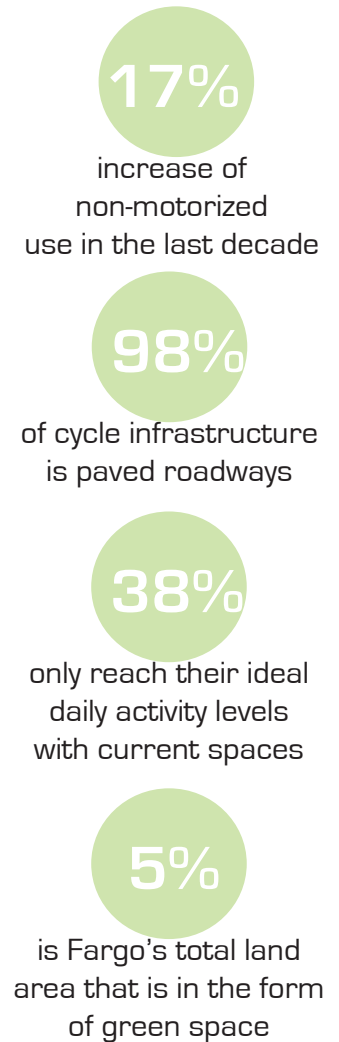
+ designing to enhance alternative forms of transportation that becomes a viable economic and environmental resource to both the user and city.



Proposed Benefits for Mixed Use and Trail System Integration



Current Conditions



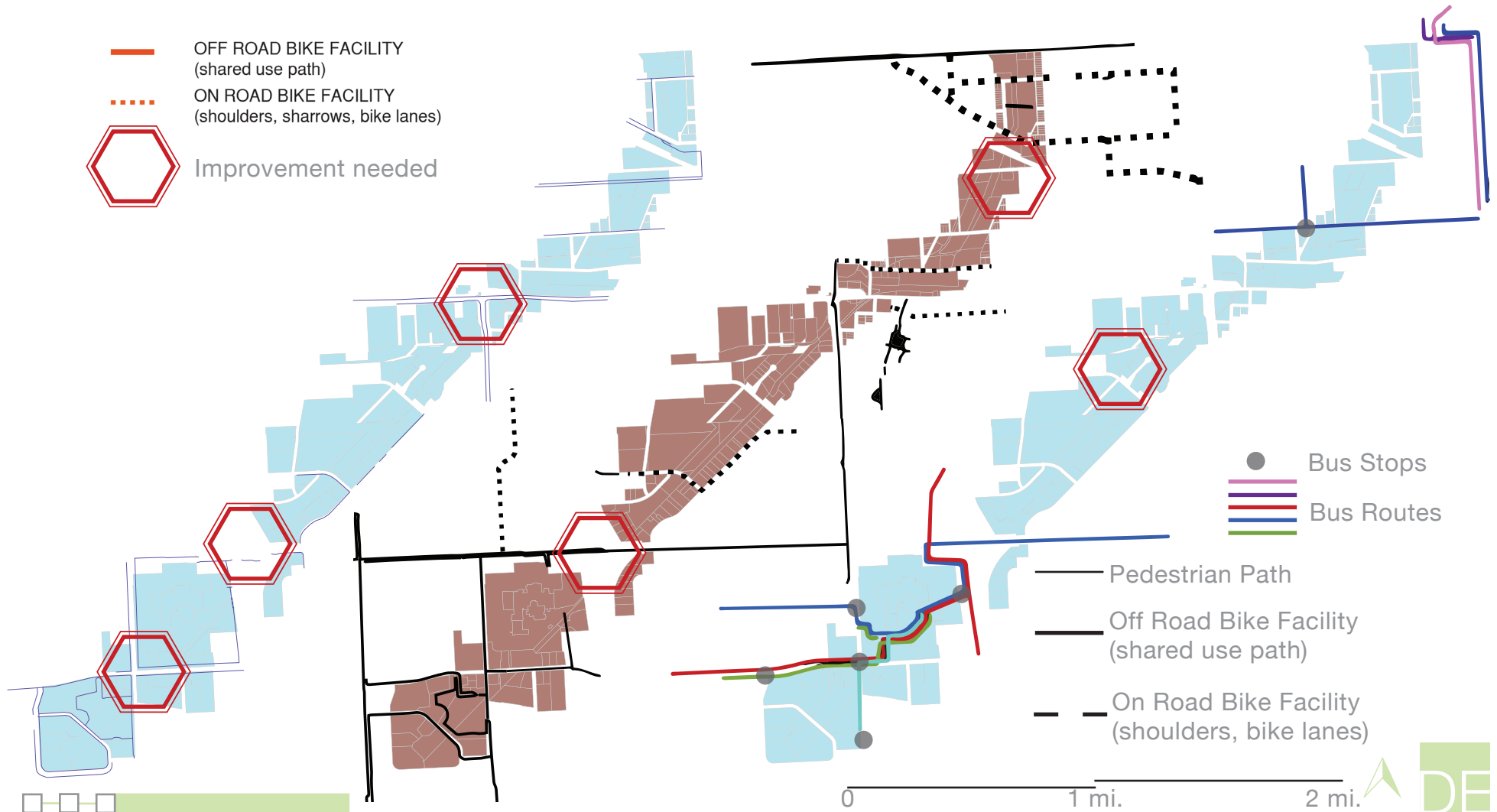
MULTI-MODAL TRANSPORTATION

Community

- Green infrastructure development has the ability to transform a car dependent neighborhood into a well-connected transportation node.

Growth

- As current neighborhoods are rejuvenated and others being brought into existence every single day, the idea that higher density mixed use areas will create and stimulate the current trends while providing long lasting solutions for the community.



MULTI-MODAL ANALYSIS

◆ Fargo Metro

8% of Fargo is denoted as park space

◆ Proposed Plans

Safety and physical barriers are the primary issues that Fargo has to overcome when developing new path systems through under utilized districts and industrial zones.

focal points

destination river cross



PROJECT OPPORTUNITIES



Bison Character

- + high function prairie trail system
- + meanders for people watching
- + users feel welcomed and engaged



Crossover Character

- + displays educate on stormwater
- + overlooks give ponder space
- + central axis offers rest or work

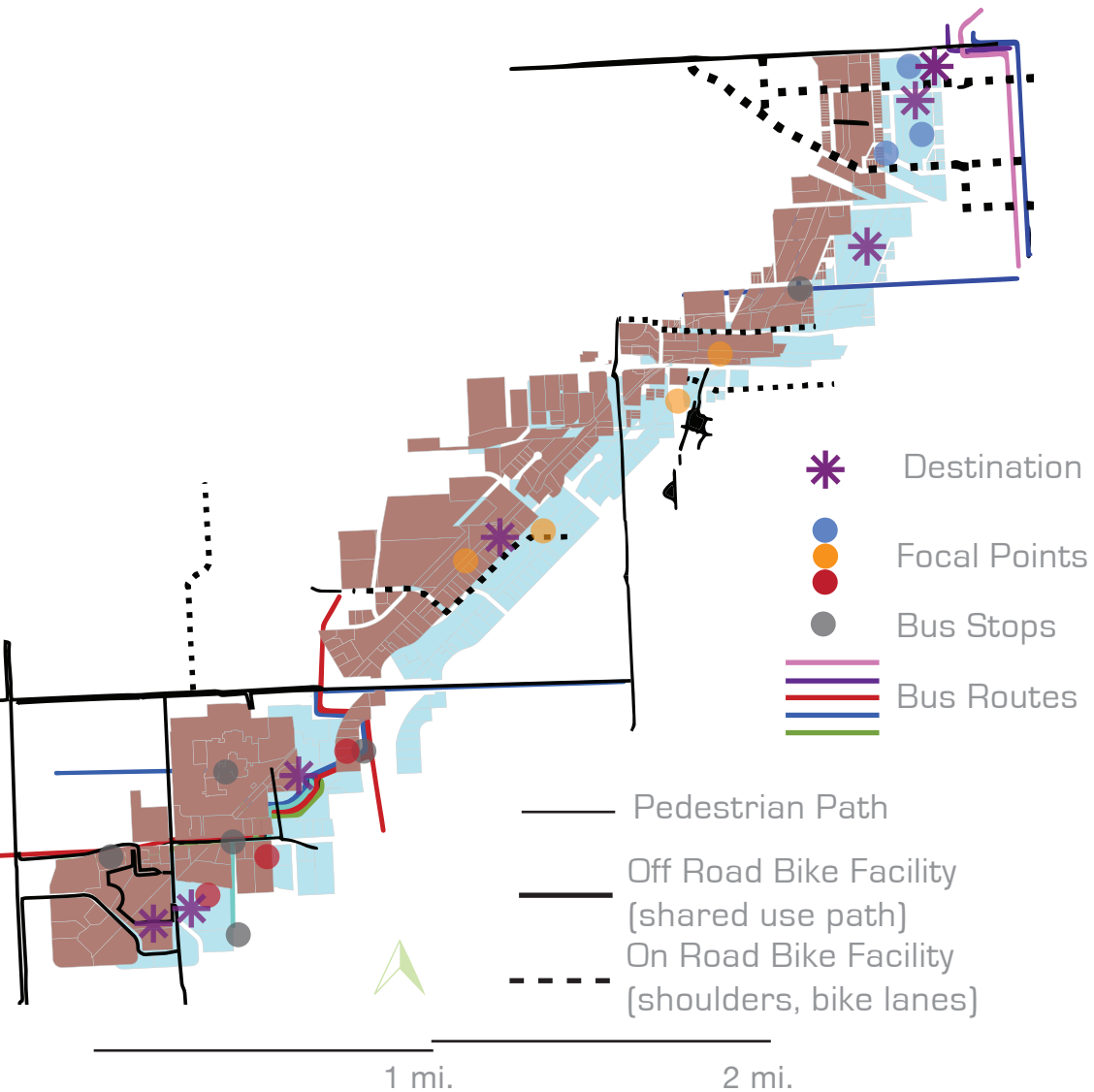


Catalyst Character

- + bold colors create awareness
- + dominance over car is evident
- + topography creates dominance

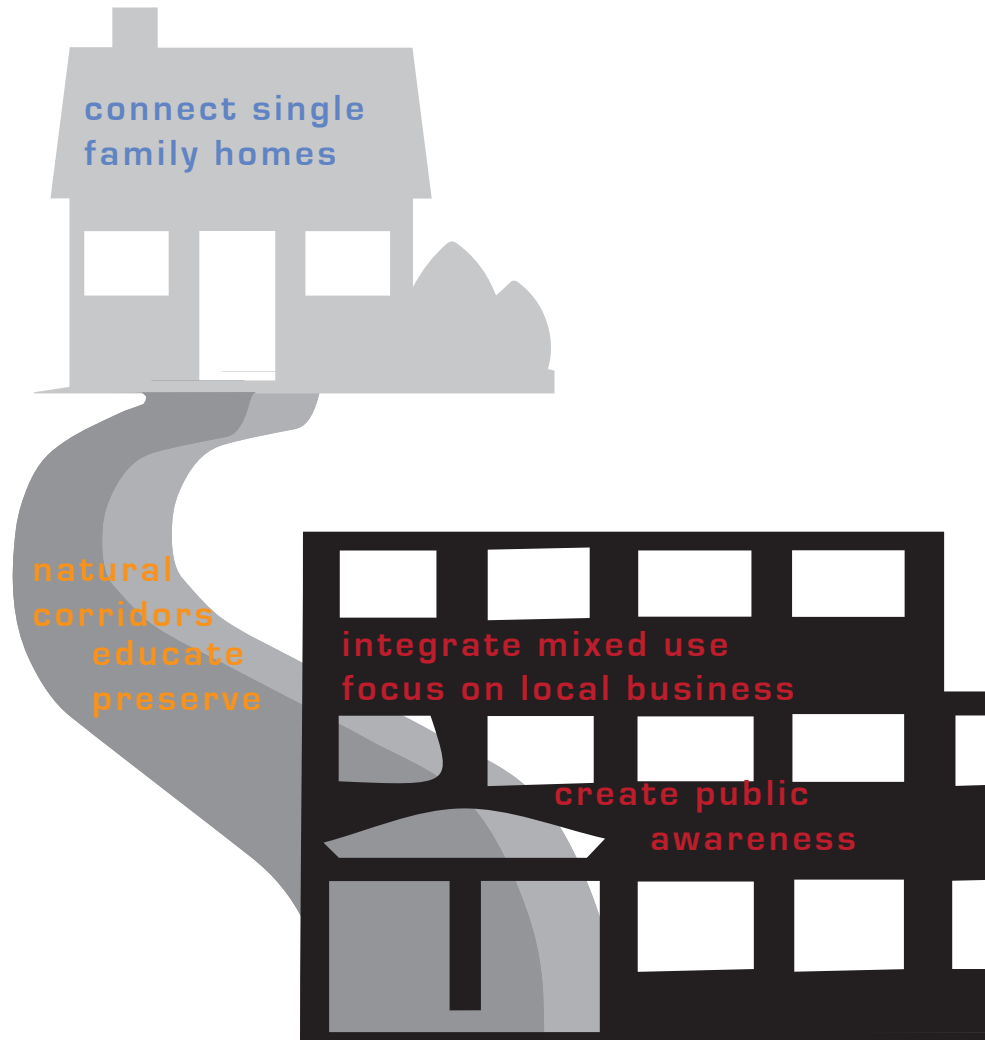


- | | | |
|--------------------------|-------------------------|------------------------|
| ● Mixed Use Retail | ● Dead End Street | ● West Acres Bus Hub |
| ● Recreation Amenities | ● At-Grade Street Cross | ● Vacant Green Space |
| ● At-Grade Rail Crossing | ● Large Retention Pond | ● Large Retention Pond |
| * Johnson Park | ● Open Ag Plots | * Rabanus Park |
| * NDSU Main Campus | * Unicorn Park | * YMCA |
| | * Cass County Jail | * West Acres Mall |



Project Focus Area

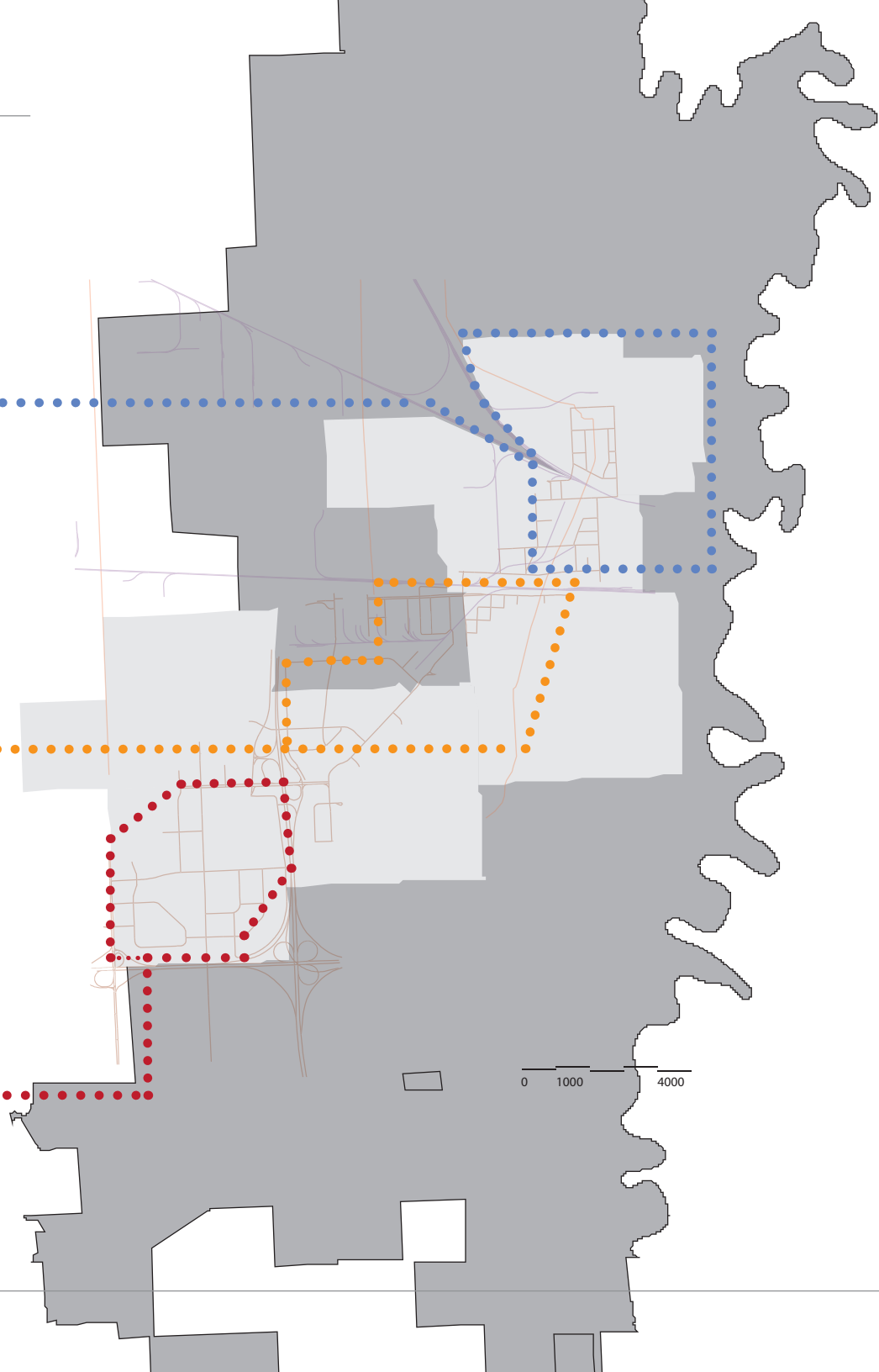
+ This thesis will span across a combination of six neighborhoods, BNSF railroads, and multiple types of zones and land uses.



Bison
Corridor

Crossover
Corridor

Catalyst
Corridor





sustainable practices implemented



lanes and trail systems designed



property value increased



money saved using public transit



natural ecology preserved



unify demographics

Residential

- +Create local hub for transportation
- +Design central gathering space for social functions
- +Connect trail from campus through parks and rails
- +Use stormwater channel for habitat structure

Industrial

- +Passive space for pedestrian interaction
- +Integrate function and aesthetics
- +Vacant plots converted into community gardens
- +Screen buildings creating oasis in industrial zones

Commercial

- +Use bold crossings to create awareness
- +Design in Fargo's highest density zones
- +Protect users through automotive dominated area
- +Engage residents with recreation amongst retail



PROJECT GOALS

transportation

- +connect people to places using various modes
- +provide access to existing parks and amenities
- +design safe connections that encourage integration

community

- +strengthen neighborhood unity
- +focus on bringing various demographics into central spaces
- + improve quality and health of users

environment

- + create educational and informative spaces
- + design a trail system that is interactive and intervening
- + provide functional uses on both a city wide and individual scale



greenway

+a gateway along railroads, streets, and sidewalks winding through Fargo's built environment creating points of interest, activity, and unity on a pedestrian scale

neighborhood

+a group of students searching for connection to the rest of town, immigrants need access to amenities, and a community in need of ecological awareness

community

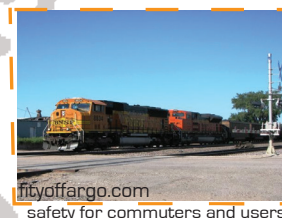
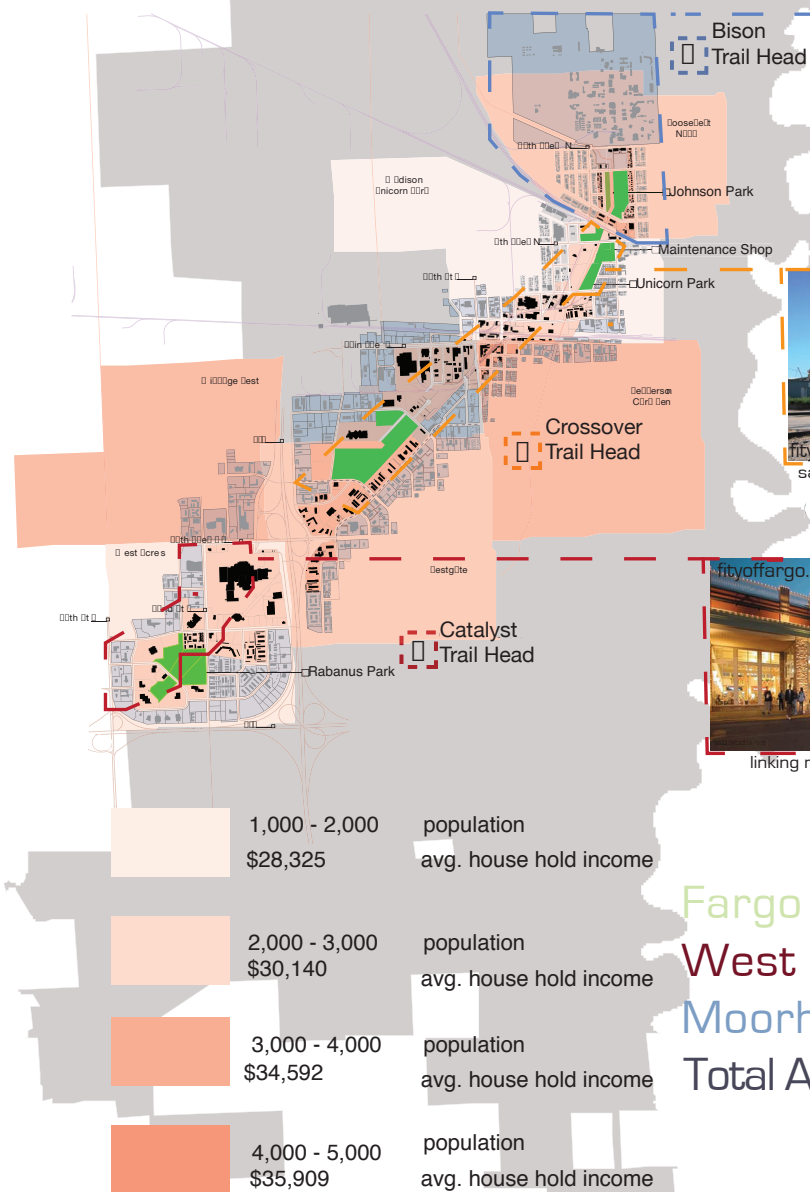
+a social structure full of people ready to try new routes, and to park their cars, but without any construct on how to practically navigate Fargo's busy streets

sustainable development

+development that meets current natural, accessibility, and daily practical needs without being over budget, over glamorous, or poorly done.



PROJECT CONTEXT



Fargo :: 30,752

West Fargo :: 9,701

Moorhead :: 12,621

Total Acreage :: 53,074



www.123rf.com
bridging neighborhoods

Bison Corridor



www.americantrails.org
dynamic spaces
for all ages

Crossover Corridor



www.123rf.com
economical
transportation solutions

Catalyst Corridor



Best Management
Practices



esidential



Embrace and Educate



industrial



Efficient and Renewable



ommercial



esidential



industrial



ommercial

bison corridor + poor site circulation, erosion, fragmented access, poor d
acter association, disconnected from neighborhoods

crossover corridor + difficult site access or wayfinding, disjointed from
surroundings, poor cultural heritage connections, land with a lack of purpose

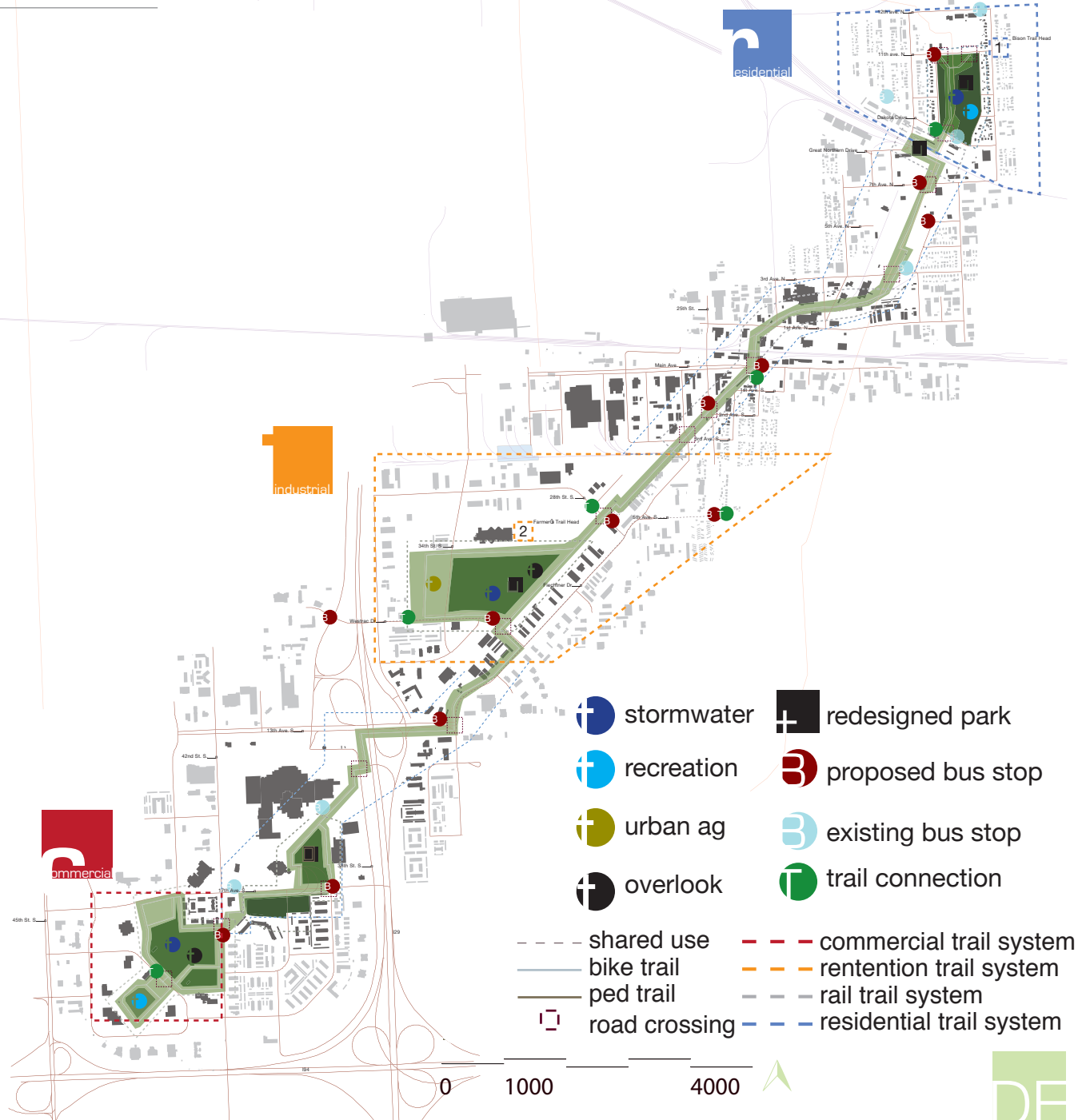
catalyst corridor + through automobile dominated areas, disconnected from
other green spaces, poor stormwater management, erosion



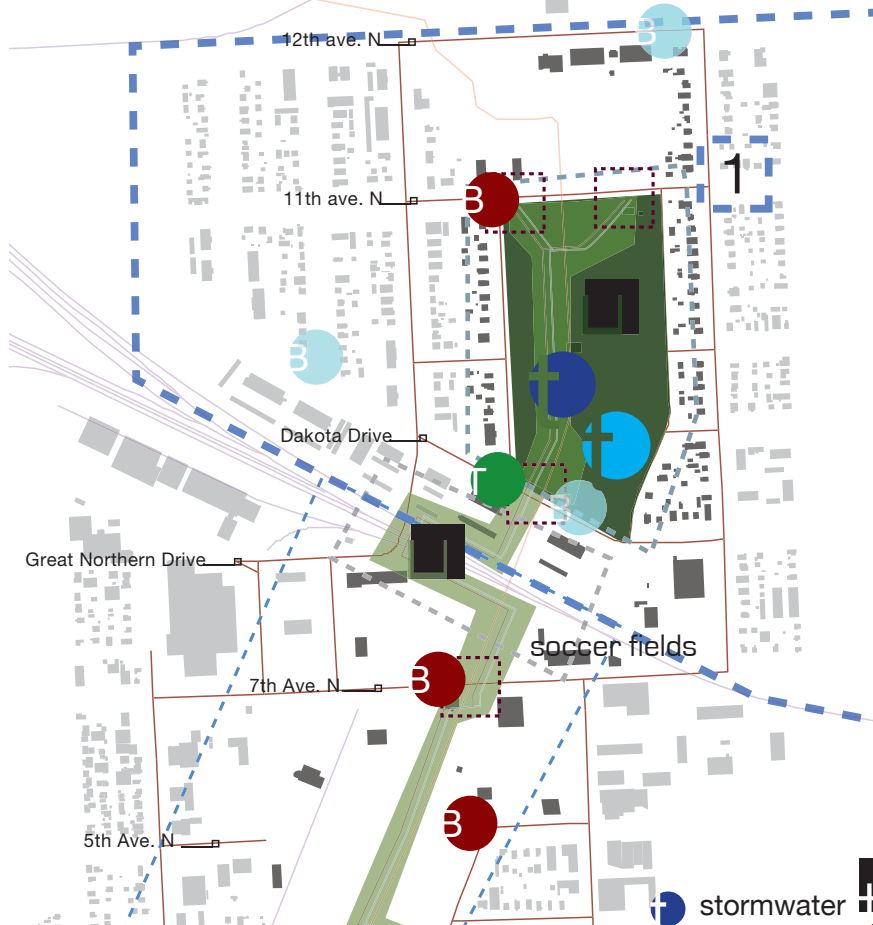
Crosstown Trail System Master Plan

Features

- 6 Mile Independent Loop
- 10 Miles Long
- 430 Acres of Green Space
- Connects 4 Existing Parks
- Proposes 3 New Parks



Bison Corridor



bus hub

stormwater channel

playground

composite bike path

soccer fields

maze gathering space

raised seating berm

limestone pedestrian path

open turf

- - - shared use
- - - commercial trail system
- - - bike trail
- - - retention trail system
- - - ped trail
- - - rail trail system
- - - road crossing
- - - residential trail system

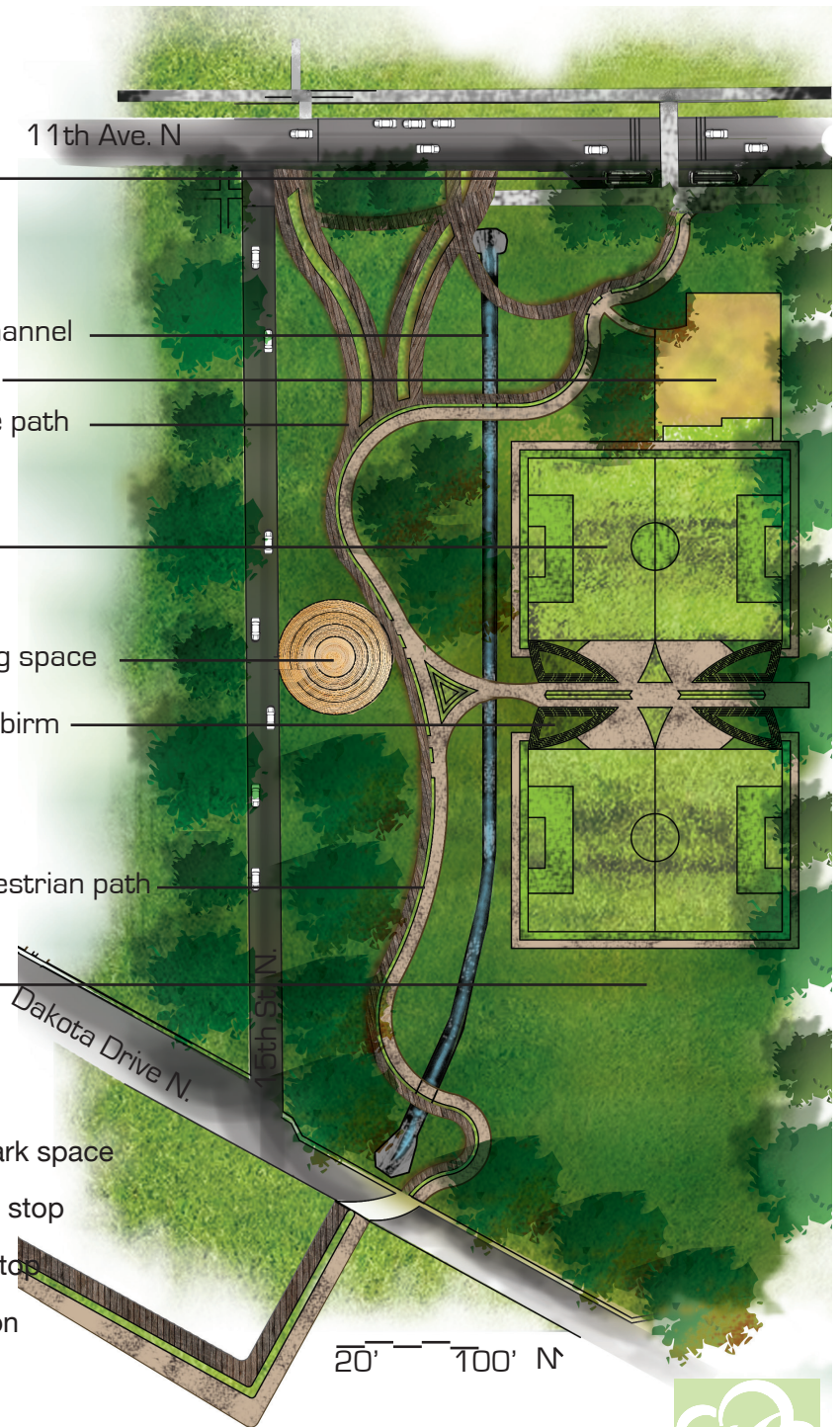
- ⊕ stormwater
- ⊕ recreation
- ⊕ urban ag
- ⊕ overlook

⊕ redesigned park space

⊕ proposed bus stop

⊕ existing bus stop

⊕ trail connection



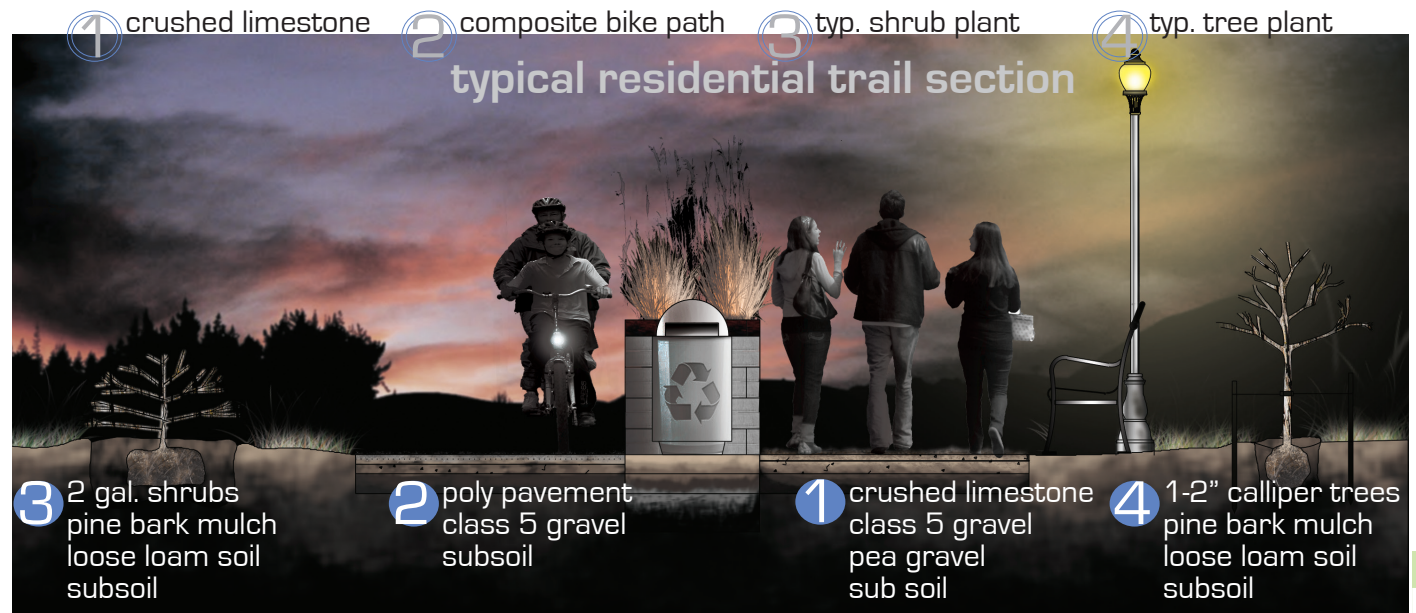
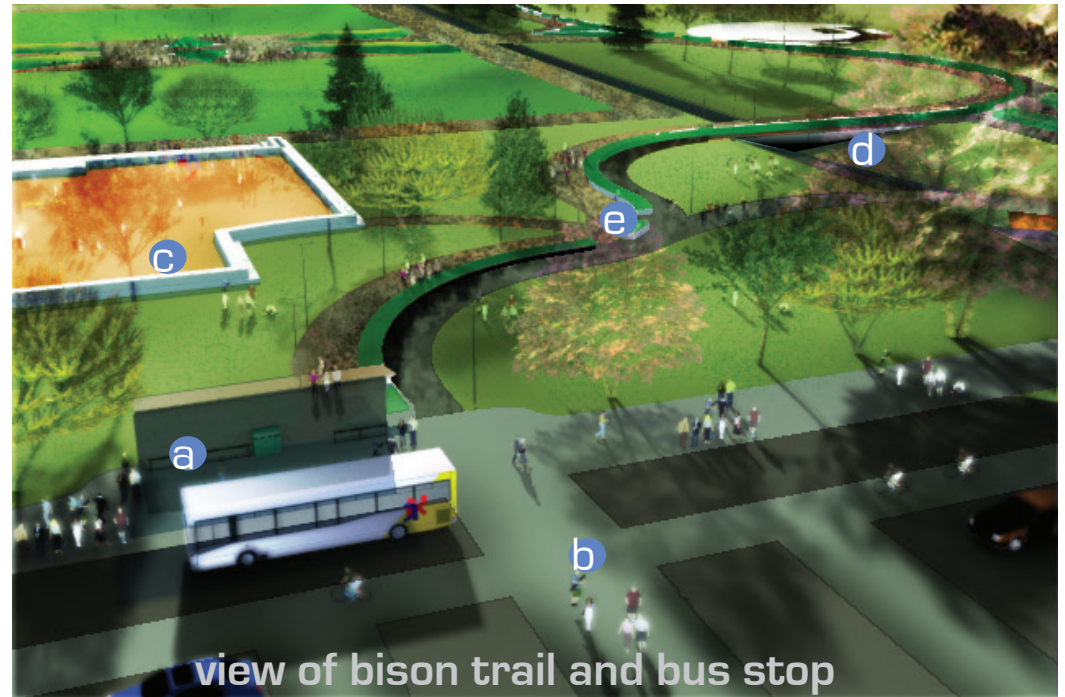
BISON CORRIDOR

Residential Renewal

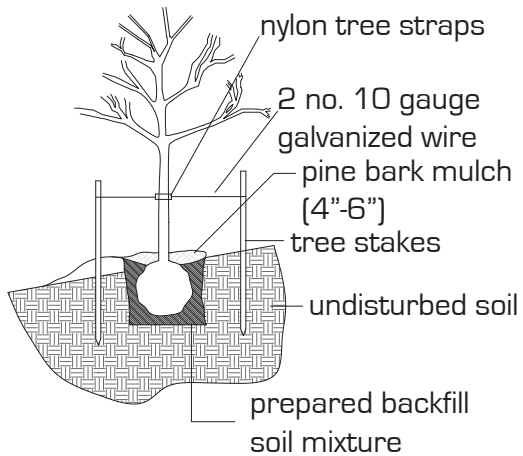
This part of the trail will look at **reconnecting community** members with **green open space**, recreational amenities, and access to a large **public trail system** that increase community involvement and awareness.

features

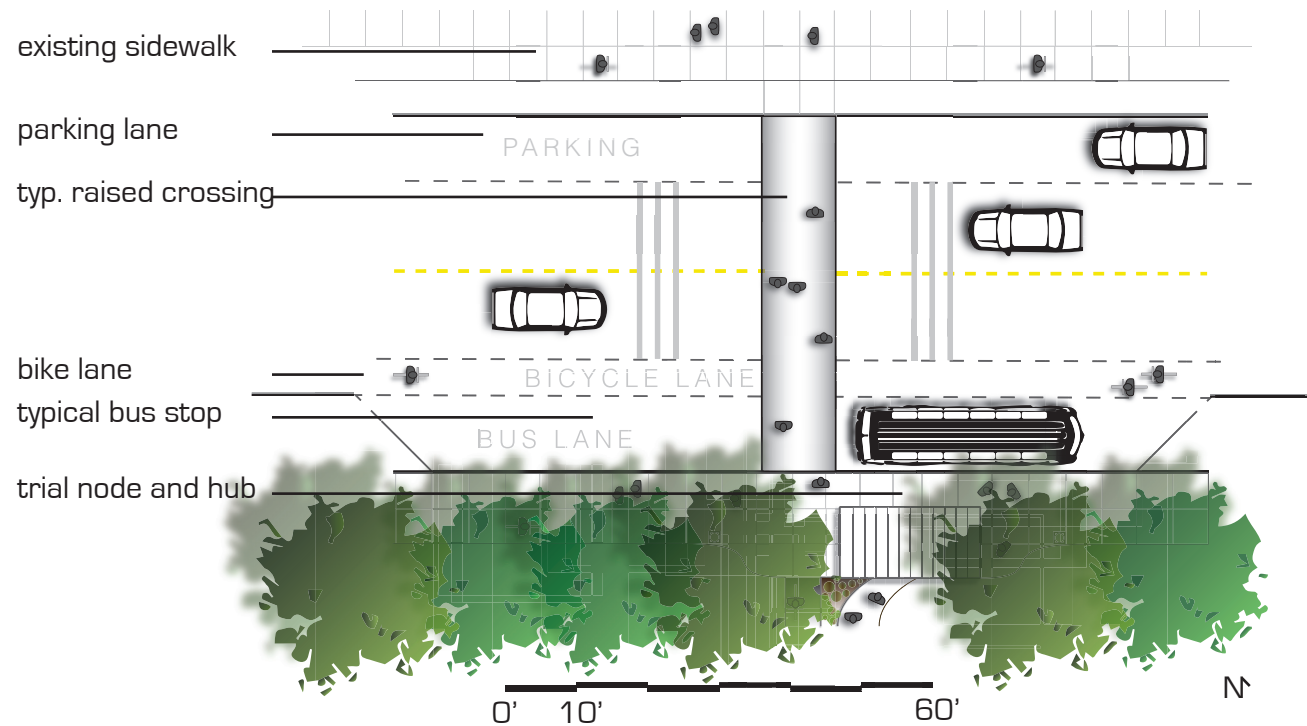
- a bus shelter and hub for NDSU
- b bike lanes and speed tables for safety
- c play area
- d 15'w bridge across channel
- e vegetative buffer between path types



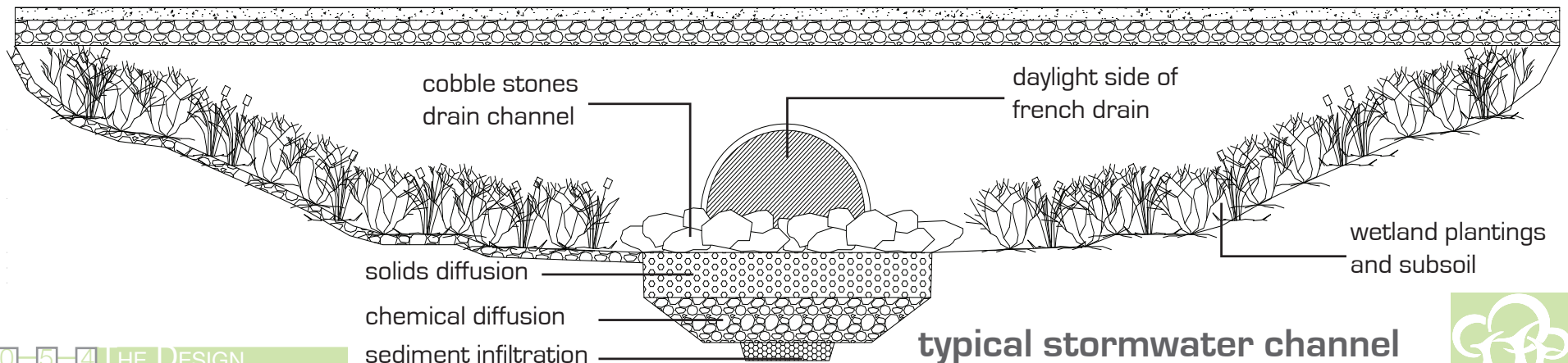
typical tree planting



typical bus stop



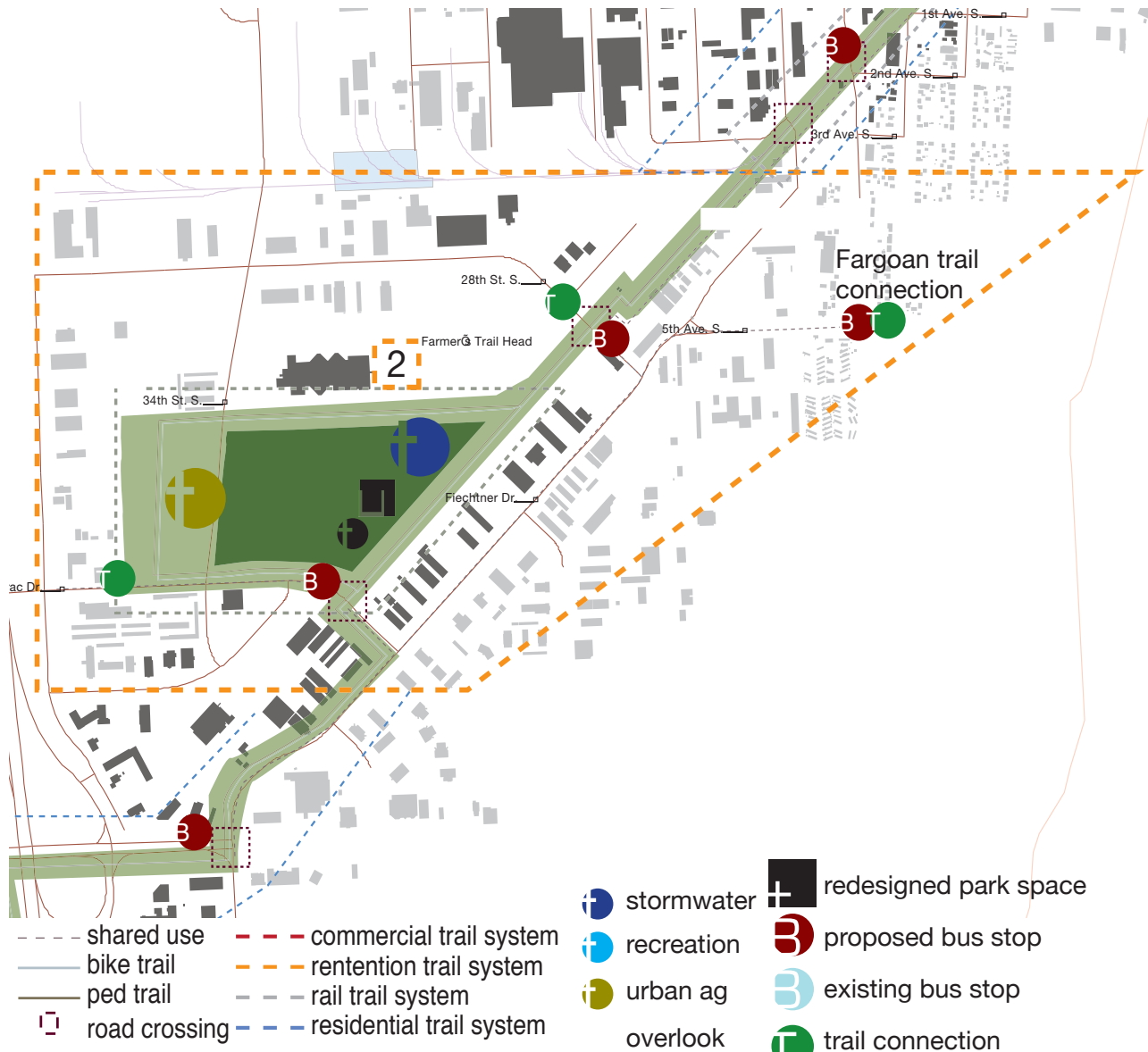
pedestrian bridge



typical stormwater channel



Crossover Corridor



Crosstown Trail is located in the heart of crosstown. Creating over looks, plots for agriculture and recreational spaces, this once single use retention pond has now been transformed into a place to gather, educate, and interact. With the addition of bike lanes, community garden plots, and stormwater management, this site is the most functional of the three.

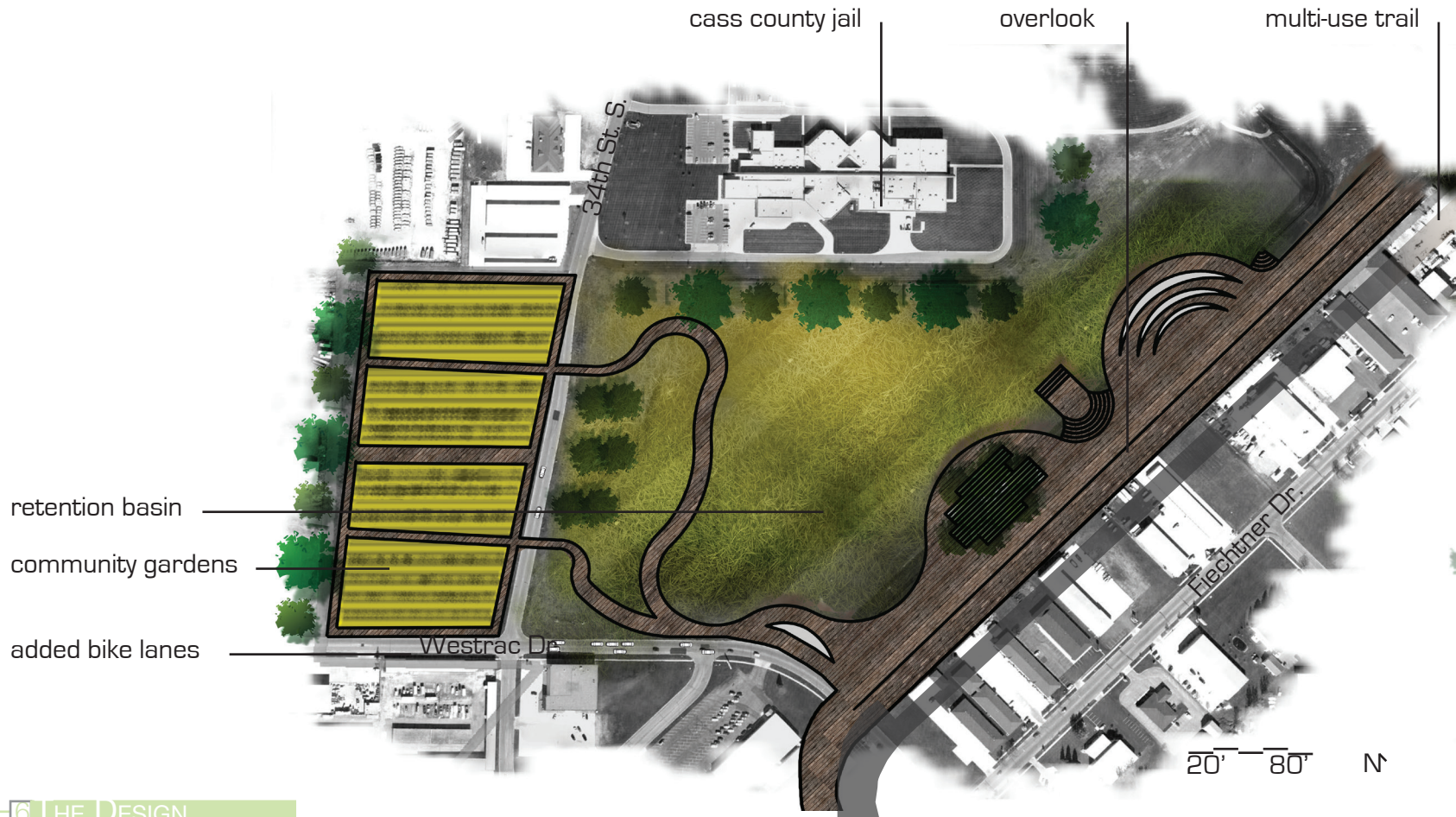
CROSSOVER MASTERPLAN



typical signage



interactive wall



CROSSOVER DETAILS & MATERIALS

Materials

cedar



polypavement



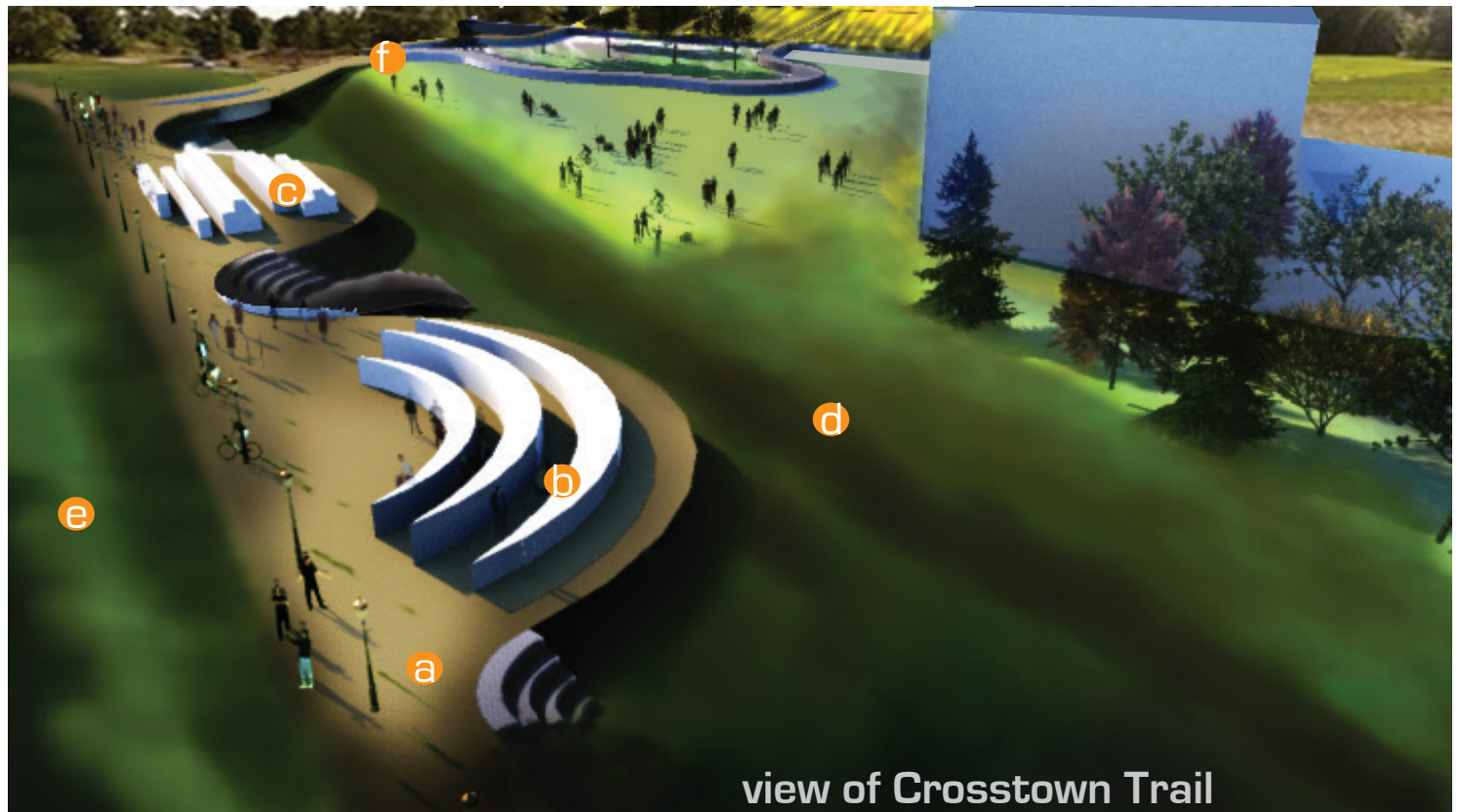
stormwater channel



native grasses

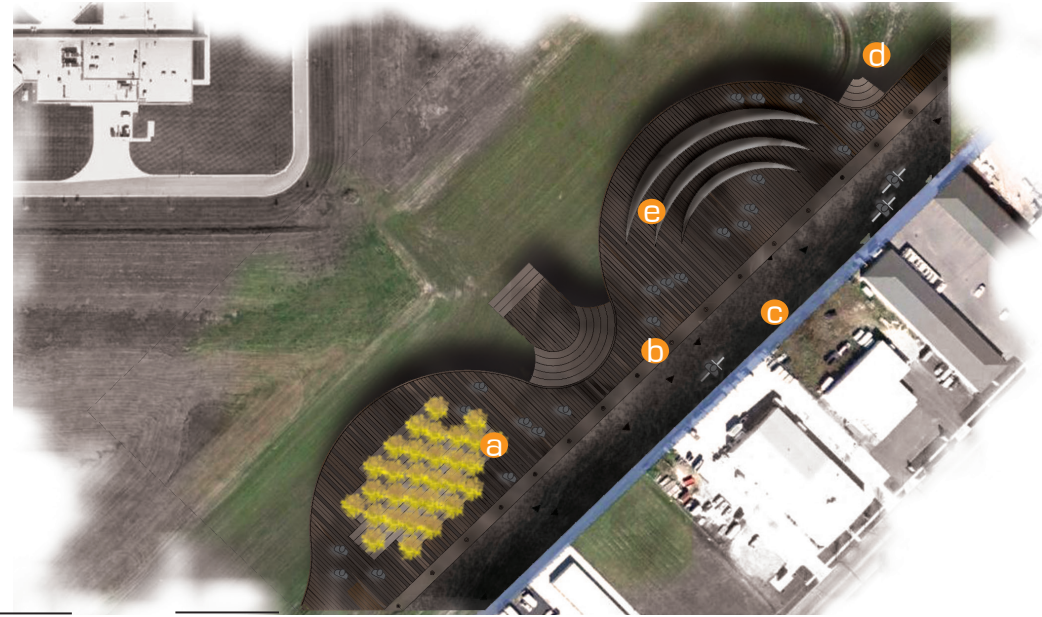


- a poly pavement
- b interactive sculpture
- c raised planters
- d stormwater channel
- e raised birm
- f bus stop

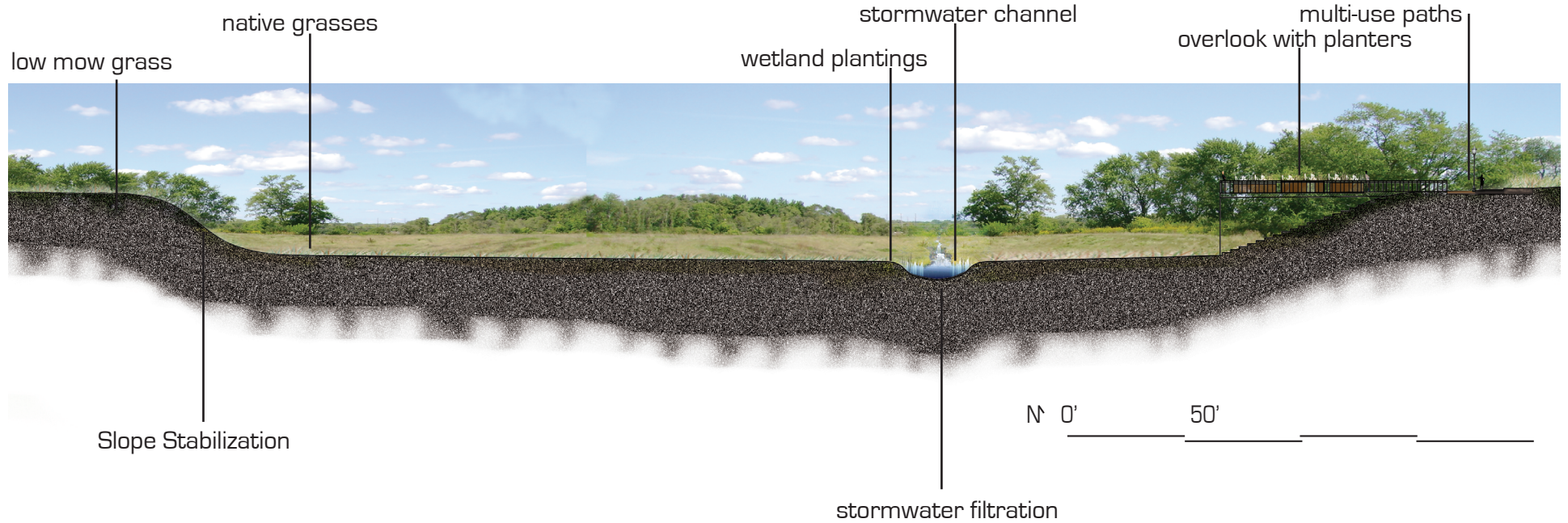


detail overlook plan

- (a)** raised plantings
- (b)** cedar overlook
- (c)** poly pavement
- (d)** stormwater channel
- (e)** interactive sculpture wall



N 0' 20'



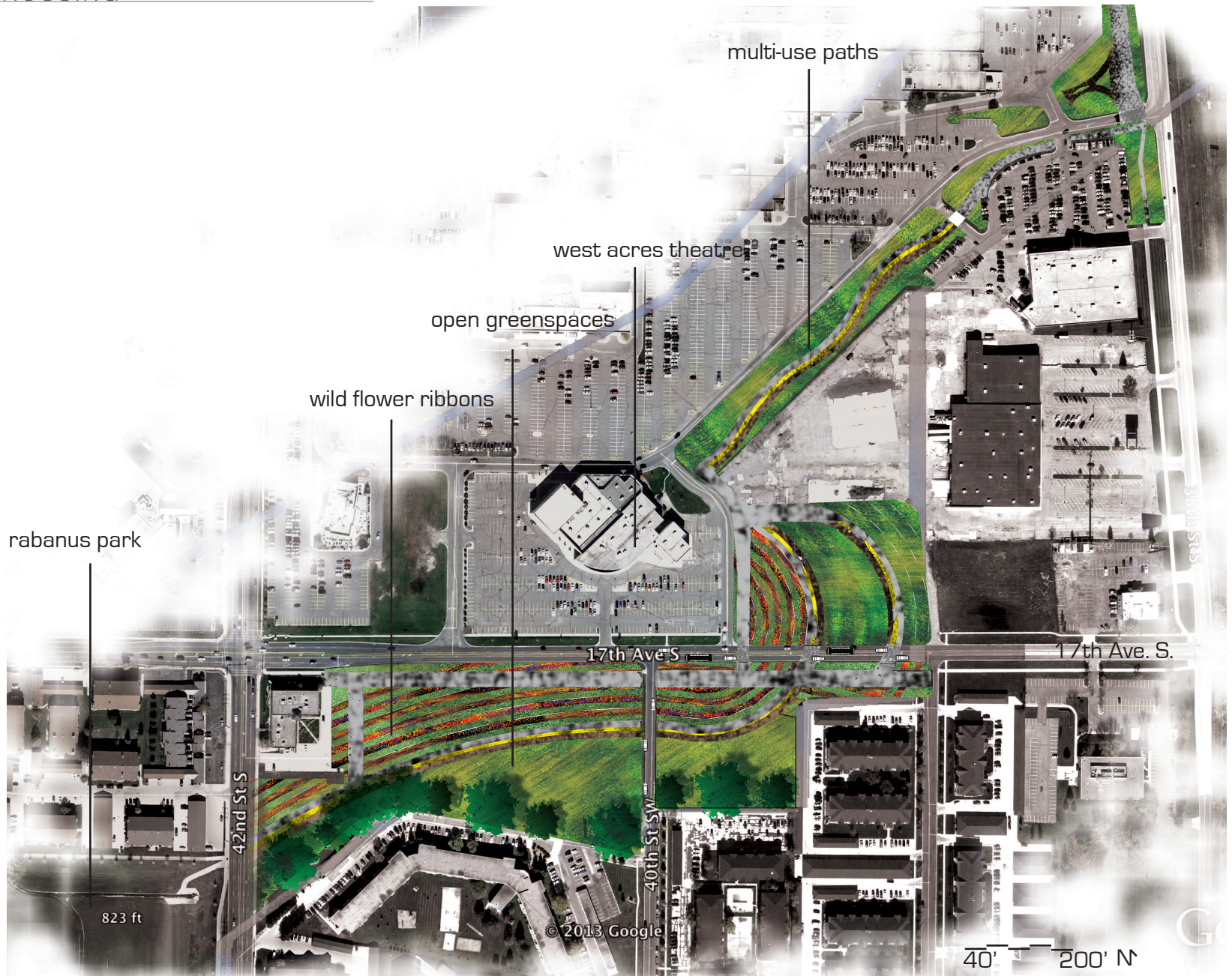
Catalyst Corridor



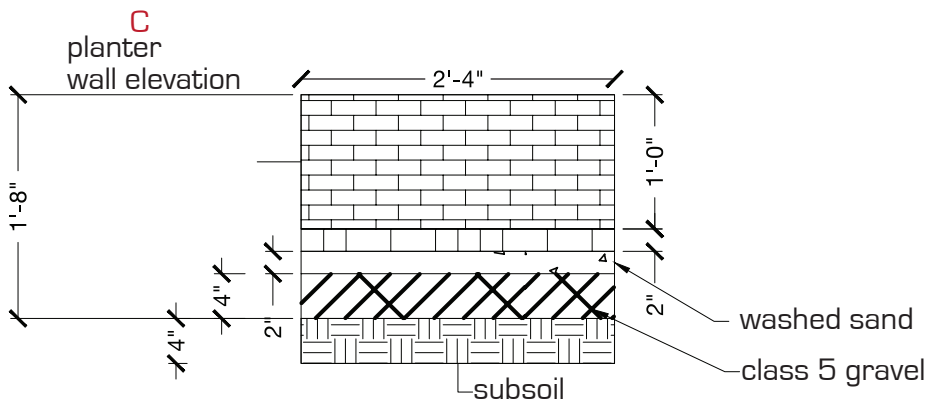
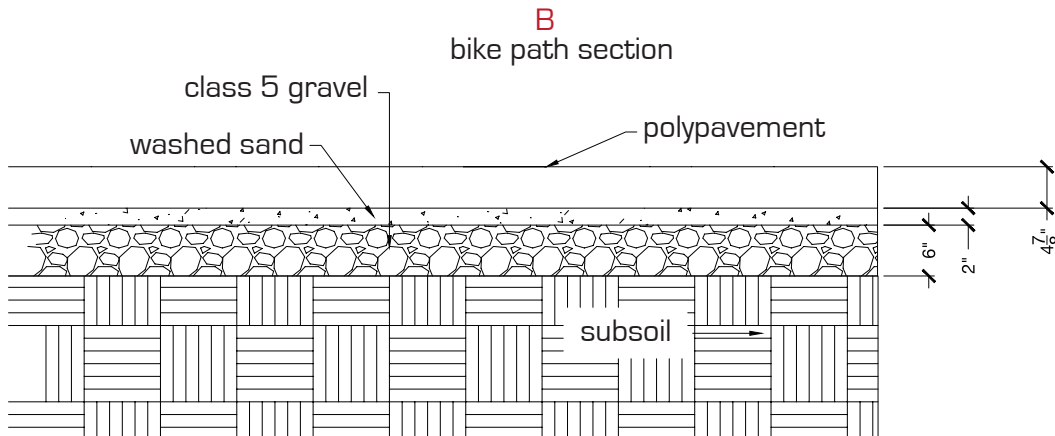
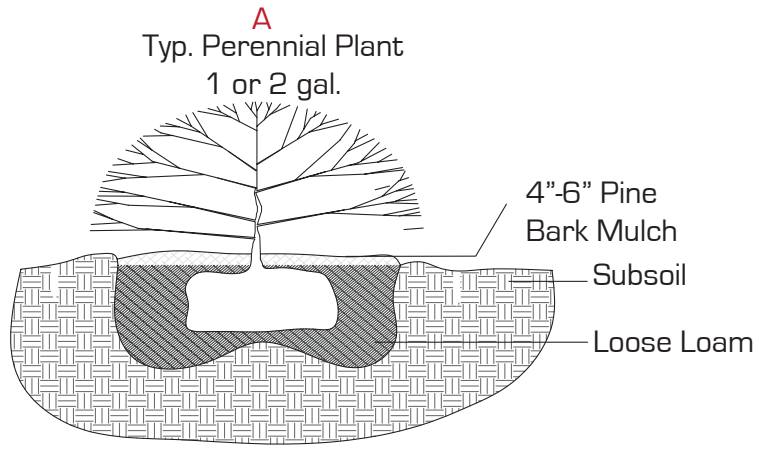
This corridor is named catalyst because of its high visibility to the community. Focusing on creating intentional pedestrian friendly spaces, automobiles and pedestrians alike must interact and work with each other to transform a once vacant lot into an active trail and community reminder that Fargo is moving forward ecologically, socially, and culturally.

- stormwater
- recreation
- urban ag
- overlook
- redesigned park space
- proposed bus stop
- existing bus stop
- trail connection
- shared use
- bike trail
- ped trail
- commercial trail system
- retention trail system
- rail trail system
- residential trail system
- road crossing

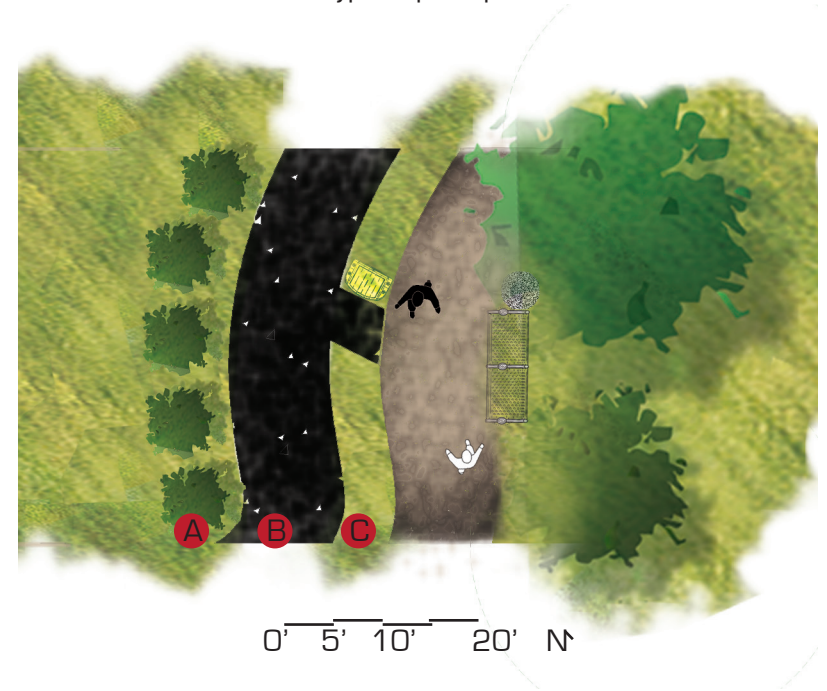
17TH AVE. CROSSING



DETAILS



typical path plan



17TH AVE. CROSSING

- ① large grassy birm ② open recreational space ③ safe pedestrian crossing ④ 50' wide path ⑤ ornamental flower rows



view of catalyst trail on 17th ave. S.

- ◆ If you can't be criticized for it, it's probably not remarkable.

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Fargo, ND 58102

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701.388.2576



PREVIOUS STUDIO EXPERIENCE

◆ Second Year

Fall 2009: Kathleen Pepple
Tea House - Fargo, ND
Fine Arts Club - Fargo, ND

Spring 2010: Dominic Fischer & Matt Chamebrs
Woodlawn - Moorhead, MN

◆ Third Year

Fall 2010: Stevie Famulari
Snow Symposium - Fargo, ND
US Bank Plaza - Fargo, ND

Spring 2011: Kathleen Pepple
Fort Yates Indian Reservation - Fort Yates, ND
Wrigleyville - Chicago, IL

◆ Fourth Year

Fall 2011 - Study Abroad Italy

Spring 2012 - Study Abroad France

◆ Fifth Year

Fall 2012: Mehran Madani
Civic Center - Fargo, ND



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APPENDIX

Appendix A: Questionnaire

Participant number _____

Participant age _____

Please indicate your current address:

Please list the activities that you enjoy outside. For each activity, note the maximum time spent traveling to a recreation area in minutes along with how long you would spend performing that activity. (e.g. walking to the store, playing catch, running your dog, etc.):

Activity	Length of activity (mins)	Proximity to house (mins)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please list cities where you have lived, approximate ages of residency for each, and the distance to the nearest recreation space and how often you would go there. (mins):

City	Ages of residency	Distance (mins)	Frequency
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

****This information will be strictly used for education purposes only under the authority of North Dakota State University's Landscape Architecture Department

Printed Name and Data (Educational Release Consent)

Signature and Date (Educational Release Consent)

◆ Vital

■ Qualitative

The unpredictable and fragile system is an eco-system that is not just a topic to discuss, but a way of living. The cycles our region goes through, whether dry or wet is a goal that the greenway strives to show how it can be a mutually benefiting relationship.



Typical storm water infrastructure for Fargo

◆ Impact

■ Initiatives

Focusing on the relationship of unplugging our lives and getting outside can be an issue due to our cold weather and the scars of past natural disasters. Working towards flood protection, mitigation, storm water management, and various other forms of green infrastructure, the greenway will prove to be of benefit to the both the users and the environment



Same mechanical infrastructure, but with the integration of best management practices. Characteristics such as: signage, native vegetation, and a trail system.

