CHAPTER 8

Transportation

Fargo will transform its transportation system to encourage walking, biking, and transit. The City will coordinate infrastructure investments and land use policy in a supportive and synergistic way.



TRANSPORTATION

Fargo has a diverse transportation system to serve its residents and others traveling through the community, including an established grid network of north-south and east-west arterial roadways and newer developments with curvilinear streets and cul de sacs. In addition to the City's street network, Fargo has a comprehensive transit system that serves a significant portion of the Fargo-Moorhead metropolitan area. Highlights of this system include connections to North Dakota State University, downtown Fargo, the West Acres Mall and commercial area, and many other local attractions. Bicycle and pedestrian use has seen a considerable increase in Fargo over the past several years. The City has an extensive shared use path network along the Red River and other waterways such as the Rose Coulee and the Cook Coulees in the south and southwestern part of the city. Pedestrians are well-served by a robust sidewalk policy that requires all streets to have sidewalks on both sides with ADA compliant ramps at the block corners. An actively expanding on-street bicycle lane network is providing enhanced connectivity to bicycle users throughout the city. The City will also be adopting a complete streets policy as part of the next Metro COG Long Range Transportation Plan. Other transportation advancements in which the City has invested include a safe routes to school program, an active train whistle quiet zone, and advanced deployment of intelligent transportation systems devices.

Fargo will continue to improve its transportation system while exploring the connections between transportation and health, the economy, and the environment.

Initiatives:

01: BICYCLE AND PEDESTRIAN INFRASTRUCTURE

Improve bicycle and pedestrian connectivity by identification of gaps in the local and to the regional system. Implement a complete streets policy. For example, University could be a complete street and a pedestrian and bicycle transportation hub.

02: IMPROVE TRANSIT

Expand and improve the existing transit service in terms of frequency, mode, and other options, including an effort to revise both the existing MAT bus schedule and frequency of bus service throughout the city and the region (Moorhead and West Fargo). Study the possibility of new local and regional travel venues, such as bus rapid transit and rideshare programs.

03: TRANSPORTATION LINKAGES ACROSS THE RED RIVER

Improve mobility in a manner that will accommodate growth and secure availability of emergency routes by developing an additional crossing of the Red River south of 52nd Ave and improve availability of, and access to, river crossings for bicycles and pedestrians.

04: ONE WAY TO TWO WAY STREETS CONVERSION

Implement study recommendations to convert one way streets in downtown Fargo to two ways. Two way streets reduce confusion and vehicle miles traveled by eliminating indirect routes. They also reduce vehicle travel speeds, potentially increasing pedestrian safety.

05: CLEAR AND ATTRACTIVE ACCESS TO DOWNTOWN

Enhance connectivity to downtown with clear and attractive signage and simplify access from I-29 and I-94.



BICYCLE AND PEDESTRIAN INFRASTRUCTURE







RECOMMENDATIONS

- Identify existing and future roadways for the placement of on-street bicycle lanes and share-the-road designations.
- Require placement of 10-foot off-street side paths or 8-foot multi-use paths along new and reconstructed arterial and collector streets.
- Review site plans for opportunities to provide on-site connections to sidewalks and bicycle paths.
- Seek funding sources that are aimed at bicycle and pedestrian infrastructure, such as Transportation Enhancement Funds, and Transportation, Community, and System Preservation (TCSP) Funds.

DESCRIPTION

Fargo will continue to invest in a comprehensive, connected bicycle and pedestrian infrastructure that makes bicycling and walking a priority and sets the city apart from others in its accommodations for walkers and cyclists. A comprehensive bicycle and pedestrian infrastructure will consist of all aspects of accepted bicycle and pedestrian facilities, ranging from sidewalks and multi-purpose trails to on-street bike lanes and off-street side paths. In addition, the City will focus on the overall transportation system from the viewpoint of traffic control and system features that facilitate walking and bicycling.

Creative connections will be sought where accommodations along and on roadways are difficult. These connections may occur along railroad right of way, drainage channel right of way, power transmission line easements, and within easements on private property. Bike path surface materials will be carefully considered in areas where paved trails are difficult to maintain or harmful to the environment.

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FROM MINDMIXER

Have bike-oriented businesses and amenities located along the recreational and transportation trails. - Erin K

FROM MINDMIXER

"Instead of widening roads and building more barriers, we should find a way to support biking and walking to school...We need more safe pathways to school, so parents don't feel that they have to deliver their kids to school, which causes congestion." – Connie N

BENEFITS

The benefits of a comprehensive and connected bicycle and pedestrian network range from economic, to environmental, to energy efficiency, to public health. Economic benefits include reduced transportation costs to citizens as they lessen their use of and dependence upon auto travel. In areas where the magnitude of pedestrian and bicycle trips is high enough, the pedestrian and bicycle infrastructure can eliminate or delay the need to widen roadways. On congested roadways where widening is not feasible, bicycle and pedestrian infrastructure offer an alternative mode of transportation, ultimately helping to reduce congestion and delay.

Environmental benefits of strong pedestrian and bicycle use include reduced auto emissions, and potentially reduced overall need for travel lanes and parking spaces and a corresponding reduction in the amount of run-off from paved parking lots. Vehicle traffic results in noise for adjacent development, while walking and bicycling contribute very little to the constant hum of passing traffic created by tires on pavement, braking, accelerating, and idling. From an energy efficiency standpoint, walking and bicycling help reduce the use of non-renewable resources, reducing the overall carbon footprint and conserving fossil fuel.

Finally, from a public health standpoint, cities with a complete walking and bicycling infrastructure are notably healthier than cities with minimal facilities for bicycles and pedestrians. Walking and bicycling are known as two of the healthiest forms of exercise, helping people to achieve better fitness and reduced rates of obesity. There is also evidence that walking to school helps children feel more settled in the classroom, allowing them to focus in class.





Boulder, Colorado

The City of Boulder has a bike network comprised of a variety of route types. The network primarily utilizes designated on-street bike routes, multi-use paths, and on-street bike lanes. Cyclists have more than 150 centerline miles dedicated for their use, which is nearly half of the 305 centerline miles dedicated for motorists. Extra strides have been made by the city to ensure accessibility and improved functionality for cyclists including facilities for bike parking and regional bike tours. Safety features, such as raised crossings of streets and free right turn lanes combined with very noticeable signs and pavement markings communicate the "shared" aspect of the transportation system and contribute to the overall comfort level of bicycling and walking in Boulder.

Source: http://www.bouldercolorado.gov/index.php?option=com_con tent&task=view&id=8839&Itemid=3278

Ann Arbor, Michigan

Ann Arbor was designated as a Silver-level Friendly City in 2005 by the League of American Bicyclists. The City has a total of 36.2 miles of on-street bike lanes, over 10 of which were added in the last year. Bike hoops and lockers are provided by the city along with on-street bike parking.

The City's bike map provides a variety of routes into different parts of the city. The map includes designations of on-street facilities that may be congested with vehicular traffic during peak periods.

Source: http://www.a2gov.org/government/publicservices/systems_planning/Transportation/Pages/Bike.aspx

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Minneapolis, Minnesota

In recent years, Minneapolis, Minnesota has been placed at or near the top of many nationwide rankings of bicycle friendly cities. The city has taken strides in the last ten years to construct infrastructure and improve safety for both bicyclists and motorists. There are 46 miles of dedicated on-street bicycle lanes and 84 miles of off-street bicycle paths throughout the city. Over 20 bicycling programs and initiatives are currently active in the Minneapolis area, contributing to the City's success.

Nice Ride MN is a non-profit organization with bike stations scattered around the city. Users can pick up a bike at any location and return it wherever they like. With a subscription, the first 30 minutes of use are free.

Source: http://www.minneapolismn.gov/bicycles/index.htm and https://www.niceridemn.org/how_it_works/



TRANSIT IMPROVEMENTS





RECOMMENDATIONS

- Use the 5-year Transit Development Plan (TDP) to conceptually identify options for improving efficiency of the transit system.
- Study the system in detail to examine options for efficiency, and focus on trip origins and destinations that currently require the greatest amount of out-of-theway time and mileage.
- Ensure that strategic density areas are easily served by transit and that the physical form accommodates buses, and that pedestrian and bicycle routes lead to transit stops.
- Encourage density and reduce minimum parking requirements along arterials and collectors that are designated as transit corridors.

DESCRIPTION

Fargo will seek a robust transit system that provides a more efficient system of routes and transfers, reducing overall travel time for riders. The current transit system requires each bus to return to the transit center located in downtown Fargo. Virtually all routes "pulse" to this location, where bus transfers can be made by passengers. For many riders, this results in traveling several miles out of their way to board a bus that then backtracks through the core of the city. While some routes will always benefit from the hub system, public input by riders or "would-be riders" has focused on changing the form of the transit system to allow transfers in closer proximity to their destination, eliminating the need to spend time traveling several miles out of their way.

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FROM MINDMIXER

Instead of a sprawl, the city needs to infill and increase density. A spread out city will only cost more time and energy to get around. Public transit is almost impossible if the city is too spread out. -Anthony L

Improving transit is also related to increasing density along designated corridors and in strategic areas in a manner that will increase ridership and justify more frequent transit service. Fargo has experienced this with the routes between the main NDSU campus and the downtown campus. The density of potential riders, inconvenience and/or cost of parking, convenience of transit stops, and frequency of these routes has resulted in a dramatic increase in student ridership.

BENEFITS

There are economic, environmental, energy, and health benefits to improving the transit system. Increasing the use of transit also helps to reduce the costs of owning, maintaining, and operating a personal vehicle. This results in an increase in disposable income for other purposes. Increased ridership also benefits the operator of the transit system by increasing fare box revenues. Increased ridership also helps justify funding for new and improved facilities and expanded operations.

Environmental benefits of an improved transit system include reduced mileage of personal vehicles resulting in a reduction in overall traffic noise and vehicle miles traveled. In addition, a reduction in driving personal vehicles reduces the demand for paved parking spaces. In turn, a reduction in paved parking areas results in less urban heat absorption and less stormwater runoff.

The energy benefits of an improved transit system include reduced use and dependence on gasoline. Also, increased ridership yields a greater return on the fuel used to operate transit vehicles.

Health benefits of using transit include more exercise walking or biking to and from the transit route, and a reduction in asthma inducing emissions.

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FROM MINDMIXER

Identify the areas of town that should/could support higher population densities and then develop the bus routes around these. That's how the larger cities do it... main stopping points for commuter rails and bus stops are typical high density pockets within the city itself. -fmmetroplex







DART – Des Moines, Iowa

The Des Moines Area Regional Transit (DART) bus routes cover eight communities in the Des Moines metropolitan area. A fleet of over 90 buses travel over 15,000 miles a day providing public transit for residents and visitors. Two route varieties are offered by DART. The local routes offer service that operates throughout the day with stops along the route where riders can board/leave the bus. The express routes run during the morning and afternoon commute times, with stops in the community, but no stops in the downtown area. DART also offers on call services allowing users to call for a ride, similar to the services of a taxi. This service is available in twelve cities.

Source: http://www.ridedart.com/index.cfm

Tri Met – Portland, Oregon

The Tri Met System of Portland combines bus and rail service to create a system that is considered both radial and hub and spoke. The bus system has a number of routes that radiate from the Portland City Center into the greater metropolitan area. Once routes are out of the City Center, a hub and spoke network is used to reach a variety of areas in the fringe. The light rail system utilizes a radial network originating in the Portland City Center. The combinations of these systems allow for the City Center to remain a vital destination while providing flexibility to populations in the fringe areas.

Source: http://trimet.org/index.htm



ENERGY

28% Transportation consumes 28% of all energy in the US.

600% Personal vehicles consume 60% of all energy spent on transportation.

86%

Gasoline and diesel fuels provide 86% of the energy in the transportation sector.

67% The U.S. is dependent on foreign

sources for two-thirds of all oil supplies.

In the United States we use 28% of our energy to move people and goods from one place to another. The transportation sector includes all modes of transportation—from personal vehicles (cars, light trucks) to public transportation (buses, trains) to airplanes, freight trains, barges, and pipelines. One might think that airplanes, trains, and buses would consume most of the energy used in this sector but, in fact, their percentages are relatively small—about 9% for aircraft and about 3% for trains and buses. Personal vehicles, on the other hand, consume more than 60% of the energy used for transportation.

86% of all the energy used in this sector comes from gasoline and diesel fuels, a troubling fact. Combustion of gasoline and diesel fuel emits carbon dioxide, as well as particulate matter, oxides of nitrogen (a prime component of "smog"), carbon monoxide, and unburned hydrocarbons. Indeed, whenever any fossil fuels are burned, carbon dioxide is released into the atmosphere, where it functions as a heat-trapping greenhouse gas. Also of concern is that we are dependent on foreign sources for two-thirds of our oil supplies.

Source: http://needtoknow.nas.edu/energy/energy-use/transportation.php



TRANSPORTATION LINKAGES ACROSS THE RED RIVER



RECOMMENDATIONS

- Designate corridors for future river crossings and begin the process of acquiring right of way.
- Utilize the North Dakota Century Code section 40-48-28 to designate and preserve future river crossing corridors.
- Work with Cass County to continue designating section line roads as future arterial roadways with limited access. As soon as decisions have been made, ensure the public is aware of future linkages.
- Use the Long Range Transportation Plan and the travel demand model for the metropolitan area or a separately commissioned traffic study to evaluate the river crossing needs of the transportation system as the metropolitan area grows.

DESCRIPTION

The Red River is the border between Fargo and Moorhead, Minnesota. Residents take pride in the fact that most people consider the Fargo-Moorhead metropolitan area as one community, despite the fact that Fargo and West Fargo are two distinct municipalities in North Dakota, and Moorhead and Dilworth are two distinct municipalities in Minnesota. From the standpoint of day-to-day life, residents live in one city and work, shop, socialize, and attend school in any of the four cities. As Fargo and the adjacent cities grow in population and geographic size, the need to cross the river will also increase.

Fargo will designate and secure corridors for additional transportation linkages across the Red River and will pursue funding mechanisms for corridor acquisition and bridge construction so funds are available at such time as the need justifies the cost.

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FROM MINDMIXER

If there was a way to more easily raise and lower bridges, it would be wonderful to have ski bridges over the Red River. That way, we could more easily connect cross-country ski trails in town. – Drew FM Therefore, the planning and securing of corridors for bridges over the river is important. The ability to disperse traffic evenly over a number of bridges helps to reduce the burden of concentrated traffic volumes on adjacent development. Lengthy trips on north/south corridors to get to bridge corridors creates trips that are longer, more time consuming, and less energy efficient.

As Fargo grows in size, it is important to designate river crossing corridors and plan surrounding development, transportation facilities, and recreational features accordingly.

BENEFITS

There are several benefits of having adequate transportation linkages across the Red River. One of the primary benefits is the dispersal of traffic across the transportation system. Any time bridges are not evenly dispersed throughout the system, routes to and from river crossings become congested, resulting in the need for intersection improvements and roadway widening. This places an excessive burden of more traffic and wider transportation facilities on corridors closest to the river crossing.

Movement of traffic during emergencies is another benefit to having an adequate dispersal of river crossings throughout the community. Fargo has experienced major floods with limited availability of bridges over the Red River, and the resulting traffic congestion and travel delay placed severe stress on law enforcement, emergency services, public works staff, healthcare workers, transit providers, and citizens.

The presence of evenly dispersed river crossings also benefits pedestrians and bicyclists, and increases the likelihood that residents will choose walking and bicycling as their mode of travel. Well-placed and adequately dispersed river crossings reduces trip lengths, thereby making walking and bicycling trips more feasible and less time consuming. Furthermore, the fact that river crossings allow traffic to be more dispersed and less concentrated results in traffic situations and transportation facilities that are more conducive to the inclusion of walking and biking facilities.

In the absence of adequately spaced vehicular bridges, pedestrian and bicycle bridges over the river are also excellent for facilitating pedestrian and bicycle travel.

Finally, an adequate geographic dispersal of linkages over the Red River translates into a more connected community, where more options are easily available to more people.

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FROM MINDMIXER Before adding additional bridges lets make the three we have year around and then add more. - RedWayne





Tower Road Bridge – Fergus Falls, Minnesota

The City of Fergus Falls is segmented by the Otter Tail River. The City currently has five crossings of the Otter Tail River in its downtown, with another crossing on the west side of town via Interstate 94. However, there are nearly two miles of city growth and development on both sides of the river with no additional river crossings. During a 2006 transportation study, it was documented that another river crossing inside city limits between the I-94 and downtown area would decrease the use of the interstate by local travelers that need to cross the river. An additional bridge was also warranted by eliminating or delaying the need to widen West Lincoln Avenue through a historic residential area. The project is currently under construction.

Source: http://www.ci.fergus-falls.mn.us/index. asp?Type=B_BASIC&SEC=%7B001EA21B-02D2-48C4-A9C2-37DA553184DA%7D&DE=%7B340E0BE5-1C60-4303-A793-FD0CA73D7973%7D

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ONE WAY TO TWO WAY STREETS CONVERSION



RECOMMENDATIONS

• Implement study recommendations to covert one way streets in downtown Fargo to two way streets.

DESCRIPTION

Fargo has studied one way streets for conversion to two way streets. Two way streets reduce confusion and vehicle miles traveled by eliminating indirect routes. They also reduce vehicle travel speeds, which increases pedestrian safety. Two way streets enhance the visibility of retail establishments and create a more vibrant, active street. In a downtown district or other destination location, two way streets are often more appropriate, especially where an urban street grid provides multiple redundant parallel routes.



BENEFITS

Conversion from one way to two way traffic lowers driving speed, increasing pedestrian safety. Slower traffic speed also enhances the visibility of retail establishments fronting the streets and can increase street activity and vibrancy. Conversion eliminates confusion in navigation of the area, eliminates indirect routes and reduces driving distance.

Wells Street, Milwaukee, WI

"Well Street's one-way configuration brings an assortment of issues that negatively impact the neighborhood it passes through. In particular it is common to see cars continuously circling the block, because a parking spot is not easily accessible without circling the neighborhood. Another direct result of Wells St. being a one-way street, with little congestion, and having multiple travel lanes is that people speed excessively. This is an all too frequent occurrence. Additionally, crashes occur when drivers attempt to turn left from the center lane, because the nature of the street doesn't fit with the location, causing an accident. Finally, it is all to common to see are drivers heading in the wrong direction along Wells St.

A two-way street conversion would alleviate these issues while bringing benefits to the city. A benefit is that a two-way conversion will make Wells St. more pedestrian friendly, as no longer will one need to cross a "freeway" to get across the street. It will bring enhanced visibility to retail establishments, drawing in more of the infrequent drivers passing through the neighborhood. Additionally, for automobile drivers it will actually enhance connectivity by reducing the need to loop around to find a parking spot or a missed intersection. Finally, it will reduce traffic speeds along Wells St., improving safety for both the pedestrian and the automobile driver."

Source: http://urbanmilwaukee.com/2011/06/22/wells-st-two-way-street-conversion-is-long-overdue/



CLEAR AND ATTRACTIVE ACCESS TO DOWNTOWN



RECOMMENDATIONS

- Use the Main Avenue corridor study to examine corridor land use patterns, redevelopment, corridor identity, signature street characteristics, and way-finding opportunities that would significantly improve this corridor as a gateway to downtown.
- Place way-finding and downtown identity features along University Drive and 10th Street as each of these one-way streets approaches the downtown area. Assist drivers with selecting the east/west street which offers them the most direct and possibly the least congested route to their destination.
- Incorporate Intelligent Transportation System features into roadway improvement projects leading to/from downtown to ensure that traffic flow along these corridors can be monitored and maximized.

DESCRIPTION

Fargo will improve the quality of vehicular and non-motorized access to downtown. This initiative involves improving existing routes to and from downtown without destroying the character and fabric of the neighborhoods in the surrounding area. Access to downtown from outlying areas or major transportation facilities such as I-94, I-29, Hector International Airport and outlying neighborhoods can take place via several different routes on Fargo's grid street system. However, some of the routes to downtown are not well-known, straightforward, informative, or aesthetically engaging. For example, Main Avenue is an efficient route to downtown from I-29, but could be improved upon relative to corridor identify, aesthetic appeal and way-finding features.

University Drive is another opportunity for improvement. University Drive splits to a one-way pair between 13th Avenue South and 19th Avenue North. Improvements to this corridor could include aesthetic

FROM MINDMIXER

access from the interstate can also encourage more business to open around downtown instead of on the outskirt of the city. -Anthony L

FROM MINDMIXER

The city needs to look into developing high volume and higher speed connections into the downtown area and they should connect up with both interstates. -fmmetroplex improvements and way-finding features, particularly at and along 13th Avenue North between University Drive and 10th Street South, where dilapidated houses dominate a small, but visible portion of the route. Once near the downtown area, corridor identity and way-finding could greatly enhance and facilitate access to downtown.

The city recently approved the future conversion of the NP Avenue and 1st Avenue North one-way pairs to two way streets. This change will eliminate one of the public's main negative perceptions about downtown, which is the confusing nature of the east/west one-way pair system. A heightened corridor identity through streetscaping will improve vehicular access. Finally, the 7th Avenue North corridor was described as a great way to access downtown and the Sanford Health clinic and hospital located on Broadway at the north end of downtown. This corridor can be accessed from West Fargo, and from streets and frontage roads along I-29 from either Main Avenue or 12th Avenue North. The route is very convenient for those who know about it, and could be enhanced through improved connections in the vicinity of I-29, improved aesthetic appeal, corridor identity, and way-finding features.

Intelligent transportation systems (ITS) combined with a Metropolitan Traffic Operations Center (TOC) that identify points of congestion and delay could be another way of improving vehicular access to downtown, particularly during major events such as the Street Fair and concerts at the Civic Center.

BENEFITS

The benefits of improved access to downtown include a heightened comfort level of both Fargo residents and out-of-town visitors who have an interest in going downtown. Features that give a roadway a "downtown signature" or identity are comforting to the public, as they are assured by the visual evidence that they are indeed on a road that takes them to downtown, even if the surrounding area is an industrial area or a residential neighborhood. Attention to small details such as lighting styles, plantings, signs, and way-finding features can contribute to the public's desire to come downtown for entertainment, dining, medical care, shopping, and professional services. Keeping downtown, the heart of Fargo, strong is vital to the long-term strength and identity of the region. Improving access and the experience of coming downtown supports downtown's viability.





Downtown Baton Rouge Wayfinding Signage Project – Baton Rouge, Louisiana

The Downtown Baton Rouge Wayfinding Signage Project began its first phase in 2004, and has resulted in 81 new or updated wayfinding elements in Downtown Baton Rouge. The process involved input from 35 different organizations. Forms of wayfinding include; vehicular signage, pedestrian signage, trolley stops signs, neighborhood identity signage, parking signage, and trail blazing signage. Nontraditional elements were included in the signage to provide ownership to Baton Rouge. For example, pedestrian signage includes highlights of attractions and historic events in the area. Local artists were also given the opportunity to work on elements of the signs. A community involvement process was used to choose which artists were involved and what items were highlighted in the pedestrian signs. The city has found that this project has done more than allow guests to find their way to and around Downtown Baton Rouge, but it has provided as sense of identity.

Source: http://www.downtownbatonrouge.org/aroundWayfinding.asp

Image Source: http://www.downtownbatonrouge.org/downloads/pdf/2008_IDA_wayfinding_pres.pdf



Major Center Area Streetscape Master Plan - City of Eden Prairie, MN

The City of Eden Prairie's Major Center Area (MCA) most commonly noted challenges were wayfinding and navigating. A number of challenges caused these challenges including; a lack of local street hierarchy, unclear access from regional roads, and a variety of complex roadway systems within the area. To overcome this challenge, a wayfinding hierarchy created a variety of sign types at varying distances from the center of the MCA.

The Major Center Area Streetscape Master Plan was also created to provide a design framework for streetscape improvements for Eden Prairie. The Design Framework includes elements that would serve as primary identifiers for the area and employs a prairie style aesthetic through the use of elements including: street lights, information kiosks, street furniture, bollards, etc.