City of Mitchell
SOUTH DAKOTA

Active Transportation Recommendations

In cooperation with the
South Dakota Department of Health
&
South Dakota State University
Landscape Architecture

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Acknowledgements

South Dakota Department of Health

Beth Davis

South Dakota Active Transportation Advisory Team

City of Mitchell

Dusty Rodik

Terry Johnson

Ken Tracy

SDSU Landscape Architecture Program

Meredith Bargenquast

Jay Bredberg

Aaron Eimers

Shane Hoitsma

McKenzi Kohlnhofer

Andrew Krier

Tyler Landry

David Rutherford

Billy Schwarz

Ashley Tollefson

Virginia Torzewski

Brianna Wenner

Jordan Wunder

Faculty Advisor

Don Burger

Teaching Assistant

Booker Tieszen

Introduction

The built environment affects public and personal health. This fact has been proven time and again through studies, interviews, surveys, and mockups the world over. In addition to physical indicators of health, like measuring obesity, calorie intake, and steps walked in a day, there are less-tangible indicators of a community's health. These include perceived friendliness, sense of community, and livability. The built environment impacts all of these indicators.

In 2012, the South Dakota Department of Health initiated the Active Transportation Advisory Team (ATAT) to facilitate change in the built environment of South Dakota. In particular, an effort has been made to help communities encourage using alternative means of transportation (such as walking or cycling) for completing one's daily routine. An outgrowth of the ATAT work is the Active Transportation Collaboration project. This project provides resources and expertise to one South Dakota community each year in developing strategies to improve active transportation.

Recommendations are developed over the course of a 16-week semester by students from the South Dakota State University Landscape Architecture program. In the case of the present study, students traveled to Mitchell, South Dakota, to conduct interviews with key stakeholders within the community, including the mayor, members of city council, other city officials, and leaders of local industries and grassroots groups. Students also conducted an analysis of transportation infrastructure, parks and recreation facilities, and neighborhood composition.

After conducting these interviews and analysis, students developed a series of recommendations touching all aspects of active transportation issues, including overcoming a dependence on cars, building a sense of community, and improving access to and diversity of the various destinations in Mitchell (places of work, commerce, and recreation). By approaching active transportation in this holistic way, it is hoped that a balanced, comprehensive plan for improving public and personal health can be achieved.

These recommendations represent a global shift in how people think of their community. Some recommendations represent a major financial investment. However, by shifting community priorities and actively pursuing existing sources of financial assistance, Mitchell can continue to be an example of the best that South Dakota has to offer: a small-town feel with big-city amenities. As Mayor Ken Tracy has said, Mitchell has "a supremely unique quality of life." These recommendations help to ensure that this statement continues to be the truth.

Recommendation 1: Countering the Car Culture

America is a rapidly evolving landscape, and in the past 100+ years, transportation technology has been at the forefront, an evolutionary process that began with Henry Ford's assembly line and encompasses the solar electric of tomorrow. The automobile has made life easier, moving people from place to place with little to no effort. Americans and automobiles are nearly synonymous. Pop culture reflects Americans' dependence on cars everywhere, from movies to music to slang and jargon. This lifestyle has been dubbed "car culture", or using a car to facilitate one's movement for every need, convenience, or whim. "Car culture" ignores the ease that such a trip could be accomplished through alternative means. The recommendation herein seeks to identify problems with "car culture" and create ideas that promote and bring citizens onboard to the active transportation model.

Background

The fastest growing cause of preventable disease in America is obesity. An expansion which currently claims 34.9% of adults and raises their annual medical costs nearly $1500 (CDC). Hypotheses abound as to the cause of this, and a significant amount of research has been devoted to finding the cause. A growing body of research indicates a correlation between automobile use and obesity. One study done in Atlanta, GA in 2004 found that 60 extra minutes in a car could lead to a 6% rise in obesity. The survey found that one of the key factors was land use mix, or the variation of the built environment. The findings indicated that for every quartile increase in land use mix, obesity dropped 12.4%.

These data are from large metropolises, but can easily translate to the City of Mitchell. One of the study findings was that "...increased mixed use, density, and street connectivity make walking an attractive and viable option" (Frank, 95). Physical design affects travel choices for people as to how much they walk or bike, especially around the places they live and work (ibid, 89). One common example of this is sidewalks, which the city of Mitchell has been proactively installing throughout the community. However, sidewalks that lack signed crosswalks deter people from feeling safe in crossing a street, thereby reducing walkability.

Children are the future, and creating a more walkable city must start with them. This leads to a focus on schools, as this is the common activity among young people, and is their "commute." Improved daily activity through use of active transportation is the goal. A simple solution exists--make every kid walk/bike to school--a solution that gets people up in arms as it is absurd, and over generalizes everyone's situation. Therefore, perhaps there should be a way to incorporate walking to school, but lets parents drive their kids within safe range--past dangerous intersections or through inclement weather. One concept employed in Portland, OR is called "Stop + Walk" (The City). The Stop + Walk program encourages kids to be dropped off several blocks from school on a Safe Route, then proceed the rest of the way on foot. This does double duty by reducing traffic congestion around the school and letting kids burn off spare energy before reaching the classroom. The campaign was pushed with posters, newsletters, punch cards, and a campaign manual; coupled with Google Maps and Safe Route Maps to find drop off locations. Punch cards, for example, offered the student a prize for

participating five times, thus making it a game. Another example from Michigan had kids running or walking a mile three days a week. Teachers are enthusiastic about this program which has shown reports of increased attention and lowered restlessness in the classroom (Satcher, 41). Targeting children works because there are few psychological habits to break, and they grow up aware that every trip should be evaluated as active or sedentary in a car.

Youth only account for a percentage of the population in Mitchell, and should not be the sole beneficiaries of active transportation programming. Adults comprise the largest segment of the population in Mitchell; people who drive to work every day, have money to buy things, and drive city councils to action. These are the primary users of city resources, and stand to feel the greatest impact of an advanced active transportation network. The challenge lies in promoting an informed, involved voter base, a growing challenge in today's technological climate that is seeing a decline in traditional communication such as town hall meetings and postal mail. Therefore, it is imperative that the program for adults is in line with the times as well as easy and attractive to get on board with. In contemporary America, it seems that everyone has a smart-something, and apps like "Every Body Walk" have been used as community rallying points (walksteps.org, 2014). These apps show the available non-car features in a city, allowing people quick access to information and routes.

In addition, some cities have created specific walking groups, where people meet up and walk together to places like work or downtown (walksteps.org). The focus on is demonstrating that pedestrian traffic is both pleasant to the psyche as well as physically easy. Community design meetings aid in formulating ideas and increasing community interest in a project. One easy step would be advertising proposed improvements such as large signs showing new crosswalks, hosting neighborhood "grand openings" for sidewalks, and organizing group rides for new bike lanes. Each of these methods draws the public eye to the good that is happening and promotes immediate use of new facilities.

One goal that was continuously discussed during a meeting with city representatives was the desire to bring people into the downtown area. Usually, comments centered on easing traffic congestion from the interstate into downtown. A stronger impact could be observed by focusing on walkable shopping. This encourages interpersonal interaction as there is no glass or steel barrier between people on sidewalks. Concepts of "park and walk" can be found at schools like the University of Madison-Wisconsin, which encourages parking cars outside of campus and then walking/ cycling in (Park). In Mitchell, Small Business Saturday could be promoted by closing Main Street to vehicles in the morning, opening up alternative parking on the margins of downtown, and encouraging people to walk along the temporary pedestrian mall.

Lastly, a "spring into mobility" day could be initiated once winter is over. A large exhibit could be integrated into the opening of the Farmer's Market, and include bike safety, pedestrian awareness, and share the road classes, and bike tune-ups. Implementation of programs for adults would set an example for others, as walking transitions into the common mode of transportation.

One generation often overlooked is the 65+ group. This subset of the population have real need for car-less infrastructure, often because as people age, it becomes more

and more difficult to provide the near-instantaneous reaction needed to operate a car in traffic. In addition, senior citizens often have a high desire for interpersonal interaction and activity.

An active transportation model for this group would reflect the reduced confidence found in geriatrics. Larger cities are often the place to look for examples of how to solve these problems, and a case study in New York did just that. After creating community forums and design idea meetings, Alternative Transportation implemented 65 changes that directly benefited over 20,000 residents in two neighborhoods (walksteps.org). These alterations to city infrastructure included altering the light timing to geriatric speed (three feet per second), narrowing road crossing widths, and altering curbs and sidewalks. This model could be applied to Mitchell, and could start in the vicinity of the senior center. Creating safer opportunities for seniors to walk around town not only increases their personal satisfaction, but can bolster local businesses as the opportunity to drop in and browse is exponentially easier if they are already on the sidewalk.

Reforming a system and way of life developed over a hundred years poses significant challenges, however overcoming leads to substantial quality of life rewards. The proposed methodology trains children at a young age to be active in their transportation habits, encourages parents to be the example, fosters community spirit and friendliness, and creates a healthier community.

Recommendation 2: Active Transportation Infrastructure

The purpose of the active transportation recommendations is to build off the current progressiveness Mitchell embraces. With the recent push of creating pedestrian access citywide, these ideas will either fill in gaps or improve current conditions. The overall goal is to develop Mitchell's bicycle access through three major categories: pathway infrastructure, bicycle facilities, and programming. Mitchell is already a great place to visit, and a great place to raise a family, but these interventions will further build a rich community and local economy.

Rationale

Outside of the economic views that follow constructing bicycle infrastructure, the city of Mitchell should also be concerned with current public health trends. Several statistics have proven that American obesity rates among children and adults are steadily increasing:

- During the past four decades, the obesity rate for children ages 6-11 has more than quadrupled, from 4.2% to 17%, and more than tripled for adolescents ages 12-19, from 4.6% to 17.6% (Ogden, 2002).
- From 1977 to 1995, all walking trips drastically declined by 32%, and a correlated decrease in adults walking to work (Hu and Ruescher, 2004).
- Studies have proven that children and adolescents who bicycle or walk to school have a higher overall physical activity (Davison et al, 2008). But, the percentage of school-age children nationwide who commute to school, either by walking or bicycling, decreased by 68% from 1969 to 2001 (McDonald, 2007; McMillan 2005).
- Benefits of having destinations with facilities to support walkers and bicyclists in turn, each person were calculated spending between $0.96 and $1.92 per trip (Ham et al, 2005).
- Building multi-use trails can lead to short and long-term increases in walking and cycling, especially on urban-area trails and trails that connect population centers with desirable destinations, such as downtowns (Physical Activity and the Environment, 2006; Merom et al, 2003; Wendel–Vos et al, 2007).
- The financial gain of the health benefits related to trail use outweighed the cost of building and operating the trails. For example, in Lincoln, Nebraska, every $1 invested in trails was estimated to save $2.94 in direct medical costs from a societal perspective (Dill, 2009; Wang et al, 2005).

These recommendations will not only promote healthy lifestyles, but will help revitalize downtown businesses and eateries. The focus also pertains to connecting the town to the lake area, and students to schools and colleges. Road choices are based off their major arterial significance and connectivity to major intersections. Building infrastructure on the inside and working out is like a root system, providing sturdy building blocks for future projects and revitalizing central destinations including downtown Main Street.

Filling Infrastructure Gaps**:**

1. Havens Avenue between Burr Street and Minnesota Street: reduce 5 lanes to 3 lanes and include two-way bicycle lanes or two-way multiuse trails.

2. Minnesota Street from Havens Avenue to 23rd Avenue, include bicycle trails along the east side of the road.
3. Widen 1st Avenue sidewalks from Minnesota Street to Foster Street to meet multiuse standards (6-8').
4. Create Lawler Street from E. Railroad Street to E. 9th Avenue a no parking section.
5. Lawler Street from E. Railroad Street to E. 12th Avenue: incorporate two-way bicycle lanes. Mimic Lawler Street over to Rowley Street including no parking zones and bicycle lanes.
6. Widen the north sidewalk of 12th Avenue between Rowley Street to Lawler Street to meet multiuse standards (6-8').
7. Create bicycle paths along the east side of Main Street from 12th Avenue to 23rd Avenue
8. Incorporate two-way bicycle lanes along the sides of Norway Avenue from Miller Avenue to Burr Street
9. Integrate multiuse trails along Foster Street from Havens Street to north of Shanard Rd.
10. W 8th Avenue, from Minnesota Street to N Ohlman Street: connect with multiuse trail.
11. N Ohlman from W 8th Ave to north of Sharpstone Dr. unite existing trail to proposed trail along the east side with multiuse trail.
12. Join Minnesota Street to Foster Street with two-way bicycle lanes along 5th Avenue
13. Widen sidewalks on 11th Avenue to meet multiuse standards (6-8').
14. Make both Lawler Street, south of the railroad tracks, to Havens Avenue and N. Harmon Dr. Road Shares.
15. Build a recreational multiuse path along Firesteel Creek that connects between Foster Street and Main Street
16. Joining Havens and Norway through S. Rowley Street

Havens Avenue between Burr Street and Minnesota Street reduce 5 lanes to 3 lanes and include two-way bicycle lanes or two-way multiuse trails.

During the survey process, Havens Avenue was noted to create an unsafe feeling for pedestrians. With the sidewalk located alongside the busy street, pedestrians have no barriers between them and vehicles. While traveling down the 5' path, the surveyor had to walk into the grass in order to pass another pedestrian safely. Since Mitchell values the pedestrian more than the vehicle, changes need to be made between Burr Street and Minnesota Street. The proposed idea is to shrink Havens Avenue from 5 lanes of traffic (4 lanes and a Two Way Left Turn Lane or T.W.L.T.L.) to 3 lanes of traffic (2 lanes and a T.W.L.T.L.) with two-way bike lanes. The uses of bike lanes create barriers between vehicular traffic and pedestrian traffic as pointed out in Figure 1; whereas extending the trail width includes a buffer strip between traffic and pedestrians depicted in Figure 2. Outside of pedestrian barriers, the inclusion of bike lanes or multiuse trail builds a strong connection from residential areas to interior city hotspots.

Minnesota Street from Havens Avenue to 23rd Avenue, include bicycle trails along the east side of the road.

In order to revitalize the downtown area, connections are needed to transport residents and visitors. Minnesota Street is the best possibility to create access from south of the train tracks to the north. Since the street intersects the train tracks at ground level, the city won't spend money building another bridge across the tracks on Sanborn Blvd. Pedestrians will potentially have two options to access Main Street from the south, a recommended bridge off Lawler, and the access on Minnesota. The proposal will widen Minnesota Street to incorporate one bicycle lane along the east side with roadside parking. Although Minnesota's sidewalks allow bicyclists, the width of the sidewalk is unsafe for walkers and cyclists. While avoiding conflicts between bicyclists and walking pedestrians, this path solution will help towards building safety barriers from vehicular traffic.

Widen 1st Avenue sidewalks from Minnesota Street to Foster Street to meet multiuse standards (6-8')

Continuing with the trend of drawing people into the downtown area, connecting bicycle sidewalks from Minnesota Street to Foster Street is critical in achieving that goal. Bicycle communities usually exist as an untapped resource when considering downtown revitalizations. Unlike vehicular traffic, bicyclists are prone to stopping, walking and spending money. According to OTREC (Oregon Transportation Research and Education Consortium), "In Toronto and Portland, after pedestrians, cyclists are responsible for the largest monthly per capita spending within a particular area". Unlike vehicular traffic, bicyclists travel at a slow rate and right next to storefronts. Bicyclists are more susceptible to stumbling upon local deals and eateries. The recommendation is to widen the current sidewalks to meet multiuse sizes, 6-8'. Also with extending Foster Street, tourist and Mitchell citizens could take a long lap around Mitchell, which also benefits health.

Create Lawler Street from E. Railroad Street to E. 9th Avenue a no parking section. Lawler Street from E. Railroad Street to E. 12th Avenue: incorporate two-way bicycle lanes. Mimic Lawler Street over to Rowley Street including no parking zones and bicycle lanes.

Mitchell has several separations throughout the town and connections for bicyclists are a necessity. Mitchell needs to connect downtown to the Lake Mitchell area. Since Lake Mitchell plans on growing outside interest, bicycle lanes and trails are needed to get people from the lake to downtown. Biking needs destination points and these two locations are strong conductors for visitors and residents alike. As families stop at Lake Mitchell to camp, they could take bicycle trips to the Corn Palace and local shops. In order to bring people to the downtown area, Lawler and Rowley need two-way bike lanes. These roads, from E. Railroad Street to 12th Avenue will be 2 lanes with 2 bike lanes. From 9th Avenue North, there will be road parking, but between E. Railroad Street and 9th Avenue there will be no road parking. There are several parking lots on this section of road, making the loss of parking plausible. From 1st Avenue to 7th Avenue,

bicycles will need to be allowed as traffic but they will not need parking space. The proposal also includes two parking areas for bicycles, one on 7th Avenue and one on 1st Avenue. Lawler Street is perfect for a bicycle lane if the pedestrian bridge is built to connect downtown to Dry Run Creek Park, because bicycle traffic can run straight into the park.

Widen the north sidewalk of 12th Avenue between Rowley Street to Lawler Street to meet multiuse standards (6-8').

This two-block section is a critical connecting point between the proposed bike trails on Main Street and the bike lanes on Rowley Street and Lawler Street. Currently, there are sidewalks on the north side of 12th Avenue but the width, as mentioned before, creates problems with both types of traffic. The north side was selected for open space lots, and how little affect it would have on the current lot owner.

Create bicycle paths along the east side of Main Street from 12th Avenue to 23rd Avenue

This section of bike trail will connect the downtown area to the north part of town, including Lake Mitchell. These bike trails will line both sides of Main Street to efficiently move masses of people at the safest way possible. The trails will need to meet the current bike standards of 6-8' wide, and will need buffers between the road and the trail. Since north Main Street is busy with vehicular traffic coming off the bypass, bike lanes are not an ideal solution.

Incorporate two-way bicycle lanes along the sides of Norway Avenue from Miller Avenue to Burr Street

Currently Norway lacks the capabilities to connect Dakota Wesleyan University to Burr Street. Several destinations are located by or along Burr Street including Wal-Mart and Cabela's, which are a stone's throw from the road. With the Burr Street recommendation, this proposed improvement is critical for access to south of the interstate. Without this section of connectivity, bicyclists will travel dangerously along a busy arterial road and the intersection of Burr Street will cause vehicle-bicycle conflict.

Integrate multiuse trails along Foster Street from Havens Street to north of Shanard Rd.

The two main reasons for adding multiuse wide trails to this section include a bicycle loop and safety. Mitchell is a rapidly growing city, which is susceptible to urban sprawl. As the town continues to expand, residential neighborhoods will continue to grow east of Foster Street. Anticipating the growth is key to safely moving bicyclists around the town. Also, with the inclusion of this trail, a loop will be created. These bicycle tracks are great for workout enthusiasts because they are able to start and finish at the same point safely. Finally, this sets up for the proposed recreational multiuse path along Firesteel Creek.

Recommendations 12 through 18 are considered as secondary importance. Although these trails and active transportation solutions are vital for a successful system, they can be added additionally once funds become available. Especially with the Firesteel Creek recommendation, if feasible the trail would follow the creek. The path would consist of crushed aggregate for minimal environmental impact. The major determining factor with this proposal is the flood plain and how construction may not be plausible.

Bicycle Facilities.

Since Main Street does not allow bicyclists to park their bikes on sidewalks, there is a need for bicycle facilities. One solution is to build two parking lot type spaces, one on the north end of Main Street and one on the south end. These facilities must include secure bicycle-racks with the ability to store large amounts of bikes. Other amenities should include lighting, signage for local trails, and potential repair facilities. The locations of these bicycle lots are critical. The south Main location is right in eyesight from the police station (Figure 3), and the north Main location is in the Corn Palace parking lot (Figure 4). Both of these areas should provide thoughts of security and safety, as well as strong points to connect people to downtown.

Programming

Towns can build great elaborate trail systems, but without programming several of those trails go unused. Programming is the kick-start many new facilities require to attract people's attention. With active transportation, programming ranges from educating the public about bicycle safety to company incentives.

Bike Share

Bike share programs are popping up nationwide and are promoting healthy lifestyles. This program lends out bicycles to pedestrians, who want to tour the town, visit local hotspots, and ones that want to get fresh air. This programming proposal asks for the city to contract out Bike Share to private parties. This helps avoid the potential of a failing program for the city since they can terminate if the Bike Share is not a hit. Minneapolis has a bike share program called "Nice Ride Minnesota". According to their website, memberships range around $60-$75 per year, and can be rented daily with passes. This promotes community involvement with active transportation and a simple way for tourists to visit local parks.

Educational Programs

Currently South Dakota does not require adolescence to attend driver's education. This causes several problems not only with driving vehicles but also with bicycles. Adolescent students are unaware of the seriousness that comes with riding a bicycle either in traffic or nearby traffic. Bicycles are an extension of a motor vehicle and should be treated as one. Students should be required to take a bicycle-training course at least once throughout their K-12 education. This training would consist of safe pedestrian behaviors, unsafe pedestrian behaviors and obstacle course

for bicycle confidence. Students are more likely to bicycle are walk to school after receiving safety education.

Conclusion

Mitchell is already moving in the right direction with their sidewalk system in place, but these recommendations will support the push forward. The city has several options when coming to pay for all of this. When Mitchell incorporates these active transportation recommendations, they will qualify for several grant options. These grants are awarded throughout the country to communities that support active transportation. In addition to grants, Mitchell can promote incentives for local businesses that promote cycling to work. Companies should create bicycle facilities including bicycle racks and signage to promote healthy lifestyles. Building healthy lifestyles helps increase productivity in the workspace and an overall healthy community environment. With a healthy community environment, Mitchell will become a self-sufficient city that invests into the wellbeing of its members.

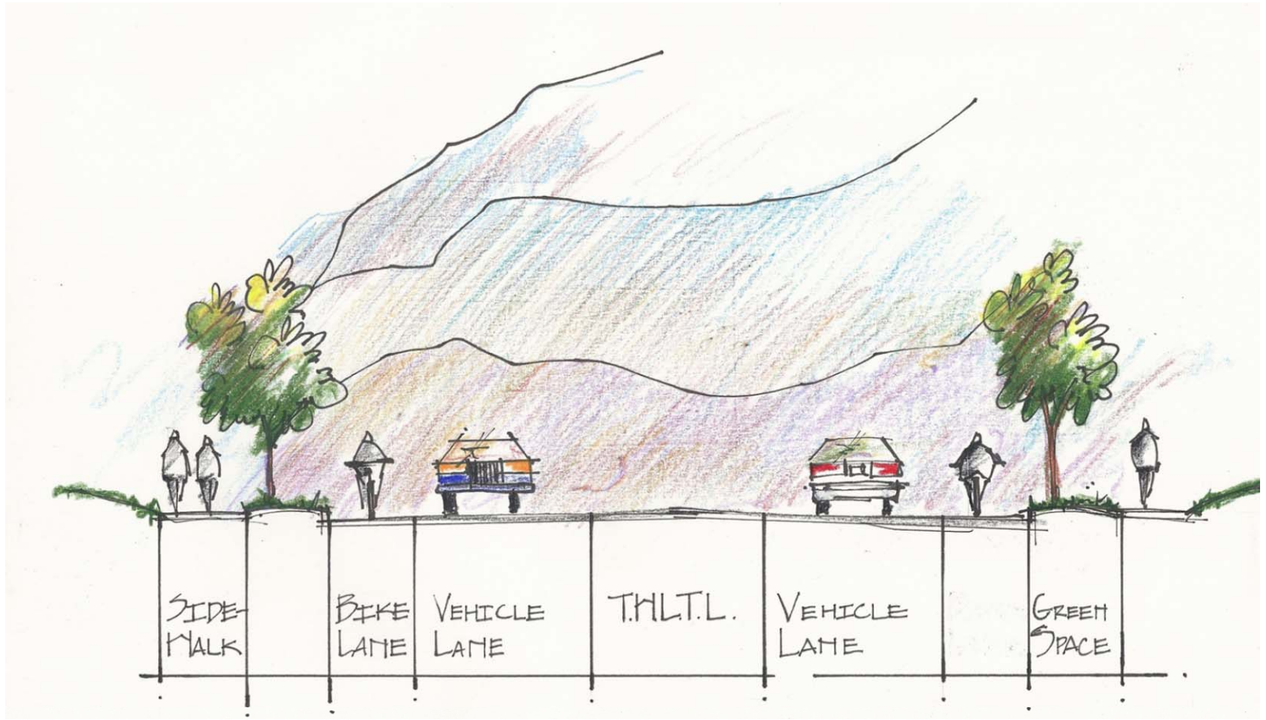


Figure 1. Road section with bike lanes and T.W.L.T.L

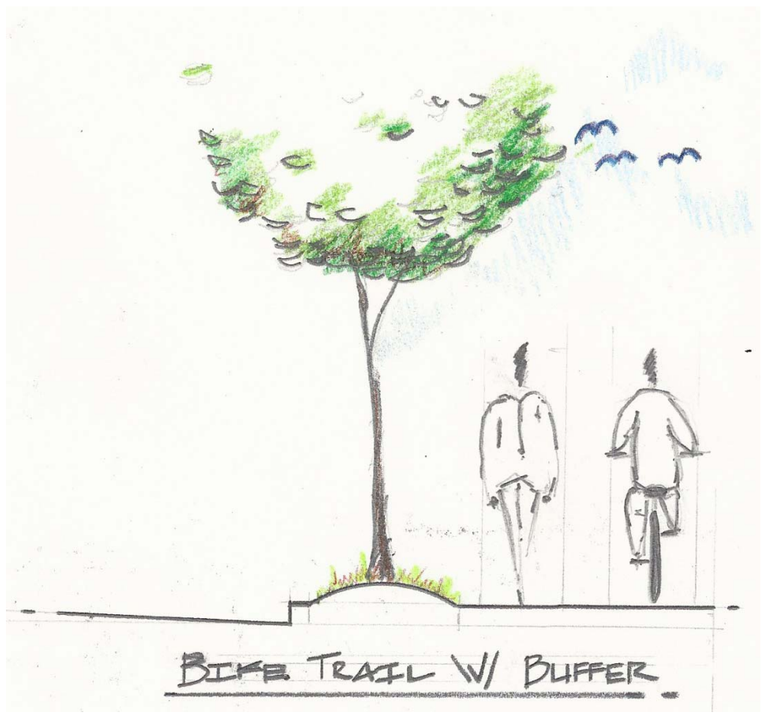


Figure 2. Bike trail with boulevard buffer

Figure 3. Bike parking across from police station

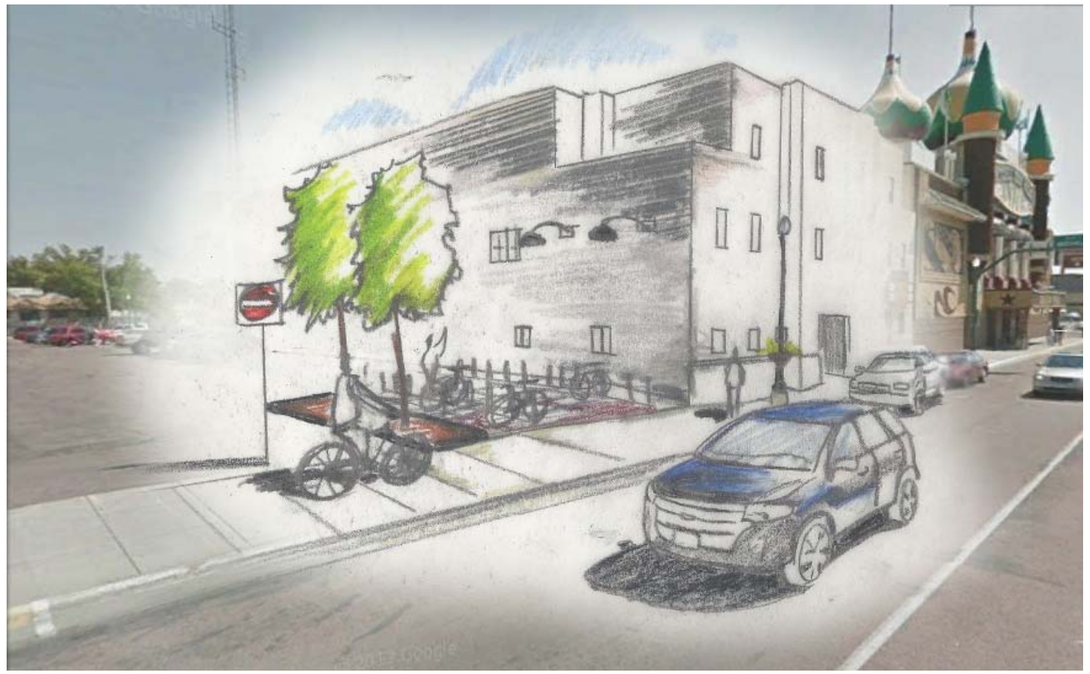
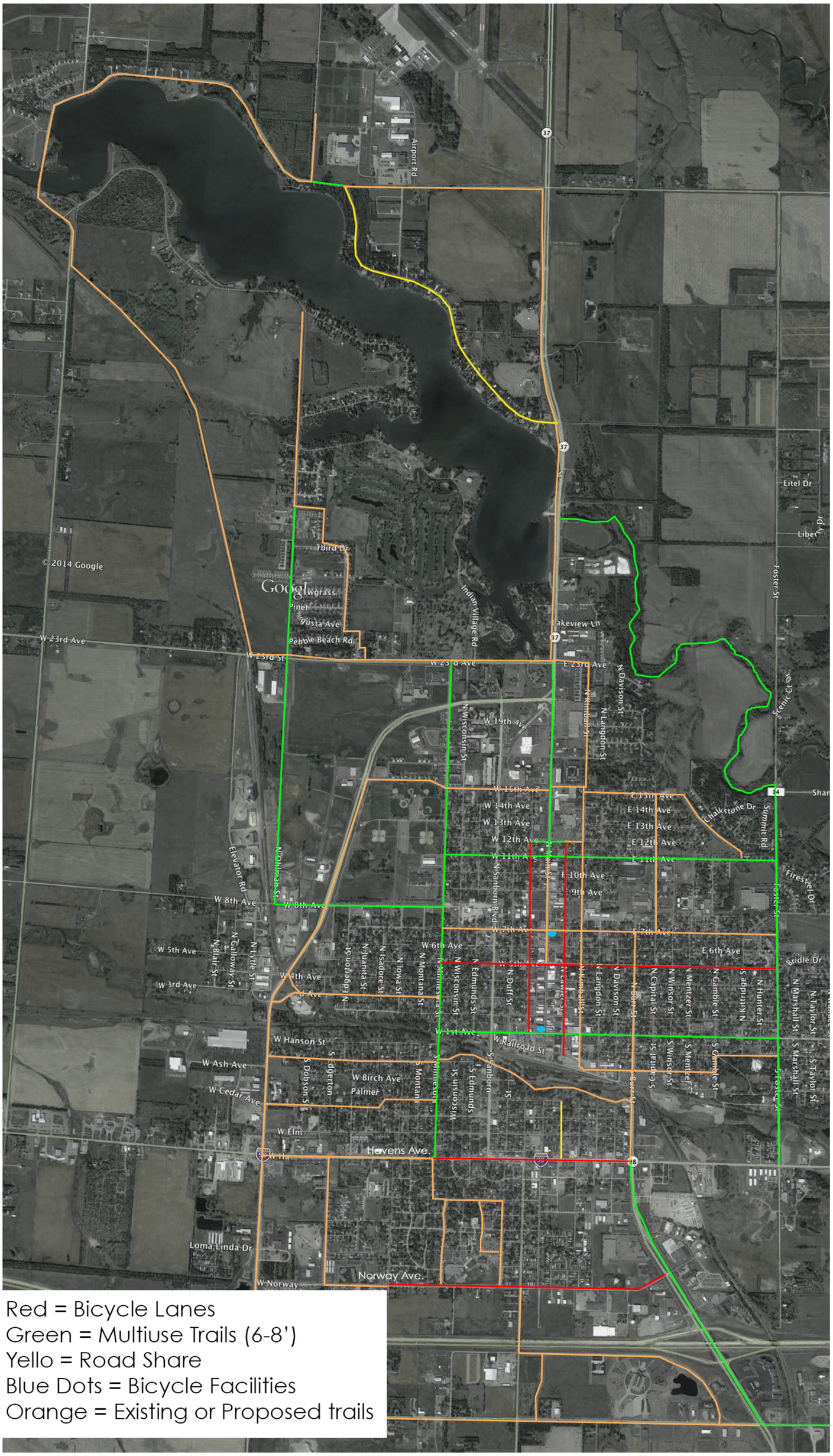


Figure4. Bike parking north of Corn Palace

Figure 5. Bike trail, lanes, and friendly street map



Recommendation 2a: Burr Street Corridor

The Burr Street corridor is the one of the most traveled streets in Mitchell and a major north/south access for the city. This corridor is the eastern of two exits off Interstate 90 that bring people into the city and the beginning of many visitors' experience with and impressions of Mitchell. The section of Burr Street under scrutiny in this recommendation is between E. Spruce Street and E. Havens Avenue (see Figure 6). Burr Street is heavily traveled on this section and features many places to shop, eat, and lodge. The Burr Street Exit also includes a large, popular truck stop. A pedestrian thoroughfare along the east side of Burr Street between E. Spruce Street and E. Havens Avenue would provide safe, active transportation along one of the busiest roads in Mitchell.

A pedestrian route along this major corridor is currently under discussion at the state and local levels. Our recommendation provides safe access to pedestrians already using Burr Street as a transportation route to destinations such as Cabela's or MTI. In addition, it will build visibility and support for larger-scale active transportation initiatives. This pedestrian route will provide many long-term benefits for Mitchell such as:

- an increase in the participation in active transportation by residents/visitors,
- less vehicular traffic along Burr Street,
- a connecting path between North and South of the Interstate, and
- a more enjoyable view upon entering Mitchell from the Interstate.

It is recommended that Mitchell provide an eight foot wide path on the east side of Burr Street with sufficient lighting to ensure pedestrian safety. After a brief personal survey of Burr Street and the attendant commercial venues found thereon, we determined that north- and south-bound lanes have roughly equal vehicular traffic. However, after further evaluation, we believe the east side would be the best route. The west side features a heavily used truck stop, McDonalds, K-Mart, and several hotels, which all tend to be vehicle-dependent. Providing the pedestrian access along the west side would unnecessarily increase the potential for vehicle/pedestrian conflicts. The east side affords the safer route, as pedestrians do not have to cross in front of the truck stop or the on-ramp for west-bound I-90 traffic, which has the right-of-way.

Figure 7 shows a plan view of Burr Street without removing the frontage roads, while Figure 8 features the new thoroughfare and removing the existing frontage roads. Both plans have their positives and negatives. The first plan (see Figure 7) features the new walkway without the expense of removing the existing frontage roads. The corridor becomes cluttered and congested with the frontage roads, Burr Street, a proposed walkway, and a boulevard. Another possible downfall to this plan would be that pedestrians would be near traffic on the frontage road, creating safety concerns. It would also be more difficult to cross from one side of the path to the other as many more lanes of traffic would need to be considered before crossing. A benefit to this plan is that there will be no need to relocate driveways to the buildings, as the frontage roads will remain.

Figure 8 displays the same section as Figure 7, but without the frontage roads. This plan will cost the city more money, due to removing the frontage roads as well as relocating the businesses' driveways that would be affected. This plan does show how the area becomes less congested and less confusing for traffic in the area. Removing the

frontage roads provides more space between the pedestrians and the vehicular traffic making it a safer and more attractive option to its users.

Figure 9 depicts a section view of Burr Street where I-90 crosses over it. A 5' wide sidewalk is added on the East side to provide safe pedestrian travel through the area. The sidewalk will feature a 3'-4' high retaining wall to provide the necessary space for the walk on the east side of the barrier under the bridge. The sidewalk in this area will be aforementioned, 5' wide, because it will still provide adequate room for a pedestrian and a bicyclist to meet without bumping into each other. The path will be 5' wide beginning at the North Exit-ramp of I-90 and the South On-ramp.

Figure 10 is a section view that features the other major renovation for Burr Street, the grass buffer zone between the shoulder of the road and the sidewalk which includes a row of ornamental trees. This buffer zone will serve a few purposes; a separation of pedestrian and vehicular traffic and it will add aesthetic value to the dull existing streetscape in this area. By adding the buffer strip, a safe and substantial distance between bicyclists/pedestrians and vehicles is provided. This addition will provide a sense of security while using the new thoroughfare. The ornamental trees were added to provide shade along the walk, add aesthetic value to the street, and provide a barrier between vehicles and pedestrians. Tight and compact spacing is not recommended; instead one planted every 150' along the street. The space in-between them will still allow sight lines from the road to the store fronts utilizing good design techniques. This technique selectively blocks views while traveling along a path, but still revealing sights and creates interest. Not only will these trees add interesting views, but since they are ornamental they will add year round interest as well. Trees could be planted on the opposite side of Burr Street if desired to achieve more balance. This would require finding more space on the West side of the street for the additional trees. By simply adding these, it will create a more intimate experience for its users, as well as create a separation from traffic.

Figure 11 illustrates the current condition of Burr Street, wide open and offering little aesthetic value. Figure 12 illustrates how the trees create a vertical plane to separate the road from the business areas. It also depicts how pedestrian and vehicular traffic would be separated.

It is proposed that a pedestrian crosswalk be installed across Burr Street along Norway Avenue so people may cross Burr Street in a safe manner. With the addition of a pedestrian route along Burr Street, students may travel along Norway Avenue from Dakota Wesleyan University to get to certain places on Burr Street. This addition will not cost Mitchell much because there is already a stop light at this intersection and the cross walk would not require much to be installed. The stop light timing would need some changing to account for time required to cross the entire street without being in harm's way, which is always the goal when dealing with people and the environment.

Putting a pedestrian route along Burr Street is relevant to the community because it will encourage the community to unitize alternative forms of transportation and become healthier as a community. According to *streetsblog.org,* studies have shown increases in commercial activity where bike lanes are present. While this section of Burr Street does not include bicycle friendly shopping, getting people out and riding their bicycles could spur better business around different areas of Mitchell. The path along Burr Street

will create a central pathway that other paths could lead to. This will be the base work for creating the extensive active transportation system for the city of Mitchell proposed in the previous recommendation.

A pedestrian path on the east side of Burr Street will promote active transportation in the community. People will see others using it and take interest in doing the same. Mitchell will receive many benefits from a redesign of the Burr Street corridor including a new aesthetically pleasing view upon entering the city, a safe thoroughfare for pedestrians/bicyclists under the interstate, and will help promote active transportation amongst the community which will in turn create a healthier, friendlier environment.

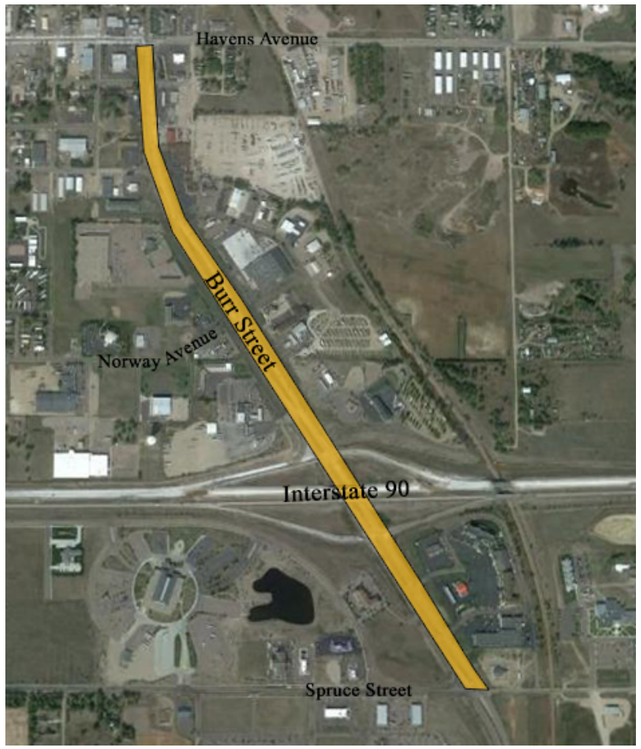


Figure 6. Burr Street overview

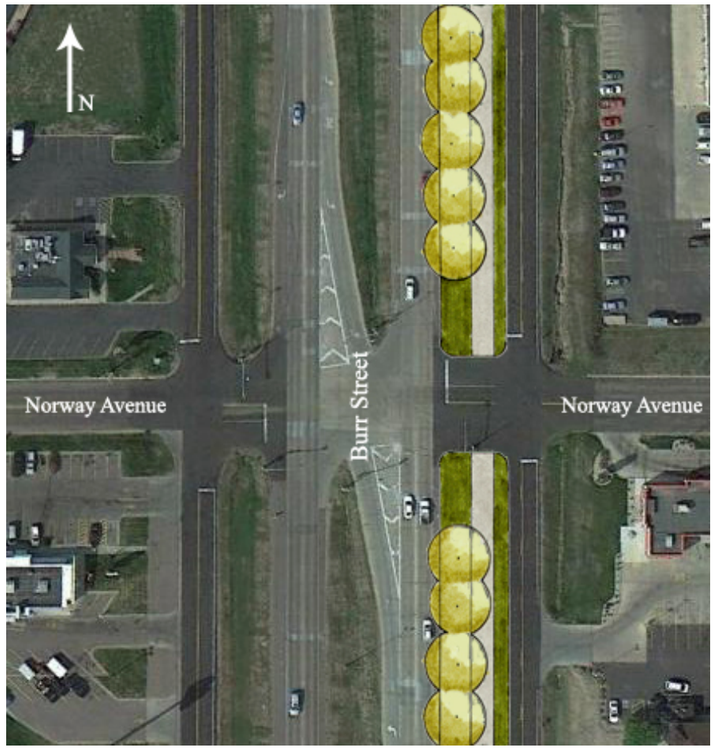


Figure 7. Burr Street Improvements with frontage roads

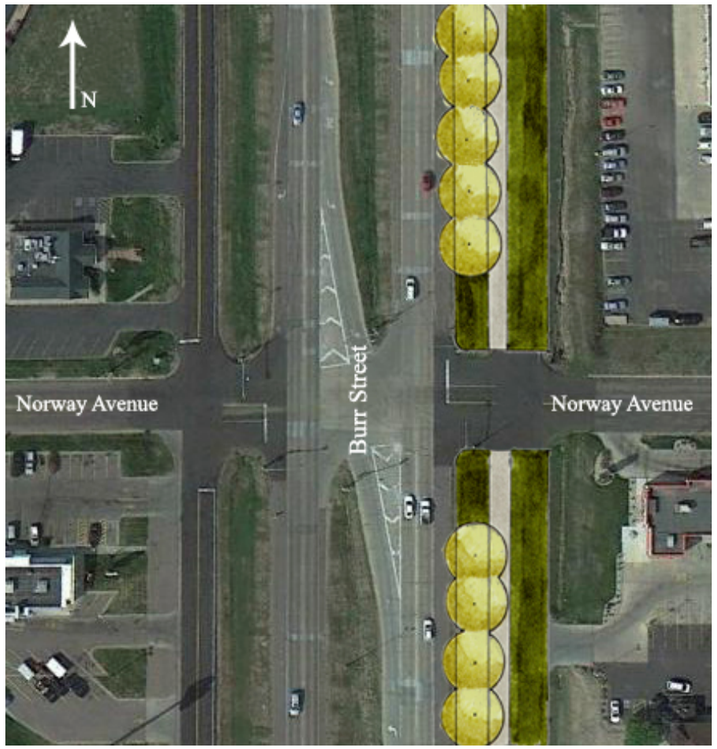


Figure 8. Burr Street improvements without frontage roads

Figure 11. Burr Street condition

Figure 12. Burr Street with trees

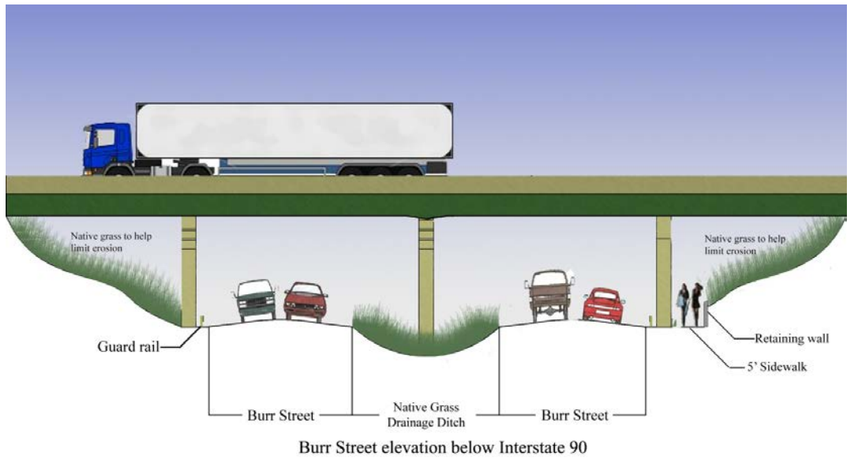


Figure 9. Burr Street & I-90 intersection

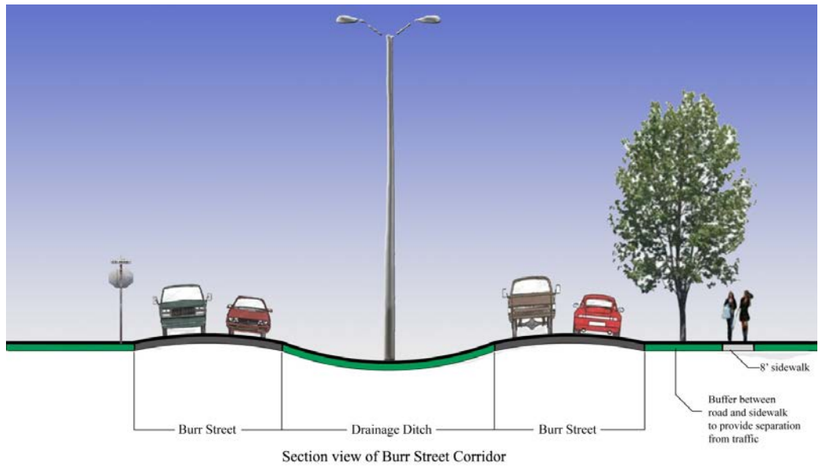


Figure 10. Burr Street pedestrian route section

Recommendation 2b: Dry Creek Run Pedestrian Bridge

Figure 13. Design example of Mitchell's proposed Main Street revitalization project

Plans are in the works to give the Main Street district of Mitchell a fresh look and more appealing pedestrian environment. One of the major challenges in creating greater use of the downtown area is pedestrian access from the southern part of town.. Those seeking access to downtown Mitchell are currently required to travel on Burr Street or Sanborn Boulevard. Both streets are key vehicular connectors and are subject to high traffic volumes and speeds. They are not welcoming or safe for walkers and cyclists. Additionally, both routes only indirectly connect with Main Street; Sanborn is 1/4 –mile away, and Burr is 1/3-mile off of Main. In order to combat these issues and allow pedestrian safe and easy travel to Main Street, non-vehicular access should be provided across the railway to connect Dry Run Creek Park directly to the immediate Main Street area.

Figure 14. Current location of possible bridge site.

The construction of a pedestrian bridge over the creek at Lawler Street would be a cost effective solution requiring people to travel only 890 feet off of the bike path in Dry Run Creek Park before reaching Main.

The city of Mitchell would have to complete a number of objectives in order to finish this project. Firstly, an available lot in the rail yard on Lawler and East Railroad Streets must be purchased in order to begin construction of the bridge. This lot is available for purchase at an estimated $250K. This will provide the north footing location of the bridge. The south footing will be located past the creek in Dry Run Creek Park. The 12-foot-wide bridge will therefore span an approximate 450 feet.

Figure 15. Plaza and café near pedestrian bridge in Orange County, California

Stairways and elevators should be designed to provide an attractive and safe entry and exit experience to bridge users. Additional space should be set aside for the aesthetic appeal of the bridge, incorporating planting material, lighting, bike racks and other improvements. The north footing is also an opportunity to create a small gathering area. This plaza could include tables or benches,

planting material, awnings, and outdoor art produced by local artists. This would be a location to relax, meet up with friends, and interface with the downtown environment.

There are a number of different design possibilities for the bridge itself. It is recommended that the bridge be constructed of steel and reinforced concrete, as these are common building materials in the region with which most general contractors will be familiar. In addition, these materials stand up well to typical climatic conditions in southeastern South Dakota. These materials also tend to be cost-effective.

Figure 16. Steel pedestrian bridge, Northamptonshire, Great Britain

Figure 17. Circular ramp example

Access to the bridge is very important. Circular ramps leading to the main bridge deck provide bicycle, wheelchair, and pedestrian access. Optional elevators could also be employed to provide greater access to persons with disabilities. With these structures connecting to it, the bridge will be available for the enjoyment of all of Mitchell's citizens.

It is difficult to estimate a budget for this project at this point in the planning process. Without a full design and materials takeoff, a rough estimate puts this recommendation at $2M-$6M. Fundraising can take several forms. There are a number of state and federal grants available for active transportation efforts, including TIGER grants from the federal Department of Transportation. In addition, bond initiatives can be supported locally, and private donations can also be solicited. Granting naming rights for the bridge could be an effective tool in garnering industry or private entity support.

The city of Mitchell will benefit environmentally and economically from this proposal. The downtown business district will experience an economic boost from increased pedestrian use. When walking, customers spend more time in the area compared to driving. Studies have shown that the longer a person spends in the area, the more money they are likely to spend. Increased pedestrianism will also improve air and storm water quality in Mitchell. Reduced vehicle emissions are a natural outgrowth of active transportation means such as walking and biking.

Less than a block away from downtown, this bridge will form an extension to Main Street and act as a landmark. With plaza space and park accessibility, people will enjoy the area and be able to utilize the structure on a number of occasions. A pedestrian bridge is exactly what Mitchell needs to bring more business and excitement to downtown.

Recommendation 2c: School Safety Patrols

Mitchell, SD is a great place with many opportunities. More people are moving to this growing city in hopes of creating a better life for themselves and their families. People want to move to a place that is safe for their children. While providing a relatively safe environment already, the city can improve through implementing a Safety Patrol program for community elementary schools. By establishing this program the city will help reduce some concerns parents have when allowing their children to walk to and from school by themselves. These concerns include child abductions, bullying, and vehicular/pedestrian incidents.

There are several elementary schools located throughout Mitchell. Gertie Belle Rogers Elementary School would be a great candidate for the Safety Patrol program, due to its location and size. The school itself is located near North Main Street, a major road going through the heart of the city. If this program proves to be successful in terms of keeping students safe, it should start to be implemented into surrounding elementary schools, such as L.B. Williams Elementary and Longfellow Elementary.

There are many benefits the community itself gains when implementing AAA School Safety Patrol programs. Students benefit from this program by gaining safety awareness, leadership, pride, teamwork, citizenship, and respect for law enforcement. Schools usually benefit from these opportunities by promoting traffic safety awareness, character-building, peer-to-peer education, constructive outlet for students' energy, and most important a positive relationship with parents, law enforcement, and the overall community. The program will create safer environments for pedestrians/motorists, promote volunteerism, and create a positive interaction between students, parents, school members, and law enforcement.

The selection of student members is a very intricate part in creating a successful safety program. Usually students the age of at least 11 years old is recommended. Students should have written approval from parent or guardian before entering the program. According to the North Dakota Department of Public Instruction, they state the desirable qualities to keep in mind when selecting members of the school safety patrol are as follows:

- Leadership
- Respect for authority
- Reliability
- Good attendance record
- Punctuality
- Respect of classmates
- Interest in traffic safety
- Attitude of service to others
- Obedience to rules
- Adequate vision and hearing

When it comes to training for these safety programs, usually a AAA representative, law enforcement officer, or knowledgeable volunteer will introduce the fundamentals of traffic safety, duties of the patrol post, identifying sufficient gaps in traffic for safe crossing, interacting with pedestrians, school bus safety procedures, safety procedures on school grounds, and special hazards. These training programs should be held 30 days before the school year is over to insure the students of their duties and on-the-job training before being assigned area to supervise. This information to be covered again right before school reopens, this way it is fresh in the minds of patrol members on the first day of school.

The everyday tasks for student patrollers are to leave their classes quietly and report to their assigned patrol areas. While at their designated area, safety patrol members are expected to do as follows:

- Arrive at your post early
- Determine how to judge a safe gap for your posted position
- Take a position at least one step back from the curb (or edge of the street), arms down at a 45 degree angle, palms facing back
- Check all directions for traffic
- Keep students a safe distance from traffic
- Keep arms and palms positioned to hold all students from traffic until there is a safe gap
- Never allow students to walk in front of a car that stops to allow them to cross
- Step aside and motion students across the street
- Continue to monitor traffic, when the safe gap ends, cut the flow of student

With the economy the way it is today, acquiring sufficient funds to create a successful program can be challenging. The great thing about this program is the low cost to run it. The only equipment needed is a safety patrol badge, whistle, and potentially a small stop sign. Funds could still be obtained to help pay for equipment or potentially for an awards banquet to recognized students who were successful in the program. According the AAA Safety Patrol, here are some of the ways in which other schools have been able to get funds for the program:

- Hosting a movie for students and selling popcorn
- Holding a bake sale
- Contacting fundraising companies that provide sale items
- Creating buttons or stickers for a small cost
- Offering a gift-wrapping service at the holidays
- Car washes
- Collecting recyclables
- Setting up a compost heap “fed” by classrooms and the cafeteria each day. Sell bags of fertilizer in the spring

- Obtaining plants or seedlings from the parks department and selling them to the community
- Setting up a booth at a town street fair or similar community celebration and providing face-painting or simple goods or services
- Holding a safety fair and inviting AAA, the Red Cross and other safety organizations to participate
- Challenging students to a walk-a-thon, bike-a-thon (with helmets!) or bowl-a-thon and asking sponsors to pledge contributions

If Mitchell was to incorporate this Safety Patrol program, it will help reduce some concerns parents have when allowing their children to walk to and from school by themselves. It will not only provide safety for younger generations, but provide great image for the city in recruiting new students to the surrounding schools. If successful in recruiting new students to the local schools, it should provide more opportunities for the school and the local economy as well. In the end by having this program implemented throughout the local school system, it will only boost Mitchell's stellar reputation for being a great city.

Figure 18. Intersection with one Patrol Member

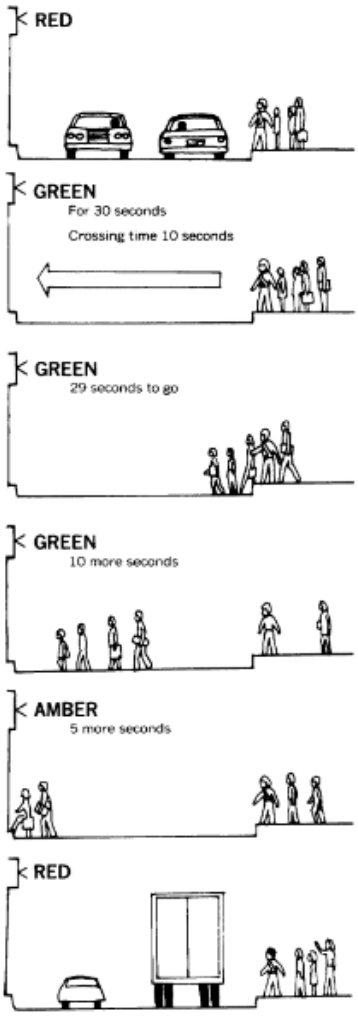


Figure 19. Intersection with Traffic Signal

Figure 20. Safety Patrol Student helping students across street at Gertie Bell Rogers Elementary

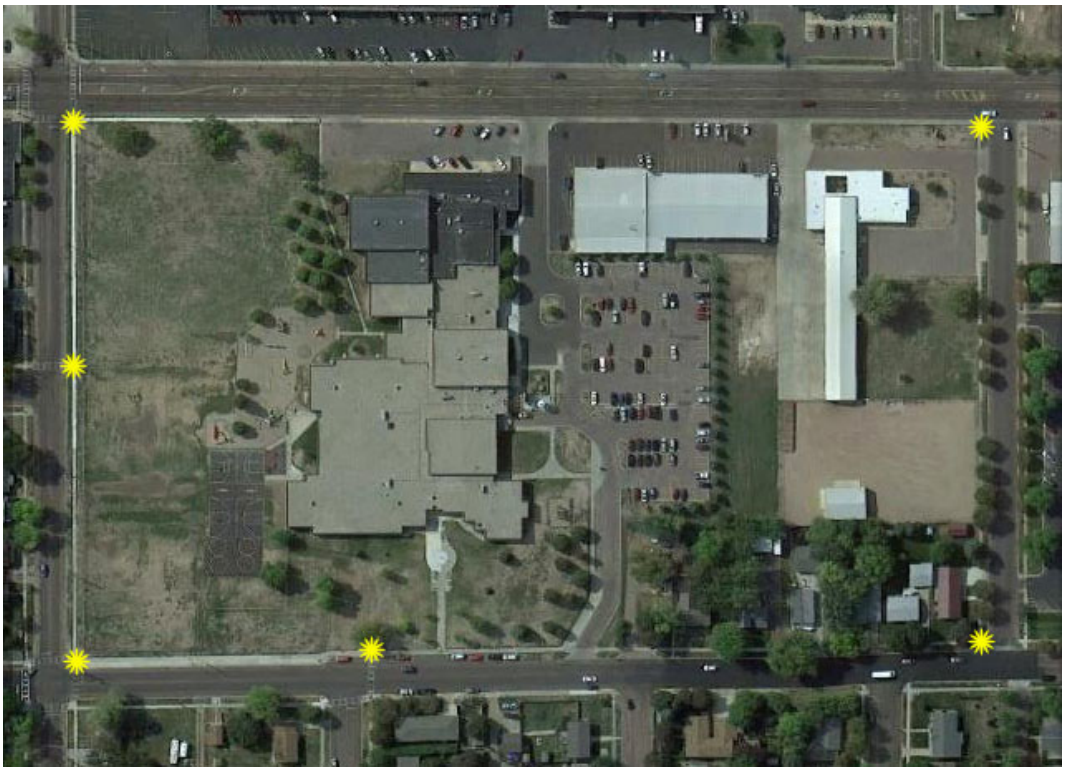


Figure 21. Asterisks show potential Safety Patrol posts for Gertie Belle Rogers Elementary

Recommendation 3: Parks System Enhancements

Mitchell currently offers 632.56 acres of recreational amenities. This includes community parks, sports complexes, a recreation center, an aquatic center, and Lake Mitchell. These are excellent features for a community of 16,000 people. As important as the quantity of recreation spaces, however, are the quality and distribution of the amenities. The average person will travel on foot ten minutes or less to reach their destination. This willingness to travel helps to define how truly accessible parks and other amenities are. An examination of the destination areas in Mitchell and the walkability of each destination will illuminate where further development may be needed to create a more walkable city.

Recreation facilities have been grouped into five broad categories. These are described as follows:

Sports Fields:

Sports Field facilities are primarily used to host sporting events, such as soccer, football, baseball and softball. Often these facilities feature several sports fields in one large complex to accommodate numerous events simultaneously.

Lakeside Amenities:

The facilities located around or near Lake Mitchell. They range in variety, and include campgrounds, beaches, and bike trails.

Golf Course:

The municipal golf course within the city limits of Mitchell. While this category could fit under the Sports Fields heading, the uniqueness of the golf course operation and function justify it having its own category.

Community Parks:

Community parks fall under the direct jurisdiction of the Parks and Recreation Department. These facilities are located primarily in residential areas, and form the backbone of the Mitchell parks system. A variety of amenities and other features are present in these facilities.

School Parks:

The parks located around the school buildings, these are intended primarily for the students at recess during the school year. However, they are generally open to the public after school hours. They include jungle gyms and playgrounds for young kids to enjoy.

Sports Fields	
Cadwell Park Recreation Complex	96 acres
Community Recreation Center	1.73 acres
Joe Quintal Field	12.5 acres
Pepsi Soccer Complex	55 acres
TOTAL	**165.23 acres**

Lakeside Amenities	
Amphitheater	5.5 acres
Camp Arroya	2 acres
Day Camp	2.5 acres
Franks Bay	2 acres
Indian Head Park	4 acres
Indian Village Rd	1.6 acres
Kibbee Park	6.1 acres
Kiwanis Park	24.5 acres
Lake Mitchell Campground	15.5 acres
Lions Park/West End Bridge	2.2 acres
Neighborhood Park	.25 acre
North Harmon (3)	1.8 acres
North Olhman Access	5 acres
North Kippees Access	3.25 acres
Prehistoric Indian Village	4.5 acres
Public Beach	2.2 acres
Redstone	1 acre
Sandy Beach	12.5 acres
South Harmon (4)	1 acres
Sportsman's Club/Boat Ramp Rental Shelter	5.5 acres
West Boat Launch	9.6 acres
West Harmon (3)	2.7 acres
TOTAL	**115.2 acres**

Community Parks	
Doty Park	2.5 acres
Dry Run Creek Park	36.5 acres
Gainer Park	2.5 acres
Hitchcock Park	33 acres
Jennewein Park	1.4 acres
Monroe Park	2.5 acres
North Ridge Park	10 acres
Patton Young Park	6.5 acres
Pioneer Park	1.5 acres
TOTAL	**96.4 acres**

Golf Course	
Lakeview Golf Course	247 acres
TOTAL	**247 acres**

School Parks	
Gertie Belle Rogers School	4.4 acres
L.B. Williams School	2.57 acres
Longfellow School	1.76 acres
TOTAL	**8.73 acres**

CADWELL PARK RECREATION COMPLEX SPORTS FIELD

Quick Statistics	
Location	Near 15th Street, Minnesota Street, and Highway 37 Bypass
Size	96 acres
Points of Interest	Easily Accessible Separate Dog Park
Amenities	Ball Fields Playgrounds Concessions Maintenance Facility Restrooms Dog Park Soccer/Football Fields Trails

COMMUNITY RECREATION CENTER SPORTS FIELD

Quick Statistics	
Location	1300 N Main St
Size	1.73 acres
Points of Interest	Fitness Programs Recreational Programs
Amenities	Indoor Swimming Pool Whirlpool and Steam Room Gyms Racquetball Courts

JOE QUINTAL FIELD

SPORTS FIELD

Quick Statistics	
Location	East 11th Ave
Size	12.5 acres
Points of Interest	Home to High School and College Football and Track Events
Amenities	Football Stadium Track

PEPSI SOCCER COMPLEX

SPORTS FIELD

Quick Statistics	
Location	5825 Tower Road
Size	55 acres
Points of Interest	Host of many soccer tournaments and games
Amenities	Soccer Fields Picnic Shelters Restrooms/Concession Maintenance Facility
Recommendation	Improve park lighting throughout the facility

AMPHITHEATER

LAKESIDE AMENITIES

Quick Statistics	
Location	Indian Village Road
Size	5.5 acres
Points of Interest	Perfect spot to relax and picnic or just view the lake. During the winter it's a great spot for sledding or snowboarding.
Amenities	Sledding Hill

CAMP ARROYA

LAKESIDE AMENITIES

Quick Statistics	
Location	North Side of Lake
Size	2 acres
Points of Interest	Close to Soccer Complex
Amenities	Lake Access

DAY CAMP

LAKESIDE AMENITIES

Quick Statistics	
Location	Indian Village Road
Size	2.5 acres
Points of Interest	Good place to rent for family gatherings
Amenities	Rental Shelter Playground Fishing Access Sand Volleyball

FRANKS BAY — LAKESIDE AMENITIES

Quick Statistics	
Location	Indian Village Road
Size	2 acres
Points of Interest	Handicap accessible fishing dock
Amenities	Restrooms Picnic Tables Fishing Dock

INDIAN HEAD PARK — LAKESIDE AMENITIES

Quick Statistics	
Location	South Harmon Loop
Size	4 acres
Points of Interest	Small, Quiet Park
Amenities	Playground
Recommendation	Provide park lighting

INDIAN VILLAGE ROAD — LAKESIDE AMENITIES

Quick Statistics	
Location	South Side of Lake
Size	1.6 acres
Points of Interest	Attractive Amenities
Amenities	Access Points Parks Tourist Attractions

KIBBEE PARK

LAKESIDE AMENITIES

Quick Statistics	
Location	Highway 37 and North Harmon Drive
Size	6.1 acres
Points of Interest	Easily Accessible
Amenities	Picnic Shelter Playground Restrooms Fishing Pier

KIWANIS PARK

LAKESIDE AMENITIES

Quick Statistics	
Location	South Side of the lake on Indian Village Road
Size	24.5 acres
Points of Interest	Variety of Activities
Amenities	Picnic Shelter Disc Golf Course Playground Restrooms Trails

LAKE MITCHELL CAMPGROUND

LAKESIDE AMENITIES

Quick Statistics	
Location	41255 South Dakota Hwy 38
Size	15.5 acres
Points of Interest	Camper Hook-Ups and Cabins Available
Amenities	Pool Bike Rental Firewood Wi-Fi Mini golf Tour Shuttle

LIONS PARK/WEST END BRIDGE

LAKESIDE AMENITIES

Quick Statistics	
Location	West Side of Lake
Size	2.2 acres
Points of Interest	Attractive for fishers
Amenities	Picnic Shelter Fishing Access Restrooms Playground

NEIGHBORHOOD PARK

LAKESIDE AMENITIES

Quick Statistics	
Location	Near Lakeview Golf Course
Size	0.25 acres
Points of Interest	Near the UBS Development
Amenities	Playground

NORTH HARMON — LAKESIDE AMENITIES

Quick Statistics	
Location	North Side of Lake
Size	1.8 acres
Points of Interest	Attractive Drive
Amenities	3 Access Locations

NORTH OLHMAN — LAKESIDE AMENITIES

Quick Statistics	
Location	North Side of Lake
Size	5 acres
Points of Interest	Access to Lake
Amenities	Picnic Shelter

NORTH KIPPEES — LAKESIDE AMENITIES

Quick Statistics	
Location	North Side of Lake
Size	3.25 acres
Points of Interest	Access to Lake
Amenities	Picnic Tables

PREHISTORIC INDIAN VILLAGE — LAKESIDE AMENITIES

Quick Statistics	
Location	South Side of the lake on Indian Village Road
Size	1.6 acres
Points of Interest	Tourist Attraction
Amenities	Exhibits for children to adults

PUBLIC BEACH

LAKESIDE AMENITIES

Quick Statistics	
Location	North Harmon Drive
Size	2.2 acres
Points of Interest	Beach perfect for relaxing at the lake.
Amenities	Beach Restrooms with showers Picnic Shelter

REDSTONE

LAKESIDE AMENITIES

Quick Statistics	
Location	North Harmon Drive
Size	1 acre
Points of Interest	Quiet little area for a picnic or fishing from shore.
Amenities	Picnic Shelter Fishing Access

SANDY BEACH

LAKESIDE AMENITIES

Quick Statistics	
Location	North Side of lake on North Harmon Road
Size	12.5 acres
Points of Interest	Connected to the new biking and walking trail
Amenities	Beach Picnic Tables

SOUTH HARMON — LAKESIDE AMENITIES

Quick Statistics	
Location	South Side of Lake
Size	1 acre
Points of Interest	Attractive Drive
Amenities	Access Points

SPORTSMAN'S CLUB & BOAT RAMP SHELTER — LAKESIDE AMENITIES

Quick Statistics	
Location	Indian Village Road
Size	2.2 acres
Points of Interest	Attractive for Boaters
Amenities	Rental Shelter Boat Ramp

WEST BOAT LAUNCH — LAKESIDE AMENITIES

Quick Statistics	
Location	West Side of Lake
Size	9.6 acres
Points of Interest	Attractive for Boaters
Amenities	Double Boat Ramp Restrooms

WEST HARMON

LAKESIDE AMENITIES

Quick Statistics	
Location	West side of Lake
Size	2.7 acres
Points of Interest	3 locations
Amenities	Attractive Drive

LAKEVIEW GOLF COURSE

GOLF COURSE

Quick Statistics	
Location	3300 North Ohlman
Size	Over 200 yards wide by 300 yards long
Points of Interest	18 hole municipal facility
Amenities	Lessons Tee Times Club and Cart Rentals Snacks and Beverages Available Showers

DOTY PARK

COMMUNITY PARK

Quick Statistics	
Location	East 2nd and North Mentzer
Size	2.5 acres
Points of Interest	Near the Longfellow Elementary School
Amenities	Picnic Shelter Playground
Recommendations	Improve landscaping Improve park lighting

DRY RUN CREEK PARK

COMMUNITY PARK

Quick Statistics	
Location	Along Minnesota Street to Burr Street
Size	36.5 acres
Points of Interest	Many accent points into the park
Amenities	Picnic Shelter Disc Golf Course Ball Field Playground Restrooms Skate park Trails
Recommendations	Improve park signage Increase pedestrian lighting

GAINER PARK

COMMUNITY PARK

Quick Statistics	
Location	North Minnesota and West 2nd
Size	2.5 acres
Points of Interest	Attractive for kids
Amenities	Playground Picnic Shelter
Recommendation	Increase lighting in park

HITCHCOCK PARK — COMMUNITY PARK

Quick Statistics	
Location	1201 E Hanson
Size	27.4 acres
Points of Interest	Premier park in Mitchell
Amenities	Tennis Courts Rental Shelters Formal Gardens Basketball Court Playground Aquatic Center Ball Fields
Recommendation	Improve park lighting

JENNEWEIN PARK — COMMUNITY PARK

Quick Statistics	
Location	South Minnesota and Mitchell Boulevard
Size	1.4 acres
Points of Interest	1 block west of DWU campus
Amenities	Playground

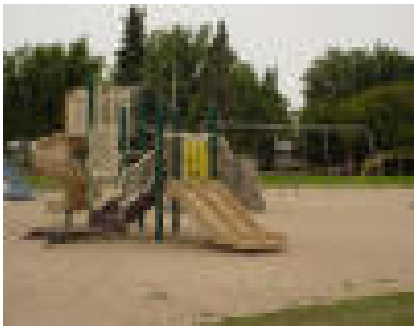
MONROE PARK — COMMUNITY PARK

Quick Statistics	
Location	On block of West 11th and North Edmunds
Size	2.5 acres
Points of Interest	Located in the residential area
Amenities	Rental Shelter Baseball field Horseshoe Courts Playground

NORTH RIDGE PARK — COMMUNITY PARK

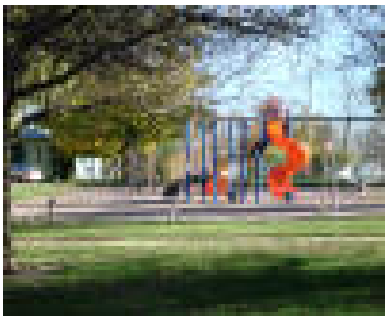
Quick Statistics	
Location	East 11th Street and North Capital Street
Size	10 acres
Points of Interest	Large open space for flying kites
Amenities	Picnic Shelter Playground

PATTON YOUNG PARK — COMMUNITY PARK



Quick Statistics	
Location	1100 West Cedar
Size	6.5 acres
Points of Interest	Kitchen Rental Space
Amenities	Rental shelter Baseball Field Playground Picnic Shelter Sand Volleyball

PIONEER PARK — COMMUNITY PARK



Quick Statistics	
Location	South Rowley and Andrews Street
Size	1.5 acres
Points of Interest	Western Theme Metal Stage Coach
Amenities	Rental Shelter Playground
Recommendation	Improve park lighting and signage

GERTIE BELLE ROGERS SCHOOL — SCHOOL PARK

Quick Statistics	
Location	1302 N. Kimball Street
Size	4.4 acres
Points of Interest	Located right next to a school building
Amenities	Playground Equipment Benches

L.B. WILLIAMS SCHOOL — SCHOOL PARK

Quick Statistics	
Location	1420 W. University
Size	2.57 acres
Points of Interest	Located right next to a school building Located on DWU Campus
Amenities	Playground Equipment Benches

LONGFELLOW SCHOOL — SCHOOL PARK

Quick Statistics	
Location	110 North Mentzer
Size	1.76 acres
Points of Interest	Located right next to a school building
Amenities	Playground Equipment Benches

Evaluation of Mitchell amenities

The City of Mitchell currently offers nearly 40 destinations for citizens to enjoy. Many of these are clustered up by the lake (see Illustration 1) or are scattered throughout town. The second Illustration indicates the walkability of each amenity. **Green** areas on the map indicate a five-minute walk and **blue** areas describe a ten-minute walk from the main access point in the park. Lakeside amenities, as previously stated, are fairly well linked together: most can be easily reached within a ten-minute walk of each other. The older areas of the city feature several parks and destinations that are located in clusters, creating many overlapping walking zones. These areas are great because they give the residents plenty of opportunities to recreate outdoors within only a few minutes of home, both above and below the railroad tracks. Unfortunately Mitchell has a few areas that lack proper coverage, shown in **red** in Illustration 3.

The red zones indicate neighborhoods that are not within a ten-minute walk of a public park or recreational facility. To help remedy these areas four new developments are recommended.

The most important area to improve is Main Street: as indicated on the analysis map, the walkability to Main is minimally a ten minute walk from any another destination. This discourages residents from venturing into the heart of Mitchell. As a solution, it is suggested that a plaza be developed at the intersection of Main and Railroad Streets (see Recommendation 3.b).

The second area is the northern lot located between W 23rd Avenue and East Green Drive, along the Highway 37 Bypass. A Community Park is suggested to be implemented on this site, with features including: an open green space with large canopy trees, a welcoming entrance sign, a picnic shelter for groups to hold picnics, benches, pedestrian lighting, a small scale disc golf space, and planting beds. The benefits for adding this space would be connecting the existing facilities with the new amenities located along the lake. The space would not only be a destination for local residents in the area but it would also attract residents from nearby neighborhoods and encourage them to travel up towards the lake.

The next area recommended for improvement is located on the East side of town, between Birdle Drive and 8th Avenue. A community garden is suggested for this site; where residents can rent out a plot and grow their own plants. A common problem with residents living in a city is the lack of space available to grow produce. The development of a community garden solves this problem while creating a new environment for residents to interact. In addition to the garden plots, a small plaza or patio is suggested as a central gathering point. A farmers' market could be established here for local growers to showcase and sell their produce. In addition, gardening and healthy living events should be hosted. For example, local chefs or cooking experts could hold demonstrations on how to use fresh produce. Another example is a program for children centered on eating well or a program for adults who wish to learn how to garden effectively. The implementation of a community garden would create a learning environment for children and adults to explore.

The final improvement is proposed along 8th Avenue, between North Montana Street and North Iowa Street. This location is ideal for a community park because it is located near the Middle School. Suggested elements of the park include a playground, a swing

set, an open area, and picnic shelters with seating and eating space for 40-60 people. To make this park unique, elements of Mitchell should be integrated into the playground. Agriculture has had a large impact on the growth and development of Mitchell. By incorporating references to farming and the history of Mitchell the new park will have a unique characteristic and be special to Mitchell. In addition to using agricultural references, creating a 'mini Main Street' within the park as a play area helps to tie the park to the community. Each mini store would be an actual establishment in Mitchell who sponsored the creation of the park. Utilizing the input of local children to design the park and featuring prominent families in the neighborhood will also develop a strong tie to the Mitchell community. This can be done by displaying names or artwork of the children.

Lynden Community Park in Lynden, Washington, features all of these ideas successfully (see photos). One unique quality about this park is that the city let the kids be the designers. The park mimics downtown Lynden, incorporating the businesses and town history into the park. It also includes a thirty-five foot tree-house and rock climbing wall. These are features that the local children asked for when designing their own space. An indicator of the success of this park is the high year-round use it receives and the lack of vandalism, even after several years of use.

Another park that ties community and influences is Sibley Park in Mankato, Minnesota. This farmstead-themed park was designed to represent the history of Mankato and tie the agriculture background to the city. Figure 27 shows the extremely popular barn playground equipment with hay bale stairs and a tractor jungle gym. By taking advantage of other working playground ideas, the recommended park could build community from the design process to the children at play.

By implementing these recommendations for additional parks, Mitchell will fill current gaps in parkland distribution, thereby increasing walkability. Walkability also attracts families by providing access for to a wide variety of different amenities for all ages. This ability is important for families with young children because it teaches them to live an active lifestyle. Numerous activities happen around and in public gathering spaces, the most important being community building. People from all walks of life congregate and interact in these places, and develop personal connections to each other and the community.

Figure 22. Lynden Community Park, Lynden, WA

Figure 23. Lynden Community Park, Lynden, WA

Figure 24. Child handprint tiles, Lynden, WA

Figure 25. Lynden Community Park Main Street

Figure 27. Sibley Park, Mankato Minnesota

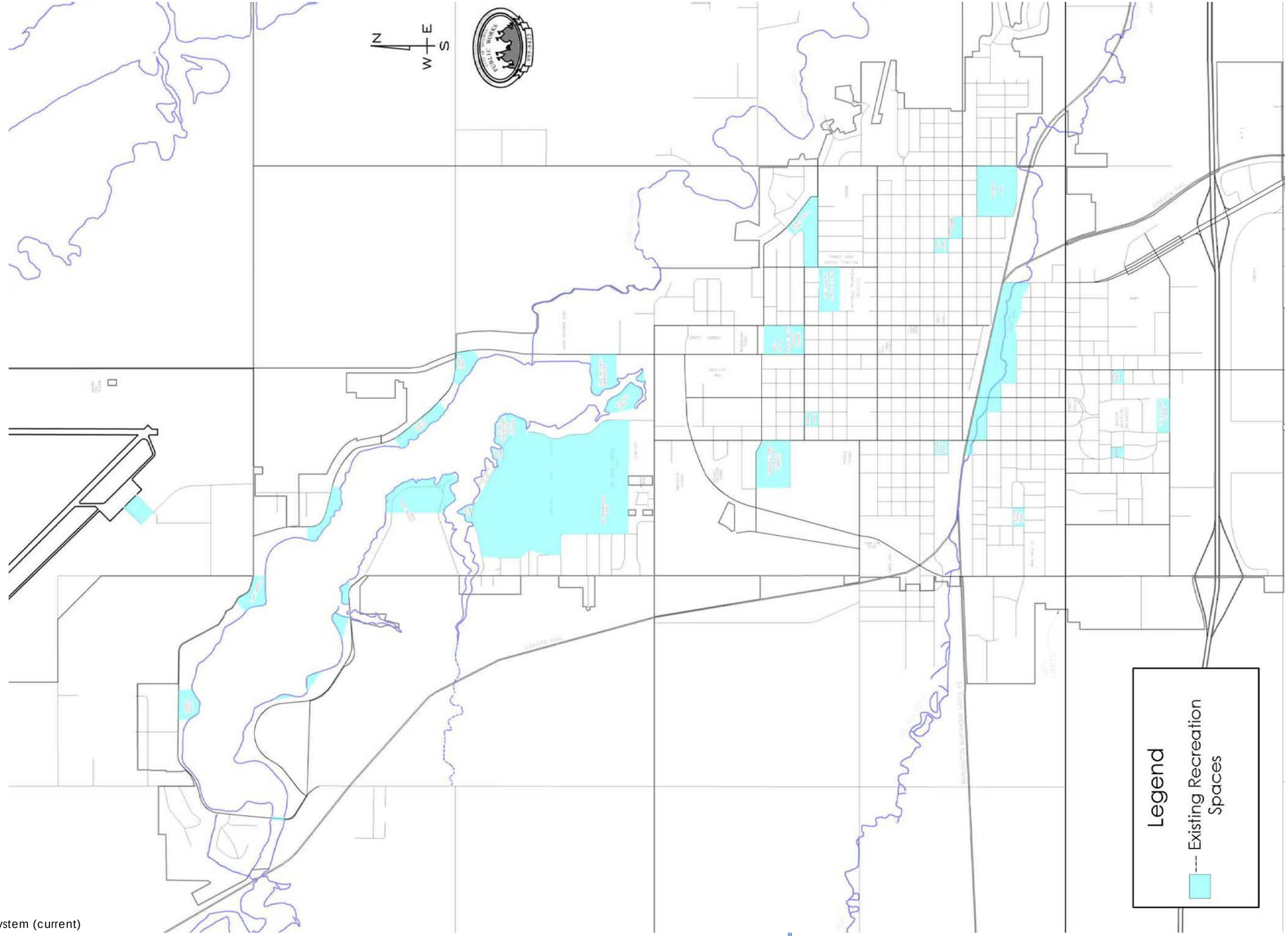


Figure 28. Mitchell park system (current)

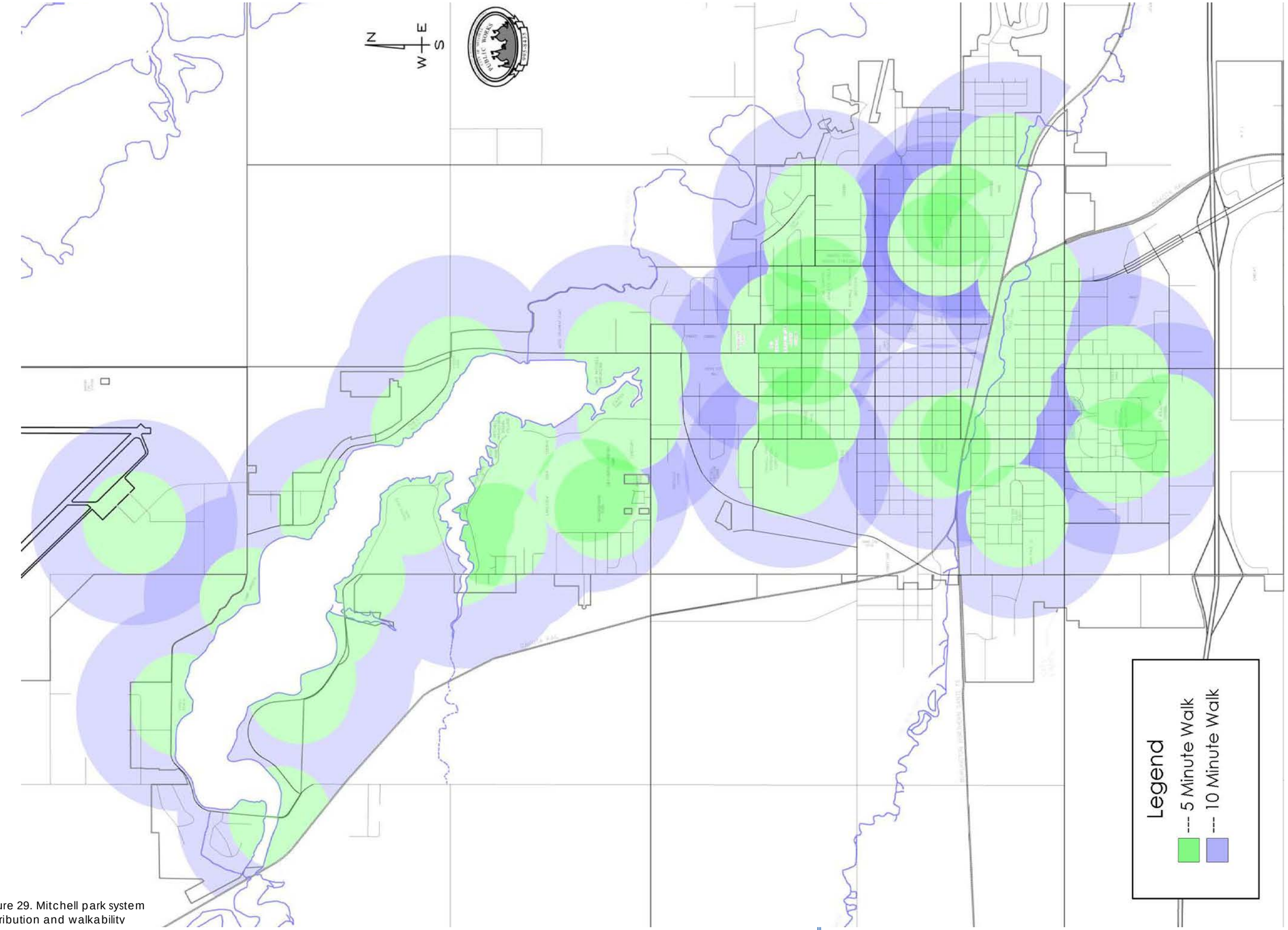


Figure 29. Mitchell park system distribution and walkability

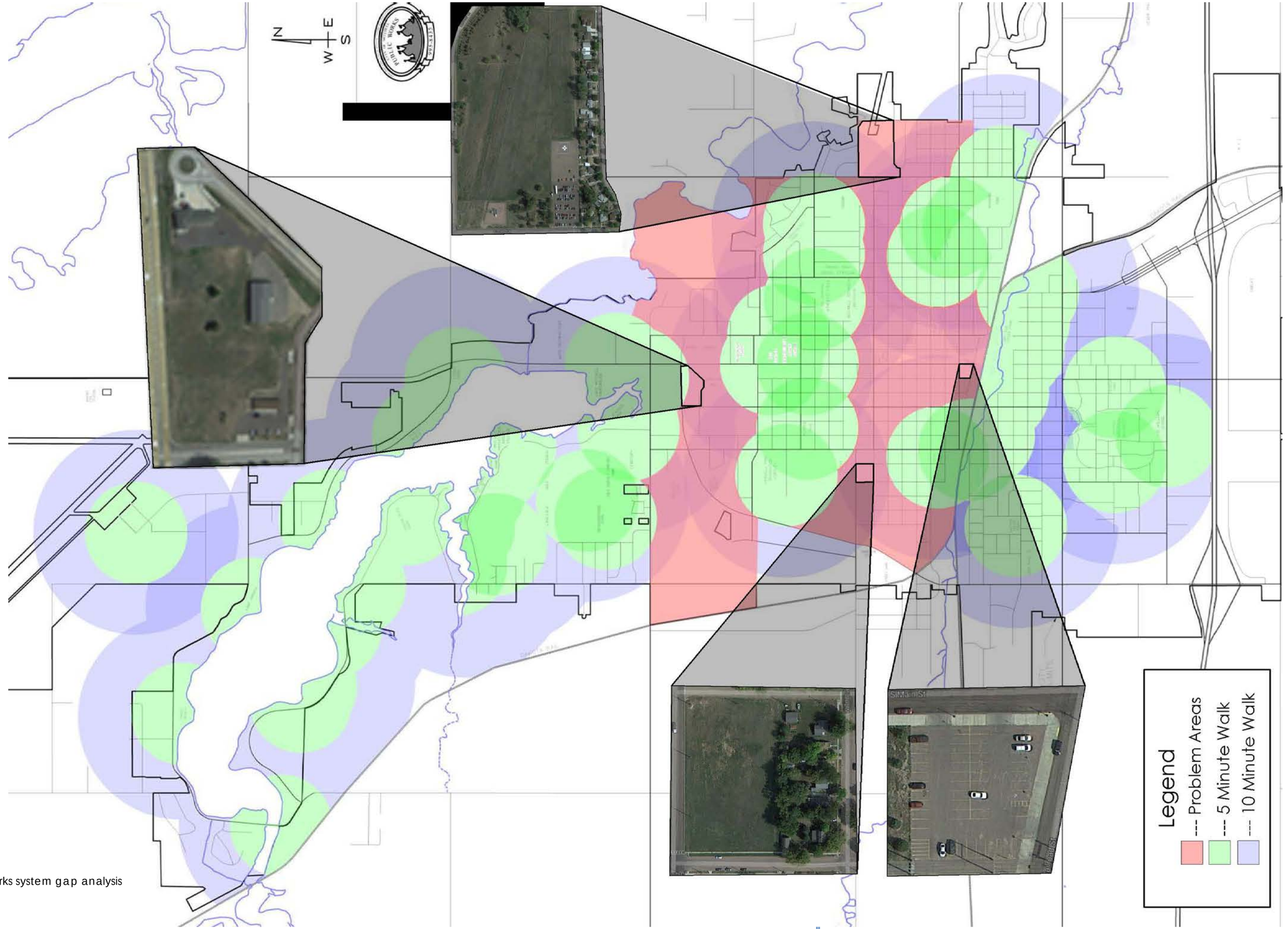


Figure 30. Parks system gap analysis

Recommendation 3a: Pedestrian Scale Lighting Improvements

An important active transportation recommendation that has been included for the City of Mitchell pertains to increasing pedestrian scale lighting. One goal of active transportation is to promote outdoor exercise and activity of the citizens. Increased pedestrian scale lighting in parks and on key sidewalks would provide an increased sense of safety and encourage active transportation during evening hours. Currently there is very little lighting in either parks or on city side streets. A trial run of additional pedestrian scaled lighting in Dry Run Creek Park is recommended to measure the success of the project before full scale phasing is finalized.

The safety of the citizens of Mitchell is a main concern when addressing active transportation. A 2009 report by the National Highway Traffic Safety Administration revealed that "*almost 70 percent of pedestrian fatalities occur during the nighttime.*" (Patterson & Gillespie, 2011). The installation of pedestrian lighting is necessary to ensure the safety of citizens of Mitchell, and its visitors. It would better alert drivers of the presence of pedestrian traffic and decrease the chances of possible conflicts between pedestrians and motorists. In regards to Dry Run Creek Park, additional lighting along the city bike trail would add safety for its users by illuminating objects and debris on the trail, as well as decrease unwanted loitering and possible criminal behavior in the park. Also, a benefit to pedestrian scale lighting (<15 ft. high) is that it does not emit as much light pollution as road scale lighting (>15 ft. high), therefore it would not illuminate or project unwanted glare into homes or other adjacent buildings.

Phasing

By implementing pedestrian lighting in phases the costs will be spread-out over a longer period of time, thus impacting the annual budget less.

Figure 31. Light fixture example

Phase 1: The first phase shall take place at Dry Run Creek Park. In this phase, pedestrian scale lighting will be implemented along the trail at 75 ft. intervals to allow for greater evening usage of the trail. The lighting structure used should be a style similar to the one in Figure 31 and should stand between 11 and 13 feet tall, depending on final light choice. Illumination will be dependent on the size and style of light chosen, but have primary and secondary lighted diameters as directed in Figure 33. This phase should be completed by the **beginning of July 2015**. After implementation, a consultant should be retained to conduct an in-depth study of the effectiveness and public response to the new lighting. The study should include in-park surveys of users, behavioral observations, examination of budgetary impacts, and any reduction or increases of petty and violent crime in the park.

Phase 2: The second phase will start immediately after Phase 1 is completed and will consist of lighting the entire city bike trail system. The study in Phase 1 should determine the order in which designated sections of trails should be addressed first. This phase should be completed **by July 2020**.

Phase 3: The third phase will include additional lighting in the remaining city parks. This phase should be completed **by July 2025**. Lighting should be implemented in major parks first, such as Hitchcock Park, Cadwell Park, and the Pepsi Soccer Complex.

Phase 4: Phase 4 will be the addition of pedestrian scale lighting on main city streets. Priorities are on Burr Street, Sanborn Boulevard, Main Street, Minnesota Street, and East Spruce near Mitchell Tech. This phase will be started once funding is procured, and should be finished **by July 2030**.

Phase 5: The last phase will implement additional lighting to the remaining city streets. This phase should be implemented based upon when the appropriate funds can be attained. The length of this phase will be determined by how quickly the funds can be attained.

The addition of more pedestrian scale lighting to the city will not only make the city more visually pleasing, but it will make the city more welcoming and a safer place for all pedestrians. City-wide pedestrian scale lighting is an important issue that needs to be addressed, and in a timely manner. Failure to address this issue could result in not only an increase in vehicle/pedestrian accidents, but possible fatalities. Increasing lighting on city streets, trails, and in parks will greatly increase the use of active transportation by citizens, resulting in a healthier and more accessible city.

Figure 32. Lighting location

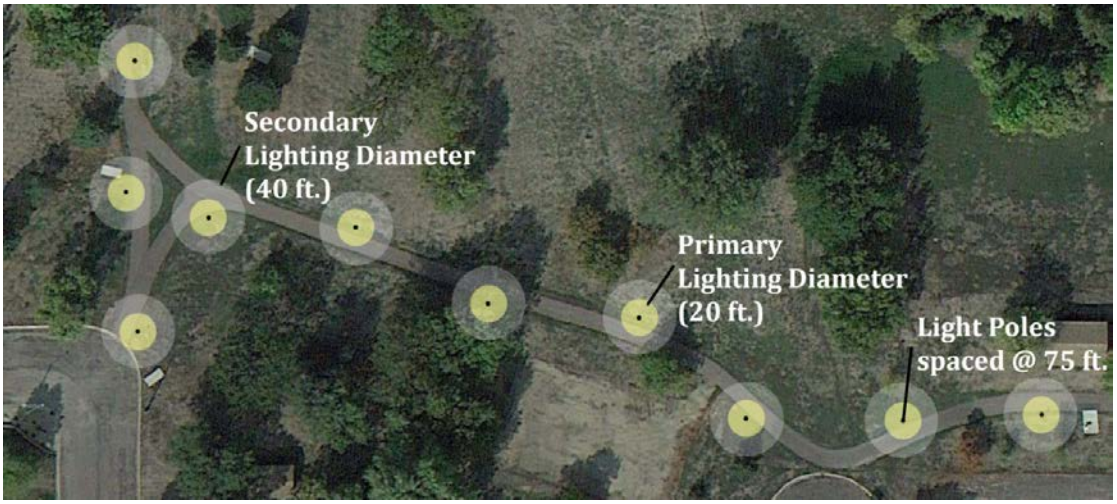


Figure 33. Lighting along trail

Figure 34. bollard lighting concept

Figure 35. Classic park lighting concept

Recommendation 3b: Downtown Plaza

There are many possibilities to maximize the economic potential in Mitchell. The most beneficial way of doing this is to preserve the culture and heritage of Mitchell while creating a sense of place in the historic areas throughout town. The historic downtown district is a prime location for such an opportunity. Designing a public plaza in the downtown could be the tipping point for revitalizing the surrounding area. Emphasizing Mitchell's historic core could help potentially boost the economic development. Though the downtown core has many positive attributes, it is still lacking a sense of unity that encourages people to spend time there. This recommendation includes ideas and possibilities that would enhance the livelihood in the downtown district and expand on Mitchell's current economic growth.

Several case studies have shown that designing local plaza spaces has aided in positive change for a variety of communities. These studies display many similar aspects and outcomes of the establishment of a year-round destination. Creating a space that welcomes all age groups is crucial to the revitalization of the specific site and the surrounding neighborhood. On the other hand, managed activities and events within a public space invite local residents and visitors to engage in the community.

Figure 1: A current look of Mitchell's downtown district along South Main Street and First Avenue, displaying minimal pedestrian activity and vacant lots between businesses. Image courtesy of Google Street View.

One case in particular expressed tremendously positive changes for the community: the Main Street Square project in Rapid City, South Dakota. This destination became visually inviting and was developed to reflect the Black Hills setting of the area. The square showcases the local architecture, nearby eateries, and local shops. It also displays the artistic community that includes an interactive fountain, a sensory garden, and an events stage. These characteristics can be used to inspire the city of Mitchell to develop a destination center within the city. The space would interact with visitors and residents by generating alluring activities and features that encourage people to return.

Figure 2: Main Street Square in Rapid City, South Dakota. View of open green space overlooking interactive water features and artistic structures.

The downtown district in Mitchell includes residential neighborhoods and several shops owned by local families located around one central strip: Main Street. This strip stretches nearly eight blocks with adjoining commercial buildings. These historic structures continue to house residents on the upper floor while the businesses remain on the ground floor. Because of the district's age, several businesses have been removed and currently function as blank spaces.

Upon closer inspection, the open spaces along Main Street are varied from grassed "yards" to hard-scaped plazas. Some are vacant lots that are currently unused or merely provide additional parking for nearby businesses. Currently these locations are unwelcoming to new visitors and are avoided by local residents. The goal would be to eliminate such spaces along Main Street's strip and beautify the community. The outcome would encourage downtown to be more inviting to pedestrian traffic, more appealing to visitors, and more attractive year round.

After further research on the area and discussion with landscape designer Andy Jerke of *JVN Landscapes*, it was discovered that other city professionals had already considered a possible location for a plaza. An available lot adjacent to the Depot building at the south end of Main Street was viewed as a potential site for the formation of a public corner plaza.

This vacant lot is a prime location across from the historic Depot building that currently operates as a pub and grille. There are also multiple locations with off-street parking close by. In this location the plaza will act as an attraction on the opposite end of downtown from the Corn Palace and is located approximately six blocks away. Not only will this location increase business for the Depot, but it also invites people to walk through downtown by the businesses located in the area. These areas include a mix of retail, restaurants, entertainment vendors, office space, and residential properties. Many advantages surround this site with an abundance of off-street parking, future connections to bike paths around Mitchell, and the creation of a link that will connect downtown to the Corn Palace.

Figure 3: Suggested plaza space between First Avenue and Railroad Street along the southern strip of Main Street. Image courtesy of Google

The goal of the plaza is to design an overall environment that is inviting, clean, vibrant, historic, and interactive. Some may choose to utilize the downtown district as a type of public gathering ground or residential community, which would lead to the necessary improvements on open spaces and walk-able areas around the plaza. During the interview with A. Jerke, it was suggested that the elimination of vehicular traffic on South Main Street between First Avenue and Railroad Street would create an opportunity for a pedestrian-accessed alley. This would invite people into the area by offering a welcoming entrance to the plaza that is separate from the streetscape. Opposite ends of the pedestrian alley would provide optimal spaces for statues, public art, and welcome signage for events and festivals being held in the park. These are prime opportunities to display other monuments retaining historical connections to Mitchell and the downtown district.

Within the alley and plaza space, the inclusion of trees throughout the space is crucial for supplying an aesthetically pleasing setting. The selection of proper native shrubs and perennials also attribute to an inviting setting with a naturalistic feel. These plantings provide natural aromas, sounds, and appropriate amounts of shade for the community to appreciate. Throughout the open and shaded areas within the plaza, ample amounts of seating should be available. Providing multiple seating options such

as movable patio furniture, seat walls, stairs, and turf grass areas allows people of all ages to enjoy the space comfortably.

Several advantages can be produced when designing with larger, open turf grass spaces. Designing an amphitheater equipped with a stage will provide space for small and large groups. An amphitheater stage could be used for concerts, performances, speaking engagements, or outdoor classrooms. This area also generates more seating opportunities for patrons. Another open space designing would be a man-made pond and berm. The berm can be created using materials from the pond, which would add even more natural seating options for the amphitheater. The pond water-feature will provide an attraction for visitors during the summer months and will have the ability to be frozen for a skating pond during the winter.

Figure 4: Potential Entrance Plaza and Alleyway with signage opportunities. Photo: Downtown Mitchell Streetscape Design Strategies

Along with these natural settings, more spaces that have an interaction with water can be beneficial for play and relaxation for all ages. Water features such as interactive geysers or wishing coin fountains create a fun summer space for children or visitors. Although the current plaza design is very good, one could argue there is too much water implemented in it. For example, in figure 5 the water feature with the light house in the center should be removed. This space will be utilized as an entry into the plaza and a location for vendors. On a cultural note, a water feature symbolizing the James River would contribute to the historical and natural factors integrated into the plaza space. To mimic a river, a serpentine water feature can be used which produces a natural, ambient noise to help reduce other unwanted sounds.

Creating natural-land related features is equally vital to the design of the plaza space. Implementing play equipment for children can increase physical activity while playing with equipment that is non-traditional. These natural play structures can include objects such as boulders, sand, timber and logs, water, and other recycled materials to mimic objects found in nature.

According to another case study, a revitalization project on a downtown plaza was completed in Lincoln, Nebraska. Offices, retail, food service, entertainment, and parking services became benefitted from the enhancements of the streetscape in downtown Lincoln. This revitalization encouraged publicly funded redevelopment from residents and supported private sector retail as well as commercial and residential development. Some activities included demolition, site preparation and remediation, acquisition, parking garage construction, utility improvements and streetscape enhancements, including plaza treatments,

Figure 5: Plaza corridor with water features, play areas, seating areas, and open green spaces. Photo: Downtown Mitchell Streetscape Design Strategies Booklet

expanded sidewalks, new curbs and gutters, plantings, and street furniture. The city of Mitchell could benefit from funding similar to this case. Jerke also suggested that in order to increase density in the Main Street Plaza area, grants would need to be provided to encourage current property owners and community residents to provide properties along Main Street. These grants can be used to develop and ensure the character of the Main Street corridor remains intact.

In conclusion, the development of the downtown plaza will provide an anchor point to the south end of Main Street. This focal point, combined with the new pedestrian bridge (see Recommendation 2.b), improved pedestrian lighting in Dry Creek Run Park (Recommendation 3.a) and development of additional active transportation infrastructure in the downtown area (Recommendation 3), will serve to reinvigorate Mitchell's core. As access to, through, and around Mitchell is improved, economic vitality, livability, and sense of community will also continue to grow. Visitors and residents old and new will continue to feel that "Mitchell Welcomes You!"

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