Grand Forks - East Grand Forks
Metropolitan Planning Organization

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BICYCLE AND PEDESTRIAN ELEMENT

(2045 LONG RANGE TRANSPORTATION PLAN)

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A RESOLUTION ADOPTING THE YEAR 2045 METROPOLITAN TRANSPORTATION PLAN FOR THE GRAND FORKS - EAST GRAND FORKS METROPOLITAN AREA

WHEREAS, the U. S. Department of Transportation requires the development of a metropolitan transportation plan by a metropolitan planning organization for each urbanized area and area expected to have growth over a twenty-year period; and

WHEREAS, the Grand Forks-East Grand Forks Metropolitan Planning Organization (MPO) has been designated as the policy body with the responsibility of performing transportation planning in the Grand Forks - East Grand Forks Metropolitan Area; and

WHEREAS, the MPO is designated by the Governors of North Dakota and Minnesota as the body responsible for making transportation planning decisions in the Grand Forks -East Grand Forks Metropolitan Area; and

WHEREAS, the existing metropolitan transportation plan was adopted in 2008 and, as in accordance with 23 U.S.C. 134 and 23 CFR 450.322, is being updated to remain current, maintain a twenty-year horizon and comply with new requirements from FAST; and

WHEREAS, the metropolitan transportation plan, in accordance with 23 CFR 450.322, is multi-modal in scope and accounts for all travel modes in the four sections of the plan: Street & Highway, Transit, Pedestrian, and Bicycle; and

WHEREAS, a 2040 long range transportation plan was adopted in December 18, 2013; and

WHEREAS, the MPO has worked with the North Dakota Department of Transportation, which is its lead agency for metropolitan planning activities, to ensure compliance with FAST; and

WHEREAS, the metropolitan transportation plan, in accordance with 23 CFR 450.322, shall be financially constrained to demonstrate that proposed projects have existing and/or reasonably projected sources of funds; and

WHEREAS, the MPO followed its adopted Public Participation Plan to proactively involve the public early and often in the transportation planning process and held a public hearing at the appropriate time for each action regarding the Metropolitan Transportation Plan; and

WHEREAS, the By-Laws of the MPO allow the MPO Executive Board to take action upon adoption of the Bicycle and Pedestrian Element of the Metropolitan Transportation Plan sixty (60) days after said plan had been submitted to the representative city or sooner if the representative cities adopted the said plan prior to the 60 day period; and

WHEREAS, the Technical Advisory Committee of the MPO held public meetings on the proposed Metropolitan Transportation Plan; and

WHEREAS, the Planning Commission for Grand Forks, North Dakota, held a public hearing on January 2, 2019, on the proposed Bicycle and Pedestrian Element of the Metropolitan Transportation Plan; and

WHEREAS, the Planning Commission for East Grand Forks, Minnesota, held a public meeting on January 10, 2019, on the proposed Bicycle and Pedestrian Element of the Metropolitan Transportation Plan; and

WHEREAS, the City Council for East Grand Forks, Minnesota, held a public meeting on January 15, 2019, on the proposed Bicycle and Pedestrian Element of the Metropolitan Transportation Plan; and

WHEREAS, the City Council for Grand Forks, North Dakota, held a public hearing on January 22, 2019, on the proposed Bicycle and Pedestrian Element of the Metropolitan Transportation Plan; and

WHEREAS, the Executive Policy Board of the Grand Forks-East Grand Forks Metropolitan Planning Organization considered the actions taken by the local governmental agencies; and

NOW, THEREFORE, BE IT RESOLVED, by the Executive Policy Board of the Grand Forks - East Grand Forks Metropolitan Planning Organization adopts the proposed Year 2045 Bicycle and Pedestrian Element as presented with the following amendments:

1-23-19
Date

Clarence Vetter
Chairman

Earl Haugen,
Executive Director

ORDINANCE NO. 4698.

AN ORDINANCE AMENDING THE COMPREHENSIVE PLAN, AMENDING CHAPTER XVIII, ARTICLE 8, COMPREHENSIVE PLAN; SECTION 18-0802, ELEMENTS OF THE GRAND FORKS CITY CODE OF 1987, AS AMENDED, PERTAINING TO THE GRAND FORKS-EAST GRAND FORKS 20*45* ~~40~~ TRANSPORTATION PLAN UPDATE.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND FORKS, NORTH DAKOTA, THAT:

Section 1. Amending Clause

Section 18-0802 (1) is hereby amended as follows:

(C) The Grand Forks-East Grand Forks ~~2040 Long Range~~ 2045 Metropolitan Transportation Plan Update, which contains the following sections.

1. ~~2013~~ *2018* Bicycle and Pedestrian Element, together with all maps, information and data contained within.

Section 2. Effective Date

This ordinance shall be in full force and effect after its passage and approval as provided by law.

Michael R. Brown, Mayor

ATTEST:

Maureen Storstad, City Auditor

Introduction and first reading: 12/17/2018
Public Hearing: 01/22/2019
Second reading and final passage: 01/22/2019
Approved: 01/22/2019
Published: Not required by law.
Recorded:

A RESOLUTION UPDATING THE GRAND FORKS MASTER PLAN FOR THE CITY OF GRAND FORKS, NORTH DAKOTA, AND PROVIDING FOR THE AMENDMENT THEREOF, PURSUANT TO CHAPTER 40-48, NORTH DAKOTA CENTURY CODE, AND FOR THE REPEAL OF ALL SECTION CONFLICT HEREWITHIN.

WHEREAS, the governing body of the City of Grand Forks has created a Planning & Zoning Commission in accordance with state law, and

WHEREAS, Chapter 40-48, North Dakota Century Code, empowers the Planning & Zoning Commission to make and adopt an official Master Plan and to provide for its administration, enforcement, and amendment thereof, and

WHEREAS, the Grand Forks Year 2045 Transportation Plan Update was made with the general purpose of providing a program for the orderly growth of the City of Grand Forks and its environs in the future, which in accordance with present and future needs will provide amenities of life, health, safety, morals, order, convenience, prosperity, and general welfare, and

WHEREAS, the existing Street/Highways Modes element of the Grand Forks Master Plan is in need of an update due to the Federal transportation bill Fixing America's Surface Transportation, and

WHEREAS, the Grand Forks City Planning & Zoning Commission has given due public notice of the hearing related to amending the Bicycle and Pedestrian Element of the Master Plan, and

WHEREAS, all requirements of Chapter 40-48, North Dakota Century Code, with regard to the preparation of the plan have been adhered to and met:

NOW, THEREFORE, BE IT ORDAINED BY THE GRAND FORKS CITY PLANNING & ZONING COMMISSION OF GRAND FORKS, NORTH DAKOTA, THAT WE DO ADOPT THE 2018 STREET/HIGHWAYS MODES ELEMENT OF THE GRAND FORKS – EAST GRAND FORKS 2045 METROPOLITAN TRANSPORTATION PLAN AS AN AMENDMENT TO THE GRAND FORKS MASTER PLAN.

Dated this 11th day of February, 2019

Meggen Sande
Secretary, Grand Forks Planning and Zoning Commission

Steve Wasvick,
President, Grand Forks Planning and Zoning Commission

RESOLUTION NO. 19 – 01 - 13

Council Member DeMers, supported by Council Member Riopelle, introduced the following resolution and moved its adoption:

WHEREAS, the city of East Grand Forks has an adopted East Grand Forks Comprehensive Plan; and

WHEREAS, the proposed plan update is in general agreement with the other elements of the East Grand Forks Comprehensive Plan, those other elements being the following:

1. The Grand Forks – East Grand Forks 2009 Downtown Plan Update Element, together with all maps, information and data contained therein.
2. 2045 Plan Update of the East Grand Forks Land Use Plan Element, together with all maps, information and data contained therein.
3. The Grand Forks – East Grand Forks 2040 Long Range Transportation Plan Update, which contains the following sections:
    a. Bikeway Element, together with all maps, information and data contained therein.
    b. Pedestrian Element, together with all maps, information and data contained therein.
    c. Transit Element, together with all maps, information and data contained therein.
    d. Street and Highway Element, together with all maps, information and data contained therein.
    e. Intelligent Transportation Systems (ITS) Strategy Element, together with all maps, information and data contained therein.
4. The 1998 East Grand Forks Downtown Plan prepared by Field – Paoli, together with all maps, information and data contained therein.
5. The 2000 Urban Design Plan, together with all maps, information and data contained therein.
6. Greenway Plan Element Update, together with all maps, information and data contained therein.

And

WHEREAS, The Grand Forks – East Grand Forks Metropolitan Planning Organization has prepared a Year 2045 Plan Update of the Grand Forks –East Grand Forks Bicycle and Pedestrian Element for the Long Range Transportation Plan; and

WHEREAS, 2045 Plan Update of the Grand Forks –East Grand Forks Bicycle and Pedestrian Element was developed under the newly Congressional adoption of the new transportation bill "Fixing America's Surface Transportation" or FAST; and

WHEREAS, the Grand Forks –East Grand Forks Bicycle and Pedestrian Element may be amended to reflect transportation changes in the community; and

WHEREAS, the Grand Forks –East Grand Forks Bicycle and Pedestrian Element is a representation of the transportation goals and values of the city; and

WHEREAS, the Grand Forks-East Grand Forks Metropolitan Planning Organization collected public input for this element at public events, open houses, and through surveys; and

WHEREAS, the East Grand Forks Planning and Zoning Commission forwards a recommendation that the 2045 Plan Update to the Grand Forks –East Grand Forks Bicycle and Pedestrian Element, be hereby approved and adopted; now therefore

BE IT RESOLVED, By the City Council of the City of East Grand Forks, Minnesota, that the 2045 Plan Update to the Grand Forks –East Grand Forks Bicycle and Pedestrian Element of the East Grand Forks Comprehensive Plan, and proposed amendments, be hereby given final approval.

Voting Aye: *Helms, Riopelle, Johnson, Olstad, DeMers, and Vetter.*
Voting Nay: *None.*
Absent: *Grassel.*

The President declared the resolution passed.

Passed: January 15, 2019

Attest:

City Administrator/Clerk-Treasurer

President of the Council

I hereby approve the foregoing resolution this 15th day of January, 2019.

Mayor

EXECUTIVE SUMMARY

A. INTRODUCTION

This Bicycle and Pedestrian Element is a component of the 2045 Long Range Transportation Plan (LRTP). This update has been prepared by the Grand Forks-East Grand Forks Metropolitan Planning Organization (MPO) under the guidance of the Bicycle and Pedestrian Advisory Committee. The MPO is legally required to develop; update and implement a fiscally constrained 20-years horizon Long Range Transportation Plans (LRTP).

The update of the Bicycle & Pedestrian Element is supported by the Planning Factors outlined by the *Moving Ahead for Progress in the 21st Century Act* (MAP-21) (2012). The update is taking place under the tenets of the "*Fixing America's Surface Transportation Act*" (2015) (FAST). The FAST Act encourages States, MPOs, and cities to continue promoting and adopting design criteria and standards that provide for the safe and adequate accommodation of pedestrians, bicyclists, and motorized users

Members of the Bicycle and Pedestrian Advisory Committee provided oversight on the advancement of this project through their active engagement in a number of community meetings, educational seminars, bikeablity audits and report reviews. In fulfilling their role, members of the Advisory Committee –assisted by MPO staff-actively participated in:

- Identifying pedestrian and bicycle issues and needs;
- Providing input on policy recommendations and proposed pedestrian and bicycle networks; and
- Evaluating technical and financial constrained criteria for prioritizing project recommendations

The Bicycle and Pedestrian Advisory Committee is a working team made of concerned and interested citizens, and representatives from North Dakota and Minnesota Departments of Transportation (DOTs), Safe Kids Grand Forks, Options for Independent Living, Grand Forks Police Department; local governments, Engineering, Transit, Public Health and Planning Departments. The Bicycle and Pedestrian Advisory Committee facilitated civic engagement activities, provided input on pedestrian and bicycle issues and needs, provide input on policy, and facility recommendations. The Advisory Committee provided the guidance necessary to advance the project to completion.

Biking and walking are regular activities available to people during their lives. This Bicycle and Pedestrian Element has been designed to assist community members, local government staff, and related local agencies in their quest to achieve national planning factors, and to meet local goals, objectives and standards.

A set of action initiatives, monitoring activities and performance targets are outlined in this element to support the transformation of our cities into meaningful and purposeful places where people of all ages and abilities can safely and comfortably walk and bicycle. This Element is a resource tool to be used for the development of a safe, well-connected, and easily accessible Grand Forks and East Grand Forks pedestrian network and bicycle system.

Part I. PLAN SUMMARY

The study area included in the Bicycle and Pedestrian Element is comprised of a portion of the northeast in North Dakota and northwest in Minnesota. The study area includes the cities of Grand Forks, ND and East Grand Forks, MN., the urbanized and areas anticipated to be urbanized it the next 20-years in Grand Forks County, ND and Polk County, MN.

The Grand Forks-East Grand Forks Long Range Transportation Plan (LRTP) comprises three elements: Street & Highways, Transit Development, and Bicycle & Pedestrian. The LRTP is a 20-years horizon document which is updated every five years. The plan "*envisions a community that provides a variety of complementary transportation choices for people and goods that is fiscally constrained*."

This Element update is sustained by a number of near and long term objectives. One objective is to reflect the improvements to existing on-street and off-street bicycle and pedestrian facilities. In addition, this 20-years horizon update is advanced to:

- Increase bicycle and walking trips whether for recreational or economic development objectives
- Improve bicycle and pedestrian access to key local activity centers and destinations
- Promote bicycle and pedestrian activities as available; yet, affordable transportation options
- Promote consistency between transportation improvements and State and local planned growth and economic development patterns
- Foster accessibility and mobility
- Improve quality of life
- Foster bicyclist and pedestrian safety
- Assess current conditions, initiatives and opportunities
- Emphasize the preservation of the existing bicycle and pedestrian transportation system

Part III. Existing Conditions[1]

An Existing Conditions Analysis was advanced to identify perceived impediments and constraints that may impact local bicycle and pedestrian mobility; support the development of strategies aimed at attaining the regional community vision; identify potential opportunities for implementation of strategies to achieve proposed goals and objectives; and guide the development

[1] Part II Barriers, Impediments and Obstacles to Pedestrian and Bicycling Activities. See: https://theforksmpo.files.wordpress.com/2018/11/bicyclepedestriandraftreport.pdf

of data collection essential to design and implement the proposed monitoring activities required to meeting national, state and local goals.

Findings from the Existing Condition Analysis will assist decision-makers in developing the criteria to identify specific facility-related improvements. The analysis helps to assess the extent to which existing conditions on those facilities impact the accessibility of the transportation system for pedestrians, wheelchair users and bicyclists.

1. The current situation

Two versions of a *Community Survey* were designed to determine level of use of the current pedestrian and bicycle network. Respondents to the web-based version (*N=37*) and a paper-version (*N=81*) indicated that the factors they liked the most about the system was a good network of sidewalks and multi-use paths and a friendly biking and walking environment. Walking and biking are mainly pursued for fitness purposes; still, respondents find it difficult to walk due to sidewalks too close to the road or due to the poor quality of sidewalks and bike lanes unpleasant.

Even though respondents had not reasons not to walk or bike; their perceived barriers to biking or walking included personal safety, travel with small children, and automobile traffic. Walking to get to and from a transit stop at least once a month to is a reason for walking. In their opinion, the most important locations in need of improvement for bicyclists include DeMers Avenue and Gateway Drive. In addition, major street corridors, bridges and overpasses and areas near schools were tabbed as the most important locations in need of improvements in the pedestrian environment, according to the preliminary results.

Suggested improvements to enhance children's walking and biking experience included widening sidewalks near schools and parks; traffic calming treatments near schools; walking school buses and police enforcement. Suggested improvements to support biking/walking in the Grand Forks-East Grand Forks area included more sidewalks and signed bike routes, better maintenance of pedestrian corridors and improved connections between trails and transit. Better street lighting and intersections.

The summary of the written responses and comments provided by residents to the survey was organized as an "*Existing Conditions Analysis Public Input Eng Review*" report. The report includes comments in the following areas:

- Traffic Signals/ Signal Timing/Traffic Lights (7)
- Street Crossings/ Marked Crosswalks/ Sidewalks (16)
- Existing Pedestrian Facilities, Trails & Routes (12)
- Facility's Directness (4)

In addition, as part of the public involvement process, three Existing and Planned Bikeway Facilities, 2016 maps were strategically located at the atriums of the East Grand Forks and Grand Forks City Halls (*Entrances*), the East Grand Forks Senior Centre. The objective was to provide pedestrians, bicyclist and wheelchair users with the opportunity to provide comments –on the map

– about the bicycle system and pedestrian network. The comments were reviewed and organized in areas of concern. Repeated comments served to develop a list of challenges and opportunities in the pedestrian network and bicycle system.

2. Bicycle Infrastructure: Parking (Bike Racks)

A complete pedestrian network and bicycle system includes the provision of facilities that increase level of user's comfort and their convenience at trip destination points. In addition to distance, time and safety concerns; a few reasons why people consistently say they don't ride include: Lack of parking (Bike Racks); and Lack of end of trip facilities.

A number of bike racks and repair stations have been installed at major destination points and at public buildings in the planning area. Although the number of bike racks has been increasing; still legislative opportunities to make access to residential and commercial buildings more attractive to bicycle users are available.

3. Bike-on-Buses Program

CAT has been striving to facilitate bike on buses. Permits are required to provide bicyclists with the option to take their bikes on transit buses. All Cities Area Transit (*CAT*) buses have bike racks. Bicycling extends the catchment area for transit services and provides greater mobility to customers at the beginning and end of their transit trips. The integration of pedestrian and bicycle activities with transit benefits user's and transit agencies.

4. Safe Routes to School: Parent's Surveys

The Parent's Surveys serve to collect information about student travel patterns. The survey strives to capture important information on parental attitudes on children's travel patterns to and from school. The Summary Report includes responses from 439 parents representing a population of 3420 students in eleven Elementary Schools in Grand Forks. Surveys were conducted by Safe Kids Grand Forks in cooperation with school staff during October-November, 2016. Parent's Surveys for East Grand Forks School are under consideration for 2018. Among others, survey results help to realize mobility, accessibility and connectivity objectives set out in the Bicycle and Pedestrian Element.

Participating children were 47% female and 53% male as indicated by their parents. Seven-graders 14%; Sixth-graders 13% and fifth Graders 12% corresponded to the groups with the largest representation of respondents. As reported by parents, the percent of children, who has asked for permission to walk or bike to/from school, declines according to the distance they lived from school.

The number of students asking for permission to walk or bike to school decreased based on the distance of their location from school. Still, 52% of responding parents living at 1/4 mile up to 1/2 mile distance from school arrive by family vehicle. 38% of responding parents living 1/4 mile up to 1/2 mile depart from school by family vehicle. Still, living in close proximity to school sites,

some parents continue using the family vehicle for a short trip to school to drop/pick their children.

The decision to allow a child to walk or bike to/from school by parents of children who already walk or bike to/from school is affected by a) Sidewalks and pathways (61%), b) Distance (64%), c) Weather (67%), and d) Safety of intersections and crossings (61%).

The decision not to allow a child to walk or bike to/from school by parents of children who do not walk or bike to/from school is affected by a number of factors including perceived: a) Safety of intersections and crossings 57%; b) Speed of traffic along route 60%; c) Amount of traffic along route 62%; d) Distance 67%; and e) Weather or climate 63%.

Assuring safe walking or biking conditions to and from school for children, their parents and members of vulnerable populations is an objective shared by all stakeholders involved in the Bicycle and Pedestrian Element update.

Comments from Parent's Surveys contain important observations. These will be assessed in the context of the Existing Conditions Analysis. All written comments and their suggested location mentioned in the Parent's Survey are included in the Appendix.
The Parent's Survey for the Discovery Elementary School was discussed in the Discovery Elementary School Safe Routes to School Report, published by the MPO in 2016.

5. Bike to School Day

Bike to School and Walk to School Days are initiatives fostered by the Safe Routes to School program. The program raises awareness of the need to create safer routes for walking and bicycling and emphasizes the importance of issues such as increasing physical activity among children, pedestrian safety, and concern for the environment. Initiated in 2013 (80) to 2017 (300), the program has been gaining popularity and acceptance among school and community stakeholders. Hence, it is worth noticing the substantially positive increased in participation for year 2017.

6. Traffic Signs on School Zones (Grand Forks)

The installation of signs, as fostered by the School-Zone Highway Safety Program is vital to address bicyclist and pedestrian safety, neighborhood movements and traffic circulation concerns made manifest by some of the proposed recommendations. The School Sign installation program initiated implementation in 2017. The aim of the program is to enhance the safety of school-aged children and members of vulnerable populations on their way to and from school whether walking or biking. Traffic control devices installed by the program will constantly remind drivers to treat the area with special care and attention.

The Traffic Sign on School Zones Program is administered by both jurisdictions according to the principles and standards set out in the Manual of Uniform Traffic Control Devices for Streets and Highways (MUTCD), Part 7. Techniques considered for addressing bicyclist and pedestrian safety and accessibility within the school zone include the following:

- School Speed Limit Sign
- Overhead School Flasher Speed Limit Sign
- School Advance Warning and Crosswalk Signs
- Pavement Markings
- Parking Restrictions

According to the Traffic Signs on School Zones (Grand Forks) program, the type of signs, quantities and respective location is included in the Appendix illustrates.

7. Journey-to-work

The analysis of bicycle and pedestrian trips on the *Journey-to-work* and their impact on a worker's travel from home to work indicates a 4.1% for walking and a 1.0% for biking trips (2010-2014) in Grand Forks. The information indicates a 2.0% for walking and a 0.1% for biking trips (2010-2014) in East Grand Forks. These figures account for the percentage of pedestrian and bicycle trips out of the total number of work-related trips in the region in the (2010-2014) period.

In the 6 years period from year 2008 to 2014, in Grand Forks the percent of change observed indicates:

- Walking: Remained approximately same.
- Bicycling: Decreased approximately by 15.7%

In the 6 years period from 2008 to 2014, in East Grand the percent of change observed indicates:

- Walking: Increased approximately by 33.3%
- Bicycling: Decreased approximately by 87.7%

8. Greenway Recreational Trips (2015)

A Trail Count Project[2] advanced by the Greenway Technical Committee in 2015 indicated that the number of users was approximately 3853. The count in 2015 resulted in approximately 600 users less than in 2013. It appears, the figure could have been affected by a weather (Tornado) warnings related event in the area during the time counts were being taken. Findings resulting from the Trail Count indicate that:

- More males (2204) than females (1649) used the Greenway Trail in 2015 than in 2013.
- The rate of walking in 2013 (16%) increased to (27%) in 2015.
- The rate of bicycling in 2013 (67%) decreased to (58%) in 2015.

Reasons for the decline are unclear. It is possible, weather conditions could have contributed to the decrease in shares.

[2] Greenway Technical Committee, Minutes September 15, 2015

9. Pedestrian and Bicycle Crashes

Crash Data was obtained from NDDOT and MNDOT crash databases. Through the evaluation, emphasis was placed in the analysis of the following variables included in the corresponding crash databases:

Type of injury (Severity)
Age of driver operating vehicle
Gender of driver operating vehicle
Age of person operating vehicle (involved in crash (Injured/Severity) (Age group)
Gender of person(s) operating vehicle (involved in crash) (Injured/Severity)

According to the information provided, there were no reported ***fatal*** crashes involving pedestrians in Grand Forks from 2010 to 2016. The data suggested a decrease in the number of reported crashes based on their level of severity. Possible injury and incapacitating injury reported crashes are decreasing. However, reported Non-incapacitating injuries and property damages are increasing.

According to the data available to support the number of pedestrians involved in traffic crashes by vehicle type, it appears there is a decrease in the number of passenger cars and pickup –vans involved. However, the number of hit and runs appears to be on the increase.

Concerning pedestrian injuries by age group, the Grand Forks data sample involving pedestrian crashes from 2010-2016 suggest:

- Ages 16-24 contained the most injuries
- Ages 15 and under contained the second most injuries of any age group
- More males than females were injured
- Males in the age range of 16-24 were the gender and age group combination that were most often the drivers of vehicle 1 (driving vehicle), and were most often the gender age group combination that was injured.

The East Grand Forks pedestrian crashes from 2010-2015 is a small sample; however, the data received reveals the following observations:

- The 3 age groups that contained the most drivers operating vehicle 1 in pedestrian related crashes were 16-24, 25-34, and 35-44 years old.
- Ages 16-24 group contained the Most injuries (1 male, 1 female).
- Most injuries were sustained by both males and females whose ages are 16-24, and males 55-64.

According to the information provided, there were not reported fatal crashes involving pedestrians for East Grand Forks in years 2011-12-14. There were three pedestrian-related crashes. These involved two Non-Incapacitating and one possible injury crashes.

According to the information provided, there were no ***fatal*** crashes involving bicyclists in Grand Forks from 2010 to 2016. However, there were 68 bicycle related crashes. Although not shown in the table included in the report, the data suggest there is a perceived "*concentration*" of bicycle crashes on streets in proximity to UND Campus. University Avenue has a bike lane on UND Campus from Columbia Road to 42nd St. N.

This finding deserves more attention as walking and biking are prominent activities in the vicinity of the University. Similarly, 6th Avenue N from Columbia Road to 42nd Street N. also experienced a large number of bicycle crashes. Most reported injured bicyclists are in the 16-24 age group.

Passenger cars account for 51.9% and pickups account for 23.38% of the vehicles involved in reported crashes.

According to the data available to support the number of bicyclists involved in traffic crashes by vehicle type, the data suggests:

- More male drivers than female drivers operated vehicle responsible in bike crashes.
- Most drivers operating vehicle responsible vehicle in related crashes were 16-24 years old.
- Ages 16-24 contained the most injuries.

Pedestrian and Bicyclist Crash data available for East Grand Forks included years 2010-2015. There were not reported crashes involving bicyclist for years 2014 and 2015. The information provided indicates, there were no *fatal* crashes involving bicyclist in East Grand Forks from 2010-2015. The age of motorist involved ranged from 28-54 years. The age group of most of the bicyclist impacted is 16-24 years old.

10. Pedestrian and Bicyclists Crashes in Proximity to School Sites (2010-2016)

From 2010 to 2015 there were 7 non-incapacitating injuries, 8 possible injuries, 2 incapacitating injuries and 1 property damage. The age of drivers operating the main vehicle involved in the crashes ranged from 17 to 59 years old. The age of those impacted by the crashes ranged from 7-14 and 15 & over. Those involved in the traffic crashes included 10 males and 6 females. Data available indicates four bicycle and pedestrian crashes in East Grand Forks in same period.

There were neither bicyclists nor any reported pedestrian's crashes in a ¼ of a mile radius in proximity of the following Elementary schools: South Middle, Discovery Elementary, Viking, Phoenix and St. Mary's/Holy Family Elementary, Riverside Christian and Sacred Heart Catholic Elementary. Most of the Non-incapacitating, possible injury and property damage crashes occurred outside the ¼ mile radius of the remaining Elementary Schools in the planning area.

11. At-grade Railway Crossings

Rail operation constitutes an integral part of the regional economy. As train length and frequency increase, so does the potential for vehicle/train and non-motorized users' crashes, roadway traffic delays and exacerbation of proximity issues. In Grand Forks-East Grand Forks, the most commonly observed rail proximity issues include: lack of signal devices, lack of active warning devices, sidewalks in poor condition or in need of repair, and neighborhood Safe Routes to Schools on streets crossing the rail tracks.

Local governments, stakeholders and our MPO have worked in partnership with the leading railway company in our region to address pedestrian and bicyclist safety, access and mobility at at-grade crossings. Considerations include the provision of rail crossing enhancements to improve safety for pedestrian and bicycle movements. A number of proposed improvements have been programmed for short, mid and long implementation.

Part IV. Identifying Opportunities and Constraints

This section proactively examined existing connectivity and accessibility features on the pedestrian and bicycle system according to the proposed objectives and standards supporting Goal 3: Accessibility and Mobility. The analysis also considered System's Connectivity, User's Accessibility and Mobility, and established a relationship between the results of the "Existing Conditions" assessment, as described in Part III and the sidewalk and bicycle network conditions evaluated in this analysis.

The objectives and standards supporting Goal 3 as outlined in this Bicycle and Pedestrian Element, support the provision of direct and convenient connections, recommend following Federal Highway Administration and American with Disability Act's (ADA) requirements when retrofitting existing transportation facilities and support the development of multi-modal connections that provide equitable access to goods, services, opportunities and destinations.

In Grand Forks and East Grand Forks, the pedestrian network and the bicycle system have many connections; both offer direct access, and provide convenient and amenable routes. However, several factors that still curtail accessibility, continuity and mobility to pedestrian and bicyclists have been identified. These include:

- Comments by Respondents to Improve Access and Mobility Opportunities
- Land Use Policies to improve Access and Mobility Opportunities

A. Improving Access and Mobility Opportunities

1. Comments by Respondents to Improve Access and Mobility Opportunities

Reasons that make it difficult to Bike / Walk-- It appears the factors that make it difficult or unpleasant to bike or walk include:

Biking

Weather: Moderately difficult 13 (16%) to Very difficult 16 (19.8%).
Places where I need to go are beyond my ability to ride: Moderately difficult 15 (18.5%) to Very difficult 13 (16%)
Poor bike lanes/Poor sidewalk quality: Moderately difficult 15(18.5%) to Very difficult 13 (16%)

Walking

Weather: Moderately difficult (16%) to Very difficult (19.8%)
Sidewalks to close to road Very difficult (12.3%)

Q. 6 Reasons for not to Bike/Walk. The major reasons not to bike/walk included:

Biking

Travel with small children (25.9%)
Automobile traffic (24.7%)
Personal safety (23.5%)
Visually unappealing surroundings (23.5%)

Walking

Personal safety (29.9%)
Unsafe intersections (22.2%)
Lack of sidewalks (21.0%)
Bad drivers (21%)
Sidewalks in poor condition (22.2%)

In addition, comments were written on Display Board (Maps) placed at both Public Libraries and other venues. Comments were organized by areas of concern. All instruments were administered by the MPO as part of the public involvement process. A complete Comments Summary is included in the Appendix.

2. Recommended Land Use Policies to Improve Access and Mobility Opportunities

According to the *2045 Grand Forks Land Use Plan,* the top four goals recommended by the public for the City Grand Forks for the near future as selected by users, comprised:

- Becoming more pedestrian friendly and walkable (45%) Survey online
- Improving "*Safe Routes to Schools*" to encourage students to walk and bike to school (Approximately 37%)
- Improving safety at intersections where crashes often occur (Approximately 32%)
- Adding more bike lanes and becoming more bicycle-friendly (Approximately 32%)

In addition, during public involvement activities advanced for the update of the *2045 Streets & Highway Element,* currently under preparation, about 60 related bicycle and pedestrian comments were received in the following areas from residents on Wiki-map:

- Access (*Add protected bike lanes, sidewalk to bike path connections*)
- Safety (*Lack of sidewalks, school crossing, ADA sidewalk compliance, better pedestrian crossing in proximity to playgrounds, fields, sand courts*)
- Signs & Signals (*Disregard by motorist of pedestrian signage, school crossings*)

The *2045 East Grand Forks Land Use Plan* includes the following strategies proposed to improve bicycle and pedestrian access and mobility:

- Promote roadway connectivity through the implementation of the East Grand Forks future road map.

- Continue the installation of sidewalks along new roadways in accordance with existing ordinances.

5.8 PARKS, RECREATION, AND OPEN SPACE

- Maintain a sufficient park and trails system to provide adequate passive and active recreation opportunities for the current and future residents of East Grand Forks.

- Ensure connectivity for multiple transportation modes between recreational facilities

B. Improving Connectivity on the Bicycle System and Pedestrian Network

1. Land Use Trip Attractors & Generators

Common Existing Attractors & Generators land uses in the area were identified. Attractors and Generators are every land use on which business, school, park and trail, and social and service establishments are located. Some of the local land uses and activity centers attracting and generating a large number of motorized and non-motorized trips were described in the previous section of Part IV.

2. Assessing Existing Pedestrian & Bicycle Network Connectivity

Sidewalks are a vital component of the transportation network. A connected and continuous sidewalk network better accommodates the needs of all pedestrians, including children, seniors, and people with disabilities. Bicycles are allowed to ride on the sidewalks in Grand Forks, and bicycles are allowed to ride on the street per North Dakota Century Code.

However, the following institutional and perceived community constraints should be analyzed to support local government's efforts to provide a complete pedestrian network and bicycle system:

- Chapter XVI – Streets and Sidewalks of the Grand Forks City Code
- Lincoln Park, along Belmont Road (Lincoln Drive to Elks Drive)
- The 2040 Bike & Pedestrian Plan identifies a "*planned sharrow*" facility on the Belmont Road (Lincoln Drive to Elks Drive) roadway segment.
- At-grade railway crossings
- Resident's Perceptions

These constraints must be addressed to encourage broad access to the network of bicycle and pedestrian facilities; boost bicycle-transit connectivity; assure network completion; and improve access to important school, health, parks and community recreational facilities. Their elimination could facilitate access to community-based activities to members of low income communities; foster neighborhood connectivity; increase use of new and existing infrastructure and contribute to building support for bicycle and pedestrian activities among the public.

4. Observations

Both Local Governments and stakeholders continue making efforts to facilitate access to and connectivity between destinations. Their aim is to provide for a complete bicycle and pedestrian network. Their efforts are commendable, particularly, in view that the construction of a complete bicycle and pedestrian network is still a "*work in progress."*

An examination of some of the segments exempted from sidewalk construction according the Grand Forks City Code of Ordinances Chapter XVI –Streets and Sidewalks, suggests that physical gaps still exist in the pedestrian network. Most of the exempted roadways and corridors are in the core area of the City of Grand Forks.

Currently, there is sidewalk and on street access to most of the neighborhood and community parks. However, access to some facilities through designated bicycle facilities is still missing. Although access to most parks is through local arterials, collectors and local roads; sidewalks still play a key accessibility role. Multi-use paths "*effectively tie park system components together to form a continuous park environment*."[3]

This assessment of the bicycle and pedestrian network has been advanced to develop opportunities to enhance the existing pedestrian and bicycle infrastructure. The objective is to improve on its ability to address the unique mobility, access, and connectivity needs. The analysis accounts for experiences of bicyclists and pedestrians and other non-motorized users in local neighborhoods and communities.
The initial "*gap*" analysis reveals that:

- The provision of sidewalks and bicycle and pedestrian facilities by Local and State Governments is part of livability efforts to integrate housing, shops, work places, schools, parks, libraries, cultural arts venues, and civic facilities essential to the daily life of the residents.

[3] Heller & Heller Consulting (2016) Grand Forks Park District Strategic Master Plan 2016-2021. p. 26

- There are still areas in the industrial and commercial land use corridors lacking connectivity through sidewalks and designated bicycle facilities.

- The list of exempted roadways in Grand Forks must be reviewed and updated. The list fosters permanency of sidewalk gaps, causes discontinuous paths, and stifles sidewalk continuity in places that haven't been required to have sidewalks in the past, such as in industrial areas.

- Some sidewalk segments in various locations are in poor condition or are inexistent. Some respondents to our *Community Survey* indicated that they "*find the quality of bike lanes and sidewalks unpleasant*." Some respondents indicated lack of sidewalks, and sidewalks in poor condition as reasons not to walk.

- Some familiar intersections in both cities are still difficult to cross.

Part V. Project Prioritization & Financial Factors

Part V addresses *short-term* bicycle and pedestrian initiatives scheduled for construction or to be submitted for funding in years 2018-2019 by the City of Grand Forks. The report discusses initiatives outlined in the *2040 Bicycle and Pedestrian Plan* (2013) and *–carried over to 2045 Bicycle and Pedestrian Element (2018)*. Some of these facilities are still pending for implementation in Grand Forks and East Grand Forks. In addition, Part V introduces a number of on and off-road *proposed* facilities.

A. Appraised Bike Facilities Projects: Costs, Length, Term & Type

1. Costs Elements

The estimated costs were calculated according to the figures provided by the Grand Forks-East Grand Forks Departments of Engineering. For Grand Forks, these figures include *Value of new pavement when parking removal is required*. Other costs in both jurisdictions include cost of signs, road symbols and stripping when required.

It appears that the *Value of Existing Pavement* was not considered in the cost assessment of the projects included in the previous 2040 Bicycle and Pedestrian Plan, as there was no indication that parking would be impacted by the implementation of planned initiatives. As a result, it is suggested the cost estimates presented here should be regarded as "*Planning Level Cost Estimates*." Planning level estimates are general in nature. They do not take into consideration the cost of complete roadway characteristics.

2. Bicycle & Pedestrian Initiatives

The following bicycle and pedestrian initiatives are described in this section:

Short Term

Short Term projects are initiatives prioritized in 2013 for implementation in the short-term (2015-2022) period of the 2040 Bicycle and Pedestrian Plan. To date, most projects have been successfully implemented. However, a few remain pending for funding to fully realize their implementation.

Carried Over/Planned Facilities (2040-2045)

The "*Carried-Over/Planned*" segments were initiatives planned in 2013. A number of facilities are currently in service after having been completed successfully. Other facilities are *–carried over to 2045 and* are still pending for implementation.

Proposed Facilities

The "*Proposed*" facilities are segments submitted for stakeholder's consideration at the *Bicycle and Pedestrian Advisory Committee* and the *Bicycle, Pedestrian and Greenway Advisory Committee* to advance the objectives supporting Goal 3: Accessibility and Mobility. Selected facilities are prioritized, financially assessed and included in the list of upcoming projects.

B. Proposed Bike Facilities (Summary)

1. Proposed 2045 Grand Forks-East Grand Forks Planned

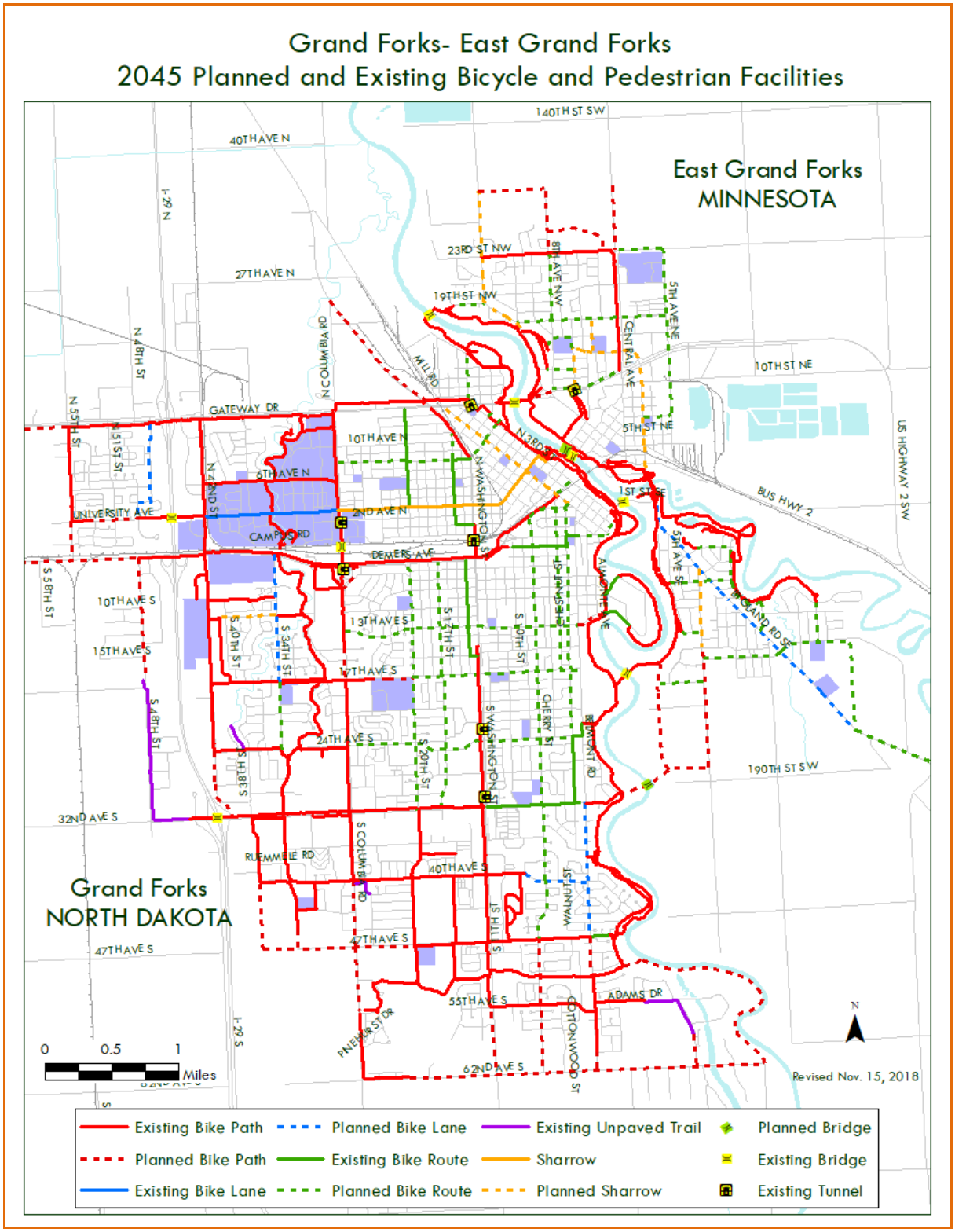
As part of the update of the Bicycle and Pedestrian Plan, a number of on-road facilities in Grand Forks and East Grand Forks were proposed for further consideration as components of the proposed Bicycle and Pedestrian Network. Supported by stakeholders, MPO staff analyzed basic roadway's characteristics, elaborated cross-sections and suggested proposed type of on-road facilities.

MPO staff received comments from stakeholders on the proposed facilities and proceeded to adjust the type of bicycle facility designation previously assigned to those segments. The proposed segments were submitted for consideration of the *Bicycle, Pedestrian & Greenway Advisory Committee.* The segments were analyzed according to the following criteria:

- Existing roadway characteristics, on the proposed corridors, facilitate accommodating the proposed designated bicycle facilities

- The proposed corridors fulfill stated bicycle and pedestrian community objectives (*As outlined in the proposed Ranking and Prioritization Criteria*)
- Potential costs are reduced for every project, by not requiring proposed streets to be widened
- The construction of the proposed bicycle facilities may or may not require removal or alteration of existing on-street parking
- Evaluate truck traffic volumes
- Implementation of the proposed facility is cost feasible
- The proposed segments could anticipate the type of bicyclist, their skills level, and their expected level of comfort.

2. Existing Bicycle and Pedestrian Facilities Map



Part VI. Recommendations

The proposed recommendations focus on:

- Improving user's safety and comfort
- Increasing the existing pedestrian network and bicycle system
- Enhancing pedestrian network's accessibility & connectivity

`Task 7. Strategies & Recommendations` included in the Scope *of Services* prepared to guide the advancement of this Bicycle and Pedestrian Element update, indicates that this report is expected to *Provide recommendations and guidance for*:

- Improving existing on-road facilities, sidewalks, crosswalks, shared use paths and bicycle parking.
- Improving the bicycle and pedestrian facility guidelines/standards.
- Enhancing standards and locations for bicycle signage on roadways.
- Developing and applying criteria to prioritize and to identify specific facility-related improvements.
- Identify changes required to planning, design standards, and agency policies

Final recommendations will be included in the Final Report.

Discovery School Dismissal Time--Grand Forks--© Photo Kshitij Sharma, 2015

I. ACKNOWLEDGEMENTS

The staff from the Grand Forks-East Grand Forks MPO is grateful to the members of the Bicycle and Pedestrian Advisory Committee, members of the Working Group, local printed media, community residents and local government agencies for their input and active participation. Special thanks also to members of the general public who provided input through open houses, online and face-to face surveys, and related community events.

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Officer Jeremy Moe, Police Department, City of Grand Forks	

Bicycle-friendly Parking – Downtown Grand Forks- Photo: © MPO staff, 2017

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Ensuring Opportunities **Planning One Community**

"A community that provides a variety of complementary transportation choices, that are fiscally constrained, for people and goods."

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PART I:

Goals, Objectives & Standards

A. Introduction
B. Rationale Supporting Plan Update
C. Vision Statement

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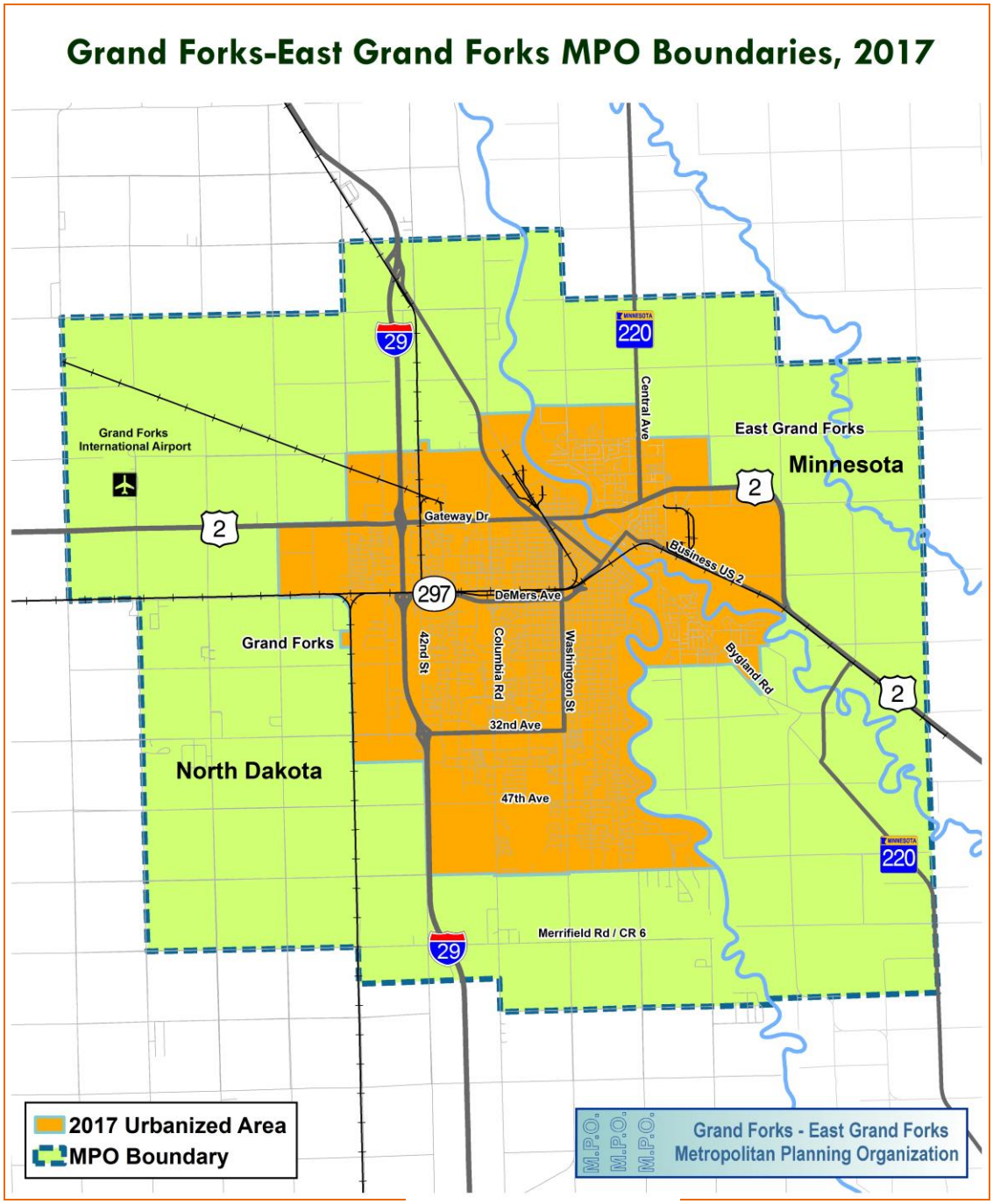
A. INTRODUCTION

The Grand Forks-East Grand Forks Metropolitan Planning Organization (MPO) was established in 1982. The MPO is dedicated to assure that transportation investments are made in a manner that reflects the needs and aspirations of the region. Planning processes advanced by the agency strive to assure that funds and resources are allocated appropriately. The Map of the Grand Forks-East Grand Forks Metropolitan Planning Organization (MPO), illustrates the boundaries of the Planning Study Area. It is comprised of a portion of the northeast in North Dakota and northwest in Minnesota. The Study Area includes the cities of Grand Forks, ND and East Grand Forks, MN.



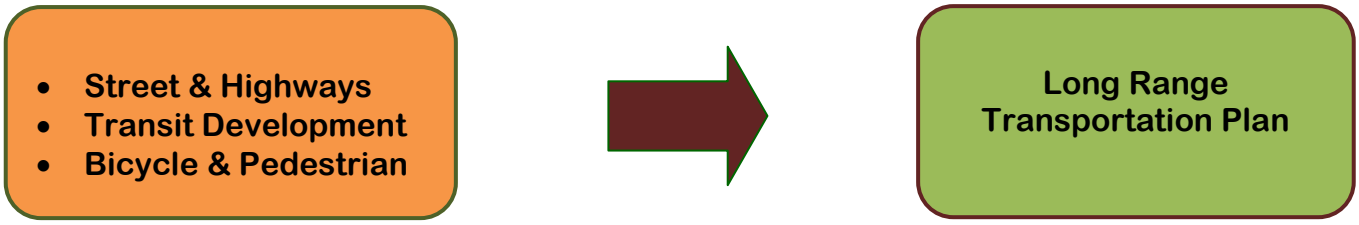
Courtesy: WSB & Associates, Inc., 2017

The Planning Study Area also includes the urbanized and areas anticipated to be urbanized it the next 20-years in Grand Forks County, ND and Polk County, MN. The MPO's current governance structure consists of an Executive Board and a Technical Advisory Committee. Both include local elected or appointed official (s); representatives from Minnesota and North Dakota's Departments of Transportation officials. The Executive Board and the Technical Advisory Committee are supported by representatives from different modes of transportation.

MPOs are legally required to produce multimodal plans and programs that support regional community development, improve quality of life and foster community's social goals. Among others, one of the major work activities advanced by the MPO to meet specific federal requirements includes:

a) Developing, updating, and monitoring the implementation of fiscally constrained 20 years horizon Long-Range Transportation Plan (LRTP).

The Grand Forks-East Grand Forks Long Range Transportation Plan (LRTP) entails three elements:



Currently, the MPO with support from partners Agencies and local stakeholders finalized the update of the Transit Development Plan. From 2016 to 2018 the MPO will complete the updates of the Bicycle and Pedestrian and the Street & Highways Elements.

B. RATIONALE SUPPORTING ELEMENT UPDATE

The Bicycle and Pedestrian Element was last updated in 2013. Various reasons support this element's update. Among others:

Updating is required to fulfill MPO's responsibilities concerning the implementation of the five years cycle of update of the Long Range Transportation Plan. In addition, Grand Forks and East Grand Forks have the responsibility to update their Comprehensive Plans every five years. The update also supports meeting requirements of pedestrian and bicycle related state and federal grant funding programs.

Since the last update in 2013, a number of changes and advancements have taken place in pedestrian and bicycle infrastructure design. Also, our country has experienced a broader cultural shift toward pedestrian and bicycling activities. Nowadays, more people, and a greater diversity of users, are interested in pedestrian and bicycling activities. However, users would like pedestrian and bikeway facilities that are related to the concept of complete streets and to walkable and bikeable communities. National interest in planning for pedestrians and bicyclists has been supported by a broad range of activities to improve non-motorized safety.

Some proposed initiatives challenge local elected officials to take significant action to improve safety for pedestrian and bicyclist of all ages and abilities.[1] Other reasons supporting the Element update includes:

- Considering "*Ladders of Opportunity*"[2] in the planning process. The objective is to ensure that people and goods have access to the following essential services: Housing, employment, health care, education and recreation. The focus of "*Ladders of Opportunity*" is on identifying whether any gap exists in transportation connectivity, identify location and assess connectivity.

- Assessing the safety and condition of pedestrian and bicycle facilities; and evaluating compliance with Americans with Disabilities Act, particularly around schools, concentrations of disadvantaged populations, social services, medical, and transit facilities.[3]

- Continuing the implementation of performance-based program of the *Fixing America's Surface Transportation* (FAST) Act (2015). Consideration will be given to the newly added planning factors: *Resilience and Reliability*, *Travel and Tourism* as they relate to bicycle and pedestrian modes. A "*Tool-Box*" intended to be a resource for communities, assists in documenting ways that walking and bicycling investments, activity, and impacts can be measured. The "*Tool-Box*" helps communities to link transportation investments to community goals.[4]

- Expecting changes in demographics, in particular, focusing in changes in the ageing population

- Emphasizing sustainable transportation options, emission reductions, and the integration of modes of transportation.

This Element update, considers projects and strategies that strive to meet the ten planning factors outlined by the "*Fixing America's Surface Transportation Act*" (2015) (*FAST*). [5]

For instance, *FAST* (2015) places a new emphasis on measuring and managing the surface transportation system's performance. *FAST* (2015) describes performance management as a way to achieve "*the most efficient investment of Federal transportation funds by refocusing on national transportation goals." FAST* encourages States, MPOs, and cities to continue promoting and adopting design criteria and standards that provide for the safe and adequate accommodation of pedestrians, bicyclists, and motorized users.

The emphasis of the Bicycle and Pedestrian Element update is on connecting neighborhoods, schools, transit, business districts, and recreational facilities. Another key objective of the element is to increase transportation choices for pedestrians and bicyclists for physical activity and economic development.

[1] U.S. Department of Transportation (2016). Mayor's Challenge for Safer People, Safe Streets. https://www.transportation.gov/mayors-challenge
[2] U.S. Department of Transportation (2016)
[3] Planning Emphasis Areas for Federal Fiscal Year 2016. FHWA. Letter to Executive Directors of Metropolitan Planning Organizations, 2015
[4] Semler, Conor, Vest, Adam, Kingsley, Karla et al (2016) Guidebook for Developing Pedestrian and Bicycle Performance Measures. U.S. Department of Transportation Federal Highway Administration.
[5] Fixing America's Surface Transportation (FAST) Act (2015).

C. VISION STATEMENT

Grand Forks-East Grand Forks residents riding and walking on the Greenway Trail

The GF-EGF Long Range Transportation Plan envisions a community that provides a variety of complementary transportation choices for people and goods that is fiscally constrained.

The Vision Statement was prepared through a number of community meetings. It is based on input received from the Advisory Committee and Working Group. Staff from Department of Engineering and Planning from both cities was also involved in the visioning process. In preparation of the established vision, members of the Advisory Committee, Working group and staff from local agencies considered the following factors:

Factors Considered in Visioning Exercise	
• Pedestrian and bicyclist's safety	• Promoting livability, equity, and recreational opportunities
• Bicycle and pedestrian friendly environments	• Promoting economic development and community vitality
• Walking and bicycling trends	• Fostering Accessibility and Connectivity
• Developing a viable bicycle and/or pedestrian transportation system	• Fostering Mobility and Efficiency
• Enhancing user's safety and health	• Encouraging Fiscally constrained solutions

A. U.S. NATIONAL PLANNING FACTORS

This Bicycle and Pedestrian Element (2017) is supported by selected desirable community goals outlined previously. The broader community objectives are linked and connected to state and national aspirations. The Bicycle and Pedestrian Element is sustained by ten planning factors supporting statewide and metropolitan transportation planning. For instance, *FAST* supports infrastructure-related and behavioral projects that will provide a safe environment for walking and biking. The *FAST Act* encourages States, MPOs, and cities to continue promoting and adopting design criteria and standards that provide for the safe and adequate accommodation of pedestrians, bicyclists, and motorized users.

The *FAST* Act maintains our focus on safety. *FAST* keeps intact the established structure of the various highway-related programs and continues efforts to streamline project delivery. For the first time, *FAST* provides a dedicated source of federal dollars for freight projects. These provisions require that newly designed and constructed National Highway System roadways offer access to all modes of transportation. This Bicycle and Pedestrian Element update abides by all local ordinances, state laws, federal guidance, and engineering standards regarding the safe movement of pedestrians and bicyclists.

The update is structured around six basic building components:

1. National Planning Factors
2. Objectives (National, State and Local),
3. Standards (Actions to be implemented to achieve objectives),
4. Performance Measures
5. Performance Targets
6. Action Initiatives, and Monitoring Activities

They all sound somewhat similar, but each component has a different role in the federal transportation planning process.

Photo: © Visit Grand Forks Convention & Visitors Bureau

PLANNING FACTORS/COMMUNITY GOALS

Flow-chart to promulgate performance measures to be used in evaluating federal funding of transportation projects.[6]

FAST outlines national performance goals for the Federal-aid highway program. It sets goals, objectives and performance measures meant to support decision-making approaches supporting long and short range investments leading towards the achievement of desired performance outcomes.

These measures are also used to support key objectives, compare alternative improvement strategies, and for tracking system's performance over time.

These are the ten planning factors to support the national goals & performance management measures:

1)	Economic Vitality	6)	Integration & Connectivity
2)	Security	7)	System Preservation
3)	Accessibility & Mobility	8)	Safety
4)	Environmental/Energy/Quality of Life	9)	Resiliency & Reliability
5)	Efficient System Management	10)	Tourism

NATIONAL GOALS & PERFORMANCE MANAGEMENT MEASURES

23 U.S. Code § 150 – defines the following National goals and performance management measures and states that "It is in the interest of the United States to focus the Federal-aid highway program on the following national goals:

[6] http://www.infrastructureandconstructionlaw.com/2016/04/big-changes-with-little-fanfare-the-fhwa-proposes-to-use-ghg-emissions-as-a-performance-measure/

1. **Safety–**
   To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

2. **Infrastructure condition–**
   To maintain the highway infrastructure asset system in a state of good repair.

3. **Congestion reduction–**
   To achieve a significant reduction in congestion on the National Highway System.

4. **System reliability–**
   To improve the efficiency of the surface transportation system.

5. **Freight movement and economic vitality–**
   To improve the National Highway Freight Network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

6. **Environmental sustainability–**
   To enhance the performance of the transportation system while protecting and enhancing the natural environment.

7. **Reduced project delivery delays–**
   To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

1. OBJECTIVES

Objectives are specific, measurable steps to be taken to reach a goal whether national, state or local or a combination. Each goal has distinct, measurable objectives associated with it.

2. STANDARDS

Are proposed agency initiates that will be advanced in order to meet one or more objectives.

3. PERFORMANCE MEASURES

Performance management techniques promote informed decision-making by relating community goals to the measurable effects of transportation investments.[7] A performance measure is a metric used to assess progress toward meeting an objective. A measure can be of an output or an outcome.

Concerning the implementation of Performance Measures and Targets, States must coordinate, to the maximum extent practicable with relevant MPOs in selecting a target to ensure for consistency. Similarly, MPOs must coordinate, to the maximum extent practicable, with the relevant State/s in selecting a target to ensure consistency.

[7] Semler, Conor, Vest, Adam, Kingsley, Karla et al (2016) Guidebook for Developing Pedestrian and Bicycle Performance Measures. U.S. Department of Transportation Federal Highway Administration.

4. PERFORMANCE TARGET

It is a specific level of performance evaluation that an agency hopes to achieve in a certain timeframe. The use of performance targets and measurements is based on the analysis and reporting of data collected on a consistently, accurately, and timely basis to support decision-making on investments leading towards the achievement of desired performance outcomes.

A number of external factors impact local governments, agency and stakeholders from fully realizing the established performance measures and targets. It is important to recognize that targets can be established yet outcomes, despite all good intentions and achievements, outside influences can dramatically have a more influential impact on the outcome. A brief review of some, not all, External Factors that could potentially affect the local government's abilities towards achieving some performance targets include:

1. Although local governments provide leadership in areas vital to regional accommodation of bicycle and pedestrian activities, economic conditions influence the growth of a community. A weak economy, for example, reduces the number of new developments. This reduction will impact on the additional miles of bicycle and/or pedestrian facilities built.

2. Local governments have a number of competing challenges. Yet, in some operating areas (data collection, human resources, finances), available resources are limited, scarce or non-existing. Therefore, some trade-offs will occur where an activity cannot be completed due to lack of resources. One example maybe a shift in federal funding levels towards transportation alternatives, which has been a major funding source in implementing miles of multi-use infrastructure. A shift in lowering these funds by Congress, an external factor, means a likely lowering of facilities built.

3. Weather events impact the performance towards targets. While dry cycles in the climate may allow longer, uninterrupted construction seasons; wet cycles can significantly delay or prevent construction of facilities. Similarly, targets related to snow removal is particularly impacted by the level of snow that falls. Less snow may result in surpassing targets; more snow may cause not reaching targets.

Within the Bicycle and Pedestrian Element and unlike the other two major modal elements, the performance targets do not carry any sort of penalty clauses with them. The purpose of the proposed Performance Measure and Targets is to assist local governments, agency and stakeholders in monitoring, evaluation and predicting, the degree to which the transportation system accomplishes adopted national, state and local objectives.

5. ACTION INITIATIVES, AND MONITORING ACTIVITIES

These are an integral part of the performance-based planning process. The objective is to identify areas in need of attention and to assess means to achieve proposed objectives. It contains information on how the objectives supporting the plan will be examined and assessed. These are the underlying framework (assumptions, outputs and outcomes) on which achieving the goals depend. In addition, monitoring activities indicates the proposed evaluation process, responsible stakeholders and partnerships, the established measurement frequency and data sources for consideration and reporting activities. Monitoring Activities will be advanced by MPO's staff in cooperation with local government staff and bicycle and pedestrian user's and related stakeholders.

Rotary Lions Park--East Grand Forks-- Photo: © Earl T. Haugen, 2017

E. PEDESTRIAN AND BICYCLE COMMUNITY GOALS, OBJECTIVES, STANDARDS & PERFORMANCE MEASURES

Goal 1: Economic Vitality	Support the economic vitality through enhancing the economic competitiveness of the metropolitan area by giving people access to jobs, education services as well as business access to markets.

OBJECTIVE 1: ***Prioritize access to employment centers and commercial districts/main streets as critical connections that promote community and economic development.***

STANDARDS	**1.1.1**	Establish bicycle and pedestrian connections to businesses, schools and other walk or bike trip generators and destinations by prioritizing bicyclist and pedestrian flow patterns between different types of land uses.
	1.1.2	Promote the bicycle and pedestrian system to attract and retain quality residents and commerce.
	1.1.3	Promote a bicycle friendly workplace by supporting the installation and availability of showers, changing facilities, lockers, bicycle parking to actively promote commuter bicycling.
	1.1.4	Promote the existing Greenway Trail System and the Red River State Recreation Area as facilities complementing the bicycle and pedestrian system as an exceptional feature of the Cities of Grand Forks and East Grand Forks; and as a way to attract and retain quality residents and commerce.
	1.1.5	Recognize and consider legal and social challenges to connectivity such as land availability and environmental concerns in any prioritization process.
	1.1.6	Provide pedestrian and bicycle transportation choices to increase access to nutritious food and health-related goods and services.

GOAL 1: ECONOMIC VITALITY

PERFORMANCE MEASURES

Goal	Objective	Standard	Topic	Performance Measure	Performance Target	Data Sources/ Gathered By:
1	1	1.1.1	1.1 Access to community destinations (Performance Measures Guidebook)[8]	Estimated % of residences within a ¼ mile of walking distance from an existing pedestrian facility	Increase to 100% in next 5-years Currently 99% of the residences are within 1/4 mile of a sidewalk	• Local parcel data •GIS data on schools, parks, healthcare centers, and other daily destinations • Optional: Demographic MPO GIS-ATAC Trip Generation Model MPO GIS-ATAC Trip Generation Model
1 1 1	1 1 1	1.1.4 1.1.5 1.1.6		Estimated % of residences within 2-miles biking distance of an existing bicycle facility	100% of residences in both cities are inside 2-miles buffers.	
1	1	1.1.3	1.2 Access to jobs (Performance Measures Guidebook)	Estimated % of jobs within a ¼ mile of walking distance from an existing pedestrian facility. Except Airport	GF: Increase to 100% in 5-years EGF: TBD	GF: Currently 90% of jobs are within ¼ mile of a sidewalk. EGF: TBD Currently 91-92% of jobs are within 1/4 mile of a sidewalk
				Estimated % of jobs within 2-miles biking distance of an existing bicycle facility	99.9% of jobs in both cities are inside 2-miles buffers. Except GF Airport	

[8] https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/performance_measures_guidebook/pm_guidebook.pdf

GOAL 1: ACTION INITIATIVES

MONITORING ACTIVITIES

Local government's staff, in cooperation with related stakeholders, including MPO staff is will:

EVERY TWO YEARS

- Assess the accessibility & proximity of pedestrian, bicycle, and transit infrastructure and services to origins and destinations (e.g., employment, shopping, recreation, entertainment, etc.).
- Assess the number of jobs located within ¼ mile walking distance from sidewalks or 2 miles biking distance from any bikeway facility.

- Link investments in land use and transportation as they account for Office, Retail and Other Completed Annual Development (ft^2).This measure tracks office, retail, residential, hotel, and other completed developments by square footage in the area's bicycle corridors.

Commercial developments are attractors of Shopping-based trips. These sorts of trips depend on several factors:

- Number of Retail Workers
- Type of Retail Available
- Area of Retail Available
- Location

Among others, these factors serve to explain number of trips and corresponding mode share. The objective is to measure the amount of land consumed by new pedestrian and bicycle-related transportation infrastructure and/or new development served by new transportation infrastructure.

- Generate maps and other visualization tools to illustrate number of jobs (employment activities) as they related to (distance from, travel time, densities, and number of destinations) located within walking and biking distances and radius from employment and destinations supporting economic development.

EVERY FIVE YEARS

Every five years, Local government's staff, in cooperation with related stakeholders, including MPO staff is encouraged to assess, evaluate and report on the progress of the proposed of these selected pedestrian and bicyclist performance measures.

Goal 2. Security	*Increase security of the transportation system for motorized and non-motorized users.*

OBJECTIVE 1: ***Identify and implement programs to improve the security for both the users and the existing bicycle and pedestrian facilities.***

STANDARDS		
	2.1.1	Provide a forum for security/safety agencies to coordinate surveillance and strategies that will prevent, reduce the impact of harmful activities on the components of a multi-modal transportation system.
	2.1.2	Develop measurable data points to evaluate the security of the on-road and off- road facilities in critical areas of the bicycle system and pedestrian network.
	2.1.3	Continue encouraging police on bikes program to patrol bicycle and pedestrian facilities to enhance system's and user's security.

GOAL 2: SECURITY PERFORMANCE MEASURES

See: Goal 2: See: Action Initiatives

GOAL 2: ACTION INITIATIVES

Local government's staff, in cooperation with related stakeholders, including MPO staff is will:

MONITORING ACTIVITIES

Track at least every year, every two years and at least every five years the installation and proper functioning of the following elements of the bicycle system and pedestrian network:

- Number of street lights installed
- Number of hours spent by police on bicycles annually (only if the Police Departments feel that this performance measure is reasonable in their eyes)
- Number of intersections with traffic signal preemption for emergency vehicles
- Number of intersections with backup power

EVERY TWO YEARS

Sidewalk Inspections are an important tool to assure pedestrian's walkability, accessibility and mobility. It is suggested, that Walkability Audits or similar activities be undertaken by Local government's staff, in cooperation with related stakeholders, including MPO staff to:

I. *To document and visualize the presence/absence/condition of the sidewalk network and bicycle system. Walkability Audits or Checklist or similar tools available may serve to support unbiased examination /evaluation of the walking and biking environment.*

II. *To identify concerns for pedestrians and bicyclists related to the safety, access, comfort, and convenience of the environment. In addition to identifying problem areas, an audit can be used to identify potential alternatives or solutions (such as engineering treatments, policy changes, or education and enforcement measures).”*

Goal 3: Accessibility & Mobility	*Increase the accessibility and mobility options for people and freight by providing more transportation choices.*

OBJECTIVE 1: ***Provide a complete bicycling and pedestrian network that connects to destinations and other transportation modes and facilities (e.g., remove barriers, add crossings, fill gaps, and connect spurs to existing networks).***

STANDARDS	**3.1.1**	Provide connections that meet pedestrian's and bicyclist's expectations (continuity, directness, convenience, and linkages with other routes) when designing, extending, or improving pedestrian system and bicycle networks.
	3.1.2	Identify and rank existing gaps in the pedestrian network and bicycle system to prioritize filling system's gaps.
	3.1.3	Improve bicyclist and pedestrian way finding signage.
	3.1.4	Improve bike and pedestrian maps to facilitate user's access, connections, mobility and regular enjoyment of the system.
	3.1.5	Recognize and consider social, financial and legal challenges.

OBJECTIVE 2: ***Enhance existing pedestrian and bicycle infrastructure to address the unique mobility, access, and connectivity needs of bicyclist[9] and pedestrians and other non-motorized user's in local neighborhoods and communities.***

STANDARDS	**3.2.1**	Support coordination on best practices and options to advance inventories, condition assessments, in-fills and repairs of existing pedestrian network and bicycle system's facilities.
	3.2.2	Follow FHWA and ADA requirements when retrofitting existing transportation facilities where pedestrian and/or bicycle access to bridges, roadways, terminals and access points is limited; alternative options and safe and convenient connections are provided for the betterment of pedestrian and bicycle users.

[9] In most communities, significant obstacles exist in all four areas: Safety, Convenience, Social Acceptability and Access. Change Lab Solutions (2013). *Getting the Wheels Rolling*.

OBJECTIVE 3: ***Increase access to the sidewalk network and bicycle's system facilities for all users and assist them in ensuring mobility, well-being and quality of life without undue burden placed on any community.***

STANDARDS		
	3.3.1	Support and develop multimodal connections that provide equitable access to goods, services, opportunities and destinations.
	3.3.2	Identify and work towards the elimination of physical barriers and system's gaps to walking and biking in transportation disadvantaged communities.
	3.3.3	Identify physical and demographic local and other mobility, planning, connectivity barriers that may impact people's ability to walk or bike.

GOAL 3: ACCESSIBILITY & MOBILITY

PERFORMANCE MEASURES

Goal	Objective	Standard	Topic	Performance Measure	Performance Target	Data Sources/ Gathered By:
8	3	8.2.3	3.1 Accessibility	Number of ADA curb ramps installed into existing sidewalks / shared use paths annually & every five years	EGF: After 10 years, 40% of accessibility features that were constructed after January 26, 1991, would be ADA compliant. GF: 44 Ramps Retrofitted /Year	Inventory data for: Baseline to be provided by Departments of Engineering
8 5	3 5	8.2.3 8.5.4		Miles of sidewalk installed annually	EGF: Install at least 0.25 Miles/Year or 1.25 Miles in five years. GF: 1.0 miles of new/repaired sidewalks (GF) per year for the next five years. Estimated Sidewalk construction 2012-2015: EGF: 5.50 Miles GF: 17.58 Miles	

8 7	3 1	8.2.3 7.1.3		Miles of proposed bicycle facilities installed annually	GF: Build 2-Miles per year or 10 Miles of planned Bicycle Facilities in the next five years EGF: Build 0.5 Miles per year or 2.5 Miles of planned Bicycle Facilities in the next five years	
3	3	3.3.1	3.3 Mobility	Commute Mode Share	Increase Commuting Share by 25% in next five years by 5% per year by Mode for Grand Forks at Existing: Bicycle 1.0 =1.25 Walked 4.1=5.1 East Grand Forks at Existing: Bicycle 0.1 =0.125 Walked 2.0 =2.5	As reported by the American Community Survey (ACS) 5-Years Estimates

GOAL 3: ACTION INITIATIVES

Local government's staff, in cooperation with related stakeholders, including MPO staff will:

- Consider the characteristics of the performance measures described to measure *Access to Community Destinations* (*Goal 1*) and *inventory data* required local jurisdictions and related stakeholders should maintain an inventory of sidewalk facilities, signalized intersections, pedestrian signals, and audible signals to increase the safety of sidewalk and roadway users, including children and those members of vulnerable populations.

MONITORING ACTIVITIES

Local government's staff, in cooperation with related stakeholders, including MPO staff will:

Track at least every year, every two years and at least every five years bicycle and pedestrian system access to key local destinations – including transit, schools, home/work, Greenway trail, and commercial destinations by reporting on the condition of the following elements:

- Number of new ADA curb ramps installed annually
- Number of ADA curb ramps retrofitted into existing sidewalks/shared use paths annually
- Miles of sidewalk installed annually
- Miles of bicycle facilities installed annually

The assessment should consider the requirements outlined by the Americans with Disability Act (*ADA*) for connecting pedestrian infrastructure (*including sidewalks and pathways*), to be equitably accessible for persons with disabilities and/or mobility devices. These measures are a requirement of an ADA right–of-way Transition Plan that each agency must have and maintain.

EVERY TWO YEARS

Elaborate a plan to complete all necessary curb ramps, and report on progress toward ADA compliance. Finding results will be communicated to decision-makers and stakeholders through the Performance Measure Report produced by MPO staff.

Measure reliance on the Single-Occupancy Vehicle (*SOV*) to determine typical household expenditures in transportation and other data sources used to measure mobility.

Using housing, employment, and transportation data, -if possible- measure the total number of jobs that may be accessed within a ¼ mile of walking distance or 2-mile biking distance of existing or planned pedestrian and or bicycle facilities.

EVERY FIVE YEARS

Local jurisdictions and related stakeholders should maintain an updated inventory of sidewalk facilities, signalized intersections, pedestrian signals, and audible signals to increase the safety of sidewalk and roadway users, including children and those members of vulnerable populations.

Goal 4: Environmental/ Energy/Quality of Life	*Protect and enhance the environment, promote energy conservation, and improve quality of life by valuing the unique qualities of all communities –whether urban, suburban, or rural.*

OBJECTIVE 1: QUALITY OF LIFE: SUSTAINABILITY

Promote walking and biking to help achieve public health goals to improve air quality, and increase access to physical activity and healthy food to help reduce the risk of chronic diseases.

STANDARDS	
	4.1.1 Promote the use of the existing pedestrian network and bicycle system as an opportunity to help reduce emissions and traffic congestion.
	4.1.2 Promote the use of the existing pedestrian network and bicycle system as an opportunity to help increase current level of bicycling and walking mode shares.
	4.1.3 Promote "*zero emission*" technological innovations that increase interest in walking and biking, such as software applications, as well as, "*zero emission*" bikes, mobility devices and bike-share programs.

OBJECTIVE 2:

Reduce travel time and improve access jobs and community destinations.

STANDARD	
	4.2.1 Improve walking and cycling conditions on the existing bicycle system and pedestrian network.
	4.2.2 Promote cycling activities and walking commute campaigns to highlight number of workers and worksites with the highest commutes by non-motorized modes.

OBJECTIVE 3: QUALITY OF LIFE: HEALTH

Promote walking and biking to help achieve local, regional, state, and federal environmental goals to reduce vehicle miles traveled, reduce greenhouse gas emissions, and improve air quality.

STANDARDS	
	4.3.1 Prioritize work with local jurisdictions to assess infrastructure investments and transportation option programs that encourage walking and biking for short and moderate distance trips.
	4.3.2 Communicate the value of walking and biking and their relationship to health outcomes.
	4.3.3 Provide pedestrian and bicycle transportation choices to help people improve their diet with access to healthy, nutritious food, healthy goods and services.

OBJECTIVE 4: QUALITY OF LIFE: LIVABILITY

Support the implementation and promotion of a Bike Share program to increase mobility options and access to destinations throughout the community.

STANDARDS	**4.4.1**	Support Bike Share as an amenity to improve access to destinations such as the Downtown and UND.
	4.4.2	Help promote Bike Share as a way to attract business investment, talent retention, and tourism to the community.
	4.4.3	Support Bike Share as a mobility option to improve access to transit and destinations.

OBJECTIVE 5: ***Strengthen the integration of walking and bicycling into community planning to enhance livability, health, transportation, the environment, and economic development.***

STANDARDS	**4.5.1**	Update City policies and ordinances to foster desired walking and biking outcomes.
	4.5.2	Encourage local land use policies and practices that support increased bicycling and walking and add to the overall livability and vitality of communities.
	4.5.3	Continue delivering training activities to educate stakeholders including staff and leadership on the benefits of active transportation to our community.
	4.5.4	Improve local standing on the *Bicycle Friendly Community Program*, and work toward meeting the required attributes that make a community bicycle friendly.
	4.5.5	Initiate process to apply for to the *Walkable Friendly Community Program,* and work toward meeting the required attributes that make a community walkable friendly.

OBJECTIVE 6: QUALITY OF LIFE: EQUITY

Assure transportation disadvantaged communities are served and included in decision making.

STANDARDS	
	4.6.1 Utilize mapping tools, Census data, and/or other information sources to identify underserved areas, looking at demographic characteristics to assess transportation needs associated with disadvantaged communities.
	4.6.2 Encourage Safe Routes to School projects (both education and infrastructure) to address bicycle and pedestrian needs near "*Title 1*" designated schools.[10]
	4.6.3 Identify physical barriers and system gaps to walking and biking in the system; particularly, in Environmental Justice communities.
	4.6.4 Encourage people from all walks of life to participate in transportation decision-making.

[10] Title 1 funds aim to bridge the gap between low-income students and other students. The U.S. Department of Education provides supplemental funding to local school districts to meet the needs of at-risk and low-income students. http://www.brighthubeducation.com/teaching-methods-tips/11105-basics-of-title-1-funds/

GOAL 4: ENVIRONMENTAL/ENERGY/QUALITY OF LIFE

PERFORMANCE MEASURES

Goal	Objective	Standard	Topic	Performance Measure	Performance Target	Data Sources/ Gathered By:
4 4 4 4	2 6 6 6	4.2.1 4.6.1 4.6.2 4.6.3	Transportation disadvantaged Population served (as defined in EJ Manual)	Percent of transportation-disadvantaged population within a 2-miles biking distance to an existing bike path, or shared use path.	100% of Environmental Justice population in both cities is inside 2-miles buffers.	
1 1 3	1 1 3	1.1.1 1.1.6 3.3.1	4.3 Physical Activity and Health	Percent/Increase/ Decrease of walking trips	Increase by 550 (15% number of bicyclists and pedestrians) on the Greenway Increase by 30 (10% annually) – in the next five years- the number of Elementary students biking or walking to school as measured at the Bike-Walk to School Day	Local Counts: Greenway Trail: 3853 Biking:2234 Walking:1616 (2015) Walk-Bike to School Day: 300 (2017)
3 4	3 3	3.3.2 4.3.3		Percent increase/decrease of bicycle trips		

GOAL 4: ACTION INITIATIVES

Provide opportunities to residents to become more active and healthy by walking and biking to meet their daily needs. Local government's staff, in cooperation with related stakeholders, including MPO staff will:

- Regularly monitor and evaluate the implementation of strategies suggested to promote Active Transportation modes of transportation as they help pedestrian and bicyclists to meet their daily exercise and transportation needs.

- Support their respective jurisdictions in their quest toward the completion of the *10 Key Steps* to silver.

MONITORING ACTIVITIES

The following Goals, Objectives and Standards are included in this 2045 Bicycle and Pedestrian Element *(2017)* to support our Community's Application to the program:

Step	10 Key Steps to Silver Bicycle Friendly Community Program Requirements to Silver for Greater Grand Forks (ND & MN)	2045 Bicycle & Pedestrian Element (2017)		
		Goal	Objective	Standard
1	Adopt a Complete Streets policy and offer implementation guidance	5	3	5. 3. 1
2	Adopt standards for bike parking that conform to APBP guidelines.	6	1	6. 1. 1
3	Increase the amount of high quality bicycle parking throughout the community	3	1	3. 1. 3
4	Install a bicycle wayfinding system with distance and destination information.	3	1	3. 1. 1
5	Continue to expand the on street bike network and to increase network connectivity.	6	1	6. 1. 1
		1	1	1. 1. 1
6	Expand the Safe Routes to School program.	4	6	4. 6. 2
		8	4	8. 4. 1
7	Offer bicycling skills training opportunities for adults frequently	8	3	8. 3. 3
8	Celebrate Bike to Work Day	8	3	8. 3. 4
9	Encourage local businesses to promote cycling to their employees and customers. Encourage the University of North Dakota to promote cycling to students, staff, and faculty	1	1	1. 1. 3
10	Ask police officers to target both motorist and cyclist infractions to ensure that laws are being followed by all road users. Ensure that bicycle/motor vehicle crashes are investigated thoroughly and that citations are given fairly	8	5	8. 5. 1
		8	6	8. 6. 1

EVERY TWO YEARS

Regularly monitor and evaluate the implementation of strategies suggested to promote Active Transportation modes of transportation as they help pedestrian and bicyclists to meet their daily exercise and transportation needs.

In cooperation with relevant local government staff and stakeholders support health coalitions and community stakeholders in their activities to assess the impact of transportation on health outcomes.

EVERY FIVE YEARS

In cooperation with relevant local government staff and stakeholders, support health coalitions and community organizations in their efforts to establish partnerships to regularly assess and quantify the health impact of physical activity attributable to transportation activities whether for economic, recreational or leisure purposes.

Stakeholders may choose the most appropriate measure to represent progress. According to the Transportation Health Impact Analysis (*HIAs*), some strategies recommended to assess the impact of transportation on health outcomes include:[11]

- Encourage Safe Routes to School programs to enable children to walk and bike to school safely.
- Construct a connected network of multi-use trails.
- Accommodate all roadway users with comprehensive street design measures such as "*complete streets,*" including sidewalks, bicycle lanes, and share-the-road signs that provide safe and convenient travel for all users of the roadway.
- Separate motor-vehicle traffic from non-motorized traffic with physical barriers, such as the construction of bicycle boulevards.
- Prioritize infrastructure improvements near transit stops and public transportation stations.
- Provide safe and convenient bicycle and pedestrian connections to public parks and recreation areas.
- Promote safe roadway crossing through use of small block sizes, pedestrian refuge islands, and cross-walks.
- Provide streetscape amenities such as benches, landscaping, lighting, and public art.
- Encourage way-finding with signs, maps, and landscape cues to direct pedestrians and bicyclists to the most direct route.
- Encourage bicycle parking at workplaces and transit stops.

- Encourage the development of street-level shopping and restaurants along pedestrian and bicycle routes.
- Educate bicyclists and pedestrians on state and local laws, as well as on safe practices.

Most of these proposed strategies are included in the current Element update as standards to achieve established goals and objectives.

[11] https://www.cdc.gov/healthyplaces/transportation/promote_strategy.htm

Goal 5: Integration & Connectivity	*Enhance the integration and connectivity of the transportation system, across and between modes for people and freight, and housing, particularly affordable housing located close to transit.*

OBJECTIVE 1:

Invest in bicycle and pedestrian routes that improve connectivity and access to community destinations.[12]

STANDARD		
	5.1.1	Provide direct and convenient connections to residential areas and schools, work sites, neighborhood shopping, and transit stops.
	5.1.2	Sidewalk Gaps in Urban Areas: Along properties with deficient pedestrian accommodations, and where redevelopment is not expected to take place within five years, continuous pedestrian passage should be provided by the local jurisdictions in advance of complete redevelopment**.**

OBJECTIVE 2:

Improve access to transit, via sidewalks and walkways around transit stops, designated on-road and off-road bike routes.

STANDARDS		
	5.2.1	Build and maintain partnerships with Cities Area Transit Agency to facilitate network connections with non-motorized travelers.
	5.2.2	Coordinate with Cities Area Transit Agency to ensure that an existing and planned transit service is integrated in facility design and identify opportunities to remove physical barriers for non-motorized transportation in access to transit and at destinations.
	5.2.3	Ensure transit stops are accessible for all pedestrians and bicyclists, including those with mobility and visually impaired disabilities, to reach their destinations.
	5.2.4	Support pedestrian and bicycle routes connections to transit and to other modes of transportation and their facilities.

[12] See: Access to Community Destinations: Semler, Conor, West Adam, Kingsley, Karla, Mah, Susan Mah, Kittelson, and Wayne et al (2016) Guidebook for Developing Pedestrian and Bicycle Performance Measures. U.S. Department of Transportation Federal Highway Administration (FHWA).

	5.2.5 Support "*first and last mile*" connections to improve access to transit for people who walk and bike, to facilitate a seamless and convenient travel experience, and to attract more transit riders.
	5.2.6 Ensure that opportunities to remove physical barriers for pedestrians and bicyclist in access to transit facilities are identified when improving the pedestrian network and bicycle system.

OBJECTIVE 3: ***Promote complete streets and the application of context-sensitive complete streets treatments, including during construction and rehabilitation of new and existing facilities and networks.***

STANDARDS	**5.3.1** Consider adopting a Complete Street Policy to balance the competing needs of different transportation modes within the unique contexts of each roadway. **5.3.2** Support best practices for complete streets, and initiate a technical assistance program to help local agencies develop street designs that are sensitive to their surroundings and context.
	5.3.3 Take steps to improve crosswalks, transit stops, and along main access routes to transit with higher priority for environmental justice communities.

GOAL 5: INTEGRATION & CONNECTIVITY

PERFORMANCE MEASURES

Goal	Objective	Standard	Topic	Performance Measure	Performance Target	Data Sources/ Gathered By:
3	3	3.3.1	5.1 Bicycle boarding on buses.	Percent of transit shelters on fixed routes that are accessible and are adjacent to bike network	Increase to 70% in the next five years (25 of 35 shelters) Currently 19 of 35 (54%) transit shelters are adjacent to bike network	Cities Area Transit Agency
				Percent of fixed-route transit vehicles equipped with racks to accommodate bicycles	Target 100%	

GOAL 5: ACTION INITIATIVES

Local government's staff, in cooperation with related stakeholders, including MPO staff will:

- Assure completeness, integration and connectivity of the bicycle system and pedestrian network.
- Identify and remove physical barriers and close gaps that may curtail user's ability to reach their destinations.
- Assure integration of transit to the pedestrian network and bicycle system to improve connectivity between low income and minority populations to major employment and activity centers.
- Evaluate the level of transit, pedestrian and bicycle activity continuously.

MONITORING ACTIVITIES

Local government's staff, in cooperation with related stakeholders, including MPO staff is encouraged to review any existing ADA Transition Plans for compliance with (North Dakota DOT, Minnesota DOT, City of Grand Forks and City of East Grand Forks).

EVERY TWO YEARS

Local government's staff, in cooperation with related stakeholders, including MPO staff will:

- Use a "*check list*" approach, and endeavor to document and visualize the presence/absence/condition of:

    a. Sidewalks and walkways around transit stops,
    b. Designated bike routes and directional signage,
    c. On-board bike racks,
    d. Better wayfinding signs for transit access to improve accessibility for the disabled and other residents.

Stakeholders will assess whether the presence/absence/condition of those elements in proximity to bus stops, proximity to school zones and access to multi-use pathways and to the Greenway Trail Network contributes to improvements in the system and network integration and connectivity.

The "*check list*" approach should document and visualize construction and repair activities and assess whether these improvements contribute to system and network integration and connectivity. The "*check list*" approach should be implemented at the neighborhood or school boundary level or at a geographic scale that makes advancing the proposed exercise more "*doable*."

EVERY FIVE YEARS

Update inventory of all the components of a pedestrian network and bicycle system and track number of miles added each year to baseline network of:

- Sidewalks, trails, shared roadways, multi-use pathways, on-street/off street facilities.

- Elaborate an updated inventory of new and/or renovated curb ramps.

Goal 6: Efficient System Management	*Promote efficient system management and operation by increasing collaboration among federal, state, local government to better target investments and improve accountability.*

OBJECTIVE 1: ***Provide an efficient and cost effective transportation system.***

STANDARDS	**6.1.1**	Consider the installation of bike and pedestrian facilities during street repair, renovation, or construction to reduce cost, improve connectivity and ease of access.
	6.1.2	Promote stakeholder's involvement in coordinated transportation planning and prioritization processes.
	6.1.3	Compare performance of local pedestrian, bicycle and transit systems (bike on racks & other connectivity related programs) to similar communities.
	6.1.4	Distribute pedestrian and bicycle facility improvements and investments throughout the community. Ensure all neighborhoods or subareas receive the appropriate emphasis regardless of their geographic location.

OBJECTIVE 2: ***Identify potential sources of funding to financially support each proposed improvement included in the GF/EGF MPO Transportation Plans.***

STANDARDS	**6.2.1**	Recognize financial and fiscal constraints by identifying all available funding sources and corresponding amounts.
	6.2.2	Identify funding sources that can be used for operations, maintenance, and preservation of existing bicycle system and pedestrian networks and supporting facilities.

GOAL 6: EFFICIENT SYSTEM MANAGEMENT

PERFORMANCE MEASURES

Goal	Objective	Standard	Topic	Performance Measure	Performance Target	Data Sources/ Gathered By:
6	2	6.2.1	6.1 Comparison of programmed dollar amounts to actual obligated dollar amounts.	Have no greater than 25 percent variance when comparing programmed dollar amounts to the actual obligated dollar amounts for projects listed in the GF/EGF MPO TIP.	Target #0 MPO Annual Report	MPO TIP/Financial
6	2	6.2.2				
6	2	6.2.1	6.2 Grant Applications	Number successful Applications for Transportation Alternatives or Safe Routes to School Grants per every year.	Target: 1Application for each city	MPO TIP/Financial

GOAL 6: ACTION INITIATIVES

The objective is to measure the efficient accommodation of bicycle and pedestrian activities on the street network as expressed through the Financial Investments performance measures included. These activities could be advanced by MPO's staff and supported by local government staff and stakeholders.

MONITORING ACTIVITIES

EVERY TWO YEARS

Local government's staff, in cooperation with related stakeholders, including MPO staff will:

- Compare the actual project expenditures to the amounts programed in the local and state investment plans (e.g., TIPs and STIPs).
- Determine whether cost adjustments may be appropriate in the annual listing of obligations identified in the TIP.
- Evaluate the cost sharing opportunities for transportation projects.
- Establish % of active transportation funding invested in disadvantaged communities.

- Determine the % of funds obligated for transportation projects.
- Compare annually the amount of obligated funds to actual expenditures for projects listed in the GF/EGF MPO TIP.

Goal 7: System Preservation	*Emphasize the preservation of the existing transportation system by first targeting federal funds towards existing infrastructure to spur revitalization, promote urban landscapes and protect rural landscapes.*

OBJECTIVE 1: ***Preserve, maintain, and improve the existing bicycle system and sidewalk network.***

STANDARDS	**7.1.1** Increase support for bicycling and walking as travel modes through installation, and maintenance of dynamic lighting and traffic calming devices, especially in congested areas, school zones, central business districts, activity centers and high volume bicycle/pedestrian/automobile roadways.
	7.1.2 Report on the condition of the roadways supporting the on-street bicycle network.
	7.1.3 Support the existing pedestrian system by reporting on the condition of sidewalks, curb ramps, and crosswalks and other features of the sidewalk network.
	7.1.4 Provide adequate facilities (such as sidewalks, crosswalks, shoulders, and bike paths/lanes) for non-motorized users.
	7.1.5 Prioritize on-road and off-road bicycle system and sidewalk network repairs to meet the minimum accepted conditions.

OBJECTIVE 2: ***Improve the cost-effectiveness of maintenance and preservation of the existing pavement***.

STANDARDS	**7.2.1** Maintain pavement, sidewalks, and crosswalks; curb ramps, signal timing, and other features of the sidewalk network and bicycle's system characteristics to a level that permits safe, direct bike and pedestrian movements, and facility continuity.
	7.2.2 Schedule preventative maintenance and overlays before sidewalks and bikeway surfaces are deteriorated.

GOAL 7: SYSTEM PRESERVATION

PERFORMANCE MEASURES

Goal	Objective	Standard	Topic	Performance Measure	Performance Target	Data Sources/ Gathered By:
7	1	7.1.2	7.2 Pavement Condition (on bicycle network facilities)	Percent good and poor pavement condition rated for Non-National Highway System (NHS) roads with on road bike facilities	Increase to 40% the miles rated as good (Currently 15% rated Good) 5% miles rated as poor (Currently 0% rated Poor)	According to results from Pavement Condition Analysis Study. Last study was done in 2014
7	2	7.2.1				
7	1	7.1.2	7.3 Bridge condition (on bicycle network facilities)	Percent of Bridge Structures NHS/Non-interstate leading to bicycle facilities. The focus is on Bridge Structures that are part of network	Increase to 100% the number of bridge structures with Multi-use trails rating condition equal to or greater than 60%	Ratings: 2016 US Hwy Over Ped/83.1 River Rd/Gateway: 79.8 J.F Kennedy: 48* A.G Sorlie: 50.4* L. Murray M: 75.4 Bygland Rd/Over Stream: 81.9 Bygland Rd/Over Stream: 97.5 Current rating: 71% Pedestrian Bridges are not rated *Rehabilitation work not included

GOAL 7: ACTION INITIATIVES

The objective is to support the efforts made by local jurisdictions and related stakeholders to:

- Develop comprehensive programs to preserve, maintain, and improve the condition of the existing bicycle system and sidewalk network.
- Implement critical analysis of physical condition and state of repair for pedestrian and bicycle facilities.
- Assure facilities located on the pedestrian network and bicycle roadway system are walkable, rideable and accessible to all users regardless of their ability.

- Advance an inventory of improvements made by local jurisdictions and related stakeholders to maintain and / or modernize critical components of the existing pedestrian network and bicycle system including existing traffic signals, wayfinding signs, and related elements to improve safety and mobility.

MONITORING ACTIVITIES

Local government's staff, in cooperation with related stakeholders, including MPO staff will:

EVERY YEAR

In cooperation with local government staff and stakeholders MPO's staff will:

- Support and assist in the preparation of applications and their submission to funding sources that promote safe bicycling, pedestrian and trail facilities and related activities for all ages.

- Track the percentage of federal funds programs that is put toward existing and new bicycle and pedestrian infrastructure.

EVERY TWO YEARS

- Track the number of miles of "*good, satisfactory, and poor*" quality miles of roadway in the GF/EGF region and establish how the results support bicyclist's access to the roadway system.

- Track the number of Improvements made by local jurisdictions to modernize modernize critical components of the existing pedestrian network and bicycle system including existing traffic signals, wayfinding signs, and related elements to improve safety and mobility.

EVERY 5 YEARS

As part of the Long Range Transportation Plan's performance measures review, MPO's staff, in cooperation with local government staff and stakeholders will:

- Update *Pavement Quality Index* program for metro area, and

- Establish how the performance review results support bicyclist's ride ability and access to the roadway system.

- Identify the maintenance of the bicycle and pedestrian network that facilitates access to the system to vulnerable populations, support safe walking and biking to and from school, and allow for recreational opportunities.

Goal 8: Safety	*Increase safety of the transportation system for motorized and non-motorized uses.*

OBJECTIVE 1: ***Provide safe and well-designed streets and highways to accommodate a variety of users by meeting accepted design standards.***

STANDARDS	**8.1.1**	Reduce pedestrian exposure time by minimizing crossing distances when possible with the construction of bulbs outs, pedestrian islands, or other safety countermeasures.
	8.1.2	Use design treatments to improve safety where speed has been a contributor to pedestrian or bicyclist crashes or where speed is thought to be a significant safety risk factor.
	8.1.3	Prioritize intersection improvements, lane and roadway width, on-street parking, street trees, sidewalks, planting strips, frequency of pedestrian crossings and other street amenities such as bicycle parking that creates a safer and more comfortable walking and biking environment.
	8.1.4	Keep vehicles from encroaching on the roadside in rural areas by widening and or/paving shoulders.[13]

OBJECTIVE 2[14]: ***Reduce frequency and severity of conflicts through traffic control and operational improvements in urban areas.***

STANDARDS	**8.2.1**	Assess placement of "*no right on red*" sign, particularly when used in conjunction with "*when children are present*" signage for consistent use and continue the installation of pedestrian countdown timers.
	8.2.2	Continue to install countdown timers, advanced walk phase, and other low-cost pedestrian/bicycle facility improvements
	8.2.3	Continue installation of flashing signals at bicycle/pedestrian crossings and school crossings, and continue to investigate potential locations for the installation of High Activate Cross walk beacon (HAWK).

[13] Objective and Standard have been taken from the ND-MN State Highway Safety Plan.
[14] Objective and Standard have been taken from the ND-MN State Highway Safety Plan.

OBJECTIVE 3: ***Continue to support the implementation of comprehensive 6E's programs: Education, Enforcement, Encouragement, Equity, Engineering, Evaluation, and other safety related programs targeted to school-age and interested populations.***

STANDARD	**8.3.1**	Encourage non-motorized transportation programs that benefit pedestrians, bicyclists, motorists, and public transit users.
	8.3.2	Continue and expand bikeway and wayfinding signage on existing/future sidewalk and bicycle system.
	8.3.3	Work with local stakeholders to promote sidewalk network and bicycle's system events such as "*Bike/Walk to Work/School Day*," "*Ride-to-Learn*" and bicycle safety courses.[15]
	8.3.4	Identify existing or develop new materials as needed to address bicycle and pedestrian needs of targeted audiences and seek creative distribution methods and partnerships to disseminate information.
	8.3.5	Continue using the existing ND & MN Department of Transportation bicycle and pedestrian crash databases for analysis, monitoring and implementation of safety improvements.
	8.3.6	Identify and share educational materials and other best practices that support safe behaviors for bicyclists and pedestrians and their interaction with other modes. Deliver materials through traditional networks such as the Safe Routes to School, Transportation Options programs and others, and seek new innovative partnerships and mechanisms for delivery of materials to target selected audiences.
	8.3.7	Research barriers, opportunities, and best practices for safely accommodating skateboarders, roller-bladers, and others who use similar devices on the pedestrian and bicycle system.

OBJECTIVE 4: ***Continue supporting the development and sustainability of Safe Routes to School and related programs through funding, partnerships, model programs and other technical assistance.***

STANDARDS	**8.4.1**	Build and maintain partnerships with public and private school districts, and other multimodal stakeholders through collaborative efforts to endorse, promote and implement Safe Routes to School Programs.
	8.4.2	Take advantage of existing, and explore other state and federal funding options for bicycle and pedestrian infrastructure and non-infrastructure initiatives, including Safe Routes to School projects; support program design, grand request and program evaluation.

[15] Cowan, David, Ping, Robert (2011). Bicycle and Pedestrian Curricula Guide: Making the Case for Bicycle and Pedestrian Youth Education. *Safe Routes to School National Partnership.*

OBJECTIVE 5: ***Continue to improve/enforce bicycling and walking safety measures on the existing sidewalk network and bicycle's system; particularly in areas adjacent to school zones and college campuses.***

STANDARDS	**8.5.1** Increase and maintain positive support for enforcement programs for safe walking and bicycling behaviors, particularly during periods of peak public awareness.
	8.5.2 Prioritize curb extension or median island to improve sight distance at signalized and un-signalized intersections in urban areas. [16]
	8.5.3 Construct roundabouts at appropriate locations.[17]
	8.5.4 Install pedestrian or bicycle or multi-use facilities at appropriate locations.[18]
	8.5.5 Continue to implement active speed warning signs, including dynamic message boards at rural to urban transitions, school zones, and work zones.[19]

OBJECTIVE 6: ***Support behavioral traffic safety strategies to reduce serious and fatal pedestrian and bicyclist crashes and to foster improved safety on both state and local roadways on North Dakota and Minnesota.***

STANDARDS	**8.6.1** Increase coordination with law enforcement to create safe environments for bicycling and walking using a variety of resources available (e.g., enhanced enforcement of traffic laws, feedback signs), especially around schools and other high bicycle and pedestrian traffic areas.
	8.6.3 Track national guidance on emerging technologies that improve pedestrian or bicycle safety (e.g. pedestrian detection in crosswalks).

[16] Objective and Standard have been taken from the ND-MN State Highway Safety Plan.
[17] Objective and Standard have been taken from the ND-MN State Highway Safety Plan.
[18] Objective and Standard have been taken from the ND-MN State Highway Safety Plan.
[19] Objective and Standard have been taken from the ND-MN State Highway Safety Plan.

GOAL 8: SAFETY

PERFORMANCE MEASURES

Goal	Objective	Standard	Topic	Performance Measure	Performance Target	Data Sources/ Gathered By:
8	1	8.1.1	8.1 Reduce fatal, injury, total crash rates for bicyclists and pedestrians. Account for Annual Average:	Number of Non-motorized fatalities (GF-2010-16= 0) (EGF-2011-14= 0)	Zero Deaths	Sources: Performance Plan North Dakota Highway Safety Plan (2018) Minnesota Highway Safety Plan
				Number of Non-Motorized Serious Injuries (GF-2010-16= 10) (EGF-2010-15= 6)	3 or less	

GOAL 8: ACTION INITIATIVES

The objective is to ensure that the pedestrian network and bicycle system are safe, accessible and functional for all users. Actions to achieve proposed safety objectives include:

- Support improvements to the pedestrian network and bicycle system to facilitate safety through design, operations, and maintenance.
- Advancement of community outreach efforts to improve bicyclists and pedestrians' safety, reduce fatalities, injuries and property damages.
- Those efforts comprise: educational, enforcement, encouragement, equity and evaluation activities. Their purpose is to increase pedestrian's network and bicyclist's system safety.
- Increase awareness of the current laws regulating roadway usage for pedestrian, bicyclist and motorist.

MONITORING ACTIVITIES

Local government's staff, in cooperation with related stakeholders, including MPO staff will:

- Track
- Monitor
- Analyze, and
- Map

EVERY YEAR

- Annual Average number of fatal, serious injuries or property damage claims of bicyclists and/or pedestrians.

- Annual Average number of fatal, serious injuries or property damage claims of bicyclists and/or pedestrians.

- The number of crashes per volume of bicyclists and/or pedestrians over the year (crash rates)

- The location and number of bicycle-involved and/or pedestrian-involved crashes every year.

EVERY TWO YEARS

- Establish partnership with stakeholder agencies to evaluate 6E's community outreach efforts to increase safety and awareness of laws regulating roadway usage for pedestrian, bicyclist and motorist.

- Report on the efforts made by agencies and civic departments to advance campaigns in the following areas: Educational, enforcement, encouragement, equity and evaluation activities

Goal 9: Resiliency & Reliability	*Improve resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation.*

OBJECTIVE 1: ***Focus on adapting the transportation system to increase reliability and resiliency to the current and future impacts of extreme weather.***

STANDARDS	**9.1.1**	Maintain standard traffic control practices to facilitate bicycle and pedestrian movement in construction zones.
	9.1.2	Maintain a paved surface and remove temporary signs, debris, and other obstructions from the edge of the roadway after each day's work to ensure the safety of bicycle and pedestrian users.
	9.1.3	Ensure access to pedestrians, bicyclists and disabled people whenever pedestrian and bicycle facilities are affected by construction.
	9.1.4	Provide a systematic assessment and public notification of areas impacted by severe weather.
	9.1.5	Advance a thorough survey of flood protection and adaptation strategies suitable for different neighborhood types as they relate to the sidewalk network and bicycle's system.

OBJECTIVE 2: ***Maintain sidewalk and bicycle routes promptly to ensure that pedestrian and bicycle facilities remain usable for all.***

STANDARDS	**9.2.1**	Consider reviewing existing snow removal ordinance and enforcement mechanism from public sidewalks. With, or without a snow removal ordinance, a program should be undertaken to remind property owners and occupants to clear snow from their sidewalks in a timely manner.
	9.2.2	Conduct regular inspection and repair of street lights along local streets and undertake repair/replacement as needed.

GOAL 9: RESILIENCE & RELIABILITY

PERFORMANCE MEASURES

Goal	Objective	Standard	Topic	Performance Measure	Performance Target	Data Sources/ Gathered By:
9	1	9.1.4	9.1 System Reliability for Bicycle and Pedestrian Activities	Snow Removal: Report on a coordinated program for education and enforcement with the community	Reduce by 50% Number of Complaints received concerning Snow Removal Reduce by 50% Length of (Lft) sidewalk cleared as a result of a complaint. EGF: TBD Start system to track snow removal	Grand Forks-East Grand Forks Departments of Engineering Grand Forks #Complaints (2018) Estimated: 232 East Grand Forks: TBD (2018) Estimated: 18,860 Lft. (*311 calls*)
9	2	9.2.2				

GOAL 9: ACTION INITIATIVES

The objective is to design strategies to improve system reliability (for pedestrians and bicyclists) and to support community's livability and sustainability by increasing safety, decreasing incidents, and reducing unnecessary delays that increase air pollution and create negative economic impacts on households and businesses. Strategies that address the components of the multimodal transportation system include:

- Sidewalk snow removal by property owners
- Work zone management
- Adaptive traffic signal control
- Incident and emergency management
- Travel weather management
- Planned special events management

MPO's staff, in cooperation with local government staff and stakeholders will:

- Maintain coordination with regional/emergency/security/hazardous materials movement plans and personnel by designing strategies to improve system reliability, increasing safety, decreasing incidents, among others, caused by non-recurring events, such as weather conditions, work zones, special events and major incidents and emergencies that are not associated with overall infrastructure capacity.[20]

20 FHWA-HOP-12-004 (2012). The Role of Management & Operations Supporting Livability and Sustainability: A Primer

- Encourage local municipalities to develop a prioritized snow plowing schedule for bikeways, increase enforcement of the cities sidewalk snow removal Ordinances, and encourage landowners to responsibly maintain their sidewalks for the public's safety by educating and by holding them responsible for removing snow and ice themselves when precipitation occurs.

- Encourage local communities to reduce risk of slip and fall claims and mobility issues by regularly informing, enforcing and educating citizens on their snow removal responsibilities, good snow removal practices and encourage them to participate.

MONITORING ACTIVITIES

EVERY YEAR

MPO's staff, in cooperation with local government staff and stakeholders will:

- Collect traffic incident response and clearance times.
- Compare traffic incident response and clearance times from year to year.
- Collect data and report on time required to achieving bare lane conditions on main roads after winter events clear a snow storm.
- Collect detailed flood/emergency traffic incident information (where, when, why).
- Document security incidents involving pedestrians and bicyclists.

EVERY FIVE YEARS

- Evaluate coordination with regional/emergency/security/hazardous materials movement plans and personnel.

- Update Bike/Pedestrian Plan.

Goal 10: Tourism	*Enhance travel and tourism.*

OBJECTIVE 1: ***Establish partnerships to encourage biking and walking tourism activities that benefit the region's economy and other areas within the Planning region.***

STANDARDS	
	10.1.1 Support partnerships with the Grand Forks Convention & Visitors Bureau, Downtown groups and stakeholders to stimulate tourism and economic development by educating communities about opportunities to encourage pedestrian and bicycle tourism.
	10.1.2 Support walking and biking activities (for example, bringing your bike to visit), and share best practices from other state (s) or local communities that have successfully linked tourism, and economic development with walking and biking.

OBJECTIVE 2: ***Establish partnerships to foster pedestrian and bicycle tourism activities within the Planning region.***

STANDARDS	
	10.2.1 Support stakeholders in developing bicycle and pedestrian routes to support historic bicycling and walking tours within our heritage communities.
	10.2.2 Create a comprehensive website or digital map to identify routes, and to provide information on pedestrian and bicycling opportunities in the Greater Grand Forks Area.
	10.2.4 Support dissemination of printed information on pedestrian and bicycle tourist activities, such as maps, and other additional materials promoting natural and historic routes, scenic locations, and neighborhood tours.

OBJECTIVE 3: ***Develop a continuous, interconnected, and comprehensive system of bikeways and trails which includes segments in the Red River State Recreational Area Campground.***

STANDARDS	
	10.3.1 Construct, and promote an integrated system of bikeways, recreational and commuter bicycle and trail network that provides access to destinations, such as activity centers, schools, parks, open space, shopping areas, and employment areas, for pedestrians and cyclists as part of a multi-modal approach.
	10.3.2 Support the development of bikeways, recreational facilities and trails, including recreational loops, secondary trails, and neighborhood-scale connecting routes, as in integral part of the existing bicycle and pedestrian network.

GOAL 10: TOURISM

PERFORMANCE MEASURES

Goal	Objective	Standard	Topic	Performance Measure	Performance Target	Data Sources/ Gathered By:
10	2	10.2.1	10.1 Access to tourist sites & other community destinations	Number of Hotels adjacent to multi-use facilities	Increase by 2 hotels in next 5-years Currently 87.5% of the hotels are adjacent to a Multi-use facility	• Local parcel data

GOAL 10: ACTION INITIATIVES

Local government's staff, in cooperation with related stakeholders, including MPO staff will:

- Tract bicyclist and pedestrian access to tourist's and historical sites and community destinations.
- Continue to create and maintain bicycle and pedestrian facility information
- Identify gaps in network, and create and maintain visitor's and user's inventories.

MONITORING ACTIVITIES

EVERY TWO YEARS

Local government's staff, in cooperation with related stakeholders, including MPO staff will:

Report on the activities supporting the development and dissemination of information on pedestrian and bicycle tourist activities:

- Number of maps printed and distributed to schools, community agencies, visitors Bureau, hotels
- Number of additional materials promoting natural and historic routes, scenic areas, and tours
- Number of visitors to website to request Bikeway Maps
- Elaborate visitor counts to campground, recreational, commuter bicycle and pedestrian and trail networks to address changes in number of users and visitors.

Pedestrian Swinging Gates, Kittson Avenue at S 4th Street-Grand Forks-- Photo: © MPO Staff, 2017

PUBLIC INVOLVEMENT

Grand Forks-East Grand Forks MPO advances a 3C's "continuing, comprehensive and cooperative" planning process. The GF-EGF MPO makes every effort to involve the public, including selected demographic groups and geographic communities deemed to have historically been disproportionally impacted by the outcomes of the proposed transportation projects.

As a result, the MPO relies on the implementation of a number of public involvement techniques and the preparation of a number of events to get feedback from participants; clarify community's points of view and opinions; and techniques to enhance public involvement to facilitate transportation decision-making. As part of the public involvement process, the following activities were implemented:

ADVISORY COMMITTEE

MEMBERS ADVISORY COMMITTEE	
Ms. Jane Croeker, Resident & Bicyclist	Ms. Stephanie Halford, Planning Department, City of Grand Forks
Dr. Aaron Kennedy, University of North Dakota	Ms. Ali Rood, CAT Mobility Manager, Cities Area Transit
Mr. Bruce Kiefenheim, P. Eng. Resident & Bicyclist	Mr. Jesse Kardmas, North Dakota DOT
Mr. Art Young, Resident & Bicyclist	Mr. Darren Laesch, Minnesota DOT
Mr. Corey Birkholz, Options For Independent Living	Ms. Nancy Ellis, Director City Planning Department. City East Grand Forks
Mr. Allen Grasser, Director Engineering Department, City of Grand Forks	Mr. Jason Stodarhl, Director Public Works Department, City East Grand Forks
Ms. Jane Williams, Engineering Department, City of Grand Forks	Mr. Allen Anderson, Public Health Department, City of Grand Forks
Mr. Dave Kuharenko, Engineering Department, City of Grand Forks.	Ms. Patty Olsen, Specialist, Safe Kids Grand Forks
Officer Jeremy Moe, Police Department, City of Grand Forks	

The Advisory Committee was composed by a number of community residents, bicycle and pedestrian advocates, advocates for the disabled, Grand Forks Healthy Coalition, Grand Forks Police Department, Safe Kids and staff from the Engineering and Planning Departments from East Grand Forks and Grand Forks. Members participated in the following activities to update the Bicycle and Pedestrian Element:

- Visioning and Goals and Outreach; and Performance Measures and Targets
- Assessment of Existing Conditions & Trends
- Needs evaluation; and

- Identification of strategies programs and funding activities required to meet the vision and goals, performance measures and targets developed above.

The purpose of the Advisory Committee was to make recommendations to the appointed members of the Technical Advisory Committee, Planning Commissions, and Executive Policy Board on the update to the Pedestrian and Bicycle Plan. The group identified pedestrian and bicycle issues and needs; provided input on policy recommendations and proposed pedestrian and bicycle networks; and evaluated technical and financial constrained criteria for prioritizing project recommendations.

Supporting activities advanced by MPO staff in support of the Advisory Committee included:

a) The preparation of a "*membership focus document*" summarizing member responsibilities, time commitments, attendance requirements, and related activities.

b) Seeking a community-wide representation and participation of not-for-profit agencies, local governments, and related interest groups. These include contacts with Grand Forks Police, Grand Forks Department of Engineering, Planning; Healthy Grand Forks, North Dakota DOT, MNDOT, Safe Kids, University of North Dakota, in addition, support has been garnered from Grand Forks Public Health, Options for Independent Living, Cities Area Transit, and local businesses representatives.

Members of the Advisory Committee actively participated in the process of:

c) Identifying pedestrian and bicycle issues and needs;

d) Providing input on policy recommendations and proposed pedestrian and bicycle networks; and

d) Evaluating technical and financial constrained criteria for prioritizing project recommendations

Although members of the Advisory Committee were initially asked to attend six (6) structured and facilitated meetings; they attended about 12 meetings during the preparation of the training session and planning update process.[21] A complete description of activities, including Agendas and Minutes is included in the Appendix.

WORKING GROUP

The Working Group engaged volunteers, agency or local government(s) staff in the update of the Bicycle and Pedestrian Element. Members of the Working Group:

a) Lent their subject-matter expertise to identify cost effective and valuable priorities in support of the Bicycle and Pedestrian Plan Update.
b) Played an active role in the planning process by attending and participating –when available- all scheduled working group meetings and public meetings.
c) Members gathered input from community and community residents unable to attend meetings.

Four meetings were scheduled from May to December, 2016 to receive input from members of the Working Group. Members attended according to their time availability.

[21] Please see complete description in Appendix xx

MEMBERS WORKING GROUP*	
Ms. Bethany Satron, Polk Norman Mahnomen SHIP Wellness Coordinator	Mr. Art Young, Resident & Bicyclist
Ms. Frances Tougas, Public Health Director North Valley Health Center	Mr. Timothy Spraul, Resident & Bicyclist
Dr. Cynthia Schabb, Executive Director Global Friends	
Ms. Nicole Benson, Altru Health System	
Ms, Sarah Prout, Executive Director Grand Forks Downtown Development Association	
Dr. Will Gosnold, Professor Univ. North Dakota	
Ms. Leah Melquist, Healthy Grand Forks Coalition	*Agency and position at time of attendance

Members of the Working Group also assisted the Advisory Committee in drafting the Vision Statement, goals, objectives and performance measures proposed to guide the plan update.

PROJECT UPDATE KICK OFF

The initial meeting of the Advisory Committee included an introduction to the project and a question and answer session. The stakeholders participated in a facilitated exercise to identify issues and opportunities they saw within the region regarding bicycle and pedestrian planning. Local printed media reporters were present at or reported on various engagements. Please see supporting Activities below.

MEETING VENUES	
Grand Forks City Hall	East Grand Forks City Hall
	
Photo: © Grand Forks Herald	Photo: © MPO Staff, 2017

The training program consisted of the preparation and advancement of three main activities:

a) Bicycle & Pedestrian Training: A component of the Bicycle and Pedestrian Plan Update (April, 2016)
b) Complete Streets: Introduction to the 10 Elements (February, 2017)
c) Complete Streets: Writing a Successful Complete Street Policy (April, 2017)

1. BICYCLE & PEDESTRIAN TRAINING SEMINAR

BICYCLE AND PEDESTRIAN TRAINING, APRIL 5, 6, 2016
(A COMPONENT OF THE BICYCLE AND PEDESTRIAN PLAN UPDATE)

			
Participants and Speaker Peter Legerway (Toole Design –Seattle, WA) in training session	Participants receiving instructions on Sidewalk and Bikeway Assessment	Assessment of Sidewalk Conditions	Assessment of bicycle and pedestrian access to Underpass on Washington St.

The purpose of the Bicycle and Pedestrian Training seminar was to enable local stakeholders, and in-house participants to become actively involved in understanding the following elements:

- Issues of bicycle and pedestrian mobility (accessibility) in a multi-modal transportation context
- The concepts of *walkability and bikeability* audits as they support Safe Routes to School and provide safety for other vulnerable populations in the community
- Concept of Complete Street approach to roadway design to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities
- Public outreach, data collection, crash analysis and project identification
- Scheduling projects (short, medium, long) in context of fiscally constrained financial plan
- Learn more about MUTCD, FHWA, NACTO, AASHTO regulations, guidance standards, and detailed design guidance on sidewalks, intersection geometry, crosswalks, medians, separated bike lanes and intersection design for bicyclists

The training was offered, in part, to familiarize participants with the tasks required to successfully participate and help to complete the Bicycle and Pedestrian Element update project.

2. Complete Streets

LAYING THE FOUNDATION FOR COMPLETE STREETS
FEBRUARY 22, 2017 4:00 PM- 8:00 PM

OBJECTIVES:

- Build a common understanding of complete streets
- Consider several types of successful complete streets policies
- Compare how complete streets designs use existing right-of-way
- Apply complete streets tools to local examples

COMPLETE STREETS




Speakers:

Greg Pates, PLA & Christopher Berrens, MNDOT's Office of Transportation System Management.

In Cooperation with:

Local Streets --Grand Forks, ND


Columbia Rd @ 13th Ave. S


13th Ave. S @ Cherry


32nd Ave. S @ S 48th St.


Belmont Rd. @ 8th Ave. S

3. Complete Streets:

WRITING A SUCCESSFUL COMPLETE STREETS POLICY
Date: April 28-2017
8:30 AM – 2:00 PM ROOM GRAND FORKS COUNCIL CHAMBERS

Complete Streets Policy Development

9:00 Introduction to Complete Streets

- Benefits of Complete Streets
- What a Complete Streets policy means
- The different types of Complete Streets
- Complete Streets and Context Sensitive Solutions

Group exercise: How would the Grand Forks Study benefit from Complete Streets?

9:30 The basics and performance measures

- What is currently measured and what should be measured

Group exercise: What would you measure to determine the success of your policy?

10:00 Break

10:15 Creating room for Complete Streets

- Street classification - rethinking the role of streets, importance of controlling speeds
- Narrow lanes, right-sizing streets, sidewalks, bikeways, principles for creating safe crossings
- Street design manuals and guides

Group exercise: Which streets could benefit from right-sizing?

11:10 Introduction to implementation: changing the project development process

11:30 Lunch (to be provided)

11:45 Effective Complete Streets policies

- Types of complete streets policies and examples at the local, state and federal levels: what type of policy, its impact: success stories
- How to develop appropriate complete streets policies
- Overview of the 10 elements of effective Complete Streets policies

Group exercise: What type of policy is right? What would you include?

12:15 Jumpstarting policy development for the Grand Forks region

- Detailed discussion of the 10 elements of effective Complete Streets policies
- Interactive group exercise: How can these elements be incorporated into your policy?

1:45 Discussion: What are your next steps?

- Specific responsibilities and timeframes

2:00 Adjourn

Photo: © Earl T. Haugen, 2017

Speaker: Mr. Jeffrey R. Reigner (Smart Growth America)

In cooperation with:

U.S. Department of Transportation
Federal Highway Administration

NDDOT
North Dakota Department of Transportation

Minnesota Department of Transportation

Complete the Streets

Local Streets -- East Grand Forks, MN

Bygland Road @ 13th St. SE

De Mers Ave @ 3rd St. NW

De Mers Ave @ 4th St. NW

5th Ave. NW

SUPPORTING ACTIVITIES

The following activities were implemented to gather appropriate information to support the development of the plan update activities:

1. COMMUNITY & USERS SURVEY

The "*Public Attitude Survey of Bicycle and Pedestrian Planning*" was developed to build public support for the plan development, foster public involvement, and determine current levels of use of the existing transportation network for bicycling and walking trips and activities. Two versions of the survey questionnaire were designed:

- The first version consisted of a web-based Survey Monkey. Responses to this version came from 37 participants. In general, respondents were predominantly 54.1% female; 33.3% 55-64 years of age; 54.1% holding a postgraduate degree; and 87.5% white.

- The second version consisted of a paper-based survey. The instrument was administered in four locations with assistance of the following: The University of North Dakota Student's Union, Choice Health & Fitness, and Ride for a Purpose, and members of the Bicycle and Pedestrian Plan Advisory c Committee. Responses came from 81 participants. In general, respondents were predominantly 39.5% male; 25.9 % 16-24 years of age; 28.4% holding a college degree; and 60.5% white.

These scales were constructed to ask respondents about:

Q. 2 Factors they like the most about the system

Q. 4 Trip activity by mode

Q. 5 Factors that make it unpleasant for respondent to bike or walk

Q. 6 Reasons for respondent not to bike/walk

Q. 7 Frequency reasons respondent engages in given activities

Q. 8 Suggested most important improvements to improve biking/walking environment

Q. 9 Desired intersections the respondent would like to see more friendly to biking and walking

Q. 11 Suggested improvements to enhance walking/biking experience for children

Q. 18 Level of importance of suggested improvement to support biking/walking in the area

Q. 12-13-14-15-16-17 Demographics

Complete responses to the survey questionnaire will be discussed in the *Existing Conditions* section. Sample forms of the questionnaires are included in Appendix zz.

2. BICYCLE AND PEDESTRIAN ELEMENT: PRINTED NEWSPAPER ARTICLES

Cities seek input from bicyclists, walkers of Greater Grand Forks community to help plan improvements

Grand Forks Herald, By Brandi Jewett on Jul 18, 2016

"Survey participants ranked being able to walk or bike to key destinations such as the downtown area as important while noting their greatest challenge is destinations being outside their preferred walking or biking distance. Adverse weather, heavy traffic and poor quality bike lanes and sidewalks also were top concerns."

MPO seeks public input

The Exponent, By Editor, August 26, 2016

"Major Street corridors, bridges and overpasses and areas near schools were tabbed as the most important locations in need of improvements in the pedestrian environment, according to the preliminary results."

Wayfinding, bridge crossing emerge on EGF pedestrian issue,

The Exponent, By Serianna Henkel, Reporter. August 31, 2016

"We have beautiful trails that go where you need to go, but we need better wayfinding signs," said Jane Croeker, committee member and local trail user at Monday's meeting."

Biking, walking survey identifies positives, challenges of amenities in Grand Forks and East Grand Forks.

Grand Forks Herald, By Brandi Jewett, Regional Reporter. Oct 22, 2016

"Please focus attention on commuter trails and making connections so bicycling can become safer for those who want to use them for more than just recreation," wrote one survey respondent.

Complete Streets workshop to address city needs

The Exponent, By Serianna Henkel, Reporter. February 22, 2017

"At a presentation given in December, MPO (...) highlighted goals of the updated plan which include a push toward providing city streets that satisfy the needs of all users— motorists, pedestrians, transit vehicles and users, bicyclists, commercial freight trucks and emergency vehicles."

3. DISPLAY BOARDS

Stand-alone display boards providing information about the Bicycle and Pedestrian Plan update were prepared by MPO staff for use at community meetings, festivals, schools (when available). Boards seeking input on "*Existing Conditions*" like "*Intersections in need of Improvements to become more Pedestrian and/or Bicycle Friendly*" were displayed at the following venues:

City of Grand Forks, City Hall	City of East Grand Forks, City Hall	East Grand Forks Senior Citizens Center
Main Floor at Entrance Attendance: 25 people Age: 35-54 Race: White Language: English	Main Floor at Entrance Attendance: 25 Age: 35-54 Race: White Language: English	Main Floor at Entrance Attendance: 25 Age: Over 65 Race: White Language: English
Comments were collected, analyzed and included in a document prepared to illustrate "*Existing Conditions.*"		

4. COMMUNITY ENGAGEMENTS

Pedal for a Purpose, April 28, 2016

Event:

(Display Table/Distribution of Materials/Public Input)
This is a family friendly fundraising event. The goal of the event is to raise funds that will directly benefit a Greater Grand Forks Charity Group. This year's benefactor is the Sunshine Hospitality Home Project.

Objective:

MPO staff distributed Bikeway Map, 2016; provided information about the pedestrian networks and bicycle system; using a display large size map requested input on intersections respondent would like to see improved to become more pedestrian and bicycle friendly. Requested assistance by asking attendance to complete Bicycle and Community Survey.

Attendance:

Approximately 150 people
Survey: 19
Race: White
Gender: Male
Age: 35-54
Language: English

City of East Grand Forks, MN "Ice Cream Cone", August 11, 2016

Event: (Display Table/Distribution of Materials)

Community event promoted by City of East Grand Forks to
Forge close links with community members, especially Police Department, Fire and Emergency Management.

Objective:

MPO staff distributed Bikeway Map, 2016, provided information about the pedestrian network and bicycle system, and distributed front and rear lights for children bicycles.
Larger number of those in attendance were New Americans of Arabic and Somali descent

Attendance:
Approximately 150 people (Arabic and Somali populations)
Age: 35-54
Languages: Arabic & Somali
Race: White plus Middle Eastern Arabic/Black African
Gender: 70% Female

City of East Grand Forks, MN "Healthy & Fit Fair", May 23, 2016

Event: (Display Table/Distribution of Materials)

Community event promoted by City of East Grand Forks to increase health outcomes of resident population by fostering engagement activities promoted by various local non-for-profit agencies interested in health: anti-tobacco, physical fitness, accessibility equipment for disable people, and recreational activities.

Objective:

MPO staff distributed Bikeway Map, 2017; answered questions on pedestrian network and bicycle system/

Attendance:

Approximately: 150 people
Age: 16-54
Race: White
Language: English

5. WEBSITE

Project information was provided to the community through the MPO's original website.

Barriers, Impediments and Obstacles to Pedestrian and Bicycling Activities

A. Introduction

B. Absolute Barriers

1. Flood Protection System
   Grand Forks Floodwall Protection System
   East Grand Forks Floodwall Protection System
2. I-29
3. Railway Facilities (Terminals)

C. Arbitrary Barriers

1. High Traffic Volume Roadways
2. At-grade Rail Crossings
3. Facilities Enabling Bicycle & Pedestrian Movement

D. Relative Barriers

Floodwall, Grand Forks © Grand Forks Herald

A. Introduction

Connectivity, accessibility and mobility are features most users expect from existing and planned transportation infrastructure serving non-motorized pedestrian networks and bicycle systems. However, according to the specific mode of transportation, users may experience a number of physical barriers. These could entail obstacles in the built environment, land use or both.

Barriers may also involve institutional impediments that could restrict the safe, effective and efficient movement of people, goods and services. When utilizing the system, users would prefer to improve their safety, maximize their enjoyment and take full advantage of the time devoted to fulfill the objectives guiding their walking or biking pursuits. The observation also applies to users seeking to expand their transportation mobility options.

In practice, pedestrians, bicyclists and wheelchair users demand and expect safety, directness, continuity and accessibility from their networks and systems. The presence of barriers curtails access to activities, and inhibits the ability to directly and uninterruptedly move from one place to another.

Similarly, barriers impact pedestrians, bicyclists and wheelchair user's activities by disallowing or by completely forbidding connections made between people and destinations. For instance, non-motorized users are greatly impacted when the required distance and/or the essential travel time for daily commutes increases as a result of existing barriers.

As a result, pedestrians, bicyclists and wheelchair users would like to have the ability to overcome those barriers, when appropriate. That assertion is critical, particularly when applied to those users engaged in utilitarian (purposeful travel) activities that include commute to work & short running distance errands.

Among others, barriers, obstacles and impediments may result from different conditions:

- Natural or topographical features
- Land use, built environment
- Institutional, cultural and other social factors.

This report outlines three types of barriers that limit, curtail or impede pedestrian and bicyclist travel movement in terms of connectivity, accessibility and mobility:

- Absolute
- Arbitrary
- Relative

B. ABSOLUTE BARRIERS[22]

Absolute Barriers are geographical features that prevent a transportation movement. The presence of those geographic features constitutes a barrier *impossible* to overcome. Their existence makes it difficult to go beyond the barrier in its current form. Typical absolute barriers include:

a) Natural topographical conditions:

Rivers, creeks, canals and reservoirs
Green spaces (large parks, green belts)
Bluffs, ravines, steep hills

b) Land use & built environment:

Railroads, freeways & Highways, major streets and facilities that require grade separated crossings.
Industrial and business (non-retail) districts
High-security properties (Gated communities)

Whether resulting from natural or topographical features or ensuing from the land use & built environment developments barriers restrict or completely prevent pedestrians and bicyclists from getting to their destinations. In order to appreciate connectivity, accessibility and mobility, users must either:

- Bypass or
- Overcome them by means of specific infrastructures.

Absolute Barriers

Grand Forks, ND	East Grand Forks, MN
• Red River of the North	• Red River of the North
• U.S Highway 2 (Gateway Dr. @ N 3rd St).	• U.S Highway 2 (Gateway Dr.@ 10th St. NW)
• English Coulee	• Red Lake River
• U.S Interstate (I-29)	• Heartsville Coulee
• Burlington Northern Santa Fe (BNSF) Switching Yards on DeMers Ave. Rail road tracks Downtown, Grand Forks	• Burlington Northern Santa Fe (BNSF) Rail road tracks Downtown, E. G. F.
• South End Drain way	• Levee/Flood Control/Protection Wall
• Levee/Flood Control/Protection Wall	

Absolute Barriers present discontinuities in the system; hence, forcing the construction of additional – most costly- infrastructure such as bridges, overpasses and underpasses to provide continuity. Most absolute barriers disrupt traffic flow. "*Grade separated*" facilities provide system continuity and accessibility along bicycle and pedestrian systems. The following are the "*absolute barriers*" affecting bicycle, pedestrian and wheelchair users movements found in the Grand Forks-East Grand Forks MPO Urbanized Area:

[22] Rodrigue, Jean-Paul (2006). *The Geography of Transport Systems*. Routledge, Taylor & Francis Group

Illustration of Absolute Barriers - Grand Forks

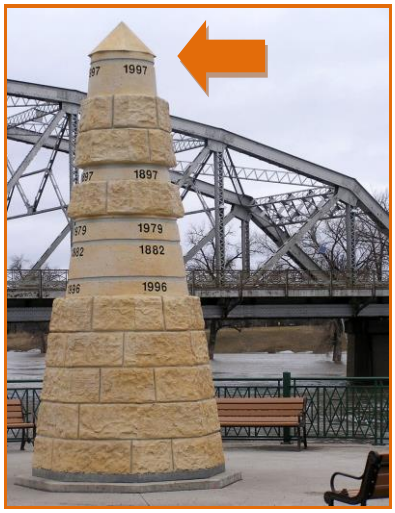
					
Red River of the North	English Coulee	U.S Interstate (I-29)	South End Drain way (At Belmont)	BNSF GF Downtown	Levee/Flood Control

Illustration of Absolute Barriers - East Grand Forks

				
Red Lake River	Heartsville Coulee ©Google Map, 2017	U.S Highway 2 ©Google Map, 2017	Rail Road Crossing at 4th St. NE Downtown EGF	Levee/(Invisible Flood Control)

Grand and East Grand Forks are urban settlements established in the late 19th Century. The settlement of Grand Forks (ND) lies on the west bank of the Red River of the North at the Junction of the Red Lake River. Across, on the east side, lies the settlement of East Grand Forks (MN). While Grand Forks, is permeated by the waters of the English Coulee and a minor riverine stream known as Fall Creek; East Grand Forks is permeated by the Red Lake River & the Heartsville Coulee. In those days, rivers were important commercial routes. Also, significant trading posts were found on their banks and confluences.

Memorial in the Greater Grand Forks Greenway Commemorating the 1997 flood and other past floods.



1. Floodwall Protection System

Grand Forks and East Grand Forks are located on a floodplain valley. The Red River itself has been a mixed blessing. It has periodically overflowed its banks in record floods in 1882 (*48 feet*), 1893, 1897 (*50.20 feet*), 1950, 1965, 1966, 1969, 1975, 1978 (*45.73 feet*), and 1979 (*48.81 feet*). Most recently, the settlements were devastated by flood in 1997 (*54.35 feet crest*).[23]

Flooding is possible again. In response to past devastation, for the past two decades, both cities have prepared to address anticipated flood protection challenges. As it was proposed, the "*Flood Protection*" System entails:[24]

Grand Forks	Length (Miles)	Maximum Height (Ft)
Levee	12.3	22
Floodwall	1.1	10
MSE (*Reinforced soil*)	0.5	10

East Grand Forks (*North End*)	Length (Miles)	Maximum Height (Ft)
Levee	11.3	23
Floodwall	0.2	18
MSE (*Reinforced soil*)	0.1	18

East Grand Forks "*The Point*"	Length (Miles)	Maximum Height (Ft)
Levee	6.0	21
Floodwall	0.8	16
MSE	-	-

- Grand Forks

Grand Forks Floodwall Protection System

Road Closure Gate

Flood Protection Wall (*Greenway Trail*)

Flood Protection Wall (N 3rd St.)

Grand Forks relies on "*a levee/floodwall system that holds back high water from the river and the English Coulee diversion channel that diverts overland flows around the west side of the city*."[25]

[23] Hageman, John (Nov 23, 20116) Flood protection system gives Grand Forks security, but expert says flooding is a possibility. The Grand Forks Herald
[24] U.S Corps of Engineers (1998) General Evaluation Report and Environmental Impact Statement
[25] City of Grand Forks: Flood Protection Facts at http://www.grandforksgov.com/government/city-departments/engineering/flood-control/flood-protection-facts

"*The Grand Forks floodwalls are built with an additional three feet of height. Because of this additional height and the 10-foot width of the levees, the city could successfully fight a 500-year flood by adding clay to the top of the levees*."[26]

The Grand Forks Floodwall project involves 12 pump stations on the Grand Forks side of the Red River. It includes four road, three pedestrians and one roadway closure gates. The system comprises 12.3 miles of levee, gated outlet and interior drainage features. The system includes storm sewers and drop inlets structures, roadway levee up-and-overs, and storm water retention ponds. In addition, the design includes approximately 20 miles of trails. Two non-motorized bridge structures (*North Pedestrian Bridge & Pat Owens Bridge)* greatly contribute to the enjoyment of the Greenway Trail System and promote delightful bicycle rides and pleasant pedestrian walks between the North Dakota and Minnesota.

- **East Grand Forks**

The *Flood Protection Wall* on the City of East Grand Forks flood consists of the same engineering elements featured in the Grand Forks Flood Protection System.

East Grand Forks Floodwall Protection System

Road Closure Gate

"*Invisible Flood Control*" Structures

Earthen Levee

The East Grand Forks Floodway Protection System includes 10 roadway and two railroad closures or access points. A prominent feature in East Grand Forks is the "*invisible flood control wall*" in the downtown commercial district. The system "*preserves riverfront views, unlike permanent concrete walls and earth levees*." The system has been certified by the US Army Corps of Engineers up to a river stage of approximately 60 feet. It allows access for motorists, pedestrians, bicyclists and members of vulnerable populations.

- **Accessibility and Mobility through the Floodwall System**

The "*wall*" components of the *Flood Protection Wall* should be considered an "*Absolute Barrier*." Due to its extent, the flood protection structure also works like an "*edge*" in the urban environment. An *edge* is defined as a boundary between two areas, including shores, walls, wide streets, breaks between buildings, and open spaces.

[26] City of Grand Forks: Flood Protection Facts at http://www.grandforksgov.com/government/city-departments/engineering/flood-control/flood-protection-facts

The system presents a number of *discontinuous* features that "*prevent*" residents from having direct access to the adjacent open green space. However, access to the Greenway Trail System is enabled through a number of *trail heads*, *road closure gates* and *up & over* structures, two pedestrians and 1 motorized bridge. The *Louis Murray Memorial* is a vehicular bridge in the Greenway. As a result, pedestrians, bicyclists, and motorists are able to enjoy hiking, biking, golfing, boating, fishing and the vast array of outdoor amenities offered in the Greenway.

Levee alignments and refinements were advanced through public involvement activities. These entailed producing and distributing a widely circulated newsletter, organizing brainstorming sessions, workshops and neighborhood meetings. While the design of the floodwall protection system was taking place; simultaneously a community wide public involvement process was advanced to refine the conceptual plan for the Greenway. The purpose was to gain involvement and support from local officials, sponsors, and community groups, the public, adjacent landowners, businesses, and State and Federal agencies.

- **Greenway Trailheads**

A series of "*trailheads*" exist at various points along the Greenway. These trailheads offer breaks in the levees or floodwalls so that pedestrians can access the Greenway. Most of these trail heads offer access to paved parking lots. Many trail heads also offer access to public restroom facilities.[27] The following "*trailheads*" provide access to miles of trails, acres of parks, golf courses, open space, restrooms, information kiosks, public recreation land and other amenities available in the Greenway Trail System:

Grand Forks Trailheads (*North to South*)		
Riverside Rapids	Community Green (Downtown Grand Forks, adjacent to Town Square)	Olson-Elmwood
Riverside Park	Kannowski Park (formerly Central Park)	Sunbeam
7th Avenue North	Lincoln Drive Park	47th Avenue South
2nd Avenue North	Lincoln Golf Course	

East Grand Forks Trailheads (*North to South*)		
River Heights	Red River State Recreation Campground	Eagle Point
Sherlock Park	Griggs Park	Crestwood

The Greenway System Map below illustrates the entire Greenway Trail System. The map includes recreational facilities, parking lots and restroom locations, access points to boat ramps, golf course amenities.

[27] Greater Grand Forks Greenway at https://en.wikipedia.org/wiki/Greater_Grand_Forks_Greenway

Courtesy: Ms. Kim Greendahl, Greenway Technical Advisory Committee, 2017

- Roadway Closures

Concerning motorized and non- motorized access, there are seven road closure gates in Grand Forks. Only four closures allow vehicular access (See page 5). There are nine roadway closures in East Grand Forks. These structures facilitate equipment and vehicular movement. A number of road closures allow crew and equipment's access to pumping stations for maintenance work. Some closures also facilitate access to pedestrians and bicyclists.

The road closure system provides pedestrians, bicyclists and wheelchair users with continuity and accessibility onto the Greenway. Road closures present a unique situation: it is imperative to establish a balanced view between *perceived inconveniences* resulting from flood protection infrastructure and the *benefits* of motorized and non-motorized access to the Greenway Trail System. Motorized and pedestrian access is facilitated through the following closures:

The Floodwall System Openings (North-South)

Grand Forks		East Grand Forks	
Riverside Dam	Road	River Road NW	Road
N 1st Street	Road & Path	12th Street NW	Road & Sidewalk/Trail
Gateway Drive	Road & Path	4th Street NW	Road
7th Avenue N	Path	5th Avenue NW	Road & Sidewalk/Trail
2nd Avenue N	Path	DeMers Ave	Road & Sidewalk
DeMers Avenue	Road	3rd Avenue NW	Road
Minnesota Avenue	Road	Hill Street NW	Road & Trail
Lincoln Drive	Road & Path	2nd Avenue NE	Road & Sidewalk/Trail
Elks Drive	Road & Path	3rd Ave SE (Bygland Rd)	Road & Sidewalk
Elmwood Access – 32nd Avenue South	Path		

- Up & Over

"*Up & Overs*" are facilities to access the trail over or through the flood levee system. A few "*up & overs*" are mechanically stabilized earthen walls (MSE). Basically these are the areas of the trail that are paved "*over*" the earthen levee, from dry side to wet side. Here is the location of the "*up & over*" levees on the system:

Up & Over Levees on the Floodwall System (North-South)

Grand Forks	Access Type	East Grand Forks	Access Type
27th Avenue North	Vehicle Private Access	19th St. NW *(Up & Over)*	Trail-Red River North
Bacon Road	Vehicle Private Access	River Heights Park (Alley W. of 8th Ave NW)	Trail Red River North

Red DOT Place	Riverside Dam (As this is the same place).	Sherlock Park *(Up & Over)*	Trail- Red River North
North 3rd Street & Alpha Avenue	Trail	3rd Avenue SE *(Up & Over)*	Trail- Red River North

Up & Over Levees on the Floodwall System (North-South)

Grand Forks	Access Type	East Grand Forks	Access Type
Highway # 2	Trail	5th Ave. SE/11th St. SE *(Up & Over)*	Trail- Red River North
South 4th Street (near Minnesota Avenue)	Trail	VFW /Crestwood Trailhead *(Up & Over)*	Trail/*Red Lake River*
		James Ave SE – So. Of 4th St	Trail/*Red Lake River*
Elmwood Access – 32nd Avenue South	Trail	James Avenue SE – Near Lift station; *(Up & Over)*	Trail/*Red Lake River*
Sunbeam Trail Head	Trail	Laurel Dr SE/182nd St SW	Private Rd over levee. No Trail Access- Red River North
47th Avenue South	Trail/ The Greenway ends	19th Avenue SE/8th St SE *(Up & Over)*	Trail-Red River North
Adams Drive	Paved Shared Use Path over flood protection system. No access to Greenway System. Gravel Path at approximately Courtyard Dr.		
62nd Avenue South	Vehicle No access to trail system. The Greenway ends at 47th Avenue South		

- Pedestrian and Vehicular Bridges

Bridges

A.G. Sorlie Memorial @ DeMers Ave. Red River of the North

Louis Murray Memorial Over Red Lake River/Greenway Trail ©Google Map, 2017

Pat Owens Pedestrian Bridge Greenway Trail South

Riverside Dam Pedestrian Bridge Greenway Trail North

The ***A.G. Sorlie Memorial Bridge***, over the Red River of the North allows pedestrian movement. Bicyclists are allowed to ride their bikes on deck to access the Greenway Trail. However, bicyclists are prohibited from riding their bicycles on sidewalks in both downtowns. As a result, bicyclist should walk not ride their bikes while on the pedestrian way of the Sorlie Bridge.

The *"**Louis-Murray Memorial Bridge**"* over the Red Lake River is part of the Greenway Trail System. It serves to connect the area known as the "*Point*" to other important landmarks in East Grand Forks. Similarly, the bridge allows for access to some area attractors such as the VFW+ Blue Line Arena and South Point Elementary School and Central Middle School. The Louis-Murray Memorial Bridge and through a shared use path provides continuity for all non-motorized movements, including those related to the Greenway Trail and nearby open spaces. ***The Pat Owen*** (South side) and the *North Pedestrian Bridge* (Riverside Dam). Pedestrian Bridges link the Greenway Trail System on both jurisdictions by crossing over the Red River of the North.

2. I-29

Freeways are components of the transportation system that prioritize high speed mobility over connectivity and accessibility. They serve different functions within the transportation network. Freeways are designed and constructed to accommodate large volumes of high speed traffic with very little interference from traffic entering or leaving the roadway. They are usually limited to motor vehicles of a minimum power or weight and impose a minimum speed.

I-29 is designated as a North American Free Trade Agreement (NAFTA) trade corridor, terminating in the south at Kansas City with connections to I-35, which then continues south to the Mexican border. To the north, I-29 connects to Manitoba Highway 75 at the Pembina border crossing, the fifth largest point of entry in terms of truck trade. Contrary to Minnesota's regulations; bicycle access and movement is allowed on inter-states in North Dakota. Forecast increase in vehicular volumes and traffic safety issues on I-29 has the potential to curtail mobility opportunities for pedestrians and bicyclist on the corridor. According to the Pembina Port of Entry Study, completed in 2013, freight is forecasts to increase by more than 100 percent on I-29 by 2035 Current and future traffic counts are provided below to indicate the challenges for non-motorized activities:

I-29 Main Line Access Ramps (Grand Forks-East Grand Fork

(*KLJ, Alliant Engineering (2017) I-29 Traffic Operations (Summary*)

Ramp	Current Traffic Volume (AADT, 2015 NDDOT)			Future Traffic Volume (AADT, 2040 GF-EGF MPO)		
	West	**I-29** North-South	EAST	West	I-29 North-South	East
North Washington Street/ CR 11/US 81	#		3,545*	#		6,190
I-29		**7,085**			14,150	
Gateway Drive/US 2	17,920*		18,165	30,235		27,470
DeMers Avenue/ND 297	8,960		13,455	15,170		22,020
1-29		**13,470***			34,250	
32nd Avenue/US 81B	10,450*		15,235	22,520		42,490
1-29		**12,515**			23,740	
Merrifield Road/CR 6	#		775	#		1,710

*2013 AADT Shown/ # Traffic Volume Counts not available

High volume traffic roads lead user's to greater number of important destinations. In many cases, bicycle and pedestrian access to those locations is severely restricted, if not barred, by the nature of the roadway traffic volumes. Concerning bicycle and pedestrian activities on the I-29 Mainline, reporting on the Existing Conditions, the *I-29 Study* indicates:

The following barriers were noted for the existing network of paved bicycle and pedestrian trails in the study area:

- No existing dedicated bicycle or pedestrian facilities at the North Washington Street/CR 11/US 81 interchange functional area, the 47th Avenue South corridor or the Merrifield Road/CR 6 corridor. Bicycles can and do use the roadway; shoulders at this location are wide enough to support bicycle activity according to AASHTO.

- Yield controlled right-turns, like at Gateway Drive/US 2 and DeMers Avenue/ND 297 are difficult crossing environments for bicyclists and pedestrians.

- Dedicated facilities for east-west connectivity across I-29 is limited to Gateway Drive/US 2, University Avenue and 32nd Avenue/US 81B.

3. Railway Facilities (*Terminals*)

Rail facilities, including shunting (switching) terminals, constitute another *absolute* type of barrier which obstructs continuity and accessibility. The presence of these large facilities presents some accessibility and mobility challenges at the neighborhood level. Areas in proximity to rail facilities tend to have many short dead-end streets, a reduced number of intersections and roadways that regularly experience congestion. Due to their footprint, switching yards impact trip length.

For instance, in Grand Forks, Washington Street (*Underpass*), Columbia Road (*Overpass*) and 42nd Street N (*At-grade crossing*) provide facilities to bypass the BNSF Switching yard and railway tracks. Most streets in proximity to the BNSF Switching yards end either at Campus Road or at Dyke Avenue on the north side. Similarly, most streets between Washington Street, Columbia Road and 42nd Street N end at DeMers Avenue on the south side.

Rail Facilities (Terminals) (Grand Forks)

DeMers Overpass over BNSF Switching Yards Downtown Grand Forks
©Google Map, 2017

Winter Cold Clouds Train North Dakota Railyard BNSF Grand Forks

DeMers Overpass over BNSF Switching Yards Downtown Grand Forks
©Google Map, 2017

Rail bottlenecks have eased since oil bust
By April Baumgarten, Grand Forks Herald Jun 9, 2017

RAIL ROAD GRADE-SEPARATED FACILITIES

Overpass N. Columbia Road (UND)
© Google Maps, 2017

Washington Street Underpass
© Google Maps, 2017

Overpass N Columbia Road (University of North Dakota Campus). This facility crosses over the BNSF Switching yards and Campus Road. The Overpass allows pedestrian and bicycle movements and affords user's some protection from the elements.

South Washington Avenue Underpass. Links traditional neighborhoods in the north part of the city to important commercial and civic destinations and newly developing areas in the south part. The

underpass is part of one of the busiest intersections in Grand Forks: DeMers Avenue at Washington Street. However, access sidewalks are in need of improvement.

The skywalks connecting Odegard, Clifford and Ryan Halls (47) and the Skalicky Tech Incubator (49) offer visitors a different perspective of the west campus.[28]

[28] SITES 2C @UND (2013) Updated by: UND Division of University and Public Affairs, September 2013

C. Arbitrary Barriers (*Impediments*)

Arbitrary barriers include *impediments*. These are obstacles that interrupt system's directness and continuity but require heightened skills from pedestrians, bicyclists or disabled users to overcome the obstacle. For instance, high traffic volume streets, interstate interchanges, speed limits, and other operating conditions, all function as arbitrary barriers.

1. High Traffic Volume Roadways

Arbitrary Barriers (*Impediments*)

Existing Facilities	Jurisdiction	Existing Conditions, 2017
I-29 @ Gateway Drive	GF	Interrupted continuity
I-29 @ DeMers Avenue	GF	Interrupted continuity
I-29 @ 32nd Ave. South	GF	Interrupted continuity
Portions of DeMers	GF-EGF	Interrupted continuity
Columbia Road	GF	Interrupted continuity
Portions of Highway 220	EGF	Interrupted continuity
Portions of 32nd Ave. South	GF	Interrupted continuity
South Washington Street	GF	Interrupted continuity

2. At-Grade Rail Crossings

Railway lines are considered barriers to movement. Trains operate under very rigid conditions including speeds, schedules and right-of-way conditions. Trains cannot easily stop at designated crossings for motorists, pedestrians and bicyclists. In other areas (*Quiet Zones)* trains are not required to blow their whistles to announce their proximity. Railways property is private property. Thus, access to abutting premises and right-of-way is limited to railroad personnel and those persons who have been granted access by the railroad. Railway crossings are the locations where motorists, pedestrians, and bicyclists are allowed to cross. When operating, crossings generate delays for all traffic, including emergency management vehicles; and require adherence to safe crossing practices.

At grade rail crossings must be designed to provide proper sight distances and may require other safety measures such as automatic grade crossing warning devices (flashing lights, gates, etc.). The most commonly observed rail proximity issues include lack of signal devices, lack of active warning devices, sidewalks in poor condition or in need of repair, and neighborhood Safe Routes to Schools on streets crossing the rail tracks. Rail crossings also delay motorized and non-motorized movements. For instance, concerning pedestrian/bicycle crossings and Safe Routes to School activities, the *Mill Spur Feasibility Study* (2010) stated that: "*At most of the crossings along the corridor, the sidewalks in the area of the railroad crossing are worn or damaged, and in need of maintenance or repairs*."

At-grade Crossings in the Grand Forks-East Grand Forks Urbanized Area

Grand Forks Subdivision		
Grand Forks (ND) (West-East)		**East Grand Forks (MN)** (West-East)
DeMers Ave. (West of 55th St.) DeMers Ave. (East of 55th St.) N 55th Street North 42nd Street	South 5th Street South 4th Street South 3rd Street	River St. NW 3rd St. NW Central Avenue 4th St. NE /US Business Hwy 2 2nd Ave. NE 8th Ave. NE 9th Ave. NE US Business Hwy 2 NE
Mill Spur Line (North-South)	**Glasston Subdivision (North-South)**	**Hillsboro Subdivision (West-East)**
Multi Use Trail (Just north of Gateway Drive) Gateway Drive (US Highway 2) 10th Ave. N 8th Ave. N 7th Ave. N 6th Ave. N 5th Ave. N 4th Ave. N Public Alley Crossing (Between University and 4th Avenue) University Ave. @ 10th St. N 2nd Ave. N	27th Avenue N & 42nd St. 18th Avenue N & 42nd St. Gateway Dr. & N. 42nd St intersection 6th Avenue & N. 42nd St. intersection University Avenue & N. 42nd St. intersection	32nd Avenue S./ County Road 32

At-grad Rail-Crossings & Examples Sidewalk Condition – Grand Forks, 2017

Mill Spur Subdivision

10th Avenue N @ 2ND Street
Sidewalk on North side only
©Ethan Bialik, August 2017

8th Avenue N@ N 7th Street
Timber Surface on Sidewalk
N- Grand Forks (October)
©Ethan Bialik, August 2017

6th Avenue N @ N 8th Street
Timber Surface on Sidewalk
N- Grand Forks (October)
©Ethan Bialik, August 2017

A quick subjective assessment (*using Google Maps© and staff visits*) of sidewalk conditions along a few at-grade crossings on the Mill Spur Subdivision area indicates a lack of sidewalks either on one side or both sides of the road, incomplete sidewalks and others in poor conditions.

All at-grade crossings in the urbanized area are illustrated in the map below. Lack of sidewalks, curb ramps, crosswalks and lack of pedestrian signals, severely curtail access and mobility for residents in their proximity.

At-grad Rail-Crossings & Examples Sidewalk Condition – East Grand Forks, 2017
East Grand Forks Subdivision

3rd Ave. NW @ Hill St. NW No Sidewalks ©Google Map, 2017	Central Avenue 4th NW St. Sidewalk-Not continuous ©Ethan Bialik, August 2017	NW 3rd Street Sidewalk-Not continuous ©Ethan Bialik, August 2017	U.S. Business 2 Hwy No Sidewalks ©Ethan Bialik, August 2017

The installation and/or repair of existing sidewalks provide many benefits. It reduces walking along roadway, and reduces crashes involving pedestrians and bicyclists, enhances neighborhood character and increases safety of users. Moreover, public rights-of-way, including the pedestrian network, are required to be accessible to people with disabilities under Title II of ADA.

At-grade Crossings in the Grand Forks-East Grand Forks Urbanized Area
Glasston Subdivision

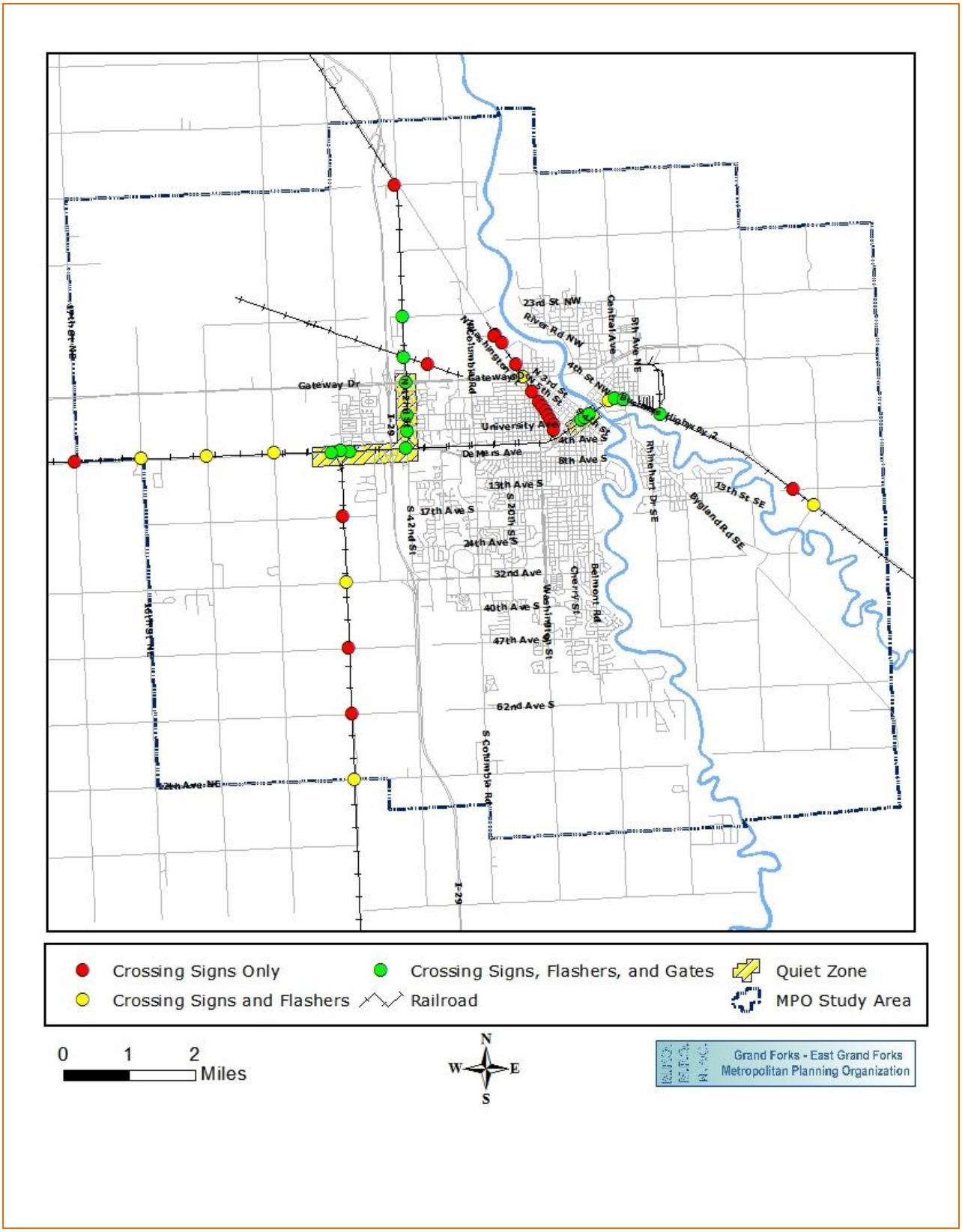
University Ave. at N 42nd St. Complete Sidewalks	Gateway Drive (U.S. 2) at N 42nd St. No Sidewalks	North 27th Ave. Intersection No Sidewalks	6th Ave. North at N 42nd St. Complete Sidewalks

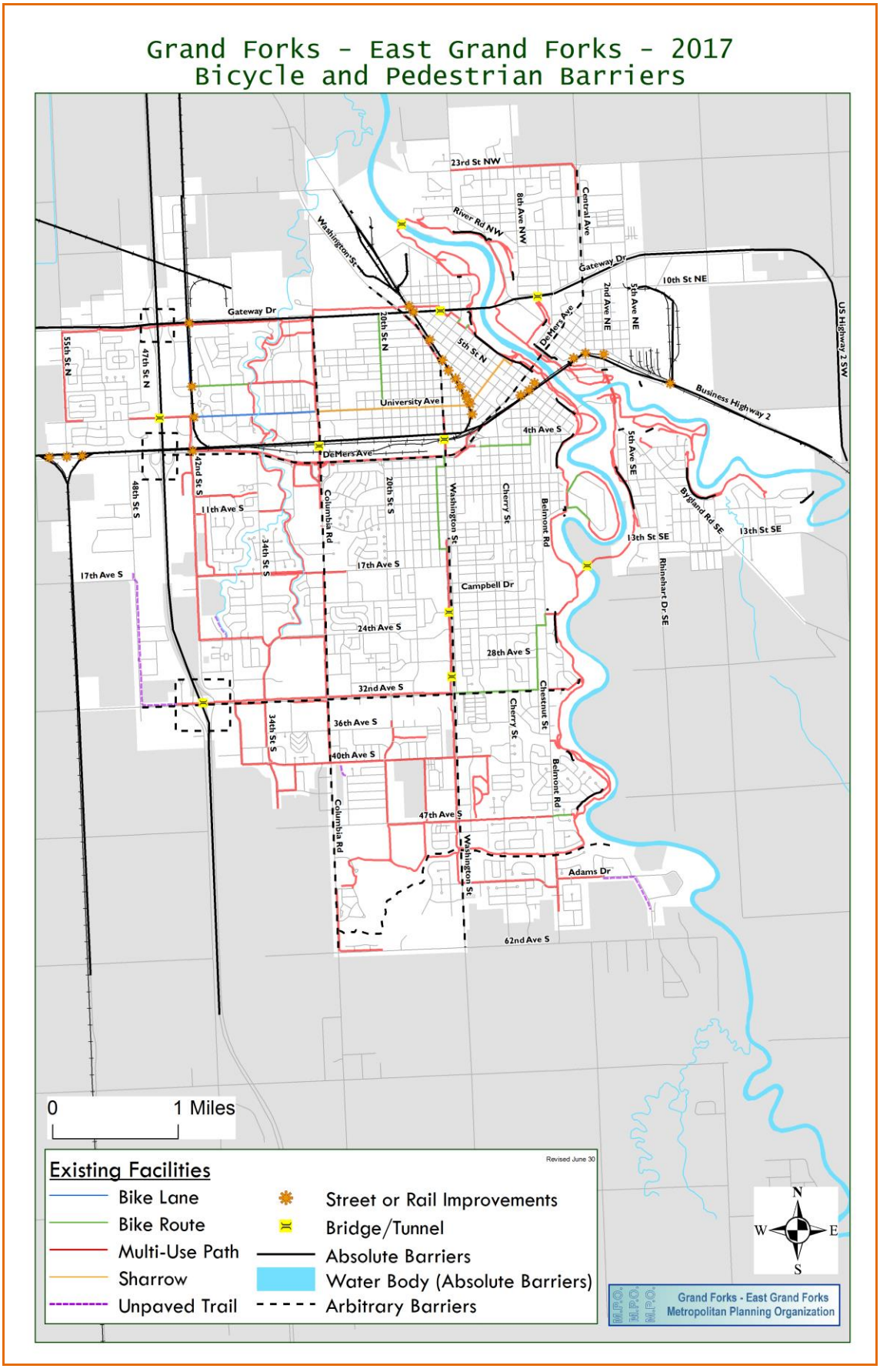
A number of comments concerning pedestrian and bicycle accommodation at University Avenue & N 42nd St. were posted by stakeholders on the aerial photo of that intersection.

Stakeholders indicated (there are) often delays for traffic and pedestrians (and it) *Needs pedestrian and bike access*." The quote refers to the north-south direction on the east side of the intersection of University Avenue & N. 42nd St. which lack pedestrian accommodation.

The Grand Forks Department of Engineering pointed that at this intersection there is a shared use path as well as an overhead tunnel system from UND. The existing overhead skyway section allows UND students to cross over North 42nd Street and over the railroad track which currently separates the two buildings. However, there is not accommodation for pedestrians or bicyclist on the east side of N 42nd St. @ University Avenue.

Map *Grand Forks-East Grand Forks, 2017 Bicycle and Pedestrian Barriers* illustrates the location of Absolute, Relative & Arbitrary Barriers in the region.




Grand Forks - East Grand Forks - 2017
Bicycle and Pedestrian Barriers
23rd St NW
River Rd NW
8th Ave NW
Central Ave
Washington St
Gateway Dr
10th St NE
2nd Ave NE
5th Ave NE
US Highway 2 SW
DeMers Ave
20th St N
5th St N
University Ave
Business Highway 2
4th Ave S
5th Ave SE
55th St N
47th St N
42nd St S
48th St S
11th Ave S
Columbia Rd
20th St S
Washington St
Cherry St
Belmont Rd
Bygland Rd SE
13th St SE
34th St S
17th Ave S
Campbell Dr
Rhinehart Dr SE
24th Ave S
28th Ave S
32nd Ave S
Chestnut St
36th Ave S
40th Ave S
47th Ave S
Adams Dr
62nd Ave S
0
1 Miles
Revised June 30
Existing Facilities
Bike Lane
Bike Route
Multi-Use Path
Sharrow
Unpaved Trail
Street or Rail Improvements
Bridge/Tunnel
Absolute Barriers
Water Body (Absolute Barriers)
Arbitrary Barriers
N
W
E
S
Grand Forks - East Grand Forks
Metropolitan Planning Organization

3. Facilities Enabling Bicycle And Pedestrian Movement

- **Enabling Motorized and Non-Motorized Movements**

Despite access, continuity and mobility difficulties caused by the presence of the barriers and obstacles outlined above; a number of facilities still enable motorized and bicycle and pedestrian movement in the urbanized area. These facilities include:

FACILITIES ENABLING VEHICLE, BICYCLE AND PEDESTRIAN MOVEMENTS

A. A.G. Sorlie Memorial Bridge @ DeMers Ave. Red River of the North

B. J.F. Kennedy Memorial Bridge @ U.S. 2 Red River of the North © Google Maps, 2017

C. Louis Murray Memorial Bridge Red Lake River © Google Maps, 2017

D. "The Point" Bridge over the Red River of the North

A. The ***A.G. Sorlie Memorial Bridge***. It is located over the Red River of the North. It allows pedestrian movement. Bicyclists are allowed to ride their bikes on deck to access the Greenway Trail. However, bicyclists are prohibited from riding their bicycles on sidewalks in both downtowns. As a result, bicyclist should walk not ride their bikes while on the pedestrian way of the Sorlie Bridge.

B. The "***J. F. Kennedy Memorial Bridge.***" This structure does not currently have facilities to accommodate pedestrians and bicyclists. However, the Kennedy Bridge is currently undergoing a major rehabilitation. As part of the Kennedy Bridge Project, access to pedestrians and bicyclists will be available. Also, a shared used trail will be built. The trail goes from 6.5' wide west of the bridge (where it ties into the existing walk) to 8'9" on the bridge to 10' wide east of the bridge. Minnesota DOT is currently working with the City of East Grand Forks to get this path connected into the greenway multi use trail. A 10' wide concrete shared use path will be constructed from the bridge down the on-ramp to River Road NW.

C. The "***Louis-Murray Memorial Bridge.***" Locate over the Red Lake River, it connects the area known as the "*Point*" to other important landmarks in East Grand Forks. Similarly, the bridge allows for access to some area attractors such as the VFW + Blue Line Arena, the South Point Elementary School and Central Middle School. The Louis-Murray Memorial Bridge and through a shared use path provides continuity for all non-motorized movements, including those related to the Greenway Trail and nearby open spaces.

D. The "***Point" Bridge.***" This structure located over the Red River curtails bicycle and pedestrian movement. The Point Bridge connects Grand Forks and East Grand Forks on Minnesota Avenue. The bridge was built initially to accommodate pedestrian access and bicycle movements.

However, it appears that pedestrian and bicyclists safety concerns have influenced decision-makers to abandon access to existing sidewalks on deck at both approaches. Although this bridge has the highest deck of the three bridges in Grand Forks, it has the lowest approaches in town and it is closed some years during flooding events.

In addition, *residents in the Near Southside neighborhood of Grand Forks said traffic is only getting worse with time, and that too many heavy trucks are lumbering through town to cross the Point Bridge between Grand Forks and East Grand Forks.*[29]

- **Accessibility and connectivity: Community and life-style related activities are served by High Volume Roads:**

FACILITIES ENABLING BICYCLE AND PEDESTRIAN MOVEMENTS

E. Washington St. Underpass @ 23rd Ave. South

F. Underpass Gateway Dr. between River Rd. /4th St. NW and 5th Ave. NW.
© Google Maps, 2017

G. The Underpass on Gateway Drive (East Grand Forks)
© Google Maps, 2017

H. Pedestrian UND Pedestrian Overpass over 42nd St. (UND)

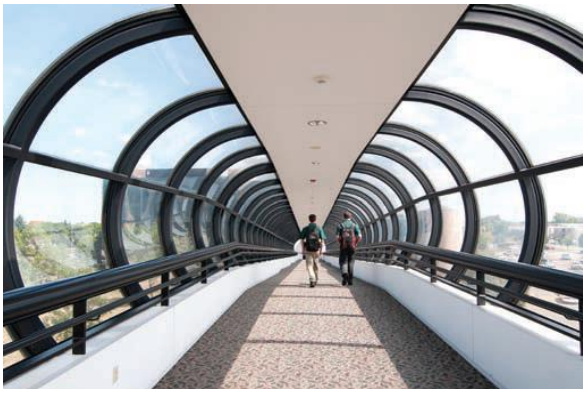
E. ***South Washington Street @ 23rd and 30th Ave. S (Underpasses).*** This structure facilitates pedestrian and bicycle movements and access to children to and from the library, commercial developments, adjacent schools, parks and community religion institutions.

F. ***The Gateway Drive Underpass @ N 5th St.*** (Grand Forks). The underpass facilitates safe roadway crossing to and from Wilder Elementary School and nearby neighborhoods.

G. ***The Gateway Drive Underpass*** (Between River Road/4th Street NW and 5th Avenue NW). (East Grand Forks). Connects residents to the Sherlock Park, New Heights Elementary and the high school on the north side of Gateway Drive. It also provides access to the community pool, the library, downtown shops and restaurants on the south side of Gateway Drive. The Consultant observes that "*unfortunately, many pedestrian can still be seen crossing Gateway Drive at-grade, despite high speed and sometimes heavy traffic along Gateway Drive*."[30]

H. ***N 42nd St. University North Dakota Skyway.*** The Overpass joins the Clifford Hall and Ryan Hall, which were designed to accommodate the skyway. The 410-foot skyway section allows UND students to cross over North 42nd Street and the railroad track which currently separates the two buildings. The ramps and landings on the skyway meet American with Disabilities Act.[31]

[29] Herald Editorial Board (2017) *Our view: Bridge talks begin again, and that's good*. (August 29, 2017)
[30] HDR ENGINEERING, INC. (2016) U.S. HIGHWAY 2 ACCESS MANAGEMENT STUDY - DRAFT EAST GRAND FORKS, MINNESOTA
[31] University of North Dakota (197) *University Letter* August 1, 1997 Volume 34 No. 41



The skywalks connecting Odegard, Clifford and Ryan Halls (47) and the Skalicky Tech Incubator (49) offer visitors a different perspective of the west campus.[32]

- **Mobility, accessibility and connectivity: Student population & Others residing in proximity to the University of North Dakota Campus**

FACILITIES ENABLING PEDESTRIAN & BICYCLIST MOVEMENTS

I. Boden Apartments Pedestrian Ramp
© MPO staff, 2017

J. N 2th Avenue Underpass (UND)
© Google Maps, 2017

J. N. Columbia Road Parking Ramp (UND)
© Google Maps, 2017

K. ***De Mers Avenue- The Boden Apartments Pedestrian Ramp.*** A pedestrian Ramp facilitates safe access to the Boden Apartments for those needing to cross on DeMers and railway yards. The ramp provides access to Columbia Road Overpass. To get to UND, students have to walk a block to the east to a crosswalk with traffic signals, cross DeMers, walk a block to the west, and then finally walk to the pedestrian path of the overpass to cross DeMers and the railyard.[33] The ramp is expected to help reduce the number of students *Jay-walking* over DeMers Avenue across the Boden.

L. ***2nd Avenue N. Underpass*** over Columbia Road (*University of North Dakota Campus*). This underpass is available for those users wanting to safely cross Columbia Road without any interaction with vehicular movements on the road. The 2nd Avenue underpass serves students, faculty and staff participating and attending UND activities at the Memorial Stadium and at either side of Columbia Road.

[32] SITES 2C @UND Updated by: UND Division of University and Public Affairs, September 2013
[33] Rupard, Wade (2015) Grand Forks looks to update laws on jaywalking (Grand Forks Herald, Oct 13).

M. ***N Columbia Road Parking Ramp*** (University of North Dakota). The parking ramp allows access to important UND buildings. It also facilitates safe crossings for staff, students and faculty members wishing to cross 2nd Street North over Columbia Road. The intersection of Columbia Road at 2nd Street N features high volume traffic and active pedestrian and bicycle movements.

C. RELATIVE BARRIERS (*OBSTACLES*)

Relative Barriers are "*geographical features that impose a level of friction on a movement*." The movement entails a "*cost,"* which directly varies according to the level of friction. All modes of transport seek to find "*the path of least resistance."* Thus, the perceived level of friction (*cost*) influences the path or routes to be chosen.

Some perceived relative barriers (*obstacles*) include the perceived lack of safety, erratic schedules or the feelings associated with perceived unknown distances, features that could discourage users from completing their transportation movements. Among others, these are some perceived obstacles that may present challenges to bicyclists and pedestrians:

- Intersections, inadequate signal timing, long crossing distances, or high speeds and volumes can present significant barriers to vehicles and to pedestrians, bicyclists and disabled users.

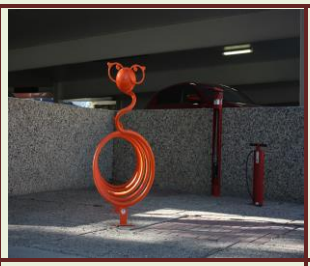
They may effectively constitute a "*gap*" in the transportation network. A few reasons why people consistently say they don't ride are:

- Distance and time
- Safety concerns
- Weather
- Lack of facilities: bikeways/parking
- Lack of end of trip facilities (Bicycle)

End-of-trip facilities for bicycle riders

Parking for Staff & Visitors © MPO staff

Bicycle Storage Lockers



Repair Stations © MPO staff

Changing Rooms Staff & Visitors

- Shower facilities
- Changing rooms
- Safe and convenient access
- Lockers, and
- A range of useful additional items (Repair stations).

Providing end-of-trip facilities help to attract a wider range of bicyclists, encourage employees and visitors to adhere to healthier lifestyles, and support the attainment of local government's community, health and environmental objectives.

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EXISTING CONDITIONS ANALYSIS

A. Introduction
B. Existing Community Land Use Patterns, Zoning & Livability Concerns
C. State Laws
D. City Ordinances
E. Supporting Plans
F. Characteristics of a Pedestrian
G. Types of Pedestrians
H. Local Pedestrian Networks (Sidewalks)
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J. Elements of the Pedestrian Network
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O. Existing Bicycle Facilities
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R. Determining Current Levels of Utilization
S. Public Attitude Survey of Bicycle and Pedestrian Planning
T. Safe Routes to Schools: Parent's Survey
U. Journey to Work: Community in the MPO's Planning Area
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X. Environmental Justice Areas

Improved at-grade Railway Crossing- East Grand Forks. Photo © MPO Staff, 2017

A. INTRODUCTION

The *Existing Conditions Analysis* collects baseline information to:

- Identify perceived impediments and constraints that must be overcome to recognize what stakeholders identify as issues/barriers that may impact local bicycle and pedestrian mobility.

- Support the development of strategies aimed at attaining the regional community vision accorded for the Bicycle and Pedestrian Element of the Multi-modal Transportation Plan.

- Identify potential opportunities for implementation of strategies designed to achieve previously agreed upon goals and objectives.

- Guide the development of data collection activities and analytical techniques essential to design and implement the proposed monitoring activities supporting established goals and objectives required to meeting national, state and local goals.

The information included in this section:

i. Describes the characteristics of a pedestrian as an user, outlines their needs and considers the components of pedestrian and bicycle networks; explains the operation of the pedestrian network, and its current facilities

ii. Describes the "*essential elements*" of a walkable neighborhood and provides a brief definition of the components of existing pedestrian facilities

iii. Presents a historical overview of the types of bicyclists; which includes the "*four types*" of bicyclists and their stated accessibility needs; as well as the elements that make the network suitable for travel

iv. Describes the current bicycle network facilities, including those segments built from 2013 to 2016

v. Strives to determine the extent to which the existing transportation system meets and satisfies the needs of bicyclists and pedestrians by evaluating the following existing conditions:

   - Results of the *Community Survey* advanced to determine level of use of the current non-motorized transportation network, in particular, the results from *Question* 9: *Suggested streets and Intersections would like to see more bicycle and pedestrian friendly*.

   - Analysis of the bike racks infrastructure and a brief review of the *Bikes-on-Buses* program fostered by the *Cities Area Transit* (CAT)

   - Analysis of *Parent's Surveys*, administered in 11 Grand Forks schools by *Safe Kids Grand Forks.* The survey was used to collect information about K-8th graders on their travel journey to and from school in order to improve their safety and to extract user's concerns about the completeness and suitability of the bicycle system and pedestrian network

- A review of the *City of Grand Forks Traffic Signs on Schools Program*, as well as, the objectives of the proposed *Grand Forks-East Grand Forks Safety Study* (2017)

- Analysis of bicycle and pedestrian trips on the *Journey-to-work* and their impact on a worker's travel from home to work

- Analysis of bicycle and pedestrian crashes in Grand Forks and East Grand Forks including their severity, age and gender of drivers and injured people involved and type of vehicle. A brief comment will be made about the location of some reported crashes. The objective is to gather and analyze data to support the design of initiatives to improve sidewalk and bikeway safety in our region.

- Analysis of bicycle and pedestrian crashes in Grand Forks and East Grand Forks in proximity to schools. The analysis includes an assessment of the existing conditions as expressed by parents in the Parent's Survey.

- Analysis of existing conditions of a number of at-grade neighborhood rail crossings, particularly as these conditions relate to pedestrian and bicyclist movement.

The *Existing Conditions Analysis* assists in developing the criteria to identify specific facility-related improvements, including planning and design standards. The analysis helps to establish agency's policies to assess the extent to which those facilities impact the accessibility of the transportation system for pedestrians, wheelchair users and bicyclists.

B. LAWS REGULATING PEDESTRIANS ACTIVITIES[34]

1. North Dakota

Pedestrian related activities are mainly regulated according North Dakota Century Code under the following Chapters:

39-10-27. Pedestrian obedience to traffic-control devices and traffic regulations

- A pedestrian shall obey the instructions of any official traffic-control device especially applicable to the pedestrian, unless otherwise directed by a police officer.
- Pedestrians are subject to traffic-control and pedestrian-control signals as provided for in sections 39-10-05 and 39-10-06.

39-10-28. Pedestrian's right of way in crosswalk.

- When traffic-control signals are not in place or not in operation, the driver of a vehicle shall yield the right of way, slowing down or stopping if need be to so yield, to a pedestrian crossing the roadway within a crosswalk when the pedestrian is upon the half of the roadway upon which the vehicle is traveling, or when the pedestrian is approaching so closely from the opposite half of the roadway as to be in danger.
- No pedestrian may suddenly leave a curb or other place of safety and walk or run into the path of a vehicle which is so close as to constitute an immediate hazard.
- Subsection 1 does not apply under the conditions stated in subsection 2 of section 39-10-29.
- Whenever any vehicle is stopped at a marked crosswalk or at any unmarked crosswalk at an intersection to permit a pedestrian to cross the highway, the driver of any other vehicle approaching from the rear may not overtake and pass such stopped vehicle.

39-10-29. Crossing at other than crosswalk.

- Every pedestrian crossing a roadway at any point other than within a marked crosswalk or within an unmarked crosswalk at an intersection shall yield the right of way to all vehicles upon the roadway.
- Any pedestrian crossing a roadway at a point where a pedestrian tunnel or overhead pedestrian crossing has been provided shall yield the right of way to all vehicles upon the roadway.
- Between adjacent intersections at which traffic-control devices are in operation, pedestrians may not cross at any place except in a marked crosswalk.

[34] Verbatim Notes from various sources for Statutes and Ordinances.

- No pedestrian may cross a roadway intersection diagonally unless authorized by official traffic-control devices; and, when authorized to cross diagonally, pedestrians shall cross only in accordance with the official traffic-control devices pertaining to such crossing movements.

39-10-33. Pedestrian on roadway.

- Where a sidewalk is provided and its use is practicable, it is unlawful for any pedestrian to walk along and upon an adjacent roadway.

- Where a sidewalk is not available, any pedestrian walking along and upon a highway shall walk only on a shoulder, as far as practicable from the edge of the roadway.

- Where neither a sidewalk nor a shoulder is available, any pedestrian walking along and upon a highway shall walk as near as practicable to an outside edge of the roadway, and, if on a two-way roadway, shall walk only on the left side of the roadway.

- Except as otherwise provided for in this chapter, any pedestrian upon a roadway shall yield the right of way to all vehicles upon the roadway.

Pedestrian Activity –Downtown Grand Forks, 2017

2. Minnesota

Minnesota Statute 169.221 (2016) among others regulates the operation of pedestrians including: obeisance to traffic control signals, rights of the pedestrian the absence of signals, how to cross and intersection, how to drive a motor vehicle through a column of school children crossing a street, and advises on the side of the road pedestrians must walk or move on in wheelchair.

Subdivision 1. Obey traffic-control signals.

- Pedestrians shall be subject to traffic-control signals at intersections as heretofore declared in this chapter, but at all other places pedestrians shall be accorded the privileges and shall be subject to the restrictions stated in this section and section 169.22.

Subdivision 2. Rights in absence of signal.

- Where traffic-control signals are not in place or in operation, the driver of a vehicle shall stop to yield the right-of-way to a pedestrian crossing the roadway within a marked crosswalk or at an intersection with no marked crosswalk. The driver must remain stopped until the pedestrian has passed the lane in which the vehicle is stopped.

- No pedestrian shall suddenly leave a curb or other place of safety and walk or run into the path of a vehicle which is so close that it is impossible for the driver to yield. This provision shall not apply under the conditions as otherwise provided in this subdivision.

- When any vehicle is stopped at a marked crosswalk or at an intersection with no marked crosswalk to permit a pedestrian to cross the roadway, the driver of any other vehicle approaching from the rear shall not overtake and pass the stopped vehicle.

- It is unlawful for any person to drive a motor vehicle through a column of school children crossing a street or highway or past a member of a school safety patrol or adult crossing guard, while the member of the school safety patrol or adult crossing guard is directing the movement of children across a street or highway and while the school safety patrol member or adult crossing guard is holding an official signal in the stop position. A peace officer may arrest the driver of a motor vehicle if the peace officer has probable cause to believe that the driver has operated the vehicle in violation of this paragraph within the past four hours.

- A person who violates this subdivision is guilty of a misdemeanor. A person who violates this subdivision a second or subsequent time within one year of a previous conviction under this subdivision is guilty of a gross misdemeanor.

Subdivision 3. Crossing between intersections.

- Every pedestrian crossing a roadway at any point other than within a marked crosswalk or at an intersection with no marked crosswalk shall yield the right-of-way to all vehicles upon the roadway.

- Any pedestrian crossing a roadway at a point where a pedestrian tunnel or overhead pedestrian crossing has been provided shall yield the right-of-way to all vehicles upon the roadway.

- Between adjacent intersections at which traffic-control signals are in operation pedestrians shall not cross at any place except in a marked crosswalk.

- Notwithstanding the other provisions of this section every driver of a vehicle shall (1) exercise due care to avoid colliding with any bicycle or pedestrian upon any roadway and (2) give an audible signal when necessary and exercise proper precaution upon observing any child or any obviously confused or incapacitated person upon a roadway.

Subdivision 4. Use right half of crosswalk.

- Pedestrians shall move when practicable upon the right half of crosswalks.

Subdivision 5. Walk on left side of roadway.

- Pedestrians when walking or moving in a wheelchair along a roadway shall, when practicable, walk or move on the left side of the roadway or its shoulder giving way to oncoming traffic. Where sidewalks are provided and are accessible and usable it shall be unlawful for any pedestrian to walk or move in a wheelchair along and upon an adjacent roadway.

Intersection – Downtown East Grand Forks. Photo: © MPO Staff, 2017

C. LAWS REGULATING BICYCLIST'S ACTIVITIES

1. North Dakota

Bicycle and related activities are mainly regulated according North Dakota Century Code under the following Chapters:

Century Code Chapter 39-10-(*01-73*) states the "General *Rules of the Road"* prevailing in North Dakota. The Code defines the vehicles upon the highways and other places open to the public for the operation of vehicles.

North Dakota Century Code Chapter 39-10- (*01-73*) applies whenever a bicycle is operated upon any Highway or upon any path set aside for the exclusive use of bicycles. This provision is subject to those exceptions stated in the Law. Chapter 39-10.1 regulates the operation of bicyclists, provides guidance on riding on the roadway and bicycle paths, riding rules, and required equipment.

According to the Century Code:

39-10.1-02. Traffic laws apply to persons riding bicycles.

- Every person riding a bicycle upon a roadway is granted all of the rights and is subject to all of the duties applicable to the driver of a vehicle by this title, except as to special regulations in this title and except as to those provisions of this title which by their nature can have no application

As a result, bicyclists have the same general rights and duties as motorists and must obey all traffic control signals and signs.

39-10.1-03. Riding on bicycle.

- A person propelling a bicycle may not ride other than upon or astride a permanent and regular seat attached thereto.
- No bicycle may be used to carry more persons at one time than the number for which it is designed and equipped.

39-10.1-05. Riding on roadway and bicycle path.

- An individual operating a bicycle upon a roadway shall ride as near to the right side of the roadway as practicable, exercising due care when passing a standing vehicle or one proceeding in the same direction.

- A group of individuals riding bicycles upon a roadway may not ride more than two abreast, except on paths or parts of roadways set aside for the exclusive use of bicycles.

39-10.1-06. Carrying article.

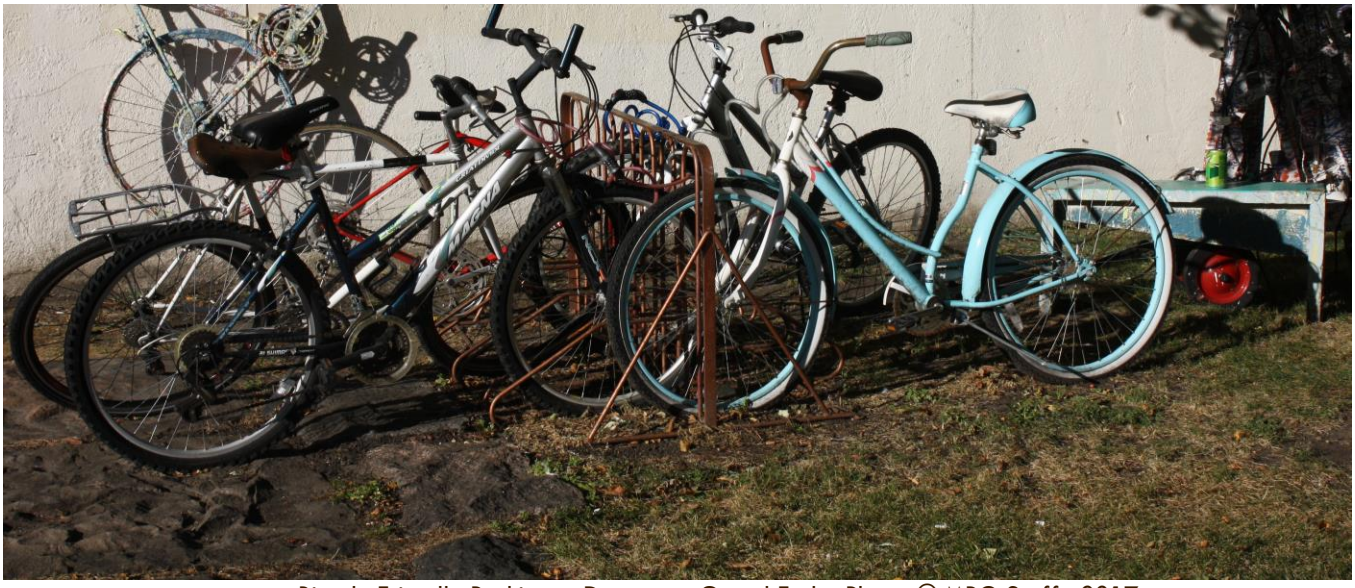
No person operating a bicycle may carry any package, bundle, or article which prevents the driver from keeping at least one hand upon the handlebars.

39-10.1-07. Lamps and other equipment on bicycles.

Every bicycle when in use at nighttime must be equipped with a lamp on the front which emits a white light visible from a distance of at least five hundred feet [152.4 meters] to the front and with a red reflector on the rear of a type approved by the department.

A lamp emitting a red light visible from a distance of five hundred feet [152.4 meters] to the rear may be used in addition to the red reflector.

Every bicycle must be equipped with a brake which will enable the operator to make the braked wheels skid on dry, level, clean pavement.



Bicycle Friendly Parking -- Downtown Grand Forks, Photo: © MPO Staff, 2017

2. Minnesota

Minnesota Statute 169.222 (2016) regulates the operation of bicyclists, capacity, riding rules, required equipment, parking and participation at events on certain classified roadways. Bicyclists have the same general rights and duties as motorists and must obey all traffic control signals and signs. Bicyclists must:

a) Ride on the road, and must ride in the same direction as traffic; b) Obey all traffic control signs and signals, just as motorists. c) Signal turns and ride in a predictable manner, and d) Use a headlight and rear reflectors when it's dark.

Minnesota Statute 169.011, Subdivision 4:

(a) "Bicycle" means every device capable of being propelled solely by human power upon which any person may ride, having two tandem wheels, and including any device generally recognized as a bicycle though equipped with two front or rear wheels. Bicycle includes an electric-assisted bicycle, as defined in subdivision 27.

(b) "Bicycle" does not include scooters, motorized foot scooters, or similar devices.

In Minnesota a bicycle is not considered a motor vehicle.

Minnesota Statute 169.011, Subdivision 42:

> A "*motor vehicle" is defined as every vehicle which is self-propelled and every vehicle which is propelled by electric power obtained from overhead trolley wires. Motor vehicle does not include an electric personal assistive mobility device or a vehicle moved solely by human power*.

However, although not considered a motor vehicle, a bicyclist has to obey the same traffic laws as a motorist.

Minnesota Statute 169.222, Subdivision 1:

> *Every person operating a bicycle shall have all of the rights and duties applicable to the driver of any other vehicle by this chapter, except in respect to those provisions in this chapter relating expressly to bicycles and in respect to those provisions of this chapter which by their nature cannot reasonably be applied to bicycles*.

Similarly, Pedestrian Laws require that motorists must treat every corner and intersection as a crosswalk, whether it's marked or unmarked, and drivers must stop for crossing pedestrians. Pedestrians must obey traffic control devices, and when no traffic control device is present, motorists must stop for crossing pedestrians within a marked crosswalk or at an intersection with no marked crosswalk.

Minnesota Statute 169.22, Subdivision 1.

> "*Every person operating a bicycle shall have all of the rights and duties applicable to the driver of any other vehicle by this chapter, except in respect to those provisions in this chapter*

relating expressly to bicycles and in respect to those provisions of this chapter which by their nature cannot reasonably be applied to bicycles."

In Minnesota, regulations concerning the operation of bicycles are rooted in historical experiences. For instance,

> *Going back as far as the 1890's, bicyclists have been granted the same rights and duties as other vehicles, including cars, horses, carriages and other modes of transport. The real battle over bicycle rights took place shortly after the bicycle craze of the 1890's, which involved riders called "Scorchers" speeding through city streets with complete abandon. Despite a public outcry against the Scorchers, bikes were eventually given the same rights to the road as other vehicles.*[35]

However, in Minnesota there are exceptions written into the law just for bicycles and bicyclists. Among other, here are two of them:

The right hand side rule provides that bicyclists must ride as close as practicable to the right hand side of the road, unless: (…)

- *Moving away from the right hand side is reasonably necessary for the bicyclist to avoid conditions, vehicles, pedestrians, animals, surface hazards or narrow width lanes that would make it unsafe to continue along the right hand side.*[36]

THE MINNESOTA RED LIGHT EXEMPTION; RUNNING RED LIGHTS

- *Since many traffic lights are triggered by the large metal of cars and trucks, which set off magnets under the road, bicyclists often come to red lights that will never turn green for them. So a bicyclist may cross against a red light under these conditions. They must come to a complete stop, AND the light must be red for an unreasonable amount of time, and the traffic signal must be apparently malfunctioning, and finally, there must be no motor vehicle approaching that constitutes an immediate hazard. Minnesota Statute 169.09. If a cyclist meets all of these conditions, they may proceed through the intersection against the red light.*[37]

[35] Knutson Casey PLLP 2017 (Attorneys-at-Law) Mankato at http://knutsoncasey.com/
[36] Knutson Casey PLLP 2017 (Attorneys-at-Law) Mankato at http://knutsoncasey.com/
[37] Knutson Casey PLLP 2017 (Attorneys-at-Law) Mankato at http://knutsoncasey.com/

C. ORDINANCES REGULATING PEDESTRIANS ACTIVITY

1. Grand Forks, ND

Most pedestrian mobility, accessibility and connectivity activities take place on sidewalks. Sidewalks are placed parallel to the road or separated from motor vehicles. The following Ordinances and corresponding articles support the non-motorized activities in Grand Forks:

Chapter XIV - Grand Forks CENTRAL BUSINESS DISTRICT

Article 4. - The Greenway

14-0401. - Purpose.

The city council deems it necessary and desirable to adopt ordinances to provide for the safe and peaceful use of the greenway areas and facilities for the educational and recreational benefit for the public; the protection and preservation of the greenway; and for the safety and general welfare of the public while using and enjoying the greenway.

Chapter XVI – STREETS & SIDEWALKS

Article 2. - Sidewalk Construction and Maintenance

16-0217. - Installation of arterial and collector streets.

Arterials (principal and minor) and collector streets as outlined in the Grand Forks comprehensive plan shall require a minimum five-foot wide sidewalk on both sides of the street. All sidewalks paralleling arterial and collector streets shall be installed no later than the time the street is paved.

16-0217. - Installation of arterial and collector streets.

Arterials (principal and minor) and collector streets as outlined in the Grand Forks comprehensive plan shall require a minimum five-foot wide sidewalk on both sides of the street. All sidewalks paralleling arterial and collector streets shall be installed no later than the time the street is paved.

16-0218. - Installation on local streets over three hundred feet in length.

16-0219. - Installation on minor streets less than three hundred feet in length.

Local streets, regardless of their designated names, consisting of cul-de-sac, loops, courts, drives and similar configurations of three hundred (300) feet or more in length, measured along the centerline from centerline to centerline, shall require a minimum five-foot sidewalk on both sides of the street

16-0220. - Installation of sidewalks in easements.

A minimum five-foot sidewalk shall be required to be installed, by resolution of city council, in pedestrian walkways or sidewalk easements located in side yards or rear yards.

ARTICLE 3. - USE AND CARE OF STREETS AND SIDEWALKS

16-0301. - Snow and ice—Removal from sidewalks.

The owner or occupant of any building, grounds or premises within the limits of the city shall keep the sidewalks and approach walks adjacent to the same free from snow and ice

16-0302. - Same—Assessments by superintendent of streets when work is done by city.

16-0304. - Driving on sidewalks prohibited.

No person shall ride, drive, push, draw, or back any horse, team, wagon, cart, sled, sleigh, or other vehicle upon or over or across any sidewalk, except at the regular crossings or where the alleys intersect the streets;

16-0305. - Bicycles on sidewalks; when permitted.

Persons may ride bicycles upon sidewalks in residential districts. This helps younger bicyclist to gain confidence before riding in the street.

16-0308. - Obstructing sidewalks—With merchandise delivered or received.

No person, firm or corporation receiving or delivering goods, wares, or merchandise in the City of Grand Forks shall place or keep upon, or suffer to be placed or kept upon any sidewalk, any goods, wares or merchandise which said person, firm or corporation may be receiving or delivering, without leaving a passageway clear upon said sidewalk.

16-0314. - Vehicle traffic adjacent to sidewalk; curbs required.

16-0315. - Injury to or removal of pavement, sidewalks, etc.

No person shall injure, tear up, break or remove any pavement, sidewalk, crosswalk, drain, or sewer within the city.

16-0317. - Depositing of snow or ice on city streets or sidewalks prohibited.

No person shall deposit or cause any snow or ice to be deposited upon any city street or sidewalk;

ARTICLE 4. - ENCROACHMENTS, OBSTRUCTIONS AND EXCAVATIONS

16-0401. - Vehicles forbidden to block streets.

No driver of any vehicle shall stop the same on any street, avenue, lane, or alley of the city in such a manner as to hinder or prevent other vehicles or persons from passing at all times
16-0402. - Obstruction of streets and sidewalks—With lumber, coal, grass, etc.

It shall be unlawful for any person or persons to obstruct any street, avenue, alley, sidewalk, gutter, Public Park, or other highway, with any timber, lumber, wood, coal, brick, tin clippings, rubbish, filth,

stone, earth, manure, brush, boxes, crates, barrels or shavings or any other material, article, or commodity whatever

ARTICLE 5. – DRIVEWAYS

16-0314. - Vehicle traffic adjacent to sidewalk; curbs required.

Every person, firm or corporation, which on private property, permits vehicular traffic adjacent and parallel to public sidewalks, shall provide on said private property and abutting the inside sidewalk line, a curb six (6) inches in width and six (6) inches in height above the sidewalk level; such curbing shall extend and be constructed wherever such vehicular traffic is permitted on private property adjacent and parallel to public sidewalks, except that same may be cut to permit ingress and egress provided written permission is obtained from the city engineer who shall prescribe the dimensions and location of such cut.

16-0507. - Curb cuts.

The permit for a driveway issued under this article shall include a permit to cut the curb under the supervision of the city engineer

Pedestrian Gates –Downtown Grand Forks, Photo: © MPO Staff, 2017

2. East Grand Forks, MN

In East Grand Forks, Ordinance No. 313rd Series outlines amendments to Chapter 151 "Subdivision Regulation" Section 151.106 (B). These amendments are related to Street Width and Grade, and (12), Sidewalks. The ordinance adopted by reference City Code Title I, Chapter 10 and Section 10.99. Among others, the regulation contains penalty provisions. Among others, the amendment defines the design of sidewalks, location, placement, sidewalks on cul-de-sacs. The Ordinance also demands that all sidewalks are required to be in compliance with most current Americans with Disabilities Act (*ADA*) standards.

Ordinance No. 313 3rd Series

THE CITY OF EAST GRAND FORKS ORDAINS: Section 1. That Chapter 151 entitled "Subdivision Regulations" shall have the following changes:

Sidewalks.

Sidewalk design. The following section explains the design requirement for all sidewalks built in the City.

- All sidewalks built are required to be in compliance with the most current Americans with Disabilities Act (ADA) standards.
- All sidewalks will be built to the widths that follow: residential districts, five feet; commercial districts, eight feet; and industrial districts, five feet.
- Sidewalks will be a minimum of four-inch thick concrete placed on a four inch gravel base. The portion of the sidewalk that crosses a driveway must be a minimum of 6 inch thick concrete.
- Sidewalks will be installed at a 2% grade towards the street. From the property edge to the back of the curb, the grade shall be 4%.

Installation time. In new developments, all sidewalks are to be installed on each parcel within nine months of the day the building permit for that parcel is filed. Once 66% of the parcels in the subdivision are developed, all other parcels will have sidewalks installed, unless the property owner files a petition saying that they will build within one year.

Location requirements. All sidewalks installed in areas in compliance with the following.

- Sidewalks will be located on both sides of the street.
- Placement of the sidewalk will start 1 foot from the property line inside the road right-of-way and proceed 5 feet toward the curb.
- Driveway area that contains the sidewalk must be constructed so that it provides a level passage of at least 5 feet wide for placement of a sidewalk across the driveway.

Sidewalks on cul-de-sacs. Sidewalks will not be required in cul-de-sacs less than three hundred feet in length. Nothing in this section shall prohibit individual property owners or agreement from all property owners from installing a sidewalk on or adjacent to their property.

Waiver of protest.

- Prior to the issuance of a building permit relating to properties designated for sidewalk construction, the owner must sign a request for sidewalk or a waiver of protest; said waiver shall be recorded with the recorder's office and shall deny the property owner, said owner's heirs or assigns the right to protest the installation of sidewalks on designated public rights-of-way.

- The lots for which waiver of protest forms have been signed shall be counted as in favor of sidewalks in determining the percentage in 151.106B.12.b

CHAPTER 96: STREETS AND SIDEWALKS

§ 96.04 APPLICATION.

- Every person riding a bicycle or an animal or driving any animal drawing a vehicle upon a roadway shall be subject to the provisions of this chapter and Title VII applicable to the driver of a vehicle, except those provisions which by their nature can have no application. Provisions specifically referring to bicycles shall be in addition to other provisions of this chapter and Title VII applying to vehicles. (1981 Code, § 6.04)

96.05 Ice and snow on public sidewalks

- Ice and snow a nuisance. All snow and ice remaining upon public sidewalks is declared to constitute a public nuisance and shall be abated by the owner or tenant of the abutting private property within 12 hours after such snow or ice has ceased to be deposited.

96.06 Construction and reconstruction of roadway surfaces, sidewalks and curbs and gutters

Methods of procedure.

- Abutting or affected property owners may contract for, construct or reconstruct roadway surfacing, sidewalk or curb and gutter in accordance with this section if advance payment is made therefor or arrangements for payment considered adequate by the city are completed in advance.

- With or without petition by the methods set forth in the Local Improvement Code of Minnesota Statutes, presently beginning with M.S. § 429.011, as it may be amended from time to time.

96.08 Sidewalk maintenance and repair

- *Primary responsibility*. It is the primary responsibility of the owner of property upon which there is abutting any sidewalk to keep and maintain such sidewalk in safe and serviceable condition.

Bike Path & Sidewalk –Grand Forks. Photo: © MPO Staff, 2017

Multi-modal Rail crossing Near School Center – East Grand Forks, Photo: © MPO Staff, 2017

D. ORDINANCES REGULATING BICYCLISTS ACTIVITY

1. Grand Forks, ND

Article 11. - Bicycles and Motorcycles; Bicycle Paths –

8-1101. - Number of persons to be carried.

No bicycle or motorcycle shall be used to carry more persons at one (1) time than the number for which it is designed or equipped.
(Ord. No. 3545, § 2, 9-18-95)

8-1102. - Riding more than two abreast prohibited.

All motorcycles and bicycles when operated on the streets of the city shall proceed in single file, except that on four-lane traffic ways within the city, no more than two (2) vehicles shall drive side by side and will at all times remain in the single lane, provided, that this restriction shall not apply to bicycles on paths or parts of roadways set aside for the exclusive use of bicycles.
(Ord. No. 3545, § 2, 9-18-95)

8-1103. - Cyclists subject to traffic regulations.

Every person riding a bicycle upon a roadway shall be subject to the provisions of this chapter applicable to the driver of a vehicle, except as to special regulations in this article and except as to those provisions of this chapter which by their nature can have no application.

CHAPTER VII, ARTICLE 11. - BICYCLES AND MOTORCYCLES; BICYCLE PATHS
(Ord. No. 3545, § 2, 9-18-95)

8-1104. - Riding on sidewalks in residential districts.

Persons may ride bicycles upon sidewalks in residential districts only. Such person shall at all times have the bicycle under control, and shall drive it in a careful manner and with due regard to the safety and convenience of pedestrians. Such person shall yield the right-of-way to any pedestrians and shall give audible signals before overtaking and passing such pedestrians.
(Ord. No. 3545, § 2, 9-18-95)

8-1105. - Bicycles may be impounded by police.

Bicycles operated in violation of this article may be impounded by the police department.
(Ord. No. 3545, § 2, 9-18-95; Ord. No. 4229, § I, 5-5-08)

8-1106. - Vehicular traffic prohibited on designated bicycle lanes.

Motor vehicle traffic is prohibited on all designated bicycle lanes except to enter or to exit from parking spaces or driveways, or to make right-hand turns. Vehicular traffic must yield to bicycle traffic in crossing the bicycle lane.
(Ord. No. 3545, § 2, 9-18-95)

8-1107. - Care required on bike paths.

Persons riding a bicycle on or along a bike path, or otherwise utilizing the bike path in any other manner, shall at all times be under proper control and shall behave in a careful manner and with due regard to the safety of pedestrians, other cyclists, and other users.
(Ord. No. 3545, § 2, 9-18-95)

8-1108. - Operation of motor vehicles on bike paths prohibited.

No person shall operate any motor vehicle on or along any such bike paths which are so designated and posted, "bike path," by the City of Grand Forks. This section shall not apply to emergency and police vehicles or maintenance vehicles while on official duties, or motor vehicles crossing at a permanent or temporary driveway. For purposes of this section, the term "motor vehicle" shall include but not be limited to snowmobiles, go-carts, mopeds, mini-bikes, and any and all conveyances driven by a motor.
(Ord. No. 3545, § 2, 9-18-95)

8-1109. - Attaching bicycles to vehicles prohibited.
No person riding upon any bicycle, coaster, roller skates, sled or toy vehicle shall attach the same or himself or herself to any vehicle upon a roadway.
(Ord. No. 3545, § 2, 9-18-95)

Chapter VIII, Traffic and Motor Vehicles

Article 4 Identifies actions that are hazardous and illegal. It also regulates pedestrian activities such as: Crossing streets; jaywalking; unloading school children from motor vehicles; obedience to traffic-control signals and officers; Right-of-way of pedestrians—Intersections

Article 13. - Roller Skates and Skateboards

Provides general rules of the road to protect, vehicles, pedestrians and bicyclists.

8-1307. - Reflective clothing required at night.
Provides general rules of the road to protect, vehicles, pedestrians and bicyclists, and requires skaters to wear reflective clothing at night.

2. East Grand Forks, MN

CHAPTER 75: BICYCLES

75.01 Traffic laws apply

- Every person riding a bicycle upon a roadway shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of a vehicle by this title, except as to special regulations in this title and except as to those provisions of this title which by their nature can have no application. (1981 Code, § 7.50, Subd. 1)

75.02 Manner and number riding

- It is unlawful for any person propelling a bicycle to ride other than upon or astride a permanent and regular seat attached thereto.

- No bicycle shall be used to carry more persons at 1 time than the number for which it is designed and equipped. (1981 Code, § 7.50, Subd. 2) Penalty, see § 70.99

75.04 Where to ride

- Every person operating a bicycle upon a roadway shall ride as near to the right side of the roadway as practicable, exercising due care when passing a standing vehicle or one proceeding in the same direction.

- Persons riding bicycles upon a roadway shall ride single file except on paths or parts of roadways set aside for the exclusive use of bicycles.

75.05 Right-of-way; sidewalks

- Whenever a person is riding a bicycle upon a sidewalk, the person shall yield the right-of-way to any pedestrian and shall give audible signal before overtaking and passing the pedestrian; provided, that it is unlawful for any person to ride a bicycle on a sidewalk in a business area. (1981 Code, § 7.50, Subd. 5)

75.07 Lighting and brake equipment

- Every bicycle when in use at night time shall be equipped with a lamp on the front which shall emit a white light visible from a distance of at least 500 feet to the front and with a red reflector on the rear of a type approved by the Department which is visible from all distances from 50 feet to 300 feet to the rear when directly in front of lawful upper beams of head lamps on a motor vehicle. A lamp emitting a red light visible from a distance of 500 feet to the rear may be used in addition to the red reflector.

- Every bicycle shall be equipped with a brake which will enable the operator to make the braked wheels skid on dry, level, clean pavement. (1981 Code, § 7.50, Subd. 7)

Title VII of the Municipal Code (Traffic Code) regulates bicycle activities. The East Grand Forks Traffic Ordinance is enabled by Minnesota Statute 169. The Ordinance requires riding on the roadway. In East Grand Forks, bicyclists are prohibited to ride on a sidewalk in a business area, but are required to ride on a sidewalk or shared-use path where available.

However, if person is riding on sidewalk, the person riding must yield to any pedestrian. The Ordinance outlines the operation of a bicycle. It requires bicycle riders to always have both hands on the handle bars. In East Grand Forks, bicycles shall be properly equipped with lights and brakes to safely operate the vehicle.

§75.04 (C) requires that "*Whenever a usable path for bicycles has been provided adjacent to a roadway, bicycle riders shall use such paths and shall not use the roadway*." This requirement was repealed at the state level. However, it still appears in some local Ordinances. It is the opinion of the MPO staff that this paragraph should be repealed from the East Grand Forks Ordinance as it appears contrary to the Statute.

Minnesota's Bicycle advocates argue that "*the ordinance should be repealed and is contrary to state law*." According to their understanding "*that law was changed in the 1980's or 90's*." In addition, "*local mandatory side path ordinances are all illegal. Bicyclists are legal vehicles on all roads in MN except the limited access freeways*."[38]

Shared-use paths are a complement to the roadway network; they are not a substitute for providing access on streets. The advent of Complete Streets Policies advocates for the design of roadways built and maintained to safely accommodate travelers of all ages and abilities—motorists, pedestrians, bicyclists, and public transit users—including children, non-drivers, older adults, and persons with disabilities (*AARP, 2009*).

In that sense, the spirit of the Ordinance has the potential to become "*burdensome."* It restricts a number of bicyclist to the path and prevents experienced bicyclists like those '*strong and fearless*" from fully showcasing their riding abilities while enjoying the road.

Pedestrian walk-away –East Grand Forks, Photo: © MPO Staff, 2017

[38] Correspondence with Mr. Dorian Grilley Bicycle Alliance of Minnesota. August 28, 2017

E. SUPPORTING LAND USE & TRANSIT DEVELOPMENT PLANS

The current metropolitan transportation planning processes promote compatibility between transportation improvements, urban growth and economic development plans. For instance, the comprehensive land use plans developed by local and regional planning agencies typically include transportation elements that support recommended land use policies and plans.

This section presents a review of the:

- 2045 Grand Forks Land Use Plan
- 2045 East Grand Forks Land Use Plan, and
- Transit Development Plan (*TDP*).

These plans were adopted by the corresponding local authorities. They are used by the Cities, transit and the MPO to guide urban development and transportation investments in the community. These plans were reviewed to outline proposed recommendations dedicated to improve non-motorized activities. Planning and development assumptions guiding those plans could have short and long range impacts on proposed future land uses, densities, transit needs, and planned transportation infrastructure. No matter where they are, State DOTs and MPOs promote consistency between transportation improvements, planned growth, and economic development patterns.

1. 2045 GRAND FORKS LAND USE PLAN

The 2045 Grand Forks Land Use Plan was adopted by City Council in 2016. The plan serves both the City and the Metropolitan Planning Organization (MPO) as a guide to future development and investment. The Plan includes a number of recommendations to improve the provision of bicycle and pedestrian facilities. A summary of selected recommended approaches to improve the integration of land use and bicycle and pedestrian infrastructure includes:

2045 Grand Forks Land Use Plan Public Engagement Activities

Pop Up Event
French Fry Feed

Pilot Site # 1
Grand Cities Mall

Pilot Site # 2
Water Treatment Plan

Pilot Site # 3
South Columbia Road

Photos: © Antonio M. Rosell, Community Design Group (CDG)

- The City will commit to constructing sidewalks and/or side paths on all collector and arterial streets, even if these are not directly adjacent to a development. Developments may be asked to contribute a fair share to these construction costs. *(Source: Integration of bike and pedestrian infrastructure. Basic Policies: Chapter 5 Implementation.)*

- No development or property owner will be allowed to restrict use of sidewalk or path connections internal to a site - these will be open and available to the public. *(Source: Integration of bike and pedestrian infrastructure. Basic Policies: Chapter 5 Implementation.)*

- Planned Unit Developments should be required to contribute to projects identified in the GF-EGF MPO Bicycle and Pedestrian Master Plan and a fair share cost should be determined at the beginning of the process. (*Source: Integrating Bike/Pedestrian Infrastructure. Chapter 5 Implementation*)

- In mixed-use areas and along commercial corridors, bicycle and pedestrian travel may accommodate up to 5 percent of the roadway's associated vehicle travel volume. (*Source: Bicycle and Pedestrian Travel. Chapter 3 Growth Tiers and Future Land Use*)
- Incorporate transit-oriented design into mixed-use developments at key nodes and ensure provision of sufficient amenities for pedestrians and bicyclists (for example, bike racks, lighting, and sidewalks). (*Source: 3.2.1.3 Mixed Use Actions*)

- Adopt a "*Complete Streets*" policy covering the city or the metropolitan region. (*Source: Multimodal-Oriented Development*)

- Develop and adopt an "Active Living Design" checklist as part of the site development and review process. (*Source: Multimodal-Oriented Development*)

- Incorporate transit-oriented design into mixed-use developments at key nodes and ensure provision of sufficient amenities for pedestrians and bicyclists (for example, bike racks, lighting, and sidewalks). (*Source: 3.2.1.3 Mixed Use Actions*)

- Continue and strengthen the integration of the Greenway and the downtown.(*Source: 3.1.5.7 Mixed Use Actions)*

- Place bicycle facilities at major destination points. (*Sources: 7.3.1.1Mixed Use Actions*)

- Sidewalks and/or bicycle/pedestrian paths. These should be provided along the length of a corridor and are typically adjacent to the back edge of the right-of-way. *(Source: Corridor Overlay Options)*

- Pedestrian connections from development to roadway. Within the right-of way, development should also provide pedestrian connections between buildings and active uses and the sidewalks parallel to the roadway. *(Source: Corridor Overlay Options)*

- Make the walkability/bikeability of all proposed developments a more explicit evaluation criterion in development review. This includes requiring connections for children going to and from school and adults traveling to and from work or shopping destinations and public transit. This continues the policy of sidewalks on both sides of the street and multi-use facilities along appropriately-classified transportation routes. *(Source: 8.2. Goal 8 Transportation)*

- Develop and adopt bicycle design guidelines for appropriate placement of facilities on streets and take advantage of street maintenance to add these facilities on an opportunity basis. *(Source: 8.3.1 Goal: 8 Transportation).*

- Place bicycle facilities at major destination points *(Sources: 8.3.1.1. Goal:8 Transportation)*

- Systematically review areas of the city in need of multi-modal infrastructure development and utilize safe routes to school, assessments, or other programs to fill in missing gaps of the system. *(Source: 8.3.2. Goal 8 Transportation)*

- Public school facilities will have a complete network of sidewalks on all connecting streets within one-half mile and will have at least one completed bicycle facility within one quarter-mile. *(Source: 8.4. Goal 8 Transportation)*

- Conduct a walkability/bikeability audit and developing/maintaining a Safe Routes to School plan (or related planning document based on future changes to Federal program definitions) for the City/Region. *(Source: 8.4.1. Goal 8 Transportation)*

Most importantly, the 2045 Grand Forks Land Use Plan recommends utilizing safe routes to school, assessments or other programs to fill in missing gaps of the system. The Plan encourages governmental agencies to take a leadership role by providing end-of destination facilities. It also recommends a complete network of sidewalks on all connecting streets within one-half mile of public school facilities.

The Plan recommends reviewing and amending the zoning code, where necessary, to ensure consistency with the bike and pedestrian plan, including requiring new development and redevelopment to provide bike and pedestrian facilities. The 2045 Grand Forks Land Use Plan also provides guidelines to assure that bike and pedestrian infrastructure is actually developed. The plan suggests that "*the City should set basic policies to clearly define expectations for how bicycle and pedestrian activity will be added to new development along key corridors*."

2. 2045 EAST GRAND FORKS LAND USE PLAN

The City of East Grand Forks and the Grand Forks-East Grand Forks MPO work together in the preparation of and update of the City's Land Use Plan. The current 2045 East Grand Forks Land Use Plan includes a number of policy recommendations to improve pedestrian and bicyclist activities.

The 2045 East Grand Forks Land Use Plan was adopted by City Council in March, 2016. The purpose of the plan is to update long range planning efforts to allow the municipality to get a broad overview of current conditions as they relate to desired outcomes identified by community goals.

The Plan makes a number of recommendations concerning the provision of sidewalks to ensure safe pedestrian mobility and increase opportunities for active transportation; provide access for all travel modes. Those recommendations are critical in the development of the initiatives included in the MPO Long Range Transportation Plan.

2045 East Grand Forks Land Use Plan Public Engagement Activities

Open House Public Meeting #2 September 16, 2015

Presentation to Steering Committee Meeting #2

Open House Public Meeting #2 September 16, 2015

Open House Public Meeting #2 September 16, 2015

Photos: © SRF Consulting Group, Inc.

Concept Plans and multi-use trails are proposed to be provided as expanded facilities beyond the existing sidewalks and on-road options. Implementation of the proposed multi-use trail may require the acquisition of easements or dedication of land to successfully link them to complementary facilities such as the Greenway Trail or open spaces in East Grand Forks.

A summary of selected recommended approaches to improve the integration of land use and bicycle and pedestrian infrastructure includes:

- Promote the use of varied forms of transportation by all age groups by developing walkable neighborhoods which incorporate pedestrian and bicycle connectivity consistently with Safe Routes to School and other transportation initiatives. (*Source: 5.2 General Land Use Goals and Policies)*

- Use "complete streets" policies as a guide for developing safe, reliable, and economical transportation systems that support travel by a variety of means. (*Source: 5.2 General Land Use Goals and Policies)*

- Proposed bicycle/pedestrian facilities are intended to provide an expanded facility beyond the existing sidewalks and on-road options. The wide facility is intended as a multi-use trail, to provide for both bicyclists and pedestrians as necessary, especially when located outside of public right-of-way. *(Source: 7.3 Area Concept Plans)*

- Secure adequate ROW for roadway widths given functional class needs; plan for parallel bicycle /pedestrian trails concurrently, both on road and separate trail facilities.(*Sources: GOAL 4: Plan for current and future transportation needs of the community as growth occurs*)

- Provide sidewalks to ensure safe pedestrian mobility and increase opportunities for active living. (*Sources: GOAL 4: Plan for current and future transportation needs of the community as growth occurs*).

- Pursue development design that promotes pedestrian traffic, especially in areas served by transit; revise maximum density standards if necessary. (*Sources: GOAL 4: Plan for current and future transportation needs of the community as growth occurs*).

- Establish easements between properties for necessary transit, pedestrian, and bicycle infrastructure. (*Sources: GOAL 4: Plan for current and future transportation needs of the community as growth occurs*).

- Build upon the Greenway Plan to extend a destination-oriented trail network for pedestrians, cyclists, and other users on both sides of the levee.
  (Source: Goal 2: Maintain a sufficient park and trails system to provide adequate passive and active recreation opportunities for the current and future residents of East Grand Forks).

- Plan to extend a destination-oriented trail network for pedestrians, cyclists, and other users on both sides of the levee. *(Source: Goal 2: Maintain a sufficient park and trails system to provide adequate passive and active recreation opportunities for the current and future residents of East Grand Forks).*

The 2045 East Grand Forks Land Use Plan recommends the adoption of and implementation of the recommendations of the Bygland Road Study[39]. The Bygland Road study proposes consideration for a number of bicycle facilities, pedestrian improvements, and the installation of a traffic signal vs. building a roundabout. The Bygland Road Study suggests five intersection controls and pedestrian improvements to enhance pedestrian crossing at key locations along Bygland Road: 5th Avenue, Rhinehart Drive, 6th Street, James Avenue and 8th Street, and 13th Street.

[39] Bygland Road Study (2015) Alliant Engineering, Inc.

3. TRANSIT DEVELOPMENT PLAN (*TDP*)

The Transit Development Plan is an element of the Long Range Transportation Plan (LRTP). Cities Area Transit (CAT) is the regional transit provider. It works with the Grand Forks – East Grand Forks Metropolitan Planning Organization in the process of identifying transit needs, goals and objectives and fostering their implementation.

Through the Integration and Connectivity goal, Cities Area Transit proactively strives to integrate bicycle and pedestrian movements with transit activities. Integration and connectivity efforts have positive community benefits. The availability of transit services allows non-motorized users to overcome barriers and gaps in the street network. CAT services help users to overcome the lack of transportation options, particularly in underserved areas.

Transit Development Plan, Public Engagement Activities

Public Input Meeting #1
On June 8 & 9, 2016

Public Input Meeting #1
On June 8 & 9, 2016

Public Input Meeting #2
On December 8th, 2016

Public Input Meeting #3
On April 20th, 2017

Photos: © KLJ Engineering –Kimley-Horn

As a mode of transportation, transit contributes to overcome absence of access and connectivity in certain local neighborhoods. Because walking (pedestrian activity) is the main mode for accessing transit services, improving accessibility to transit stations and stops brings positive benefits. These include improvements to pedestrian and bicycle infrastructure in typical proximity to transit stations.

A positive benefit of transit availability is that it allows pedestrians and bicyclist to extend their range of destinations to reach. Because increased route coverage is typically not the most cost-effective solution to increasing ridership, transit agencies must maximize the benefits of the following "*last mile factors*:" Distance, Modal Integration and Network Quality.

This element update strives to integrate transit into bicycle and pedestrian activities. Two objectives of the proposed Bicycle and Pedestrian Element are:

a) To "improve access to transit, via sidewalks and walkways around transit stops, designated on-road and off-road bike routes."

b) "Ensure that opportunities to remove physical barriers for pedestrians and bicyclist in access to transit facilities are identified when improving the pedestrian network and bicycle system."

A summary of selected recommended approaches to improve the integration of transit and bicycle and pedestrian infrastructure includes:

- Improve bus stop infrastructure to include shelters, bicycle parking and pedestrian amenities where warranted. (*Source: GOAL: INTEGRATION AND CONNECTIVITY-Objective 2*)

- Improve access to transit via sidewalks, multi-use paths and dedicated bicycle facilities around transit stops. (*Source: GOAL: INTEGRATION AND CONNECTIVITY-Objective 3*)

- Ensure transit stops are accessible for all pedestrians and bicyclists. (*Source: GOAL: INTEGRATION AND CONNECTIVITY-Objective 4*)

Cities Area Transit (CAT) Main Depot - Photo: © MPO Staff, 2017

F. THE PEDESTRIAN NETWORK AND BICYCLE SYSTEM

1. Elements of an Integrated, Multi-Modal Transportation System

Bicycling and walking are important elements of an integrated, multi-modal transportation system. Bicycle and pedestrians movements serve to initiate a journey, to link diverse modes of transport and to extend their reach through connectivity. Their integration into the main roadway network is a determinant factor in shaping the character of the city,"[40] and "*the land use patterns prevailing in the urban form*."

"*The ultimate goal of most transportation is "access", people's ability to reach desired goods, services and activities."*[41] Fulfillment of this premise requires the existence of an integrated transportation network which facilitates the safe and efficient movement of people, goods and services. In addition, the network should satisfy the needs of motorist, pedestrians, cyclists and others who use small wheeled and assisted devices to effectively provide direct routes to employment, schools, parks, community, transit and recreational facilities and other activity centers used by residents every day.

Currently, bicycle and pedestrian facilities design regulations and recommendations favors flexible designs that will serve all users,[42] "increase intermodal connectivity, and protect the environment."[43] For instance, the Federal Highway Administration's (FHWA) supports taking a flexible approach to bicycle and pedestrian facility design. FHWA supports the use of these resources to further develop non-motorized transportation networks, particularly in urban areas.

> *"...DOT encourages transportation agencies to go beyond the minimum requirements, and proactively provide convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics when appropriate (...) Transportation programs and facilities should accommodate people of all ages and abilities, including people too young to drive, people who cannot drive, and people who choose not to drive."*[44]

FHWA encourages agencies to appropriately use these guides and other resources to help fulfill the aims of the *2010 USDOT Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations*.

As a result, the suggested design guidelines, when implemented, should serve to encourage the development of urban planned features that enhance the quality of the urban environment, foster mobility choices; promote social interaction and encourage healthy lifestyles. All of these are sound livability objectives. Livability is defined as the balanced combination of metrics and policies of the following categories: Housing, neighborhood, transportation, environment, health, engagement, and opportunity.[45]

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[40] Federal Highway Administration (FHWA) Bicycle and Pedestrian Provisions of the Federal Aid Program, at http://fhwa.dot.gov – Bicycle and Pedestrian Program –Environment – Bicycle and Pedestrian
[41] Litman, Todd, *ITE Journal* (Institute of Transportation Engineers) Vol. 73, No. 10 October 2003, pp. 28-32
[42] Accessible Sidewalks and Street Crossings, an informational guide, U.S Department of Transportation/ Federal Highway Administration FHWA-SA03-019
[43] Federal Highway Administration –Home website at http://fhwa.dot.gov
[44] Saglam, Marianne (2013). FHWA Bicycle and Pedestrian Facility Design Flexibility. *ITE Community*.
[45] AARP: Livability Index at https://livabilityindex.aarp.org/how-are-livability-scores-determined. Retrieved on March 31, 2017

Thus, a sample of the recommended strategies to safely facilitate transportation access, mobility and connectivity to the transportation network includes; but is not limited to:

- Constructing sidewalks to link households, and commercial areas to activity centers in their neighborhoods;
- Installing bicycle storage and parking facilities at transit stations and stops to provide connectivity and intermodal trips;
- Teaching children to walk and ride safely;
- Installing curb cuts and ramps for wheelchairs and other vulnerable populations; and
- Striping bike lanes and building trails.

This approach to urban infrastructure development offers positive social benefits. It contributes to the formation of "*walkable & bikeable communities."* Those are desirable places to live, work, learn, worship and play; and therefore a key component of smart growth." Those communities also locate, generally within an easy and safe distance, goods (such as housing, offices, and retail) and services (such as transportation, schools, and libraries) needed on a regular basis by residents or employees. By definition, walkable communities make pedestrian activity possible, thus expanding transportation options, and creating a streetscape that better serves a range of users -- pedestrians, bicyclists, transit riders, and motorists.

To foster walkability & bikeability, communities must mix land uses, build compactly, and ensure safe and inviting pedestrian corridors.[46] Walkable & bikeability communities offer positive urban development features. These communities have encountered the resistance of conventional zoning regulations that prevent mixed land uses; preclude urban development and promote street design practices that reduce pedestrian and bicyclist activities. These approaches view single use auto-centric residential growth as the preferred form of urban land development.

Pedestrian and bicycle travels are "*human-powered and non-motorized*" transportation journeys. These modes are also known as "*Active Transportation*." Non-motorized bicycle systems and pedestrian networks improve access and mobility options of traditionally underserved communities. Those networks afford underserved populations safe and convenient travel opportunities. They foster human social interaction which fosters a strong sense of community ownership. The desires to integrate *non-motorized* modes into the transportation system, stems from the various economic, social, environmental and health benefits it realizes. *Non-motorized* transportation also offers opportunities to shift trips from *Single Occupancy Vehicles* (SOV) to pedestrian, bicycle or transit modes; thus, expanding the number of people a corridor can serve.

Research indicates that "*Most public transport journeys start and end with a walk from the bus stop or train station to the final destination. Riding a bicycle is becoming increasingly popular as a form of transport.*"[47] Increasing the numbers of people walking, riding and using public transport in our community, may result in positive outcomes for the transportation system, the environment, health and for livability.

[46] Pedestrian and Bicycle Information Center (PBIC).
[47] Walking, Riding And Access To Public Transport: Supporting Active Travel In Australian Communities (2013). Department of Infrastructure and Transport.

The following pedestrian and bicycle transportation elements are critical characteristics of *the non-motorized* community's transportation system. These elements also serve to advance the following proposed community goals:

2. Sample Objectives of the Bicycle & Pedestrian Element[48]

Intrinsically, the objectives of the Bicycle and Pedestrian Element update outlined above are expected to be accomplished by addressing user's demographics, trip purposes, convenience and safety through the implementation of the proposed goals, objectives, and standards outlined in the Bicycle and Pedestrian Element. A sample of these objectives includes:

Goal 3-Accessibility & Mobility

Objective 1: Provide a complete bicycling and pedestrian network that connects to destinations and other transportation modes and facilities (e.g., remove barriers, add crossings, fill gaps, and connect spurs to existing networks).

Objective 2: Enhance existing pedestrian and bicycle infrastructure to address the unique mobility, access, and connectivity needs of bicyclist and pedestrians and other non-motorized user's in local neighborhoods and communities.

Goal 4-Environmental/Energy/Quality of Life

Objective 4: Quality of Life: Livability

Strengthen the integration of walking and bicycling into community planning to enhance livability, health, transportation, the environment, and economic development.

Objective 5: Quality of Life: Equity

Assure transportation disadvantaged communities are served and included in decision making.

These objectives foster equal access to all users to the transportation system. They are also important for mobility. They are vital for the promotion of essential community health, economic prosperity and justice for all.

In addition, meeting the mobility and accessibility needs of all users of the pedestrian network and bicyclist systems, is possible through the concerted implementation of the best and latest design standards such as existing design guidance from the American Association of State Highway Officials (*AASHTO*), state Departments of Transportation, the Institute of Transportation Engineers (*ITE*), the National Association of City Transportation Officials (*NACTO*), and compliance with the Americans with Disabilities Act (*ADA*).

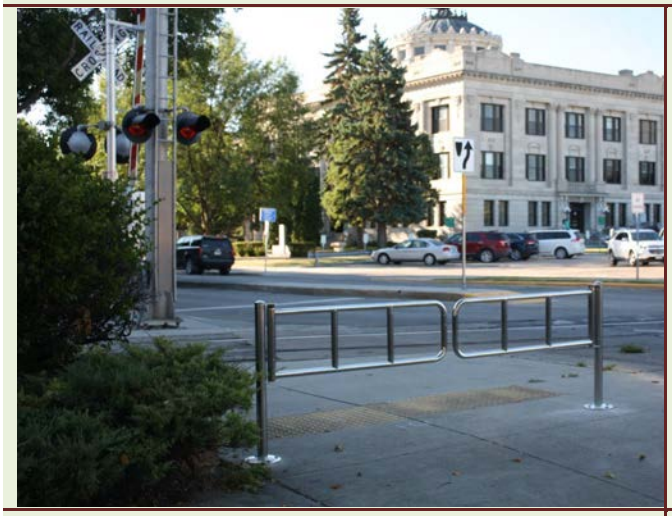
> *"Intertwined with the need to use the best currently available guidance is the need for a balanced approach to transportation design that provides flexibility to best accommodate all users and modes given the unique characteristics of the surrounding community."*[49]

[48] Roughton, Collin, van Hengel, Drusilla, et al (2012) CREATING WALKABLE + BIKEABLE COMMUNITIES: A user's guide to developing pedestrian and bicycle master plans

The implementation of the latest design standards and design guidelines engenders the physical conditions that enhance safety access to and from schools, jobs and health care. Similarly, important is to promote physical and health activities; create human-scale urban environments that foster human social interaction, and improve transportation opportunities for those in traditionally underserved communities to travel safety, efficiently and comfortably.

In addition to design standards, enacting policies that make bicycling safer and increase "*social acceptability*" of bicycling can play a vital role in the process of overcoming barriers, impediments and obstacles to walking and bicycling; thus, creating bicycle friendly communities, and increasing bicycle ridership.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES



Pedestrian Swing Gates –Kittson at N 4th Street
Photo © MPO Staff, 2017

Bicycle Friendly Parking
Photo © MPO Staff, 2017

[49] National Complete Streets Coalition (2013) Complete Streets Local Policy Workbook

G. BASIC CHARACTERISTICS OF A NON-MOTORIZED TRANSPORTATION SYSTEM

Bicycle and pedestrian movement is also known as non-motorized transportation. As such, actively participating in these activities requires consumption of "*human energy*" and related time resources. In order to "*maximize*" their investments (time & energy), every user's seeks the following basic characteristics in their pedestrian network and bicycle system:

1. Accessibility

Is the ability and ease with which people can access places, and social and economic opportunities, within a reasonable time and cost. Accessibility includes physical access to public transport, buildings and facilities. Accessibility is critical for older adults; thus, as our population ages, and the number of those unable to drive grows; residents still must have access to social services and recreational activities. Hence, this Element's update will create transportation options that allow for increased mobility, while enhancing the integration and connectivity of the transportation system, across and between modes, particularly, concerning the relationship with public transit.

2. Connectivity

Connectivity represents a community's ability to make connections between its people, businesses, visitors, and urban environment. This Bicycle and Pedestrian Element update supports connectivity to schools, transit network, business and recreational centers. Hence, the plan will create transportation options that allow for increased mobility; while enhancing the integration and connectivity of the transportation system, across and between modes, particularly, public transit.

3. Mobility

Refers to the ability to travel or move from place to place. This Bicycle and Pedestrian element update focuses on creating the conditions to promote a safe and efficient movement of people, goods and services. It also, supports significant reductions of conflicts among transportation modes, including vehicles within the community.
The mobility objective is being advanced by linking bicycle and pedestrian activities to livability, complete streets, and safe routes to school to existing community planning initiatives.

4. Connected Pedestrian and Bicycle Networks

In addition to access and mobility, both pedestrians and bicyclist are also seeking connected networks. As indicated earlier, connectivity represents a community's ability to make connections between its people, businesses, visitors, and urban environment. This Bicycle and Pedestrian Element update supports connectivity to schools, transit network, business and recreational centers.

Responses given to the perceived lack of accessibility and connectivity issues form the basis to determine what sort of improvements may be needed to increase those characteristics in the network. Regularly, jurisdictions identify methodologies for evaluating the condition of the pedestrian and bicycle networks and to how assess pedestrian demand on the network.

Connected Pedestrian and Bicycle Networks


Continuity


Street Crossing


Visual Interest & Amenities


Security

At the pedestrian and bicycle element level, the scale of the analysis is regional. However, due to planning, design, financial and other reasons, *Walkability Assessments*, *Check-Lists* and related network measurements are regularly conducted at different geographic scales. These may include: City-wide, Community, Neighborhood and Project or site specific walkability and network completeness analysis.

Connected Pedestrian and Bicycle Networks

Pedestrian User's Needs[50]	Bicyclist[51] User's Needs
• Directness	• Cohesion
• Continuity	• Directness
• Street Crossing	• Accessibility
• Visual Interest & Amenities	• Alternatives
• Security	• Safety and Security
	• Comfort

Whether as a pedestrian or as a bicyclist, users substantially depend on certain characteristics of the sidewalk network and/or the bicycle system to satisfactorily accomplish their mobility desires. These needs include fulfillment of trip purpose, establishing a relationship with user's demographics and defining the nature of the opportunities wanted at the destination. The basic characteristics of a connected pedestrian and bicycle network to satisfy user's needs are illustrated above.

In addition to affording users these characteristics to increase their enjoyment and usability of the system; still it is possible to support those objectives by using certain bicycle and pedestrian supportive policies to encourage bicycle and pedestrian activities, realize their benefits to the local economy and enhance local well-being and to help create more livable and sustainable communities. Some suggested policies include:

[50] National Bicycling and Walking Study FHWA (1993). Case Study No.4: Measures To Overcome Impediments To Bicycling and Walking

[51] FHWA: Case Studies in Delivering Safe, Comfortable, and Connected Pedestrian and Bicycle Networks. PA Safety Symposium.

5. Benefits of Walking And Biking

Walking and biking provide low-cost and emission-free forms of transportation. Other benefits include improvements to the quality of life, enhancements to the community's overall physical and mental health outcomes, and economic benefits realized through savings resulting from using "*human-powered*" modes of transportation.

As result, user's whether individually and collectively, benefit from the anticipated benefits of accessibility, connectivity and mobility. Through its defined goals and objectives, this Bicycle and Pedestrian element update strives to maintain, repair and develop a pedestrian system and bicycle networks that –in addition- facilitates the realization of the following benefits:

Economics

Pedestrian network and bicycle system, positively impact the local economy by:

- Contributing to jobs creation through design, construction and maintenance of new infrastructure
- Improving tourism and other recreational pursuits
- Improving private real estate property value: Some studies have indicated a positive correlation between walkability and housing prices
- Reducing expenses in motor-vehicle operation and maintenance
- Reducing distance to stores and other community amenities as being an important consideration.

Health

- Incidence of certain chronic diseases is lower in cities with high percentages of commuters and walkers
- Availability of pedestrian and bicycle facilities help people lead more active – and healthy – lives
- In active transportation communities, number of residents meeting recommended amount of weekly physical activity.

Safety

In cities where a higher percent of commuters walk or bicycle to work:

- Corresponding fatality rates are generally lower.
- Having people out walking, cycling, or skating increases personal safety because they put more "*eyes*" on the street.

Quality of Life

By making walking and biking true transportation alternatives, cities positively contribute to:

- Reducing the amount of public space dedicated to the movement and storage of private vehicles and repurpose it
- Reducing driving for short trips
- Increasing opportunities for Social Interaction
- Increasing opportunities to enjoy outdoor recreation activities
- Helping to promote community livability
- Enhancing worker's productivity
- Attracting and keeping residents and businesses, and
- Welcoming tourists and visitors.

6. Walking and Biking as Healthy Household Pursuits

Photo © Grand Forks Herald, 2016

Walking and biking activities offer enjoyable recreational opportunities and helps facilitate the learning process of becoming familiar with local streets, traffic, housing characteristics, access to parks and other neighborhood recreational facilities. It also promotes adherence to a healthy and active lifestyle from an early age.

H. CHARACTERISTICS OF A PEDESTRIAN

1. Pedestrians

Walking is the most fundamental of all transportation modes. Walking is part of nearly every trip we make. As a result, pedestrian mobility is the most common mode of transportation. However, pedestrians are not homogenous in their ability to walk. Some pedestrian may require the assistance of wheelchairs or other sort of assistive devices to address their disabilities (Mobility, sensory, visual, ambulatory, and auditory). Thus, planning for "*everyone*" is a more inclusive and responsive approach. Planners and engineers are encouraged to incorporate physical, abilities and demographic characteristics of pedestrians in the planning and designing of transportation system.

Demographics, psychological factors, reasons to walk or skills and trip purposes are all important factors when designing facilities for users with disabilities, pedestrians, and bicyclists. Pedestrian mode is the ultimate form of "human powered" and principal form of "active transportation." Hence, everybody is a pedestrian. One of the determining demographic traits is age.

Selected Pedestrian Network Characteristics Impacting User's

			
MN/DOT Website - www.dot.state.mn.us/planning/complete streets/	Healthy lifestyles are becoming more important in the face of increasing obesity rates and related illnesses.[52]	Sidewalk design and maintenance compliant with American with Disabilities Act of 1990 (ADA).	Creating walkable and bikeable communities | design tools U.S. Department of Housing and Urban Development

As children, one learns to walk and familiarize oneself with one's surroundings. For many, walking and biking to and from school constitutes their first forays into enjoyable recreational opportunities. Both activities facilitate the learning process of becoming closely familiar with our surroundings.

Through walking, one learns about local streets, housing characteristics, traffic and land use patterns and access to parks, transit stops and neighborhood's recreational facilities. However, while walking, many children experience difficulties assessing traffic situations. They are unable to perceive direction of sound, are easily preoccupied or distracted and have difficulties distinguishing between right and left. Children do not have fully developed depth perception until the age of ten which affects their ability to judge the speed and distance of approaching vehicles. For many children, judging distances, and understanding the use of traffic control devices is a daunting process.[53] As pedestrians, adults and

[52] Complete Streets in Delaware: A Guide for Local Governments. Chapter 3. December 2011
[53] Fitzpatrick, Kay, Turner, Shawn Turner, Brewer, Marcus et al (2006). Improving Pedestrian Safety at Unsignalized Crossings. TCRP REPORT 112/NCHRP REPORT 562

seniors citizens tend to walk more. Reasons may vary. Some walk to improve health outcomes; others do it as a pastime.

However, older adults experience declining vision, decreased physical fitness, flexibility, ability to focus attention, and a decreased reaction to time. Older adults experience difficulties assessing speeds of incoming traffic, and finding safe crossing situations. Others may experience difficulty walking and may experience restricted head and neck mobility.[54] Seniors also experience reduced agility and arthritis-related impediments in mobility.

As a growing segment of the population, older adults will benefit from policies and design improvements that recognize those challenges. A sample of other characteristics of older pedestrians, which impinge in their travel abilities, includes:

- Vision is affected in older people by decreased acuity and visual field, loss of contrast sensitivity, and slower horizontal eye movement.
- They often have difficulty with balance and postural stability, resulting in slower walking speeds and increased chances for tripping.
- Selective attention mechanisms and multi-tasking skills become less effective with age, so older people may have difficulty locating task-relevant information in a complex environment.
- They have difficulty in selecting safe crossing situations in continuously changing complex traffic situations, likely because of deficits in perception and cognitive abilities, as well as ineffectual visual scanning, limitations in time sharing, and inability to ignore irrelevant stimuli.[55]

2. Types of Pedestrians

Most pedestrians and bicyclist are children, parents and older people:[56]

- **Children:**

At certain ages in their lives, some children must be driven to school, parks and to recreational and community facilities. However, for others, the presence of complete sidewalk networks and bicycle systems improves their well-being and affords them early opportunities for socialization. According to their age and psychological development, children respond differently to critical concepts such as visual alertness, conception of safety, distance.

This remark serves to support the observation that street crossing behavior varies according to children age, socialization patterns, and height. Children are easily distracted and in some cases unable to discern the nature of traffic situations in which they may be involved.

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[54] Fitzpatrick, Kay, Turner, Shawn Turner, Brewer, Marcus et al (2006). Improving Pedestrian Safety at Unsignalized Crossings. TCRP REPORT 112/NCHRP REPORT 562

[55] Fitzpatrick, Kay, Turner, Shawn Turner, Brewer, Marcus et al (2006). Improving Pedestrian Safety at Unsignalized Crossings. TCRP REPORT 112/NCHRP REPORT 562

[56] FHWA COURSE ON BICYCLE AND PEDESTRIAN TRANSPORTATION ADAPTING SUBURBAN COMMUNITIES FOR BICYCLE AND PEDESTRIAN TRAVEL LESSON 5ADAPTING SUBURBAN COMMUNITIES FOR BYCYCLE AND PEDESTRIAN TRAVEL

These observations may include: Correctly perceiving the direction of sound and the speed of vehicles – Understanding of the use of traffic control devices and crosswalks – Judging distances of cars and when a safe gap occurs between vehicles.[57]

- **Parents:**

Parents, in particular those who take their kids to school, and those familiar with their surrounding neighborhood characteristics, have a better appreciation for existing sidewalks and bikeways. They benefit from walking along improved networks. Both the presence of developed pedestrian and bicycle facilities could potentially persuade some to retire, postpone or eliminate the need to operate another household motor vehicle; thus, improving their household's financial circumstances.

- **Older People:**

The existence of complete, integrated pedestrian and bicyclist systems, may serve as an incentive for older people, those who may not drive, have decided to not drive or are unable to drive, to venture away to run daily errands, enjoy the outdoors, and exercise. It appears; older people –in many jurisdictions- have been overlooked in the planning of certain transportation facilities.

Commuters living in close proximity (4-5 miles) to work school or business districts may be encouraged to walk to or bike to those facilities. As a result, residents either at "*walking or biking*" distances, may be able to save money, while at the same time, benefit from the resulting physical exercise. Other community members using the system for recreational pursuits also benefit from improved routes and their attributes.

In addition, pedestrians with disabilities constitute another important group. Their demand for space requirements varies considerably depending on their physical ability and the assistive devices they use.[58]

3. Local & Pedestrian Network (2017) (*Sidewalks*)

Grand and East Grand Forks enjoy a robust system of sidewalks.

- From 2012 to 2015 approximately 17.58 miles of sidewalks were built in Grand Forks. Prior to 2012 there were 347.8 miles of sidewalks in Grand Forks.

- From 2012- to 2015 approximately 5.58 miles of sidewalks were constructed in East Grand Forks. Prior to 2012 there were 47 miles of sidewalks in East Grand Forks.

The objective is to make walking for pedestrians and for wheelchair users safer and more comfortable.

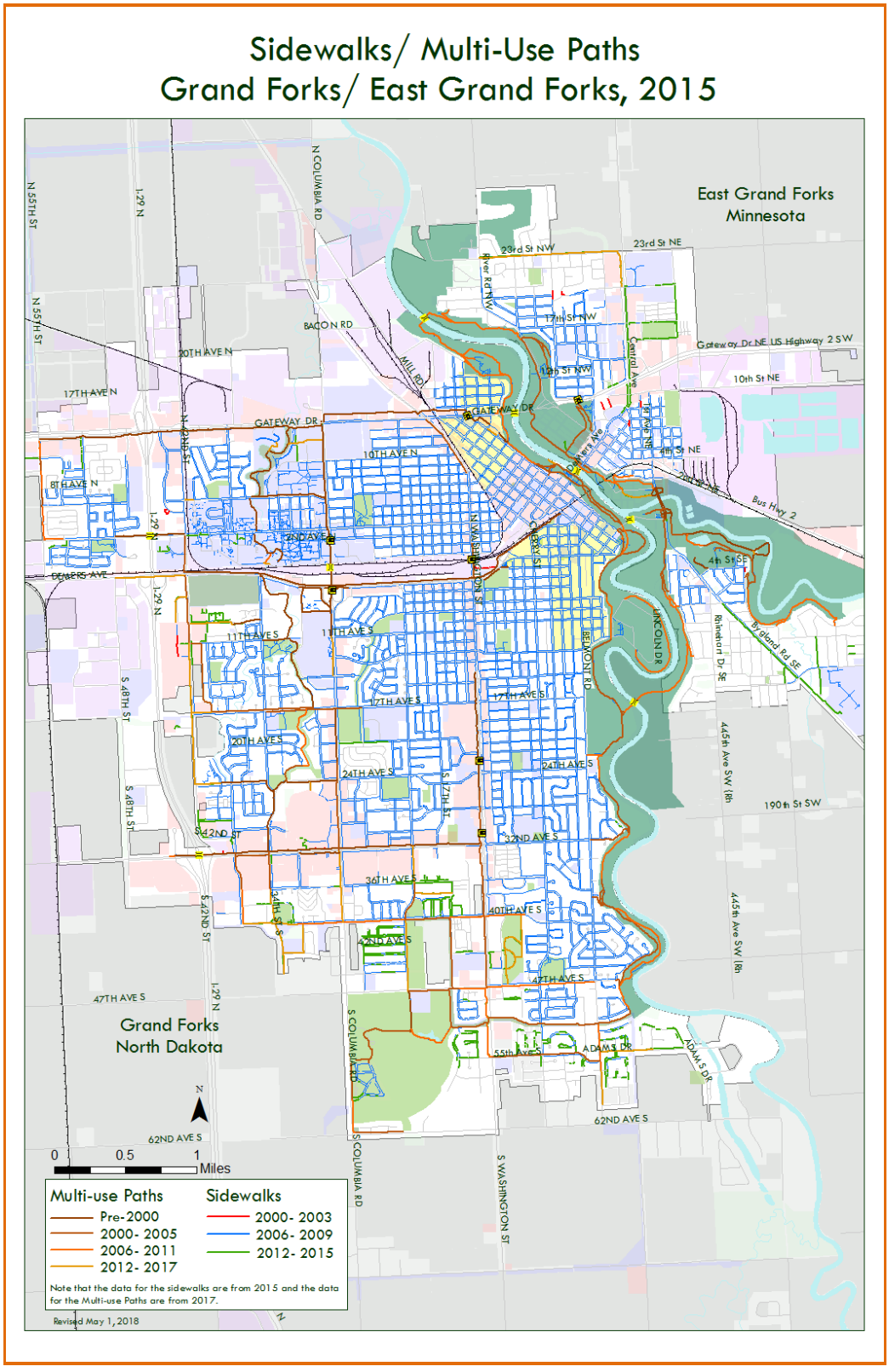
4. Sidewalks are hard surface paths primarily used by pedestrians. Sidewalks in subdivision and traditional neighborhoods can also be used by younger and less confident cyclists who choose

[57] Fitzpatrick, Kay, Turner, Shawn Turner, Brewer, Marcus et al (2006). Improving Pedestrian Safety at Unsignalized Crossings. TCRP REPORT 112/NCHRP REPORT 562

[58] FHWA COURSE ON BICYCLE AND PEDESTRIAN TRANSPORTATION ADAPTING SUBURBAN COMMUNITIES FOR BICYCLE AND PEDESTRIAN TRAVEL LESSON 5 ADAPTING SUBURBAN COMMUNITIES FOR BYCYCLE AND PEDESTRIAN TRAVEL

not to use on-street facilities. Map Existing Pedestrian Facilities, 2015, illustrates the complete Grand Forks – East Grand Forks Sidewalks & Multi-use Paths.

5. Existing Pedestrian Facilities, 2015



There are two types of sidewalks prevailing in the planning area: attached and detached.

- Attached sidewalks - Are physically connected to the curb of a roadway
- Detached sidewalks - Are physically separated from vehicle travel lanes by barriers or planting strips.

Most sidewalks in the region could be characterized as detached sidewalks in subdivision neighborhoods and attached sidewalks in the downtown district. Sidewalks are the most commonly provided pedestrian accommodation and are separated from motor vehicle movements.

However, there are occasions when neither a sidewalk, nor a shared-use path is provided. Thus, pedestrians are induced to share the roadway with moving motor vehicles. As a result, pedestrians, depending on their skills – could potentially compromise their personal safety and security. Although Grand and East Grand Forks offer a vast network of sidewalks, they also offer a growing network of off-road shared use paths separated from the roadway for the enjoyment of residents and visitors.

A shared-use path serves as part of a transportation circulation system and supports multiple recreation opportunities, such as walking, bicycling, and inline skating. Shared-use paths are defined as physically separated from motor vehicle traffic either by an open space or by a barrier. Shared-use paths should always be designed to include pedestrians even if the primary anticipated users are bicyclists.[59] However, shared-use paths are a complement to the roadway network, not a substitute.

Both Cities offer a robust, integrated and complete sidewalk network and bicycle facilities system for the benefit of their residents and visitors. Still, a lack of sidewalk continuity and completeness is reflected at some locations in both cities.

6. Pedestrian User's Needs

> *Creating a pedestrian environment involves more than laying down a sidewalk or installing a signal. A truly viable pedestrian system involves both the big picture and the smallest details — from how a city is built to what materials are under our feet. Facilities should be accessible to all pedestrians, including those with disabilities.*[60]

The presence of gaps in the sidewalk network, the inability of residential property owners to keep sidewalks in good repair or to promptly remove snow are conditions illustrated for both cities. At one moment or another, these conditions have the potential to disrupt any or all of the critical pedestrian Level of Service (*LOS*) measures tied to sidewalk performance:

- Directness – does the network provide the shortest possible route?
- Continuity – is the network free from gaps and barriers?
- Street Crossings – can the pedestrian safely cross streets?
- Visual Interest and Amenities – is the environment attractive and comfortable?
- Security – is the environment secure and well lighted with good line of sight to see the pedestrian?

[59] Designing Sidewalks and Trails for Access. Part II of II: Best Practices Design Guide. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/sidewalk2/sidewalks214.cfm
[60] Pedestrian Facilities Users Guide —Providing Safety and Mobility Publication No. FHWA-RD-01-102

Measuring existing and potential walkability issues in the Grand Forks –East Grand Forks area is an opportunity to assess the pedestrian network's general compliance with existing urban development design guidelines, recommendations resulting from Land Use Plan updates and expected network's performance in each area in the planning region.

According to the geographic scale of the analysis, it has been necessary to identify or to develop different techniques for assessing the pedestrian system and the community's demand for it. For instance, pedestrian needs in mixed-land use areas are different than the needs expressed by pedestrian seeking access to a transit stop.[61] Identifying locations perceived as generating pedestrian mobility challenges, includes the implementation of "*walkability checklists," sidewalk inventories* and the calculation of *Pedestrian Level of Service* (*PLOS*).

A *Stress Level of Service* and/or a *Bicycle Level of Service* (BLOS) analysis have been part of previous Bicycle and Pedestrian Elements. As a bi-state Agency, our MPO adjusts to new developments supported by our partners. Currently, Minnesota DOT is in the process of updating its Bike Design Manual. Minnesota DOT is also using the *Stress Level of Service* methodology in our District 2 Bike Plan and provides *Stress Level of Service* for the bicycle network in East Grand Forks. Minnesota DOT will be using *Bicycle Stress Level of Service* methodology to assess investments on bicycle improvements within trunk highway right-of-way, particularly where improvements aid local planning efforts and improve local connections. It is expected that by using the stress analysis, MN DOT and partners will identify locations where improvements can enhance the bicycle network.

Bicycle Level of Service (BLOS) makes it possible to measure "*the ability of a network to connect traveler' origins to their destinations without subjecting them to unacceptably stressful links*[62]. The Stress Bicycle Level of Service enables the assessment of user's comfort on some local "*on-road*" facilities such as: Segments on University Avenue, Belmont Road, 13th Ave. S. Other roadways in East Grand Forks include: 8th Ave. NW, Bygland Road SE. The analysis uses data sources readily available. As a result, improvements to enhance the comfort of the bicycle system could be considered; particularly, at the intersection level.

Provided time and resources are available, every effort will be made to represent current Stress of Level of Service scores on existing "on-road" bicycle facilities and to represent those scores in corresponding maps.

Pedestrian Level of Service (*PLOS*) is regularly appraised by using five commonly used measures which illustrates how the existing pedestrian network operates. The measures and concerns under consideration are:

Directness – does the network provide the shortest possible route?[63]

The directness measure represents the actual pedestrian distance from trip origin to destination. Since pedestrian trips are highly dependent on trip length, the pedestrian infrastructures ability to provide the shortest and most direct route is critical.

[61] Kansas Walkability Plan (xx). Measuring Walkability: Tools and Assessment
[62] Multi-Modal Level of Service Toolkit --Bicycling Level of Traffic Stress. Fehrs & Peers
[63] Kansas City Walkability Plan: Measuring Walkability: Tools and Assessment.

Continuity – is the network free from gaps and barriers?[64]

Continuity measures the completeness of the pedestrian system. A continuous sidewalk system not only allows the pedestrian to make an uninterrupted trip, it may also be required for a stroller or wheelchair user to utilize the sidewalks. Gaps in continuity can come in the form of missing segments, broken or overgrown vegetation, or physical barriers such as freeways, rivers, or fences.

Street Crossings – can the pedestrian safely cross streets?[65]

Major arterial roadways can significantly impact a pedestrian's safety in crossing a street. The ability to safely cross a street is a function of the following:

- *The number of lanes and the widths of the lanes to cross*
- *The presence of a raised median or refuge island*
- *The presence of a crosswalk*
- *Use of a pedestrian actuated signal or dedicated pedestrian phase for crossing*
- *Clear sight lines from motorists to pedestrians*
- *Directional corner ramps; and*
- *Street lighting*.

Visual Interest and Amenities – is the environment attractive and comfortable?[66]

This measure of the pedestrian system's attractiveness and appeal is the most difficult to quantify and compare, and the most likely to change as the area matures. Some aspects of this measure are related to facilities that enhance the comfort of the user. These include elements such as shade trees, street lighting, and benches that may be particularly important to pedestrians with mobility or visual impairments.

Security – is the environment secure and well lighted with good line of sight to see the pedestrian?[67]

The pedestrian environment must feel like a safe place for people to walk. The key pedestrian security facility element is whether the pedestrian is clearly visible to other pedestrians or activities.

7. Elements of the Pedestrian Network

Walking is important and a convenient mode of transportation. Thus, pedestrians should be accommodated in the transportation system. Accommodation of pedestrians involves developing "*physical environments*" responsive to pedestrian's needs such as: access, convenience, and personal safety and enjoyment opportunities. The table below identifies the *essential elements* of the walkable neighborhood.

[64] Kansas City Walkability Plan: Measuring Walkability: Tools and Assessment.
[65] Kansas City Walkability Plan: Measuring Walkability: Tools and Assessment
[66] Kansas City Walkability Plan: Measuring Walkability: Tools and Assessment
[67] Kansas City Walkability Plan: Measuring Walkability: Tools and Assessment

Elements of the Pedestrian Network[68]	
• Sidewalks and No Sidewalks	• Sidewalk Closed: Construction
• Continuity and Connectivity of Pedestrian Network	• Pedestrians and Land Uses • Pedestrians and Street Patterns
• Missing Links	• Street Crossings
• Pedestrians and Transit	• Curb Ramps

Bicycle riding in local streets is permitted in Grant and East Grand Forks. As a result, the presence of those elements in the pedestrian network also addresses the needs of some bicyclists. The inclusion of bicycle friendly features on or along diverse local streets is important in the process of generating a functional routes network to support economic and utilitarian trips.

In theory, pedestrians encounter a number of situations when they embark in walking pursuits. Those situations are focused on the following questions:

- Can I walk there?
- Is walking convenient?
- Is walking safe?; and
- Is walking enjoyable?

Can I walk there?

- Sidewalks and No Sidewalks[69]

They provide safe places for people to walk when they go to school, to the park, to a friend's house, to the bus stop, to shop, or to eat out. Sidewalks link households to the community at large. Sidewalks are to pedestrians as streets are to cars. Where there are no sidewalks, pedestrians must either walk in the street or develop a worn rut path adjacent to the street.

- Continuity and Connectivity of Pedestrian Network[70]

Connects neighborhoods and makes it possible for pedestrians to get from where they are to where they want to go. The continuity and connectivity are important factors because they are related to reductions in time and distance or both, particularly for pedestrian walking for utilitarian trip purposes.

[68] ADOPTED PLAN September, 1997 Pedestrian Transportation Plan for Madison, Wisconsin https://www.cityofmadison.com/trafficEngineering/documents/PedTransPlanChap3.pdf
[69] ADOPTED PLAN September, 1997 Pedestrian Transportation Plan for Madison, Wisconsin https://www.cityofmadison.com/trafficEngineering/documents/PedTransPlanChap3.pdf
[70] ADOPTED PLAN September, 1997 Pedestrian Transportation Plan for Madison, Wisconsin https://www.cityofmadison.com/trafficEngineering/documents/PedTransPlanChap3.pdf

- **Missing Links**

Sometimes the sidewalk ends short of where pedestrians want to go. Important destinations may not realize that although their location is indeed "on a bus line," the trip to the bus stop may require slogging through uneven surface, narrow and muddy or snowy segments.

- **Pedestrians and Transit**

When the pedestrian network is linked to transit stops, it becomes possible for pedestrians to reach destinations that otherwise would be too distant. The benefit is mutual: Transit may increase catchment area and ridership potential. Both, pedestrians and bicyclist may enlarge their radius of activity; hence, reaching out to farther destinations.

- **Sidewalk Closed: Construction**

Long term road and building construction projects are often unavoidable interruptions to the pedestrian network. Generally the only accommodations made for pedestrians are signs indicating "use other side."

Is walking convenient?

- **Pedestrians and Land Use**

Easy access to certain land uses either by foot, bicycle or car is considered a neighborhood asset. Navigating ample parking lots has been proven user-unfriendly for pedestrians and bicyclist.

- **Pedestrians and Street Patterns**

Here are two examples of neighborhood street patterns. In the first, (1) pedestrian travel is inconvenient because route choices to destinations are limited by the lack of connections. In the second, (2) the grid pattern provides many direct route choices.

Figure (1): Accessibility by Land Use. The figure underscores the concerns manifested by bicyclists and pedestrians in relation to their safety, connectivity and access to and from certain community destinations. For instance, higher classified roads account for a larger number of destinations; however, in many cases, bicycle and pedestrian access to those locations is severely restricted, if not barred, by the nature of the roadway hierarchy.

Figure (2): Accessibility to Activity Centers. The figure helps readers to better visualize accessibility conditions in roadways according to their hierarchy or classification (2). Grid networks help create a safer road system, offer more opportunities for direct traveling, and ease access to destinations.

Accessibility to Activity Centers[71]

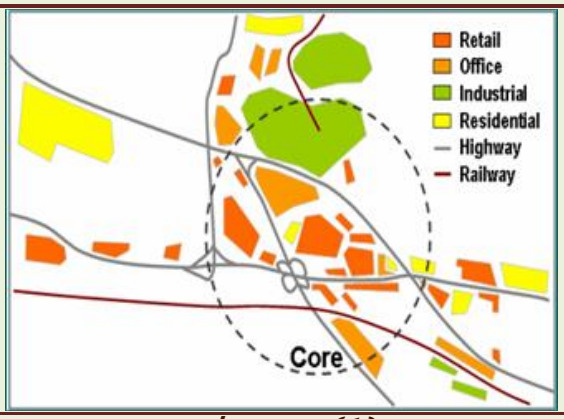


Figure (1)
Accessibility by Land Use

Figure (2)
Accessibility by Roadway Hierarchy

- **Street Crossings (At wide & Busy Streets)**

Wide, busy streets present an obstacle to pedestrians because conflicts with vehicles are likely to occur during the time it takes to cross on foot. At certain locations, the small turning radius also improves pedestrian safety because motorists cannot make the turn quickly, thereby increasing the chances that a pedestrian will be seen. When motorists *fail to yield the right of way to pedestrians in crosswalks, foot travel across any street can be dangerous.*

Is Walking Safe?

- **Curb Ramps**

Diagonal curb ramps at busy intersections pose problems to wheeled pedestrians. Cars proceeding through the intersection have a difficult time telling the direction in which these pedestrians intend to travel.

- **Street Crossings (At particular Intersections)**

Crossing guards are crucial to the safety of untrained pedestrians. This requirement is more pronounced at "*school zones*."

- **Street Lighting[72]**

In many urban neighborhoods, crime is a powerful disincentive to walking, particularly for women. Better lighting is viewed as a way to bolster security; the reduction of crime would be even better. Pedestrian and bicycle routes perceived as lacking safety and security, oblige users to make detours. Increases in distances to cover and/or re-routing to unfamiliar pathways discourage users.

[71] Rodrigue, Jean-Paul (2006). The Geography of Transport Systems. Routledge, Taylor & Francis Group.
[72] Study No. 1 Reasons Why Bicycling And Walking Are and Are Not Being Used More Extensively As Travel Modes. Publication No. FHWA-PD-92-041

The existence of those conditions could drive users to choose other modes of transportation in detriment of walking and biking opportunities. The provision of amenities that increase user's safety and security contributes to the development of safer and more comfortable walking and biking environments.

Selected Elements of the pedestrian network


Street Crossings


Curbs


Sidewalks


Wide Street Crossing

Is Walking Enjoyable?

Various factors contribute to making walking enjoyable: Neighborhood Character, presence of pedestrian friendly designs, and pedestrian safety. These factors are addressed through the proposed goals and objectives guiding the Element update.

5.1.1 Provide direct and convenient, connections to residential areas and schools, work sites, neighborhood shopping, and transit stops and stations for bicyclists and pedestrians.

8.1.1 Reduce pedestrian exposure time by minimizing crossing distances when possible with the construction of bulbs outs, pedestrian islands, or other safety countermeasures.

8.1.2 Use design treatments to improve safety where speed has been a contributor to pedestrian or bicyclist crashes or where speed is thought to be a significant safety risk factor.

Pedestrians need more than sidewalks and crosswalks. In addition to protecting pedestrians from motor vehicle traffic, it is important to have a secure, pleasant, and interesting walking environment to encourage people to walk.

The Pedestrian and Bicycle Element of the 2045 Long Range Transportation Plan, is being developed in cooperation with local and state governments, user's groups and concerned community residents. The goals and objectives of the proposed element call for a pedestrian network that –among others- supports economic vitality, provides system completeness, and enhances user's safety and system's security. The Bicycle and Pedestrian Element updates makes the case for the provision of pedestrian and bicycle facilities and services that encourage walking and bicycling for recreation and purposeful transportation.

Among others, the Element update places emphasis on the following mobility characteristics:

- Destination-oriented trip-making (purposeful travel) and recreational travel.
- Enhance comfort and safety for pedestrians, and bicyclists
- Convenient, safe and well-lighted sidewalks and trails that could encourage people to walk and ride instead of drive.

Many jurisdictions have realized that the definition of pedestrian facilities encompasses a lot more. Thus, the expanded definition could include the following components:

- Land Use
- Streets
- Sidewalks and on-street facilities
- Medians
- Walkways and trails
- ADA Curb ramps
- Traffic calming and control devices
- Marked Crosswalks & Enhancements
- Transit Stops Treatment
- Grade separations (Underpasses and Overpasses)
- Pedestrian Signals
- Street Lighting
- Furnishings & Walking Environment

Pedestrian & Bicyclist Education Program. Photo: © Safe Kids Grand Forks

- Land Use

Land Use	Land Use	
	  Grand Forks Land Use Plan Update, 2016	Land use environment impacts both pedestrian needs and their perceived mobility behavior. It appears that pedestrian's reasons for walking are related to the land use. Thus, important considerations when "*creating a walkable community starts with the very nature of the built environment*" These include: "*having destinations close to each other; siting schools, parks, and public spaces appropriately; allowing mixed-use developments; having sufficient densities to support transit; creating commercial districts that people can access by foot and wheelchair; and so on.*"[73] Linking pedestrian mobility to transit "*distance between origin/destination and nearest bus stop with services serving the transit station was found to be influential variables on the propensity of walking.*" [74]

- Streets

Streets	Streets	
	 Belmont near 8th Avenue South	Streets serve to link parts of cities to each other, one town to another, and activities and places. Provide the surface and structure for a variety of modes. Street provides access to destinations. Providing space to locate utilities is another function. Most importantly, streets provide the elements needed to define a place and a place to advance social interactions. Memorable community activities such as fairs, parades, carnivals, and other events are celebrated on the streets.

[73] Pedestrian Facilities Users Guide —Providing Safety and Mobility Publication No. FHWA-RD-01-102
[74] Puay Ping Koh , Yiik Diew Wong (2013) Comparing pedestrians' needs and behaviours in different land use environments. Journal of Transport Geography. Vol. 26, January 2013, Pages 43-50

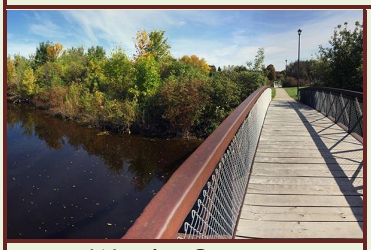
- Sidewalks

Sidewalks			
			Linear paths, usually adjacent to the public street. Sidewalks are that portion of a street or highway right of way, beyond the curb or edge of roadway pavement, which is intended for use by pedestrians.
	Detached Sidewalk 17th Avenue South at 14th St. Photo © MPO Staff, 2017	Attached Sidewalk 4th St. NW East Grand Forks Photo © MPO Staff, 2017	

- Medians

Medians		
		On multi-lane roadways, medians can be among the most desirable features for pedestrians. At signalized intersections in which the pedestrian crossing phase is the minimum required by the MUTCD, and pedestrians are unable to complete the crossing of the entire intersection, a median will permit them to safely wait until the next pedestrian crossing phase.[75]
	Median	

- Walkaways & Trails

Walkaways & Trails		
		Walkways are "*pedestrian lanes*" that provide people with space to travel within the public right-of-way that is separated from roadway vehicles.[76]
	Wooden Crossing Sertoma Park, Grand Forks	

[75] Chapter 19 – Considerations for Alternative Transportation Modes Publication 13M (DM-2) Change #1 - Revised 12/12
[76] Pedestrian Facilities Users Guide —Providing Safety and Mobility Publication No. FHWA-RD-01-102

- Curb Ramps

Curb Ramps	ADA Curb Ramps	
	 Curb Ramp near 40th Avenue South at Pendleton Drive	Curb ramps create a safe transition between the sidewalk and the street. *ADA*-compliant sidewalks are particularly important for pedestrians who use mobility devices. Compliant detectable warning surfaces provide vital safety cues for blind and low-vision users. A combined ramp and landing to accomplish a change in level at a curb. This element provides street and sidewalk access to pedestrians using wheelchairs, strollers or other devices with wheels.[77]

The Americans with Disabilities Act (*ADA*) of 1990 offers sweeping protections for individuals with disabilities. Among the services that must be accessible to individuals with disabilities are transportation facilities, including pedestrian infrastructure.

Pedestrian network features fall within the public right-of-way, and their accessibility is governed by the Public Right-of-Way Accessibility Guidelines (*PROWAG*).

Among other regulations, *ADA* requires that government agencies develop a transition plan to describe how they will become compliant with the provisions of the Act. The *Transition Plan* must include a self-evaluation, in which barriers to accessibility are inventoried. The plan also must prioritize barriers based on certain criteria and provide a schedule for implementing accessibility improvements.

The City of Grand Forks has a 2017 ADA-Ramp for repairs and improvements program. The objective of the ADA Ramp program is to address accessibility and mobility issues for residents with disabilities around the city.

East Grand Forks is bound by the Minnesota Olmstead Plan. This is state plan to ensure people with disabilities are living, learning, working and enjoying life in the most integrated setting.

Although North Dakota and Minnesota Departments of Transportation have their Transition Plans; unfortunately, at the time this report is being written, neither the City of Grand Forks, nor the City of East Grand Forks currently appears to have a "*Transition Plan"* in place. Based on the lack of transition plans, it is unclear whether the Cities are working towards accomplishing this objective.[78]

[77] Michigan DOT (2014) Bicycle and Pedestrian Terminology.
[78] City of East Grand Forks Americans with Disabilities Act Transition Plan for Public Right of Way November 2018

- Traffic Calming & Control Devices

Traffic Calming

Traffic Calming

Pedestrian Signal at Phoenix Elementary School

Traffic calming is a way to design streets, using physical measures, to encourage people to drive more slowly. It creates physical and visual cues that induce drivers to travel at slower speeds. Traffic calming is self-enforcing. Some traffic calming treatments include measures to slow vehicle speeds and/or reduce cut-through traffic. Such measures may include:

— Raised crossings (raised crosswalks, raised intersections).
— Street-narrowing measures (chicanes, slow points, "skinny street" designs).
— Intersection designs (traffic mini-circles, diagonal diverters). [79]
— Others (see ITE Traffic-Calming Guide for further details).

- Crosswalks: Crosswalks & Enhancements

Crosswalks

Marked Crosswalks & Enhancements

Bygland Road, East Grand Forks

That part of a roadway at an intersection that is included within the extensions of the lateral lines of the sidewalks on opposite sides of the roadway, measured from the curb line, or in the absence of curbs from the edges of the roadway. Also, any portion of a roadway at an intersection or elsewhere that is distinctly indicated for pedestrian crossing by lines or other markings on the surface.[80]

- Transit Stop Treatments

Transit Stop

Transit Stop Treatments

Cities Area Transit Stop (Downtown Grand Forks)

Complete sidewalk networks support the efficient operation of transit systems. Accessible stops are essential to enhance connectivity. Transit stops should be located at convenient intervals for passengers. It is recommended that desirable transit stops should be located in highly visible and accessible locations; should be comfortable places to wait and provide safe and convenient access to user's.

[79] Pedestrian Facilities Users Guide —Providing Safety and Mobility Publication No. FHWA-RD-01-102
[80] Michigan DOT (2014) Bicycle and Pedestrian Terminology.

- Grade Separations (Overpasses/Underpasses)

Grade Separations

Grade Separations (Overpasses/Underpasses)

Pedestrian Underpass at 23rd Ave. South at Washington St.

Pedestrian overpasses and underpasses allow for the uninterrupted flow of pedestrian movement separate from the vehicle traffic. Grade separations are also an extremely high-cost and visually intrusive measure. Such a facility must accommodate all persons, as required by the ADA. These measures include ramps or elevators. Extensive ramping will accommodate wheelchairs and bicyclists, but results in long crossing distances and steep slopes that discourage use.

- Pedestrian Signals

Pedestrian Signals

Pedestrian Signals[81]

High Contrast Accessibility Bottom

- Traffic signals create gaps in the traffic flow, allowing pedestrians to cross the street. Signals are particularly important at high-use, mid-block crossings on higher speed roads, multi-lane roads, or at highly congested intersections.
- Pedestrian signals increase pedestrian safety by providing a visual or audible cue indicating pedestrian crossing phases. ADA-compliant pedestrian signals have additional features that make them accessible to a wider variety of pedestrians.
- Section 4 of the Manual on Uniform Traffic Control Devices (MUTCD) defines minimum requirements for signal timing, displays, pushbuttons, and other pedestrian signal.

- Street Lighting

Street Lighting

Street Lighting

East Grand Forks, MN Steel Decorative Street Light

Safety is important for all roadway users. Street lighting can be used to promote security in urban areas. Well-lit streets improve safety for motorist, bicycle riders and pedestrians. Walking and riding outside daylight hours is more dangerous. Decreased visibility impacts heavily older adults and pedestrians. Lack of lighting has been mentioned by some as an impediment to walking and biking.

[81] Pedestrian Facilities Users Guide —Providing Safety and Mobility Publication No. FHWA-RD-01-102

- Street Furnishings/Walking Environment

Street Furnishings

Street Furnishings/Walking Environment

Street Furniture in East Grand Fork, MN
Photo: © Earl T. Haugen

Sidewalks should be continuous and should be part of a system that provides access to goods, services, transit, and homes. Sidewalks and walkways should be kept clear of poles, signposts, newspaper racks, and other obstacles that could block the path, obscure a driver's view or pedestrian visibility, or become a tripping hazard. Benches, water fountains, bicycle parking racks, and other street furniture should be carefully placed to create an unobstructed path for pedestrians.[82]

In addition, there are other technology, design features, and strategies intended to encourage pedestrian travel. However, having inventories of sidewalks, curb ramps, pedestrian and bicycle signals, bike lanes, separated bike lanes, wide shoulders, shared-use paths, and bike parking facilities will provide a baseline for MPOs to design and implement calculations of Pedestrian Level of Service (*PLOS*) activities.

Selected Pedestrian Movements in Grand Forks/East Grand Forks

Pedestrian Crossing on Bygland at 13th Street SE

Adult Crossing Guards at Lewis & Clark School © Grand Forks Herald

Child crossing intersection Nearby Discovery Elementary School. © GF Herald

[82] Pedestrian Facilities Users Guide —Providing Safety and Mobility Publication No. FHWA-RD-01-102

I. BICYCLISTS

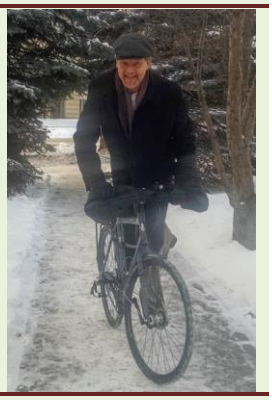
1. Biking in Greater Grand Forks

In general, bicyclist activities have been portrayed as "*summertime*" pursuits. However, according to their weather characteristics both Grand Forks and East Grand Forks are considered "*winter cities."* In this regard, stakeholders suggest that "*even in cold climate conditions*" it is critical to recognize that bicycling is a legitimate form of commuting and recreation. It is also important to acknowledge that there is a substantial difference between the existing recreational and commuter bicycling infrastructures, and that both serve different pursuits.

Winter Biking Conditions

Toddler Zoey Kennedy and Dad enjoying winter biking

© Strong Towns, Winter Biking Demystified, Jason Schaefer (2016)



Grand Forks, ND City Councilor Brett Weber, Commuting to work

Some stakeholders observed:

"*The Grand Forks-East Grand Forks area enjoys a superb recreational bicycling infrastructure.*"

However, it is suggested that to maximize the benefits derived from the existing recreational and commuting bicycle networks infrastructure, other dedicated strategic approaches should be considered. This suggestion is made in addition to those initiatives in place.

Both recreational and commuting activities are interrupted during winter months. As indicated by input shared by a stakeholder, snow banks blocking cross walks and push-bottoms at pedestrian signals and home-owners that do not clear sidewalks, constitute major obstacles to winter walking and biking for individuals and neighborhood residents.

During winter months, some skilled and properly equipped pedestrians and bicyclist switch to weather related recreational and physical activities. Some shift from biking to cross country skiing and snowshoeing. In this regard, the Greenway infrastructure does a great job of providing opportunities for the practicing all of these activities. Those properly dressed can still go out to beat the "*winter blahs*" and enjoy some fresh air and related physical and recreational activities. As it was stated:

"*When I make the effort, I am always glad I did. Winter is incredibly beautiful and so peaceful*."
Jane Croker, Bicyclist.

There are a variety of types of on-road and off-road facilities in East and Grand Forks. Both settings offer opportunities to safely accommodate pedestrians and bicyclists. At the end, whether a pedestrian or a bicyclist, as user's, both groups are concerned with the functioning of the physical components of the network.

Winter-related Activities in Grand Forks-East Grand Forks

The best snowshoeing and cross-country skiing venues in Grand Forks are the Greenway (…) Photo © Dan Koeck for *The New York Times*
36 Hours in Grand Forks By Neal Karlen
Feb. 10, 2006

Winter Fun at the Lincoln Drive Park
Sponsored by
The Grand Forks Park District.
Photo © Grand Forks Park District.

Bikecicle FatBike Winter Race, 2017
Sponsored by
Forks Downtown Development Association
Photo © Wes Peck

Bicycle Friendly Business --Grand Forks. Photo: © MPO Staff, 2017

2. Types of Bicyclists

Historically, planners and engineers have been interested in assessing the relationship between user's skills and their abilities and how those endowments affect the design of pedestrian and bicyclist facilities.

The 1992 Grand Forks-East Grand Forks Bicycle and Pedestrian Element used a methodology developed by the Federal Highway Administration to "*determine the characteristics of the users, because it is the bicyclist who determines how the bike will be used*."[83] FWHA recommended then that "*any roadway treatments intended to accommodate bicycles use must address the needs of both experienced and less experienced riders*"[84]

The Element classified users in three groups then.

Bicycle User's Groups in Grand Forks-East Grand Forks, 1992[85]

Group	Description	Stated Needs
Group A: Advanced Bicyclist	Tend to move along with, or slightly slower than, nearby automotive traffic	Direct access to destinations Sufficient space in roadway
Group B: Recreational Riders	Tend to desire separate bike path facilities because often they do not have a destination	Comfortable access to destinations. Well defined separation of bicycles and motor vehicles on arterials and collector roads
Group C: Younger Riders	Use their bikes on a daily basis on their way to and from school	Comfortable access to destinations but not necessarily the most direct route

Nowadays, in the opinion of some, that previous directive has been replaced by more encompassing categories. In part, the new classification is a response to a "*better understanding of attitudes toward walking and biking,*" and the need to accommodate other segments of the population "*not comfortable*" riding in four or five feet wide bike lane facilities. This pairing is really helpful because as planners and designers, it is easy to visualize who will feel comfortable riding on a road based on its traffic volumes, speeds and other characteristics.

[83] Ridgway, Mathew, Klop, Jeremy (2009). Pedestrian and Bicycle Planning. Chapter 21. Transportation Planning Handbook, 3rd Ed. ITE
[84] FWHA (1994) Selecting Roadway Design Treatments to Accommodate Bicyclist. Quoted in Ridgway, Mathew, Klop, Jeremy (2009). Pedestrian and Bicycle Planning. Chapter 21. Transportation Planning Handbook, 3rd Edition, ITE
[85] Grand Forks-East Grand Forks Transportation Plan –Bicycle and Pedestrian Element (1992).

Figure: XX. FOUR TYPES OF BICYCLISTS

© Geller. 2005. "4 Types of Transportation Cyclists" Portland Bureau of Transportation

2.1 Strong and fearless bicyclists:[86]

Will typically ride anywhere regardless of road or weather conditions, ride faster than other user types, prefer direct routes, and will typically choose to ride on the road, even if shared with vehicles, over separate bikeways like shared use trails.

The "*Strong and Fearless*." These are people who are willing to cycle without any cycling infrastructure. They are less than 1 percent of the population.

2.2 Enthused and confident bicyclists

Are fairly comfortable riding in dedicated bikeways but usually choose low traffic streets or shared use trails when available.

The "*Enthused and Confident."* These are people who are willing to cycle on unprotected cycling infrastructure. They are about 7 percent of the population, and are disproportionately men between the ages of 18-65. *They are comfortable sharing the roadway with automotive traffic, but they prefer to do so operating on their own facilities*.[87]

[86] Geller. 2005. "4 Types of Transportation Cyclists." City of Portland Bureau of Transportation. Available at: http://www.portlandonline.com/transportation/index. cfm?a=158497&c=44671
[87] Geller. 2005. "4 Types of Transportation Cyclists." City of Portland Bureau of Transportation. Available at: http://www.portlandonline.com/transportation/index. cfm?a=158497&c=44671

2.3 Interested but concerned bicyclists

(Approximately 60% of population) comprise the majority of the population and are typically those who only ride on low traffic streets or shared use trails in fair weather. This demographic would like to bike more but have concerns such as safety.

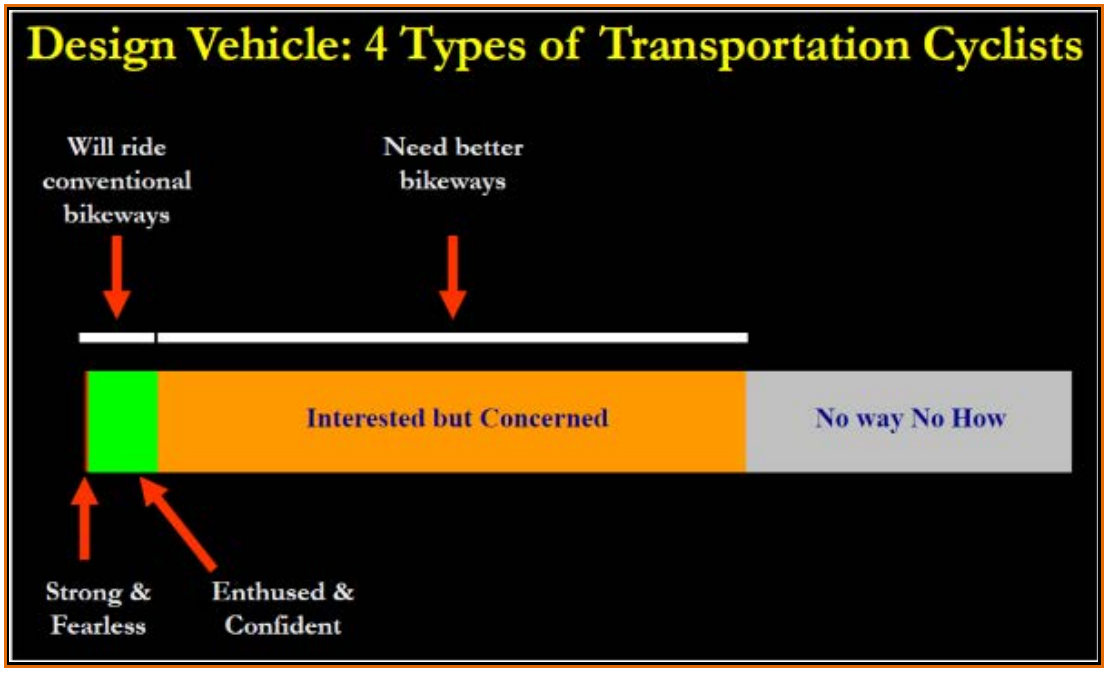
The "*Interested but Concerned."* This is 60 percent of the population. They will *only* cycle on protected or car-free infrastructure. Members from this group "*were the least likely to use their bike for reasons other than leisure, such as commuting or shopping trips. Some of the key factors in that decision included feeling unsafe in traffic, having few bike lanes nearby, or living too far away from key destinations*." [88]

2.4 "No way, no how"

People will not ride a bicycle under any circumstances. This is 33 percent of the population. These people just don't like cycling. They will only cycle on protected or car-free infrastructure AND cycling must be faster, easier and more convenient than alternate means of transportation. Many members of this demographic are willing to undergo considerable inconvenience to avoid cycling and take alternate methods of transportation.

This group liked biking, walking, and taking transit significantly less than the other groups did, and indicated that these factors were not important to them when choosing a neighborhood to live in.[89]

Most recently those in the "No way no how" category have been described as those who were "very uncomfortable" even on a completely segregated bike path or trail, or strongly disagreed with a survey item about wanting to ride more than they do now.



© Geller. 2005. "4 Types of Transportation Cyclists" Portland Bureau of Transportation

[88] Jaffe, Eric (Jan6, 2016) The 4 Types of Cyclists You'll Meet on U.S. City Streets, CITYLAB
[89] Jaffe, Eric (Jan6, 2016) The 4 Types of Cyclists You'll Meet on U.S. City Streets, CITYLAB

3. Bicycling Level of Comfort

Most recently, emphasis has been placed on the bicyclist's "*Level of Comfort*" in a variety of cycling environments.[90] The proposed approach presents "*types*" of bicyclists and groups them "*based on their relationship to exiting bicycle transportation*" These "*types are defined primarily by comfort level bicycling in different environments, NOT by their current bicycling behavior*."[91]

One of the methods used to advance the assessment of existing conditions has been the "*Bicycle Level of Service (BLOS)."* This is a nationally-used measure of on-road bicyclist's comfort level as a function of the roadway's geometry and traffic conditions.

The *BLOS* is "*one way to evaluating the bicycling conditions of shared roadway environments. It uses the same measurable traffic and roadway factors that transportation planners and engineers use for other travel modes*." The *BLOS* "*reflects the effect on bicycling suitability or "compatibility" due to factors such as roadway width, bike lane widths and striping combinations, traffic volume, pavement surface conditions, motor vehicles speed and type, and on-street parking*."[92]

Bicycle Level of Service (*BLOS*) makes it possible to measure "*the ability of a network to connect traveler' origins to their destinations without subjecting them to unacceptably stressful links*[93]*.* The Stress Bicycle Level of Service enables the assessment of user's comfort on some local "*on-road*" facilities such as: Segments on University Avenue, Belmont Road, 13th Ave. S. Other roadways in East Grand Forks include: 8th Ave. NW, Bygland Road SE. The analysis uses data sources readily available. As a result, improvements to enhance the comfort of the bicycle system could be considered; particularly, at the intersection level. The on-road *BLOS* measure is not applicable to off-road sidewalks and side paths – paths parallel to and separated from the roadway.

Although still very useful, some planners have been gradually using the "*Bicycle Level of Comfort (BLOC)*" methodology. The formula supporting that technique includes factors such as: Shoulder Width, Annual Average Daily Traffic (*AADT*), Pavement Factor, and Volumes of Heavy Vehicle.

4. Level of Traffic Stress/Bicycle Stress Level of Service

The Level of Traffic Stress (*LTS)* method measures low-stress connectivity, defined as "*the ability of a network to connect traveler' origins to their destinations without subjecting them to unacceptably stressful links.*"

Level of Traffic Stress (*LTS*) is the method used by Minnesota Department of Transportation in their State-wide District Bicycle Plan. The method is based on the network principles described under "*Additional Bicyclist User's Needs.*" It classifies bicycle facilities from 1-4, with highest ratings given to physically-separated facilities and facilities with low exposure to auto traffic and easy crossings at intersections.

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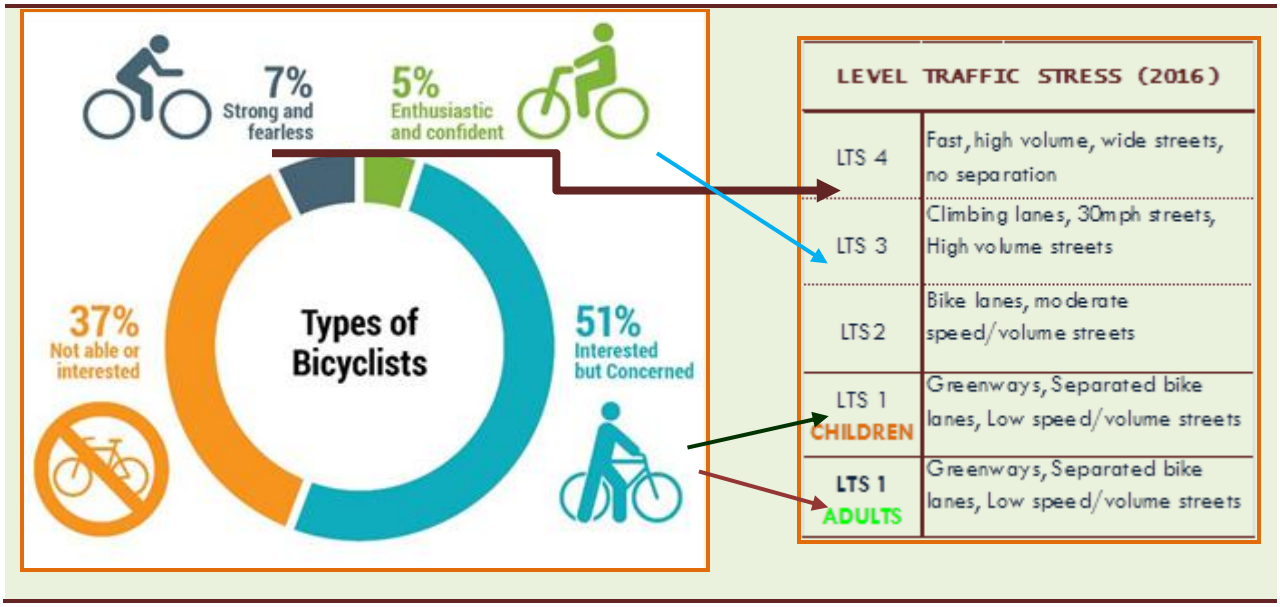
[90] Geller. 2005. "4 Types of Transportation Cyclists." City of Portland Bureau of Transportation. Available at: http://www.portlandonline.com/transportation/index. cfm?a=158497&c=44671

[91] Dill, Jennifer Four (2015) *Types of Cyclist* at https://www.slideshare.net/otrec/four-types-of-cyclists-a-national-look

[92] Sprinkle Consulting Inc. (April 2007). Bicycle Level of Service Applied Model

[93] Multi-Modal Level of Service Toolkit --Bicycling Level of Traffic Stress. Fehrs & Peers

The method classifies streets and intersections from LTS 1 (suitable for children) through LTS 4 (suitable for riders who are comfortable sharing the road with autos traveling at 35 mph or more). Potential Applications include Transportation/Bicycle Master Plans, Community Specific Plans and Safe Routes to School plans.[94]



Minnesota Statewide District Plan (2017) 2017 MPO Summer Workshop

Level of Traffic Stress (2016)

LTS 1	LTS 2	LTS 3	LTS 4
Physically separated from traffic or low-volume, mixed-flow traffic at 25 mph or less	Bike lanes 5.5 ft. wide or less, next to 30 mph auto traffic	Bicycle lanes next to 35 mph auto traffic, or mixed-flow traffic at 30 mph or less	No dedicated bicycle facilities
Bike lanes 6 ft. wide or more	Un-signalized crossings of up to 5 lanes at 30 mph	Comfortable for most current U.S. riders	Traffic speeds 40 mph or more
Intersections easy to approach and cross	Comfortable for most adults	Typical of bicycle facilities in United States	Comfortable for "strong and fearless" riders (vehicular cyclists)
Comfortable for children	Typical of bicycle facilities in the Netherlands		

Bicycle level of traffic stress (*LTS*) is the latest methodology available to assess bicycle infrastructure. The system does not require the amount of data demanded by other methods. LTS is the best practice to

[94] Fehrs & Peers Multi-Modal Level of Service Toolkit http://asap.fehrandpeers.com/wp-content/uploads/2014/08/MMLOS-Tool-Level-of-Traffic-Stress.pdf

evaluate bicycles' network comfort and connectivity. Common inputs include posted or observed speed limit, presence and width of bikeways, intersection control, proximity to motor vehicle parking, blockage of the bikeway by motor vehicles, traffic volumes and truck route designation, and gaps in the bikeway network.(*Fehrs & Peers*). Identifying and addressing the perceived factors that contribute to traffic stress levels (personal safety, long distances, and terrain) could help to increase bikeability of the system.

5. Additional Bicyclist User's Needs

In addition to the many bike accessories and gadgets available to cyclists (well-fitting helmets, bike pumps, commuter lights, and other equipment), user's still expect a well-developed network; and the removal of some physical barriers. Most recently, bicycling is enjoying a "*renaissance*" of sorts nationwide. A useful method for assessing how well a pedestrian and bicycle network meets its intended purpose was originally developed by the *Dutch Centre for Research and Contract Standardization in Civil and Traffic Engineering* (*CROW*). The method comprises the analysis of the components of pedestrian and bicycle networks.[95]

Similarly, bicycle system's facilities should consider the following network principles:

- ### Cohesion

  How connected is the network in terms of its concentration of destinations and routes?

- ### Directness

  Does the network provide direct and convenient access to destinations?

- ### Accessibility

  How well does the network accommodate travel for all users, regardless of age or ability?

- ### Alternatives

  Are there a number of different route choices available within the network?

- ### Safety and Security

  Does the network provide routes that minimize risk of injury, danger and crime?

- ### Comfort

  Does the network appeal to a broad range of age and ability levels and is consideration given to user amenities?

[95] U.S. Department of Transportation, Federal Highway Administration (2015) Case Studies in Delivering Safe, Comfortable, and Connected Pedestrian and Bicycle Networks

The presence of those attributes is critical during the planning and design of non-motorized networks. Those elements facilitate enhanced and direct routes. They provide level of accessibility to serve users regardless of age, ability or riding skills. Consideration for safety and security attributes lessens fears of crime and concerns for personal security. It also contributes to dispel parent's perceptions that may affect the ability of their children to walk or bike to or from school. Consideration for those attributes makes possible for Agencies to prioritize improvements to enhance network connectivity, mobility and accessibility.

Suitability of Transportation Network for Bicycle Travel: Criteria Ranking Rating[96]

• Traffic volume (observed)	• Functional classification
• Roadway width	• Truck traffic (observed)
• Driveways	• Pavement surface
• Terrain	

Delivering Safe, Comfortable, and Connected Pedestrian and Bicycle Networks:
40th Avenue South at Columbia Road, Grand Forks (ND) (2017)
Photo: © Ethan Bialik

Because bicyclists share the roadway with moving vehicles, riding a bicycle is more challenging that walking. A bicyclist is extremely fragile. Interactions with traffic volumes, particularly in higher classified roadways makes bicyclist extremely vulnerable. Navigating driveways in residential neighborhoods and dealing with heavy vehicles on main highways requires highly developed skills.

The factors listed above, serve to determine whether the existing conditions on the transportation network are suitable for bicycle travel. These factors also provide the basis for identifying and prioritizing bicycle construction projects.

[96] GHMPO Bicycle and Pedestrian Plan Existing Conditions

Traffic operation factors used to determine the appropriateness of proposed design treatments, also deserve attention. The factors listed above serve to identify *existing conditions* on the transportation network.[97]

Here is an example of a "*safe, comfortable and connected pedestrian facility.*"

6. Existing On-street Bicycle Facilities

- **Bicycle Lanes**

	Bike Lane[98]					
		Best Use	Motor Vehicle Design Speed	Traffic Volume	Classification or Intended Use	Other considerations
Bike Lane		Major roads that provide direct, convenient, quick access to major land uses. Also can be used on collector roads and busy urban streets with slower speed	Generally, any road where the design speed is more than 25 mph	Variable. Speed differential is generally a more important factor in the decision to provide bike lanes than traffic volumes	Arterials and collectors intended for major motor vehicle traffic movements	Where motor vehicles are allowed to park adjacent to Bike lane; provide a bike lane of sufficient width to reduce probability of conflicts due to opening vehicle doors and objects in the road. Analyze intersections to reduce bicyclist /motor vehicle conflicts.
	Bicycle Lane on University Avenue (Columbia Rd-N 42nd St) © Google Maps	(…) Under most circumstances the recommended width for bike lanes is 5 feet (1.5 m). Wider bicycle lanes may be desirable under the following conditions: • Adjacent to a narrow parking lane (7 feet [2.1 m]) with high turnover) (…) • In areas with high bicycle use, a bike lane width of 6 to 8 feet (1.8-2.4 m) • On high-speed (greater than 45 mph [70 km/h]) and high-volume roadways, or where there is a substantial number of heavy vehicles, a wide bicycle lane provides additional lateral separation between motor vehicles and bicycles to minimize wind blast and other effects.				

A bike lane is a portion of the roadway that has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes are most commonly installed on collector and minor arterial streets with traffic volumes exceed 3000 vehicles per day.

The minimum width for a bicycle lane is 4 feet (on roads with no curb and gutter); 5- and 6-foot bike lanes are typical for collector and arterial roads. Increasing the width of bike lanes provides greater comfort for bicyclists.[99] Bicycle lanes are designed for preferential use by bicyclists. Motorists may pass through bike lanes to park if there is parking, driveways or turn lanes.

[97] FHWA Course on Bicycle and Pedestrian Transportation. Lesson 3. Bicycle and Pedestrian Planning Overview
[98] Guide to Bicycle Facilities (2012) AASHTO
[99] City of Sumter 2010-2040 Long Range Transportation Plan. Final Report April 2013

Bike lane widths should be determined by context and anticipated use. The speed, volume, and type of vehicles in adjacent lanes significantly affect bicyclists' comfort and desire for lateral separation from other vehicles.[100] Bicycle lanes are recommended where volumes meet or exceed 3,000 vehicles per day. Still, no bike lanes were built in East Grand Forks from 2013-2016. The *Bygland Road Study* (2015) considers six intersections on the 2.5 miles long segment from the Red Lake River to the southeastern city limits. Among others, the study recommends: Designate bike route between Elementary School and Regional Trail and bike route along Greenway between Regional Trail access and Bygland (Shared Lane Markings and Signing).[101]

- Sharrow

Sharrow (Shared Lanes)

Sharrow[102] (Shared Lanes)

	Best Use	Motor Vehicle Design Speed	Traffic Volume	Classification or Intended Use	Other considerations
	Space constrained roads with narrow travel lanes, or road segments upon which bike lanes are not selected due to space constraints or other limitations	Variable. Use where the speed limit is 35 mph or less	Variable. Useful where there is high turnover in on-street parking to prevent crashes with open car doors	Collectors or minor arterials	May be used in conjunction with wide outside lanes. Explore opportunities to provide parallel facilities for less confident bicyclists. Where motor vehicles allowed to park along shared lanes, ensure marking placement reduces potential conflicts with opening car doors
University Avenue, Grand Forks © Grand Forks Herald	• Shared Lanes on Major Roadways (Wide Curb/Outside Lanes): 2 Lane widths of 13 feet (4.0 m) or less. • On sections of roadway where bicyclists may need more maneuvering space, the outside lane may be marked at 15 feet (4.6 m) wide. • Roadways with shared lanes narrower than 14 feet (4.3 m) may still be designated for bicycles with bicycle guide signs and/or shared lane markings.				

A pavement marking symbol that assists bicyclists with lateral positioning in lanes too narrow for a motor vehicle and a bicycle to travel side-by-side within the same traffic lane.[103] Sharrows encourage bicyclists to position themselves safely in lanes too narrow for a motor vehicle and a bicycle to comfortably travel side by side within the same traffic lane. University Avenue was the first place in the city of Grand Forks to have sharrows after City Council approved the bike accommodations.[104] Sharrows could entail asphalt or concrete surfaces. They are applicable to urban and suburban environments.

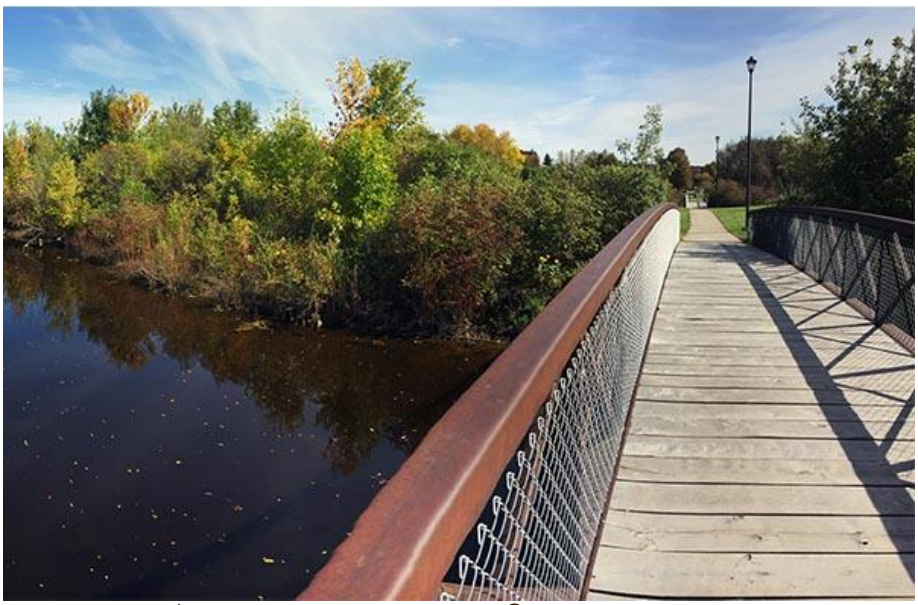
[100] AASHTO Guide for the Bicycle Facilities, 4ht Edition (2012).
[101] Bygland Road Study (2015) Alliant Engineering.
[102] Guide to Bicycle Facilities (2012) AASHTO
[103] Michigan DOT (2014) Bicycle and Pedestrian Terminology.
[104] Haley, Charlie, (March 17, 2014) *Grand Forks City Council OKs arrows, bike symbols painted on street between UND campus to downtown.* Grand Forks Herald.

- Signed Bicycle Routes

Multi-use Path	Signed Bike Lane					
		Best Use	Motor Vehicle Design Speed	Traffic Volume	Classification or Intended Use	Other considerations
		Signed bicycle routes are treatments used to designate a preferential bicycle routing and provide wayfinding guidance to cyclists.		Signed routes can direct cyclists to corridors that have existing on-road facilities or access locations for off road facilities.	Arterials and collectors intended for major motor Vehicle traffic movements.	
	Belmont Road @ 4th Ave. S ©Google Maps, 2012	SIGNED BIKE ROUTE is a Way-finding treatment that indicates the facility has been designated for bicycle use.				

Signed routes are an integral part of the bicycling network in the Grand Forks-East Grand Forks area. These facilities are an inexpensive way to guide riders to more bicycle-friendly roads. The routes are typically not the first choice of advanced cyclists because local signed routes and streets do not provide the most direct route. Signed routes are helpful in wayfinding to link neighborhoods with networks of greenways and other bike facilities. The traffic and geometry of a road are important considerations when determining the location of a signed route. In addition, the functionality of the route for the purpose it was intended (e.g., scenic route or utilitarian connector) is a necessary component in the decision-making process.

Signed bicycle routes are streets that do not provide exclusive space for cyclists. These travel lanes are shared fully with automobiles and are generally implemented on roadways that can be navigated safely by cyclists and motorists. "*Bike Route*" signs are used to designate a street as part of a bicycle network and are often used to connect on-street bike lane segments and off-street shared use pathways.



Sertoma/Japanese Garden Park-Photo © Grand Forks Parks District, 2016

G. Existing Off-street Bicycle Facilities

- **Multi-Use Paths**

	Multi-use Paths/Shared Use Path (Adjacent to Roadways)[105]					
		Best Use	Motor Vehicle Design Speed	Traffic Volume	Classification or Intended Use	Other considerations
Multi-use Path	 	Adjacent to roadways with no or very few intersections or driveways. The path is used for short distance to provide continuity between sections of path on independent rights-of-way.	The adjacent roadway has high speed motor vehicle traffic such that bicyclist may be discouraged from riding on the roadway.	The adjacent roadway has high speed motor vehicle traffic volumes such that bicyclist may be discouraged from riding on the roadway.	Provides a separate path for non-motorized users. Intended to supplement a network of on-road bike lanes, shared lanes, bicycle boulevards, and paved shoulders. Not intended to substitute or replace on-road accommodations for bicyclist, unless bicycle use is prohibited.	Several serious operational issues are associated with this type of facility type.
	Multi-use Path segment adjacent to DeMers Ave. at the Boden –A high speed motor vehicle traffic & volumes roadway.					

Multi-use paths are paved pathways that accommodate both cyclists and pedestrians. Multi-use paths — or shared use trails — are bicycle and pedestrian facilities dedicated to transportation and recreation and are physically separated from street and roadways by barriers or buffers. Shared use paths are generally located adjacent to roadways, waterways, or abandoned railroads. They are also often used to access open space and parks.

According to the AASHTO Guide for the Development of Bicycle Facilities indicates (2012), "*best use*" for multi-use paths adjacent to roads with high volumes and speeds is "*adjacent to roadways with no or very few intersections or driveways. The path is used for short distance to provide continuity between sections of path on independent rights-of-way.*" The "*Classification or intended use*" provides a separated path for non-motorized users.

Multi-use paths adjacent to roads with high volumes and speeds are "*intended to supplement a network of on-road bike lanes, shared lanes, bicycle boulevards, and paved shoulders. Not intended to substitute or replace on-road accommodations for bicyclist, unless bicycle use is prohibited*. "

Other considerations related to Multi-use Paths indicate several serious operational issues are associated with this facility type.

[105] Guide to Bicycle Facilities (2012) AASHTO

- Unpaved Trails

Unpaved Trail						
Unpaved Trail		Best Use	Motor Vehicle Design Speed	Traffic Volume	Classification or Intended Use	Other considerations
		Typically used by a diverse set of users representing different travel modes.			Intended to supplement a network of on-road bike lanes, shared lanes, bicycle boulevards, and paved shoulders.	8' Minimum 14' Maximum

Unpaved trails are shared use paths bicycle and pedestrian facilities that provide access to open space, trails and parks. Unpaved trails are generally located adjacent to roadways, waterways, or abandoned railroads. In our planning area, Unpaved Trails includes a segment on 48th Street South and a portion on 32nd Avenue South that provides access to the Multi-Use Paths on 32nd Avenue South. Another segment is the one on Adams Drive that provides access to the Greenway Trail in the south-end of the City of Grand Forks.

- Greenway Trail

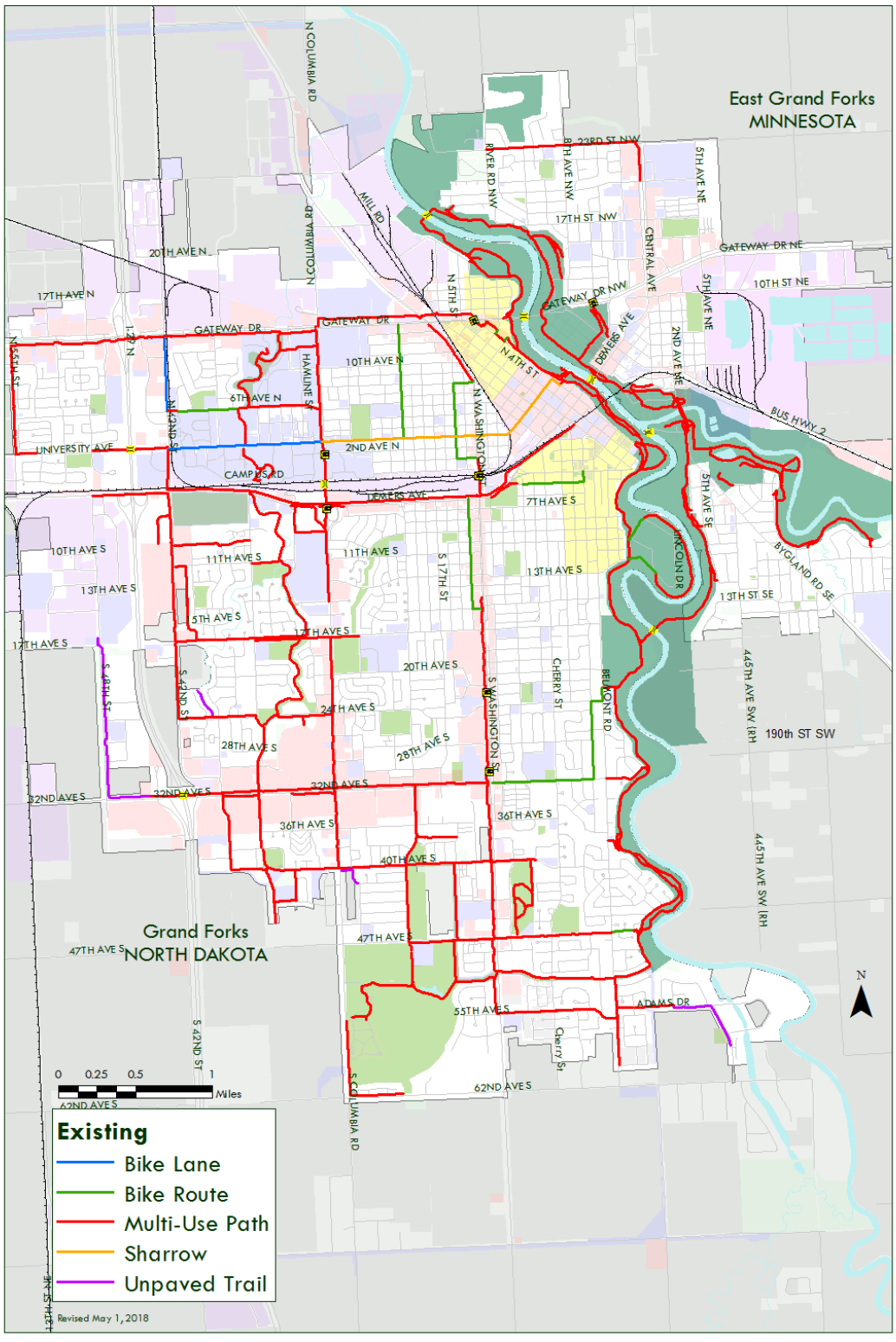
Greenway Trails						
Greenway Trails		Best Use	Motor Vehicle Design Speed	Traffic Volume	Classification or Intended Use	Other considerations
		Bicyclist: Children & Basic riders, pedestrians and equestrians.		Diverse user mix, can create congested and conflictive path conditions	May be incorporated into built natural areas such as linear urban parks or parkways, along flood control levees or along urban waterfronts.	8' Minimum 14' Maximum

The Greenway Trail System was developed out of a massive project to mitigate damage from disastrous seasonal flooding on the Red River. The Greenway is more than a device for flood mitigation; it is an enhancement to the quality of life for residents of the Greater Grand Forks area. While the design of the Floodwall Protection System was taking place; simultaneously a community wide public involvement process was advanced to refine the conceptual plan for the Greenway. In 1998, the City of Grand Forks commissioned Greenways Incorporated to build on the original vision for the Greenway and develop a comprehensive Greenway Plan. The Greenway features several parks, campground, 2 golf courses, 3 disc golf courses, over 20 miles of multipurpose trails, shore bank and fishing sites.[106]

[106] Greenway Trail at http://www.greenwayggf.com/greenway-plans.html

Pedestrian and Bicycle Friendly Neighborhood Street. Photo: © MPO Staff, 2017

J. EXISTING BICYCLE & PEDESTRIAN FACILITIES



1. Existing & Planned Bikeway Network

The construction and expansion of the existing Bicycle System in Grand Forks-East Grand Forks began in 1974. Years later, the current on-road and off-road network boasts approximately 79.1 miles of bicycle and pedestrian facilities. The system straddles two jurisdictions located on the opposite edges of the Red River of the North. In addition, approximately 20 miles of paved multi-purpose paths in park, wildlife refuge and trails setting are contributed by the Greenway Trail System. The current on street and off-street existing Bikeway System accounts for:

On Street Bicycle Facilities

Facility Type	Grand Forks (Length/Miles)	East Grand Forks (Length/Miles)
Bike Lanes	1.00	0.00
Bike Routes	4.67	0.00
Sharrows	1.75	0.00

Off-Street Bicycle and Pedestrian Facilities

Facility Type	Grand Forks (Length/Miles)	East Grand Forks (Length/Miles)
Multi-use Paths	56.14	13.31
Unpaved Trails	2.26	0.00

Tables 1 to 8 below describe the type, length, location and segments built from 2013 to 2016:

- Grand Forks: 10.72 miles of facilities
- East Grand Forks: 1.23 miles of Multi-use paths.

1. Grand Forks-East Grand Forks Existing Bicycle Facilities Network, Built 2013-2016

	Total Length (Feet)		Total Length (Miles)	
	Grand Forks	East Grand Forks	Grand Forks	East Grand Forks
Bike Lane	0		0	
Bike Route	4584		0.87	
Multi-Use Path	39408	6526	6.23	1.23
Sharrow	9220		1.75	
Unpaved Trail	3403		0.64	
Total Network	50089	6526.00	9.49	1.23

2. Grand Forks-East Grand Forks
Existing Bicycle Network Facilities, Built 2013-2016

Current Facility	Length (Feet)	Year Built	Location	To_	From_	Length Miles	City
Bike Route	4584		Washington St.	DeMers	7th Avenue S	0.87	Gr. Forks
Bike Route			S 14th Street	7th Ave. S	15th Avenue S.		Gr. Forks
Total	4584					0.87	

3. Grand Forks-East Grand Forks
Existing Bicycle Network Facilities, Built 2013-2016

Current Facility	Length (Feet)	Year Built	Location	To_	From_	Length Miles	City
Multi-Use Path	5144	2014	Greenway	Greenway	Greenway	0.97	East Grand Forks
Multi-Use Path	1382	2014	Greenway	Greenway	Greenway	0.26	East Grand Forks
TOTAL	6526				TOTAL	1.24	

4. Grand Forks-East Grand Forks
Existing Bicycle Network Facilities, Built 2013-2016

Current Facility	Length (Feet)	Year Built	Location	To_	From_	Length Miles	City
Sharrow	9220	2014	University Ave	N 3rd St	N Columbia Rd	1.75	Gr. Forks
TOTAL	9220				Total	1.75	

5. Grand Forks-East Grand Forks
Existing Bicycle Network Facilities, Built 2013-2016

Current Facility	Length Ft.	Year Built	Location	To_	From_	Length Miles	City
Multi-Use Path	1318	2016	Greenway	Greenway	Greenway	0.25	Gr. Forks
Multi-Use Path	1837	2015	43rd Ave S	40th Ave S	S 34th St	0.35	Gr. Forks
Multi-Use Path	595	2015	S Columbia Rd	36th Ave S	Walmart Entrance	0.11	Gr. Forks
Multi-Use Path	1272	2015	S Columbia Rd	40th Ave S	36th Ave S	0.24	Gr. Forks
Multi-Use Path	635	2015	English Coulee	English Coulee Path	Longbow Ct	0.12	Gr. Forks
Multi-Use Path	552	2015	S Columbia Rd	Walmart Entrance	32nd Ave S	0.10	Gr. Forks
Multi-Use Path	1027	2014	S 42nd St	17th Ave S	Sleep Inn & Suites Entrance	0.19	Gr. Forks
Multi-Use Path	2134	2014	S 42nd St	24th Ave S	18th Ave S	0.40	Gr. Forks
Multi-Use Path	1151	2014	40th Ave S	S 38th St	S 34th St	0.22	Gr. Forks
Multi-Use Path	668	2014	17th Ave S	Path	S 42nd St	0.13	Gr. Forks
Multi-Use Path	651	2014	S 34th St	40th Ave S	Ruemmele Rd	0.12	Gr. Forks
Multi-Use Path	1180	2014	S 34th St	43rd Ave S	40th Ave S	0.22	Gr. Forks
Multi-Use Path	784	2014	40th Ave S	S 32nd St	S 34th St	0.15	Gr. Forks
Multi-Use Path	703	2014	S 34th St	44th Ave S	43rd Ave S	0.13	Gr. Forks
Multi-Use Path	1416	2014	S of 36th Ave S	S 16th St	S 20th St	0.27	Gr. Forks
Multi-Use Path	315	2014	Greenway	Greenway	Greenway	0.06	Gr. Forks
Multi-Use Path	454	2014	S 42nd St	§	11th Ave S	0.09	Gr. Forks
Multi-Use Path	926	2014	S 42nd St	Ø	Alerus Center Entrance	0.18	Gr. Forks
Multi-Use Path	450	2014	S 42nd St	18th Ave S	17th Ave S	0.09	Gr. Forks

§ Alerus Center Entrance Ø Sleep Inn & Suites Entrance

6. Grand Forks-East Grand Forks
Existing Bicycle Network Facilities, Built 2013-2016

Current Facility	Length-Ft	Year Built	Location	To_	From_	Length Miles	City
Multi-Use Path	450	2014	S 42nd St	18th Ave S	17th Ave S	0.09	Gr. Forks
Multi-Use Path	573	2014	Garden View Drive	S 40th St	S 42nd St	0.11	Gr. Forks
Multi-Use Path	754	2014	S 43rd St	S 42nd St	Alerus Center Rd	0.14	Gr. Forks
Multi-Use Path	391	2014	S 43rd St	S 42nd St	Alerus Center Rd	0.07	Gr. Forks
Multi-Use Path	65	2014	S 43rd St	S 42nd St	Alerus Center Rd	0.01	Gr. Forks
Multi-Use Path	881	2013	24th Ave S	Bethesda Cir	S 42nd St	0.17	Gr. Forks
Multi-Use Path	2604	2013	S 20th St	47th Ave S	40th Ave S	0.49	Gr. Forks
Multi-Use Path	541	2013	S 34th St	Ruemmele Rd	36th Ave S	0.10	Gr. Forks
Multi-Use Path	1312	2013	Adams Dr	Courtyard Dr	Jackson St	0.25	Gr. Forks
Multi-Use Path	570	2013	Adams Dr	Jackson St	Belmont Rd	0.11	Gr. Forks
Multi-Use Path	571	2013	11th St S	47th Ave S	46th Ave S	0.11	Gr. Forks
Multi-Use Path	1058	2013	Choice Fitness	46th Ave S	44th Ave S	0.20	Gr. Forks
Multi-Use Path	255	2013	Campus Rd	Parking Lot - East	Hughes Fine Art Center	0.05	Gr. Forks
Multi-Use Path	473	2013	Garden View Drive	Driveway	S 40th St	0.09	Gr. Forks
Multi-Use Path	1118	2013	Choice Fitness	North end of Choice	Street North of Choice	0.21	Gr. Forks
Multi-Use Path	48	2013	Adams Dr	Adams Dr	Courtyard	0.01	Gr. Forks
Multi-Use Path	64	2013	S 34th St	Roundabout E	Roundabout S	0.01	Gr. Forks
Multi-Use Path	1245	2013	§	South End	North End	0.24	Gr. Forks
Multi-Use Path	49	2013	§	South End	North End	0.01	Gr. Forks
Multi-Use Path	24	2013	§	South Side	North Side	0.00	Gr. Forks
Multi-Use Path	480	2013	S 11th St	44th Ave S	North of Choice	0.09	Gr. Forks
Multi-Use Path	606	2013	S 11th St	46th Ave S	44th Ave S	0.11	Gr. Forks
Multi-Use Path	466	2013	Garden View Drive	Driveway	Driveway	0.09	Gr. Forks
Multi-Use Path	666	2013	Belmont Rd	Emerald Dr	W Prairiewood Dr	0.13	Gr. Forks
TOTAL	32882				Total	6.23	

§ East of Choice Fitness

7. Grand Forks-East Grand Forks
Existing Bicycle Network Facilities, Built 2013-2016

Current Facility	Length Ft.	Year Built	Location	To_	From_	Length	City
Unpaved Trail	2858	2013	Adams Dr	Cole Creek Dr	Courtyard Dr	0.64	Gr. Forks
TOTAL	2858				Total	0.64	

8. Grand Forks-East Grand Forks
Existing Bicycle Network Facilities, Built 2013-2016

Current Facility	Length	Year Built	Location	To_	From_	Length Miles	City
Sharrow	9220	2014	University Ave	N 3rd St	N Columbia Rd	1.75	Gr. Forks
TOTAL	9220				Total	1.75	

A review of the components of the Bikeway system built from 2013 to 2016 indicates four observations:

a) No *Bike Lanes* facilities were built in that period in the planning area
b) Most segments built were short in length.
c) Most construction of new bicycle facilities involved Shared-used paths
d) Construction in Environmental Justice Areas programmed in the MPO Transportation Improvement Program for 2017-2020

No *Bike Lanes* facilities were built in that period

Although no Bike Lanes were built in the previous years; there are some positive motives to support building more bike lanes in the future.[107] For instance:

- *It inspires more people to ride bicycles*

Time and time again, cycling studies have shown that adding bike lanes motivates more people to get out and bike

- *It stimulates the local economy*

While communities often fight bike lanes out of concern that it will discourage vehicular traffic from coming to the stores, recent studies have shown that bicycle lanes have the opposite effect on sales.

- *It's safer for motorists*

Crashes happen, but research illustrates that city streets with bike lanes reduce the rate of cyclist injury by 50%.

- *It has a real impact on the environment*

As people feel safer and the number of cyclists grows, this conversely alters the number of vehicles on the road.

[107] Matthews, Kevin (2016) 5 Reasons We Need to Add More Bike Lanes. http://www.care2.com/causes/5-reasons-we-need-to-add-more-bike-lanes.html

In addition, the City of Redmond (WA) highlights *21 reasons to mark bike lanes*. Here you will find ten of them: [108]

1. *Bike lanes support and encourage bicycling as a means of transportation.*
2. *Bike lanes remind drivers that bicyclists are roadway users, too.*
3. *Bike lanes help define road space for bikes and for cars, promoting a more orderly flow of traffic.*
4. *Bike lanes allow bicyclists to move at their own pace.*
5. *Bike lanes remove slower-moving bikes from vehicular traffic lanes, reducing delay for drivers.*
6. *Bike lanes are a visual reminder to drivers to look for bicyclists when turning or opening car doors.*
7. *Bike lanes enforce the concept that bicyclists are roadway users and should behave like other vehicle operators.*
8. *Bike lanes encourage bicyclists to obey general traffic rules when roadways are marked to include them.*
9. *Bike lanes provide an added buffer for pedestrians between sidewalks and thru traffic. This is important when young children are walking, biking, or playing on curbside sidewalks.*
10. *Bike lanes provide an area for people in wheelchairs to travel where there are no sidewalks, or sidewalks are in need of repair.*

Most construction of new bicycle facilities involved Shared-used paths

Most of the construction activity was devoted to the construction of *Shared Use Paths*. Shared-use paths attract a variety of user groups. They can provide a high-quality bicycling experience in an environment that is protected from motorized traffic because they are constructed in their own corridor, often within open-space area. Multi-use paths can be paved and should be a minimum of 10-feet wide. Their width may be reduced to 8 feet if there are physical or right-of-way constraints.

Shared Use Paths and trails are often shared by users of all ages and abilities, including bicyclists, walkers, and joggers, parents pushing strollers, roller-bladders, and pets. The great variety of users and their varying speeds and mobility can make such riding more unpredictable than riding in the roadway.

In this regard, *Special care must therefore be taken in the planning and design of such paths to provide a satisfactory experience for bicyclists, and safe sharing of the facility with a variety of users of differing speeds and abilities*.[109]

FHWA indicates that Shared use paths should not be used to preclude on-road bicycle facilities, but rather to supplement a system of on-road bike lanes, wide outside lanes, paved shoulders and bike routes.[110]

Here are a few recommended considerations concerning the construction of Shared-use paths (*perhaps at the expense of other type of facilities*):

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[108] http://www.redmond.gov/Transportation/GettingAroundRedmond/Bicycling/21GoodReasonsToMarkBikeLanes/
[109] Pedestrian Bicycle Information Centre (PBIC) http://www.pedbikeinfo.org/planning/facilities_ped_paths.cfm
[110] The Walking Environment: 8. Shared Use Paths https://safety.fhwa.dot.gov/saferjourney1/Library/countermeasures/08.htm Source: Guide for the Development of Bicycle Facilities, 1999 - AASHTO

- Shared-use paths are a complement to the roadway network; they are not a substitute for providing access on streets.

- Connections to the regular street network are important, but a high number of crossings at intersections create potential conflicts with turning traffic.

- At intersections with roadways, paths should be signed, marked, and/or designed to discourage or prevent unauthorized motorized access.

- All users should be encouraged to stay right. An exception may be paths along waterways or other features that capture the attention of pedestrians. In these instances, markings and/or signage may be used to encourage pedestrians to stay on the side of the path closest to the attraction to reduce conflicts associated with pedestrians crossing the pathway. Since nearly all shared use paths are used by pedestrians, they need to meet the accessibility requirements of the Americans with Disabilities Act (ADA).

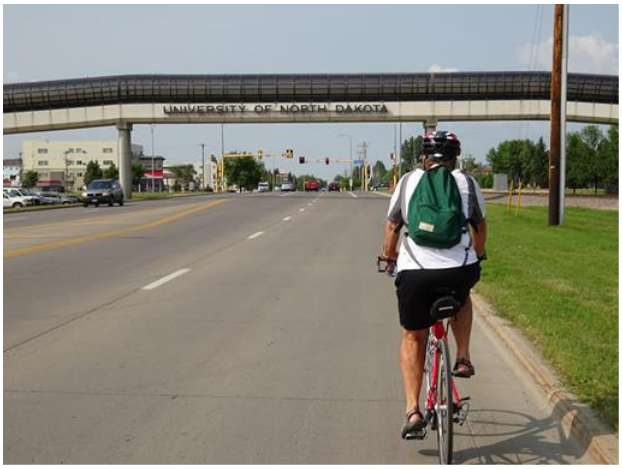
- In areas with extremely heavy pathway volume, it may be necessary to separate pedestrians from wheeled users.[111]

New bicycle facilities in the area included construction of Shared-use Path and the designation of S14th Street (DeMers Ave. to 16th Ave. South) as a Bike Route.

Construction of bicycle facilities in Environmental Justice Areas programmed in the MPO Transportation Improvement Program (*TIP*) for 2017-2020 includes:

- Project #12 DeMers Avenue - Will construct a new multi-use trail along the Southside of DeMers Ave between S. 42nd St. and S48th St. The project entails constructing a new multi-use trail that will provide another transportation mode choice to access the City's Industrial Park.

- Project #18 42nd St. - Reconstruction of N. 42nd St between University Ave Forks and Gateway Drive. The project entails reconstructing the pavement surface of N. 42nd St. Existing Bike Lane is expected to be converted into a *Shared Used Path* (*SUP*).



Bicycle riding on N 42nd St between University Ave. and Gateway Drive.

[111] Pedestrian Bicycle Information Centre (PBIC) http://www.pedbikeinfo.org/planning/facilities_ped_paths.cfm

K. DETERMINING CURRENT LEVELS OF UTILIZATION

1. Community Survey

An important tool in the *Existing Conditions Analysis* was the "*Public Attitude Survey of Bicycle and Pedestrian Planning.*" The questionnaire was developed, primarily, to determine current levels of use of the existing transportation network for bicycling and walking trips and activities. The tool served to build public support for the plan development and fostered public involvement.

The information collected assisted in determining current levels of use for bicycling and walking transportation trips. The information gathered included responses to bicycle and pedestrian related questions included in the following questions:

Q. 2 Factors bicyclist and pedestrians like the most about the system
Q. 4 Trip activity by mode
Q. 5 Factors that make it unpleasant for respondent to bike or walk
Q. 6 Reasons for respondent not to bike/walk
Q. 7 Frequency reasons respondent engages in given activities
Q. 8 Suggested most important improvements to improve biking/walking environment
Q. 9 Intersections the respondent would like to see becoming more friendly to biking and walking
Q. 11 Suggested improvements to enhance walking/biking experience for children
Q. 18 Level of importance of suggested improvement to support biking/walking in the area

Two versions of the survey questionnaire were designed:

- The first version consisted of a web-based Survey Monkey. Responses to this version came from 37 participants. In general, respondents were predominantly 54.1% female; 33.3% 55-64 years of age; 54.1% holding a postgraduate degree; and 87.5% white.

- The second version consisted of a paper-based survey. Responses to this version came from 81 participants. In general, respondents were predominantly 39.5% male; 25.9% 16-24 years of age; 28.4% holding a 4-year College degree; and 60.5% white.

This summary presents the results from the paper-based survey. Although the sample size of the survey (N=81) was too small for statistical purposes; except for the age groups, the information gathered reflects a slice of the regional demographics. Responses, comments and suggestions will help to determine current conditions and capacities in the pedestrian network and bicycle system. The information gathered will help to identify system's gaps or deficiencies in terms of accommodating potential and existing pedestrian and bicycle travel.

2. Summary findings

According to the survey, the sample of respondents represented the area's population in terms of gender, race, income, education attainment and employment. In the last typical week, 45.7% of respondents indicated they had ridden a bicycle.

Respondents describing Pedestrians activities indicated that the factors they liked the most about the system included:

- A good network of sidewalks and multi-use paths
- Friendly biking environment
- How easy is to cross the streets when walking

Respondents describing Bicyclists activities indicated that the factors they liked the most about the system included:

- A good network of sidewalks and multi-use paths
- The fact that many of my preferred destinations are located within biking distance
- Friendly biking environment

However, according to responses, walking and biking activities are mainly pursued for fitness purposes. Responses indicated that quite seldom are these activities advanced for purposeful pursuits such as to walk a dog, even to get to the bus stop or for other trips. Weather is one of the factors that make biking or walking less enjoyable. Respondents also indicated that they:

- Find it difficult to walk due to the sidewalks too close to the road.
- Find the poor quality of bike lanes and sidewalks unpleasant.

Despite these circumstances, some respondents indicated that places where they need to go are beyond their ability to ride.

Whether describing themselves as pedestrians or bicyclist, respondents indicated they had no reason ***not to*** bike or walk. However, their perceived barriers to biking or walking, more regularly included personal safety. Pedestrian and bicyclist personal safety concerns are most regularly related to major roads. Perceived personal safety problems could be related to leading barriers to pedestrian and bicyclist use such as the need for proper lighting, improved rail crossings, traffic signals, suitable drainage grates.

Reasons for respondents *not to ride* included:

- Travel with small children
- Automobile traffic
- Personal safety
- Visually unappealing surroundings

Reasons for respondents *not to walk* included:

- Personal safety
- Unsafe intersections
- Lack of sidewalks
- Bad drivers
- Sidewalks in poor condition

According to the survey sample, it appears that respondent engage themselves in biking and walking in small percentages. It also appears respondents engage themselves at a very low frequency. Respondents indicated the following reasons for riding at least once a month:

- To exercise
- To go to the park
- To go to work

Respondents indicated the following reasons for walking at least once a month:

- To get to & from a transit stop
- To go to school
- To go to work

According to respondents the most important locations in ***Need of Improvement*** in the bicycle environment:

- On major street corridors (DeMers Ave, Gateway Dr.)
- On bridges and overpasses
- Near neighborhood schools
- On neighborhood streets

These comments are important because respondents that ride their bikes have a wider radius of action when operating their bikes. As a result, user's need for complete network cohesion, directness, accessibility, alternative routes, safety and security and comfort is heightened.

Most important locations in ***Need of Improvement*** in the pedestrian environment included:

- On neighborhood streets
- Near neighborhood schools
- Near highway interchanges

Suggested Improvements to enhance ***Children's bicycling and walking*** differed according to the mode of transportation:

Respondents describing Pedestrian activities indicated:

- Walking School Buses and similar initiatives
- Police enforcement
- Traffic calming treatments near schools (*speed bumps*)
- Crossing guards

Respondents describing Bicyclists activities indicated:

- Widening sidewalks near schools and parks
- Traffic calming treatments near schools (speed bumps)
- Crossing guards

According to respondents the suggested *Improvements to Support Walking* in Grand and East Grand Forks included:

- Maintenance of sidewalks/bike lanes/Greenways
- Better street lighting
- Better intersections (pedestrian signals/crosswalks)

According to respondents the suggested *Improvements to Support Bicycling* in Grand and East Grand Forks included:

- More sidewalks/signed bike routes/Greenways
- Maintenance of sidewalks, bike lanes, greenway
- Improved connections between sidewalks/bikeways and transit

Wheeled Sports Safety Program -- Safe Kids Grand Forks, GF Police Dept. & Optimist Club

3. Summary Responses: (*N* = 81)

Demographics (Highlights) Paper-based survey (N=81)		
Age: 16-24 (25.9%) Gender: Male (39.5) Female (38.3%)	Employment: Employed full time (32.1%) Education: 4-year College Graduate (28.4%)	Ethnicity: White (60.5%) Estimated household income: Under $25000 (13.6%), $100 001-$150 000 (11.1%)

Source: Public Attitude Survey of Bicycle and Pedestrian Planning (Paper-based version)

Q. 1 Have you bicycled/walked in the last typical week?

37 respondents (45.7%) indicated they had ridden a bike in the last typical week.

Q. 2 Most important items for people to bike/walk (Factors they like the most about the system)

Biking:	Walking:
A good network of sidewalks and multi-use paths (34.6%) The fact that many of my preferred destinations are located within biking distance (25.9%) Friendly biking environment (24.7%)	A good network of sidewalks and multi-use paths (35.8%) Friendly walking environment (27.2%) How easy is to cross the streets when walking (24.7%)

Source: Public Attitude Survey of Bicycle and Pedestrian Planning (Paper-based version)

Q. 4 Activity trips by mode

Results appear to indicate that participation in trips by mode is rather low. For instance:

Biking	Walking
Exercise for personal fitness: Sometimes (30.9%) Walk the dog: Never (71.6%) To be bus/transit station: Never (75.3%) A combination of trips: Never (39.5%)	Exercise for personal fitness: Often (32.1%) Walk the dog: Never (43.2%) To bus/transit station: Never (67.9%) A combination of trips: Sometimes (24.7%)

Source: Public Attitude Survey of Bicycle and Pedestrian Planning (Paper-based version)

Q. 5 Reasons that make it difficult or unpleasant for you to bike/walk

It appears the factors that make it difficult or unpleasant to bike or walk include:

Biking	Walking
Weather: Moderately difficult (16%) to Very difficult (19.8%) Places where I need to go are beyond my ability to ride: Moderately difficult (18.5%) to Very difficult (16%) Poor bike lanes/Poor sidewalk quality: Moderately difficult (18.5%) to very difficult (16%)	Weather: Moderately difficult: (16%) to very difficult: (19.8%) Sidewalks to close to road: Very difficult: (12.3%)

Source: Public Attitude Survey of Bicycle and Pedestrian Planning (Paper-based version)

Q. 6 Reasons for not to Bike/Walk more frequently

In general, about 45% of respondents indicated they had no reason not to bike or walk. However the major reasons not to bike included:

Biking	Walking
• Travel with small children: (25.9%) • Automobile traffic: (24.7%) • Personal safety: (23.5%) • Visually unappealing surroundings: (23.5%)	• Personal safety: (29.9%) • Unsafe intersections: (22.2%) • Lack of sidewalks: (21.0%) • Bad drivers: (21%) • Sidewalks in poor condition: (22.2%)
Source: Public Attitude Survey of Bicycle and Pedestrian Planning (Paper-based version)	

Q. 7 Average Frequency of biking/walking for following reasons

It appears biking and walking are pursuits in which respondents engage in small percentages. It also appears respondents engage themselves at a very low frequency.

Biking	Walking
To go to the park: (29.9%) at least once a month To exercise: (27.8%) at least once a month To go to work: (25.9%) at least once a month	To get to & from a transit stop: (24.7%) daily To exercise: (19.8%) at least once a month To go to park: (22.2) at least once a month
Source: Public Attitude Survey of Bicycle and Pedestrian Planning (Paper-based version)	

Q. 8 Most important locations in biking/walking environment in need of improvement

Biking	Walking
On major street corridors (DeMers Ave, Gateway Dr.): (21%) On bridges and overpasses: (21%) Near neighborhood schools: (17.3%) On neighborhood streets: (16%)	On neighborhood streets: (18.5%) Near neighborhood schools: (17.3%) Near highway interchanges: (12.3%)
Source: Public Attitude Survey of Bicycle and Pedestrian Planning (Paper-based version)	

Q. 9 Suggested streets & intersections would like to see more bicycle/pedestrian friendly (Verbatim)

Please see a brief summary of the Comments provided by respondents concerning the Question:

> *Please enter up to five (5) streets and/or intersections you would like to see become more BICYCLIST /PEDESTRIAN friendly. Feel free to describe in detail your desired improvement at each location.*

4. Public Input Review

The summary of the responses was organized as a complete report. It is included in the Appendix under: *Existing Conditions Analysis Public Input Eng Review*.
The report details the efforts and initiatives advanced by various agencies and City Departments to address those concerns. The report includes comments in the following areas:

- Traffic Signals/ Signal Timing/Traffic Lights (7)
- Street Crossings/ Marked Crosswalks/ Sidewalks (16)
- Existing Pedestrian Facilities, Trails & Routes (12)
- Facility's Directness (4)

Intersections (Would Like To See Becoming More Bicycle/Pedestrian Friendly):

Q. 11 Suggested improvements to enhance children's biking/walking experience

Biking	Walking
Widening sidewalks near schools and parks: (21%) Very important Traffic calming treatments near schools (speed bumps): (25.9%) Important Crossing guards: (24.7) Important	Walking School Buses and similar initiatives: (28.4%) Important Police enforcement: (27.2%) Important Traffic calming treatments near schools (speed bumps): (25.9%) important Crossing guards: (25.9%) Important

Source: Public Attitude Survey of Bicycle and Pedestrian Planning (Paper-based version)

Q. 18 Suggested improvements to support biking/walking in Grand Forks/East Grand Forks

Biking	Walking
More sidewalks/signed bike routes/Greenways: (30.9%) Very important Maintenance of sidewalks, bike lanes, greenway: (30.9%) Very important Improved connections between sidewalks/bikeways and transit: (22.2%) Very important	Maintenance of sidewalks/bike lanes/Greenways: (25.9) Very important Better street lighting: (18.5%) Very important Better intersections (pedestrian signals/crosswalks): (19.8%) moderately important

Source: Public Attitude Survey of Bicycle and Pedestrian Planning (Paper-based version)

5. Community Comments on Map-Public Involvement Activities

As part of the public involvement process, three Existing and Planned Bikeway Facilities, 2016 maps were strategically located at the atriums of the East Grand Forks and Grand Forks City Halls (Entrances), the East Grand Forks Senior Centre. The objective was to provide pedestrians, bicyclist and wheelchair users with the opportunity to provide comments –on the map – about the bicycle system and pedestrian network. The comments were reviewed and organized in areas of concern. Repeated comments served to develop a list of challenges and opportunities in the pedestrian network and bicycle system. Thus far, response comments –indicating how each department or agency is addressing those existing conditions- have been provided by:

- The Grand Forks & East Grand Forks Department of Engineering,
- Grand Forks & East Grand Forks Department of Planning,
- Safe Kids Grand Forks, and
- Greenway Trail Technical Advisory Committee

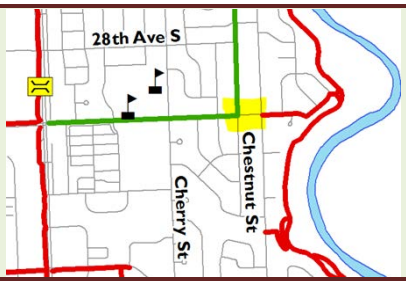
Concerns -brought to our attention -at the time comments were written- are described below:

Sample Verbatim Comments by Residents on Display Boards, 2016

① Missing Connection on 47th Avenue South from Belmont Road to Greenway Trail

② Missing connection on 47th Avenue South From South 20th Street to Columbia.

③ Missing connection on Columbia Road from 47th Avenue South to 40th Avenue South.



④ Review connection on 32nd Avenue South from Chestnut to Greenway Access Trail.

6. Bicycle Infrastructure: Parking (Bike Racks)

The literature review indicates that a complete pedestrian network and bicycle system includes the provision of facilities that increase level of user's comfort and their convenience at trip destination points. Those desired lack of end of trip facilities include Shower, changing rooms, safe and convenient access, and lockers.

Providing those facilities at workplaces or commercial areas also promotes cycling behavior. It is expected their availability could potentially increase the likelihood that cyclists will undertake more frequent short trips or longer commutes. Some studies indicate that in addition to distance, time and safety concerns, a few reasons why people consistently say they don't ride include: a) Lack of parking (Bike Racks); and b) Lack of end of trip facilities (indicated above).

A number of bike racks and repair stations have been installed at major destination points and at public buildings in the planning area. Those destinations include the Greenway Trails, Northlands Community College, the University of North Dakota campus, Elementary and Secondary schools, recreational centers, arenas and park entrances. It is possible the number of bike racks had been increasing. Unfortunately, currently there is not an inventory of these facilities available to ascertain their presence.

7. Bike-on-Buses Program

The integration of pedestrian and bicycle activities with transit benefits user's and transit agencies. For instance:

- Bicycling extends the catchment area for transit services and provides greater mobility to customers at the beginning and end of their transit trips.
- Provide bicyclists with the option to take transit to avoid riding after dark, up hills, in poor weather, or in areas that do not provide comfortable bicycle access (e.g., bridges, tunnels, construction areas, and narrow roads with high traffic volumes).
- Bicycle-on-transit is also an option for bicyclists who have mechanical problems or need to get home in an emergency.
- Bicycle and transit integration is also thought to decrease automobile traffic congestion, help reduce air pollution (by reducing motor vehicle trips), and improve the public image of transit.[112]

All Cities Area Transit (CAT) buses have bike racks. CAT has been striving to facilitate bike on buses. Permits are required. These are the bus stops where one to three bikes are loaded every day (2014):

Columbia Mall	Metro-Transit Center (Downtown Terminal)	24th Ave S at 17th Street South	Home of the Economy
Served by Routes: 5-9-12-13	Served by Routes: 1-2-3-4-5-6-10-11	Served by Routes: 5 & Night Bus	Served by Route: 2

[112] Transit Cooperative Research Program (2005) TCRP Synthesis 62 Integration of Bicycles and Transit

8. Safe Routes to School: Parent's Surveys

The Safe Routes to School, "*Parent Survey is a two-page questionnaire intended to collect information from parents of K-8th graders about how their children travel to and from school, what barriers there are to walking or biking to and from school, and their attitudes about walking and biking to school.* The questionnaire takes 5 to10 minutes to complete. One questionnaire per household is sent home.

The Parent's Survey serves to collect information about student travel patterns; and strives to capture important information on parental attitudes on whether kid's bike and walk trips are appropriate. The following topics are covered by the Parent's Survey:

- Gender, age and grade of their child (or children) who attend the school
- Distance between their residence and the school
- Opinions on walking and biking conditions
- Factors that influence the decision to walk or bike
- Routes used to reach school
- Education programs

The 11 Elementary Schools surveyed for the Parent's Survey entailed a population of 3420 students. The surveys were administered by Safe Kids Grand Forks in cooperation with school staff during October-November, 2016. The Parent's Survey for the Discovery Elementary School was discussed in the Discovery Elementary School Safe Routes to School Report, published by the MPO in 2016. Parent's Surveys for Elementary Schools in East Grand Forks will be conducted in the fall, 2017.

The information gathered helps local SRTS programs identify issues that need to be addressed to improve their SRTS activities. Information from parents might also identify unexpected opportunities to increase walking and biking to school."[113] The results help to realize mobility, accessibility and connectivity objectives set out in the Bicycle and Pedestrian Element.

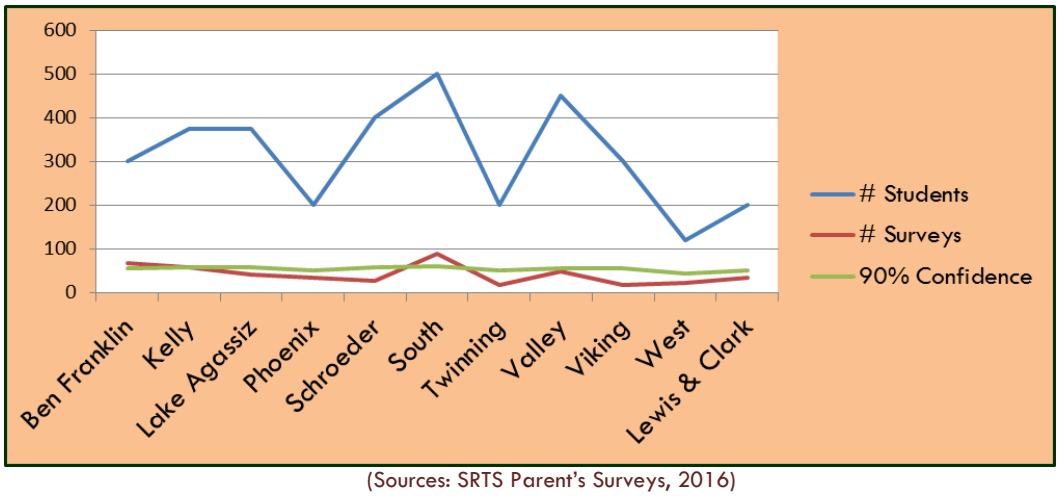
The objective is to increase the safety of children, their parents and other vulnerable users in their way to and from school. Results may also serve to unearth user's concerns about the completeness and suitability of the bicycle system and pedestrian network, including facility's conditions that may prevent or allow children- according to their parent's perceptions- to ride or walk by themselves to and from schools.

[113] http://www.saferoutesinfo.org/sites/default/files/resources/Specific_Form_Instructions_0.pdf

SAFE ROUTES TO SCHOOLS-PARENT'S SURVEYS, OCTOBER - NOVEMBER, 2016				
				Estimated Sample Size
	School	# Students	# Surveys	90% Confidence
1	Ben Franklin	300	66	56
2	Kelly	375	57	58
3	Lake Agassiz	375	40	58
4	Phoenix	200	34	51
5	Schroeder	400	27	58
6	South	500	88	60
7	Twinning	200	18	51
8	Valley	450	49	55
9	Viking	300	17	55
10	West	120	21	43
11	Lewis & Clark	200	34	51
		3420	451	

(Sources: SRTS Parent's Surveys, 2016)

Findings from the Parent's Survey may be used to assist in the design and implementation of educational and encouragement initiatives; and to support development of physical improvement programs (new sideway construction, traffic calming initiatives, intersection analysis and traffic signal placement) in proximity to school sites, particularly, those school located in "*underserved*" income and population areas. A summary of the survey's results indicates that:



(Sources: SRTS Parent's Surveys, 2016)

The Summary Report of the Parent's Survey includes responses from 439 questionnaires. Participating children were 47% female and 53% male as indicated by their parents. Seven-graders 14%; Sixth-graders 13% and fifth Graders 12% corresponded to the groups with the largest representation of respondents.

The estimated distance from school was 1 mile up to 2 miles for 23% and less than ¼ of a mile for 25% of the students.

439 trips account for typical mode of arrival in the morning. 445 trips account for departures in the afternoon. 71% arrivals and 50% of departures from school are by family vehicle. 14% of responding parents indicated children walked in the morning. 21% of responding parents indicated children walked in the afternoon. 6% of responding parents indicated children rode their bikes back home.

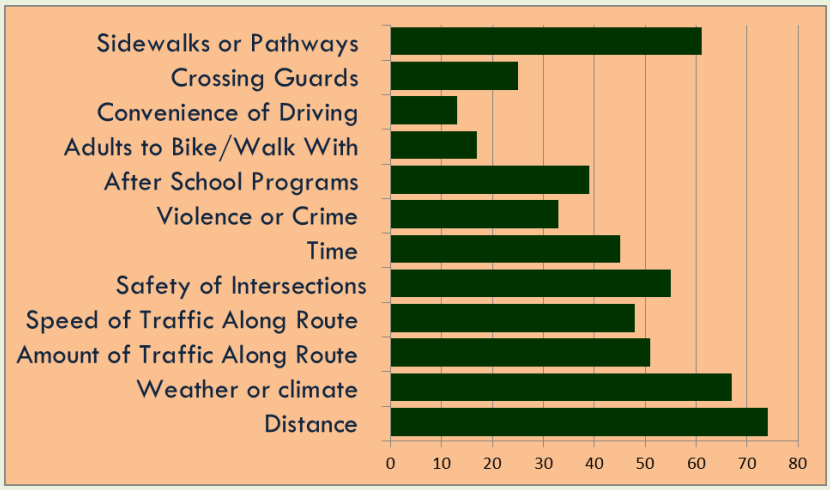
Typical mode of school arrival by the distance the child lives from school indicated that children living less than a ¼ mile, according to the number of trips, 52% arrived by family vehicle, 35% walked and 8% biked to school. Children living ¼ to ½ from school 60% arrived by family vehicle, 18% walked and 11% biked to school.

Typical mode of school arrival by the distance the child lives from school indicated that children living less than a ¼ mile, according to the number of trips, 52% arrived by family vehicle, 35% walked and 8% biked to school. Children living ¼ to ½ from school 60% arrived by family vehicle, 18% walked and 11% biked to school.

Considering the arrival and departure by distance the child lives from the school, the prevalent mode, was the family vehicle. The longer the distance the greater the percent of those using family vehicle. Still, living in close proximity to school sites, some parents continue using the family vehicle for a short trip to school to drop children.

As reported by parents, the percent of children, who has asked for permission to walk or bike to/from school, declines according to the distance they lived from school. Considering the number of children (1415), attending the surveyed schools, 80% lives less than ¼ miles. According to responding parents, 80% of children living ¼ to ½ mile, and 68% of children living ½ to 1 mile asked for permission to walk or bike to/from school.

Issues reported to affect the decision **to *allow*** a child to walk or bike to/from school by parents of children who already walk or bike to/from school



(Sources: SRTS Parent's Surveys, 2016)

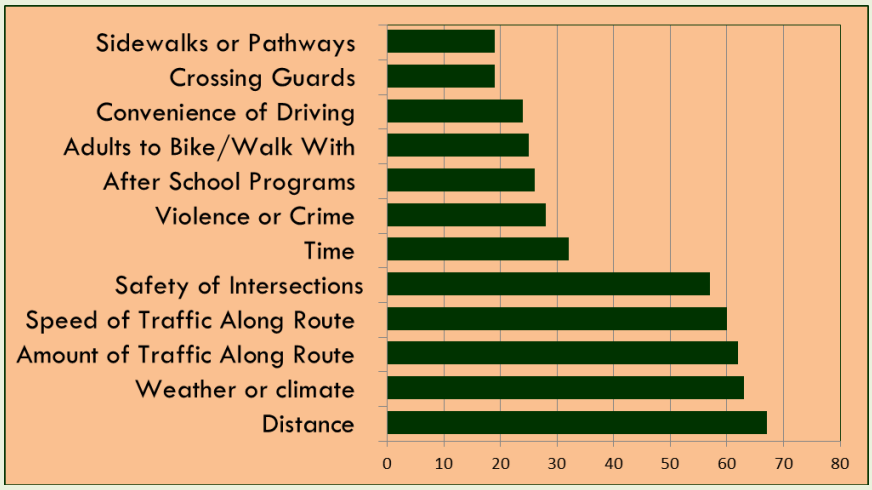
The number of students asking for permission to walk or bike to school decreased based on the distance of their location from school. Still, 52% of responding parents living at 1/4 mile up to 1/2 mile distance

from school arrive by family vehicle. 38% of responding parents living 1/4 mile up to 1/2 mile depart from school by family vehicle.

The decision to allow a child to walk or bike to/from school by parents of children who already walk or bike to/from school is affected by a) Sidewalks and pathways (61%), b) Distance (64%), c) Weather (67%), and d) Safety of intersections and crossings (61%).

A number of comments were provided by parents. Concerns dealing with distance to/from school, intersection safety, school's location, road safety were considered as some of the factors preventing children from walking and biking to/from school. Complete survey results are in the Appendix.

Issues reported to affect the decision **to *not allow*** a child to walk or bike to/from school *by parents of children who do not walk or bike to/from school* Issues



(Sources: SRTS Parent's Surveys, 2016)

According to responding parents, 20% of children living ¼ mile; 20% living ¼ up to ½; and 71% living more than 2 miles away, did not ask for permission to walk or bike to/from school. The decision ***not to allow*** a child to walk or bike to/from school by parents of children ***who do not*** walk or bike to/from school is affected by a number of factors including perceived: a) Safety of intersections and crossings 57%; b) Speed of traffic along route 60%; c) Amount of traffic along route 62%; d) Distance 67%; and e) Weather or climate 63%.

Parents *who do not walk or bike to/from school*, indicated distance and weather, safety at intersections and crossings, speed of traffic along the route and traffic volumes, as the factors that prevent parents from allowing their children to walk and ride to and from school.

As a result, it is plausible, many of the comments made could be closely related to issues impacting more "*mobility and efficiency*" (vehicle/traffic) than to "*accessibility and connectivity*." (Pedestrians and bicyclists) As a result, parent's emphasis could be placed in addressing more Level of Service (LOS) or more roadway conditions as experienced by drivers than traffic issues as experienced by children walking and riding.

375 Parent's Surveys were administered for the Discovery Elementary School in year 2016. Participating children were 40% female and 60% male as indicated by their parents. The typical mode of arrival (75%) and departure (61%) from school is by the family vehicle. The percent of children, who has asked for permission to walk or bike to/from school declined according to the distance they lived from school.

Parents - who do not walk or bike to/from school- of children attending the Discovery School indicated that their decision ***not to allow*** a child to walk or bike to/from school is affected by a number of factors including perceived: a) Safety of intersections and crossings (68%); b) Speed of traffic along route (68%); c) Amount of traffic along route (65%); d) Distance (63%); and e) Weather or climate (61%).

The decision ***to allow*** a child to walk or bike to/from school by parents of children who already walk or bike to/from school is affected by a) Safety of intersections and crossings (73%); b) Sidewalks or pathways (73%); Distance (64%). These factors more closely relate to the availability of the element of the pedestrian network that could satisfy user's needs pedestrian needs including directness, continuity, street crossings, safety, security, and comfort. A number of comments were provided by parents. Concerns dealing with distance to/from school, intersection safety, school's location, road safety were considered as some of the factors preventing children from walking and biking to/from school.

Concerns dealing with safety at intersections and crossings, speed of traffic along the route and traffic volumes, are currently being addressed by the City of Grand Forks Department of Engineering. Among other approaches, the Department of Engineering is actively engaged in advancing the School-Zone Highway Safety Program. The installation of School-Zones signs is a part of a program to replace the aging school related signs in accordance with the study done by the City of Grand Forks Management Plan. The program is supported through funds received from Highway Safety Improvement Program (HSIP).

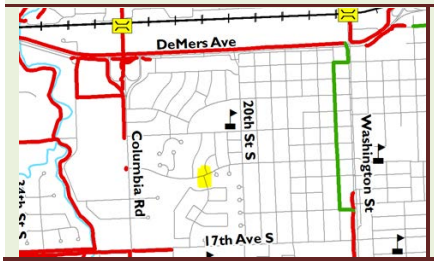
Assuring safe walking or biking conditions to and from school for children, their parents and members of vulnerable populations is an objective shared by all stakeholders involved in the Element update.

Comments from Parent's Surveys contain important observations. These will be assessed in the context of the Existing Conditions Analysis.

These comments help stakeholders to develop a better understanding of the roadway and sidewalk conditions around schools. Here is a selected sample of comments. They identify the school and the questionnaire. All comments are included in the Appendix.

9. Safe Routes to Schools: Parent's Surveys-Selected Comments by Parents 2016

Safe Routes to Schools –Parent's Surveys –Selected Comments by Parents, 2016

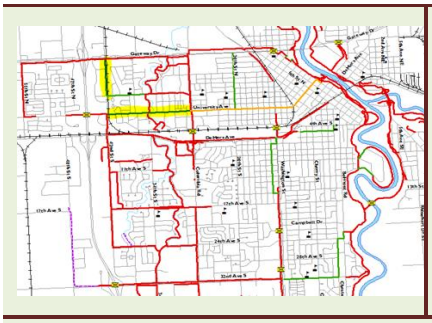


Ben Franklin

13th Ave and Rider Road is an extremely dangerous intersection. I have witnessed a couple near misses where children had the right away because of a pedestrian crossing.

Lake Agassiz

My children live along University where there are college age students who drive very fast. Our neighborhood has a significant amount of teenage drivers who drive over 30 mph down our street. My children will also have to cross 42nd street alone to get to school. THERE IS NO WAY I am allowing my 1st and 4th grade child to ride their bike or walk to school. They are healthy children who ride and play outside on a daily basis and have plenty of other ways to exercise.



Lewis and Clark

Until our streets and intersections are designed for pedestrians in mind, this problem won't be solved. We can't design streets that move cars fast and that are safe for pedestrians. We're a city that had made a commitment to cars, not people (evidenced by the fact that we have zero on street bicycle lanes in the whole city). Until that changes, our community will remain anti-social and unhealthy.

Source: Safe Kids Grand Forks, Safe Routes to Schools –Grand Forks Elementary Schools, 2016

Safe Kids Grand Forks—Pedestrian Education Program, 2017

10. Safe Routes to Schools: Bike to School Day, May 2017

Safe Kids Grand Forks and the school district administer the Safe Routes to School program (SRTS). Funding for non-infrastructure SRTS is sporadic. However, the emphasis on pedestrian and bicycle safety does not end when funding is not available. Safe Kids and the school district continue this programming.

Bike to School and Walk to School Days are initiatives fostered by the Safe Routes to School program. This event has been held for many years prior to Safe Routes to School funding. The program's objective is to raise awareness of the need to create safer routes for walking and bicycling and emphasize the importance of issues such as increasing physical activity among children, pedestrian safety, and concern for the environment.

The program also serves to address parents' concerns about traffic and other personal perceptions; the program offers opportunities to parents and children to adhere to socialization patterns and behavior changing actions that collectively and individually emphasize personal safety and security for all. For instance, cyclists are encouraged to be safety conscious, to follow all traffic laws, and to wear bright, visible clothing. A helmet is required for those riding their bikes to school. For many children, walking and biking to and from school offers enjoyable recreational opportunities. Both walking and biking activities facilitate the learning process of becoming closely familiar with local streets, housing characteristics, traffic and land use patterns and access to parks and neighborhood's recreational facilities.

The first-ever National Bike to School Day took place on May 9, 2012, in coordination with the League of American Bicyclists' National Bike Month. In 2017 Bike to School Day was organized by Safe Kids Grand Forks. Attendance was approximately 300 kids in the Grand Forks Public Schools. Here are some estimates from 2013-2017:

2013: ***80*** 2014: ***60*** 2015: ***No figures*** 2016:***80*** 2017: ***300***

As the program gains popularity and acceptance among school and community stakeholders, it additionally promotes health, identifies safer routes for walking and biking and improves air quality. Hence, it is worth noticing the substantially positive increased in participation for year 2017.

Pedestrian Education Program (Facebook). Photo: © Safe Kids Grand Forks

11. Traffic Signs on School Zones (Grand Forks)

Concerning bicyclist and pedestrian safety in proximity to school premises, The Grand Forks-East Grand Forks Metropolitan Planning Organization has commissioned a (2017) Safety Study to assess the current status of a number of recommendations proposed to enhance the safety of school-age children and members of vulnerable populations on their way to and from school, whether biking or walking.

Those recommendations were proposed by ATAC from 2004 to 2012 for K-8 schools in Grand Forks and East Grand Forks School Districts. A recent review indicates that a number of the proposed recommendations are still deemed as "*Not Completed*," "*In Need of Improvement*," "*Under Review*," or "*Pending.*" The recommendations are outlined in *The Grand Forks/East Grand Forks School Safety Study (2014)* advanced by the MPO.

The installation of signs, as fostered by the School-Zone Highway Safety Program is vital to address bicyclist and pedestrian safety, neighborhood movements and traffic circulation concerns made manifest by some of the proposed recommendations. Other recommendations consider traffic controls including pavement markings and signage. The School Sign installation program is scheduled for implementation in 2017. Moreover, proposed devices will constantly remind drivers to treat the area with special care and attention.

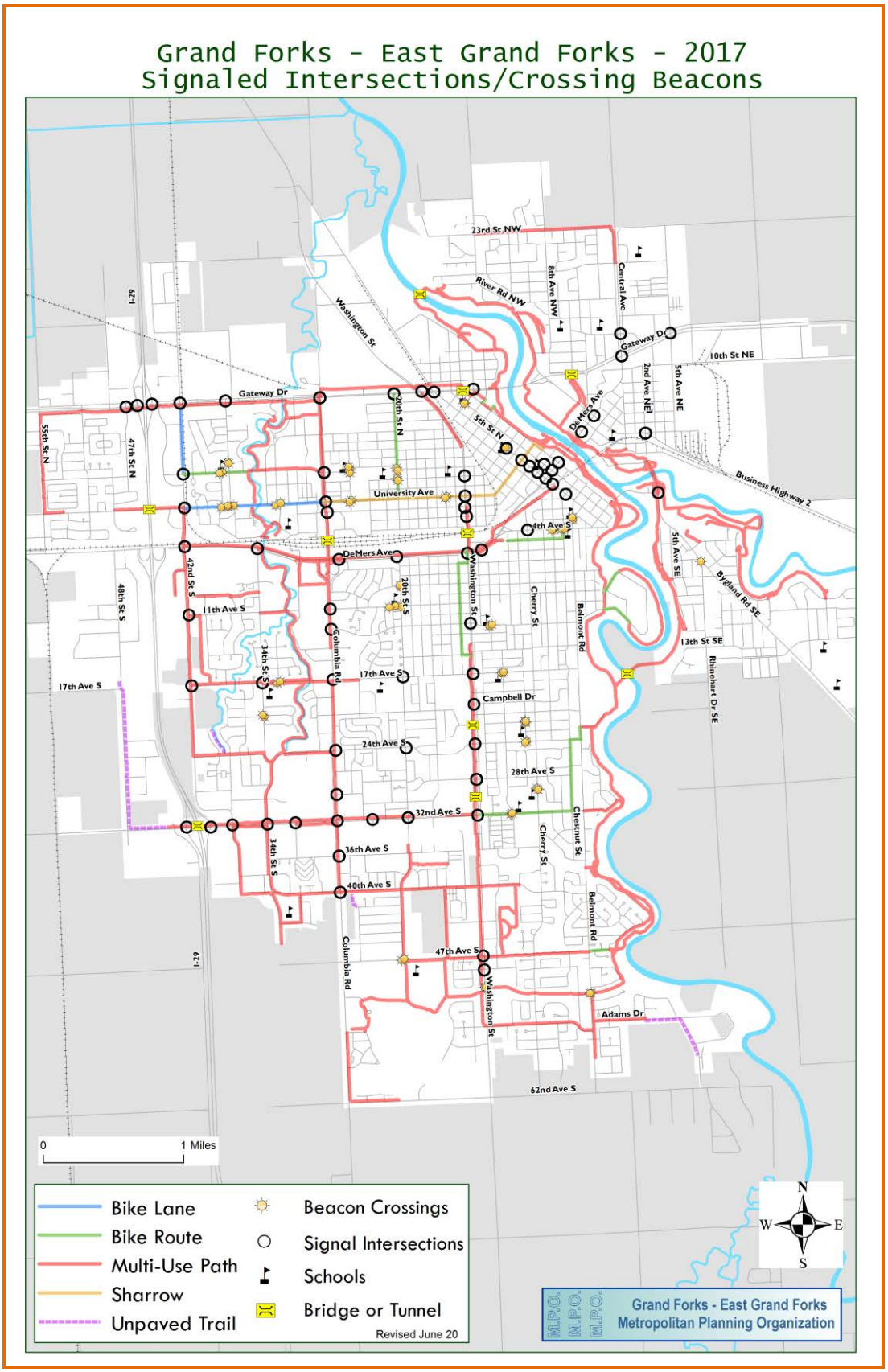
Table : Traffic Signs on School Zones (Grand Forks), included in the Appendix illustrates the type of signs and respective location as outlined in the Traffic Signs on School Zones (Grand Forks).

The Traffic Sign on School Zones Program is administered by both jurisdictions according to the principles and standards set out in the Manual of Uniform Traffic Control Devices for Streets and Highways (*MUTCD*), Part 7. Techniques considered for addressing bicyclist and pedestrian safety and accessibility within the school zone include the following:

- School Speed Limit Sign
- Overhead School Flasher Speed Limit Sign
- School Advance Warning and Crosswalk Signs
- Pavement Markings
- Parking Restrictions

In addition, Map # Signaled Intersections/Crossing Beacons illustrates the locations of these important traffic signs in relation to Elementary Schools in the Grand Forks-East-Grand Forks Area.

12. Signalized Intersections/ Crossing Beacons



L. JOURNEY TO WORK: COMMUTING IN THE MPO'S PLANNING AREA

"*Journey to Work*" involves diverse modes of transportation, including biking and walking. The analysis assesses whether those modes are physically and/or economically available to the user. "*Journey to Work*" comprises trips exclusively dedicated to and from work. This analysis of the mode share of the "*Journey to Work*" is based on the 5-years estimates for (2008-2012) – (2009-2013) and (2010-2014) 5-years estimates from the American Community Survey (ACS). Estimates focus on small populations; examine census tracts and other geographies.

The population in the "*Journey to Work*" consists of those living in the place, 16 years of age or older and those in the military actively participating in the labor force; who are employed and worked in the week previous to the survey.

1. Grand Forks (ND)

Journey to Work by Means of Transportation (Grand Forks, ND) (2008-2014)

Journey to Work Commuting Share by Mode						
Grand Forks Commuting Share by Mode						
	2008-2012		2009-2013		2010-2014	
Mode	Number	Percent	Number	Percent	Number	Percent
Total	29909		29974		30125	
Public	539	1.8	449	1.5	429	1.4
Bicycle	387	1.3	320	1.1	295	1.0
Walked	1222	4.1	1276	4.3	1250	4.1
Worked	1049	3.5	1042	3.5	1135	3.8
Source: ACS 5-year estimate data, 2012-2014. factfinder.census.gov						

In the 6 years period from year 2008 to 2014, the share of workers, 16 years of age or older in the labor force in Grand Forks increased by 0.72%. Among others, the percent of change observed in the following transportation modes indicates:

- Walking: Remained approximately same.
- Bicycling: Decreased approximately by 15.7%
- Working at home: Increased approximately by 8.57%

Samples taken for the *American Community Survey* (*ACS*) are too small to be used with confidence. However, issues with commuting distances, and the possibility of encountering high traffic volumes and high speeds roadways could have contributed to a decrease of work-related bicycle trips.

2. East Grand Forks (MN)

In the 6 years period from year 2008 to 2014, the share of workers, 16 years of age or older in the labor force in East Grand Forks decreased approximately by 3.22%.

Journey to Work: Means of Transportation (East Grand Forks, MN) (2008-2014)

Journey to Work Commuting Share by Mode						
East Grand Forks Commuting Share by Mode						
	2008-2012		2009-2013		2010-2014	
Mode	Number	Percent	Number	Percent	Number	Percent
Total	4437		4370		4294	
Public	67	1.5	43	1.0	72	1.7
Bicycle*	39	0.9	25	0.6	5	0.1
Walked	63	1.4	60	1.4	84	2.0
Worked	112	2.5	140	3.2	82	1.9
Source: ACS 5-year estimate data, 2012-2014. factfinder.census.gov						
*Should not be used with confidence						

Among others, the percent of change observed in the following transportation modes, in the 6 year's period from year 2008 to 2014 period indicates:

- Walking: Increased approximately by 33.3%
- Bicycling: Decreased approximately by 87.7%
- Work at home: Decreased approximately by 26.78%

Samples taken for the American Community Survey are too small to be used with confidence. However, issues with commuting distances, and the possibility of encountering high traffic volumes and high speeds roadways could have contributed to a decrease of work-related bicycle trips.

Nationally, the number of bike commuters has substantially increased from 488,497 to 882,198 from 2000 to 2008-12. Unfortunately, these gains have not been tied to increases in the share of commuting bicycle trips. The report states that "*Short commute trip distances for walk and bike modes result in these mode shares being far smaller if expressed in terms of person miles of travel*."[114]

A number of positive strategies to accommodate non-motorized activities are under consideration at the national level. Notice that rates of walking and biking are subject to regional variations; in this regard, small mid-west cities experienced a steady increase in walking rates. Many of them are also "*college towns*," or home to at least one large college or university."[115]

[114] American Association of State Highway and Transportation Officials (2013) Commuting in America 2013: The National Report on Commuting Patterns and Trends. Brief 10. Commuting Mode Choice. (2015)
Commuting in America 2013: The National Report on Commuting Patterns and Trends" (2015)
[115] McKenzie, Brian (2014) Modes Less Traveled-Bicycling and Walking to Work in the United States: 2008-2012. American Community Survey Reports

Accordingly, the national average walk trip is approximately 1 mile; takes 15.6 minutes at 3.7 miles per hour. The national average bike trip is approximately 3.8 miles in distance; 20.9 minutes in duration; and 10.8 miles per hour for speed.

The initial analysis of commuting data appears to indicate that there had been a decreased in shares for bicycling in both cities. The analysis also suggests that either walk remained the same or slightly increased.

Two factors must be mentioned:

- Samples taken for the American Community Survey are too small to be used with confidence.
- *"Journey to Work*" consists of those (…) participating in the labor force. It accounts only for work-related trips. The analysis neither accounts for recreational; nor for other non-work related trips.

Journey to Work –Photo: © MPO Staff, 2017

M. GREENWAY RECREATIONAL TRIPS (2015)

A Trail Count Project[116] advanced by the Greenway Technical Committee in 2015 indicates that the number of users was approximately 3853. The count in 2015 resulted in approximately 600 users less than in 2013. It appears, the figure could have been affected by a weather (Tornado) warnings related event in the area during the time counts were being taken. These are some of the findings at time counts took place:

- According to age, the following groups experienced an increase in the number of users in 2015 compared to 2013: 19-40 (46%); 41-60 (22%); and 60 plus (3%).
- More males (2204) than females (1649) used the Greenway Trail in 2015 than in 2013.
- The rate of walking in 2013 (16%) increased to (27%) in 2015.
- The rate of bicycling in 2013 (67%) decreased to (58%) in 2015. Reasons for the decline are unclear. It is possible, weather conditions could have contributed to the decrease in shares.

Despite counting on the benefits and attractiveness provided by the presence of the Greenway Trail in our communities, it is still imperative to design and implement encouragement campaigns to increase the shares of pedestrian and bicyclist modes of transportation. Our communities enjoy a vast network of bicycle facilities and relish a small, yet positive, bicycle and pedestrian integration with transit. Encouragement campaigns serve to nurture a culture of walking and biking. Those efforts should also serve to make pedestrian and bicyclist modes more socially-acceptable and available.

[116] Greenway Technical Committee, Minutes September 15, 2015

N. PEDESTRIAN CRASHES, 2010-2016

Pedestrians, including runners, physically disabled people, children, skaters and bicyclists are considered "*vulnerable*" roadway users. As a result, their movement is defined, regulated and protected by state laws and local ordinances. In addition, a number of 6E's (Enforcement, Engineering, Education, Equity, Encouragement and Evaluation) initiatives are designed by federal, state and local agencies to create safe environments for walking and riding. These efforts include the advancement of programs focused on drastically reducing (*Zero Vision*) the number of fatalities, incapacitating injuries and property damage on our roadway system. Despite these protections, still a concerning number of pedestrians and bicyclists still result impacted by collisions.

Safety is one of the ten Federal planning factors guiding the update of this Bicycle and Pedestrian Element. Fixing America's Surface Transportation (*FAST*) encourages States, MPOs, and cities to continue promoting and adopting design criteria and standards that provide for the safe and adequate accommodation of pedestrians, bicyclists, and motorized users. Concerning Safety, FAST has established the following five performance measures to achieve a significant reduction in traffic fatalities and serious injuries on all public roads:

1) Number of fatalities.
2) Fatality rate per 100 million vehicle miles travelled (VMT).
3) Number of serious injuries.
4) Rate of serious injuries per 100 million VMT.
5) Number of non-motorized fatalities and serious injuries

This section evaluates the crashes involving pedestrians and bicyclist. An additional effort is made to illustrate the nature and location of a number of crashes in a ¼ mile radius distance from elementary schools.

Traffic crashes are classified in the North America according to methods developed by the National Highway Transportation Safety Administration (*NHTSA*). The information comes from an Crash Report filed at the scene by a Police Officer. According to the report, driver of Vehicle_1 is the one deemed to be responsible for the crash. Driver of Vehicle_2 is the one expected to be impacted by or injured at the event. The variables included in the tables included in this report were designed according to that outlined criteria. Notice that some cases may be missing information.

Crash Data was obtained from NDDOT and MNDOT crash databases. Through the evaluation, emphasis will be placed in the analysis of the following variables included in the corresponding crash databases:

- Type of injury (Severity)
- Age of driver operating vehicle_1 (Age group)
- Gender of driver operating vehicle_1
- Age of person operating vehicle_2 (involved in crash (Injured/Severity) (Age group)
- Gender of person(s) operating vehicle_2 (involved in crash) (Injured/Severity)
- Type of vehicle involved (vehicle_1)

In part, these variables serve to provide data to support designing initiatives and programs to improve roadway and street safety in our region.

In this analysis age and gender are used as "*explanatory*" variables. The process assists us in identifying type, patterns and trends in crashes. For instance, in North Dakota the crash analysis data suggest:

- Male drivers aged 18-34 account for 33.0 percent of North Dakota's licensed drivers in 2015 and 37.0 percent of drivers involved in fatal crashes.[117]

- The vehicles most prevalently involved in fatal crashes in order of frequency include pickup/van/utility truck (*accounting for 45.6 percent of fatal crashes in 2015*), followed by passenger vehicle, truck tractor, trucks, and motorcycles.[118]

- In Minnesota, those aged 15-39 year old continue to be over-represented in crashes. In 2015, drivers in the 20-24 age group were most over-represented. Also, over 72 per cent of those killed in crashes in 2015 were males.[119]

The Grand Forks and East Grand Forks Bicycle and Pedestrian Element update strives to "*increase safety of the transportation system for motorized and non-motorized uses*." This requires articulating objectives to:

- Support the implementation of comprehensive 6E's programs: Education, Enforcement, Encouragement, Equity, Engineering and Evaluation; including other safety related programs targeted to school-age and interested populations, and

- Continue to improve/enforce bicycling and walking safety measures on the existing sidewalk network and bicycle's system; particularly in areas adjacent to school zones and college campuses.

These objectives are in accordance with the "*key emphasis*" areas outlined in both the North Dakota and Minnesota Strategic Highway Safety Plans (*SHSP*).

Tables illustrating Pedestrian and Bicyclist Crashes in Grand Forks –in the Appendix - include a larger number of cases. Comments and observations are included in the report. Map 2010-2016 Motor Vehicle Crashes with Bicyclist and Pedestrians illustrates the severity, location in relation to the Pedestrian Network and Bikeway System in the region. These are initial observations concerning the bicycle and pedestrian crashes.

1. Grand Forks

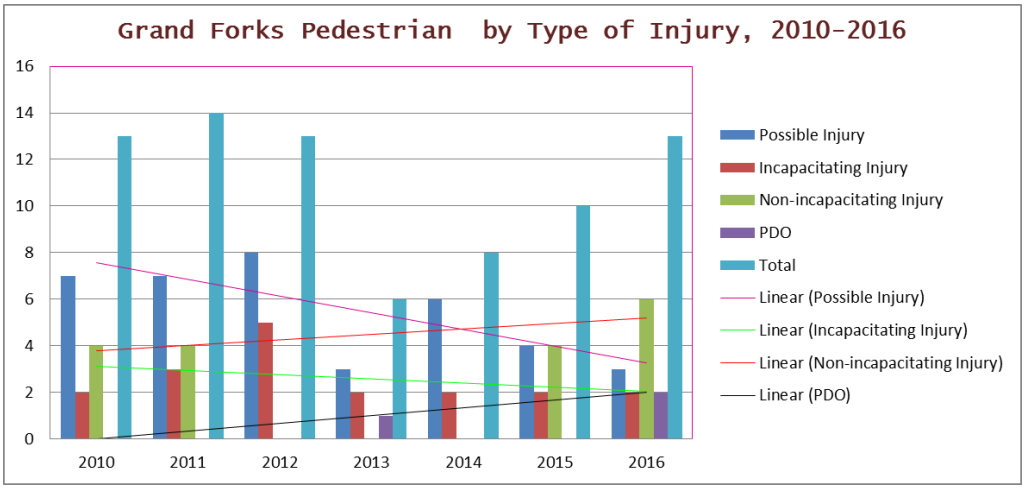
According to the information provided, there were no reported ***fatal*** crashes involving pedestrians in Grand Forks from 2010 to 2016. However, there were 62 pedestrian related crashes from 2010 to 2016. There were 12 pedestrian crashes in 2010, 13 in 2011, 9 in 2012, 4 in 2013, 6 in 2014, 9 in 2015 and 9 in 2016. These crashes involved 10 incapacitating injuries, 21 Non-incapacitating, 1 property damage, 30 possible injuries and 3 non-identified.

[117] 2017 NORTH DAKOTA HIGHWAY SAFETY PLAN
[118] 2017 NORTH DAKOTA HIGHWAY SAFETY PLAN
[119] Minnesota Department of Public Safety, Office of Traffic Safety, 2017 Highway Safety Plan.

The report indicates there were no fatalities in the 2010-2016 year period; however, many of the reported crashes involved private cars and a number of hit and runs.

OBSERVATIONS

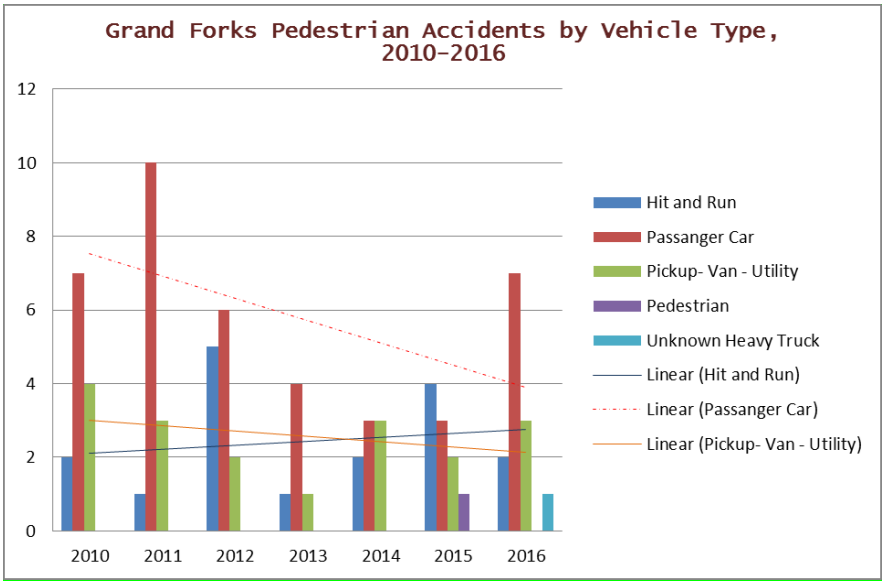
Pedestrian Type of Injury (Severity)



The data suggest decreases in the number of reported crashes based on their level of severity. Possible injury and incapacitating injury reported crashes are decreasing. However, reported Non-incapacitating injuries and property damages are increasing. Most serious pedestrian crashes involve collisions with motor vehicles; but there are still crashes where bicycles strike pedestrians. For instance, it appears, a number of collisions involved minors or drivers and pedestrians under the age of 15 years old.

Distracted walking, improper left turning and distracted driving could have been –among others- contributing factors related to those crashes. In the case of young adults, other contributing factors may include alcohol use, reduced visibility, and high traffic volumes on certain roadways.

Pedestrian Crashes by Vehicle Type



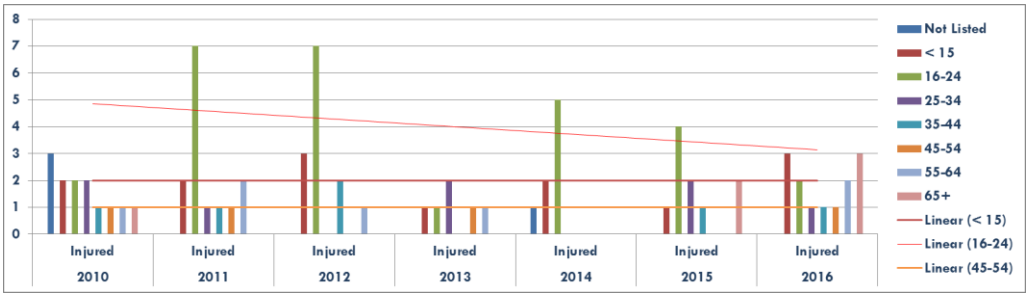
According to the data available to support the number of pedestrians involved in traffic crashes by vehicle type, it appears there is a decrease in the number of passenger cars and pickup –vans involved. However, the number of hit and runs appears to be on the increase.

"*Hit and run*" is a regrettable conduct exercised by any driver who leaves the scene of an crash. Choosing to leave the scene is a senseless behavior which deprives the injured party of much needed assistance that could potentially diminish the impact of the offense. Leaving the scene is especially common if the motorist is driving without a valid license or intoxicated or without insurance. However, leaving the scene of an crash can have several negative consequences to the offending driver.

North Dakota Century Code Chapter 39-08 (04-06) Regulations Governing Operators outlines the procedures to be followed in case of an crash involving death or personal injuries. Similarly, Minnesota Statute 169-09 Collisions. §Subdivision 1, advices Driver to stop for collision; injury or death.

The enforcement of this law should act as a deterrent to motorists opting to leave the scene of an crash. The law requires the driver of a vehicle involved in a crash causing serious bodily injury to immediately stop the vehicle and remain at the scene of the crash. The law provides that a person who leaves the scene of such a crash commits a felony (involving death) or serious personal injury).

Pedestrian Injuries by Age Group



Young children and the elderly are the most vulnerable for pedestrian crash related injuries. Based on population, children under the age of 16 years are most likely to be struck by motor vehicles.[120] Pedestrians ages 65 and older accounted for 19% of all pedestrian deaths and an estimated 13% of all pedestrians injured in 2015 in the United States.[121] *In 2015, one in every five children under the age of 15 who were killed in traffic crashes was a pedestrian*.

According to the Grand Forks data sample involving pedestrian crashes from 2010-2016:

- Ages 16-24 contained the most injuries at 26 (19 males and 7 females).
- Ages 15 and under contained the second most injuries of any age group (5 males and 6 females).
- More males than females were injured (38 males, 21 females).
- Males in the age range of 16-24 were the gender and age group combination that were most often the driver of vehicle 1, and were most often the gender age group combination that was injured.

[120] Bisnar Chase Personal Injury Attorneys at http://www.bestattorney.com/pedestrian-crashes/statistics.html
[121] Pedestrian Safety (xx) Centers for Disease Control and Prevention. https://www.cdc.gov/motorvehiclesafety/pedestrian_safety/index.html

2. East Grand Forks

EAST GRAND FORKS VEHICLE AND PEDESTRIAN COLLISIONS, 2010-2015								
Year	Accident Severity		Vehicle 1 Type	Age 1	Gender 1	Vehicle 2 Type	Age 2	Gender 2
2010	Non-Incapacitating	1	Passenger Vehicle	16	F	Pedestrian	18	M
2013	Possible Injury	1	Passenger Vehicle	27	M	Pedestrian	24	F
2015	Non-Incapacitating	1	SUV	41	F	Pedestrian	58	M
	TOTAL	**3**						

Source: MN DOT, 2017

According to the information provided, there were not reported fatal crashes involving pedestrians for East Grand Forks in years 2011-12-14. There were three pedestrian-related crashes. These involved two Non-Incapacitating and one possible injury crashes. Age ranges of the vehicle 1 drivers included 1 driver 16-24 years old, 1 driver 25-34 years old, and another diver 35-44 years old. Age ranges of the pedestrians impacted in collisions included 2 pedestrians 16-24 years old and 1 pedestrian 55-64 years old. Most crashes appeared to have involved passenger vehicles.

East Grand Forks Pedestrian Accidents by : Age Driver/Age Injured, 2010-2015																	
Age	Year																Overall Totals 2010-2015
	2010				2013				2015				Total Drivers		Total Injuries		
	Drivers		Injuries		Drivers		Injuries		Drivers		Injuries						
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
< 15																	0
16-24		1	1					1						1	1	1	3
25-34					1								1				1
35-44										1				1			1
45-54																	0
55-64											1				1		1
65+																	0
Total	0	1	1	0	1	0	0	1	0	1	1	0	1	2	2	1	6

The East Grand Forks pedestrian crashes from 2010-2015 is a small sample; however, the data received reveals the following observations:

OBSERVATIONS

- The 3 age groups that contained the most drivers operating vehicle 1 in pedestrian related crashes were 16-24, 25-34, and 35-44 years old.
- Ages 16-24 group contained the Most injuries (1 male, 1 female).
- Most drivers operating vehicle 1 in pedestrian related crashes were females 16-24, males 25-34, and females 35-44.
- Most injuries were sustained by both males and females who are ages 16-24, and males 55-64.

Two variables were reviewed to understand the causes of the crashes (67) involving pedestrians reported in Grand Forks. The initial analysis suggests that: a) most crashes involving pedestrians took place when the pedestrian was mainly "*crossing intersection*." Also, the most commonly indicated contributing factors to the crash were "*Failing to Yield and Other*."

Concerning the crashes (68) involving bicyclists in Grand Forks, the most reported cause was "*unclear*." The initial analysis suggests that most crashes took place at an "*intersection."* The second most reported cause of the reported crashes involving a bicyclist was "*Failing to Yield*."

Concerning reductions of traffic crashes involving pedestrians, Minnesota is conducting a data-driven pedestrian education campaign that focuses on both drivers and pedestrians about pedestrian safety while local communities and schools are implementing their own education initiatives.

Some current educational activities include *Stop for Me* (A St. Paul's sustained education and enforcement program); *Share the Road* and *Walk! Bike! Fun!* Educational strategies are also complemented by the implementation of engineering approaches to pedestrian safety.

These initiatives include construction of raised crosswalks, curb extensions, signing, improving leading pedestrian intervals, installing pedestrian hybrid beacons, lighting, and other geometric and traffic-related changes.[122]

Concerning pedestrian safety, North Dakota encourages the use of countdown timers and advanced walk intervals at identified urban intersections with high pedestrian traffic. Additionally, Safe Routes to School funds are used for school zone enforcement, education, and outreach activities.[123]

[122] Governors Highway Safety Association (2016). Pedestrian Traffic Fatalities by State 2016 PRELIMINARY DATA
[123] Governors Highway Safety Association (2016). Pedestrian Traffic Fatalities by State 2016 PRELIMINARY DATA

Motor Vehicle Crashes with Bicyclist and Pedestrians, 2010-2015

O. BICYCLE CRASHES, 2010-2016

1. Grand Forks

Pedal cyclists are bicyclists and other cyclists including riders of two-wheel, nonnotarized vehicles; tricycles; and unicycles powered solely by pedals. A traffic crash is defined as an crash that involved one or more motor vehicles where at least one vehicle was in transport and the crash originated on a public traffic way such as a road or highway. Crashes that occurred on private property, including parking lots and driveways, are excluded.[124]

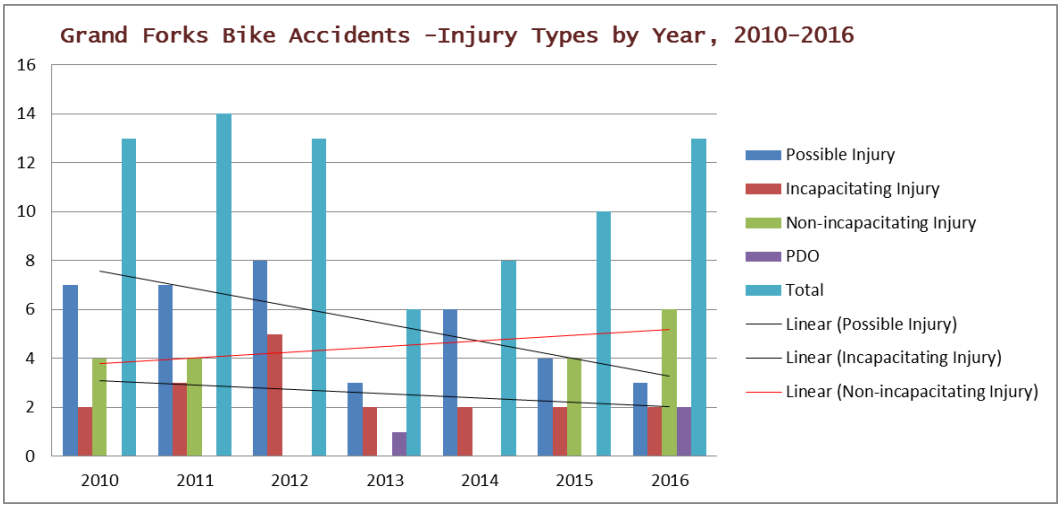
According to the information provided, there were no ***fatal*** crashes involving bicyclists in Grand Forks from 2010 to 2016. However, there were 68 bicycle related crashes. There were 12 traffic crashes in 2010, 8 in 2011, 9 in 2012, 11 in 2013, 10 in 2014, 8 in 2015 and 10 in 2016. These crashes involved 8 incapacitating injuries, 32 Non-incapacitating, 3 property damages and 25 possible injuries. Complete information is included in the Appendix.

OBSERVATIONS

- Although not shown in the table, the data suggest there is a perceived "*concentration*" of bicycle crashes on streets in proximity to UND Campus. University Avenue has a bike lane on UND Campus from Columbia Road to 42nd St. N. This finding deserves more attention as walking and biking are prominent activities in the vicinity of the University.

- 6th Avenue N from Columbia Road to 42nd Street N. also experienced a large number of bicycle crashes.

Bike Injury Types by Year:

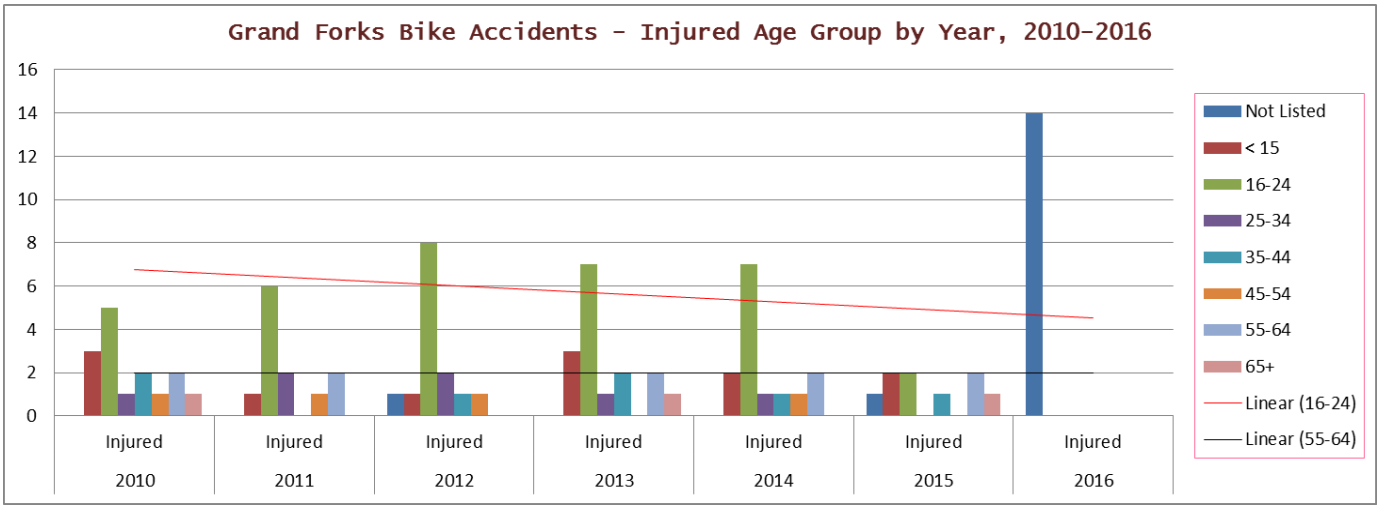


The available data suggests a decrease in the reported number and total of possible injuries and reported property damages. A "*possible Injury is any reported or claimed which is not a fatal, incapacitating or no incapacitating.*" Property damage includes vehicle damage, damage to personal property and could apply to any other type of property at the time of the crash.

[124] NHTSA's National Center for Statistics and Analysis (May, 2016). *Traffic Safety Facts 2014 Data*

It appears there is an increase in the number of reported non-incapacitating injuries by year. A non-incapacitating injury is "*any injury, other than a fatal or an incapacitating injury, which is evident to observers at the scene of the crash in which the injury occurred*."[125]

Injured Bicyclist Age Group by Year



According to the data, most reported injured bicyclists are in the 16-24 age group. This group represents the most injured bicyclist in the period, particularly in years 2011, 12, and 2014. It appears there was a decrease in year 2015. No data was available for year 2016. The number of injured bicyclist tends to decrease as the age increases until reaching 55 years old.

It appears, the numbers of injured bicyclist tend to increase again from ages 55-64 and over 65 years old.

This observation is in agreement with observations in North Dakota. In 2015, 27.0% of bicyclists injured were 16-17, 18-20 and 21-24 years old groups. All these groups are included in this analysis in the 16-24 years old group.

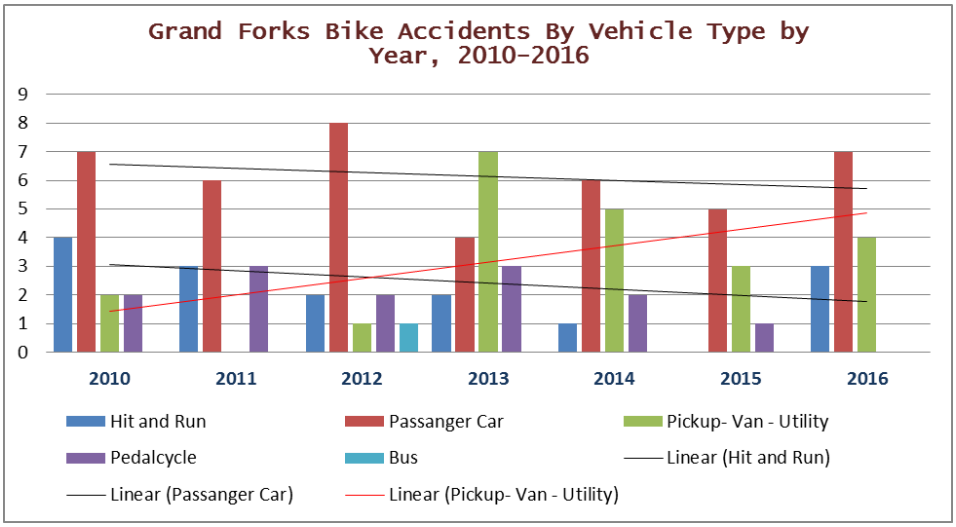
Vehicle Type by Year

Passenger cars account for 51.9% and pickups account for 23.38% of the vehicles involved in reported crashes. The trend line suggests a progression increase in the number of passenger cars to be involved in bike crashes In the United States, the vehicle fleet is shifting from predominantly passenger cars (automobiles) to SUVs, light trucks, and vans (LTV). Passenger cars and pickups are the most represented vehicles involved in bike crashes.

Passenger cars include higher SUVs and light trucks. A Sport Utility Vehicle or Suburban Utility Vehicle (SUV) is a vehicle classified as a light truck, but operated as a family vehicle.

Bicyclist and pedestrians entering in contact with passenger cars and pick-up trucks are most likely to suffer fractures and head trauma due to the point of impact of the vehicle. Crash crashes impacting pedestrians and bicyclists deserve more attention.

[125] RAND State Statistics. Motor Vehicle/DUI definitions.



OBSERVATIONS

According to the data available to support the number of bicyclists involved in traffic crashes by vehicle type, it appears there is an increase in pick-up van –utility and a decrease in the number of passenger cars and reported hit and run involved. In this regard:

- More male drivers than female drivers operated vehicle responsible in bike crashes.
- Most drivers operating vehicle responsible vehicle in related crashes were 16-24 years old.
- More males than females were injured (51 males to 27 females).
- Ages 16-24 contained the most injuries at 35 (19 males and 16 females). Ages 15 and under contained the second most injuries of any age group in bike crashes being 12 (10 males and 2 females).

East Grand Forks

EAST GRAND FORKS VEHICLE & BICYCLE COLLISIONS, 2010-2015							
Accident Severity		Vehicle 1 Type	Age 1	Gender 1	Vehicle 2 Type	Age 2	Gender 2
Non-Incapacitating	1	Passenger Vehicle	36	F	Bicycle	10	F
Possible Injury	1	Pickup Truck	70	M	Bicycle	15	F
Non-Incapacitating	1	Pickup Truck	49	M	Bicycle	16	F
Possible Injury	1	Passenger Vehicle	66	F	Bicycle	30	F
Non-Incapacitating	1	Pickup Truck	54	M	Bicycle	901	Z
Possible Injury	1	Passenger Vehicle	90	Z	Bicycle	23	M
Possible Injury	1	SUV	28	M	Bicycle	27	M
TOTAL	7						
Source: MNDOT							

Pedestrian and Bicyclist Crash data available for East Grand Forks included years 2010-2015. However, there were not reported crashes involving bicyclist for years 2014 and 2015. MPO staff is the process of procuring data for 2016. The information provided indicates, there were no *fatal* crashes involving bicyclist in East Grand Forks from 2010-2015. The age of motorist involved ranged from 28-54 years. The age group of most of the bicyclist impacted is 16-24 years old.

East Grand Forks Bicycle Accidents: Age/Gender Driver/ Injured

	Year																																Overall Totals 2010-2013
	2010				2011				2012				2013						2014						2015						Total Drivers			Total Injuries			
	Drivers		Injuries		Drivers		Injuries		Drivers		Injuries		Drivers			Injuries			Drivers			Injuries			Drivers			Injuries									
Age	Male	Fem	Male	Fem	Male	Fem	Male	Fem	Male	Fem	Male	Fem	Male	Fem	Other	Male	Fem	Other	Male	Fem	Other	Male	Fem	Other	Male	Fem	Other	Male	Fem	Other	Male	Fem	Other	Male	Fem	Other	
< 15				2																												2			2
16-24								1								1															1			1	1		2
25-34												1	1			1															1			1	1		3
35-44		1																														1					1
45-54					1								1																		2						2
55-64																																					0
65+	1									1					1			1													1	1	1			1	4
Total	1	1	0	2	1	0	0	1	0	1	0	1	2	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	2	1	2	4	1	14

Source: MNDOT Note: Since there was 1 driver and 1 injury identified as other for gender in the year 2013, there is an extra gender column for both drivers and injuries under the year 2013, and an extra gender column for drivers and injuries under their respective totals.

OBSERVATIONS

According to the East Grand Forks data sample:

- More males than female drivers operated vehicle responsible for the crash
- Most drivers operating vehicle responsible for the crash were 65+
- More females than males were injured
- Age 16-24 contained the most injured

The gender and age group combination containing the most injuries was females 15 and under.

2. Economic Cost of Crashes Involving Bicyclist and Pedestrians

The National Safety Council (*NSC*) estimates the following average comprehensive costs (2012) on a per injured person basis:

- Death: $ 4,538, 000
- Incapacitating Injury: $230,000
- Non-incapacitating Injury: $58,700
- Possible Injury: $27,200
- No Injury: $2,500

The calculation of the economic cost includes 'wages and productivity losses, medical expenses, administrative expenses, motor vehicle damage, and employer's uninsured costs"[126]

3. Pedestrian and Bicyclist Crashes in Proximity to School Sites, 2010-2016

Children safety on their way to and from school is a priority concern for the MPO, local governments and partnering agencies. *Table 2010-2015 Bicycle and Pedestrian Crashes within ¼ Mile Radius from School (Grand Forks)* represents data from 2010-15. MPO staff is the process of procuring crash data for 2016. *Map Pedestrian and Bicycle Crashes –Age 14 and Under ¼ Mile of School (Grand Forks-East Grand Forks),* illustrates bicycle and pedestrian crashes located within a ¼ of a mile from a school involving those under 14 years of age. A preliminary observation indicates:

2010-2015 Bicycle and Pedestrian Accidents within 1/4 Mile Radius from Schools (Grand Forks)

School		Light Conditions	Mode Type	Roadway Traffic Control	Roadway Surface	Roadway Location	Severity	Age 1	Age 2
Ben Franklin Elementary	1	Daylight	Pedalcycle	No Control	Dry	Non-junction	Non-incapacitating injury	0	23
Century Elementary	1	Daylight	Pedestrian	No Control	Dry	Related	Non-incapacitating injury	0	10
Century Elementary	1	Daylight	MV in Transport	No Control	Dry	Other Cossings	Possible Injury	0	68
Holy Family School	1	Daylight	Pedestrian	No Control	Dry	Non-junction	Possible Injury	41	13
Holy Family School	1	Daylight	MV in Transport	No Control	Dry	Intersection	Possible Injury	4	21
Lake Agassiz Elementary	1	Daylight	Pedalcycle	No Control	Dry	Intersection	Non-incapacitating injury	0	23
Lewis & Clark Elementary	1	Daylight	MV in Transport	No Control	Dry	Interchange	Non-incapacitating injury	52	7
	1			No Control	Dry	Intersection	Non-incapacitating injury	59	14
Lewis & Clark Elementary	1	Daylight	Pedestrian	No Control	Dry	Non-junction	Incapacitating Injury	35	7
Lewis & Clark Elementary	1	Daylight	Pedestrian	No Control	Dry	Intersection	Non-incapacitating injury	0	14
St. Michael's Elementary	1	Daylight	MV in Transport	No Control	Dry	Non-junction	Possible Injury	0	18
West Elementary	1	Daylight	Pedestrian	No Control	Dry	Non-junction	Possible Injury	0	13
Wilder Elementary	1	Daylight	Pedalcycle	No Control	Dry	Intersection	Possible Injury	64	8
Wilder Elementary	1	Lighted)	Pedestrian	No Control	Dry	Non-junction	Incapacitating Injury	60	11
Winship Elementary	1	Daylight	MV in Transport	No Control	Dry	Intersection	Possible Injury	17	14
Central High School	1	Lighted)	Pedalcycle	No Control	Dry	Intersection	PDO	22	14
Central High School	1	Daylight	Pedalcycle	No Control	Dry	Non-junction	Possible Injury	19	11
UND	1	Dusk	MV in Transport	No Control	Dry	Intersection	Non-incapacitating injury	0	18
TOTAL 2010-2015	18								

[126] Pedestrian and Bicycle Information Center: FAQ What is the economic cost of crashes involving bicyclists and pedestrians?

OBSERVATIONS

From 2010 to 2015 there were 7 non-incapacitating injuries, 8 possible injuries, 2 incapacitating injuries and 1 property damage. The age of drivers operating the main vehicle involved in the crashes ranged from 17 to 59 years old. The age of those impacted by the crashes ranged from 7-14 and 15 & over. Those involved in the traffic crashes included 10 males and 6 females.

Map *2010-2015 Bicycle and Pedestrian Crashes –Age 14 & Under within ¼ Mile of Schools* illustrates their severity and location in Grand Forks-East Grand Forks. Data available indicates four bicycle and pedestrian crashes in East Grand Forks in same period.

There were neither bicyclists nor any reported pedestrian's crashes in a ¼ of a mile radius in proximity of the following Elementary schools: South Middle, Discovery Elementary, Viking, Phoenix and St. Mary's/Holy Family Elementary, Riverside Christian and Sacred Heart Catholic Elementary.
Most of the Non-incapacitating, possible injury and property damage crashes occurred outside the ¼ mile radius of the remaining Elementary Schools in the planning area.

4. Issues of Concerns Reported by Parents

St. Mary's/Holy Family Elementary, Riverside Christian and Sacred Heart Catholic Elementary are privately administered chartered schools. No Parent's Surveys were administered.

Most recent Parent's Surveys (2017) administered by Safe Kids North Dakota at the South Middle, Discovery Elementary, Viking, and Phoenix schools indicate:

South Middle is a 6-8 grade 572 students strong "*suburban*" school. During the flood of 1997, South Junior High was damaged. It was decided that a new school would be built on the south side of town on 47th Ave South.

According to the Parent's Survey (2017) 10% of the students live less than ¼ Mile from school. 59% of students live ½ Mile to More than 2 miles away from school. Most students arrive to school by family vehicle. The reasons responding parents indicated for not allowing their children to walk/bike to school include:

- Safety of Intersections and Crossings
- Amount of traffic along route
- Speed of traffic
- Weather and
- Distance

Concerns from responding parents whom allow their children to walk/bike to school included:

- Sidewalks or pathways
- Distance
- Weather
- Safety at intersections and crossings

Discovery Elementary is another "*suburban*" school. School enrollment accounts for 375 K-5 students. More information about the Discovery School is provided on the Parent's sessions discussed earlier.

Viking School is a K-5 inner-city school. Current enrollment includes 317 students. The National Office for Safe Routes to Schools indicated that according to the number of questionnaires distributed (300) and number of questionnaires analyzed (30) to the Parent's Survey (2107), the response rate (10.%) was too low as to provide for a more inferential analysis. Our analysis indicated that number was lower than the expected size from a random sample.

Phoenix Elementary School is a K-5 inner-city school. Current enrollment accounts for 235 students. Phoenix Elementary School was built following the flood of 1997. The idea to build a new school developed following the decision to close Lincoln Elementary and Belmont Elementary schools following the flood.

According to the Parent's Survey (2107) 33% of the responding students live less than ¼ Mile from school. Most students arrive to school by family vehicle. The reasons responding parents indicated for not allowing their children to walk/bike to school include:

- Speed of traffic along route
- Amount of traffic along route
- Convenience of driving
- Safety of intersections & crossings
- Weather
- Distance.

Concerns for responding parents (who already walk or bike to/from) and whom allow their children to walk/bike to school included:

- Sidewalks or pathways
- Crossing guards
- Speed along the route
- Amount of time along the route
- Safety of intersections and crossings
- Distance.

The MPO along with the City of Grand Forks Departments of Planning and Engineering have engaged the services of the Upper Great Plains Transportation Institute at the North Dakota State University to advance the *Near Southside Neighborhood Study* (2017). *"The neighborhood has expressed concerns to the city of cut-through traffic—traffic that's not really destined for the residential areas that's using their streets to get across town," he said. "Also the speed of the traffic through the neighborhood. So the city asked us (last fall) to do a comprehensive study."*[127]

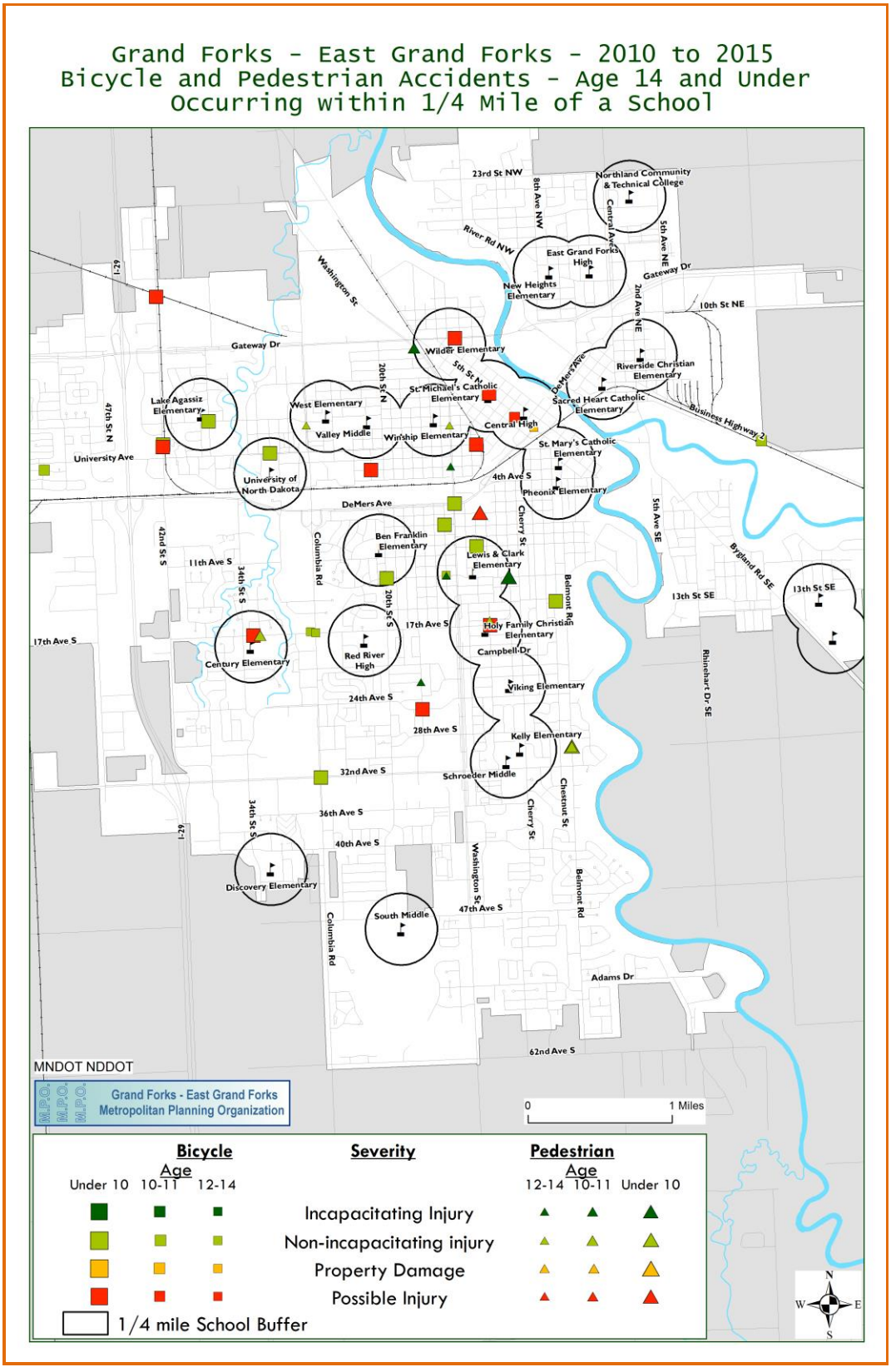
The map below illustrates the "Bicycle and Pedestrian Crashes-Age 14 and under Occurring within ¼ Mile of a School." As an observation most of these crashes occurred or took place in daylight conditions and at uncontrolled intersections.

[127] Easter, Sam (2017) Traffic study eyes issues in Grand Forks' Near South Side, Grand Forks Herald (June 2, 2017)

To improve safety, in particular for children in their way to and from school and for others at the neighborhood level, in addition to *the Near Southside Neighborhood Study*, this year, the MPO will be conducting the *School Safety Study*. It is expected the conditions leading toward the crashes described could be identified and promptly addressed. Advancement of *the Near Southside Neighborhood Study* involves the implementation of a community driven and supported Walkability Area Assessment.

Safe Kids Equipment Fitting and Distribution Program. Photo: © Safe Kids Grand Forks

5. Pedestrian and Bicycle Crashes –Age 14 and Under ¼ Mile of School



P. AT-GRADE RAIL CROSSINGS

1. Rail crossings

Rail operation constitutes an integral part of the regional economy. Railways contribute to satisfying demand for our agricultural and energy products in faraway distant markets. Most recently, increases in production in commodities and agriculture have increased demand for rail services.

As train length and frequency increase, so does the potential for vehicle/train and non-motorized users' crashes, roadway traffic delays and exacerbation of proximity issues. At-grade rail crossings obstruct continuity and accessibility and delay motorized and non-motorized movements. For pedestrian, bicyclist and wheelchair user's safety is a significant concern for communities, particularly those in proximity to rail operations. In Grand Forks-East Grand Forks, the most commonly observed rail proximity issues include: lack of signal devices, lack of active warning devices, sidewalks in poor condition or in need of repair, and neighborhood Safe Routes to Schools on streets crossing the rail tracks.

At-grade Rail crossings (Grand Forks)
(For Illustration Purposes Only)

Intersection of Gateway Drive (U.S. 2) and 42nd Street North (Glasston Subdivision), Grand Forks, ND.

Rail crossing at N 42nd Street, Grand Forks, ND

Tied up at the tracks: Local commerce creates railroad crossing delays By Kevin Killough on Mar 27, 2017 *GF Herald*.

Safer railroad crossings are likely to encourage walking and biking for various trips, minimize crashes that cause pedestrian fatalities and injuries, delays to vehicles and trains, and other economic losses.[128]

In the last seven years, a number of improvements to address have been proposed to address the following problems:

- Warning and signage
- Sight distance
- Crossing in poor condition leading to trip hazards

[128] Improving pedestrian and bicyclist accessibility and safety at at-grade railroad crossings (2008) Submission to TRB Committee on Pedestrians (ANF 10), Subcommittee on Research

- Large gaps in crossing surface and flange way causing bicycle tires and wheels to get stuck
- Lack of education and understanding of railroad crossing operations

Those are critical problems affecting pedestrians and bicyclists movements at railroad crossings.

Although the objective is to enhance wheelchair users, pedestrian, bicyclist and vehicle safety at rail crossings in Grand and East Grand Forks, [129] in addition to "*site specific*" challenges, local jurisdictions also pointed at the lack of "a*bility to obtain trail crossing licenses from the railroad to expand the pedestrian and bicycle network*."

Sample Proposed Pedestrian, Bicycle, Wheelchair Improvements

			
Railroad Vehicle Gates	Raised Medians	Pedestrian Swing gates S 3th Street at Kittson	Pedestrian Swing Gates S 4th Street at Kittson

A summary of the recommended improvements to enhance safety and improve mobility include:

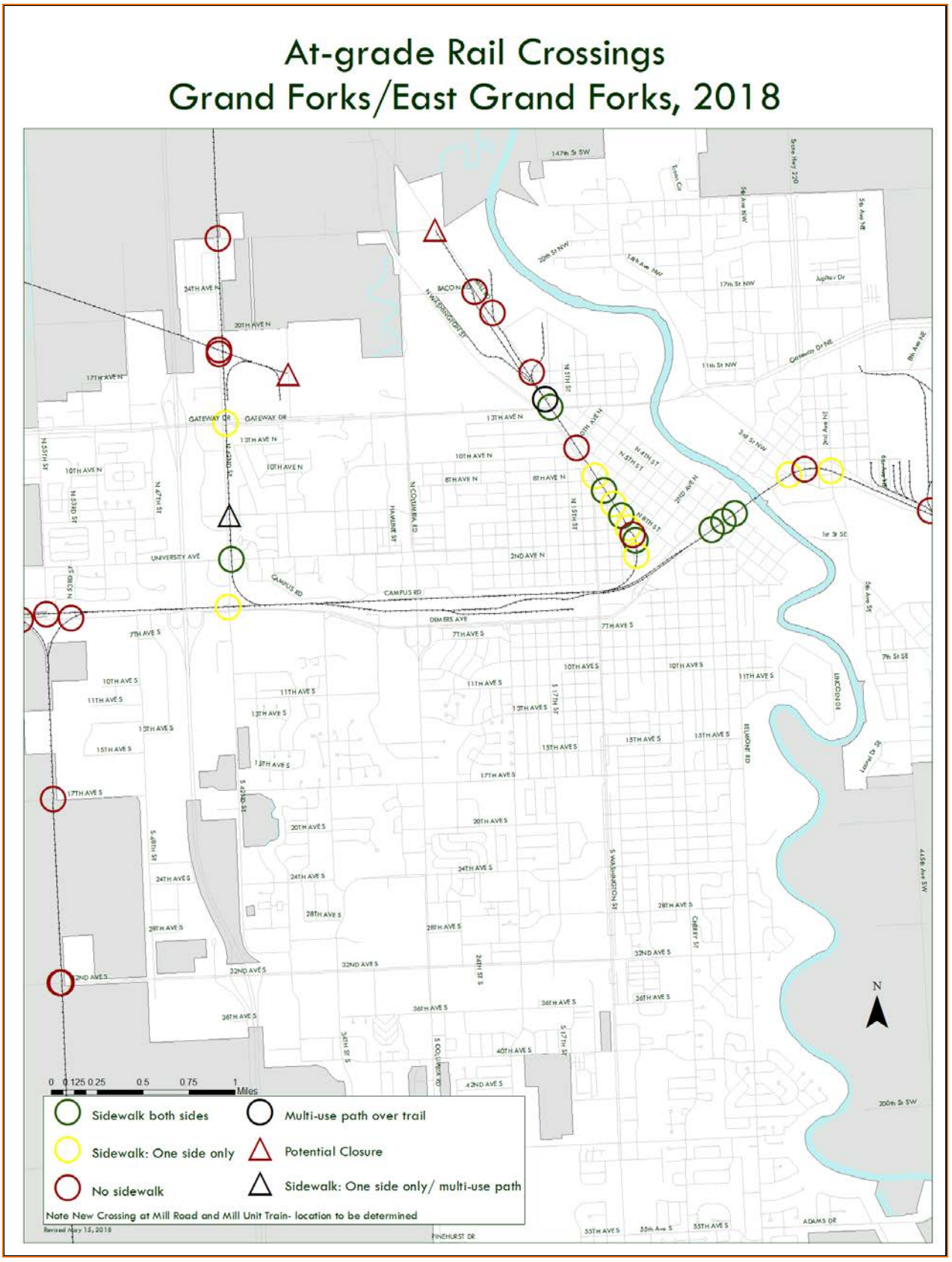
1. Railroad vehicle gates
2. Constant warning time
3. Raised medians
4. Pedestrian mazes
5. Realign roadway (Southwest quadrant of crossing at University Avenue)
6. Fencing/plantings

Some of those recommended improvements have been completed. Others are still under consideration. For instance, a number of sidewalks and accessibility ramps are scheduled for implementation in the summer, 2017 in Grand Forks. In September, 2017, the Burlington Northern Santa Fe (BNSF) rail company began retrofitting a number of rail-crossings by installing new timber or concrete surface for the sidewalks and by paving an asphalt approach for each sidewalk at 4th St. N., 5th St. N., 6th St. N., and 8th St. N. These enhancements will improve access and mobility for bicyclist, pedestrians and wheelchair users.

A Table describing the location of at-grade rail crossing in Grand Forks and East Grand Forks is included in the Appendix. It outlines the results of a "*quick subjective assessment*" of the crossing on August, 2017 and updates the condition of rail crossings currently under repair.

[129] Olson Associates (2015) Glasston Subdivision Railroad Crossings Mitigation Study.

2018-grade Rail Crossings



Q. ENVIRONMENTAL JUSTICE

Environmental Justice refers to the "f*air treatment and meaningful involvement of people from all races, cultures, abilities and incomes during the development of projects, laws, regulations, and policies.*" In this regard, the GF-EGF MPO makes every effort to involve the public in transportation decision-making by including those demographic groups and geographic communities deemed to have historically been disproportionally impacted by the outcomes of the proposed transportation projects.

Historically, and unintentionally, some public agencies have been deemed to have discriminated against certain demographic groups, particularly, disadvantaged ones. To prevent these practices from becoming recurrent a number of pieces of legislation has been enacted. These laws are concerned with the unintended consequences of the impacts of transportation projects –particularly -negatives on low income and minority populations.

The MPO relies on a number of public involvement techniques to get feedback from participants; elucidate community's points of view and opinions; and techniques to enhance public involvement to facilitate transportation decision-making.

In the process of addressing compliance with, and to address environmental justice, MPOs advances the following activities:

- Identifies residential, employment, and transportation patterns of low-income and minority populations so that their needs can be identified and addressed, and the benefits and burdens of transportation investments can be fairly distributed.

- Enhances its analytical capabilities to ensure that the Metropolitan Transportation Plan (MTP) and the Transportation Improvement Program (TIP) comply with the tenets of Environmental Justice.

- Evaluates and - where necessary - improves its public involvement processes to eliminate participation barriers and engage minority and low income populations in transportation decision making.[130]

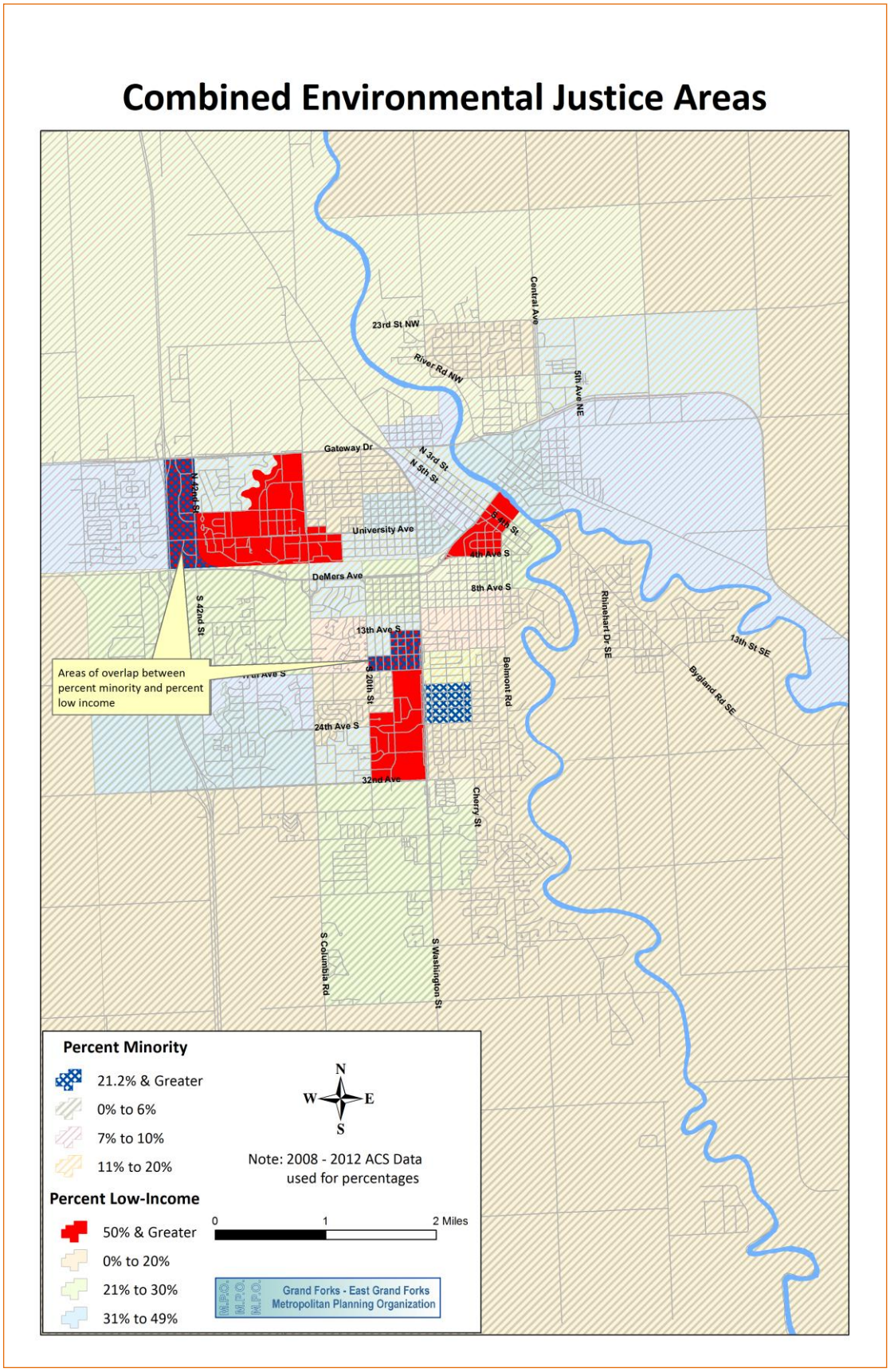
The Combined Environmental Justice Areas Map (2012) produced by the MPO indicates there are three main locations for groups of minority population:

a) East of South Columbia Road between 24th Ave S and 32nd Ave S.;
b) North of 17th Ave S from to 13th Ave S from S20th St to S Washington St.;
c) North of 24th Ave S to 19th Ave S from Cherry St. to S Washington St. No minority groups are listed for East Grand Forks as their numbers are not "*significant*."

Map 1: Shows the location of Combined (Low-Income & Minority Populations) in the planning area. According to the "Environmental Justice Program Manual" (2015) prepared by the Grand Forks-East Grand Forks Metropolitan Planning Organization.

[130] FHWA Publication No. FHWA EP-00-013, An Overview of Transportation and Environmental Justice

Map 1: Location of Combined (Low-Income & Minority Populations)



Identifying Opportunities and Constraints

A. Improving Access and Mobility Opportunities

1. Comments by Respondents to Improve Access and Mobility Opportunities

2. Recommended Land Use Policies to Improve Access and Mobility Opportunities

B. Improving Connectivity on the Bicycle System and Pedestrian Network

1. Land Use Trip Attractors & Generators
2. Assessing Existing Pedestrian & Bicycle Network Connectivity
3. Assessing Existing On-road Network Bicycle Facilities
4. Observations

Greenway Riders. Photo: © Visit Grand Forks Convention & Visitor Bureau

A. Improving Access and Connectivity Opportunities

This section proactively examines existing connectivity and accessibility features on the pedestrian and bicycle system according to the:

- Proposed objectives and standards supporting Goal 3: Accessibility and Mobility:

  Objective 1: Provide a complete bicycle and pedestrian network that connects to destinations and other transportation modes and facilities (e.g., remove barriers, add crossings, fill gaps, and connect spurs to existing networks)

  Objective 2: Enhance existing pedestrian and bicycle infrastructure to address the unique mobility, access, and connectivity needs of bicyclist and pedestrian and other non-motorized users in local neighborhoods and communities

  Objective 3: Increase access to the sidewalk network and bicycle system facilities for all users and assist them in ensuring mobility, well-being and quality of life without undue burden placed on any community

- System's Connectivity, User's Accessibility and Mobility, and

- Establishes a relationship between the results of the "*Existing Conditions*" assessment, as described in Part III and the sidewalk and bicycle network conditions evaluated in this analysis.

Opportunities for accessibility and mobility are some of the most important conditions most users expect to encounter on the existing and planned transportation infrastructure. Either their presence or their absence, could potentially impact the functionality of the bicycle system and pedestrian network.

Well-connected and accessible active transportation networks present a compelling alternative to motorized transportation. They provide more direct and convenient connections and help to reduce barriers and distances for active users.

The objectives and standards supporting Goal 3 as outlined in this Bicycle and Pedestrian Element, support the provision of direct and convenient connections, recommend following Federal Highway Administration and American with Disability Act's (ADA) requirements when retrofitting existing transportation facilities and support the development of multi-modal connections that provide equitable access to goods, services, opportunities and destinations.

> *Connectivity is a measure of the quantity of the connections in the network and thus the directness and multiplicity of routes through the network. From a transportation standpoint, only connections to destinations are important, so connectivity in some cases is defined with respect to the locations of potential destinations.*[131]

[131]Tal, Gil., Handy, Susan (November 2011) Measuring Non-motorized Accessibility and Connectivity in a Robust Pedestrian Network. Institute of Transportation Studies. University of California, Davis, p. 3

In Grand Forks and East Grand Forks, the pedestrian network and the bicycle system have many connections; both offer direct access, and provide convenient and amenable routes. However, several factors that still curtail accessibility, continuity and mobility to pedestrian and bicyclists have been identified. These include:

1. Comments by Respondents to Improve Access and Mobility Opportunities
2. Land Use Policies to improve Access and Mobility Opportunities

1. Comments by Respondents to Improve Access and Mobility Opportunities

Comments from the public to improve access & mobility were gathered through the "*Public Attitude Survey of Bicycle and Pedestrian Planning.*" Comments were gathered through a web-based (*N=37*) and a face-to-face (*N=81*) surveys.

The objective was to determine the current levels of use of the existing pedestrian and bicycle network. Responses to the following questions were useful in helping stakeholders to identify the following concerns:

Q.5 Reasons that make it difficult to Bike / Walk-- It appears the factors that make it difficult or unpleasant to bike or walk include:

Biking

- Weather: Moderately difficult 13 (16%) to Very difficult 16 (19.8%).
  - Places where I need to go are beyond my ability to ride: Moderately difficult 15 (18.5%) to Very difficult 13 (16%)
- Poor bike lanes/Poor sidewalk quality: Moderately difficult 15(18.5%) to Very difficult 13 (16%)

Walking

- Weather: Moderately difficult (16%) to Very difficult (19.8%)
- Sidewalks to close to road Very difficult (12.3%)

Q. 6 Reasons for not to Bike/Walk. The major reasons not to bike/walk included:

Biking

- Travel with small children (25.9%)
- Automobile traffic (24.7%)
- Personal safety (23.5%)
- Visually unappealing surroundings (23.5%)

Walking

- Personal safety (29.9%)
- Unsafe intersections (22.2%)
- Lack of sidewalks (21.0%)
- Bad drivers (21%)
- Sidewalks in poor condition (22.2%)

Q. 8 Most important locations in Need of Improvement in Biking /Walking Environment:

Biking

- On major street corridors (DeMers Ave, Gateway Dr.) (21%)
- On bridges and overpasses (21%)
- Near neighborhood schools (17.3%)
- On neighborhood streets (16%)

Walking

- On neighborhood streets (18.5%)
- Near neighborhood schools (17.3%)
- Near highway interchanges (12.3%)

Q. 11 Suggested Improvements to enhance Children's Biking /Walking Experience:

Biking

- Widening sidewalks near schools and parks (21%) Very important
- Traffic calming treatments near schools (speed bumps) (25.9%) Important
- Crossing guards (24.7%) Important.

Walking

- Walking School Buses and similar initiatives (28.4%) Important
- Police enforcement (27.2%) Important
- Traffic calming treatments near schools (speed bumps) (25.9%) Important
- Crossing guards (25.9%) Important

In addition, comments were written on Display Board (*Maps*) placed at both Public Libraries and other venues. Comments were organized by areas of concern. A sample of verbatim comments by residents on Display Boards concerning gaps, continuity and accessibility include:

- Missing connection on 47th Ave. S from S 20th Street to Columbia Road
- Missing connection on Columbia Road from 47th Ave. S to 40th Ave. S
- Review connection on 32nd Ave. S from Chestnut to Greenway Trail (Chestnut to Belmont Rd).

All instruments were administered by the MPO as part of the public involvement process. A complete Comments Summary is included in the Appendix.

2. Land Use Policies to improve Access and Mobility Opportunities

In addition, the objectives, policies and strategic actions outlined in the *2045 Grand Forks Land Use Plan* to improve pedestrian and bicycle connectivity include the following policies and recommendations to improve access and mobility opportunities:

Goal 8: Transportation

8.1. Revise zoning regulations to better facilitate compact development patterns, which provide more transportation choices

8.1.1.2. Discourage expansion of the street and highway system that would promote non-contiguous development.

8.1.6. Amend the zoning code to further reduce off-street parking requirements for new development and redevelopment that provides bicycle parking facilities.

8.2. Make the walkability/bikeability of all proposed developments a more explicit evaluation criterion in development review. This includes requiring connections for children going to and from school and adults traveling to and from work or shopping destinations and public transit. This continues the policy of sidewalks on both sides of the street and multi-use facilities along appropriately-classified transportation routes.

8.2.1. By 2045, new residential development will have sidewalks on both sides of each street and be no further than one half-mile of a designated bicycle facility.

8.2.2. Residential development will provide multiple access points to and from major thoroughfare streets, with generally no less than one access point for every 100 residential dwelling units.

8.2.3. Designated bicycle connections will generally be no greater than one half-mile apart. New development will accommodate this desired spacing where practicable.

8.2.4. Amend the zoning code to require all commercial and business establishments to provide appropriate bicycle parking and transit facilities.

8.5. Develop transportation / land use guidelines that promote appropriate street design, set connectivity and block dimension standards, and provide guidance on access and corridor management to make land use decisions that are compatible with anticipated transportation facilities and gives people access to jobs, education and services as well as giving business access to markets.

8.5.4. Review and amend the zoning code where necessary to ensure consistency with the bike and pedestrian plan, including requiring new development and redevelopment to provide bike and pedestrian facilities.

The objectives, policies and strategic actions outlined in the *2045 East Grand Forks Land Use Plan* to improve pedestrian and bicycle connectivity include:

5.2.4. f. Promote the use of varied forms of transportation by all age groups by developing walkable neighborhoods which incorporate pedestrian and bicycle connectivity consistently with Safe Routes to School and other transportation initiatives. Use "*complete streets*" policies as a guide for developing safe, reliable, and economical transportation systems that support travel by a variety of means.

5.8.2 Maintain a sufficient park and trails system to provide adequate passive and active recreation opportunities for the current and future residents of East Grand Forks.

5.8.2.a. Ensure connectivity for multiple transportation modes between recreational facilities.

Goal 2: Advocate development that is accompanied by a sufficient level of support services and facilities (roads, utilities, storm water management systems, parking, sidewalks, etc.)

- Adopt performance measures to define acceptable standards for connectivity and service.

It is important to identify visible and safe routes leading to housing, job centers, and transit hubs. It is vital to address gaps and obstacles impacting a unified pedestrian network and bicycle system. Consideration should be given to the selection of a methodology to prioritize the choice of roadway segments for pedestrian and bicycle improvements. Several walkability and bikeability tools and calculators exist to assess connectivity.

Accessibility and Connectivity to adjacent land uses via transportation networks, can reduce time, improve safety, and also improve health. Accessibility and connectivity increase access to health care, school and recreational facilities and to goods and services, etc.

Recommended strategies to improve pedestrian and bicycle connectivity include:

- Short block lengths (*Smaller blocks allow more variation in your daily commute and spread out the foot traffic around a city. It also provides a city more intersections which are always ideal places for commercial activity. The end result is a more walk able city and more unique shops and restaurants.*)[132]

- Implementation of a Complete Streets policy (*Adopted July 9th, 2018 by Grand Forks City Council*.)

- Bicycle/pedestrian outlets for cul-de-sacs and dead ends

This Bicycle and Pedestrian Element is a component of the 2045 MPO Long Range Transportation Plan. The development of this element relies on technical data analysis procedures, stakeholder's recommendations and comments made by residents through public involvement activities.
For instance, according to the *2045 Grand Forks Land Use Plan,* the top four goals recommended by the public for the City Grand Forks for the near future as selected by users, comprised:

[132] Urban Planning 101 – Block Size at http://postgreenhomes.com/urban-planning-101-block-size/ [Accessed August 17, 2018]

- Becoming more pedestrian friendly and walkable (45%) Survey online
- Improving "*Safe Routes to Schools*" to encourage students to walk and bike to school (Approximately 37%)
- Improving safety at intersections where crashes often occur (Approximately 32%)
- Adding more bike lanes and becoming more bicycle-friendly (Approximately 32%)

In addition, during public involvement activities advanced for the update of the *2045 Streets & Highway Element,* currently under preparation, about 60 related bicycle and pedestrian comments were received in the following areas from residents on Wiki-map:

- Access (*Add protected bike lanes, sidewalk to bike path connections*)
- Safety (*Lack of sidewalks, school crossing, ADA sidewalk compliance, better pedestrian crossing in proximity to playgrounds, fields, sand courts*)
- Signs & Signals (*Disregard by motorist of pedestrian signage, school crossings*)

The *2045 East Grand Forks Land Use Plan* includes the following strategies proposed to improve bicycle and pedestrian access and mobility:

- Promote roadway connectivity through the implementation of the East Grand Forks future road map.

- Provide opportunities for residents to utilize a variety of transportation choices through the investigation or review of complete streets guidelines to be possibly implemented in the development of safe, reliable, and economical transportation systems.

- Continue the installation of sidewalks along new roadways in accordance with existing ordinances.

- Promote the use of varied forms of transportation by all age groups by developing walkable neighborhoods which incorporate pedestrian and bicycle connectivity consistently with Safe Routes to School and other transportation initiatives.

- Use "*complete streets*" policies as a guide for developing safe, reliable, and economical transportation systems that support travel by a variety of means.

5.8 PARKS, RECREATION, AND OPEN SPACE

- Maintain a sufficient park and trails system to provide adequate passive and active recreation opportunities for the current and future residents of East Grand Forks.
- Ensure connectivity for multiple transportation modes between recreational facilities

Multi-Use Path. Photo © MPO Staff, 2017

B. Improving connectivity on the bicycle and pedestrian networks

1. Land Use Trip Attractors & Generators

Multi-use Path in Grand Forks. Photo: © MPO Staff

Grand Forks

			
Industrial	Commercial	Institutional	Recreational

East Grand Forks

			
Industrial	Commercial	Institutional	Recreational

1. Land Use Trip Attractors & Generators

Trip Generation is a conventional transportation process widely used for forecasting travel demands. The method involves the development of relationships between multi-modal trips, purposes, timing and land use characteristics. This methodology supports the analysis of trip generation of specific land uses and helps to predict the number of trips originating in or destined for a particular traffic analysis zone.

To reach their destinations, users consider subjective *(personal perceptions*) and objective (*physical, economical & environmental*) factors influencing their decision to bicycle or walk. Trip Attractors & Generators in Grand Forks-East Grand Forks are grouped into the following land use categories:

- Industrial
- Commercial
- Institutional
- Educational
- Parks & Recreation

Based on the prevailing mode of transportation available to the user, and considering –among other factors- roadway's functional classification and accessibility characteristics, some trip generators and/or attractors may be out of user's reach. As a result, access to activities on some land uses and buildings could be restricted to user's that rely on less commonly used modes of transportation. Hence, it is plausible that access to some commercial and/or industrial areas, could be restricted or severely limited for pedestrians and bicyclists.

Among others, trip generation and/or attractions are impacted by regional car ownership, household size, urban development, mode and length of trips, land use function and corresponding activity type, density and accessibility. In addition, propensity for traveling is impacted by socio-economic factors such as age, gender, occupation and income.

The map and tables below identify the most common Existing Attractors & Generators land uses in the area. Attractors and Generators are every land use on which business, school, park and trail, and social and service establishments are located.

Bicycle Rack & Repair Station –Downtown Grand Forks. Photo © MPO Staff, 2017

1.1 Trip Attractors & Generators -- Grand Forks, ND

The following is a sample of the permitted, conditional and auxiliary land uses allowed in the corresponding districts in Grand Forks. In this Element update, some corridor's names or activities are carried over from the past Bicycle and Pedestrian Plan (2013). The trip attractors & generators land uses could, most likely, encompass more activities than those displayed here. This list does not account for all the activities at any of the corridors and land uses under consideration.

Industrial

GF Industrial Park N. Washington Corridor Mill Road Corridor	Gateway Drive Corridor (Northside)	DeMers Ave. (Railroad Switching Yards)

Commercial

Central Business District Grand Cities Mall Columbia Mall 42nd St. Corridor	DeMers Avenue Corridor Gateway Drive Corridor North Columbia Road Corridor South Columbia Road Corridor 32nd Avenue South Corridor	South Washington St Corridor North Washington St. Corridor

Institutional

Alerus Center Altru Health Campus UND Technology Park	Ralph Engelstad Arena Choice & Health Fitness	Betty Engelstad Sioux Center GF Public Library Altru YMCA Family Center

School, College & University

University of North Dakota Central High School Red River High School Community High School Valley Middle School South Middle School Wilder Elementary School	Ben Franklin Elementary Century Elementary School Discovery Elementary J. Nelson Kelly Elementary Lake Agassiz Elementary Lewis & Clark Elementary New Heights Elementary	Phoenix Elementary School Schroeder Middle School West Elementary School Winship Elementary School Viking Elementary School St. Michael's Elementary Holy Family St. Mary's School Mark Sanford Education Center (Administration)

Greenway Trail System

Apollo Complex/Kraft Field

Eagles & Blue Line Club Arenas
Purpur & Gambucci Arenas
King's Walk Golf Course
Lincoln Golf Course
Scheels Sport Complex
Choice Health & Fitness
ICON Sports Center
UND Wellness Center Courts
Abbot Park
Ben Franklin Park
Bringewatt Park
Cox Park
Elks Park & Pool
Exchange Club Park
Half Circle Park

Independence Park

Jaycees Park
Kannowski Park
Kelly Park
Lincoln Drive Complex
Lincoln Drive Park
Lions/Veterans Memorial Park
Masonic Park
Midtown Park
Prime Steele Park
Richard's West Park
Riverside Park & Pool
Ryan Lake Park
Sertoma Park/Japanese Gardens
Skidmore Park (*Floral Garden*)
Southern Estates Park/Ulland Park
Football Complex
St. Mary's Park
South Kiwanis P. *Discovery School*
Symington Park
Ulland Baseball & Softball Complx
University Park
Williamson Park
Willmar Park
Optimist Park
North Kiwanis Park
Riverside Dan (*Greenway Trail*)

Source: Grand Forks Parks District & Grand Forks Strategic Master Plan 2016-2021, Heller & Heller Consulting (2016)

Multi-Use Path (Just North of Gateway Drive) Connects Residential to Light Industrial Areas.
Photo © MPO Staff, 2017

1.2 Trip Attractors & Generators – East Grand Forks, MN

Industrial

U.S Business 2 Corridor MN 220 Corridor	EGF Industrial Park	Central Avenue Corridor

Commercial

Central Ave. Business District MN 220 N Corridor	Riverwalk Center	Gateway Dr./U.S.2 Corridor

Institutional

Civic Center Campbell Library	East Grand Forks City Hall	Polk County Public Housing

School, College & University

Northland Community College Senior High School New Heights Elementary	Central Middle School Sacred Heart Catholic School-Elementary	South Point Elementary Riverside Christian School

Parks & Recreation

Greenway Trail System

Eagle Point RJ Zavoral Park DanMor Park River Heights Park O'Leary Park Harney Park Rivers Edge Sherlock Park	Hecht Park Nash Park Red River Recreational Area Nash Park Valley Golf Course Rivers Edge Griggs Park	Riverside Dam Park ITT's Williams Park LaFave Park Folson Park Stauss Park Rotary Park

East Grand Forks Public Library –Educational Land Use. Photo: © MPO Staff, 2017

2. Assessing Existing Pedestrian & Bicycle Network Connectivity

Some of the local land uses and activity centers attracting and generating a large number of motorized and non-motorized trips were described in the previous section of this report. People travel for leisure, to realize an opportunity or to attain a benefit at the destination. In general, users must travel to locations where those opportunities are fulfilled, services are available and goods can be found. To meet their trip's purposes, pedestrians and bicyclists travelers rely on the presence, and on the completeness of a pedestrian network and bicycle system. Users also rely on the quality of the level of service and/or on the performance of the network's basic characteristics. Incomplete networks detract from the possibility of fulfilling traveling objectives.

Table "*Pedestrian & Bicycle Network Principles"* below highlights the basic characteristics of the pedestrians and bicyclists as reflected by their mobility needs and expectations.

Pedestrian & Bicycle Network Principles

Pedestrian User's Needs	Bicycle User's Needs
• Directness	• Cohesion
• Continuity	• Directness
• Street Crossings	• Accessibility
• Visual Interest &Amenities	• Alternatives
• Security	• Safety & Security
	• Comfort

In particular, network's directness, safety & security are characteristics highly regarded by pedestrian and bicycle users. As a result, consideration for all network principles contributes to the efficient provision of access, mobility and connectivity to all users regardless of age, ability or walking and riding skills. For instance, accessibility is a function of proximity to destinations and the directness of routes to those destinations. These characteristics are a function of what is generally called network connectivity.[133]

Breaks in the network prevent continuity; preclude directness, inhibit accessibility and thwart perceived safety and security conditions. Breaks in the pedestrian network and bicycle system, lack of sidewalks and the lack of designated on-road facilities constitute physical "*gaps.*" Gaps curtail access to important community destinations such as schools or parks.

[133] Tal, Gil., Handy, Susan (November 2011) Measuring Non-motorized Accessibility and Connectivity in a Robust Pedestrian Network. Institute of Transportation Studies. University of California, Davis, p. 1

In addition to "*gaps*" in sidewalks and roadway network, at-grade railway crossings, (*described in Part II*.) also have the potential to disrupt the performance of bicycle and pedestrian activities.
In Grand Forks bicycles are allowed to ride on the sidewalks in residential areas only. Similarly, bicycles are allowed to ride on the street per North Dakota Century Code. (*Except where marked such as on certain bridges*). Grand Forks City Code of Ordinances Chapter XVI –Streets and Sidewalks on the *16-0222 Grand Fathered Clause* indicates the areas exempted from required sidewalk construction unless sidewalks are requested by petition of fifty-five (55) percent of the owners of lot footage abutting proposed sidewalk.

According to 16-0222 – Grand-father clause of the Grand Forks City Code, the following areas are exempt from required sidewalk construction unless sidewalks are requested by petition of fifty-five (55) percent of the owners of lot footage abutting proposed sidewalk:

Streets Exempt from Sidewalk Construction
Grand Forks City Code of Ordinances Chapter XVI

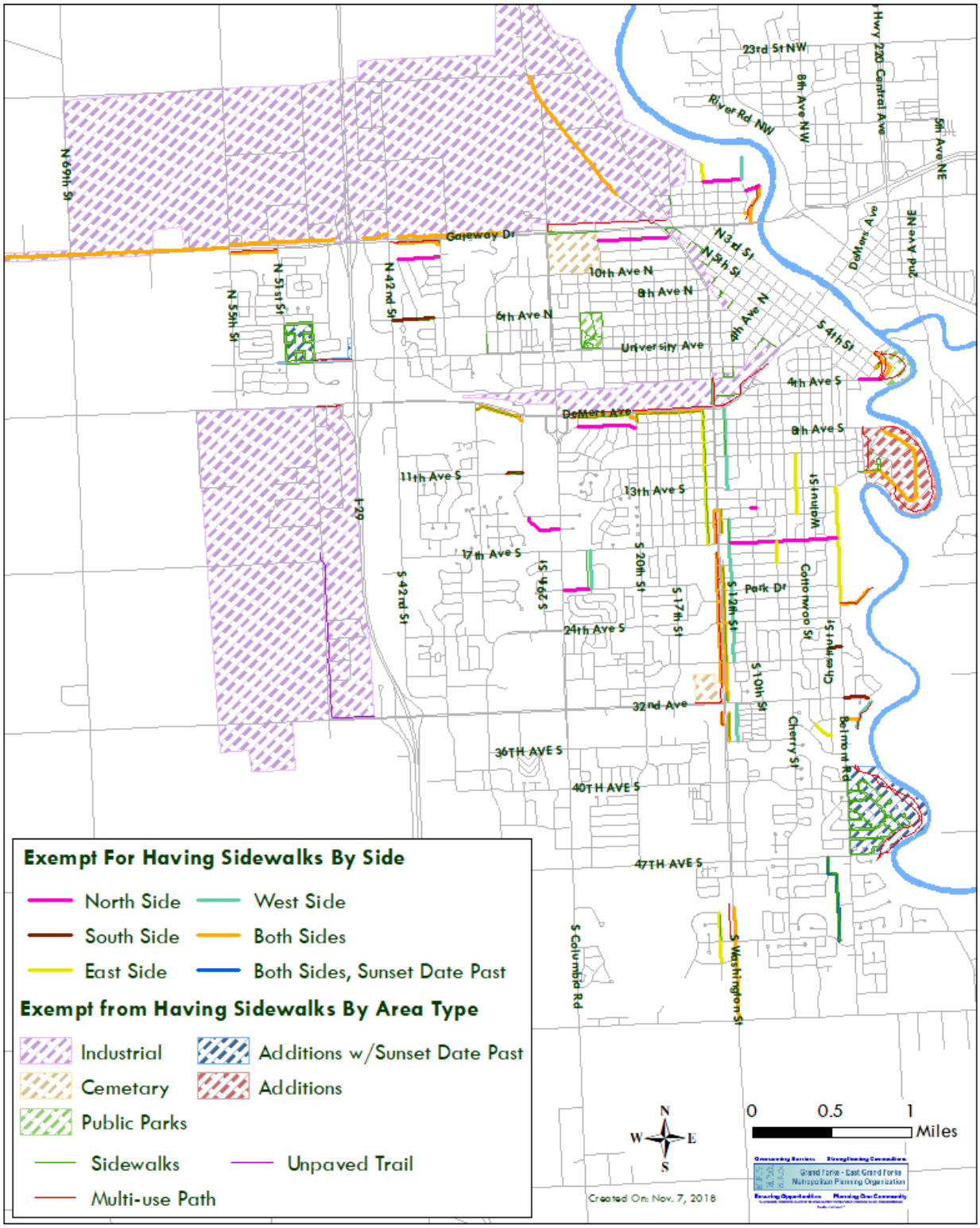
(1) FRONT SERVICE ROADS	(2) REAR SERVICE ROADS	(3) PUBLIC PARKS
South Washington Street	South 12th Street (west side)	Lincoln Park, along Belmont Road Lincoln Drive and Elks Drive
Gateway Drive	South 14th Street (east side)	Riverside Park, along Park Avenue, Lewis Boulevard and North Third Street
DeMers Avenue	13th Avenue North (north side)	~~*University Park*~~ Built sidewalks
	7th Avenue South (north side, between South 20th Street and South 26th Street)	~~Central Park~~
(4) CEMETERIES	(5) ARTERIAL ROADWAYS (PRINCIPAL)	(6) ARTERIAL ROADWAYS (MINOR)
Calvary	South Washington Street (rural section only)	17th Avenue South between Belmont Road and South 12th Street (north side)
Memorial Park	North Washington Street (rural section only), north of Gateway Drive	~~*6th Avenue North between State Street and North 42nd Street (south side)*~~ Built segment
Montifiore	Gateway Drive (rural section only)	
(7) COLLECTOR ROADWAYS		
None		

(8) LOCAL ROADWAYS
Linden Court (East side) 27th Avenue South (South side) between Belmont Road and Chestnut Street 32nd Avenue South (South side) between Belmont Road and Elmwood Drive Elmwood Drive (West side) south of 32nd Avenue South 34th Avenue South (Both sides) between Belmont Road and Elmwood Drive Oak Street (East side) between 17th Avenue South and 19th Avenue South Cherry Lynn Drive (East side) between 34th Avenue South and Chestnut Street Hammerling Avenue (North side) from South 10th Street and west one-half block Fourth Avenue South (North side) between River Street and Elm Avenue East Conklin (North side) Riverside Drive (West side) between East Conklin and Fenton Avenue 11th Avenue South (South side) between South 30th Street and the English Coulee Knight Drive (Northerly side) west of South Columbia Road Chestnut Street from 47th Avenue South to 55th Avenue South until January 1, 2016

(9) MOBILE HOME PARKS;	(10) RIVER BANK SIDE OF ROADWAYS:	
President Park, along South 10th Street	Elmwood Drive (Olson Drive to South 34th Avenue South)	
36th Avenue South and South 12th Street	South 3rd Street (Minnesota Avenue to Elm Avenue)	
	Elm Avenue (South 3rd Street to South 4th Street)	
(11) UNPAVED ROADWAYS:	(12) ADDITIONS:	(13) INDUSTRIAL ZONES.
Woodland Avenue	Lindays	All industrial zones shall be exempt from the provisions of this section
Seward Avenue (east of Lewis Boulevard).		
The Sun-beam Addition to the City of Grand Forks until January 1, 1991. However, the area west of Belmont Road and east of Cherry Street, north of 47th Avenue South shall not be exempt from sidewalk construction.		
The Richard's West Addition to the City of Grand Forks until January 1, 1991, or until the construction and completion of a pedestrian overpass at the grade separation of Interstate 29, whichever event occurs first.		

The next map will illustrate the *Streets Exempt from Sidewalk Construction* according to the Grand Forks City Code of Ordinances Chapter XVI

Streets Exempt From Sidewalk Construction
Grand Forks City Code of Ordinances Chapter XVI



Sidewalks are a vital component of the transportation network. A connected and continuous sidewalk network better accommodates the needs of all pedestrians, including children, seniors, and people with disabilities. Bicycles are allowed to ride on the sidewalks in Grand Forks, and bicycles are allowed to ride on the street per North Dakota Century Code. The roadways and corridors illustrated in the preceding table are "*exempt from*" sidewalks as a result of the provisions of the Grand Forks City Code of Ordinances Chapter XVI –Streets and Sidewalks.

The following institutional and perceived community constraints should be analyzed to support local government's efforts to provide a complete pedestrian network and bicycle system:

Chapter XVI – Streets and Sidewalks of the Grand Forks City Code

Chapter XVI was written prior to the occurrence of the tragic flood of 1997. This tragic and costly inundation event split the modern history of the city; thus, shifting the axis of urban development toward new areas. Chapter XVI endeavored to reflect the prevailing community intentions concerning the development of the existing urban form in yester-years.

In this regard, most of the roadways and corridors exempted from sidewalks are located in the core area of the City of Grand Forks. It is plausible that, some sidewalks, given their construction time and location, could potentially lack curb ramps, display narrow width sidewalks, exhibit discontinuous paths, and/or lack sidewalk continuity in places that haven't been required to have sidewalks in the past, such as in industrial areas or abutting rail lines. These known physical gaps are constraints to compliance with current American with Disabilities Act (ADA) requirements and to the expansion of a well-connected pedestrian network.

A review of some of the exempted segments suggests that physical gaps still exist in the pedestrian and bicycle network. Despite the spirit of the Ordinance, the analysis also reveals that a number of multi-use paths or unpaved trails segments, have through the years, been constructed on arterial roads in exempt areas.

The J. F. Kennedy Memorial Bridge

The J. F. Kennedy Memorial Bridge is located over the Red River. The bridge links East Grand Forks (MN) to Grand Forks (ND). In addition, the bridge provides access to an important nearby historical neighborhood on the Grand Forks side. Until recently, the bridge structure did not have facilities to accommodate pedestrian and bicycle movements.

As a result of a major rehabilitation project, bicycle and pedestrian movements will be allowed on the bridge. In addition, an 8.5 feet wide shared-use path under construction will connect the Kennedy Bridge Trail to East Grand Forks Greenway Trail. The multiuse trail on the Kennedy Bridge will be extended along the north side of the ramp to River Road. Access to pedestrians and bicyclists will be provided on the Kennedy Bridge beginning October, 2018.

However, on the Grand Forks side, the newly built pedestrian and bicycle accommodation connects to a narrow sidewalk on Gateway Drive. The lack of a wide sidewalk restricts user's opportunities when crossing the bridge. In particular, these existing constraints may affect

mostly children in need of pedestrian access to community facilities on both sides of the river. Seeking a more direct and effective route is a task which requires consideration.

Lincoln Park, along Belmont Road (Lincoln Drive to Elks Drive)

The 2040 Bike & Pedestrian Plan identifies a "*planned sharrow*" facility on the Belmont Road (Lincoln Drive to Elks Drive) roadway segment. It is apparent that perceived roadway characteristics, including traffic volumes, speed and parking availability, could have prevented the construction of this type of bicycle facility on the segment.

Currently there is a sidewalk on the western-side of Belmont Road from 13th Avenue South to Elks Drive. However, the construction of an additional sidewalk on the eastern frontage of Lincoln Park, along Belmont Road from Lincoln Drive to Elks Drive, could greatly facilitate access to the park, improve pedestrian activity on the frontage outer edges or perimeter of the park and provide a pedestrian facility for the benefit of neighborhood residents. The segment abuts on one of the largest "*green*" spaces and largest neighborhood parks in Grand Forks. Unfortunately, the segment is also one of the facilities exempted from sidewalks. Consideration should be given for the removal of the exempt status for the segment on Belmont Road (Lincoln Drive to Elks Drive).

At-grade railway crossings

Local governments, stakeholders and our MPO have worked in partnership with the leading railway company in our region to address pedestrian and bicyclist safety, access and mobility at at-grade crossings. Considerations include the provision of rail crossing enhancements to improve safety for pedestrian and bicycle movements at key railway crossings, placing emphasis on crossing related to Safe Routes to Schools in proximity to elementary and middle schools.

Recently, the Grand Forks-East Grand Forks MPO has been working cooperatively with representatives from local rail companies assessing pedestrian and bicyclist access over rail tracks right-of-way. A number of proposed improvements have been programmed for short, mid and long implementation. However, another constraint is the perceived inability by local stakeholders to promptly obtain crossing licenses from railway companies to support accessibility and continuity on the bicycle and pedestrian network.

Resident's Perceptions

According to a local stakeholder, another apparent obstacle preventing the closure of on-road bicycle and sidewalk gaps is the assumed perception that a number of neighborhood residents still wishes to maintain on-street parking facilities as a way to exert property rights. In their view, the wants expressed by those resident's desires potentially limit the expansion possibilities of on-road bicycle facilities.

These constraints must be addressed to encourage broad access to the network of bicycle and pedestrian facilities; boost bicycle-transit connectivity; assure network completion; and improve access to important school, health, parks and community recreational facilities. The elimination of those constraints could facilitate access to community-based activities to members of low income

communities; foster neighborhood connectivity; increase use of new and existing infrastructure and contribute to building support for bicycle and pedestrian activities among the public.

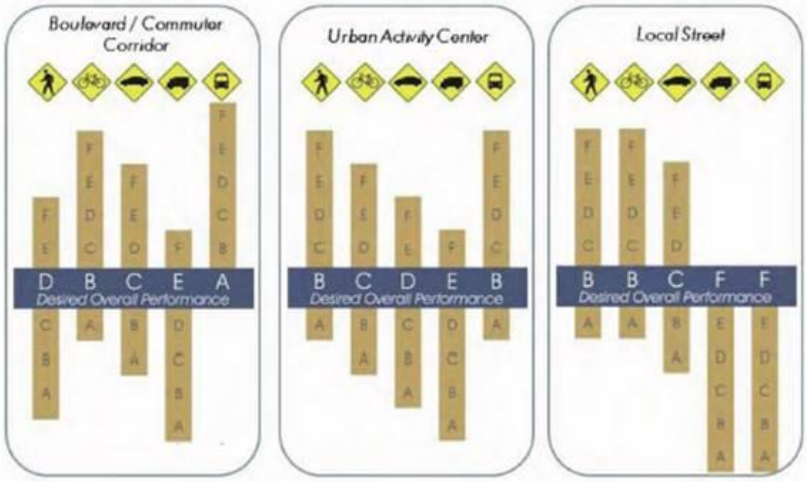
Some local stakeholders express the view that the presence of a sidewalk satisfies the need to provide existing bicycle and pedestrian facilities. This view, in our opinion, appears to overlook the value of network completeness, and the impact of roadway classification and level of performance. Similarly, some local stakeholders express the view that "*if there is a street and there is a sidewalk, then there are existing facilities.*"

Understandably, this argument appears not to account for the type of pedestrians or type of bicyclist and their corresponding skills. Another consideration is user's needs and their motivations to travel. For instance, there are many different types of bicyclists, each with different needs. For children, the use of sidewalks may indeed be an appropriate measure to close many gaps from a safe routes to school perspective, but entirely inappropriate to meet the needs of the advanced cyclist.[134]

The view that "*the road network is the bicycle network*"[135] is important to measure the suitability of roadways and side paths for bicycle and pedestrian travel. Other factors to assess the bicycle environment on roadways and to assess sidewalk and roadways suitability for bicycle travel in the city[136] includes assessment of intersection safety, vehicle traffic, street design, safety and land use characteristics.

The graphic below from the ITE recommended practice on *Planning Urban Roadway Systems* helps to demonstrate this difference in terms of setting context-sensitive quality of service goals; the facilities in each of the contexts described may be present, and therefore arguably complete, but if the quality of service provided doesn't match the planned objectives in terms of performance, then there may still be a performance gap, even if there is not a physical gap.[137]

[134] Contributed by Mr. Dan Hardy, P.E., PTP. Principal RENAISSANCE PLANNING (August 22, 2018)
[135] Barsotti, Ed. Kilgore, Gin (xxxx). The Road Network is the Bicycle Network: Bicycle Suitability Measures for Roadways and Sidepaths. (League of Illinois Bicyclists). p. 1
[136] Bicycle Environmental Quality Index (BEQI) Draft (2009). Program on Health, Equity and Sustainability Environmental Health Section. San Francisco Department of Public Health. Table 2.
[137] Contributed by Mr. Dan Hardy, P.E., PTP. Principal RENAISSANCE PLANNING (August 22, 2018)



The identification of context-sensitive quality-of-service objectives for each mode of travel is one way to consider modal emphasis. Source: Institute of Transportation Engineers, 2014

Deserving attention is the additional view that "*Any enhancements such as adding a bike route, sharrows, bike lane, or shared use path need to be identified in the plan as enhancements instead of being identified as gaps*." "A network gap is more than a piece of pavement."

In this regard, emerging research in bicycle trends has expanded the definition of "*network gap*" to include:

- Physical (*High priority locations to eliminate physical network gaps*)
- Modal (*Opportunities to leverage transit and bike connectivity*) and
- Temporal gaps (*Strategies to encourage year round biking in the system*).[138]

[138] Sutton, Peter (Statewide Bicycle and Pedestrian Coordinator, Massachusetts) 2017 Moving Together Conference (Powerpoint)

3. Identifying, mapping, and evaluating key bicycle and pedestrian trip Attractors & Generators.

Grand Forks and East Grand Forks enjoy a vast and a highly regarded sidewalk network and bicycle system. In the planning area, most destinations may be reached by sidewalk and by existing on-street access. Nevertheless, full direct access to and connectivity in some destinations is not yet possible or completely realized. Regrettably; still, some areas currently lack sidewalks and/or on-road bicycle facilities.

Identifying, mapping, and evaluating key bicycle and pedestrian access to trip Attractors & Generators is one of the methods used to estimate bicycle and pedestrian travel demand. Regularly, the emphasis is placed on the analysis of the number of trips and mode choice originating and/or resulting from activities at those attractors & generators land uses.

As a matter of reference, in the planning area, the rates (*volume*) of work-related pedestrian and bicycle trips distribution are based on the commuting shares illustrated in the Journey-to-Work. The information illustrated in Part III: Existing Conditions indicates a 4.1% for walking and a 1.0% for biking trips (2010-2014) in Grand Forks. The table indicates a 2.0% for walking and a 0.1% for biking trips (2010-2014) in East Grand Forks. These figures account for the percentage of pedestrian and bicycle trips out of the total number of work-related trips in the region in the (2010-2014) period. In addition, school and park attendance provides an idea about the number of trips, frequency and modes used to reach those destinations.

The emphasis on this section is centered on bicycle or pedestrian demand access to destinations. Trip generation, distribution and choice for auto travel data is collected and analyzed during the update of the Street and Highway Element of the Grand Forks-East Grand Forks Long Range Transportation Plan. Analytical results for auto-oriented and transit trip generation (*how many*), distribution (*where do they go*) and choice (*which mode*) are considered in the of the 2045 Street & Highway Plan.

The Travel Demand Model used by the Grand Forks-East Grand Forks MPO (*Administered by the Upper Great Plains Transportation Institute/Advanced Traffic Analysis Center*) does not assess trip generation, distribution and choice for pedestrian and bicycle trips. In this regard, bicycle and pedestrian information is collected as part of corridor studies, through surveys administered by the Safe Routes to School Program, pedestrian and by administering bicycle and traffic turning counts at selected intersections. In addition, school enrollments, and parks attendance figures could be used as *proxies* to assess the impact of bicycle and pedestrian activity in the overall local transportation network.

Pedestrian & Bicycle Counts:

A number of bicycle and pedestrian counts have been administered in the planning area to evaluate bicycle and pedestrian activity at key intersections and neighborhoods. For instance, pedestrian and bicycle counts have been advanced at some locations, including:

East Grand Forks (2013)	Grand Forks (2013)	Grand Forks (2015)
1st Street – 2nd Ave.	N 5th Street –2nd Ave N	Columbia Rd. –University Ave.
2nd Street – DeMers Ave.	N 5th Street –Kittson Ave.	University Ave –N5th Street
4th Street NE-2nd Ave. NE	N 5th Street –University Ave.	N Washington St. –University Ave.

Most recently, pedestrian and bicycle activity has been counted through turning movement counts advanced for the Near Southside Neighborhood Study (2018). Turning movement counts were also advanced in 2014 and 2017 at Belmont at 4th Ave. S and at Reeves at 4th Ave. S.

More information, including pedestrian and bicycle counts, is found in the 2045 Street & Highway Element.

Education and Recreational Trips

The resulting analysis is centered on access to educational and recreational related trips. The information on enrollment figures, staff numbers, park attendance, and registration to area-wide recreational activities figures was gracefully provided by the Grand Forks School District, East Grand Forks School District, Grand Forks Parks and Recreation and East Grand Forks Parks and Recreation.

These figures highlight the impact of trip related educational and recreational activities in the overall transportation network. That information is included in this section to provide an idea on the impact of the volumes and distribution of the pedestrian and bicycle trips attracted to and generated in School, College and University; and Parks and Recreation land uses.

The following "*Map Clips*" illustrate the most direct –pedestrian and bicycle- access to existing attractors & generators within a ¼ mile biking distance in proximity to important community destinations such as schools, parks, and educational centers, institutional and industrial destinations. The analysis describes the existing facility, its type and offers some observations –when appropriate-.

Two objectives support the introduction of the clips presented in the next pages:

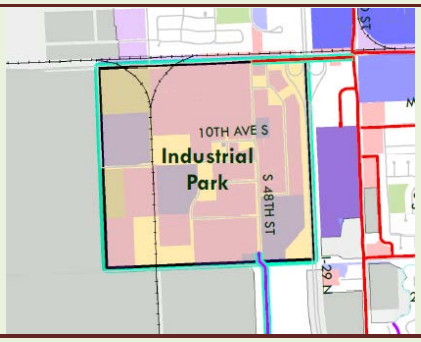
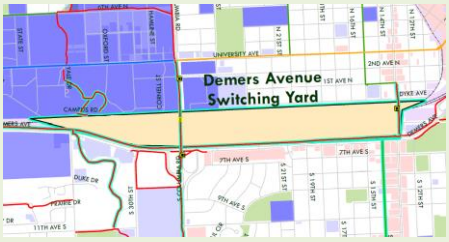
- Identify "*gaps*" in the bicycle network. "*Gaps*" include discontinuities in directness, cohesion, accessibility. In particular, identifying gaps in proximity to schools, parks and community facilities is important.

- Identify locations where community demand exists for biking facilities regardless of existing levels (*volumes*) of bicycle activity and regardless of -- whether bicycles are allowed to ride on the street.—

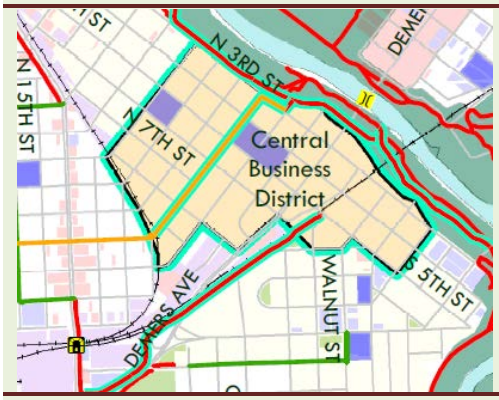
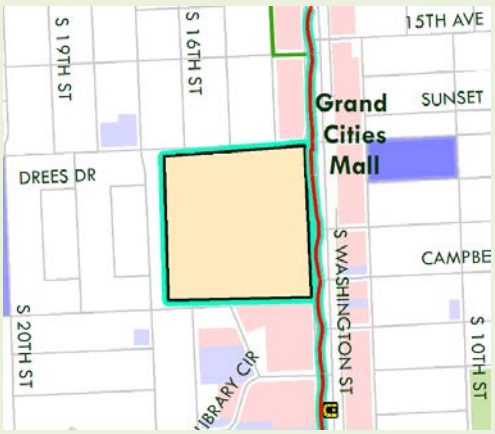
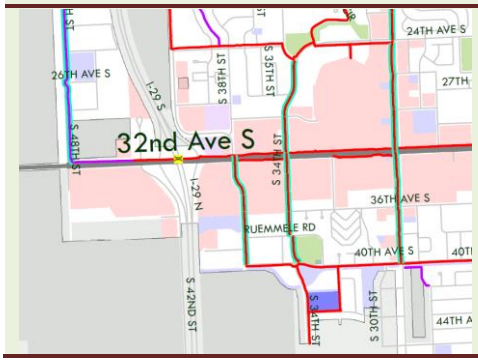
An attentive review of the submitted clips will help stakeholders in the process of identifying network gaps at the corridor level, or in proximity to schools, parks and institutional land uses. The analysis will help prioritize critical gaps in key areas and to recommend projects.

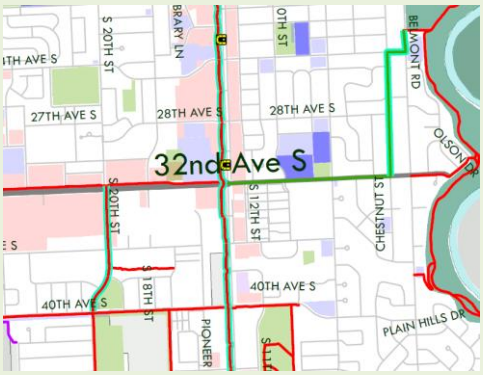
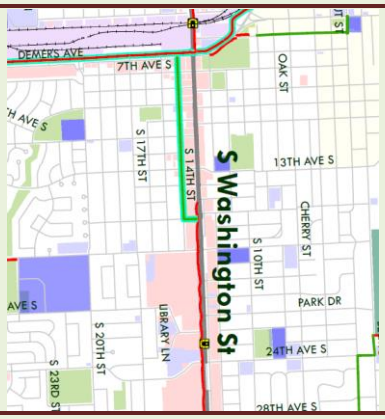
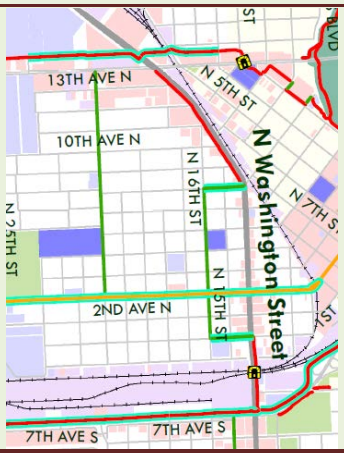
A. Grand Forks

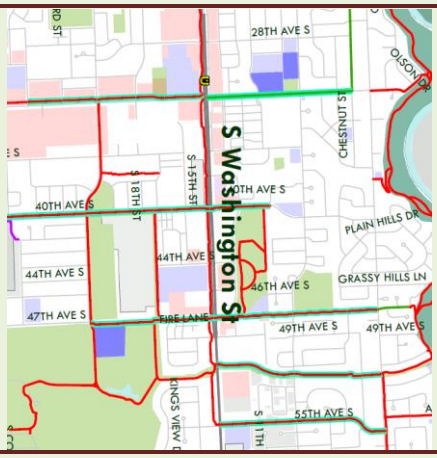
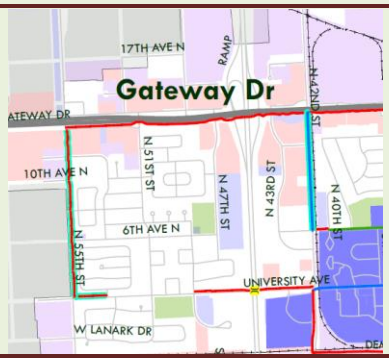
Industrial

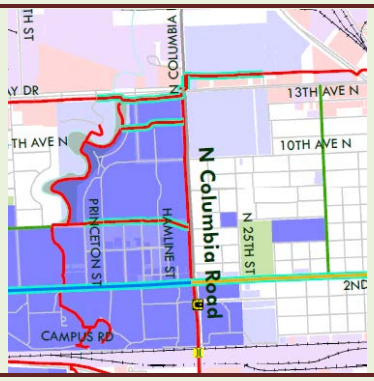
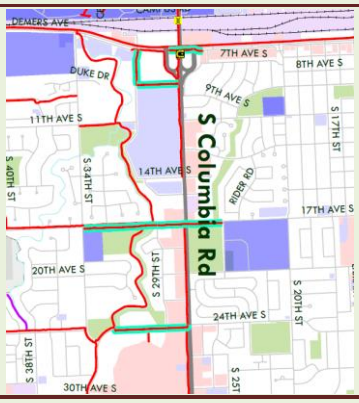
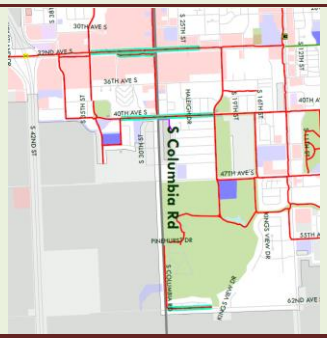
Grand Forks Industrial Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	S 48th St DeMers Ave	Unpaved Trail Multi-use Path	Bikes on roadway Quiet Zone Industrial Zone exempt from sidewalk construction.
DeMers Avenue (Railroad/Switching Yards)	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	DeMers Ave. S Columbia Road S Washington Street S 14th Street	Multi-use Path Multi-use Path Multi-use Path Bike Route	One-way sidewalks under N Washington St. Underpass. St. Lack of bicycle network on S Washington St. from DeMers Ave. to 14th Ave. S.

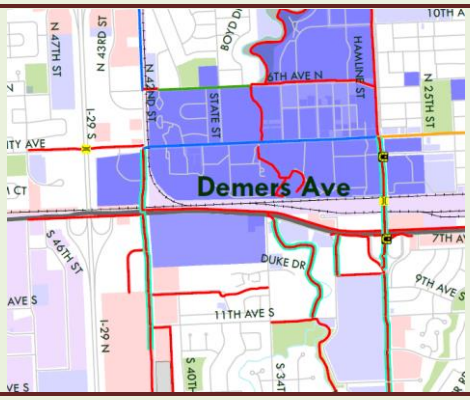
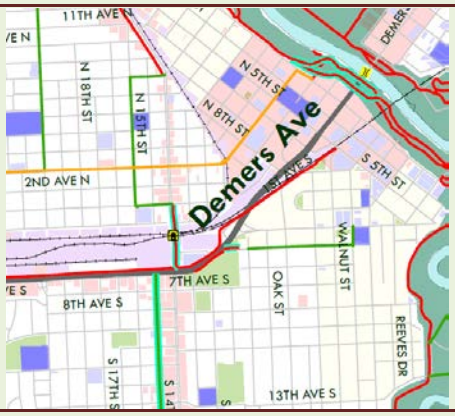
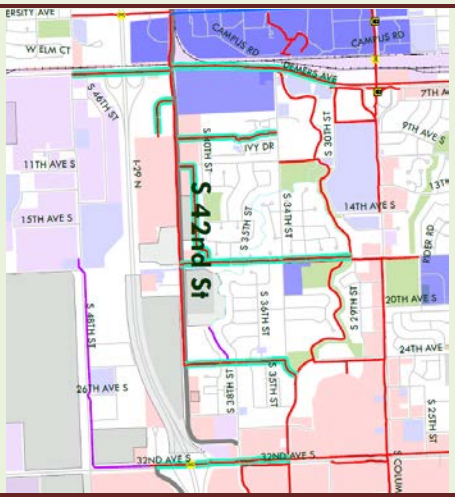
Commercial

Grand Forks Central Business District	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Red River (Greenway) DeMers Avenue (S of Railroad Tracks) University Avenue N 5th Street	Multi-use Path Multi-use Path Sharrow On-road	Grand Forks: CHAPTER VII, ARTICLE 11. - BICYCLES AND MOTORCYCLES, BICYCLE PATHS (Ord. No. 3545, § 2, 9-18-95) 8-1104. - Riding on sidewalks in residential districts. Quiet Zone rail crossing
Grand Cities Mall	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	S Washington Street	Multi-use Path	17th Ave S: Gap Network Gap on 20th Ave S from Columbia Rd to Washington to Belmont Road. Planned Multi Use Path on 17th Ave S. from S25th St. to S20th St. 2019 Planned Multi Use Path on Columbia Rd. (13th Ave. to 17th Ave.) (2015-22)
32nd Avenue South Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Columbia Road S 34th Street S 38th Street S 48th Street	Multi-use Path Multi-use Path Multi-use Path Unpaved Trail	Planned Multi Use Path on 17th Ave S. from S25th St. to S20th St. 2019

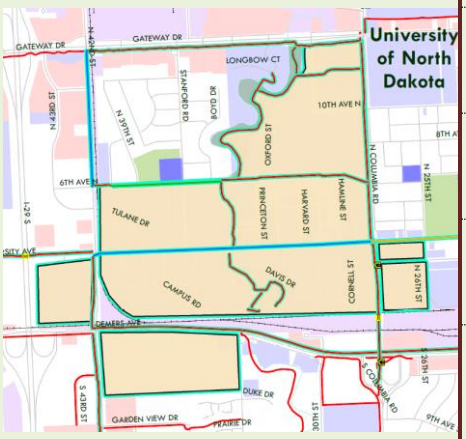
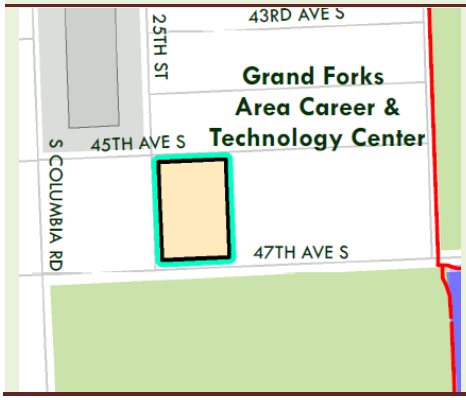
32nd Avenue South Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Chestnut St. S Washington St. S 20th St.	Bike Route Multi-use Path Multi-use Path	Parents concerned when children cross 32nd Ave. S North-South walking or biking to access: J. Nelson Kelly Elementary and/or J. Nelson Kelly Park See Appendix: Safe Routes to Schools-Parent's Surveys, Selected Comments, 2016
South Washington Street Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	S 14th Street 15th Avenue S DeMers Ave	Bike Route Bike Route Multi-use Path	Significant gaps in the network prevent direct west-east on 11th Ave. S, 17th Ave. S and 20th Ave. S access from Washington to Elks Park & Pool, Lewis & Clark Elementary and to Greenway trail.
North Washington Street Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	DeMers Avenue University Avenue 1st Ave. N 8th Ave. N North of Gateway Dr	Multi-use Path Sharrow Bike Route Bike Route Multi-use Path	Rail crossings on Safe Routes to school at 2nd Ave. N; University Ave; Public Alley (Possible Closure); 4th Ave. N; 5th Ave. N at N 8th St.; 6th Ave. N.; 7th Ave. N (Possible Closure 2019-25); 8th Ave. N and 10th Ave. N. (Sidewalk construction 2026-32) No sidewalk on eastern side from Gateway Dr. to 8th Ave. N

South Washington Street Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	32nd Avenue S. (East) 32nd Avenue S.(West) 40th Ave S 47th Ave S South Drain way 55th Ave S	Bike Route Multi-use Path Multi-use Path Multi-use Path Multi-use Path Multi-use Path	Planned Multi Use Path on 17th Ave S. from S25th St. to S20th St. 2019 Network gap on 32nd Ave. S from Chestnut to Belmont Network gap on 40th Ave. S from Clearview Dr. to Sandy Hills Lane.
Gateway Drive Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	English Coulee N Columbia Road N 3rd Street N 20th Street Alley E of N 3rd St N Washington St. Greenway Trail	Multi- use Path Multi- use Path Multi- use Path Bike Route Multi-use Path Multi-use Path Multi-use Path	Proposed sidewalk construction one side (2026-32) Mill Road at Bacon Road, Mill Road @ Conklin. Possible new crossing at Mill Road. Potential rail tracks removal at Mill Road @ Conklin.
Gateway Drive Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	N 55th Street N 42nd Street	Multi- use Path Bike Lane (Bike Lane on N 42nd St. currently being converted to Multi-use Path, 2018)	Front service road exempt from sidewalk construction. No pedestrian crossing facilities N-S

N Columbia Road Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	North of Gateway 6th Avenue N Gateway Dr University Ave (West) University Ave (East) UND Campus Path	Multi-use Path Multi-use Path Multi-use Path Bike Lane Sharrow Multi-use Path	Network gap on 6th Ave. N from N Columbia Road to N Washington St. to Greenway Trails. Network gap on N Columbia from N 14th Ave N-17th Ave. N
S Columbia Road Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Two Blocks South of the DeMers Overpass 17th Avenue S 24th Avenue S DeMers Ave	Multi-use Path Multi-use Path Multi-use Path Multi-use Path Multi-use Path	Gap in Multi-use Path between 14th Ave. S to 17th Ave. S
S Columbia Road Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	32nd Avenue S 40th Avenue S 62nd Avenue S	Multi-use Path Multi-use Path Multi-use Path	No existing Bike-Ped facilities on S Columbia from 40th Ave. S to 47th Ave. S.

DeMers Avenue Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	N 42nd Street English Coulee S 30th Street S 42nd St	Multi-use Pat Multi-use Path Multi-use Path Multi-use Pat	Active pedestrian and bicyclist North-South crossing at DeMers Ave. to & from Multi-use Path on N 42nd St. Intense pedestrian and bicycle East-West crossings at University Ave.
DeMers Avenue Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	S 14th St Greenway 5th Ave. S S Washington St.	Bike Route Multi-use Path Bike Route Multi-use Path	Downtown Neighborhood: Perceived user's discomfort when riding on street against (Ord. No. 3545, § 2, 9-18-95) 8-1104. - Riding on sidewalks in residential districts.
S 42nd Street Corridor	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	DeMers Avenue S 43rd Street Garden View Drive 11th Avenue S 17th Avenue S 24th Avenue S 32nd Avenue S	Multi- use Path Multi- use Path Multi- use Path Multi- use Path Multi- use Path Multi- use Path Multi- use Path	Network gap on S42nd St. from 24th Ave. S to 32nd Ave. S Network gap on S48th St. from DeMers Ave. to 17th Ave. S At-grade Rail crossing Network gap on S42nd St. from 6th Ave. N to University Ave.

School, College & University

University of North Dakota	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Gateway Drive	Multi- use Path	Heavy pedestrian activity on UND Campus. See Observations p. 32
	English Coulee	Multi- use Path	
	6th Avenue N connecting to Columbia Road	Multi- use Path	
	6th Avenue North connecting to 42nd Street	Existing ~~*Bike Route*~~*/Being converted into Multi-use Path*	
	N 42nd Street	Bike Lane	
	University Avenue (from Columbia Road to 42nd Street)	Bike Lane	
	University Avenue connecting to Columbia Road from the East	Sharrow	
	N Columbia	Multi-use Path	
	DeMers Ave	Multi-use Path	
	S 42nd St	Multi-use Path	
Grand Forks Area Center & Technology Center	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	S 20th Street	Multi-use Path Currently on street & sidewalk access.	Gaps in bicycle network facilities.

The University of North Dakota is one of the largest employers in the region. For about ten months every year, the presence of 14,951 students, 823 Academic and 2015 Administrative staff drastically transforms the Campus into a multi-modal transportation area. The UND Campus is an important neighborhood in the city.

Although the existing network provides ample access and connectivity, Notes for the University Ave. Traffic Study Steering Committee Meeting No.1 indicate that:[139]

- 25 driveways enter University Ave. between N. 42nd St. and Columbia Rd., presenting many conflict points with pedestrians

- Pedestrian crossings cause more congestion than does peak vehicle ADT without pedestrians:

    - Mid-day peak vehicular LOS is D, E, or F – coinciding with peak pedestrian activity.
    - Mid-day peak vehicle ADT is less than PM peak vehicle ADT.
    - PM peak vehicular LOS is C.

- That the biggest challenge for the corridor is the lack of pedestrian control on the corridor. It was discussed how difficult it would be to change this behavior and noted that ¼ of the student population is new every year.

Meeting Notes for the University Ave. Traffic Study Steering Committee Meeting No.2 indicate that:

- Pedestrian crossing data was collected at peak hours. In the heart of University Avenue, there were approximately 2000 crossings during the noon hour peak.

- Performance summary was discussed which was based on the level of service that each provide. Pedestrians – A; Transit – D; Bikes – C; Vehicles – E: due to delays associated with priority given to pedestrians.

- Pedestrians cross where they want and it is unpredictable, resulting in traffic grid lock during peak pedestrian movements.

- Safety is a high priority and the crash rate is well above commonly expected levels.

Part III: Existing Conditions illustrates the number of crashes involving pedestrian and bicyclist on the network; hence, prompting a closer look at the existing network conditions. On the east side, access to Campus through Stanford Rd is non-existing. Although access is possible through sidewalks and on-road, there is not a bicycle facility on this roadway.

[139] University Avenue Traffic Study (2018) AE_2S, JLG Architects, KLJ Engineering (*Meeting Notes*)

GRAND FORKS PUBLIC SCHOOLS, 2018				TOTAL TRIPS TO SCHOOL, 2015 PARENT'S SURVEYS				
				Morning Arrivals				
SCHOOL	STUDENT COUNT	STAFF COUNT	TOTAL BUILDING COUNT	Respondents	Total Trips	Bike to school %	Walk to School %	Family Vehicle %
Ben Franklin	342	66	408	66	64	28	3	63
Century	441	86	527	NA	NA	NA	NA	NA
Discovery	495	88	583	113	110	0.9	10	75
Kelly	473	73	546	57	56	13	9	73
Lake Agassiz	366	76	442	40	38	18	3	61
Lewis & Clark	184	50	234	34	31	16	3	81
Phoenix	203	63	266	39	38	21	8	68
Viking	306	70	376	17	17	5	1	10
West	93	52	145	21	21	0	1	19
Wilder	171	45	216	NA	NA	NA	NA	NA
Winship	214	48	262	NA	NA	NA	NA	NA
Schroeder	478	81	559	27	27	1	3	22
South	576	83	659	88	83	5	6	66
Valley	598	83	681	NA	NA	NA	NA	NA
TOTAL	4940	964	5904					

Provided by Grand Forks School District, 2018 Parent's Surveys, 2016

The safety of children walking or biking on their way to and from school is of significant importance for the local governments, MPO and related agencies and departments involved in the advancement of the Safe Routes to School program. Furthermore, a great deal of resources is invested in drivers, pedestrians and bicyclist's education and behavioral modification. Regularly, our MPO in partnership with the local Safe Kids and agencies supports the design and developments of studies and infrastructure construction to:

- Enable and encourage children, including those with disabilities, to walk and bicycle to school
- Make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging healthy and active lifestyle from an early age

For instance, the School Crossing Study (2000) was administered to "*determine school walk routes for elementary school students between home and school.*" A number of school walk routes were assessed for proper school crossing traffic control at approximately 32 intersections in the Grand Forks – East Grand Forks metropolitan area.[140]

[140] School Crossing Study 2000). Ulteig Engineers, Inc. p. 1

Grand Forks and East Grand Forks local governments and their related departments are making concerted efforts to address these conditions. A sample of school safety and infrastructure construction activities programmed in the MPO's Transportation Improvement Plan (TIP) for Fiscal Years 2019 – 2022 include:

- Grand Forks will be using HSIP funds to replace all school cross walk beacons throughout the City.
- East Grand Forks will be installing a sidewalk and crosswalk to provide a facility for students to get to and from S. Pointe Elementary School construct a safe routes to school sidewalk 20thh Ave SE
- A project involving the replacement of school crossing beacons, some of which will be beneficial to EJ neighborhoods.

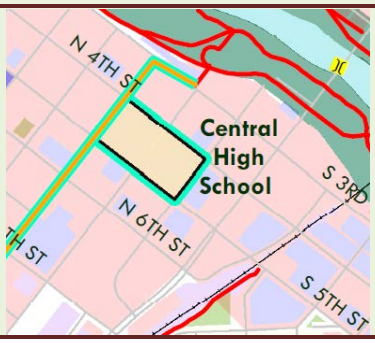
Although other studies have been completed, this analysis is based on the Parent's Surveys administered by Safe Kids Grand Forks in cooperation with the School District Administration.

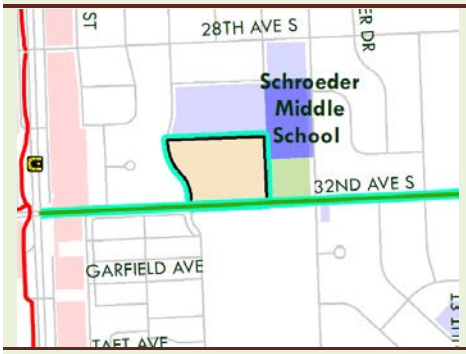
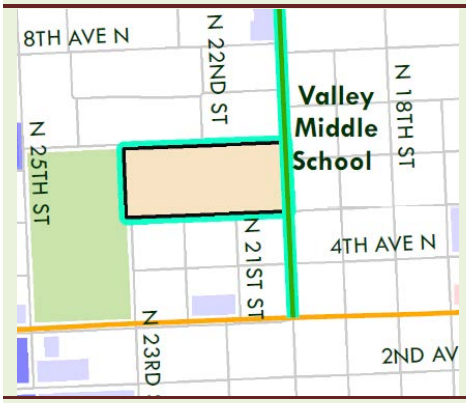
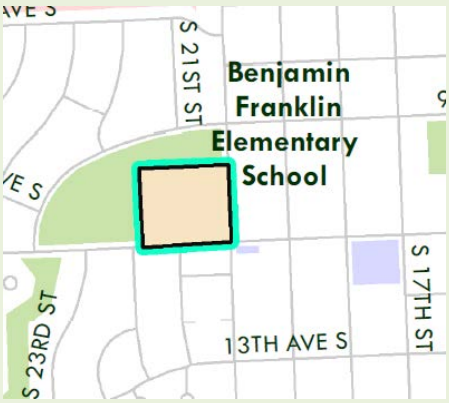
According to the Parent's Surveys, comments by respondents concerning pedestrian (directness, continuity and street crossings) and bicyclist needs (cohesion, directness, and accessibility) are included in Part III: Existing Conditions.

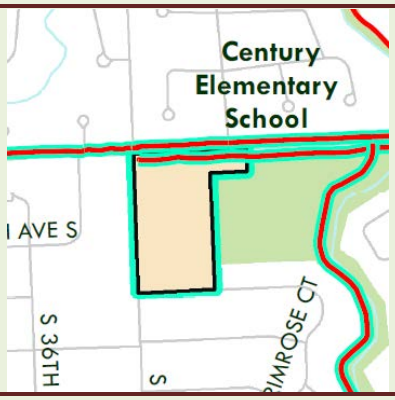
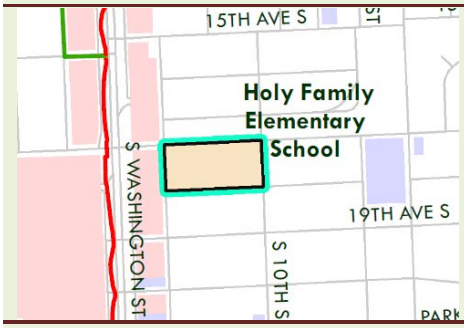
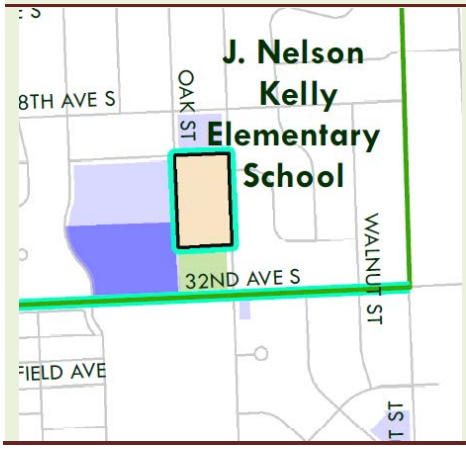
In general, the issues reported to affect the decision *to allow a child to walk or bike to/from school* by parents of children who already walk or bike to/from school included amount of traffic along the route, and safety of intersections and crossings.

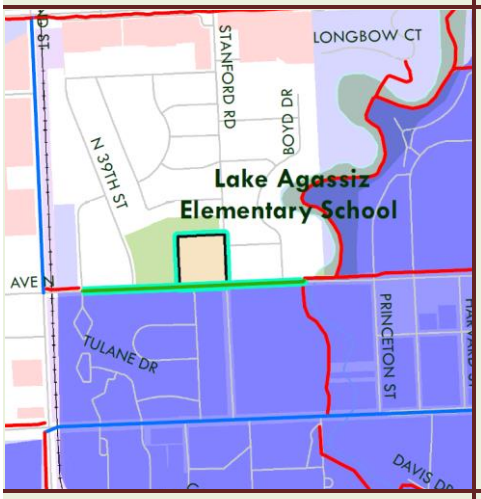
Issues reported to affect the decision to *not allow a child to walk or bike to/from school* by parents of children who do not walk or bike to/from school included amount of traffic on the route, distance, speed of traffic, safety at intersections and crossings.

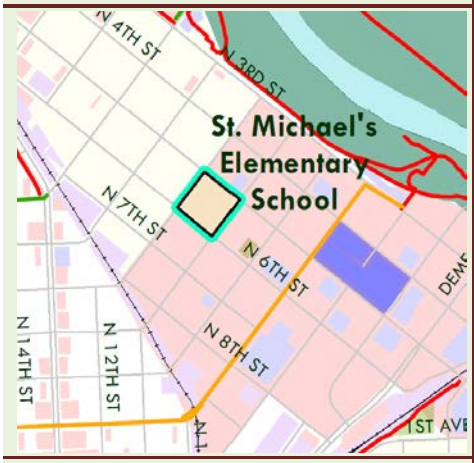
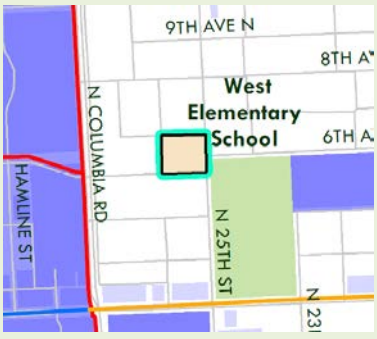
School, College & University

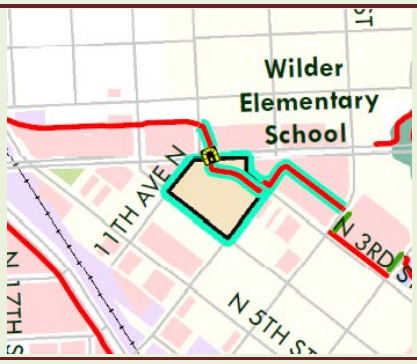
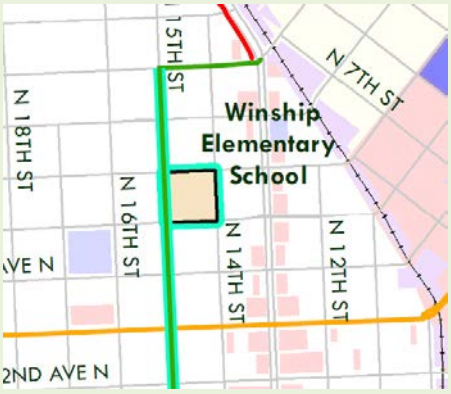
Grand Forks Central High School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	University Ave	Sharrow	Currently on street & sidewalk access.

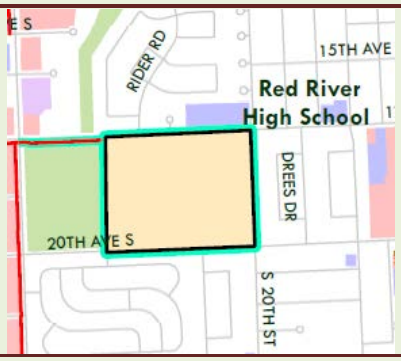
Elroy Schroeder Middle School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	32nd Avenue S	Bike Route	478 stud81 staff, 2018 See Appendix: Safe Routes to Schools-Parent's Surveys, Selected Comments, 2015
Valley Middle School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	N 20th Street	Bike Route	598 stud83 staff, 2018 See Appendix: Safe Routes to Schools-Parent's Surveys, Selected Comments, 2015
Ben Franklin Elementary School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	342 stud 66 staff, 2018 Gaps in bicycle network facilities. Lack of direct designated bicycle access to school, park and institutional facilities. See Appendix: Safe Routes to Schools-Parent's Surveys, Selected Comments, 2016

Century Elementary School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	English Coulee 17th Avenue S	Multi- use Path Multi- use Path	441 stud 86 staff, 2018
Holy Family Elementary School	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Currently on street access.	Currently sidewalk access.	Gaps in bicycle network facilities. Lack of direct designated bicycle access to school, park and institutional facilities.
J. Nelson Kelly Elementary School	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	32nd Avenue S	Bike Route	473 stud73 staff, 2018 See Appendix: Safe Routes to Schools-Parent's Surveys, Selected Comments, 2016

Lake Agassiz Elementary School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	6th Avenue N	Bike Route	366 stud76 staff, 2018 Rail crossings at Safe Routes to School at Lake Agassiz Elementary. Potential removal rail tracks at N 36th. Sidewalk construction at N42nd St. N36th St. U.S 2. Bike Route being converted into Multi-use Path See Appendix: Safe Routes to Schools-Parent's Surveys, Selected Comments, 2016
Lewis and Clark Elementary School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	184 stud50 staff, 2018 Gaps in bicycle network facilities. Lack of direct designated bicycle access to school, park and institutional facilities. See Appendix: Safe Routes to Schools-Parent's Surveys, Selected Comments, 2016
Phoenix Elementary School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	5th Avenue S Chestnut St	Bike Route Bike Route	203 stud 63 staff, 2018 Bike Route Signs on 4th Ave. S. Confusing location/direction of Sign See Appendix: Safe Routes to Schools-Parent's Surveys, Selected Comments, 2016-2017

St. Michael's Elementary School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	University Avenue Currently on street access	Sharrow Currently sidewalk access.	Planned Sharrow Facilities on N5th Street for 2020 Rail crossings on Safe Routes to school at 2nd Ave. N; University Ave; Public Alley (Possible Closure); 4th Ave. N; 5th Ave. N at N 8th St.; 6th Ave. N.; 7th Ave. N (Possible Closure 2019-25) Railway crossings on Safe Route to School
Viking Elementary School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Gaps in bicycle network facilities. Lack of direct designated bicycle access to school, park and institutional facilities. See Appendix: Safe Routes to Schools-Parent's Surveys, Selected Comments, 2016-2017
West Elementary School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Gaps in bicycle network facilities. Lack of direct designated bicycle access to school, park and institutional facilities. See Appendix: Safe Routes to Schools-Parent's Surveys, Selected Comments, 2016

Wilder Elementary School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	N 3rd Street Gateway Drive Alley E of N 3rd St	Multi- use Path Multi- use Path Multi-use Path	171 stud45 staff, 2018 Rail crossings on Safe Routes to school at 2nd Ave. N; University Ave; Public Alley (Possible Closure); 4th Ave. N; 5th Ave. N at N 8th St.; 6th Ave. N.; 7th Ave. N (Possible Closure 2019-25) Railway crossings on Safe Route to School
Winship Elementary School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	N 15th St	Bike Route	214 stud48 staff, 2018 Currently on street & sidewalk access. Rail crossings on Safe Routes to school at 2nd Ave. N; University Ave; Public Alley (Possible Closure); 4th Ave. N; 5th Ave. N at N 8th St.; 6th Ave. N.; 7th Ave. N (Possible Closure 2019-25) Railway crossings on Safe Route to School
Discovery Elementary School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	S34th St. S33th St. 43rd Ave. S	Multi-use Path Multi-use Path Multi-use Path	495 stud 88 staff, 2018 Currently on street & sidewalk access. S. Columbia Rd Crossing. Network gap S Columbia 40th Ave S-47th Ave. S See Appendix: Safe Routes to Schools-Parent's Surveys, Selected Comments, 2015-2017

Red River High School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Columbia Road 17th Avenue S	Multi- use Path Multi- use Path	Funded TA Application for Multi-Use Path on 17th Ave. S from S 20th St. to S 25th St.
South Middle School	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	S20th St. S16th St. 47th Ave. S	Multi-use Path Multi-use Path Multi-use Path	576 stud83 staff, 2018 S20th St. S16th St. 47th Ave. S Currently on street & sidewalk access. See Appendix: Safe Routes to Schools-Parent's Surveys, Selected Comments, 2015-2017
Grand Forks Public Library	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Currently on street access.	Currently sidewalk access.	Gaps in bicycle network facilities. Lack of direct designated bicycle access to institutional facilities.

Parks & Recreation

Parks, open space and recreational facilities are important anchors in community life. They play a social role within our communities and provide a sense of pride and neighborhood cohesion. Parks provide opportunities for active living, and help to reduce stress, tension and mental fatigue. People get together to strengthen community ties; spend time on their own; participate in organized sport; events, picnics and social gatherings. The social and health related functions of parks are undeniable.

The Grand Forks Parks District is the Authority responsible for the management and operation of 3 Mini-Parks, 16 Neighborhood Parks, 3 School Parks, 12 Community Parks, and 5 Large Urban Parks. These facilities comprise 33 Picnic Areas, 29 Playgrounds, 40 Baseball And Softball, 34 Soccer Fields, 30 Tennis Courts, 12 Ice-Skating, 2 Outdoor Pools, and 3 Splash Pads. Some of the parks offer Multi-Use Paths and/or provide access to the Greenway Trail System. According to Grand Forks Parks District, participation to golf rounds and attendance to parks whether as a registered user or by permit event is listed below:

Golf Courses & All Ice Arenas Estimated Attendance / Users, 2017[141]

King's Walk Golf Course	Lincoln Golf Course	Choice Health & Fitness	All Ice Arenas
26,762 Rounds Annually	19,404 Rounds Annually	960,000 users Annually (Roughly 80,000 visits a month)	400,000 Users Annually

ACTIVITY PROGRAM USERS REGISTERED

Parks-Users Registered	Registered Permit Event Users in the Parks
3,979	74,064

Provided by Grand Forks Parks District (2018)

The number of residents actively participating in park-related activities is impressive. In Grand Forks, 80% of the population or approximately 46,570 residents have walkable access to Neighborhood or a Community Park within ½ Miles radius from home. There are approximately 23,829 households in Grand Forks. (U.S. Census 2012-2016). According to a city-wide survey (*N=502*) conducted by the Grand Forks Parks District in 2015 to support the development of the Grand Forks Strategic Master Plan:

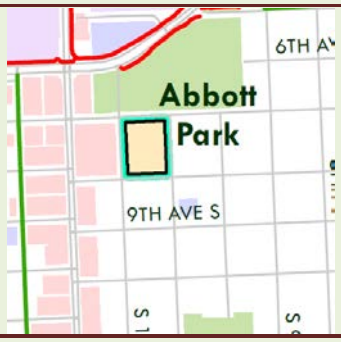
- 70% or 19,247 represented households indicated a need for parks & recreational facilities (p.17)
- Improve signage to improve access to point to the parks

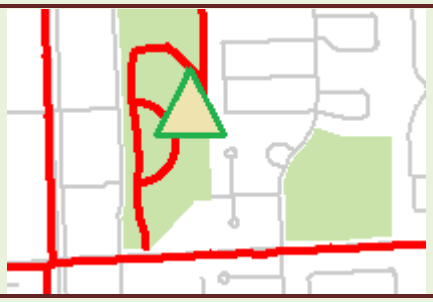
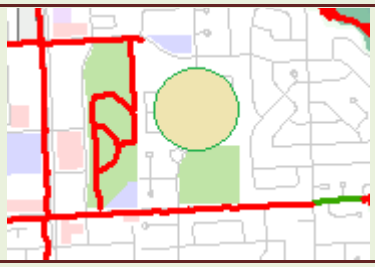
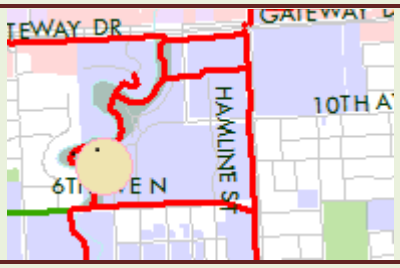
Active participation and regular attendance to these activities requires the existence of a well-connected sidewalk network and on-road bicycle facilities to satisfy residents' mobility needs.

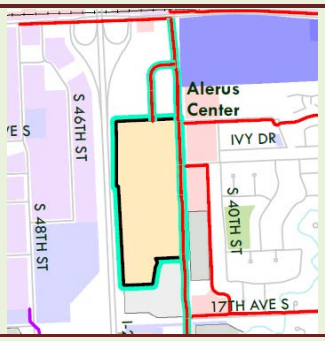
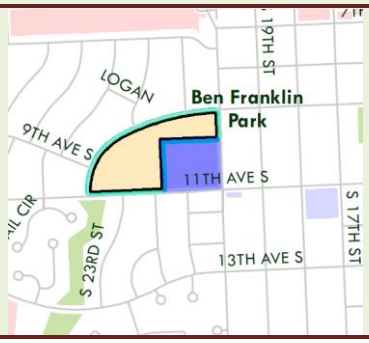
[141] Figures provided by Grand Forks Parks District (2018). (Park Usage is very hard to determine. In a community survey taken in 2015, 90% of the Grand Forks residents surveyed said they used our parks and facilities on a frequent basis. More info here - http://www.gfparks.org/documents/GFPD%20Master%20Plan_Complete_2016.pdf

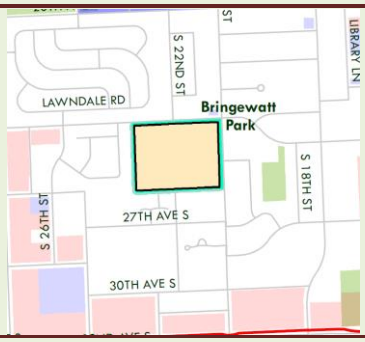
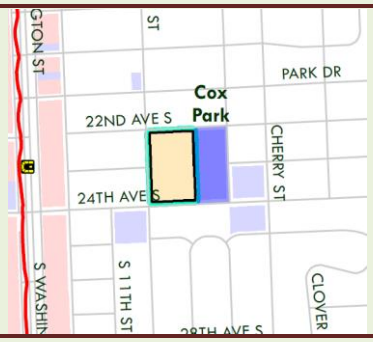
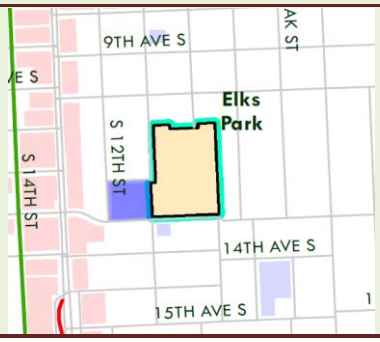
GRAND FORKS PARKS: ADJACENT LAND USES, STREET CLASSIFICATION & PEDESTRIAN CONNECTIVITY

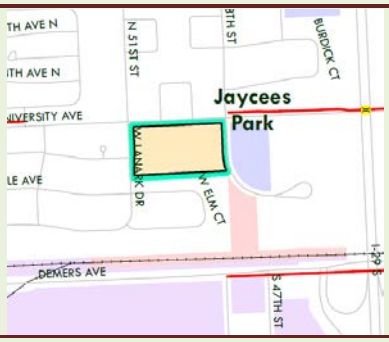
				ADJACENT LAND USES					ADJACENT STREET CLASSIFICATION				PEDESTRIAN CONNECTIVITY		
CLASSIFICATION	SERVICE AREA	POPULATION SERVED	FACILITY	RESIDENTIAL	COMMERCIAL/OFFICE	INSTITUTIONAL	INDUSTRIAL	OPEN SPACE	ARTERIAL	COLLECTOR	LOCAL	ALLEY	SIDEWALK	LOCAL TRAIL	REGIONAL TRAIL
MINI-PARK (2.24 Acress)	.25 Mile	1174	Half-Circle	X							X	X	X		
		1164	Independence	X		X		X	X	X	X		X		
		1865	Midtown Park	X		X					X		X		
		4203													
NEIGHBORHOOD PARK (121.90 Acress)	.25 -.50 Mile	3680	Abbot Complex	X	X			X		X	X		X		
		4015	Ben Franklin Park	X		X					X		X		
		4473	Cox Park	X		X	X				X		X		
		5741	Exchange Club Park	X			X				X		X		
		2673	Jaycees Park	X		X				X	X		X		
		2423	Kannowski Park	X			X	X			X		X	X	X
		4938	Kelly Park	X			X			X	X		X		
		661	Kiwanis Park (North/South)	X				X			X		X		
		3220	Lincoln Drive Complex	X				X	X	X	X		X		X
		1712	Masonic Park	X						X	X				
		1414	Prime Steel Park	X						X	X		X		
		2795	Richard West Park	X			X				X		X		
		312	Ryan Lake Park	X	X	X					X			X	
		5541	Symington Park	X							X		X		
		4029	Williamson Park	X		X		X	X		X	X	X		
		3002	Willmar Park	X					X				X		
		50629													
COMMUNITY PARK (458.70 ACRESS)	1-3 Miles	10387	Altru Wellness Village	X	X			X	X	X			X		
		22188	Apollo-Kraft Athletic	X	X	X			X	X			X		
		23840	Bringewatt	X					X	X	X		X		
		13293	Elks/Park & Pool	X		X					X		X		
		9931	Lincoln Drive Park	X				X		X	X		X	X	X
		10998	lions Park/Veteran Memorial Park	X		X					X		X		
		8458	Optimist Park	X						X	X		X		
		10916	Riverside Park/Pool	X				X			X		X	X	X
		16223	Sertoma	X				X	X				X	X	
		12054	Sheels Sports Complex	X		X					X				
		5007	Ulland Complex	X		X		X	X		X		X	X	
		19872	University Park	X		X		X			X		X		
		163167													
		217999	Grand Forks Strategic Master Plan 2016-2021, Heller & Heller Consulting (2016)												

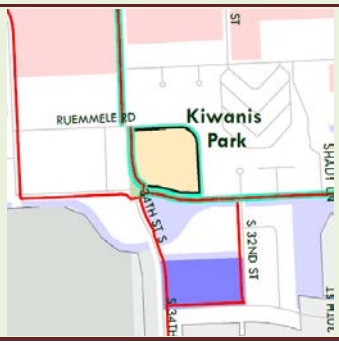
Abbot Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street & sidewalk access.	Currently on street & sidewalk access.	Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Apollo Complex/Kraft Field Eagles & Blue Line Club Arena	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Columbia Road 17th Avenue S	Multi- use Path Multi- use Path	Funded TA Application for Multi-Use Path on 17th Ave. from S 20th St. to S 25th St. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Scheels Sport Complex	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Multi-use Path Multi-use Path Multi-use Path	S20th Street 40th Ave. S 47th Ave. S	Currently on street & sidewalk access. Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity

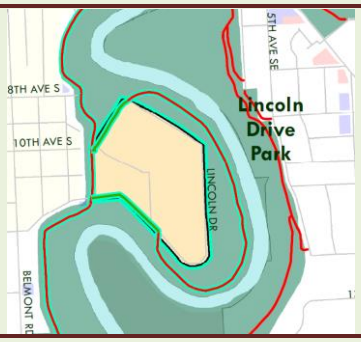
Choice Health & Fitness	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	S 11th St. S Washington St. 40th Ave. S 47th Ave. S	Multi-use Path Multi-use Path Multi-use Path Multi-use Path	Currently on street & sidewalk access.
ICON Sports Center	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	S 11th St. S Washington St. 40th Ave. S 47th Ave. S	Multi-use Path Multi-use Path Multi-use Path Multi-use Path	Currently on street & sidewalk access. Southern Estates Park
UND Wellness Center Courts	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Multi-use Path Multi-use Path	Fitness Trail English Coulee	Currently on street & sidewalk access.
Half Circle Park (Fido Purpur & Ganbucci Arenas)	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	DeMers Ave. S 5th Street	Multi-use Path Bike Route	Mini-park Currently on street & sidewalk access. Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity.

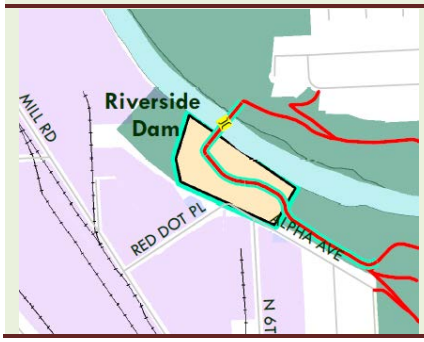
King's Walk Golf Course	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Through Ryan Park Through Ulland Park Along S. Columbia Along 62nd Ave. S	Multi-use Path Multi-use Path Multi-use Path Multi-use Path	Gaps in bicycle and pedestrian network facilities.
Alerus Center	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	S 42nd Street 7th Ave S 11th Ave S	Multi- use Path Multi-use Path Multi-use Path	Currently on street & sidewalk access.
Ben Franklin Park (Hakke Strip Park)	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Neighborhood Park Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity

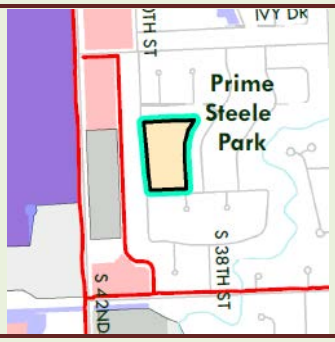
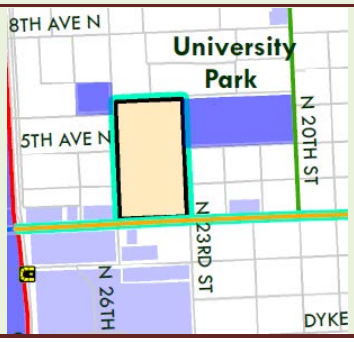
Bringewatt Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Community Park Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Cox Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Neighborhood Park Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Elks Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Neighborhood Park Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity

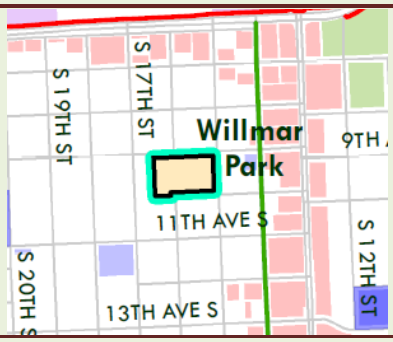
Independence Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
			Mini-Park
	DeMers Avenue 5th Avenue S	Multi-use Path Multi-use Path	Currently on street & sidewalk access. Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Jaycees Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Neighborhood Park Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Riverside Park & Pool	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Red River	Multi- use Path	Community Park Currently on street & sidewalk access. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity

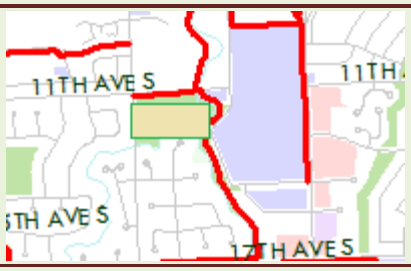
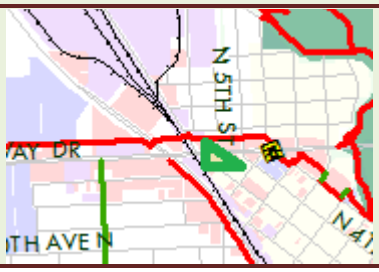
Kannowski Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Red River Greenway Trail	Multi-use Path Multi-use Path	Neighborhood Park Currently on street & sidewalk access. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Kelly Park	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	32nd Avenue S	Bike Route	Neighborhood Park Currently on street & sidewalk access. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
South Kiwanis Park	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	40th Avenue S S 34th Street	Multi-use Path Multi- use Path	Neighborhood Park See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity

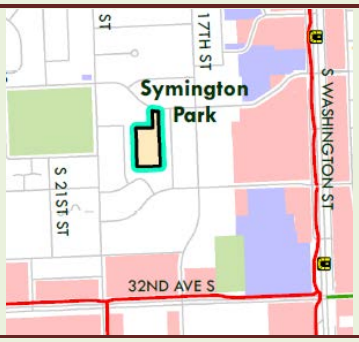
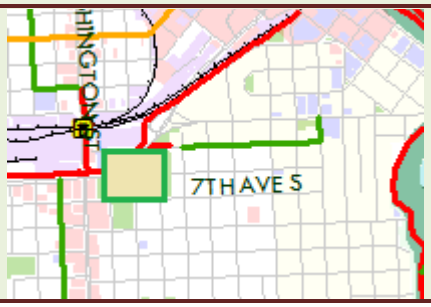
Exchange Club Park (Lake Agassiz Park)	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	6th Avenue N	Bike Route	Neighborhood Park See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Lincoln Drive Complex Park (Lincoln Dog Park) (Lincoln Golf Course)	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Red River Greenway Trail Lincoln Drive Lanark Ave	Multi- use Path Multi- use Path Bike Route Bike Route	Community Park See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Lions /Veterans Memorial Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	English Coulee 17th Avenue S 24th Ave S S 34th St	Multi- use Path Multi- use Path Multi-use Path Multi-use Path	Community Park See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity

Midtown Park/ Smiley Playground	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Mini-Park Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Optimist Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	47th Avenue S	Multi- use Path	Community Park Currently on street & sidewalk access. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Riverside Dam (The Greenway)	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Greenway Trail	Multi-use Path	Currently on street & sidewalk access

Prime Steele Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Community Park Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Richard West Park	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Currently on street access.	Currently sidewalk access.	Neighborhood Park Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
University Park	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	University Avenue N20th Street	Sharrow Bike Route	Community Park Currently on street & sidewalk access. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity. See p. 18 Roads Exempt from sidewalks.

Willmar Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Neighborhood Park Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
St. Mary's Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access	Currently sidewalk access	Historic Landmark Currently on street & sidewalk access. Gaps in bicycle network facilities.
Southern States (Ulland Park Softball Complex)	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	S20th St. S16th St. 47th Ave. S 49th Ave. S	Multi-use Path Multi-use Path Multi-use Path Multi-use Path	Community Park Currently on street & sidewalk access. Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity.

Ryan Lake Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Multi-use Path Multi-use Path Multi-use Path	47th Ave. S S20th Street Drainway	Neighborhood Park Currently on street & sidewalk access. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity.
Sertoma Park/ Japanese Gardens	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Sharrow Multi-use Path Multi-use Path	11th Ave S 11th Ave S English Coulee	Community Park Currently on street & sidewalk access. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity.
Masonic Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Multi-use Park Multi-use Park	S 20th Street 40th Ave. S	Neighborhood Park Currently on street & sidewalk access. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Skidmore Park (Floral Garden)	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Multi-use Path	North of Gateway Currently on street & sidewalk access.	Historic Landmark Rail crossing at Gateway at S 5th Street

Symington Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street	Currently sidewalk access.	Neighborhood Park Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity
Williamson Park	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	DeMers Ave Bike Route	Multi-use Path 5th Ave S.	Neighborhood Park Currently on street & sidewalk access. Gaps in bicycle network facilities. See p. 243 for Population Served, Adjacent Street Classification and Pedestrian Connectivity

Grand Forks District Parks


Sertoma Park


Haake Strip Park


Optimist Park


Independence Park


Kelly Park

Photos: © Grand Forks Parks District

East Grand Forks

Chapter 151 Subdivision Regulation, Section 151.106b provides guidelines concerning the construction of sidewalks in East Grand Forks. The Chapter was amended in 2010 to outline the requirements for the construction of sidewalks in residential, industrial and commercial districts in the City. In East Grand Forks, sidewalks must be installed in both sides of the street and build in compliance with the American Disabilities Act (ADA) (1990).

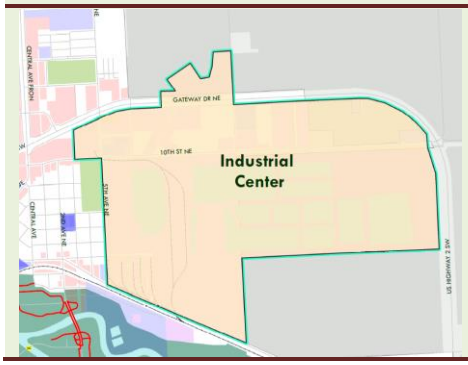
Prior to the amendment in 2010, about eight years ago, East Grand Forks had been without sidewalks in some areas of the city. A newspaper article indicated that "*The city doesn't have sidewalks north of 20th Street North nor south of Eighth Street South. Although that means only a few sidewalk-free blocks on the north end, it's the majority of the south end -- the Point -- where most post-flood building has occurred*." It appears safety concerns and privacy deprived residents from enjoying the benefits of an established sidewalk network. The article indicated that "*Some sidewalk-free neighborhoods have wider streets to accommodate walkers, bicyclists and skate-boarders*."[142]

As a result of past urban development policy decisions, it had been difficult to build a compact sidewalk network in East Grand Fort. However, as the Local government approves new urban development subdivisions in vital areas of the city, construction of sidewalks –in compliance with ADA standards- moves along for the benefit of those in the community.

A sidewalk is under construction along 17th Avenue SE and 13th Street SE in East Grand Forks last week.
Grand Forks Herald photo by Sarah Kolberg. (June 12, 2010)

[142] Bakken, Ryan (June 12, 2010) With New Urbanism, sidewalks come back in style in EGF, other cities. Grand Forks Herald

Industrial

East Grand Forks Industrial Area	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently access on periphery roads. No internal connections. Gaps in bicycle network facilities.	Currently No internal sidewalk access. Gaps in bicycle network facilities.	Gaps in bicycle network facilities.

School & College

East Grand Forks District Schools: Students & Staff, 2018 (Provided by East Grand Forks School District), August 17, 2018		
New Heights Elementary	470	50
South Point Elementary	470	80
Central Middle School (also houses preschool)	550	70
Senior High	596	NA

There are other schools in East Grand Forks functioning independently outside the jurisdiction of the East Grand Forks School District. The MPO has been in conversation with Safe Kids Grand Forks to administer Parent's Surveys and Student's Tallies for the East Grand Forks Schools in 2018-2019. Survey results provide an idea about the number of students allowed by parents to walk and bike to school.

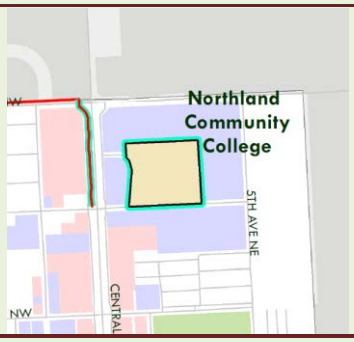
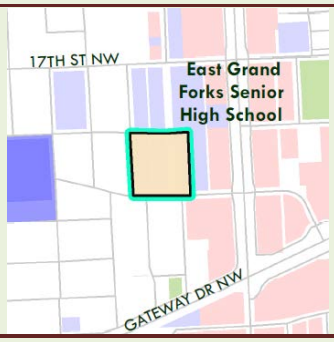
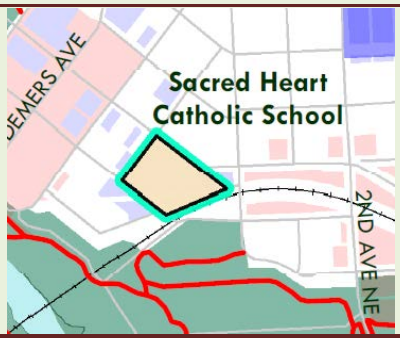
Elementary, Middle and Senior High Schools in East Grand Forks

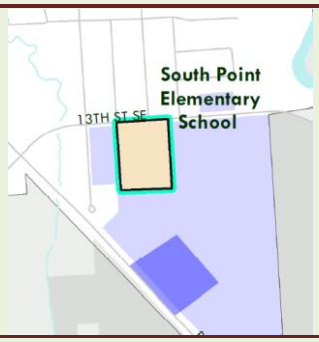
South Point Elementary

Central Middle School

EGF Senior High School

Photos: © East Grand Forks School District

Northland Community College	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Central Avenue	Multi- use Path	Planned Multi-use Path From on Central Ave. from 20th St. NE to Gateway Drive.
East Grand Forks Senior High School	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Currently on street access.	Currently sidewalk access.	Gaps in bicycle network facilities.
Sacred Heart Catholic School	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Currently on street access.	Currently sidewalk access.	Gaps in bicycle network facilities. Existing railway crossing.

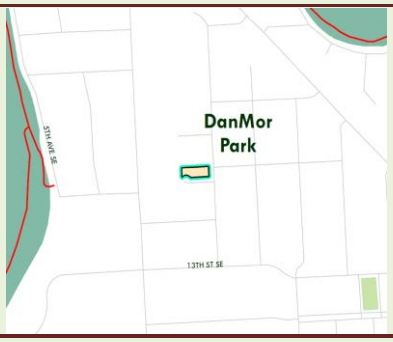
Central Middle School	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Planned Sidewalk Construction on the South Side of 13th St SE and the East Side of 20th Ave SE.
South Point Elementary School	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Currently on street access.	Currently sidewalk access.	Planned Sidewalk Construction on the South Side of 13th St SE and the East Side of 20th Ave SE.
New Heights Elementary School	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Currently on street access.	Currently sidewalk access.	Gaps in bicycle network facilities.

Parks & Recreation

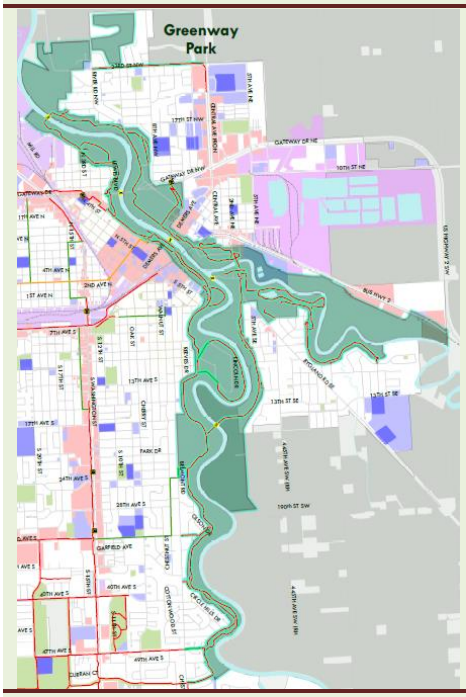
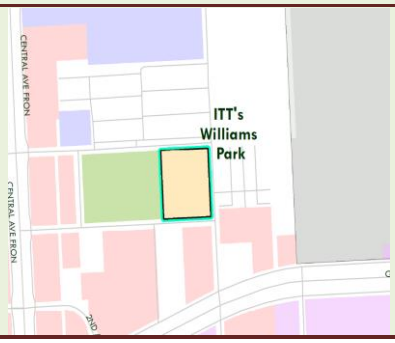
Parks in East Grand Forks are considered Open Spaces; thus, there are not counts on attendance. The information below was graciously provided by East Grand Forks Parks Department. It includes the numbers of registered participants, and number of pool users.

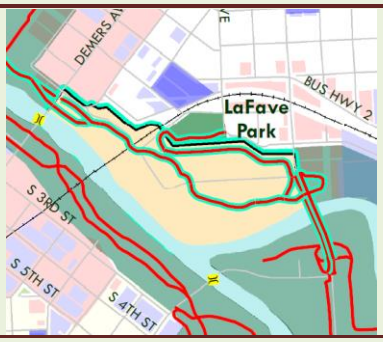
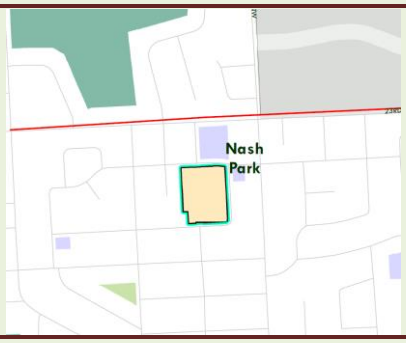
East Grand Forks Park District, Event Attendance, 2017		
Campground Statistics (2017 Season)	10,930 Sites Rented	26,194 Overnight campers
Park Shelter Reservations (To date; as of 8/17/2018)	68 Reservations	

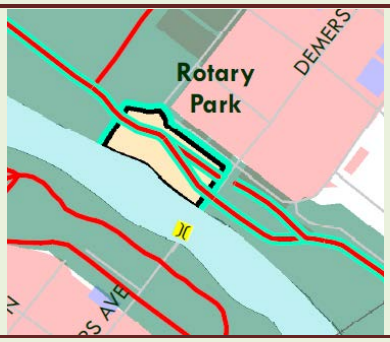
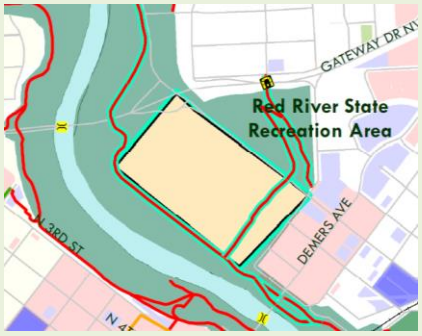
Participation, 2017			
Youth Baseball	337	Youth Softball	125
Playground	67	Tennis	70
Swimming Pool-Attendance	14,452		

DanMor Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Gaps in bicycle network facilities.
Folson Park	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Greenway Trail		Planned Bike Lane from on Central Ave. from Gateway to College

Griggs Park Trailhead	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Greenway Trail	Multi-use Path	Currently on street & sidewalk access.
Harney Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Gaps in bicycle network facilities.
Hecht Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Currently on street access.	Currently sidewalk access.	Gaps in bicycle network facilities.

The Greenway Trail System East Grand Forks	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	23rd St. NW 20th St. NW Currently on street access.	Multi- use Path On-street access Currently sidewalk access.	Please refer to Part II: *Barriers, Impediments and Obstacles to Pedestrian and Bicycling Activities* for more information on Access to The Greenway.
ITT's Williams Park	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Currently on street access.	Currently sidewalk access.	Programmed Bike Lane Facility on 17st NE from River Road to 5th Ave. NE

LaFave Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Greenway Trail	Multi-use Path	Currently on street & sidewalk access.
Nash Park	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Currently on street access.	Currently sidewalk access.	In close proximity to existing Multi-use Path on 23rd St. NW. Currently on street & sidewalk access.
O'Leary Park	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Greenway Trail	Multi-use Path	Currently on street & sidewalk access.

Rotary Park	Most Direct Bicycle Access to Existing Attractors & Generators, 2018	Designated Pedestrian-Bicycle Network Facility Type	Observations
	Red River Greenway Trail	Multi- use Path Multi-use Path	Currently on street & sidewalk access.
Red River State Recreation Area (Sherlock Park Campground)	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Greenway Trail	Multi-use Path	Currently on street & sidewalk access.
Sherlock Park	**Most Direct Bicycle Access to Existing Attractors & Generators, 2018**	**Designated Pedestrian-Bicycle Network Facility Type**	**Observations**
	Greenway Trail	Multi-use Path	Currently on street & sidewalk access.

Access to most parks in East Grand Forks is through local roads and sidewalks. Access to parks located in or in proximity to the Greenway Trail System is also provided through multi-use path facilities. In East Grand Forks, most parks are in a walkable radius from residential developments.

However, the fact that for many years it was not required to build sidewalks in certain developments in East Grand Forks, could have potentially contributed to the creation of gaps (*discontinuances*) and breaks in the sidewalk network. It is thus possible that an evaluation of the sidewalk network condition could be attained by advancing monitoring Activities proposed in Part I to assess the completeness of the bicycle system and pedestrian network.

Observations

Both Local Governments and stakeholders continue making efforts to facilitate access to and connectivity between destinations. Their aim is to provide for a complete bicycle and pedestrian network. Their efforts are commendable, particularly, in view that the construction of a complete bicycle and pedestrian network is still a "*work in progress."*

Minnesota's and North Dakota's State laws allow for bicycles on the road. Existing multi-use path facilities provide abundant access to important corridors. However, on-road access to a number of destinations in adjacent corridors is still unavailable, scarce or incomplete. Sidewalk accessibility to residential, commercial and other institutional destination land uses in proximity is still in need of dedicated pedestrian facilities.

Quality of Service is an important factor for pedestrian and bicycle user's. Quality of Service factors incorporate measures like comfort, safety, and ease of mobility. Quality of Service measures could help determine areas where bicycle and pedestrian levels of service are insufficient and help to identify possible safety problems.

The advancement of a *Walkability and Bikeability Checklist* is proposed in Part I, as part of the proposed Monitoring Activities. One of the objectives is to assess the completeness of the system. Another objective is to assess the factors considered by users that may contribute to enhance or deteriorate their perceived physical and personal safety. These include lack of sidewalks, network discontinuances, traffic safety assessment, and traffic volumes and speed evaluations.

An examination of some of the segments exempted from sidewalk construction according the Grand Forks City Code of Ordinances Chapter XVI –Streets and Sidewalks, suggests that physical gaps still exist in the pedestrian network. Most of the exempted roadways and corridors are in the core area of the City of Grand Forks. For instance, there are not sidewalks on the perimeter of the Montefiore Cemetery facing on North Columbia Road. Similarly, on the portion of the Montefiori Cemetery abutting on Gateway Drive, the existing sidewalk is too narrow. In addition, on the northern side of Gateway Drive from N 1st Street to Washington Street the existing sidewalk is very irregular and narrow.

The Grand Forks City Code of Ordinances Chapter XVI –Streets and Sidewalks, is over 20 years old. Many changes have occurred in the City since its adoption. For instance, a general planning focus on choice could have directed local residents towards new transportation needs. The planning approach on choice could have nurtured resident's desires to actively explore other areas of the city. It is suggested that the list of exempt roads must be reviewed and updated. Their presence fosters continuity of gaps, causes discontinuous paths, and continues the lack of sidewalks in places that haven't been required to have sidewalks in the past, such as in industrial areas or abutting rail lines. Exempt roads are very old facilities; they demand an attentive look to determine whether existing pedestrian facilities such as curb ramps, signals and cross-walks facilitate compliance with current ADA requirements.

Concerning access to neighborhood parks, the assessment reveals that parks in Grand Forks and East Grand Forks offer a multitude of amenities. Local parks are very well attended. As a result, parks attract visitors and generate many trips to and from the facilities.

Currently, there is sidewalk and on street access to most of the neighborhood and community parks. However, access to some facilities through designated bicycle facilities is still missing. Although

access to most parks is through local arterials, collectors and local roads; sidewalks still play a key accessibility role. Multi-use paths "*effectively tie park system components together to form a continuous park environment*."[143]

The Grand Forks Park District Master Plan (2016) indicates that *Neighborhood Parks* are located in a 0.5 to 1 Mile radius. They are the basic unit of the system and serve active and passive recreational community needs for about 50,629 (91.31%) of residents. *Community Parks* are located at about 1 to 3 Mile radius. They serve community wide recreation needs general athletics. These community facilities serve as gathering places for about 163,167 residents. Community Parks serve broader recreational needs, preserve landscape and open spaces.

Community Parks are "*viewed as destinations and typically require travel by automobile for programmed recreation*." Users may have to travel on arterial and collector roads which may lack sidewalks for pedestrians.

Some roads may reflect high traffic volumes and high speed traffic. Pavement conditions and the presence of heavy vehicles for bicyclist, could potentially curtail traveling options to interested residents.

Lincoln Park along Belmont (Lincoln Drive to Elks Drive) is exempt from sidewalks. Although exempt from sidewalks, funding was granted in June, 2018 for the construction of a Multi-use Path on 17th Ave. S from S 20th Street to S 25th Street (Apollo Park). The intersection between the number of users attending park-related events, connectivity and accessibility, whether as active or motorized, deserves further attention. It appears that there is a great opportunity to shift a number of short distance motorized trips onto pedestrian and bicycle modes.

Regarding access to schools, Safe Routes to Schools indicates that "*the connectivity of various bicycle and pedestrian facilities directly impacts the ability to walk or bicycle to school*." Selected comments on Parent's Surveys conducted in 2016 call attention to the existing of dangerous intersections, need for pedestrian crossings, need to design streets with pedestrians in mind.

This assessment of the bicycle and pedestrian network has been advanced to develop opportunities to enhance the existing pedestrian and bicycle infrastructure. The objective is to improve on its ability to address the unique mobility, access, and connectivity needs. The analysis accounts for experiences of bicyclists and pedestrians and other non-motorized users in local neighborhoods and communities.

The initial "*gap*" analysis reveals that:

- The provision of sidewalks and bicycle and pedestrian facilities by Local and State Governments is part of livability efforts to integrate housing, shops, work places, schools, parks, libraries, cultural arts venues, and civic facilities essential to the daily life of the residents.

- There are still areas in the industrial and commercial land use corridors lacking connectivity through sidewalks and designated bicycle facilities.

[143] Heller & Heller Consulting (2016) Grand Forks Park District Strategic Master Plan 2016-2021. p. 26

- The list of exempted roadways in Grand Forks must be reviewed and updated. The list fosters permanency of sidewalk gaps, causes discontinuous paths, and stifles sidewalk continuity in places that haven't been required to have sidewalks in the past, such as in industrial areas.

- Some sidewalk segments in various locations are in poor condition or are inexistent. Some respondents to our *Community Survey* indicated that they "*find the quality of bike lanes and sidewalks unpleasant*." Some respondents indicated lack of sidewalks, and sidewalks in poor condition as reasons not to walk.

- Some familiar intersections in both cities are still difficult to cross. Examples provided by residents responding to our Community Survey include the following intersections:

  N 55th St to cross the rail road tracks at De Mers Ave

  4th Avenue at Reeves, Belmont, and heading west needs better bike route and street crossing safety and Washington and University.

  Regarding walking around Grand Forks - motorist just do not stop for pedestrians in cross walks. Perhaps more education needs to be done.

  Walking experience is pretty okay. Intersections need improvement; a few additional sidewalks could be added. Walking is mostly limited by weather and distance.

- On some roadways, existing sidewalks are too narrow or torn up. For instance, sidewalks on the northern side of Gateway Drive from the Kennedy Bridge to Washington Street; and sidewalks around the perimeter of the Montefiore Cemetery abutting Gateway Drive are narrow and in perceived poor quality. Although University Park is exempt from sidewalks, a closer look indicates a sidewalk on the perimeter has been built through the years. This is an important access and connectivity factor given the proximity of two schools to the park: Valley Middle School and West Elementary School.

A complete bicycle and pedestrian network will assists users in ensuring their mobility; thus, enhancing their well-being and quality of life. In addition, system completion will foster connections between destinations and facilities by supporting active modes of transportation.

Part V discusses the steps suggested to accommodate proposed on-road bicycle facilities. Part V also provides an opportunity to understand the meaning, impact and implications of "*gaps*" on the existing pedestrian and bicycle network.

Pedestrian and Bicycle Network access to and connections around Schools & Parks are vital.
Photo: © Safe Kids Grand Forks, 2017

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PART V:

Project Prioritization & Financial Factors

B. Appraised Bike Facilities Projects: Costs, Length, Term & Type

1. Costs Elements
2. Bicycle & Pedestrian Initiatives
3. Understanding Gaps in the Pedestrian & Bicycle Network

C. Suggested Project Evaluation Criteria

1. Ranking & Prioritization Criteria
2. Design Standards

D. Analysis

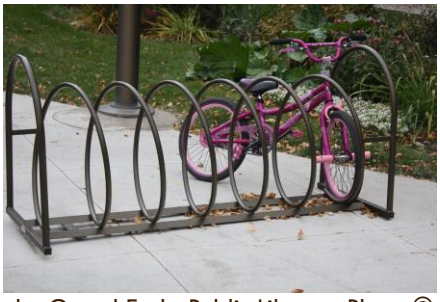
1. Basic Street Characteristics Analyzed for Proposed Corridors
2. Proposed Corridors
3. Stakeholders Input in Ranking & Prioritizing Corridors
4. Proposed Facility Segments: Cross-section Conceptual Treatments

E. Proposed On-Road Bike Facilities (Summary)

1. Cost Elements
2. Estimated Cost by Proposed Facility Type
3. Grand Forks Proposed Facility Costs (2045)
4. Proposed 2045 Grand Forks-East Grand Forks Planned and Existing Bicycle and Pedestrian Facilities Map

D. Implementation

1. Existing & Planned Bikeway Network
2. Carried Over Bicycle and Pedestrian Facilities
3. Proposed On-Road Bicycle Facilities
4. Funding Sources for Bicycle & Pedestrian Projects



Bicycle Parking at the Grand Forks Public Library. Photo © MPO Staff, 2017

A. Appraised Bike & Pedestrian Facilities

Part V addresses *short-term* bicycle and pedestrian initiatives scheduled for construction or to be submitted for funding in years 2018-2019 by the City of Grand Forks. The report discusses initiatives outlined in the *2040 Bicycle and Pedestrian Plan* (2013) and *–carried over to 2045 Bicycle and Pedestrian Element (2018)*. Some of these facilities are still pending for implementation in Grand Forks and East Grand Forks. In addition, Part V introduces a number of on and off-road *proposed* facilities.

This document outlines a methodology for ranking and for prioritizing the proposed projects. The method also includes a *Project Evaluation Criteria*. Historically, both in Grand & East Grand Forks, a number of on and off road bicycle and pedestrian facilities have been proposed and planned to address the following objectives:

- Close gaps in pedestrian and bicycle system
- Improve user's safety & comfort
- Enhance user's access & mobility
- Improve multimodal connectivity and accessibility
- Increase community benefits
- Improve health outcomes
- Enhance the existing bicycle system and pedestrian network in Grand Forks-East Grand Forks.

Traditionally, stakeholders' participation and involvement has been critical to advance the selection, ranking and prioritization of proposed facilities. Stakeholder's participation provides realistic options, and ensures that the transportation investments are made in a prudent and efficient manner. When appropriate, every effort is made in this report to illustrate existing facilities according to their Estimated Costs, Length, Term (*Time Horizon*), and Designation.

Pedestrian and Bicycle Facilities for Grand Forks and East Grand Forks are described in this report in the following categories:

- Short-term Projects
- Carried-over/Planned Facilities (2040)
- Proposed Facilities (*to be discussed in next section: 2. Proposed Corridors*)

The "*Carry-over/Planned*" Facilities described in this report were previously assessed in 2013. All of the facilities outlined in this report reflect and anticipate stakeholders and various levels of local government's desires to foster connectivity; enhance accessibility and improve the network. Notice that these facilities offer alternatives to regular modes of transportation.

In addition, all the segments described were submitted to the members of the *Bicycle and Pedestrian Advisory Committee*, *the Bicycle, Pedestrian & Greenway Advisory Committee*, *the Grand Forks Engineering Department, East Grand Forks Engineering, Planning and Parks and Recreation staff* for their assessment and further consideration during the update of the 2045 Bicycle and Pedestrian Element update.

1. Cost Elements

The estimated costs were calculated according to the figures provided by the Grand Forks-East Grand Forks Departments of Engineering. For Grand Forks, these figures include *Value of new pavement when parking removal is required*. Other costs in both jurisdictions include cost of signs, road symbols and stripping when required.

Making the true cost of bicycle facilities visible and comprehensive is important. It provides local decision-makers, transportation planners, engineers and stakeholders opportunities to develop realistic and implementable plans.

It appears that costs estimates provided by the Departments of Engineering representing Grand Forks indicate that:

> "These costs reflect "*contractor*" bid type data. Costs of project development engineering, etc can easily influence the total budget of an individual project by 30-50%. There are also other aspects which are addressed by our planning department."

According to Grand Forks Department of Engineering, *Value of Existing Pavement* should be another item for consideration. They indicated that:

> When streets are constructed in Grand Forks, the street width is determined in consideration of vehicle volumes and parking needs. In most areas of the city, those costs have been specially assessed to property owners. As such, each property has a financial cost of parking.
>
> "*Value of Existing Pavement"* is an attempt to place a financial value on repurposing an existing asset.
>
> Another approach would be to consider the cost of reconstructing a street to meet all needs. The cost previously included is only based off the cost of pavement for new construction of a classified street, and does not take into consideration retrofitting an existing street.
>
> Retrofitting an existing street would likely include higher costs from the removal of the existing curb and gutter, earthwork, removal of trees, replacement of sidewalks, right of way acquisition, as well as other aspects required for the design and implementation.
>
> As we want this plan to be as successful as possible, we want the costs to be representative for each type of facility. In accomplishing these goals we hope for the plan to be practical and implementable.

It appears that the *Value of Existing Pavement* was not considered in the cost assessment of the projects included in the previous 2040 Bicycle and Pedestrian Plan, as there was no indication that parking would be impacted by the implementation of planned initiatives. As a result, it is suggested the cost estimates presented here should be regarded as "*Planning Level Cost Estimates*." Planning level estimates are general in nature. They do not take into consideration the cost of complete roadway characteristics.

Planning level estimates do not take into account economies of scale that may result from combining improvements with other major projects such as road reconstruction, intersection reconfiguration and related facility improvements.

These estimated figures are also adjusted for inflation. A new time horizon for implementation of proposed projects is stated. Calculations to estimate Baseline costs (2018) were assessed according to the following item categories:

ESTIMATED COST FOR PROPOSED FACILITIES

			GRAND FORKS				EAST GRAND FORKS			
ITEM CATEGORY	Quantity/ Length	BIKE LANE LINEAL FEET	SHARED USE PATH LINEAL FEET	SHARROW LINEAL FEET	BIKE ROUTE LINEAL FEET		BIKE LANE LINEAL FEET	SHARED USE PATH LINEAL FEET	SHARROW LINEAL FEET	BIKE ROUTE LINEAL FEET
VALUE EXISTING PAVEMENT COST * 5 F BIKE LANE* 2 LANES	SF	$13.50 x 5" x 2 lanes = $ 135.00								
STRIPPING COST		$2.50 X 2					$2.50 X 2			
NUMBER OF ROAD SYMBOLS										
COST OF ROAD SYMBOLS		($30.00 *2) / 300 = $0.20		($30.00 2) / 300 = $0.20			($30.00 *2) / 300 = $0.20		($30.00 2) / 300 = $0.20	
NUMBER OF ROAD SIGNS										
COST OF ROAD SIGNS		($100.00 X 2) / 600 =$ 0.33		($100.00 X 2) / 600 =$ 0.33	($100.00 X 2) / 600 =$ 0.33		($100.00 X 2) / 600 =$ 0.33		($100.00 X 2) / 600 =$ 0.33	($100.00 X 2) / 600 =$ 0.33
ESTIMATED TOTAL COST	*LF*	$140.00	$150.00	$0.53	$0.33		$5.50	$150.00	$0.50	$0.33

* Figures provided by Grand Forks Department of Engineering (October 10, 2017); East Grand Forks Department of Engineering (See Memo) (See Memo: September 17, 2018)

Source: Street_Corridor_Numbers _6_ 5-18-18 MAY 21_2018_COMPLETE SCORING_CORRIDORS_SEPT_18_TABL_4_staholders input

Calculations to estimate Mid-Point Costs were performed in accordance to the indicated number of years included in the term horizon as indicated by the using the following formula:

Equivalent Future Value: F	Present Value: P (Estimated Cost Baseline)	Interest Rate per Annum: i (Rate of Inflation in decimals)	Number of Years: x

$$F = P\ (1+0.04)^{\text{Number of Years}}$$ [144]

Then, the Mid-Point (Equivalent Future Value: F) was calculated as it follows:

$$\text{Mid-Point} = (\text{Future Value} - \text{Present Value})/2$$

[144] Transportation Planning Handbook (3rd Edition) (2009) Institute of Transportation Engineers

2. Bicycle and Pedestrian Initiatives

The following bicycle and pedestrian initiatives are described in this section:

- Short Term

Short Term projects are initiatives prioritized in 2013 for implementation in the short-term (2015-2022) period of the 2040 Bicycle and Pedestrian Plan. To date, most projects have been successfully implemented. However, a few remain pending for funding to fully realize their implementation.

- Carried Over/Planned Facilities (2040-2045)

The "*Carried-Over/Planned*" segments were initiatives planned in 2013. A number of facilities are currently in service after having been completed successfully. Other facilities are *–carried over to 2045 and* are still pending for implementation.

- Proposed Facilities

The "*Proposed*" facilities are segments submitted for stakeholder's consideration at the *Bicycle and Pedestrian Advisory Committee* and the *Bicycle, Pedestrian and Greenway Advisory Committee* to advance the objectives supporting Goal 3: Accessibility and Mobility. Selected facilities are prioritized, financially assessed and included in the list of upcoming projects.

2.1 Short Term

In the period ranging from 2013-2016 about 6.3 miles of Shared Use Paths were built in the Grand & East Grand Forks Area. Construction of Shared Use Paths has contributed to the expansion of the bicycle system and pedestrian network. Expansion has provided network completeness and improved direct access to common community destinations. The connectivity generated by network's growth has also benefitted the sister community of East Grand Forks.

Grand Forks

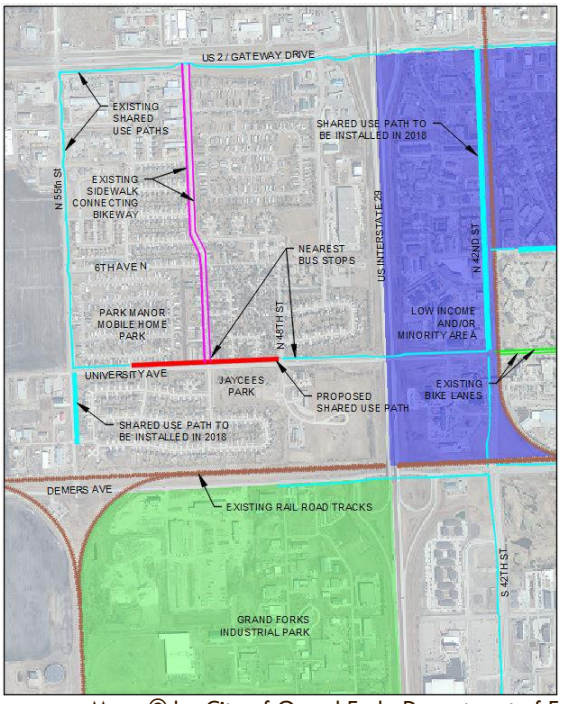
"*Off-Road Bicycle & Pedestrian Short Term Projects Constructed, Programmed, or anticipated,*" outlines a number of "*off-road*" (*Shared Use Paths*) projects prioritized in 2013 for implementation in the short-term (*2015-2022*) period of the 2040 Bicycle and Pedestrian Plan in Grand Forks.

After having been completed successfully, most short-term "*off-road*" (*Shared Use Paths*) (*2015-2022*) bicycle and pedestrian facilities in Grand Forks are currently in service. Some facilities are regionally significant projects consistent with the MPO Metropolitan Transportation Plan. These facilities are/were eligible to receive Federal funding.

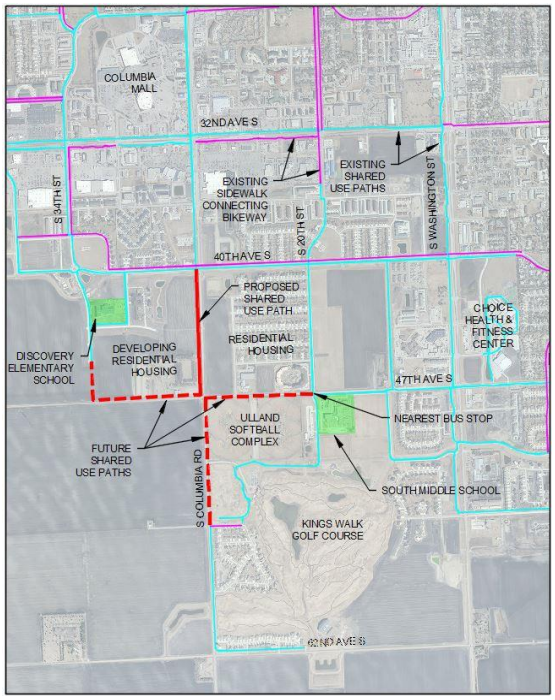
Off-Raod Bicycle & Pedestrian Short Term Projects Constructed, Programmed, or Anticipated					
Proposed Construction Year	Street	From	To	Type	Comment
2015	S Columbia Rd	36th Ave S	40th Ave S	Shared Use Path	Existing Multi-use path **Completed** - 2015
2016	S Columbia Rd	11th Ave S	14th Ave S	Shared Use Path	***Completed*** *with road reconstruction*
2016	S 14th St	Demers	15th Ave S	Bike Route	*Existing Bike Route* ***Completed*** *- 2016*
2016	S 20th St	32nd Ave S	36th Ave S	Shared Use Path	*Existing Multi-use path 36th Ave S to 32nd Ave S was completed in 2017.* Segment 18th Ave S to 32nd Ave S still is not programmed, and has not had an application for TA funds
2017	Belmont Rd	Emerald Ln	62nd Ave S	Shared Use Path	*Existing Multi-use path Emerald Ln to Sandpiper Ln was comopleted in 2017. S* andpiper Ln to 62nd Ave S is to yet be completed
2017	S 20th St	32nd Ave S	36th Ave S	Shared Use Path	*Existing Multi-use path* ***Completed*** *- 2017*
2017	Demers Ave	48th St	42nd St	Shared Use Path	*Existing Multi-use path* ***Completed*** *- 2017*
2018	N 55th St	University Ave	W Lanark Dr	Shared Use Path	Transportation Improvement Plan 2018-2021
2019	6th Ave N	N 40th St	English Coulee	Shared Use Path	Transportation Improvement Plan 2018-2021
2018	N 42nd St	University Ave	Gateway Dr/US 2	Shared Use Path	Transportation Improvement Plan 2018-2021 Project is a part of the N 42nd St reconstruction.
2019	17th Ave S	S 25th St	S 20th St	Shared Use Path	**TA application Granted, June 2018**
2019	University Ave	Trailer Park	N 48th St	Shared Use Path	TA application submitted in 2017
2019	47th Ave S	S Columbia Rd	S 20th St	Shared Use Path/ Sidewalk	**Part of 47th Ave S Reconstruction, 2018**
2019	S Columbia Rd	40th Ave S	47th Ave S	Shared Use Path	TA application submitted in 2017

Presently, the City of Grand Forks is seeking Transportation Alternative (TA) funding to advance the construction of a number of the facilities listed in "*Off-Road Bicycle & Pedestrian Short Term Projects Constructed, Programmed, or Anticipated.*" As stated in the Transportation Alternatives Application[145], these projects include:

Shared-use Path
University Ave from Trailer Park to N 48th St.



Shared-use Path
S Columbia Rd. from 40th Ave. S to 47th Ave. S.



Maps © by City of Grand Forks Department of Engineering-- TA Candidate Projects for the FY2019-2022 TIP

- ***Shared-use Path University Ave from Trailer Park to N 48th St.***

Creates a safer walking and bicycling environment for school children, commuters, and recreational users

Transportation disadvantaged individuals living in the surrounding area, are restricted to either riding or walking on the street or on the sidewalk. University Ave provides one of the few locations where pedestrians and bicyclists can safely cross I-29.

Highlights:

F. Demonstrates incorporation of appropriate traffic control devices
G. Decreases fuel consumption
H. Addresses last segment/link of corridor
I. Enhances the public safety of non-motorized users

[145] Transportation Alternatives Candidates. MPO Staff Report Technical Advisory Committee: December 11th, 2017

- *Shared-use Path S Columbia Road from 40th Ave. S to 47th Ave. S.*

Provides the first phase of bicycle and pedestrian accommodation at the intersection of S Columbia Rd and 47th Ave S

Creates a safer walking and bicycling environment for school children, commuters and recreational users

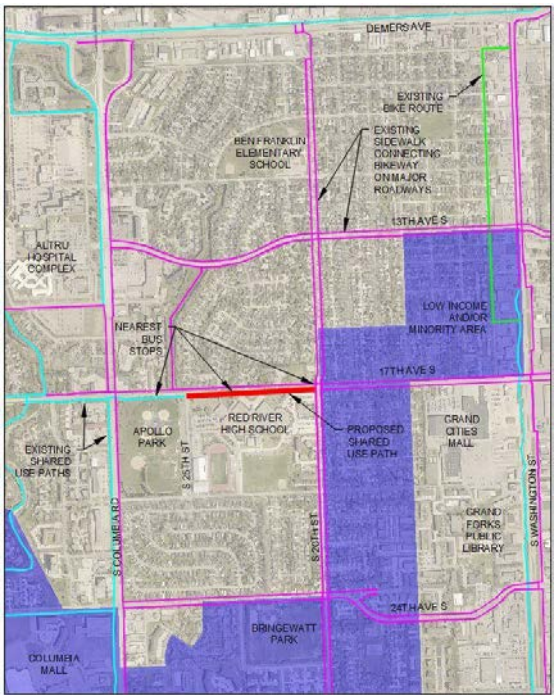
Each project has been developed in accordance to the Goals and Objectives outlined in the adopted Bicycle and Pedestrian Element of the 2040 Long Range Transportation Plan.

Highlights:

- Enhances accessibility and mobility for non-motorized users
- Enhances safe route to school route
- Demonstrates incorporation of appropriate traffic control devices
- Reduces points of conflict
- Enhances the public safety of non-motorized users

- *Multi-use Path on 17th Ave. S from S 20th Street to S 25th Street*

Shared-use Path
17th Ave. S from S 20th Street to S 25th Street



Map © by City of Grand Forks Department of Engineering-- TA Candidate Projects for the FY2019-2022 TIP

Funding to advance the *Multi-use Path on 17th Ave. S from S 20th Street to S 25th Street* was received in June, 2018. This project:

- Enhances accessibility and mobility for non-motorized users.

- Addresses Environmental Justice (EJ) analysis process
- Decreases fuel consumption
- Maximizes direct travel trips between major generators
- Enhances safe route to school route
- Improves the integration/connectivity of whole transportation system

Currently, the Multi-use Path on *47th Ave. S from S Columbia Road to S 20th Street* is under construction as part of a major road reconstruction project.

East Grand Forks

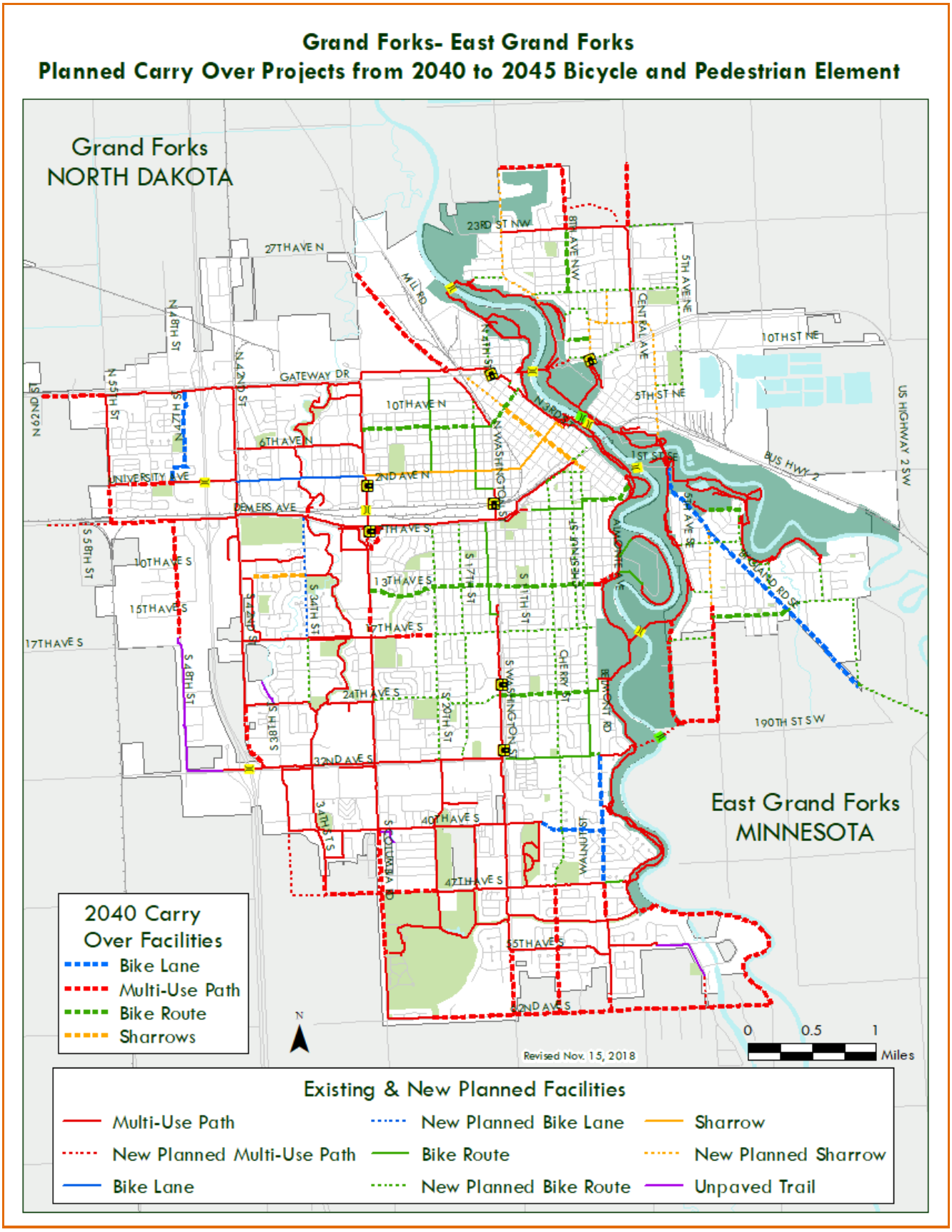
In East Grand Forks, a current sample of funded projects includes:

- Pedestrian improvements on Bygland Road @ 13th St. SE.
- Sidewalk installation on Greenway Blvd., from Bygland Rd to Rhinehart Drive.
- Multi-use Path construction on Central Ave., from 20th St. NW to Highway 2
- Sidewalk installation on 20th Ave. SE from 10th St. SE. to 13th St. SE.
- Sidewalk installation on 10th St. SE from 17th Ave SW to 20th Ave. SE.

Construction of these segments:

- Enhances accessibility and mobility for non-motorized users.
- Addresses Environmental Justice (EJ) analysis process
- Decreases fuel consumption
- Maximizes direct travel trips between major generators
- Enhances safe route to school route
- Improves the integration/connectivity of whole transportation system

2.2 Carried-over/Planned Facilities (2040)



Grand Forks

Pedestrian and Bicycle Facilities in Grand Forks are classified in this report in two categories:

- *Carried-over/Planned* Facilities (2040)
- Proposed Facilities (*to be discussed in next section: 2. Proposed Corridors*)

A number of the initiatives illustrated in the *Grand Forks-East Grand Forks Existing & Planned Bikeway Network Map* were previously assessed, endorsed and prioritized by stakeholders in 2013.
However, due to priority constraints, local needs, and/or funding availability, not all the proposed projects were implemented during the short-term (5-years) horizon. These are projects are "*carried over*" from the *2040 to the 2045 Bicycle and Pedestrian Element.*

As the update of the Pedestrian and Bicycle Plan proceeded, it became imperative to re-assess; among others, the need and viability, as well as, the bicycle and pedestrian designation previously assigned to some segments. Existing and Planned Bikeway Facilities in Grand Forks were assessed by staff of the Department of Engineering and Planning.

As the reader will see later, some facilities were suggested for removal from or for addition to the network; the designation for certain segment was suggested to remain same or be changed, and a few segments were recommended for inclusion in the proposed 2045 Bikeway Network. These previously Planned Facilities, when implemented, will provide planning continuity. They support closing existing system gaps, improve connectivity and accessibility, and will enhance the existing bicycle system and pedestrian network.

Among others, the *Grand Forks-East Grand Forks "Carry-over"* Projects table introduces planning terms, estimate present and mid-point cost. In this regards, the data is presented and analyzed in the following columns:

Grand Forks "*Carried Over*" Bicycle & Pedestrian Facilities (2040)						ESTIMATED COST 2018-2045 (4% INFLATION)
TERM	CORRIDOR	FROM	TO	DISTANCE (Miles)	PROPOSED FACIITY TYPE	Estimated Cost (2020-2025) MID-POINT SHORT TERM (5-Years)
SHORT-TERM						
2020-2025	Belmont Rd	47th Ave. S	South Floodway Trail	0.27	Multi-use Path	$ 237,004.53
2020-2025	Cherry St.	South Floodway Trail	55th Ave. S	0.205	Multi-use Path	$ 179,947.88
2020-2025	Demers Ave.	Amtrak Station	N55th Street	0.15	Multi-use Path	$ 131,669.18
2020-2025	Demers Ave.	N 48th Street	Amtrak Station	0.355	Multi-use Path	$ 311,617.07
2020-2025	Gateway (*Walmart Path*)	DeMers Ave	N 62nd Street	0.5	Multi-use Path	$ 438,897.27
2020-2025	Lincoln Dr.	Belmont Rd	Lanark Ave	0.19	Multi-use Path	$ 166,780.96
2020-2025	S. 42nd St.	24th Ave. S	29th Ave. S	0.32	Multi-use Path	$ 280,894.26
2020-2025	University Ave.	Technology Circle	N53th Street.	0.3175	Multi-use Path	$ 278,699.77
						$ 2,025,510.92

Grand Forks "*Carried Over*" Bicycle & Pedestrian Facilities (2040)						ESTIMATED COST 2018-2045 (4% INFLATION)
TERM	CORRIDOR	FROM	TO	DISTANCE (Miles)	PROPOSED FACIITY TYPE	Estimated Cost (2026-2034) MID-POINT MID TERM (15 Years)
MID-TERM						
2026-2034	40th Ave.	End of Multi-use Path	Cherry Street	0.17	Multi-use Path	$183,896.46
2026-2034	Columbia Rd.	Kingswalk Entrance	Pinehurst Drive	0.25	Multi-use Path	$270,435.97
2026-2034	Far South Red River Path	South Floodway Trail	62nd Ave. S	0.045	Multi-use Path	$48,678.47
2026-2034	N Washington St.	County Jail Entrance	Trailer Park Entrance	0.17	Multi-use Path	$183,896.46
2026-2034	S Columbia Rd.	47th Ave. S	Kingswalk Entrance	0.25	Multi-use Path	$270,435.97
2026-2034	University Ave.	N 62nd St.	North to Gateway Drive	0.39	Multi-use Path	$421,880.11
2026-2034	University Ave.	N 62nd St.	West	0.43	Multi-use Path	$465,149.87
2026-2034	University Ave.	N 62nd St.	West/North	0.43	Multi-use Path	$465,149.87
2026-2034	Washington St.	Gateway Drive	County Jail Entrance	0.27	Multi-use Path	$292,070.85
2026-2034	Washington St.	Trailer Park Entrance	Bacon Road	0.44	Multi-use Path	$475,967.30
						$3,077,561.32

Grand Forks "*Carried Over*" Bicycle & Pedestrian Facilities (2040)						ESTIMATED COST 2018-2045 (4% INFLATION)
TERM	CORRIDOR	FROM	TO	DISTANCE (Miles)	PROPOSED FACIITY TYPE	Estimated Cost (2035-2045) MID-POINT MID TERM (25 Years)
LONG-TERM						
2035-2045	S. 42nd St.	29th Ave. S	32nd Ave. S	0.225	Multi-use Path	$326,626.02
2035-2045	S. 48th St.	10th Ave. S	15th Ave. S	0.38	Multi-use Path	$551,635.05
2035-2045	S. 48th St.	DeMers Ave.	10th Ave. S	0.39	Multi-use Path	$566,151.76
2035-2045	Washington St.	Bacon Road	N Columbia Road	0.17	Multi-use Path	$246,784.10
2035-2045	47th Ave S	S 38th St.	S Columbia Rd.	0.43	Multi-use Path	$624,218.61
2035-2045	S 38th St.	S 40th Ave	S 47th Ave	0.5	Multi-use Path	$725,835.59
2035-2045	62nd Ave. S	S 20th St.	S Washington St.	0.18	Multi-use Path	$261,300.81
2035-2045	62nd Ave. S	S Washington St.	Cherry Street	0.38	Multi-use Path	$551,635.05
2035-2045	62nd Ave. S	Cherry Street	Belmont Rd	0.38	Multi-use Path	$551,635.05
2035-2045	62nd Ave. S	Belmont Rd	Sandpiper	0.23	Multi-use Path	$333,884.37
2035-2045	62nd Ave. S	Sandpiper	Adams Drive	0.5	Multi-use Path	$725,835.59
2035-2045	62nd Ave. S	Adams Drive	16th St. SE	0.5	Multi-use Path	$725,835.59
2035-2045	S Washington St.	55th Ave S	62nd Ave. S	0.5	Multi-use Path	$725,835.59
2035-2045	Cherry St.	47th Ave. S	South Floodway Trail	0.28	Multi-use Path	$406,467.93
						$7,323,681.14

Source: GF_EGF CARRY_OVER_FN_OCT_16_EGB_BIKES_NOV_19

S 20th St. from Pembrooke Drive to 40th Ave. S has been built.

East Grand Forks

Pedestrian and Bicycle Facilities in East Grand Forks are introduced in this report in three categories:

- *Carried-over/Planned* Facilities (2040-2045)
- Illustrative Projects
- Proposed Facilities (*to be discussed in next section: 2. Proposed Corridors*)

2.3 *Carried-over/Planned* Facilities

The East Grand Forks' *Carried-over /Planned Facilities* (2040-2045) projects were previously assessed, endorsed and prioritized by stakeholders in 2013. As the implementation of the projects included in the Bicycle and Pedestrian Element advances; still, some projects are left pending for implementation. These are the projects to be *carried-over* into the updated Bicycle and Pedestrian Element.

Among others, existing local budgetary constraints; and the impact of factors such as the ability to find local matching funds, plays a significant role in the selection and prioritization of the proposed projects.

East Grand Forks "*Carried Over*" Bicycle & Pedestrian Facilities (2040)

TERM	CORRIDOR	FROM	TO	DISTANCE	PROPOSED FACILITY TYPE	Estimated Cost (2020-2025) MID-POINT SHORT TERM
2020-2025	Bygland Rd	Greenway Path	4th St. SE	0.265	Bike Lane	8,769.32
2020-2025	Bygland Rd	4th St. SE	6th St. SE	0.265	Bike Lane	8,346.70
2020-2025	19th Ave. SE	Red Lake River	13th St	0.245	Bike Route	390.72
2020-2025	Rhinehart	11th St. SE.	8th St. SE	0.22	Sharrow	350.85
2020-2025	Rhinehart	8th St. SE	Bygland Road	0.235	Sharrow	374.77
2020-2025	Rhinehart	Greenway Blvd	11th St. SE	0.22	Sharrow	350.85
2020-2025	5th Ave. NE	7th St. NE	Gravel Driveway N of 10th	0.28	Bike Lane	446.54
2020-2025	6th St. SE	Greenway Path	820 6th St. SE	0.235	Bike Lane	165.44
2020-2025	6th St. SE	820 6th St. SE	James Ave. SE	0.235	Bike Lane	165.44
						19,360.65

Source: GF_EGF CARRY_OVER_FN_OCT_16_EGB_BIKES_NOV_27_EGF REVIEW

East Grand Forks "*Carried Over*" Bicycle & Pedestrian Facilities (2040)						
TERM	CORRIDOR	FROM	TO	DISTANCE	PROPOSED FACILITY TYPE	Estimated Cost (2026-2034) MID-POINT MID TERM (15 Years)
2026-2035	Hwy. 2 Downtown	2nd Ave. NE	3rd Ave. NW	0.205	Bike Route	404.23
2026-2035	Hwy. 2 Downtown	3rd Ave.NW	6th Ave. NW	0.21	Bike Route	414.09
2026-2035	Hwy. 2 Downtown	6th Ave. NW	River Road NW	0.21	Bike Route	414.09
2026-2035	Hwy. 2 Downtown	River Road NW	Red River	0.21	Bike Route	414.09
2026-2035	James Ave NE	4th St. SE	Bygland Road	0.76	Bike Route	1,498.62
2026-2035	13th Street SE	18th Ave. SE	Water Tower	0.22	Bike Route	433.81
2026-2035	13th Street SE	Bygland Road	18th Ave. SE	0.22	Bike Route	433.81
2026-2035	13th Street SE	Water Tower	Ent. To River	0.22	Bike Route	433.81
						4,446.55

Source: GF_EGF CARRY_OVER_FN_OCT_16_EGB_BIKES_NOV_27_EGF REVIEW

East Grand Forks "*Carried Over*" Bicycle & Pedestrian Facilities (2040)						ESTIMATED COST 2035-2045 (4% INFLATION)
TERM	CORRIDOR	FROM	TO	DISTANCE	PROPOSED FACILITY TYPE	Estimated Cost (2035-2045) MID-POINT LONG TERM (25 Years)
LONG-TERM						
2035-2045	8th Ave NW	23rd St. NW	30th St. SW	0.49	Multi-use Path	$711,318.88
2035-2045	North Golf Course	River Road NW	8th Ave. NW	0.42	Multi-use Path	$609,701.90
2035-2045	Diagonal Crown Path	Central Ave NW	8th Ave. NW	0.46	Multi-use Path	$667,768.75
2035-2045	Central Ave NW	23rd St. NW	30th St. SW	0.46	Multi-use Path	$667,768.75
2035-2045	Rhinehart Drive	13th St. SE	188th St. SW	0.85	Multi-use Path	$1,233,920.51
2035-2045	Laurel Drive	Greenway Trail	188th St. SW	0.65	Multi-use Path	$943,586.27
2035-2045	188th St. SW	Laurel Drive	Rhinehart Rd.	0.2	Multi-use Path	$290,334.24
2035-2045	32nd Bridge Approach	32nd Bridge Approach	Laurel Drive	0.25	Multi-use Path	$362,917.80
						$6,989,796.77

Source: GF_EGF CARRY_OVER_FN_OCT_16_EGB_BIKES_NOV_27_EGF REVIEW

Existing and Planned Bikeway Facilities in East Grand Forks were assessed by staff of the Department of Planning, Engineering and Parks and Recreation. The review was advanced to:

a) Evaluate whether the initiative was within City Limits or within a "*pilot study area*"
b) Assign new time horizon to the proposed projects
c) Add, Change or Remove (*eliminate*) the existing bicycle facility designation for a number of initiatives

In East *Grand Forks, Carried-over/Planned Facilities* (2040-2045) were re-assessed by the Department of Engineering, Planning and Parks & Recreation Department. The review resulted in the removal (*elimination*), or change in the designated type of facilities for a number of the *Carried-over /Planned Facilities* (2040-2045).

- *Carried-over/Planned* (2040-2045) Bicycle Facility Designation to be ***Removed*** from these segments (*Grand Forks-East Grand Forks Planned and Existing Bicycle and Pedestrian Facilities Map*).

Segment	From	To	Facility	Status
EGF Coulee	Bygland Rd SE	South 190th St SW Multi-Use Path	Multi-Use Path	Removed
EGF Coulee	Greenway	Bygland Rd SE	Multi-Use Path	Removed
190th St. SW	Greenway	Bygland Rd SE	Multi-Use Path	Removed
Greenway	Along Red River W		Multi-Use Path	Removed
Greenway	Red Lake River East	Red Lake River East	Multi-Use Path	Removed
140th St SW/Section Line Rd	460th Ave SW	10th St NE	Bike Route	Removed
14th St NE	Hugo's Turn to Central Front	Central Ave	Bike Lane	Removed
19th St. SW	Greenway Blvd	Bygland Rd. SE	Multi-use Path	Removed
5th Ave NW	14th St. NW	10th St. NW	Bike Lane	Removed
5th Ave NW	Gateway Dr.	14th St. NW	Bike Lane	Removed
Across River and RR to B Hwy 2	Railroad	Along Hwy 2	Multi-use Path	Removed
Frontage Rd	150th St. SW	140th St. SW	Multi-use Path	Removed
Gateway Dr	Greenway	4th St. SW	Multi-use Path	Removed
Gateway Dr	Sherlock Parkway	10th St. NW	Multi-use Path	Removed
Outside City Limits (Between 7th & 8th Ave NE	Gateway Dr	17th St. SW	Bike Lane/Route	Removed
Outside City Limits (East of 11th Ave NE)	Gateway Dr	18th St. SW	Bike Lane/Route	Removed
23rd St NW/Greenway*	River Rd	Greenway	Multi-use Path	Removed
Golf Course	Following Levee from 23rd St. NW	End of Golf Course 140th St. NW	Multi-use Path	Removed
Golf Course	From 23rd St. NW	NW Corner (Greenway)	Multi-use Path	Removed
River Road	N 23rd St. NW	140th St. NW	Multi-use Path	Removed

- *Carried-over/Planned Facilities* (2040-2045) Bicycle Facility Designation to be ***Changed*** for these segments (*Grand Forks-East Grand Forks Planned and Existing Bicycle and Pedestrian Facilities Map*):

Segment	From	To	Facility	Status
19th Ave SE	Red Lake River	13th St. SE	~~Multi-use Path~~	Bike Route
Rhinehart Dr	Bygland Rd	8th St. SE	~~Multi-use Path~~	Sharrow
Rhinehart Dr	8th St. SE	11th St. SW	~~Multi-use Path~~	Sharrow
Rhinehart Dr	11th St. SE	Greenway Blvd	~~Multi-use Path~~	Sharrow
Golf Course	Maintenance Road	River Rd	~~Multi-use Path~~	Sharrow

Hwy. 2 Downtown	5th Ave. NE	2nd Ave. NE	~~Multi-use Path~~	Bike Route
Hwy. 2 Downtown	2nd Ave. NE	3rd Ave. NE	~~Multi-use Path~~	Bike Route
Hwy. 2 Downtown	3rd Ave. NE	6th Ave. NE	~~Multi-use Path~~	Bike Route
Hwy. 2 Downtown	6th Ave. NE	River Rd	~~Multi-use Path~~	Bike Route

2.4 Illustrative Projects

Illustrative Projects are "*conceptual*," initiatives which may still require a heightened level of analysis of land development and basic roadway characteristics on the proposed location. Illustrative projects are the result of land use, site and/or corridor analysis, pilot studies, and/or residents and user's recommendations. *Illustrative Projects* are meant to enhance existing network conditions for pedestrians and bicyclists. These initiatives assist our communities in anticipating safe, convenient and desirable street segments and corridors.

Illustrative Projects reflect related transportation policy recommendations; and, contribute to the attainment of goals and objectives supporting healthy and active community initiatives. Although some illustrative projects have been considered as sound initiatives by some stakeholders; still, these proposed projects deserve a critical review. The objective is to establish whether those proposed bicycle and pedestrian facilities could or would be implemented within the short, mid or long term planning horizon of the proposed element.

Due to their conceptual nature, *illustrative projects* are not shown in this report. Interested readers are referred to the *2045 East Grand Forks Land Use Plan* (2016). The document illustrates a number of *Illustrative Projects* that include proposed bicycle and pedestrian facilities shown in *Area Concept Plan Locations 1, 2 and 3.* Those are potential development site locations defined by large acreage commercial, mixed use and low density residential parcels. These locations include future forward looking developments. Prospective advantages and/or disadvantages related to the implementation of the proposed projects are discussed for each location in the 2045 *East Grand Forks Land Use Plan* (2016).

1. Understanding Gaps in the Pedestrian & Bicycle Network

An attentive review of the "*carried-over*" segments described above, indicates an overwhelming number of upcoming Multi-use Paths projects. These types of bicycle and pedestrian facilities are perceived by many users as safer, more encouraging and desirable. Multi-use Paths generally attract users with diverse skill levels, young children, pedestrian and skaters. Multi-use Paths provide opportunities for safely sharing of the facility with a variety of users of differing speeds and abilities.[146]

However, an important consideration is that "*Shared-use paths are a complement to the roadway network; they are not a substitute for providing access on streets*." Multi-use Paths "*typically are separated from motorized vehicular traffic by an open space or barrier, either within a highway right-of-way or within an independent right-of-way." As a result, Shared use Paths is "off road*" facilities. Although these facilities enhance the pedestrian network and bicycle system; their contribution to closing existing gaps in the bikeway network is arguable.

In this regard, the increase of Multi-use Paths could potentially detract from the possibility of fully realizing the benefits afforded by established Pedestrian & Bicycle Network's Principles such as: directness, accessibility and mobility.

Bicycles are allowed on the road as per North Dakota Century Code and by Minnesota Statutes. In part, this allowance must consider user's skills, sidewalk conditions, and roadway characteristics. Designated on-road access to a number of destinations in adjacent corridors is still unavailable, scarce or incomplete. Although existing multi-use path facilities may be available to provide abundant access to important commercial and industrial corridors; still residential and other institutional destination land uses in proximity, inside and within these districts are in need of designated on-road accessibility and connectivity or may be incomplete from a user's skills perspective.

Despite continued efforts by stakeholders and local government agencies to provide adequate bicycle and pedestrian facilities for all users; the local pedestrian system and bicycle networks still experience gaps. Whether those gaps are found on the sidewalk system or bicycle network, their completion would greatly improve connectivity, offer continuity, provide barrier free mobility and make the system accessible to all users.

Some network gaps are evident in some prominent Attractors and Generators land uses. In Grand Forks, gaps in the bicycle system are evident in areas, such as the Industrial Park, Columbia Road Corridor and/or the South Washington Street corridor. Currently pedestrian and bicycle access to important locations on S 48 Street is possible through an existing unpaved trail and through a multi-use path on DeMers Avenue. However, notice that some roadways on those areas are exempt from sidewalk construction. The Clips included in the previous section *2. Assessing Existing Bicycle Network Connectivity* assists the reader in identifying network gaps.

Access to recreational, institutional and educational destinations located within or in proximity to the Columbia Road Corridor and/or the South Washington Street Corridor is limited. For instance, currently there is not a direct on-road bicycle facility to provide access to Ben Franklin and other elementary schools. Similarly, currently there are not on-road facilities to provide access to Ben Franklin, Willmar, Bringewatt and other Parks. Please see comments and discussion in Chapter IV.

[146] Pedestrian and Bicycle Information Centre (2018). Shared-Use Paths/Side paths at http://www.pedbikeinfo.org/planning/facilities_ped_paths.cfm

Similarly, great efforts have been made in East Grand Forks to close gaps and to improve connectivity. These efforts entail:

- Including sidewalk construction on a number of roadway reconstruction projects
- Advancing a number of pedestrian safety improvements at key intersections
- Installing sidewalks on safe route to school along Greenway Blvd; and
- Installing a multi-use Path along Central Ave., from 20th St. NE to Gateway Drive

However, there are neither sidewalks, nor direct on-road bicycle access facilities to serve the Industrial Area in East Grand Forks. Bygland Road, a main thoroughfare lacks on-road bicycle facilities. Although construction of sidewalks is anticipated around South Point Elementary & Central Middle School schools, still the absence of on-road bicycle facilities is manifests.

Closing gaps in proximity to schools helps to expand walking and bicycling travel opportunities in some neighborhoods without eliminating the car. Closing existing gaps in the bicycle network by using existing street corridors could potentially help to reduce travel distances, provide direct access to and increase the number of all-seasons Greenway user's in their quest to reach and enjoy the trails network, one of our greatest community assets. In addition, closing gaps is an important step in linking transit to pedestrian and bicycle network opportunities. Gaps affect continuity of bicycle facilities and disturb any existing connectivity between pedestrian and bicycle facilities and neighborhood transit stops.

For instance, "*Increasing the connectivity of multimodal networks by improving infrastructure and filling gaps can create both safer and more accessible transportation systems for all users, while providing access to a greater number of opportunities for jobs, education, and other essential services*."[147]

Sidewalk Construction, Photo © MPO Staff, 2017

[147] Transportation Research & Education Center (TREC). Manual on Pedestrian and Bicycle Connections to Transit @https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/64501/fta0111researchreportsummary.pdf

B. Suggested Project Evaluation Criteria

1. Ranking & Prioritization Criteria

Criteria were developed to help in the ranking and prioritization of the segments and facilities proposed. Consideration for the proposed facilities comes from various sources including:

- Analysis of comments and input received through public involvement (*Surveys & Written comments on Maps*) (*See: Part III. See: Appendix*)
- Analysis of comments from parents on Safe Route to Schools Parents/Guardian's Surveys
- Analysis of Gaps on the bicycle system (*See: Part IV*)
- Previous Bicycle and Pedestrian Plans
- Stakeholder's and staff input (*Bicycle and Pedestrian Advisory Committee & Bicycle, Pedestrian & Greenway Advisory*)

The proposed *on-road* bicycle facilities are continuation of the existing *off-road* multi-use path system. The off-road facilities have already been identified as a critical part of the bikeway network. The purpose of the ranking and prioritization exercise is to attain the greatest benefit for our communities by evaluating and recommending prospective *on- roadway* segments offering the most cohesion, directness, accessibility, mode alternatives, safety and security and user's comfort.

All projects deserve consideration because of their contributions to improvements on the bicycle and pedestrian environment. However, despite rigorous prioritization efforts, other competing priorities including limited financial resources may cause some projects to be advanced earlier than others. Members of the Advisory Committee have been involved in the process of developing the proposed goals and objectives. Thus, it is fitting to request their input by asking them for their assistance in the ranking and prioritization of proposed bicycle facilities by means of the proposed criteria.

According to a local stakeholder's suggestions, projects involving the removal of on-street parking, or requiring a crossing license from the leading local railway company, and/or requiring acquisition of property (*right-of-ways*) will require an increased amount of project development when compared to other more straightforward developments. It is thus suggested by the stakeholder that projects involving any of these aspects should be included in an illustrative list without prioritization.

"*Suggested Infrastructure Project Evaluation Criteria*" outlines the seven factors included in the ***Ranking & Prioritization Criteria.*** The table also establishes a relationship between the seven factors and related standards supporting the objectives of the *2045 Bicycle and Pedestrian Element*.

SUGGESTED INFRASTRUCTURE PROJECT EVALUATION CRITERIA*

	CRITERION	MEASUREMENT	RELATED STANDARDS				
1	Closing Gaps	To what degree does the project fill a missing gap or overcome a barrier in the current system? Does it improve significant crossings?	3.1.2	3.3.2	4.2.1	4.3.1	4.3.3
2	Safety & Comfort	Can the project improve walking and bicycling conditions at locations with perceived or documented safety issues? Does the project make cycling and walking appealing to all users?	8.1.3	8.3.2			
3	Access & Mobility/Land Use	How many user generators does the project connect within a reasonable walking or cycling distance? Are adjacent land uses supportive of walking and bicycling? To what degree will	1.1.1	5.1.1	8.3.2	9.1.3	
4	Multimodal Connections	To what degree does the project integrate walking and cycling into the existing transit system? Does the project enable the use of multiple active transportation modes?	3.3.1	3.3.2	6.1.1	8.5.4	
5	Implementation	What is the ease of implementation? Is funding available? Is additional right-of-way required? Are negotiations required over parking availability, signage, etc.?	6.2.1	6.2.2			
6	Community Benefits	To what degree does the project offer potential benefits to the regional community by offering opportunities for increased connectivity to parks, natural scenic beauty, and activity centers?	4.1.1	4.2.1	7.1.4	1.1.1	3.1.1
7	Health Outcomes	To what extent does the project increase physical activity, regardless of travel purpose? To what extent does the project improve other determinants of health?	4.3.1	4.3.2	4.3.3		

*Adopted from: Clark County, WA Bicycle and Pedestrian Master Plan (2010). Alta Planning & Design

2. Design Standards

The following minimum design standards will be implemented in the assessment of proposed segments in Grand Forks. As per stakeholder's suggestion, roadways with a width equal to or less than 34' *will not be considered for on-road facilities.*

The following design standards from the 2012 AASHTO Guide Book will be implemented in the assessment of proposed segments in East Grand Forks.

DESIGN STANDARDS	
Grand Fork, ND	East Grand Forks, MN
• Shared Lanes: 14' Minimum for Shared Lanes (Sharrows) • Bike Route—Signed Bike Lanes: • Bike Lanes: 5' Minimum (not including curb & gutter) • Travel Lane: 11' Minimum (classified streets) • Parking: 8' Minimum for on-street parallel	• Shared Lanes: 13' or less (*not including gutter*) • Shared Lanes: Wide outside lanes (*14'-15'*) • Marked Shared Lane (*Sharrows*): Road width 14'-15'/ Markings 4' Min - 5' Max • Bike Lanes: 5' min. (*with 12" gutter or adjacent to parking*), 7' max (*total width*)

Bicycle Route linking Light Industrial to Residential Land Uses—Photo: © MPO Staff, 2017

C. Analysis

1. Basic Street Characteristics Analyzed for Proposed Corridors

The following basic roadway characteristics will be analyzed related to the "*proposed*" corridors:

Basic Street Corridor Characteristics			
Road width	Parking	Speed Limits	Attractors/Destinations
Distance from Nearest Bikeway Facility	# Transit Stops	Connectivity /Crossings at DeMers Ave.	Connectivity/ Crossings at 32nd Ave. S
Distance from Nearest Bikeway Facility	# Stop Signs	# Driveways	Average Annual Daily Traffic (AADT)

Data on most of the roadway physical characteristics are found in the Geographic Information System (*GIS*) administered by the MPO. Average Annual Daily Traffic (*AADT*) counts for segments for East Grand Forks were taken from 2017 Publication Traffic Volumes (*MN DOT*).

2. Proposed Corridors

The analysis is advanced to establish whether existing roadway characteristics facilitate accommodating the proposed designated bicycle facilities. The process entails an analysis of the proposed type of bicycle facilities.

Roadways: Among other reasons, consideration for these proposed corridors resulted from:

- Input received from stakeholders and community residents, and
- Three informal bikeability audits (visits) conducted by some members of the Advisory Committee around important areas in the bicycle network.

Bicycle Facility Type: The proposed facilities have been considered for their potential to:

- Close gaps in bicycle system
- Improve user's safety & comfort
- Enhance user's access & mobility
- Improve multimodal connectivity and accessibility
- Increase community benefits
- Improve health outcomes
- Enhance the existing bicycle system and pedestrian network in Grand Forks-East Grand Forks.

Proposed facilities reflect and anticipate stakeholders and various levels of local government's desires to improve the network. These facilities offer alternatives to regular modes of transportation. These are unfunded projects and non-programmed facilities.

Some proposed corridors (24th Ave. S) were assessed previously. However, the "*proposed*" corridors are included in this report for further evaluation and prioritization. If successful, the selected projects are expected to be implemented during the planning horizon of the Bicycle and Pedestrian Element: 2020-2045.

The final list of successful "*proposed*" will be illustrated in the next section.

Grand Forks

Grand Forks	
13th Ave S (Belmont Rd-Columbia Rd) 17th Ave S (Belmont Rd-Columbia Rd) 24th Ave S (Belmont Rd-Columbia Rd) Cherry St (1st Ave S-32nd Ave S) S 24th St (7th Ave S-11th Ave S) S 34th St (DeMers Ave-32nd Ave S)	S 20th St (DeMers Ave-32nd Ave S) S 17th St (DeMers Ave-32nd Ave S) Chestnut St (1st Ave S– 32nd Ave S) Walnut St (1st Ave S– 32nd Ave S) 1st Ave S (S5th St-Cherry St.) Lincoln Drive (Belmont-Greenway) Kittson Ave.

The following steps will be considered in the analysis in both jurisdictions:

- Roadway Characteristics
- Stakeholders Input in Ranking and Prioritizing
- Proposed Facilities Segments: Cross-section Conceptual Treatments
- Estimating costs for the proposed facilities (*See Section D*)

Grand Forks

Proposed On-road Bicycle Facilities, 2018

Corridor	Proposed Facility Type	Road Width	Parking	Speed Limit	Attractors/Destinations Parks/Schools/Community Centers Directly adjacent to Proposed Facility	Transit # of Bus Stops	Connectivity Crossings at DeMers Ave.	Connectivity Crossings at 32nd Ave. S	# of Stop Signs	# Driveways (Both Sides)	AADT (2015)	Length (Miles)	Roadway Classification
13th Ave S													
Belmont-Cottonwood	Sharrow	25'	No	25 mph	No	2	No	No	2	4	1475	0.2	Major Collector
Cottonwood-S 10th St	Bike Lane	25'	South Side	25 mph	No	1	"	"	1	4	3070	0.23	Major Collector
S 10th St-S 11th St	Bike Lane	30'	North Side	20 mph	Elks Pool and Park	1	"	"	0	7	5890	0.07	Major Collector
S 11th St-S 12th St	Bike Lane	30'	South Side	20 mph	Lewis and Clark Elementary	-	"	"	0	0	5890	0.08	Major Collector
S 12th St-S Washington St	Sharrow	50'	No	25 mph	No	-	"	"	0	0	5890	0.06	Major Collector
S Washington St-S 14th St	Sharrow	50'	Both Sides	25 mph	No	-	"	"	1	0	4325	0.08	Major Collector
S 14th St-S 19th St	Bike Lane	31'	Both Sides	25 mph	No	2	"	"	1	12	4325	0.35	Major Collector
S 19th St-Columbia Rd	Buffer Lane	50'	Both Sides	25 mph	No	1	"	"	1	3	3885	0.58	Major Collector
17th Ave S													
Belmont-S Washington	Bike Lane	30'	South Side	25 mph (20 WCP)	Holy Family Catholic School	4	No	No	1	30	4900	0.74	Minor Arterial
S Washington St-S 16th St	Buffer Lane	60'	No	25 mph	No	-	"	"	0	0	9445	0.2	Minor Arterial
S 16th St- S 20th St	Buffer Lane	35'	South Side	25 mph	No	1	"	"	0	16	7810	0.3	Minor Arterial
S 20th St-S 25th St	Sharrow	35'	No	25 mph (20 WCP)	Grand Forks Central High School	2	"	"	0	4	8140	0.31	Minor Arterial
24th Ave S													
Belmont-S Washington	Buffer Lane	35'	Both Sides	25 mph	Cox Park	-	No	No		48	4690	0.76	Major Collector
S Washington-S 20th St	Buffer Lane	45'	Both Sides	25 mph	No	3	"	"	0	8	5715	0.5	Major Collector
S 20th St-Columbia Rd	Buffer Lane	45'	Both Sides	25 mph	Bringewatt Park	3	"	"	0	7	6850	0.5	Major Collector
Cherry St													
1st Ave S-4th Ave S	Buffer Lane	45'	Both Sides	25 mph	No	-	No	No	0	2	1980	0.16	Major Collector
4th Ave S-10th Ave S	Sharrow	24'	No	25 mph	No	4	"	"	1	20	2950	0.44	Major Collector
10th Ave S-17th Ave S	Bike Lane	30'	West Side	25 mph	No	2	"	"	1	40	3175	0.55	Major Collector
17th Ave S-32nd Ave S	Buffer Lane	35'	Both Sides	25 mph	Kelly Park	2	"	Yes	1	30	3550	1	Major Collector
S 34th St													
Demers-17th Ave S	Buffer Lane	35'	No	30 mph	Sertoma Park	1	Yes	No	1	2	3400	0.95	Major Collector
17th Ave S-24th Ave S	Buffer Lane	45'	Both Sides	30 mph (20 WCP)	Century Elementary	3	No	"	0	7	4415	0.5	Major Collector
24th Ave S-32nd Ave S	Current Multi-use Path	40'	No	30 mph	No	1	"	Yes	1	0	9490	0.5	Major Collector
S 24th St													
7th Ave S-11th Ave S	Buffer Lane	35'	Both Sides	25 mph	No	-	No	No	0	33	NA	0.3	Local
1st Ave S													
S 5th St-Cherry St	Buffer Lane	47'	Both Sides	25 mph	No	1	No	No	0	3	1900	0.3	Major Collector
Lincoln Dr													
Belmont-Greenway	Bike Lane	28'	South Side	25 mph	No	-	No	No	0	2	NA	0.22	Local

Source: Street_Corridor_Numbers _6_ 5-18-18 MAY 21_2018_COMPLETE SCORING_CORRIDORS_SEPT_18_TABL_4_staholders input_OCT 24

Proposed On-road Bicycle Facilities, 2018													
Corridor	Proposed Facility Type	Road Width	Parking	Speed Limit	Attractors/Destinations Parks/Schools/Community Centers Directly adjacent to Proposed Facility	Transit # of Bus Stops	Connectivity Crossings at DeMers	Connectivity Crossings at 32nd Ave. S	# of Stop Signs	# Driveways (Both Sides)	AADT (2015)	Length (Miles)	Roadway Classification
S 20th St													
Demers-11th Ave S	Bike Lane	30'	East Side	25 mph (20 WCP)	Ben Franklin Elementary	2	Yes	No	1	11	245	0.34	Major Collector
11th Ave S-32nd Ave S	Sharrow	35'	East Side	25 mph	Bringewatt Park	3	No	Yes	2	62	5880	1.5	Major Collector
S 17th St													
Demers-20th Ave S	Bike Lane	30'	Both Sides	25 mph	No	2	Yes	No	3	30	NA	1	Local
20th Ave S-24th Ave S	Bike Lane	30'	West Side	25 mph	No	1	No	"	1	2	NA	0.3	Local
24th Ave S-32nd Ave S	Buffer Lane	35'	East Side	25 mph	No	1	"	Yes	2	3	NA	0.4	Local
Chesnut St													
1st Ave S-5th Ave S	Buffer Lane	30'	East Side	25 mph (20 WCP)	Phoenix Elementary	1	No	No	0	0	NA	0.26	Local
5th Ave S-13th Ave S	Buffer Lane	24'	East Side	25 mph	No	-	"	"	1	30	NA	0.6	Local
13th Ave S-15th Ave S	Buffer Lane	30'	East Side	25 mph	No	-	"	"	1	15	NA	0.2	Local
15th Ave S-17th Ave S	Buffer Lane	30'	East Side	25 mph	No	-	"	"	1	13	NA	0.16	Local
17th Ave-32nd Ave		30'	Both Sides	25 mph	No	2	"	Yes	2	42	NA	1	Local
Walnut St													
1st Ave S-13th Ave S	Sharrow	22'	West Side	25 mph	South Junior High School	3	No	No	1	24	NA	0.87	Local
13th Ave S-17th Ave S	Sharrow	30'	West Side	25 mph	No	1	"	"	3	26	NA	0.33	Local

Source: Street_Corridor_Numbers _6_ 5-18-18 MAY 21_2018_COMPLETE SCORING_CORRIDORS_SEPT_18_TABL_4_staholders input_OCT 24

DeMers Avenue and 32nd Avenue S are main arterial roads. They are also considered as "*barrier*s" to mobility and accessibility for pedestrians and bicyclist. Proposed segments on S17th St, S20th St, S34th St, and Cherry Street cross over 32nd Ave. S to continue toward the South. Please see Part III and Appendix to review comments in Parent's Surveys and comments by residents concerning these roads.

East Grand Forks

Roadway Characteristics were analyzed for the proposed segments and for the segments with planned facilities to establish whether the designation established for the 2040 Plan; still stands or, if based on roadway's analysis characteristics, the designation deserved to be adjusted or changed. The following segments in East Grand Forks were studied:

East Grand Forks	
Proposed Segments	Proposed Segments
14th St NW (3rd Ave NW- 6th Ave NW) 4th Avenue NW (17th St. NW-14th St. NW) 17th St. NW (River Rd NW- 5th Ave NW) 17th St. NW (5th Ave NE-Outside City Limits)	8th Avenue NW (23rd St. NW -17th St. NW) 2nd Ave NE (10th St NE- 1st St NE) 7th St NE (2nd Ave NE- 5th Ave NE) 3rd Avenue SE (1st St. SE-5th Ave SE) *Bygland Road (1st St to 13th St SE)

*Bygland Road (1st Street to 13th Street SE)

In addition to the proposed facilities segments indicated above, Bygland Road along with other important intersections, were analyzed in the *Bygland Road Study* (2015) produced by the MPO. The resulting proposed conceptual near, mid and long term enhancements featured mobility alternatives to integrate bicycling, improve pedestrian safety and vehicle accessibility into the corridor. Some of the alternatives suggested included –among others-: Bike Route, Shared Lane, Sidewalk construction, and off-road trail detailed strategies for the following intersections on Bygland Road:[148]

Bygland Road –1st Street SE	Bygland Road – 5th Street SE / Rhinehart Dr.	Bygland Road –James Avenue SE
Bygland Road –5th Avenue SE	Bygland Road –8th Street SE	Bygland Road –13th Street SE

Concerning connectivity, proposed segments on 23rd St. NW, 17th St. NW, and 14th St. NW cross over Central Avenue on their way to North East. A proposed segment on 5th Ave NE crosses over Gateway Drive. Although some of the crossings feature signalized intersections; still, the presence of a frontage road facility; as well as the location of public and private access presents challenges to pedestrian and bicyclist when crossing on their way to nearby educational and recreational opportunities.

Supported by local stakeholders, the MPO is currently advancing the MN 220 N Corridor Study. Among others, the study strives to evaluate existing gaps in the pedestrian network and bicycle system. The study endeavors to explore opportunities to improve the existing multi-modal infrastructure.

[148] Alliant Engineering (2015) Bygland Road Study, Final Report.

This approach entails the need to address safety concerns and to identify low-cost safety improvements has arisen as one of the priorities for the MN 22O N Corridor.

East Grant Forks Proposed On-Road Bicycle Facilities, 2045												
Corridor	Proposed Facility Type	Road Width	Parking	Speed Limit	Attractors/Destinations Parks/Schools/Community Centers Directly adjacent to Proposed Facility	Transit # of Bus Stops	Connectivity Crossings at Central Ave.	Connectivity Crossings at Gateway Drive	# of Stop Signs	# Driveways (Both Sides)	AADT (2013)	Roadway Classification
14th St NE												
Hugo's Turn- Central Ave Frontage Rd	Sharrow	40'	None	NA		1			0	0	NA	Major Collector
Central Ave Frontage Rd- Central Ave NW	Sharrow	60'	None	NA		0			0	0	2400	Major Collector
Central Ave NW- Central Ave Frontage Rd	Sharrow	60'	None	NA		0	Yes		0	0	3350	Major Collector
Central Ave Frontage Rd- 3rd Ave NW	Sharrow	40'	None	30		0			0	0	3350	Major Collector
3rd Ave NW- 4th Ave NW	Sharrow	40'	Both Sides	NA	EGF Civic Center	0			0	2	NA	Major Collector
4th Ave NW- 5th Ave NW	Sharrow	40'	Both Sides	NA	East Grand Forks HS	0			0	3	NA	Major Collector
5th Ave NW- 6th Ave NW	Sharrow	40'	Both Sides	NA	New Heights Elementary	0			1	5	NA	Major Collector
4th Ave NW												
14th St NE- 15th St NW	Sharrow	35'	Both Sides	30		0			1	11	NA	Local
15th St NE- 17th St SW	Sharrow	40'	Both Sides	30		0			1	4	NA	Local
6th Ave NW												
10th St NW- 11th St NW	Sharrow	35'	Both Sides	30		0			1	3	NA	Minor Collector
11th St NW- 12th St NW	Sharrow	35'	Both Sides	30		0			0	5	NA	Minor Collector
12th St NW- 13th St NW	Sharrow	35'	Both Sides	30		0			0	5	NA	Minor Collector
13th St NW- 14th St NW	Sharrow	35'	Both Sides	30		0			0	2	660	Minor Collector
17th St. NW												
River Rd NW- 10th Ave NW	Bike Route	40'	Both Sides	30	River Heights Park	0			1	15	1400	Major Collector
10th Ave NW- Wylie Ct	Bike Route	40'	Both Sides	30		0			0	3	NA	Major Collector
Wylie Ct- 8th Ave NW	Bike Route	40'	Both Sides	30		1	Yes		1	8	NA	Major Collector
8th Ave NW- 7th Ave NW	Bike Route	40'	Both Sides	30		0			1	1	NA	Major Collector
7th Ave NW- 6th Ave NW	Bike Route	40'	Both Sides	30		0			0	3	NA	Major Collector
6th Ave NW- 5th Ave NW	Bike Route	40'	Both Sides	30		0			0	4	NA	Major Collector
2nd Ave NE											NA	
10th St NE- 9th St NE	Sharrow	40'	Both Sides	30		0		Yes	2	7	NA	Minor Collector
9th St NE- 8th St NE	Sharrow	40'	Both Sides	30		0			1	4	990	Minor Collector
8th St NE- 7th St NE	Sharrow	40'	Both Sides	30		0			1	2	NA	Minor Collector
7th St NE- 6th St NE	Sharrow	40'	Both Sides	30		0			0	2	NA	Minor Collector
6th St NE- 5th St NE	Sharrow	40'	Both Sides	30		0			0	1	NA	Minor Collector
5th St NE- 4th St NE	Sharrow	40'	Both Sides	30		0			0	0	1550	Minor Collector
4th St NE- 3rd St NE	Sharrow	50'	Both Sides	30	Louis Murray Bridge	0			0	0	NA	Minor Arterial
3rd St NE- 2nd St NE	Sharrow	40'	Both Sides	30	The Point	0			0	0	7600	Minor Arterial
2nd St NE- 1st St NE	Sharrow	45'	Both Sides	30	Greenway Trail	0			0	0	NA	Minor Arterial
7th St NE												
2nd Ave NE- 3rd Ave NE	Bike Route	40'	Both Sides	NA		0			2	2	NA	Local
3rd Ave NE- 4th Ave NE	Bike Route	40'	Both Sides	NA		0			1	2	NA	Local
4th Ave NE- 5th Ave NE	Bike Route	40'	Both Sides	NA		0			1	0	NA	Local
1st St SE- 5th Ave SE	Bike Lane	45'	None	NA		0			0	0	NA	Minor Arterial

Source: Street_Corridor_Numbers _6_ Gen 7-5-18 EGF (1) TABLE4A_9A_JULY_23_TABLE_9_EGF_NOV_27_EGF REVIEW

In addition to the analysis of Roadway Characteristics, the following steps were considered in the analysis of proposed corridors in Grand Forks and East Grand Forks:

- Stakeholders Input in Ranking and Prioritizing
- Proposed Facilities Segments: Cross-section Conceptual Treatments
- Estimating costs for the proposed facilities (*See Section D*)

4. Stakeholders Input in Ranking & Prioritizing Corridors

In addition to basic roadway's characteristics, elaborated cross-sections and design standards provided by the Departments of Engineering from the City of Grand Forks and East Grand Forks, the proposed segments under consideration were analyzed according to the following criteria:

- Existing roadway characteristics, on the proposed corridors, facilitate accommodating the proposed designated bicycle facilities

Stakeholders Input

Grand Forks

Concerning comments on the "*Proposed On-road Facilities, 2018 Map*" showing the location of a number of existing and proposed projects, the Grand Forks Department of Engineering (Draft Part V) as part of the Advisory Committee, requested the following actions on August 7, 2018:

Suggested ***Additions*** to the Network (*Existing and Proposed Facilities*):

- Shared-use Paths

Segment	From	To	Facility	Status
Belmont Road	Sandpiper	62nd Ave. S	Construction 2017	Planned
N55th St	Lanark Drive	University Ave.	Construction 2018	Planned
47th Ave. S	S Columbia Road	S 20th St.	Construction 2018	Planned
N42nd St.	University Ave.	Gateway Drive	Construction 2018	Planned
Cherry St.	55th Ave S	59th Ave. S	Construction 2014-2018	Planned
Adams Drive	End Gravel Path	62nd Avenue S.	NA	Planned

- Sharrow

Segment	From	To	Facility	Status
# Kittson Ave.	N3rd St.	N 5th St.	Bike Route-Designation	To be added

- Bike Route

Segment	From	To	Facility	Status
S17th St.	DeMers Avenue	32nd Avenue S.	Bike Route	Approved
S20th St.	De Mers	32nd Ave. S	Bike Route	Approved
Chestnut St.	4th Avenue N	32nd Avenue S.	Bike Route	Approved
Walnut St.	1st Avenue N	17th Avenue S.	Bike Route	Approved
13th Ave S	Belmont Rd	Columbia Rd	Bike Route	Approved
17th Ave S	Belmont Rd	S 20th St.	Bike Route	Approved

Segments suggested to be ***Removed*** from the Network (*Existing and Proposed Facilities*):

- Multi-use Path

Segment	From	To	Facility	Status
Coulee	Gateway Dr.	Columbia Rd Bend	Multi-use Path	Removed
Coulee	Columbia Rd Bend	Flood Control Mechanical	Multi-use Path	Removed
Coulee	Flood Control Mechanical	Columbia Rd UND Coulee Path	Multi-use Path	Removed
Belmont	32nd Ave. S	5th Ave. S	Sharrow	Removed
N Columbia Rd	De Mers Ave (South)	N Columbia Road	Multi-use Path	
Greenway	South End Drain Way	62nd Ave. S	Multi-use Path	Remain*
62nd Ave. S	Greenway Drive	Adams Drive	Multi-use Path	Remain*

* Legacy Project: MPO suggest these segments should remain on the Network. It has been indicated that years ago, a 35-ft wide River frontage easement was acquired by City of Grand Forks.

- Bike lanes

Segment	From	To	Facility	Status
6th Ave. N	West of 42nd St.		Bike Lane	Removed

Note: Stakeholder's remarks: Current Kittson Ave., configuration is creating gaps in the system

These requested additions and removal changes will be reflected on the *Proposed On-road Facilities, 2018 Map*" currently under preparation.

The following corridors under consideration were submitted to the Bicycle, Pedestrian & Greenway Advisory Committee on September 12, 2018. The objective was to request its assistance in ranking and prioritizing the following segments:

Belmont Road from 5th Ave. S to 32nd Ave. S Removed Sharrow designation	S 20th Street from DeMers Ave. to 32nd Ave. S Bike Route
Chestnut St. from 1st Ave. S to 32nd Ave. S Bike Route	S 17th Street from DeMers Ave. to 32nd Ave. S Bike Route
Walnut St. from 1st Ave. S to 17th Ave. S Bike Route	

At the *Bicycle, Pedestrian & Greenway Advisory Committee* meeting held on September 12, 2018, in addition to providing input on Belmont Road from 5th Ave. S to 32nd Ave. S; stakeholders were encouraged to also choose ***ONE*** preferred corridor from either of the ***TWO PAIRS*** provided for further consideration as a "*proposed facility:"*

- Chestnut St. **OR** Walnut St S 17th St. **OR** S 20th St

In response, two motions were submitted for discussion:

Motion #1: Accept the engineering recommendations for designating South 20th and South 17th Streets as bicycle routes. M/S/A Jane/Wes

Motion #2: Table discussion on the Chestnut Street, Walnut Street, and Belmont Road options until the October meeting to allow riders to review the options. MSA Jane/Richard

As per stakeholder's suggestion, the roadways with a width equal to or less than 34' *will not be considered for on-road facilities*. However, those segments could be considered as on-road ***Bike Routes***, when appropriate.

Belmont Road (5th Ave. S to 32nd Ave. S)
Under Consideration/Sharrow Designation to be Removed

Abuts on one of the largest '*green*' spaces and one of the most prominent neighborhood parks in Grand Forks. Provides access to the Greenway Trail System. Intense pedestrian and bicycle activity.

Advisory Committee	Bicycle, Pedestrian & Greenway Advisory
Belmont Road too narrow for sharrows. Street too narrow for on-road facilities.	Support use of Chestnut and Walnut as Bike Routes, instead of Belmont Road

13th Avenue South (Belmont to S. Washington St)
Proposed: Bike Route

Connects the Greenway to Belmont; goes through residential housing; passes by the Elks Pool and park, Lewis and Clark Elementary School. Intersects at S Washington, passes Taco Bell. 13th Avenue South connects Belmont to the west side of town (S. Washington St. to Columbia Rd).

Advisory Committee	Bicycle, Pedestrian & Greenway Advisory
Roadways with a width equal to or less than 34' will not be considered for on-road facilities. *(Stakeholders Remarks)*	

17th Avenue South (Belmont to S. Washington St)
(S. Washington St. to S 25th Street)
Proposed: Bike Route

Connects Belmont Road to S. Washington St. It passes through a historical residential neighborhood. The street provides access to the office of the Boy Scouts of America Grand Forks; Immanuel Lutheran Church and Immanuel Christian Children's Center. Other destinations on 17th Avenue South include the Holy Family-St. Mary's School, the Catholic Church, Hugo's and the commercial strip where the Ski & Bike Shop is located.

Advisory Committee	Bicycle, Pedestrian & Greenway Advisory
The Street is too narrow for Bike Lanes. It could be considered as a Bike Route or Sharrows. *(Stakeholders Remarks)*	

Note: A Multi-use Path is scheduled for construction on 17th Avenue South (S 20th Street to S 25th Street)

Stakeholders were encouraged to choose *ONE* preferred corridor from either of the TWO PAIRS provided for further consideration as a "*proposed facility."* Stakeholders decided to keep both corridors as Bike Routes.

- S 17th St. ***OR*** S 20th St

S 17th Street (DeMers Avenue to 32nd Avenue South *Proposed: Bike Route*	
Advisory Committee	Bicycle, Pedestrian & Greenway Advisory
Can be considered as Bike Route, but does not provide a controlled crossing at 17th Avenue South or at 32nd Avenue South. There is an existing Bike Route on S 14th Street (DeMers Avenue to S 15th Street). (*Stakeholders Remarks*) Grand Forks Engineering supports Bike Route only.	Motion #1: Accept the engineering recommendations for designating South 20th and South 17th Streets as bicycle routes. M/S/A Jane/Wes

S 20th Street (DeMers Avenue to 32nd Avenue South)
Proposed: Bike Route

20th Street abuts on residential housing; provides access to Ben Franklin Elementary School and Park; connects to Sharon Lutheran Church, Bringewatt Park, Richfield Apartment Office, and Southview Apartments. Commercial destinations include CVS, Cenex gas station, Sterling Carpet One Floor & Home, and links the DeMers Ave corridor to the 32nd Ave. S corridor.

Advisory Committee	Bicycle, Pedestrian & Greenway Advisory
Street must be a minimum of 32' wide to meet FHWA criteria. (*Stakeholders Remarks*) Grand Forks Engineering supports Bike Route only.	Motion #1: Accept the engineering recommendations for designating South 20th and South 17th Streets as bicycle routes. M/S/A Jane/Wes

- Chestnut St. ***OR*** Walnut St.

Chestnut Street (1st Avenue South to S 17th Avenue South)
(S 17th Avenue South-32nd Ave. S)
Under Consideration: Bike Route

A local road providing access to residential housing; connects the United Lutheran Church, Phoenix Elementary School to the 32nd Avenue S Corridor. The street creates a one-way pair with Walnut Street.

Advisory Committee	Bicycle, Pedestrian & Greenway Advisory
Grand Forks Engineering supports Bike Route only.	Motion #2: Table discussion on the Chestnut Street, Walnut Street, and Belmont Road options until the October meeting to allow riders to review the options. MSA Jane/Richard

Chestnut Street creates a one-way pair with Walnut Street. A Contra-flow Bike Lane treatment could be considered in the future to address intersection, mid-block and potential driveway conflicts.

Walnut Street (1st Avenue South to S 17th Avenue South)
Under Consideration: Bike Route

A local road providing access to residential housing; connects the United Lutheran Church, Phoenix Elementary School to the 32nd Avenue S Corridor. The street creates a one-way pair with Walnut Street.

Advisory Committee	Bicycle, Pedestrian & Greenway Advisory
Too narrow for Bike Lanes at the north end. Low volume streets in neighborhoods are not appropriate for Bike Lanes. Could be considered as Bike Routes (*Stakeholders Remarks*) Grand Forks Engineering supports Bike Route only.	Motion #2: Table discussion on the Chestnut Street, Walnut Street, and Belmont Road options until the October meeting to allow riders to review the options. MSA Jane/Richard

- Planned & Proposed Facilities

EAST GRAND FORKS PLANNED FACILITY TYPE, 2045
(Stakeholder's Input)

Corridor	From	To	Estimated Roadway's Width (Ft)	Designated Facility Type, 2040	Proposed Facility Type, 2045	AADT (2015) > 3,000[1]
Bygland Rd SE	5th Ave SE	7th St. SE	45	~~Bike Lane~~	Bike Lane	2500
Bygland Rd SE	7th St. SE	City Limits	45	~~Bike Lane~~	Bike Lane	5700
13th St SE	Bygland Rd SE	East Side Schools	NA	~~Multi-Use Path~~	Bike Route	770
6th St. SE	5th Ave NE	James Ave SE	40		Bike Route	NA
12th St. NW	8th Ave NW	10th Ave NW	40	~~Bike Route~~	Bike Route	NA
17th St. NW	12th Ave NW	5th Ave. NE	45	~~Bike Lane~~	Bike Route	1400
19th Ave SE	Red Lake River	13th St. SE	NA	~~Multi-Use Path~~	Bike Route	NA
23rd Ave. NW	Central	5th Ave. NE	21	~~Bike Route~~	Bike Route	NA
4th St. SE/James	Bygland Rd SE	James Ave SE	NA	~~Bike Route~~	Bike Route	NA
5th Ave. NE	23rd St. NW	Gateway Dr.	40	~~Bike Route~~	Bike Route	1650
6th Ave NW /New Hghts Elementary	15th Street NW	8th Ave. NW	NA	~~Multi-Use Path~~	Bike Route	NA
7th St. NE	2nd Ave. NE	5th Ave. NE	40	~~Bike Lane~~	Bike Route	NA
8th Ave NW	17th St. NW	23rd St. NW	40	~~Bike Route~~	Bike Route	1650
Bygland Rd SE	City Limits	Outside City	45	~~Bike Route~~	Bike Route	2700
Greenway Blvd.	Rhinehart Dr.	Bygland Rd.	52	~~Bike Lane~~	Bike Route	430
James Ave SE	River Rd. SE	6th St. SE	NA	~~Multi-Use Path~~	Bike Route	NA
21nd Ave SE	13th St. SE	Bygland Rd. SE	NA	~~Multi-Use Path~~	Bike Route	NA
11th St. SW	5th Ave NE	Rhinehart Dr. SE	NA		Bike Route	NA
Greenway	Rhinehart Dr.	Bygland Rd/190 St. SW	45	~~Bike Lane~~	Bike Route	4450
182nd St. SW	Greenway	Rhinehart Dr. SE	NA	~~Multi-Use Path~~	Bike Route-Outside	NA
14th St. NE	Central Frontage	6th Ave NW	40	~~Bike Lane~~	Sharrow	3250
17th St. NW	River Rd.	12th Ave NW	45	~~Bike Lane~~	Sharrow	2050
N 23rd St.	River Rd NW	N 23rd Rd 1Mile	NA		Sharrow	700
2nd Ave. NE	10th St. NE	4th St. NE	40	~~Bike Lane~~	Sharrow	3200
2nd Ave. NE	1st St. NE	4th Ave SE	45	~~Bike lane~~	Sharrow	7400
River Rd. NW	Greenway	23rd Ave NE	45	~~Sharrow~~	Sharrow	2050
Rhinehart Dr.	Bygland Rd SE	Greenway Blvd.	40	~~Multi-Use Path~~	Sharrow	2000

[1] Minnesota Department of Transportation (2016). 2017 Publication Traffic Volumes – East Grand Forks at http://www.dot.state.mn.us/traffic/data/maps/trunkhighway/2017/cities/eastgrandforks.pdf

SOURCE: EGF_PROPOSED FACILITIES LIST_OCT_28 STAKE_INPUT_FN_FINALS COST _NOV_12

In East Grand Forks, the "*Planned & Proposed Facilities*" were segments assessed previously in 2013. As part of the Bicycle and Pedestrian Element update roadway characteristics were analyzed. In addition, these segments were submitted to the members of the Bicycle and Pedestrian Advisory Committee and to the East Grand Forks Engineering and Parks and Recreation staff for their consideration.

Stakeholders were asked to indicate whether the designation established for the 2040 Plan, still stands or, if based on current land development patterns, or on roadway's analysis characteristics, the existing type of bicycle and pedestrian designation could remain as it is, deserves to be adjusted or should be changed.

After reviewing the facilities, the East Grand Forks Engineering and Parks and Recreation and Planning staff studied the existing designation from the 2040 Element. The bicycle or pedestrian facility designation remained same or was re-adjusted as illustrated in the table under the column: *Planned & Proposed Facility Type, 2045*.

As a result from the assessment, the East Grand Forks Department of Engineering, and Department of Parks and Recreation, requested the following previously "*planned*" segments to be removed from the network facilities. Bicycle Facility Designation to be removed from these segments (*from 2040-2045 Bicycle and Pedestrian Plan Map*):

- Multi-use Path

Segment	From	To	Facility	Status
23rd St NW	River Rd NW	Greenway	Planned	Removed
190th St. SW	Greenway	Bygland Rd SE	Carry-over	Removed
Across RLR	Railroad	Along Hwy 2	Planned	Removed
EGF Coulee	Bygland Rd SE	S 190th St. SW	Carry-over	Removed
EGF Coulee	Greenway	4th St. SE	Carry-over	Removed
Frontage Rd	150th St SW	140th St. SW	Planned	Removed
Gateway Dr	Greenway	4th St. SE	Planned	Removed
Gateway Dr	Sherlock Pkwy	10th St. NW	Planned	Removed
Greenway	Along Red River West	US Hwy 2	Carry-over	Removed
Greenway	Along Red River East		Carry-over	Removed
Greenway	Across Red River	Greenway	Carry-over	Removed

- Bike Lane

Segment	From	To	Facility	Status
14th St. NE	Hugo's Turn	Central Ave/Front	Planned	Removed
5th Ave NW	Gateway Drive	14th St. NW	Planned	Removed
5th Ave NW	14th NW	10th St. NW	Planned	Removed

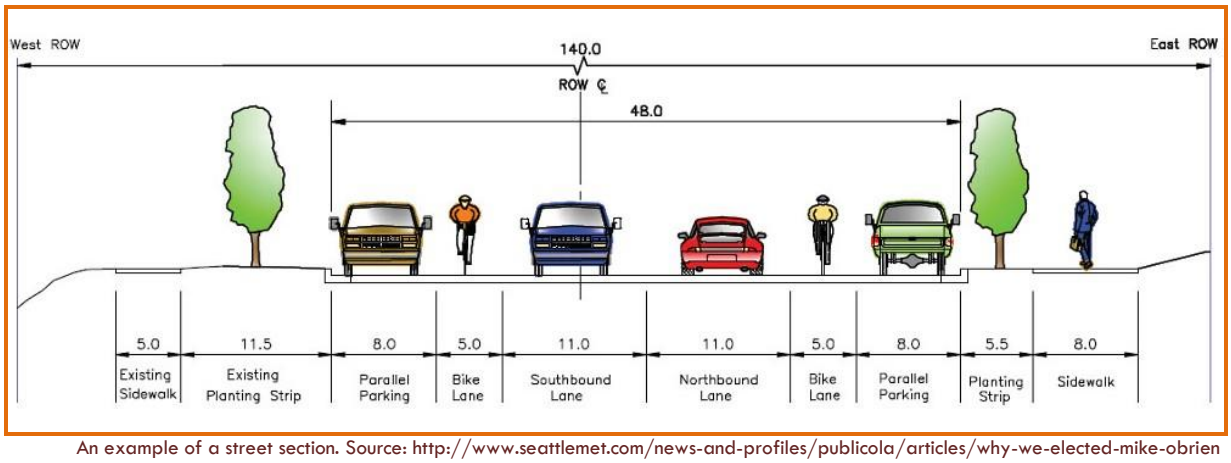
- Bike Lane/Route

Segment	From	To	Facility	Status
Outside City Limits (Bet. 7th -8th Ave NE.	Gateway Dr.	17th St. SW	Planned	Removed
Outside City Limits (East 11th Ave NE)	Gateway Dr.	18th St. SW	Planned	Removed
140th St. SW/ Section Line Road	460th Ave SW	10th St. NE	Planned	Removed

5. Proposed Facility Segments: Cross-section Conceptual Treatments

The roadway's cross-section analysis described in this Bicycle and Pedestrian Element is pursued from a planning perspective. The assessment does not include an in-depth evaluation of roadway's geometrics, intersection conditions and other important engineering elements used in the conclusive selection of a corridor to accommodate bicycle transportation facilities. This analysis does not evaluate intersection and crossing treatments, signalization, operational safety factors and pedestrian facilities. Instead, the proposed analysis considers mid-block roadway's width including width of existing parking and proposed travel lanes.

Roadway cross-section analysis is a rigorous engineering activity. The engineering approach assesses roadway geometric elements including roadway widths and their ability to accommodate travel lanes, bicycle and auxiliary lanes and on street parking. Cross section analysis also considers pedestrian facilities (such as sidewalks and associated buffers). See figure below:



An example of a street section. Source: http://www.seattlemet.com/news-and-profiles/publicola/articles/why-we-elected-mike-obrien

In East Grand Forks, the width for most local and arterial roadways is equal to or greater than 40 feet. Concerning the minimum acceptable width of traveling lanes is estimated at 11-12 feet. It appears there are no parking restrictions on the roadways under consideration. However, should parking removal be required to accommodate proposed facilities, approval from City Council is required. Further analysis indicates that there is not enough existing roadway's width on some segments to accommodate regular bike lanes on both sides of the road on some corridors.

All factors considered, the recommendations provided in this report are based on the type of facility designated through the stakeholder's assessment. However, other type of facilities could be considered upon further analysis. General technical consideration for proposed types of bikeways is described in Part III: Existing Conditions of this Bicycle and Pedestrian Element. Interested readers are advised to read the Chapter 4: Design of On-Road Facilities, Guide for the Development of Bicycle Facilities (2012) published by AASHTO.

Streetmix Software has been used to further visualize basic roadway characteristics of the proposed corridor. *Streetmix* is an interactive tool that lets anyone create a visual representation of their ideal street, based on methods already used by city planners.[149]

[149] You're a street designer (you just don't know it yet): The design principles behind Street mix. A Medium Corporation at https://medium.com/@mwichary/youre-a-street-designer-you-just-dont-know-it-yet-b5e83620e428

The *aerial views* generated using *Street mix and Street Plan* are included for illustration purposes. Roadway conditions (widths, parking availability) may change from a segment to another. In addition, existing roadway conditions at intersections could potentially create safety hazards for bicyclists, may possibly prevent directness and accessibility to destinations on the corridor.

The conceptual alternatives for the following proposed on-road facilities are illustrated below.

Grand Forks

The outlined four segments are proposed to determine whether "*on-road*" (facilities occupying part or sharing a roadway lane) bicycle facilities could be accommodated on the corresponding corridor. According to the roadway analysis, these roads feature widths equal to or wider than 35 feet. As per stakeholder's suggestion, the roadways with a width equal to or less than 34' *will not be considered to accommodate bike lanes or sharrow facilities.* However, those proposed corridors could be considered as on-road ***Bike Routes***, when appropriate. A bicycle lane is a portion of a roadway designated by striping, signing, and pavement markings for the preferential or exclusive use of bicycles.[150]

As a result, the number of corridors initially considered for accommodating "*on-road*" bicycle facilities, was reduced from thirteen to four proposed corridors. The corridors could be considered as proposed facilities:

1st Ave. S (S 5th St.-Cherry St.) 24th Ave S (Belmont Rd-Columbia Rd)	Cherry St (1st Ave S-32nd Ave S) S 34th St (DeMers-32nd Ave. S)

The final proposed type of bicycle facilities will be submitted for consideration of the members of the Bicycle and Pedestrian Advisory Committee.

[150] MN/DOT (March 2007) Bikeway Facility Design Manual

1st Ave S from S 5th St to Cherry St

Description:

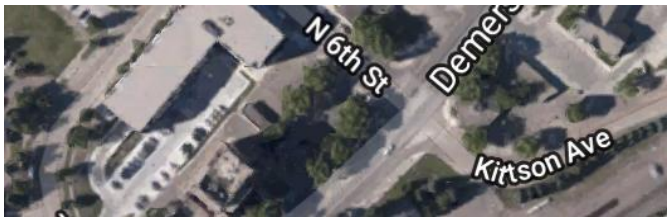
Starts at the Grand Forks Police Department and runs west through residential housing and past a couple of apartment buildings before running parallel to the railroad tracks and meeting up with Cherry St.

Existing:

Proposed:

After the assessment of proposed facilities, Bike Routes in both directions were designated by consideration of the Advisory Committee.

Aerial Imagery:



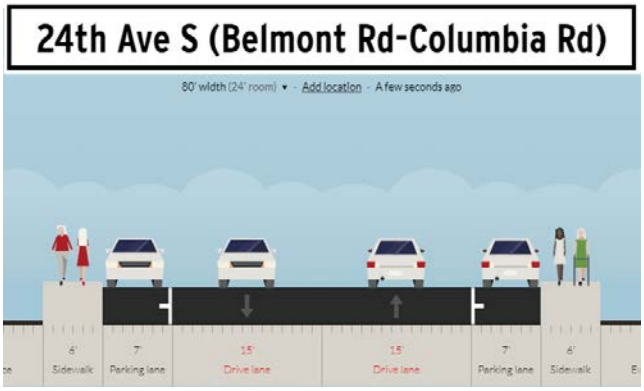
24th Ave S (Belmont Rd-Columbia Rd)

Description

24th Ave S is an important East –West Major Collector road which provides access to a commercial, residential and park & recreational land uses. 24th Ave S facilitates access to the Cox & Bringwatt Parks and to the Myra Historical Museum located at the Greenway Trail System at Elks Drive.

Existing

24th Ave S (Belmont Rd-Columbia Rd)



Proposed

After the assessment of proposed facilities, **Bike Route** was designated for the segment on 24th Ave. S from Belmont to S Washington St.

As a result, the initially proposed ~~Bike Lane~~ designation for the segment on 24th Ave S from S Washington St to Columbia Road was replaced by a **Bike Route** designation.

Existing

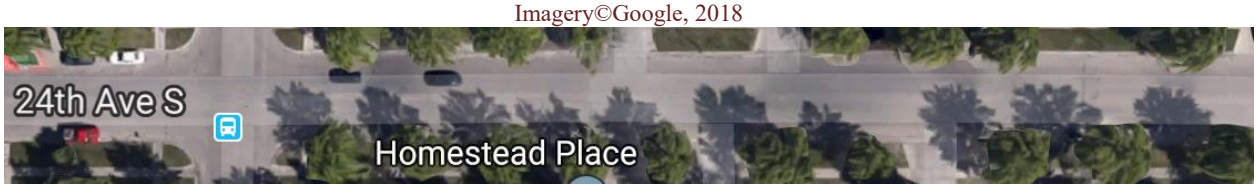
24th Ave S (S. Washington St.-Columbia Rd)
S Washington St. Columbia Road

24th Ave S (S. Washington St.-Columbia Rd) is a channelized intersection. It provides east –west bound and west-east bound turning lanes from S 11th St to Washington St; and from S Washington St towards S 20th St. An observation of the existing geometric configuration at the intersection indicates that it is difficult to attain direct crossing at the S Washington Street for bicyclists from EWB-WEB.

As it was indicated earlier, the intersection is one example where the existing roadway conditions create safety hazards for bicyclists; pose a safety challenge to user's, and prevent them from having direct access to destinations on the corridor.

As a result, the initially proposed ~~Bike Lane~~ designation for the segment on 24th Ave S from S Washington St to Columbia Road, it was replaced by a Bike Route designation.

Aerial Imagery:



Cherry St (1st Ave S-32nd Ave S)

Description

Cherry Street is a historical street in Grand Forks. Cherry Street is part of the Near South Neighborhood. It connects 32nd Ave to the downtown area; Cherry passes through residential housing, as well as institutions that bring third party travelers to the area. Such agencies include the Boy Scouts of America Grand Forks Office, Immanuel Lutheran Church and Immanuel Christian Children's Center, Grace Baptist Church, St Mark's Lutheran Church, the Church of Jesus Christ of Latter-day Saints, J Nelson Kelly Elementary School, Kelly Park, and Schroeder Middle School. Cherry Street intersects at 17th Ave S; it reaches 32nd Ave S and extends to newly developed areas in the South as far as Adams Drive. Road width is irregular: 45' (1st Ave S-4th Ave S) to 24' (4th Ave S -10th Ave S). Parking is permitted on both sides of the road except on the segment on (4th Ave S -10th Ave S).

Existing

Existing roadway conditions were analyzed previously by stakeholders during the update of the 2040 Bicycle and Pedestrian Plan. As a result, the bicycle facilities proposed are "*carried-over*" for further consideration.

Proposed

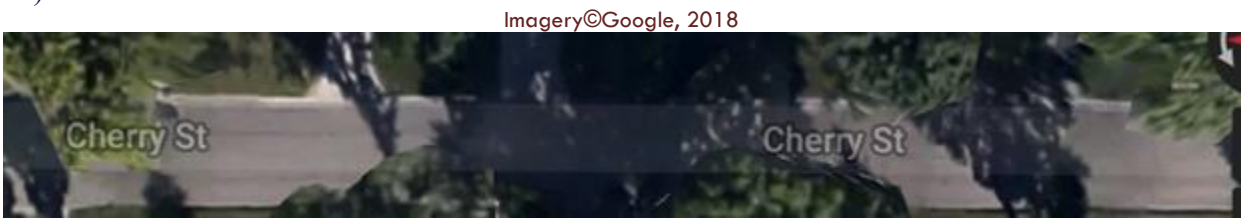
The following bicycle and pedestrian facilities have been identified on Cherry St. in the 2040 Bicycle and Pedestrian Plan:

Cherry St (4th Ave S-13th Ave S)

Designation to be changed from ***Sharrow*** to **Bike Route** on the segment (4th Ave. S -13th Ave S).
Designation to remain same

Cherry St (13th Ave S-47th Ave S)

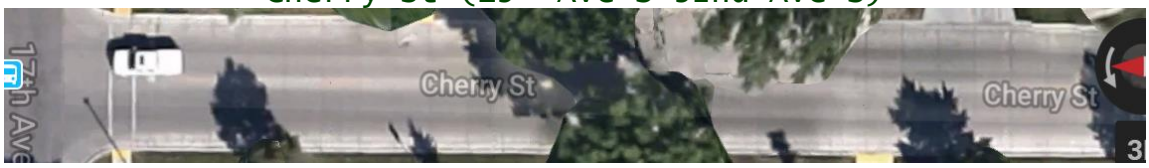
Designation to be changed from ***Bike Lane*** to **Bike Route** on the segment (13th Ave S-32nd Ave S)



Cherry St (47th Ave S 62nd Ave S)

A **Multi-use Path** is currently identified on the segment on Cherry St from 47th Ave. S to 62nd Ave. S. Construction of the segment on Cherry St. from 55th Ave. S to 59th Ave. S is scheduled for (2014-2018)

Cherry St (13th Ave S-32nd Ave S)



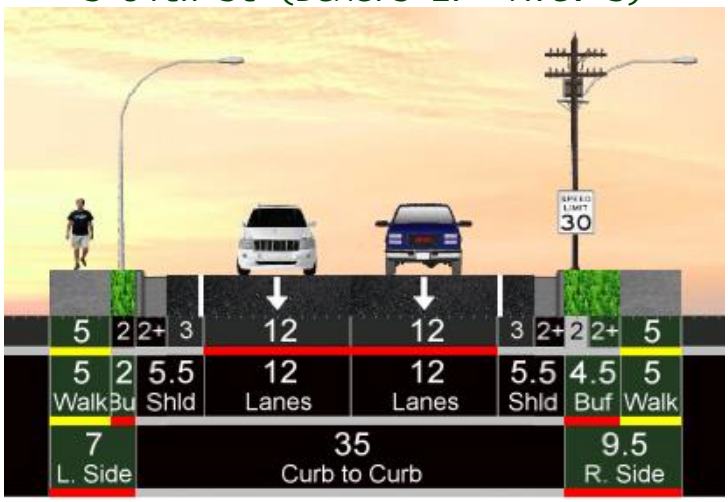
S 34th St (DeMers-32nd Ave. S)

Description

S 34th St is a local street that connects DeMers Ave to 32nd Ave S. The street provides a connection to the Sertoma Park. According to the 2016 Parks & Recreation Master Plan, the park serves a 16,223 population. After crossing 32nd Ave S, S34th Street provides access to a large residential development in the South-West part of the city. Access is provided through a Multi-use Path extending from at 24th Ave S to 42nd Ave. S.

Existing

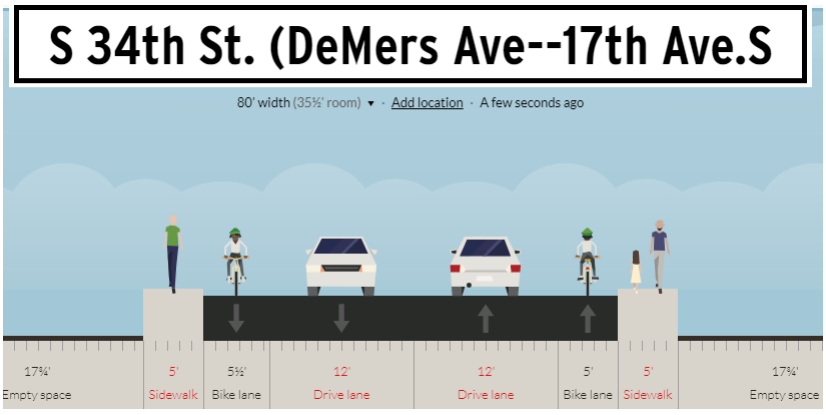
S 34th St (DeMers-17th Ave. S)



(View Street Plan)

Proposed

This segment is a narrow roadway with shoulders. There is no parking available on the segment from 24th Ave S to 32nd. There is no parking available on the segments from DeMers-17th Ave. S. The analysis suggests the segment from DeMers-17th Ave. S to be designated as Bike Lanes.



S 34th St (17th Ave S - 32nd Ave S)

Parking is available on both sides on the segment from 17th Ave. S- 32nd Ave S. The analysis suggests consideration of Bike Route.

Aerial

Grand Forks Proposed On-road Bicycle Facilities, 2018

(Stakeholder's Input)

Corridor	Proposed Facility (Stakeholder's Input)	Road Width	Parking		Requires Parking Removal	Speed Limit	Attractors/ Destinations Parks/Schools/ Community Centers Directly adjacent to	AADT (2015)	Length (Miles)	Roadway Classification
13th Ave S										
Belmont-Cottonwood	Bike Route	25'	No	No		25 mph	No	1475	0.2	Major Collector
Cottonwood-S 10th St	Bike Route	25'		South Side		25 mph	No	3070	0.23	Major Collector
S 10th St-S 11th St	Bike Route	30'	North Side			20 mph	Elks Pool and Park	5890	0.07	Major Collector
S 11th St-S 12th St	Bike Route	30'		South Side		20 mph	Lewis and Clark	5890	0.08	Major Collector
S 12th St-S Washington St	Bike Route	50'	No	No		25 mph	No	5890	0.06	Major Collector
S Washington St-S 14th St	Bike Route	50'	Both Sides			25 mph	No	4325	0.08	Major Collector
S 14th St-S 19th St	Bike Route	31'	Both Sides			25 mph	No	4325	0.35	Major Collector
S 19th St-Columbia Rd	Bike Route	50'	Both Sides			25 mph	No	3885	0.58	Major Collector
17th Ave S										
Belmont-S Washington	Bike Route	30'		South Side		(20 WCP)	Catholic School	4900	0.74	Minor Arterial
S Washington St-S 16th St	Bike Route	60'	No	No		25 mph	No	9445	0.2	Minor Arterial
S 16th St- S 20th St	Bike Route	35'		South Side		25 mph	No	7810	0.3	Minor Arterial
S 20th St-S 25th St	Bike Route	35'	No	No		25 mph (20 WCP)	Grand Forks Central High School	8140	0.31	Minor Arterial
24th Ave S										
Belmont-S Washington	Bike Route	35'	Both Sides		No	25 mph	Cox Park	4690	0.76	Major Collector
S Washington-S 20th St	Bike Route	45'	Both Sides		No	25 mph	No	5715	0.5	Major Collector
S 20th St-Columbia Rd	Bike Route	45'	Both Sides		No	25 mph	Bringewatt Park	6850	0.5	Major Collector
Cherry St										
1st Ave S-4th Ave S	Bike Route	45'	Both Sides		No	25 mph	No	1980	0.16	Major Collector
4th Ave S-13th Ave S	Bike Route	24'	No	No	No	25 mph	No	2950	0.44	Major Collector
13th Ave S-17th Ave S	Bike Route	30'		West Side	No	25 mph	No	3175	0.55	Major Collector
17th Ave S-32nd Ave S	Bike Route	35'	Both Sides		No	25 mph	Kelly Park	3550	1	Major Collector
S 34th St										
Demers-17th Ave S	Bike Lane	35'	No	No	No	30 mph	Sertoma Park	3400	0.95	Major Collector
17th Ave S-24th Ave S	Bike Route	45'	Both Sides		No	30 mph (20 WCP)	Century Elementary	4415	0.5	Major Collector
1st Ave S										
S 5th St-Cherry St	Bike Lane	47'	Both Sides		No	25 mph	No	1900	0.3	Major Collector
Lincoln Dr										
Belmont-Greenway	Bike Lane	28'		South Side	No	25 mph	No	NA	0.22	Local

Grand Forks Proposed On-road Bicycle Facilities, 2018

(Stakeholder's Input)

Corridor	Proposed Facility (Stakeholder's Input)	Road Width	Parking		Requires Parking Removal	Speed Limit	Attractors/ Destinations Parks/Schools/ Community Centers Directly	AADT (2015)	Length (Miles)	Roadway Classification
S 17th St										
Demers-20th Ave S	Bike Route	30'		Both Sides		25 mph	No	NA	1	Local
20th Ave S-24th Ave S	Bike Route	30'	West Side			25 mph	No	NA	0.3	Local
24th Ave S-32nd Ave S	Bike Route	35'		East Side		25 mph	No	NA	0.4	Local
Chesnut St										
1st Ave S-5th Ave S	Bike Route	30'		East Side		25 mph (20 WCP)	Phoenix Elementary	NA	0.26	Local
5th Ave S-13th Ave S	Bike Route	24'		East Side		25 mph	No	NA	0.6	Local
13th Ave S-15th Ave S	Bike Route	30'		East Side		25 mph	No	NA	0.2	Local
15th Ave S-17th Ave S	Bike Route	30'		East Side		25 mph	No	NA	0.16	Local
17th Ave-32nd Ave	Bike Route	30'	Both Sides			25 mph	No	NA	1	Local
Walnut St										
1st Ave S-13th Ave S	Bike Route	22'	West Side			25 mph	School	NA	0.87	Local
13th Ave S-17th Ave S	Bike Route	30'	West Side			25 mph	No	NA	0.33	Local
S 20th St										
Demers-11th Ave S	Bike Route	30		East Side		25 mph				Local
11th Ave S-32nd Ave S	Bike Route	30		East Side		25 mph				Local

East Grand Forks

The outlined corridors are proposed to accommodate "*on-road*" bicycle facilities. Most of the corridors under consideration feature road widths equal to or greater than 40 feet. Still, "*Bike Route*" is the designated type of facility for a number of planned/proposed corridors.

The expectation is that the proposed facilities –when implemented- could increase comfort level for users, provide them with more direct access and connections to important destinations, and serve to link discontinuous segments on the existing bicycle network. The following segments are under consideration:

17th St. NW (River Rd NW- 5th Ave NW) River Road NW (Greenway -17th St. NW) 4th Avenue NW (17th St. NW-14th St. NW) 5th Avenue NE (23rd St. NW -17th St. NW) 5th Avenue NE (17th St. NW-Gateway Dr.)	14th St NW (Central Front NW- 6th Ave NW) 2nd Ave NE (10th St NE- 1st St NE) 7th St NE (2nd Ave NE- 5th Ave NE) Bygland Road (1st Street to 13th Street SE)*

MPO staff performed related roadway characteristics review and assessment analysis for consideration of the Bicycle and Pedestrian Advisory Committee. In addition, a segment review was performed by East Grand Forks Engineering, Parks and Recreation and Planning Departments to establish whether the existing bicycle facility designation on the corridor was appropriate or needed to be changed, added to or removed from the segments under consideration.

The analysis considered existing on-road facilities. It also performed an assessment of "*planned*" bicycle facilities designated in the 2040 Bikeway Network Project Map.

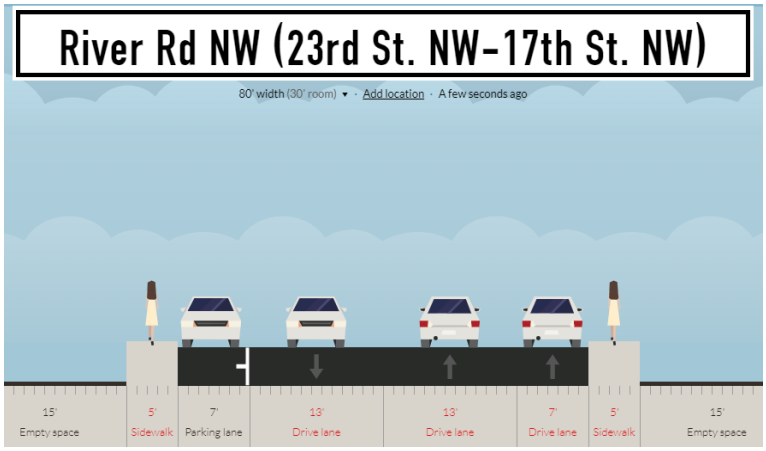
*Bygland Road, along with other important intersections, was analyzed in the Bygland Road Study (2015) produced by the MPO. Please see notes on page 29.

River Rd. NW (Greenway to 17th St. NW)

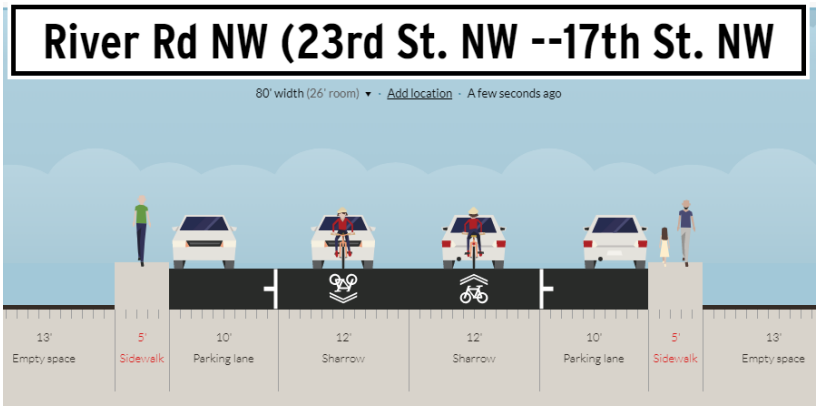
Street Description

River Rd. NW is an important thoroughfare and "*scenic*" route in East Grand Forks. The road bounds the Greenway Trail, and affords striking vistas on the Red River of the North. River Road NW provides access to an established residential enclave, the luscious River Heights Park, and to the tranquil Valley Golf Course.

Existing



Proposed Treatment



Sharrows in each direction were designated by the East Grand Forks Engineering and Parks and Recreation staff after assessing the facility.

Aerial Image

Imagery © Google, 2018

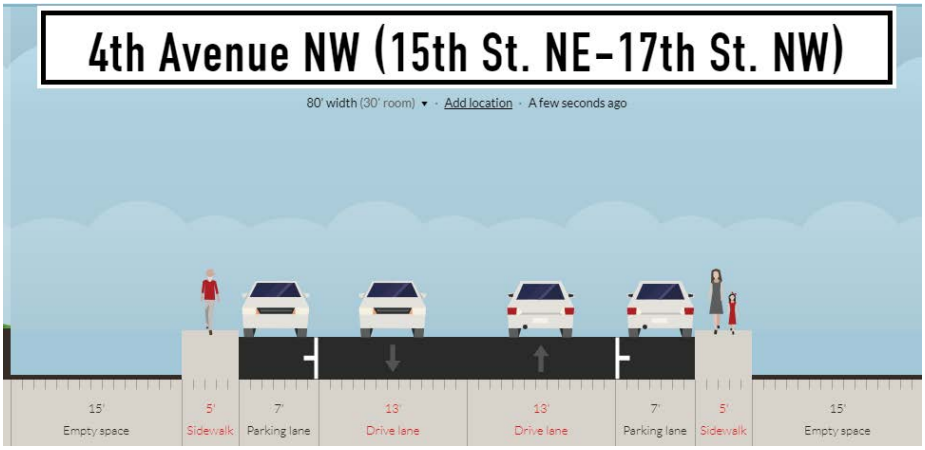
4th Ave NW

(4th Ave NW 15th St. NE-17th St. NW)

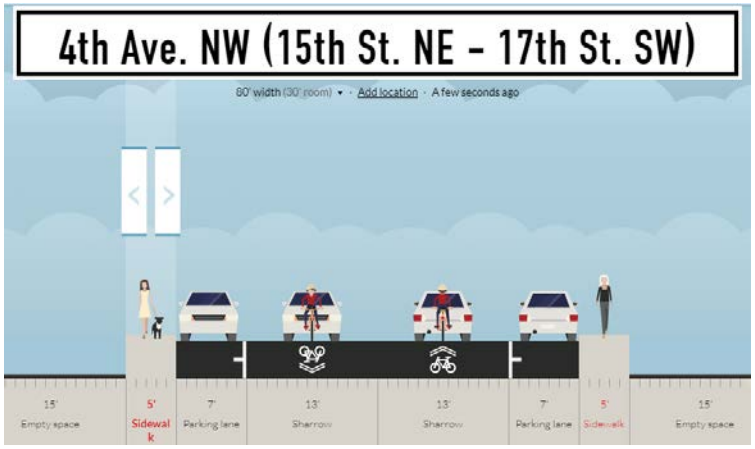
Street Description

4th St. NE is a local residential road. The 4th St. NE corridor connects 10th St. NW to 17th St. NW. Provides on street and sidewalk access to East Grand Forks Senior High School.

Existing

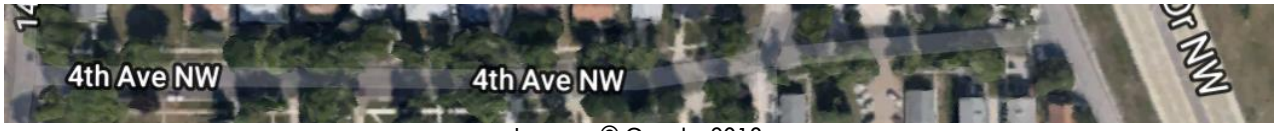


Proposed Treatment



Proposed facilities were assessed by East Grand Forks Engineering and Parks and Recreation staff. Sharrows in each direction were designated by the East Grand Forks Engineering and Parks and Recreation staff after assessing the facility.

Aerial Image

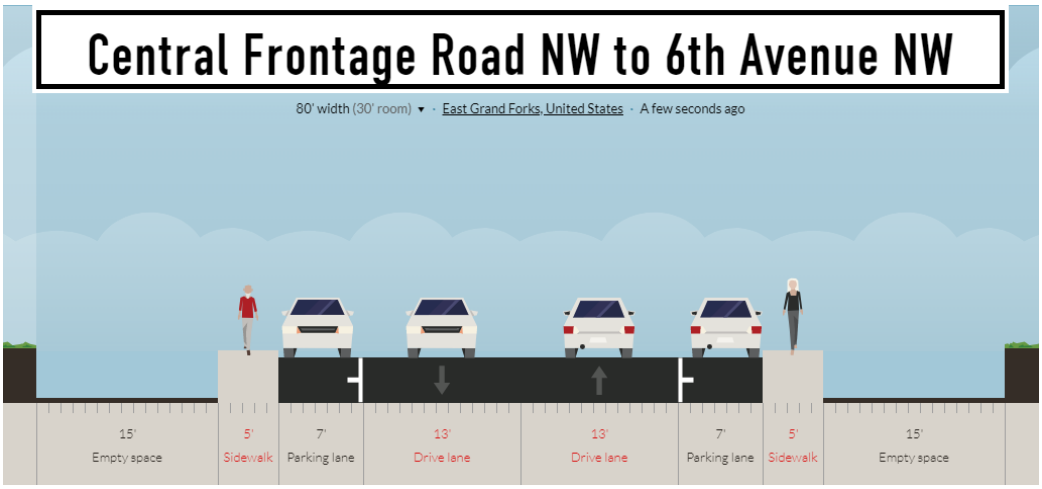


Imagery © Google, 2018

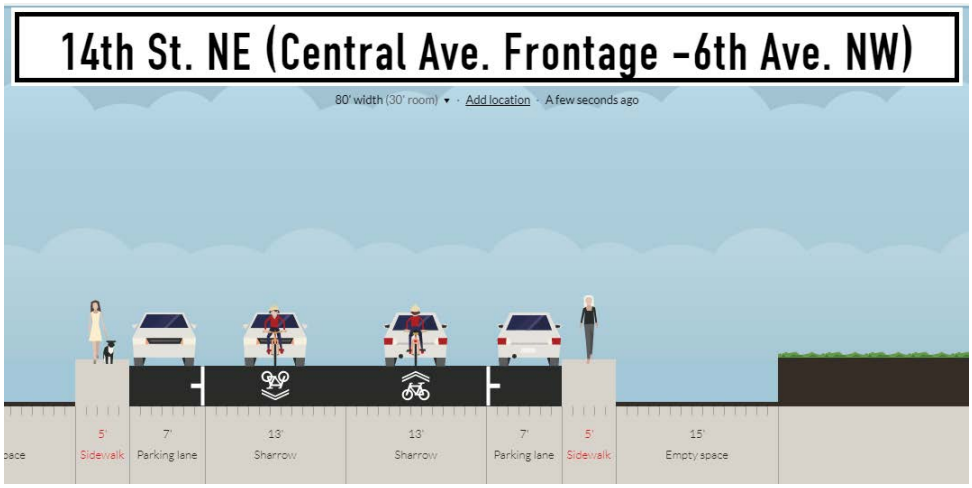
14th Street NE

(Central Ave Frontage Rd- 6th Ave NW (Residential)

Existing



Proposed Treatment: (Central Front – 6th Ave. NW)



Proposed facilities were assessed by East Grand Forks Engineering and Parks and Recreation staff. Sharrows in each direction were designated by the East Grand Forks Engineering and Parks and Recreation staff after assessing the facility.

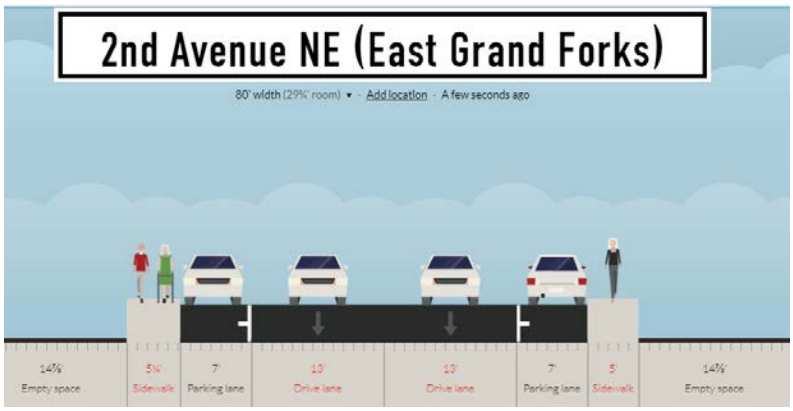
Aerial Image

2nd Ave. NE

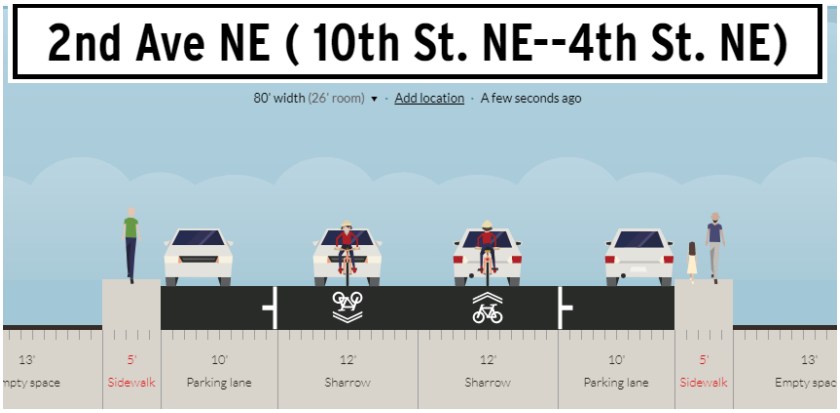
Street Description

2nd Ave. NE is one of the most important transportation corridors in East Grand Forks. It links commercial, light industrial and residential land uses. Traffic is heavy in some segments as access to warehouses is required by freight and deliveries trucks. Regularly, traffic on 2nd Ave. NE experiences certain delays as the road crosses an important railway marshalling yard. 2nd Ave. The corridor also links the residential area known as the "*Point*" to the city.

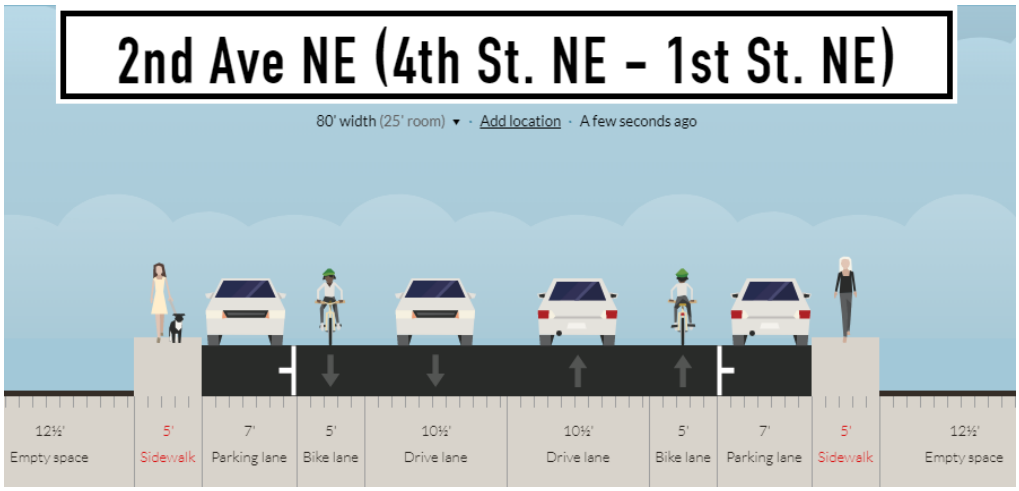
Existing



Proposed Treatment



Proposed facilities were assessed by East Grand Forks Engineering and Parks and Recreation staff. Sharrows in each direction were designated by the East Grand Forks Engineering and Parks and Recreation staff after assessing the facility.



These segments are currently designated as a `Bike Lanes`. The analysis reveals that there is enough existing road width to accommodate regular bike lanes in both directions from 4th St. NE to 1st St. NE. Proposed facilities were assessed by East Grand Forks Engineering and Parks and Recreation staff.

`Sharrow` in each direction were designated by the East Grand Forks Engineering and Parks and Recreation staff after assessing the facility.

Aerial Image

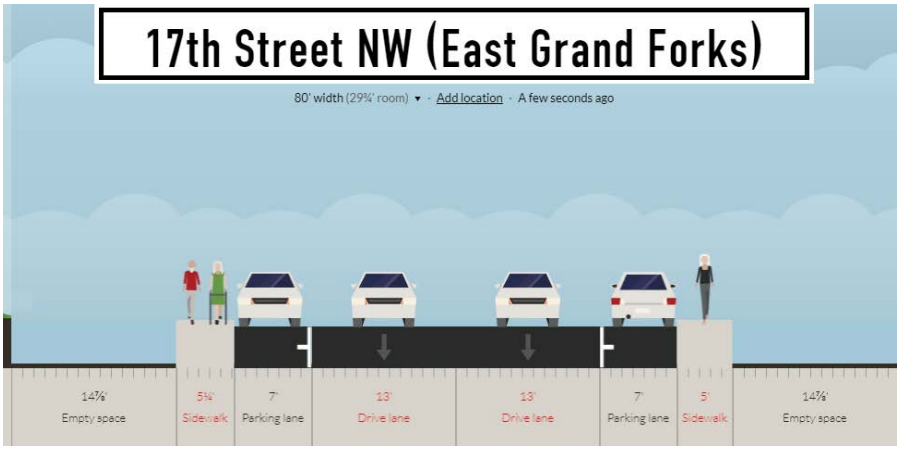
Imagery © Google, 2018

17th Street NW

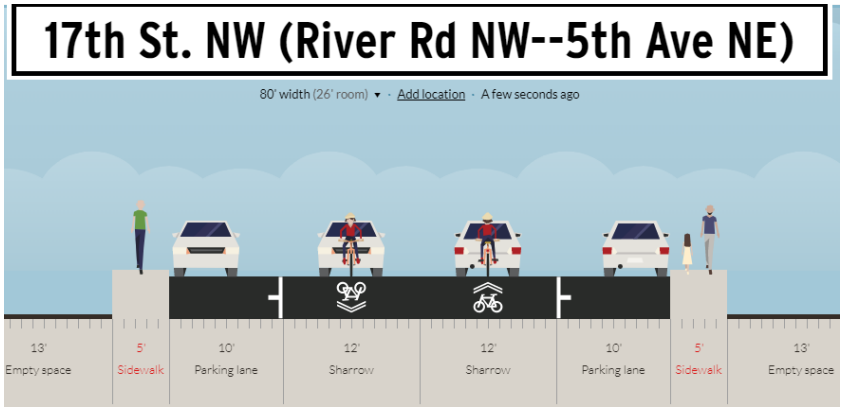
Street Description

17th Street NW is a major east-west corridor. It provides on street access to the Greenway Trail (West) and to the ITTS Williams Park (East).

Existing



Proposed Treatment



Proposed facilities were assessed by East Grand Forks Engineering and Parks and Recreation staff. A Sharrows from River Road to Central and from Central to 5th Ave. NE. in each direction were designated by the East Grand Forks Engineering and Parks and Recreation staff.

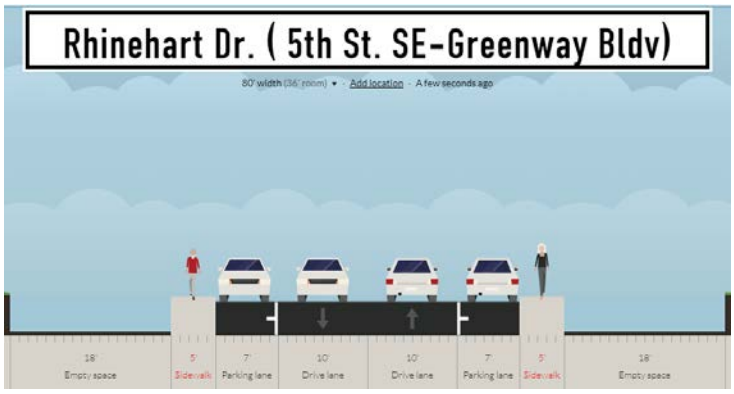
Aerial Image

Rhinehart Dr. (5th Street SE-Greenway Blvd.)

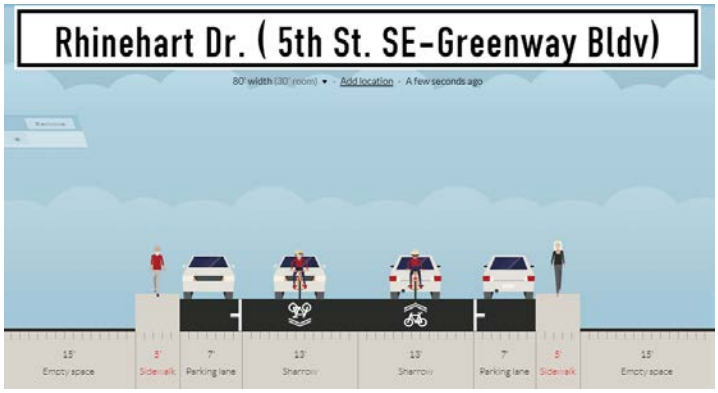
Street Description

Rhinehart Drive is an important roadway in East Grand Forks. A number of 1 single family homes were built in the late 30's. The drive provides access to rural township farms via 445th Ave. Sw. The closest school to the area is South Point Elementary School.

Existing



Proposed Treatment

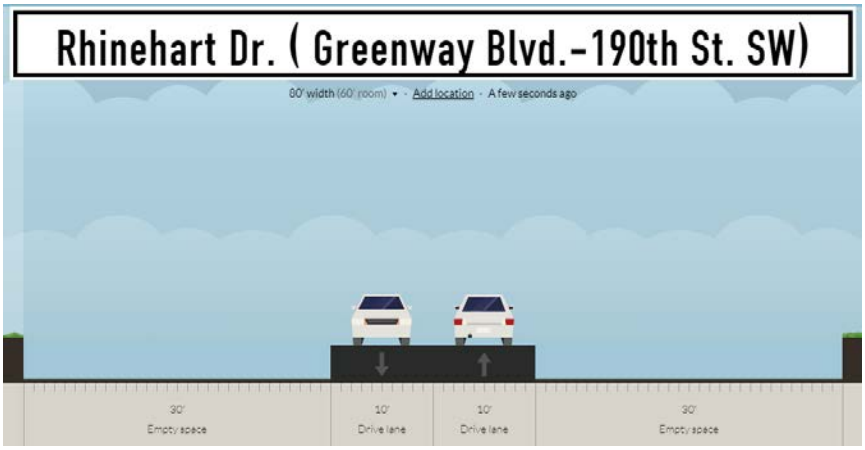


The analysis reveals that there is not enough existing road width to accommodate regular bike lanes in both directions. Proposed facilities were assessed by East Grand Forks Engineering and Parks and Recreation staff. Sharrows in each direction were designated by the East Grand Forks Engineering and Parks and Recreation staff.

Aerial Image

Rhinehart Drive (Greenway Blvd. – 190th St. SW)

Existing



Proposed Treatment

Rhinehart Dr from (Greenway Blvd to 190th St. SW) is currently designated as a Multi-Use Path. The analysis reveals that currently there is not enough existing road width to accommodate the proposed facility. The roadway segment currently lacks curb and gutter. A Multi-use Path facility was designated by the East Grand Forks Engineering and Parks and Recreation staff after assessing the facility.

Aerial Image

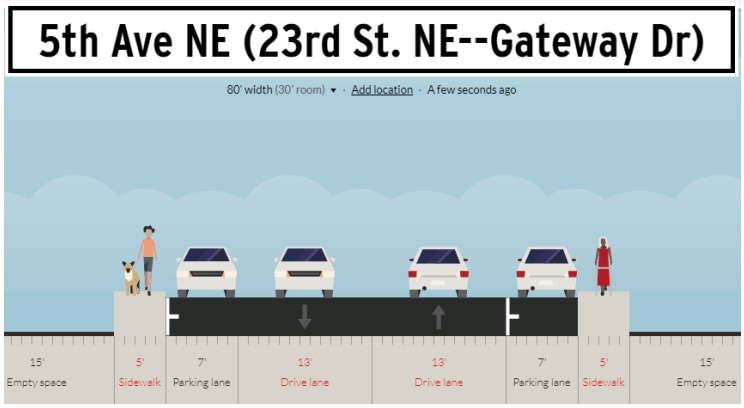
Imagery © Google, 2018

5th Ave. NE
(23rd St. NW-Gateway Dr.)

Street Description

5th Ave. NE is a road which provides access to various abuting land uses by linking Gateway Drive to 23rd St. NE.

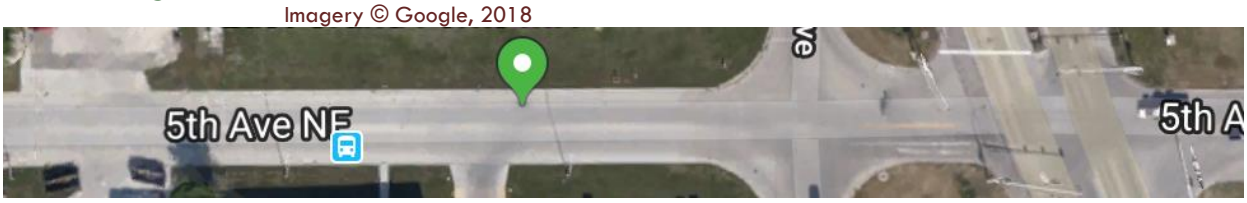
Existing



Proposed Treatment

The analysis reveals that there is not enough existing road width to accommodate regular bike lanes in both directions. These segments are currently designated as a Bike Routes. Proposed facilities were assessed by East Grand Forks Engineering and Parks and Recreation staff. Bike Routes in each direction were designated by the East Grand Forks Engineering and Parks and Recreation staff.

Aerial Image



D. Proposed On-Road Bike Facilities (Summary)

1. Grand Forks Proposed Facility Costs (2045)

Grand Forks Proposed On-road Bicycle Facilities, 2045
(Stakeholder's Input)

Corridor	Proposed Facility (Stakeholder's Input)	Road Width	Parking		Requires Parking Removal	Speed Limit	Length (Miles)	Roadway Classification	Estimated Cost (2020-2025) MID-POINT (5-Years)	Estimated Cost (2026-2034) MID-POINT MID TERM (15 Years)	Estimated Cost (2035-2045) MID-POINT MID TERM (25 Years)
13th Ave S											
Belmont-Cottonwood	Bike Route	25'	No	No		25 mph	0.2	Major Collector	$ 624.21	788.75	1,032.30
Cottonwood-S 10th St	Bike Route	25'		South Side		25 mph	0.23	Major Collector	$ 717.84	907.06	1,187.14
S 10th St-S 11th St	Bike Route	30'	North Side			20 mph	0.07	Major Collector	$ 218.47	276.06	361.30
S 11th St-S 12th St	Bike Route	30'		South Side		20 mph	0.08	Major Collector	$ 249.68	315.50	412.92
S 12th St-S Washington St	Bike Route	50'	No	No		25 mph	0.06	Major Collector	$ 187.26	236.62	309.69
S Washington St-S 14th St	Bike Route	50'	Both Sides			25 mph	0.08	Major Collector	$ 249.68	315.50	412.92
S 14th St-S 19th St	Bike Route	31'	Both Sides			25 mph	0.35	Major Collector	$ 1,092.37	1,380.30	1,806.52
S 19th St-Columbia Rd	Bike Route	50'	Both Sides			25 mph	0.58	Major Collector	$ 1,810.21	2,287.36	2,993.67
17th Ave S									$ 5,149.73	6,507.15	8,516.47
Belmont-S Washington	Bike Route	30'		South Side		(20 WCP)	0.74	Minor Arterial	$ 2,309.57	2,918.36	3,819.51
S Washington St-S 16th St	Bike Route	60'	No	No		25 mph	0.2	Minor Arterial	$ 624.21	788.75	1,032.30
S 16th St- S 20th St	Bike Route	35'		South Side		25 mph	0.3	Minor Arterial	$ 936.31	1,183.12	1,548.45
S 20th St-S 25th St	Bike Route	35'	No	No		25 mph (20 WCP)	0.31	Minor Arterial	$ 967.52	1,222.56	1,600.06
24th Ave S									$ 4,837.62	6,112.78	8,000.32
Belmont-S Washington	Bike Route	35'	Both Sides		No	25 mph	0.76	Major Collector	$ 2,372.00	2,997.23	3,922.74
S Washington-S 20th St	Bike Route	45'	Both Sides		No	25 mph	0.5	Major Collector	$ 1,560.52	1,971.86	2,580.75
S 20th St-Columbia Rd	Bike Route	45'	Both Sides		No	25 mph	0.5	Major Collector	$ 1,560.52	1,971.86	2,580.75
Cherry St									$ 5,493.04	6,940.96	9,084.24
1st Ave S-4th Ave S	Bike Route	45'	Both Sides		No	25 mph	0.16	Major Collector	$ 499.37	631.00	825.84
4th Ave S-13th Ave S	Bike Route	24'	No	No	No	25 mph	0.44	Major Collector	$ 1,373.26	1,735.24	2,271.06
13th Ave S-17th Ave S	Bike Route	30'		West Side	No	25 mph	0.55	Major Collector	$ 1,716.58	2,169.05	2,838.82
17th Ave S-32nd Ave S	Bike Route	35'	Both Sides		No	25 mph	1	Major Collector	$ 3,121.05	3,943.73	5,161.50
S 34th St									$ 17,696.34	22,360.94	29,265.69
Demers-17th Ave S	Bike Lane	35'	No	No	No	30 mph	0.95	Major Collector	$ 2,978.85	3,764.05	4,926.33
17th Ave S-24th Ave S	Bike Route	45'	Both Sides		No	30 mph (20 WCP)	0.5	Major Collector	$ 1,560.52	1,971.86	2,580.75
1st Ave S									$ 5,475.69	6,919.03	9,055.53
S 5th St-Cherry St	Bike Lane	47'	Both Sides		No	25 mph	0.3	Major Collector	$ 936.31	1,183.12	1,548.45
Lincoln Dr									$ -	0.00	0.00
Belmont-Greenway	Bike Lane	28'		South Side	No	25 mph	0.22	Local	$ 686.63	867.62	1,135.53
									$ 686.63	867.62	1,135.53
									$ 39,339.05	49,708.48	65,057.78

Source: Street_Corridor_Numbers _6_ 5-18-18 MAY 21_2018_COMPLETE SCORING_CORRIDORS_SEPT_18_TABL_4_staholders input_NOV_12_GF

Grand Forks Proposed On-road Bicycle Facilities, 2045
(Stakeholder's Input)

Corridor	Proposed Facility (Stakeholder's Input)	Road Width	Parking		Requires Parking Removal	Speed Limit	Length (Miles)	Roadway Classification	Estimated Cost (2020-2025) MID-POINT (5-Years)	Estimated Cost (2026-2034) MID-POINT MID TERM (15 Years)	Estimated Cost (2035-2045) MID-POINT MID TERM (25 Years)
S 17th St											
Demers-20th Ave S	Bike Route	30'		Both Sides		25 mph	1	Local	$ 3,121.05	3,943.73	5,161.50
20th Ave S-24th Ave S	Bike Route	30'	West Side			25 mph	0.3	Local	$ 936.31	1,183.12	1,548.45
24th Ave S-32nd Ave S	Bike Route	35'		East Side		25 mph	0.4	Local	$ 1,248.42	1,577.49	2,064.60
Chesnut St									$ 5,305.78	6,704.34	8,774.55
1st Ave S-5th Ave S	Bike Route	30'		East Side		25 mph (20 WCP)	0.26	Local	$ 811.47	1,025.37	1,341.99
5th Ave S-13th Ave S	Bike Route	24'		East Side		25 mph	0.6	Local	$ 1,872.63	2,366.24	3,096.90
13th Ave S-15th Ave S	Bike Route	30'		East Side		25 mph	0.2	Local	$ 624.21	788.75	1,032.30
15th Ave S-17th Ave S	Bike Route	30'		East Side		25 mph	0.16	Local	$ 499.37	631.00	825.84
17th Ave-32nd Ave	Bike Route	30'	Both Sides			25 mph	1	Local	$ 3,121.05	3,943.73	5,161.50
Walnut St									$ 6,928.72	8,755.08	11,458.52
1st Ave S-13th Ave S	Bike Route	22'	West Side			25 mph	0.87	Local	$ 2,715.31	3,431.04	4,490.50
13th Ave S-17th Ave S	Bike Route	30'	West Side			25 mph	0.33	Local	$ 1,029.95	1,301.43	1,703.29
S 20th St									$ 3,745.26	4,732.47	6,193.80
Demers-11th Ave S	Bike Route	30		East Side		25 mph	0.3	Local	$ 936.31	1,183.12	1,548.45
11th Ave S-32nd Ave S	Bike Route	30		East Side		25 mph	0.4	Local	$ 1,248.42	1,577.49	2,064.60
									$ 2,184.73	2,760.61	3,613.05
									$ 18,164.50	22,952.50	30,039.92

2. East Grand Forks Proposed Facility Costs (2045)

EAST GRAND FORKS PLANNED FACILITY TYPE, 2045
(Stakeholder's Input)

Corridor	From	To	Estimated Roadway's Width (Ft)	Proposed Facility Type, 2045	AADT (2015) > 3,000[1]	Distance	(2020-2025) MID-POINT SHORT-TERM (5 YEARS)	Estimated Cost (2026-2034) MID-POINT MID TERM (15 Years)	Estimated Cost (2035-2045) MID-POINT MID TERM (25 Years)
Bygland Rd SE	5th Ave SE	7th St. SE	45	Bike Lane	2500	0.25	$1,003.04	$1,267.43	$1,658.79
Bygland Rd SE	7th St. SE	City Limits	45	Bike Lane	5700	1.36	$4,261.52	$5,384.81	$7,047.57
13th St SE	Bygland Rd SE	End to River	NA	Bike Route	770	0.68	$1,329.99	$1,680.57	$2,199.50
6th St. SE	5th Ave NE	James Ave SE	40	Bike Route	NA	0.48	$1,108.33	$1,400.47	$1,832.92
12th St. NW	8th Ave NW	10th Ave NW	40	Bike Route	NA	0.27	$665.00	$840.28	$1,099.75
17th St. NW	12th Ave NW	5th Ave. NE	45	Bike Route	1400	1.12	$2,216.65	$2,800.94	$3,665.84
19th Ave SE	Red Lake River	13th St. SE	NA	Bike Route	NA	0.245	$665.00	$840.28	$1,099.75
23rd Ave. NW	Central	5th Ave. NE	21	Bike Route	NA	0.36	$886.66	$1,120.38	$1,466.33
4th St. SE/James	Bygland Rd SE	James Ave SE	NA	Bike Route	NA	0.33	$665.00	$840.28	$1,099.75
5th Ave. NE	23rd St. NW	Gateway Dr.	40	Bike Route	1650	0.77	$1,551.66	$1,960.66	$2,566.09
6th Ave NW /New Hghts Elementary	15th Street NW	8th Ave. NW	NA	Bike Route	NA	0.35	$886.66	$1,120.38	$1,466.33
7th St. NE	2nd Ave. NE	5th Ave. NE	40	Bike Route	NA	0.36	$886.66	$1,120.38	$1,466.33
8th Ave NW	17th St. NW	23rd St. NW	40	Bike Route	1650	0.512	$1,108.33	$1,400.47	$1,832.92
Bygland Rd SE	City Limits	Outside City	45	Bike Route	2700	0.52	$1,108.33	$1,400.47	$1,832.92
Greenway Blvd.	Rhinehart Dr.	Bygland Rd.	52	Bike Route	430	0.601	$1,329.99	$1,680.57	$2,199.50
James Ave SE	River Rd. SE	6th St. SE	NA	Bike Route	NA	0.139	$443.33	$560.19	$733.17
21nd Ave SE	13th St. SE	Bygland Rd. SE	NA	Bike Route	NA		$0.00	$0.00	$0.00
11th St. SW	5th Ave NE	Rhinehart Dr. SE	NA	Bike Route	NA		$0.00	$0.00	$0.00
Greenway	Rhinehart Dr.	Bygland Rd/190 St. SW	45	Bike Route	4450	0.604	$1,329.99	$1,680.57	$2,199.50
182nd St. SW	Greenway	Rhinehart Dr. SE	NA	Bike Route-Outside	NA	0.35	$886.66	$1,120.38	$1,466.33
14th St. NE	Central Frontage	6th Ave NW	40	Sharrow	3250	0.56	$1,773.32	$2,240.75	$2,932.67
17th St. NW	River Rd.	12th Ave NW	45	Sharrow	2050	1.12	$2,881.65	$3,641.23	$4,765.59
N 23rd St.	River Rd NW	N 23rd Rd 1Mile	NA	Sharrow	700	1.12	$2,881.65	$3,641.23	$4,765.59
2nd Ave. NE	10th St. NE	4th St. NE	40	Sharrow	3200	0.6	$2,061.49	$2,604.88	$3,409.23
2nd Ave. NE	1st St. NE	4th Ave SE	45	Sharrow	7400	0.6	$997.49	$1,260.42	$1,649.63
River Rd. NW	Greenway	23rd Ave NE	45	Sharrow	2050	0.715	$2,416.15	$3,053.03	$3,995.76
Rhinehart Dr.	Bygland Rd SE	Greenway Blvd.	40	Sharrow	2000	0.601	$2,061.49	$2,604.88	$3,409.23

[1] Minnesota Department of Transportation (2016). 2017 Publication Traffic Volumes – East Grand Forks at http://www.dot.state.mn.us/traffic/data/maps/trunkhighway/2017/cities/eastgrandforks.pdf

SOURCE: EGF_PROPOSED FACILITIES LIST_OCT_28 STAKE_INPUT_FN_FINALS COST _NOV_12

OBSERVATION:

Whether located in Grand Forks or East Grand Forks, the estimated cost for bicycle facilities appears to be "*very low*" particularly, when compared to the cost of roadway infrastructure. However, in addition to the basic and required signs, symbols and markings, the complete costs of a facility may change depending on the treatment(s) required to assure user's safety and to allow for, and to enhance access, connectivity and mobility.

Costs for bicycle facilities in other jurisdictions may include the budgets for other elements such as local, state, federal regulatory signs and symbols and supplemental panels; traffic calming and intersection and crossings; end-of-trip facilities or required elements to manage traffic flow, volume, or speed. An overview of those additional costs is provided below:

- Intersections & Crossings[151]

Crosswalk	$1,000/crosswalk
Raised Crosswalk	$3,500/crosswalk
Standard Curb Extension	$15,600/extension
Rectangular Rapid Flash Beacon	$7,500-$20,250/RRFB
Bicycle Signal Head	$5,000/signal
Bicycle Loop Detection	$6,630-$7,730/lane
Bicycle Signal Push Button Actuation	$3,000/pole
Complete Bicycle Signal Retrofit	$52,201/signal
HAWK Signal	$150,000/intersection
Full Signal	$140,000--$250,000/intersection

- End of Trip Facilities

Bike Racks	$200/rack
Bicycle Corral	$3,000/corral

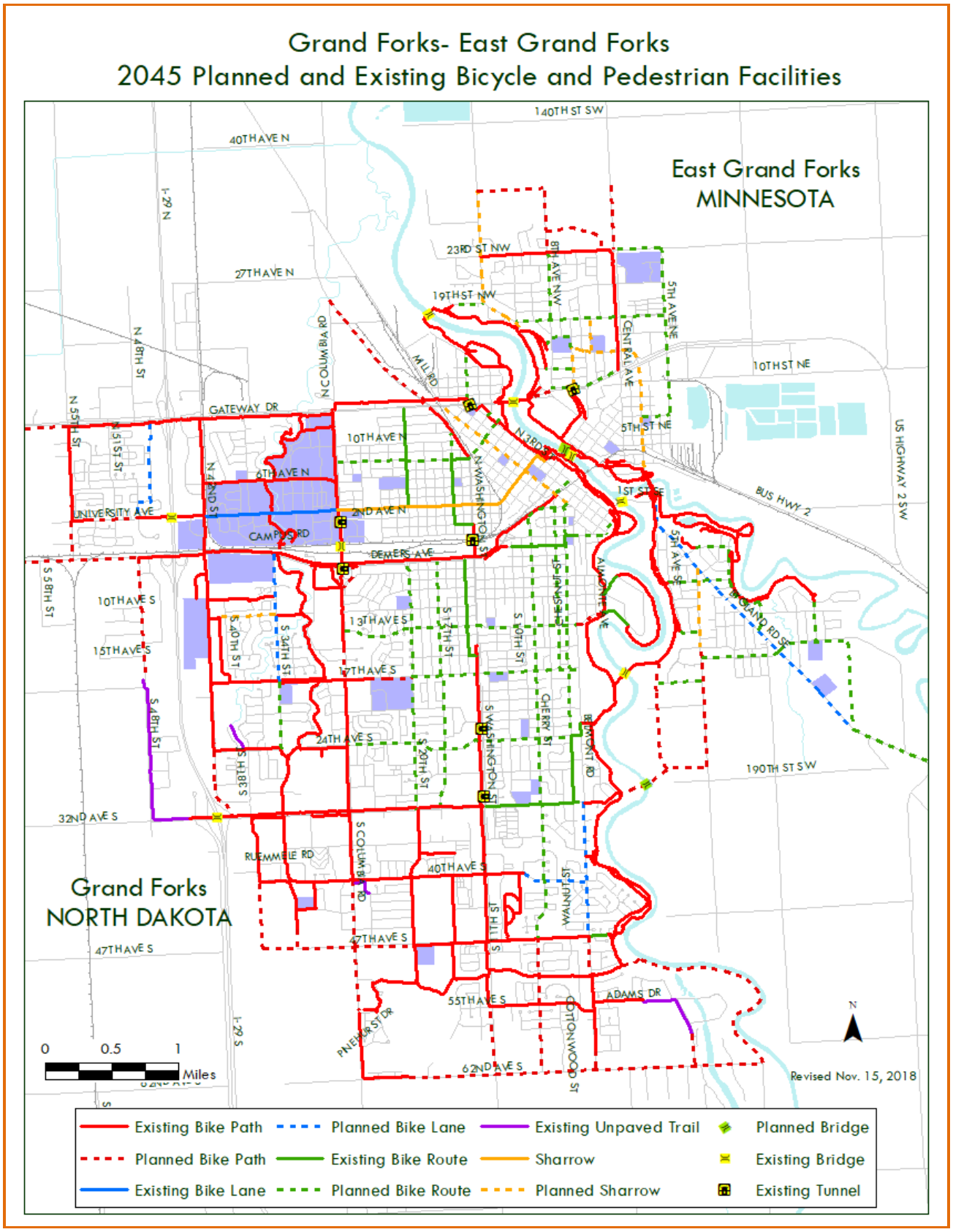
- Flow, Volume, Speed Management

Bike-Thru Median	$721/ft
Speed Hump	$2,500-$2,800/hump
Chicanes	$5,000/chicane
Traffic Circles	$20,000/circle

As stated earlier, making the true cost of bicycle facilities visible and comprehensive is important. It provides local decision-makers, transportation planners, engineers and stakeholders opportunities to develop realistic and implementable initiatives.

[151] Cost Analysis of Bicycle Facilities: Cases from cities in the Portland, OR region FINAL DRAFT (2013) Lynn Weigand, Nathan McNeil, and Jennifer Dill.

3. Proposed 2045 Grand Forks-East Grand Forks Planned and Existing Bicycle and Pedestrian Facilities Map



As part of the update of the Bicycle and Pedestrian Plan, a number of on-road facilities in Grand Forks and East Grand Forks were proposed for further consideration as components of the proposed Bicycle and Pedestrian Network.

Supported by stakeholders, MPO staff analyzed basic roadway's characteristics, elaborated cross-sections and suggested proposed type of on-road facilities. MPO staff received comments from stakeholders on the proposed facilities and proceeded to adjust the type of bicycle facility designation previously assigned to those segments.

The proposed segments were submitted to the *Safe Kids Subcommittee Bike Ped Safety, the Bicycle, Pedestrian and Greenway Advisory Committee (BPGAC), and the Bicycle and Pedestrian Advisory Committee* seeking stakeholders review, input comments and final approval.

In addition to basic roadway's characteristics, elaborated cross-sections and design standards provided by the Departments of Engineering from the City of Grand Forks and East Grand Forks; the segments were analyzed according to the following criteria:

- Existing roadway characteristics, on the proposed corridors, facilitate accommodating the proposed designated bicycle facilities
- The proposed corridors fulfill stated bicycle and pedestrian community objectives (*As outlined in the proposed Ranking and Prioritization Criteria*)
- Potential costs are reduced for every project, by not requiring proposed streets to be widened
- The construction of the proposed bicycle facilities may or may not require removal or alteration of existing on-street parking
- Evaluate truck traffic volumes
- Implementation of the proposed facility is cost feasible
- The proposed segments could anticipate the type of bicyclist, their skills level, and their expected level of comfort.

E. Implementation

1. Existing & Planned Bikeway Network

The construction and expansion of the existing Bicycle System in Grand Forks-East Grand Forks began in 1974. Years later, the current on-road and off-road network boasts 79.1 miles of bicycle and pedestrian facilities. The system straddles two jurisdictions located on the opposite edges of the Red River of the North. In addition, approximately 20 miles of paved multi-purpose paths in park, wildlife refuge and trails setting are contributed by the Greenway Trail System. The current existing Bikeway System accounts for:

On Street Bicycle Facilities

Facility Type	Grand Forks (Length/Miles)	East Grand Forks (Length/Miles)
Bike Lanes	1.00	0.00
Bike Routes	4.67	0.00
Sharrows	1.75	0.00

Off-Street Bicycle and Pedestrian Facilities

Facility Type	Grand Forks (Length/Miles)	East Grand Forks (Length/Miles)
Multi-use Paths	56.14	13.31
Unpaved Trails	2.26	0.00

The proposed 2045 Grand Forks-East Grand Forks Bicycle System and Pedestrian Network were previously described in Part V. In addition, the proposed network also includes two shared use path initiatives currently seeking funding from the Transportation Alternative Program. The components of the proposed 2045 Bicycle system and Pedestrian network will include:

2. Carried-Over Bicycle and Pedestrian Facilities

Grand Forks—*Carry-Over* Bicycle & Pedestrian Facilities (2045)

TERM	FACILITY TYPE	LENGTH (Miles)	ESTIMATED COST
Short-term 2020-2025	Multi-use Path	2.30	$ 2,025,510
Mid-term 2026-2034	Multi-use Path	2.84	$ 3,077,561
Long-term 2035-2045	Multi-use Path	5.05	$ 7,323,681
Estimated Total		10.19	$ 12,426,742

East Grand Forks—*Carry-Over* Bicycle & Pedestrian Facilities (2045)			
TERM	FACILITY TYPE	ESTIMATED LENGTH (Miles)	ESTIMATED COST
Short-term 2020-2025	Bike Lane-Sharrow	4.71	$ 19,360.65
Mid-term 2026-2034	Bike Route	2.25	$ 4,446.55
Long-term 2035-2045	Multi-use Path	3.78	$ 6,989,796
Estimated Total		10.74	$ 7,013,603

3. Proposed On-road Bicycle Facilities

Grand Forks Proposed Facility Costs (2045)				
FACILITY TYPE	ESTIMATED LENGTH (Miles)	ESTIMATED COST 2020-2025	ESTIMATED COST 2026-2034	ESTIMATED COST 2035-2045
Bike Route	13.46	$41,915.67	$52,964.27	$69,318.91
Bike Lane	1.47	$4,601.79	$5,814.79	$7,610.31
Estimated Total	14.93	$46,517.46	$58,779.06	$76,929.23

East Grand Forks Proposed Facility Costs (2045)				
FACILITY TYPE	ESTIMATED LENGTH (Miles)	ESTIMATED COST 2020-2025	ESTIMATED COST 2026-2034	ESTIMATED COST 2035-2045
Bike Route	7.69	$ 17,068.22	$ 21,567.26	$ 28,226.93
Bike Lane	1.61	$ 5,264.55	$ 6,652.24	$ 8,706.36
Sharrows	5.31	$ 15,073.23	$ 19,046.41	$ 24,927.68
Estimated Total	14.61	$37,406	$47,265.91	$61,860.97

Source: EGF PROPOSED FACILITIES LIST_OCT 28 STAKE_INPUT_FN_FINALS COST_NOV_12

The addition of these segments to the 2045 Bicycle System and Pedestrian network will help local governments in their efforts to improve access to key parks, schools, and related community locations. These segments –when implemented- will enhance mobility for all users by facilitating access to commercial and / or industrial areas where access & mobility could be restricted or severely limited for pedestrians and bicyclists.

4. Funding Sources for Bicycle & Pedestrian Projects

The United States Department of Transportation (U.S. DOT) policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. This policy makes clear that it is the responsibility of every transportation agency in the United States to improve conditions for bicycling and to integrate bicycling into their transportation systems. The purpose of this Bicycle and Pedestrian Element is to provide safe options to improve pedestrian mobility and to increase accessibility in order to assist in the development of a multimodal transportation system.

A number of funding decisions about how federal dollars are spent are made at the MPO level. Those choices impact every transportation project in the area. Hence, it is important for stakeholders to work with MPOs to make critical funding decisions.

A number of federal and state's government programs are available to help fund bicycle & pedestrian facilities. Projects could be regarded as individual stand-alone initiatives or as part of a roadway construction or transit project.

The following list includes potential sources of funding for pedestrian and bicycle projects:

North Dakota

- Transportation Alternatives (TA)–North Dakota
  https://www.dot.nd.gov/divisions/localgov/TA.htm

The Transportation Alternatives (TA) is a federally funded and competitive program. The TA Program makes funds available for smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to storm-water and habitat connectivity. The program assists transportation projects to achieve compliance with the Americans with Disabilities Act of 1990. Maximum federal participation amount is $290,000 for urban projects.

- Urban Grant Program (UGP)
  https://www.dot.nd.gov/divisions/localgov/ugp.htm

The intent of the program is to provide a funding mechanism focused on reinvesting and fortifying a community's existing transportation assets which maximizes the public return on investment. The program focuses transportation investments inward toward the established community rather than outward expansion.

In part, the program intends to maximize the public's return on investment by focusing on transportation projects that support revitalization, development of vacant or underutilized parcels within existing urban areas, and/or redevelopment of the established built environment of the Local Public Agency.

The Urban Grant Program aims at improving multi-modal transportation options such as walking, bicycling, and public transportation, ensuring safety of all users of the transportation system, and improving multi-modal transportation options such as walking, bicycling, and public transportation.

Some example projects which could be eligible for funding include traffic calming measures, road diets, bus stops, bus pullouts, bike lanes/buffered bike lanes, landscaping and streetscaping improvements, lighting, asset preservation projects, projects improving transportation system connectivity, and other projects listed in the Urban Grant Program Policy. Ensure safety of all users of the transportation system

- Recreational Trails Program (RTP)
  http://www.parkrec.nd.gov/recreation/grants/rtp/rtpoverview.html

The U.S. Department of Transportation (DOT) Federal Highway Administration's (FHWA) Recreational Trails Program (RTP) provides funds to the States to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Each State administers its own program, usually through a State resource agency.

The Recreational Trails Program is an 80/20 matching grant program that provides funding for both motorized and non-motorized recreational trail projects. Examples of eligible projects include construction of new recreation trails, restoration of existing trails, development and rehabilitation of trailside and trailhead facilities and trail linkages, purchase and lease of recreational trail construction and maintenance equipment, land acquisition/easements, trail accessibility assessment. The construction of new recreation trails is given the highest priority.

North Dakota Street & Roads Program

- Urban Local Roads Program

The North Dakota Department of Transportation (NDDOT) solicits projects to be considered for Federal funding under the Urban Roads Program. This program is administered through the NDDOT. Roadways eligible for funding under the Urban Roads Program include classified streets within the city.

To be considered for Federal funding, a project must be vetted and approved by City Council and forwarded onto the Grand Forks/East Grand Forks Metropolitan Planning Organization (MPO) for consideration.

Eligible projects could include but are not limited to reconstruction or rehabilitation of the roadways and traffic signals, and other projects along these corridors. Eligible items include design engineering services, construction engineering services, right of way acquisition, utility relocation, and the actual construction of the project.

- Regional Roads Program

This program is for use on roadways which are under the jurisdiction of the North Dakota Department of Transportation (NDDOT). It includes state highways, US highways, or business routes of these highways. The Regional Roads Program does not include the interstate, as I-29 is covered under the Interstate Program. Eligible projects can include roadway reconstruction or rehabilitation, traffic signals, and bicycle and pedestrian projects along these corridors.

- Highway Safety Improvement Program (HSIP)

Funding is available for safety projects aiming at reducing severe and fatal crashes on all roads in North Dakota. The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads.

At urban level, the Highway Safety Improvement Program (HSIP) provides funding for signalized intersections, low-cost treatments such as: confirmation lights, pedestrian countdown heads, leading pedestrian intervals, retroreflective backplanes, and flashing yellow arrow signal heads and improvement treatments to address pedestrian and bicycle safety. HSIP applications submitted by respective cities must be approved by MPOs in North Dakota.

- Special Road Fund (SRF) Program

Special Road Fund (SRF) projects are limited to roads that provide access to and/or are within recreational, tourist, and historical areas. The intent of this program is to help finance highway projects identified by political subdivisions and state agencies which typically have some funding but need additional help

Minnesota:

Applicants in Minnesota interested in Transportation funding, including funding for Safe Routes to School Infrastructure are required to submit a Letter of Intent (LOI). Project in Minnesota selection is advanced through the Area Transportation Partnerships (ATP). Each year, ATPs develop an Area Transportation Improvement Program (ATIP) to incorporate into the State Transportation Improvement Program (STIP). ATIPs, which span a minimum of four years, include all projects that seek federal aid highway, state trunk highway, and federal transit sources of funding.

- Transportation Alternatives (TA) –Minnesota
  http://www.dot.state.mn.us/ta/contacts.html

The Transportation Alternatives Solicitation is a competitive grant opportunity for local communities and regional agencies to fund projects for pedestrian and bicycle facilities, historic preservation, Safe Routes to School and more. Applicants interested in Transportation Alternative funding, Safe Routes to School Infrastructure are required to submit a Letter of Intent (LOI). Project selection in Minnesota is advanced through the Area Transportation Partnerships (ATP). ATPs are positioned to provide a "*gut check" on certain projects, which can supplement objective scoring and address concerns not able to be quantified. ATPs bring knowledge of local issues and priorities to the project selection process.*

- Safe Routes to School (SRTS) –Minnesota (State Funded Program)
  http://www.dot.state.mn.us/saferoutes/index.html

In 2012, the Minnesota State Legislature created a state Safe Routes to School program modeled after the federal program (Minnesota State Statute 174.40). The SRTS Program provides funding support for capital projects that promote and encourage more students to walk or bicycle to school by making the school routes safer and more accessible.

The following are some types of infrastructure improvements that communities may request funding support for.

- School site improvements: secure bicycle parking facilities, traffic diversion improvements, and ADA improvements
- Pedestrian facilities: new sidewalk, sidewalk gap closures, and related ADA improvements
- Bicycle facilities: bicycle trails, separated multi-use or shared paths and related ADA improvements
- Traffic calming and crossing improvements: curb extensions, speed humps, median refuges, enhanced crosswalk markings, timed on/off beacons, vehicle feedback signs (dynamic speed signs), and other traffic control devices

- State Highway Safety Improvement Program (SHIP) (Minnesota)

http://www.dot.state.mn.us/saferoutes/infrastructure.html

The State Highway Improvement Program (SHIP) is a federal-aid funding program designed to reduce traffic fatalities and serious injuries on all public roads. The object of this program is to identify, implement and evaluate cost effective construction safety projects.

The SHIP provides funding to address among others, intersection and traffic control and bicycle and pedestrian safety projects. Access to funding is competitive and is based on a solicitation process.

- Statewide Performance Program (SPP)

SPP consists of federal funding provided under the National Highway Performance Program (NHPP) intended for use on the National Highway System (NHS) including the required state/local matching funds. Funding under the NHPP may be used on any route designated on the NHS. The NHS includes Interstates, most U.S. highways, and other routes functionally classified as a principal arterial.

- District Risk Management Program (DRMP)

DRMP consists of federal funding from the Surface Transportation Program – Statewide funding and additional State trunk highway funds targeted to the districts. DRMP funding distribution is based on a formula that takes into account each district's share of non-principal arterial bridge needs (30 percent) and pavement needs (30 percent), number of miles of non-principal arterials (24 percent), and population (16 percent).

- Highway/Railroad Grade Crossing Safety Program (RRS)

The Highway/Railroad Grade Crossing Safety Program (RRS) is a federally funded safety program. The objective of this program is to improve safety at railroad-highway grade crossing. This program is administered centrally by the MnDOT Office of Freight and Commercial Vehicle Operations (OFCVO).

- ATP-City Sub-target Program

City Sub-target is part of the ATP Managed Program. MN allocates a small portion of federal funds to assist its partners (Counties/Cities) in managing their respective federal aid networks. The NWATP's policy is to target a portion of this Program's funds towards the four State Aid Cities within the NWATP. The four cities in turn have developed a rotation of these funds so that one individual city receives the full annual allocation. East Grand Forks received the funding in 2018 and is next expected to receive the funds in 2022. These funds typically fund street improvements. These improvements are expected to also address all modes needing to travel the right of way the project is impacting. The Sub-target can also be used to fund projects that are typically funded through the Transportation Alternatives Program. East Grand Forks did this with its 2018 funds.

3. Other Sources of Funding

- **People for Bikes Community Grants (Up to $10,000)**
  https://peopleforbikes.org/our-work/community-grants/

People for Bikes offer competitive grants supported by letter of interest. Most grants funds are focused on bicycle infrastructure projects such as:

- Bike paths, lanes, trails, and bridges
- Mountain bike facilities
- Bike parks and pump tracks
- BMX facilities
- End-of-trip facilities such as bike racks, bike parking, bike repair stations and bike storage

People for Bikes funds projects, such as:

- Programs that transform city streets, such as Ciclovías or Open Streets Days
- Campaigns to increase the investment in bicycle infrastructure

- People for Bikes will fund engineering and design work, construction costs including materials, labor, and equipment rental, and reasonable volunteer support costs.

- **AARP Community Challenge**
  https://www.aarp.org/livable-communities/about/info-2018/aarp-community-challenge-2018-grantees.html

Competitive grants from nonprofits and government entities to support "*quick action*" projects across the country, helping communities make immediate improvements and jumpstart long-term progress to support residents of all ages.

- **Other Sources**

The list of prospective funding sources was provided by the Minnesota Safe Routes to School Steering Committee[152]:

http://www.dot.state.mn.us/saferoutes/infrastructure.html

[152] Provided by: Kelly Corbin, MN Safe Routes to Schools, Jacob Rueter, Multimodal Planner Office of Transit + Active Transportation, Amber Dallman, Bicycle and Pedestrian Section | Minnesota Department of Transportation.

2nd Ave. NE is one of the most important transportation corridors in East Grand Forks.
Photo © MPO staff, 2017

Recommendations

A. Recommendations

1. Introduction

A critical objective supporting this Bicycle and Pedestrian Element is to "*provide a complete Bicycle and pedestrian network that connects to destinations and other transportation modes and facilities (e.g. remove barriers, add crossings, fill gaps, and connect spurs to existing networks*).

Outlined in this Element there are goals, objectives and standards, and a number of Performance Measures and Action and Monitoring Activities. All these elements were developed in cooperation with local government's staff, and related stakeholders.

This document contains 23 recommendations focused on:

- Creating awareness of plan recommendations, performance measures and targets
- Securing a place on the agenda of stakeholders agencies and partnering agencies to monitor implementation of the plan
- Improving user's safety and comfort
- Increasing the existing pedestrian network and bicycle system
- Enhancing pedestrian network's accessibility & connectivity

The recommendations outlined in this Bicycle and Pedestrian Element are based on the analysis of the following sources:

- Input received through public participation from residents, stakeholders, state and local government and related agencies.
- Issues identified as part of the Comprehensive Analysis of Existing Conditions (*Part III*)
- Assessment of the ratings included in the *Report Card* issued by the League of American Bicyclist (*2018*) in its Bicycle Friendly America awards (BFA) program.

The proposed recommendations are illustrated here –among others- to assist stakeholders in their quests to support the development of a fully integrated active transportation network. It is expected, these recommendations could assist stakeholders in implementing the following activities to improve bicycle and pedestrian activities by: a) Adopting policies; b) Securing dedicated funding; c) Developing program initiatives, and; d) Coordinating infrastructure improvements.

The recommendations indicated in this document are presented according to the Six E's approach: Education, Enforcement, Encouragement, Engineering, Evaluation, and Equity.

Education

1. Bicyclist & Pedestrian Education

This Bicycle and Pedestrian Element recommends that Local Governments in partnership with related local agencies continue designing, promoting and implementing educational campaigns to address bicycle and pedestrian safety issues such as *Share the Road* (traffic safety marketing); *Stop for Me* (A St. Paul's sustained education and enforcement program); and *Walk! Bike! Fun*! (Helps children ages five to 13 learn traffic rules and regulations).

Action Initiatives: Goal 8: Safety

- Advancement of community outreach efforts to improve bicyclist and pedestrian safety, reduce fatalities, injuries and property damages.
- Increase awareness of the current laws regulating roadway usage for pedestrian, bicyclist and motorist.

Enforcement

2. Snow Removal

Local governments should enforce Ordinances regulating prompt and timely snow and ice removal from public sidewalks and multi-use paths facilities. This Element recommends the opportune removal of ice and snow from public sidewalks, sidewalks along public transit routes, sidewalks abutting high pedestrian traffic corridors in commercial areas, sidewalks leading to neighborhood park facilities, curb ramps, bus stops and from crosswalk locations. Similarly, this Element recommends timely ice and snow removal from multi-use paths and bikeways to restore the functionality of these facilities. The objective is to provide safe conditions for pedestrian and bicyclists year round.

Action Initiatives: Goal 9: Resilience & Reliability

3. Encourage local municipalities to develop a prioritized snow plowing schedule for the bikeways, increase enforcement of the cities sidewalk snow removal Ordinances, and encourage landowners to responsibly maintain their sidewalks for the public's safety by educating and by holding them responsible for removing snow and ice themselves when precipitation occurs.

4. Encourage local communities to reduce risk of slip and fall claims and mobility issues by regularly informing, enforcing and educating citizens in their snow removal responsibilities, good snow removal practices and encourage them to participate.

3. Chapter XVI – Streets and Sidewalks of the Grand Forks City Code

The list of exempt roads must be reviewed and updated. Roadway segments exempted from sidewalk construction foster continuity of gaps, cause discontinuous paths, and continue the lack of sidewalks in places that haven't been required to have sidewalks in the past, such as in industrial areas or abutting rail lines. Exempt roads are facilities that demand an attentive look to determine whether existing pedestrian facilities such as curb ramps, signals and cross-walks facilitate compliance with current ADA requirements.

4. Minnesota "*Side path Riding*"

Recommends repealing paragraph §75.04 (C) from the East Grand Forks - Traffic Code § 75.04 WHERE TO RIDE. The Ordinance requires that "*Whenever a usable path for bicycles has been provided adjacent to a roadway, bicycle riders shall use such paths and shall not use the roadway*."

This requirement was repealed at the state level. However, it still appears in some local Ordinances. It is the opinion of the MPO staff that this paragraph should be repealed from the East Grand Forks Ordinance as it appears contrary to the Minnesota Statute.

Minnesota's Bicycle advocates argue that "*the ordinance should be repealed and is contrary to state law.*" According to their understanding, advocates claim "*that law was changed in the 1980's or 90's*." In addition, "*local mandatory side path ordinances are all illegal. Bicyclists are legal vehicles on all roads in MN except the limited access freeways*."

Action Initiatives: Goal 8: Safety

- Increase awareness of the current laws regulating roadway usage for pedestrian, bicyclist and motorist.

5. School Siting

School Boards and local jurisdictions are encouraged to revise currently enacted school consolidation policies to integrate school planning with local comprehensive planning. Integration of infrastructure decisions results in improved safety, reduced walking and biking distance for school-age children, and reduced investments in roadway and traffic operations infrastructure.

Action Initiatives: Goal 8: Safety

- Support improvements to the pedestrian network and bicycle system to facilitate safety through design, operations, and maintenance.

Recent plans and studies

Local Governments should make every effort to implement recommendations outlined in recent plans and studies done cooperatively with the MPO for the benefit of the Grand Cities communities, including:

6. Grand Forks 2045 Grand Forks Land Use

Revisit for implementation the recommended approaches outlined in the 2045 Grand Forks Land Use Plan to improve the integration of land use (increased density, construction of sidewalks and/or side paths on collectors and arterial streets), and bicycle and pedestrian infrastructure.

> Develop and adopt bicycle design guidelines for appropriate placement of facilities on streets and take advantage of street maintenance to add these facilities on an opportunity basis. *(Source: 8.3.1 Goal: 8 Transportation).*

Systematically review areas of the city in need of multi-modal infrastructure development and utilize safe routes to school, assessments, or other programs to fill in missing gaps of the system. (*Source: 8.3.2. Goal 8 Transportation*)

Public school facilities will have a complete network of sidewalks on all connecting streets within one-half mile and will have at least one completed bicycle facility within one quarter-mile. (*Source: 8.4 Goal 8 Transportation*)

Review and amend the zoning code where necessary to ensure consistency with the bike and pedestrian plan, including requiring new development and redevelopment to provide bike and pedestrian facilities. *(Source: 8.5.4 Goal 8 Transportation)*

Conduct a walkability/bikeability audit to identify concerns for pedestrians and bicyclist related to safety, access, comfort, and convenience of the environment. In addition to identifying problem areas, an audit can be used to identify potential alternatives or solutions (*such as engineering treatments, policy changes or education and enforcement measures*) (*Source: 8.4.1. Goal 8 Transportation*)

Develop/maintain a Safe Routes to School plan (or related planning document based on future changes to Federal program definitions) for the Metro Area. *(Source: 8.4.1. Goal 8 Transportation)*

7. 2045 East Grand Forks Land Use Plan

Revisit for implementation the recommended approaches outlined in the 2045 East Grand Forks Land Use Plan to improve the integration of land use (increased density, construction of sidewalks and/or side paths on collectors and arterial streets), and bicycle and pedestrian infrastructure.

- Use "*complete streets*" policies as a guide for developing safe, reliable, and economical transportation systems that support travel by a variety of means. (*Source: 5.2 General Land Use Goals and Policies) (Grand Forks Complete Streets Policy adopted, July 2018)*

- Provide sidewalks to ensure safe pedestrian mobility and increase opportunities for active living. (*Sources: GOAL 4: Plan for current and future transportation needs of the community as growth occurs*).
- Build upon the Greenway Plan to extend a destination-oriented trail network for pedestrians, cyclists, and other users on both sides of the levee. *(Source: Goal 2: Maintain a sufficient park and trails system to provide adequate passive and active recreation opportunities for the current and future residents of East Grand Forks).*

- Sidewalks and/or bicycle/pedestrian paths. These should be provided along the length of a corridor and are typically adjacent to the back edge of the right-of-way. *(Source: Corridor Overlay Options)*

8. Integrating Transit and Bicycle and Pedestrian Infrastructure

Increase the number of bike-on-bus trips by 50% of current number by 2020, and 100% by 2045.

Action Initiative Goal 5: Integration & Connectivity

Local government's staff, in cooperation with related stakeholders, including MPO staff will Assure integration of transit to the pedestrian network and bicycle system to improve connectivity between low income and minority populations to major employment and activity centers.

Encouragement

9. ~~Andy Hampsten~~ Bikeway System

Local governments should officially provide some ideas concerning the naming of the local sides of the Bikeway System. Currently the Grand Forks-East Grand Forks Bikeway System lacks a definitive name. It appears that the Article, that created the Bike Committee, created the licensing requirement and named the network after Andy Hampsten was repealed. With the Article repealed, there is no longer action naming the network.

10. Bike to work day

Local Government's staff, in cooperation with related stakeholders, including MPO staff, should promote and actively participate on the *National Bike Day to Work* to highlight number of workers and work sites with highest commutes by non-motorized modes.

Activities advanced related to this recommendations, could be used as an opportunity to recognize businesses that encourage bicycling among employees and customers. Recognize businesses that provide racks and showers, and participate in local bicycle events.

Action Initiative Goal 8: Safety

Advancement of community outreach efforts to improve bicyclist and pedestrian's safety, reduce fatalities, injuries and property damages.

11. Bicycle Friendly Community Designation

Local Government's staff, in cooperation with related stakeholders, including MPO staff should continue supporting and participating in the preparation and submission of the *Bicycle Friendly Community Application*. Preparation and submission of the Application should strive to attain a Silver Level Designation for Year 2020.

The Report Card prepared for Greater Grand Forks, outlines the *10 Key steps* to achieve Silver. Relevant goals, objectives and standards supporting Goal 4 of this Bicycle and Pedestrian Element are linked to the advancement of the required 10 Key steps to Silver.

Action Initiatives Goal 4: Environmental/Energy/Quality of Life

Support respective jurisdictions in their quest toward the completion of the *10 Key Steps to Silver*

Engineering

12. Non-Motorized Bridge (Linking Grand Forks-East Grand Forks Downtowns)

The feasibility of the design and construction of a *New Non-Motorized Bridge* (possibly using existing historical pier) to link Grand Forks-East Grand Forks Downtowns should be studied.

The design and construction of a *New Non-Motorized Bridge* have been recommended in previous Bicycle and Pedestrian Elements. Currently, one of the "*five big ideas*" that form the foundation of the future of downtown Grand Forks is # 3: Improve access to and around downtown. (*Grand Forks Downtown Action Plan, 2018*)

This Bicycle and Pedestrian Element strives to: Provide a complete bicycling and pedestrian network that connects destinations and other transportation modes and facilities (*e.g. remove barriers, add crossings, fill gaps and connect spurs to existing networks.*) The recommended construction of a *Non-Motorized Bridge* linking Grand Forks-East Grand Forks Downtowns could substantially contribute to fulfilling the objectives outlined.

13. Increase center line miles of on-road bicycle facilities

Local governments are encouraged to increase the center line miles of road network on local and classified streets with posted speed limits (*25-40 mph*) to improve user's access, mobility and connectivity. The proposed on-road bicycle facilities are a continuation of the existing off-road multi-use path system. The off-road facilities have already been identified as a critical part of the bikeway network.

Action Initiative Goal 3: Accessibility & Mobility

Local jurisdictions and related stakeholders should maintain an updated inventory of sidewalk facilities, signalized intersections, pedestrian signals, and audible signals to increase the safety of sidewalk and roadway users, including children and those members of vulnerable populations.

14. Bicycle Parking Guidelines

Develop community-wide Bicycle Parking Standards that adhere to current Association of Pedestrian and Bicycle Professionals (APBP) guidelines. Adopt a bike parking ordinance for new and existing buildings. (*Key steps to Silver, Report Card, 2018, Bicycle Friendly Communities*).

Action Initiative Goal 4: Environmental/Energy/Quality of Life

Regularly monitor and evaluate the implementation of strategies suggested to promote Active Transportation modes as they help pedestrian and bicyclist to meet their daily exercise and transportation needs.

15. Bygland Road Study (2015)

This Bicycle and Pedestrian Element recommends the adoption of and implementation of the recommendations of the Bygland Road Study. Among others, the Bygland Road Study suggests five intersection controls and pedestrian improvements to enhance pedestrian crossings at key locations along Bygland Road: 5th Avenue SE, Rhinehart Drive SE, 6th Street SE, James Avenue SE, 8th Street SE, and 13th Street SE.

16. Locations in Need of Improvement

Needs for improvements in the bicycle and pedestrian environment to enhance connectivity, boost network cohesion and directness and to provide for alternative routes, were identified through public involvement Surveys and Display Boards. Selected locations include:

- On major street corridors (DeMers Ave, Gateway Dr.), on bridges & overpasses, and near neighborhood Schools.

- Suggested improvements to support walking/biking in the area include: Maintenance of sidewalks, better street lighting, and better intersections (pedestrian signals/crosswalks), and improved connections between sidewalks/bikeways and transit.

The following institutional and perceived community constraints should be analyzed to support local government's efforts to provide a complete pedestrian network and bicycle system:

17. Resident's Perceptions

Local stakeholders are encouraged to set up "*pop up*" installations when considering the closure of on-road bicycle and sidewalk gaps to facilitate the designation of on-street bicycle facilities. The power of "*pop up*" installations and the impact of public involvement techniques could dissuade some stakeholders from their assumed perception that a number of neighborhood residents still wishes to maintain on-street parking facilities as a way to exert property rights.

18. Pedestrian and Bicyclist access to Parks

Local parks in East and Grand Forks are very well attended. As a result, parks attract visitors and generate many trips to and from the facilities. This report recommends access improvements to some facilities through designated bicycle facilities and sidewalk construction or maintenance.

19. At-grade railway crossings

Stakeholders should continue working hard to eliminate the perceived inability by local governments to promptly obtain crossing licenses from railway companies to support accessibility and continuity on the bicycle and pedestrian network.

Action Initiative Goal 7: System Preservation

Assure facilities located on the pedestrian network and bicycle roadway system are walkable and rideable and accessible to all users regardless of their ability.

20. Value of Existing Pavement Cost

Local Governments are encouraged to (*re*) consider "*Value of new pavement when parking removal is required"* as part of installation of on-road bicycle facilities. Community users have manifested their discomfort with this feature and its potential implications (*dis-incentive*) for the construction of on-road bicycle facilities fostered by that approach.

Evaluation

This report recommends stakeholders support to advance the implementation of the following activities as a way to establish annual data collection and to assess the local participation rate in bicycle and pedestrian activities:

21. Annual Trail Counts Program: Greenway Trail System

Continue the implementation of the *Annual Trail Counts Program* at selected locations on the Greenway Trail. *Annual Trail Counts Program* serves to inform trail management and related agencies on demographics, mode of transportation, and user's adherence to safety norms (helmet usage).

22. Parent Survey SRTS

This report recommends:

a) Increase the number of participating schools to 100% in East Grand and Grand Forks School Districts; and

b) Administer the *Parents and Guardians Survey* at the beginning (September-October) and middle school year (March-April).

Equity

23. Strengthen the Bicycle, Pedestrian and Greenway Advisory Committee

Currently, the *Bicycle, Pedestrian and Greenway Advisory Committee* counts on staff support and dedicated community volunteers representing cyclists, law enforcement, planners, and concerned citizens. These community members contribute their time, knowledge and desire to improve pedestrian and bicycling activities, and related infrastructure.

However, the successful implementation of the proposed Bicycle and Pedestrian Element requires intense, diligent and dedicated public participation in the decision-making process. It is recommended that the current functions of the existing Bicycle, pedestrian and Greenway Advisory Committee be strengthened in the following areas:

Define appointing authority for members and length of tenure, and broaden its composition

Define membership role, responsibilities and obligations to include –among others-:

Provide a formal liaison between city government, staff, and the public

Actively participate in the development, implementation and evaluation of the goals, objectives and standards supporting this Bicycle and Pedestrian Element

Promote bicycling and walking, including bicycle and pedestrian safety and education

Review and provide citizen input on capital project planning and design as it affects bicycling and walking (e.g., corridor plans, street improvement projects, signing or signal projects, and parking facilities)

Strengthening the composition, defining the appointing authority, committee's structure, mandate and responsibilities of the *Bicycle, Pedestrian and Greenway Advisory Committee* will greatly increase public involvement. *Participation can ensure that bicycling voices are heard through the planning and funding process*.[153]

Strengthening the *Advisory Committee* has the potential to make decision-makers readily aware of the importance, value and benefits of public involvement in the solution of local bicycle and pedestrian issues.

[153] Working with Metropolitan Planning Organizations: Lessons and Answers for Advocates. The Alliance for Biking & Walking- League of American Bicyclists