Overcoming Barriers Strengthening Connections

Grand Forks - East Grand Forks Metropolitan Planning Organization

Ensuring Opportunities Planning One Community

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

TECHNICAL ADVISORY COMMITTEE MEETING

WEDNESDAY, DECEMBER 12TH, 2018 – 1:30 P.M.

EAST GRAND FORKS CITY HALL TRAINING ROOM

MEMBERS

Kadrmas/Lang _____	Laesch/Konickson_____	West _____
Ellis _____	Johnson/Hanson _____	Magnuson _____
Bail/Emery _____	Kuharenko/Williams _____	Sanders _____
Gengler/Halford _____	Bergman/Rood _____	Christianson _____
Riesinger/Audette _____		

1. CALL TO ORDER

2. CALL OF ROLL

3. DETERMINATION OF A QUORUM

4. MATTER OF APPROVAL OF THE NOVEMBER 14TH, 2018, MINUTES OF THE TECHNICAL ADVISORY COMMITTEE

5. MATTER OF APPROVAL OF DRAFT 2045 ST/HWY PLAN ELEMENT ..... HAUGEN

6. MATTER OF APPROVAL OF ND CANDIDATE PROJECTS FOR 2020-2023 T.I.P
   a. T.A. ..... VIAFARA
   b. HSIP Projects
      Urban Grant Projects
      Urban Regional Roads Projects
      Urban Local Roads Projects..... HAUGEN

7. MATTER OF PRELIMINARY APPROVAL OF THE 2045 BIKE/PED ELEMENT .. VIAFARA

8. MATTER OF UPDATE ON GF DOWNTOWN PARKING STUDY ..... HAUGEN

9. OTHER BUSINESS
   a. 2018 Annual Work Program Project Update
   b. EGF ADA Draft
   c. Mn220 North Study

10. ADJOURNMENT

ANY INDIVIDUAL REQUIRING A SPECIAL ACCOMMODATION TO ALLOW ACCESS OR PARTICIPATION AT THIS MEETING IS ASKED TO NOTIFY EARL HAUGEN, MPO EXECUTIVE DIRECTOR AT (701) 746-2660 OF HIS/HER NEEDS FIVE (5) DAYS PRIOR TO THE MEETING. ALSO, MATERIALS CAN BE PROVIDED IN ALTERNATIVE FORMATS: LARGE PRINT, BRAILLE, CASSETTE TAPE, OR ON COMPUTER DISK FOR PEOPLE WITH DISABILITIES OR WITH LIMITED ENGLISH PROFICIENCY (LEP) BY CONTACTING THE MPO EXECUTIVE DIRECTOR (701) 746-2667 FIVE (5) DAYS PRIOR TO THE MEETING.

PROCEEDINGS OF THE
TECHNICAL ADVISORY COMMITTEE
Wednesday, November 14th, 2018
East Grand Forks City Hall Training Conference Room

CALL TO ORDER

Earl Haugen Chairman, called the November 14th, 2018, meeting of the MPO Technical Advisory Committee to order at 1:36 p.m.

CALL OF ROLL

On a Call of Roll the following members were present: Michael Johnson, NDDOT-Bismarck (via phone); Allen Grasser (Proxy for David Kuharenko), Grand Forks Engineering; Brad Gengler, Grand Forks Planning; Jesse Kadrmas, NDDOT-Local District; Ryan Riesinger, Airport Authority; Nancy Ellis, East Grand Forks Planning; and Dale Bergman, Area Cities Transit.

Absent were: Darren Laesch, Richard Audette, Dustin Lang, Ryan Brooks, Steve Emery, Brad Bail, Nick West, Lane Magnuson, Ali Rood, Stacey Hanson, Jane Williams, David Kuharenko, Mike Yavarow, Lars Christianson, and Rich Sanders.

Guest(s) present were: Bobbi Retzlaff, MnDOT; Stephanie Halford, Grand Forks Planning; Brandon Bourdon, Kimely-Horn; and Scott Mereck, WSB.

Staff present: Earl Haugen, GF/EGF MPO Executive Director; Teri Kouba, GF/EGF MPO Senior Planner; Jairo Viafara, GF/EGF MPO Senior Planner; and Peggy McNelis, GF/EGF Office Manager.

SUSPEND AGENDA

Haugen stated that Mr. Bergman is on his way, however until he reports present we do not have a quorum, thus he would like to suspend the agenda in order to discuss those agenda items that do not need action.

MATTER OF UPDATE ON MN220 NORTH CORRIDOR STUDY

Viafara referred to the staff report included in the packet and pointed out that it indicates that the purpose of this presentation is to provide information on the Steering Committee and how it was formed. He stated that these members of the community and businesses on the corridor have indicated their desire to participate as members of the Steering Committee. He added that the committee will be meeting at 4:30 p.m. tomorrow in this room to present a presentation from the consultant to discuss the existing and future conditions of the corridor.

Viafara commented that we know about the boundaries and the extent of the corridor, including the nine intersections that make up the entire corridor. He said that items that the consultant has been discussing and reviewing are venues, because most of the new development patterns are kind of gearing towards north of 23rd, or at least in this particular quadrant of the City. He added that they like to understand more about the roadway conditions, each of the crossings with traffic lights, with access to the service roads, and then an analysis of the configuration of the infrastructure, how is the pavement and all of the indicators of the quality of the infrastructure.

Viafara stated that if we notice roadway access is something very important because in this particular corridor, based on the comments by the consultant, roadway access is kind of irregular in the sense that the access points are not really regular, so that is something that we sense some kind of a challenge in terms of land use and also in terms of access to the service roads and also to the neighboring or abutting communities.

Viafara said that one thing with the assessment, it is important for us, a number of intersections are completely uncontrolled; we have a couple of the schools related land uses and from a safety point of view, and also considering the high volume of heavy trucks; we have recently the City of East Grand Forks built a multi-use path around one of the medians on the north side of Center Avenue.

Viafara commented that the last point that the consultant are studying is the forecasted traffic demand. He said that this is important because as values and volumes increases and new households and new businesses and new activities are being now fostered around these particular areas the consultant has made available a tech memo that in case.

Viafara stated that the overall background and objectives of the study are the ones that review the land uses; and particularly mobility, access and safety. He said that there is the need to evaluate the corridor, review the kind of geometrics of the roadway on 20th Street and north of 17th Street; and also consideration to see what exactly what kind of treatment will be given to Central once it crosses north over 23rd Avenue to reduce the number of lanes.

Viafara said that one of the other objectives is access and the last is the treatment of multimodal pedestrian activity, safety or related to that.

Viafara reported that at the end, what the MPO and the City of East Grand Forks and MnDOT expect to have is a report that will address a number of infrastructure recommendations, what kind of improvements, the cost of those improvements if they were to be advanced with the demands, and kind of an implementation and programming for that particular kind of recommendations.

Viafara stated that these are some of the issues that they have been discussing; the presence of heavy trucks, particularly during the harvest season. He said that if we take into account now the numbers are in the percentage of 8%, so in theory when we do kind of forecast in theory, it is becoming closer to the outer limit because when we compare the capacity and volume then the issue of public streets and private access, what kind of volumes are we expecting in terms of

levels of congestion and a number of intersections, 17th is one of them, US #2 is another; so what kind of deficiency, most of the deficiencies appear to be located around the intersection of US #2, that's where we find a number of accidents and more congestion.

Viafara said that another analysis is the type of safety in terms of the analysis of the numbers, the type and seriousness of the number of crashes and traffic accidents that appear in these intersections.

Viafara commented that, important for us, as you can see these are the parcels where most of the plan, we may call them sub-areas, that is where future development will most likely take place around the corridor, so the corridor has quite an impact on access to this space. He added that they will also look at lane reductions north of 23rd and frontage road access.

Viafara stated that there is something that sometimes can escape, but is also the locations, has been an analysis of the locations of some of the bus stops; because some of those are on the road, and impede movement.

Viafara reported that this is basically what the consultant will be discussing tomorrow, and most likely then we may have some kind of public outreach through the Herald tomorrow inviting people to attend public meetings that are scheduled for the month of December.

Information only.

MATTER OF UPDATE ON US 2/US 81 SKEWED INTERSECTION STUDY

Haugen commented that this item is for discussion/information purposes. He said that they did do the RFP for the U.S. #2/U.S. #81 Skewed Intersection Study and Ms. Kouba will give us an update.

Kouba reported that they put this RFP out towards the end of September and received the proposals in October. She stated that they received two proposals and held interviews on November 1st. She said that the Selection Committee did select KLJ to do the study.

Kouba explained that KLJ introduced a lot of smaller scaled options in addition to the larger, move the entire road kind of options. She said that they seemed to want to be able to give us a scalable idea of alternatives throughout the whole corridor, and they stuck pretty much to the tasks we requested, although they did introduce a couple of options that the Steering Committee just wasn't interested in, but we are going with what we requested through the RFP.

Haugen pointed out that included in the packet was the detailed Scope of Work with the timeline and the hours. He added that this will be going forward to the MPO Executive Policy Board for execution of a contract with KLJ.

Grasser commented that he likes the idea that we are looking at a host of alternatives instead of just going with the Grand Slam one that has a low probability of happening, so he is glad to see that.

Information only.

Bergman reported present.

DETERMINATION OF A QUORUM

Haugen declared that with Mr. Bergman reporting present we now have a quorum.

RESUME AGENDA

MATTER OF APPROVAL OF THE OCTOBER 10TH, 2018, MINUTES OF THE TECHNICAL ADVISORY COMMITTEE

MOVED BY BERGMAN, SECONDED BY ELLIS, TO APPROVE THE OCTOBER 10TH, 2018, MINUTES OF THE TECHNICAL ADVISORY COMMITTEE.

MOTION CARRIED UNANIMOUSLY.

MATTER OF APPROVAL OF THE 2019-2020 UPWP

Haugen reported that this is our next two-year work program, so we aren't finishing up the last year of our last two-year work program, we are starting with a new two-year work program.

Haugen referred to the packet and pointed out that a complete draft was included for your review. He said that he will kind of go in reverse order and begin with the identified funding availability by year.

Haugen commented that generally we are getting about half a million dollars in appropriations each year of our targeted funding grant, which is made up of federal funds that come from both the Minnesota side and the North Dakota side. He added that we typically also have some carry over from the previous year; just with the last two studies we just talked about, we just started them this year, we will finish them next year, so the previous year's consolidated planning grant funds are going toward those projects primarily. He said that we do also get a small amount of regular Minnesota State monies that is used to match the federal funds we receive, and then for the Mn220 North Study, MnDOT has agreed to provide local match towards that effort and on the US #2/US #81 Intersection study NDDOT is offering some local match funds as well; so that would be our 2019 revenue.

Haugen pointed out that for 2020 we do not show previous year carry-over, but we do show that half a million in funds; and then since we are not formally asked for or reached an agreement

with either state for special studies to help with local match we don't have those additional local match options coming in as well.

Haugen reported that with that funding we do have categories of regular required MPO work activities that we have to do on an annual basis; including program administration which keeps the office open and the lights on, getting our work program and finances managed, etc; and then we also do our program support where we have our coordination activities taking place; public participation, education and training, and some of our equipment. He stated that when we get into individual studies, that is the largest part of our budget, and in 2019 we are basically finishing up on our 2045 Long Range Transportation Plan, and there are some performance targets that we will have to visit; and in 2019 Safety is the primary one, so we did set aside some dollars, but again not as heavy as we have been in the last several years in making sure our transportation plan is updated because after this year we should have an up-to-date transportation plan.

Haugen stated that more funds were available this year to look at corridor studies; we've already had a couple start and they are underway; the downtown parking plan is a carry-over; US 2 US 81 and the Mn 220 North Corridor ones are carryover studies. He added that we do have the ATAC Traffic Counting Program where we are looking at our video systems and then counting traffic, so this category is maintaining the cost of those performance items.

Haugen commented that the one new item that we are identifying to start in 2019 is the Downtown Transportation Plan. He said that they have had a lot of discussion on this as we went through the RFP, and it ended up being the Parking Plan last year. He stated that they are being asked to take a look at the issues along DeMers Avenue through both Grand Forks and also in East Grand Forks as MnDOT has done, as part of last year's work, a mobility study statewide and this segment of DeMers Avenue was one of the locations in Northwest Minnesota that they have identified as having mobility issues; and that brought it into a position where they have some special funding that could come up with solutions. He said that there is a pot of money that we could quickly get some program taking place in the area of the Minnesota Side of East Grand Forks, and so the work program is essentially setting aside the information that we are going to work on the transportation issue between the downtowns, we've set aside a budget and the details of what the actual RFP will be and all the other things involved with this study will be worked out as we go through the RFP process, so they are setting the budget amount and will iron out the scope of work for the project through the RFP process.

Grasser asked, you said that a request was made to do this plan, who made that request. Haugen responded that the Grand Forks City's Administration Office, and then MnDOT on the Minnesota side. Grasser asked if he could get that correspondence sent to him. Grasser stated that he knows that there were quite a few e-mails going back and forth, looking at trying to get the downtown thing going, and there were a lot of open-ended questions like what you are talking about, kind of the same ones we've had since the original scope of work was done six or eight months ago, and he thinks with those open-ended questions; he knows that that hadn't gone on to the City Council for approval, so he is a little confused as to what the approving mechanism is for some of these projects, he thought they had to be City Council approved.

Haugen responded that generally the answer is yes, they do have to have City Council approval, but this particular one they had MnDOT already on board, and the administration; even talking with Mr. Feland, he saw the e-mail and he wasn't sure if that was something that he was supposed to get onto a staff report, or if someone else was doing the staff report, but in the end he said that they want to move forward with doing this transportation portion of the downtown planning activity, so that is why you are still seeing it here. He stated that this is based on the last communication that was exchanged; it wasn't on the staff report that City Council approved.

Haugen reported that also, under Special Studies, Cities Area Transit has asked that in 2019 we take a look at the UND Shuttle System, and the potential for them to operate it. He stated that the other thing we put some funds toward are further implementation of performance measures and targets, and even though we have some funds in the plan update, there are still some rules and activities that are coming out of FAST that we are trying to address and capture in this area.

Haugen commented that in 2020 we shift the focus away from that true transportation component and are starting back up under the land use component, so you will see that a large portion of our funds are reserved now in our Land Use Category, and we do have East Grand Forks and Grand Forks starting their 2050 Land Use Plan updates. He said that the believe is that we will probably be able to complete East Grand Forks' plan by the end of 2020 but the Grand Forks plan will probably move into 2021 for completion.

Haugen explained that the body of the text kind of goes into those things, and a little more information but still not enough for a lot of these to issue out an RFP or contract someone with a scope of work on. He stated that the other important piece is; even though we are just now finishing up our transportation plan for 2045, this work program needs to show our federal partners and state partners how we are progressing toward our 2050 update, and so in here; he didn't mention the one piece of Regional ITS Architecture, so in 2019 we will have ATAC so a Regional ITS Architecture update. He added that one of the big updates that will happen this go-around will be the beginnings of the integration of connected automobiles, connected and automated vehicle component of the ITS, and in 2020 we will start the Land Use Plan updates and in 2021 we will do our Bike/Ped and our Transit elements, and in 2022 and 2023 we will focus on Street and Highway and wrap-up so that by the end of 2023 we can give our state and federal partners up to 30 days before the end of our 5-year cycle, so that is why you see January 31st, 2024 as the end of the 5-year cycle.

Haugen commented that we also have to make sure that we are covering the emphasis areas of Federal Highway and Federal Transit. He said they are continuing to emphasis the ladder of opportunity; also performance based planning and regional planning cooperation so you will see language in our work program kind of identifying how we are addressing the emphasis areas. He added that these emphasis areas were established in 2016, and typically they are annual renewals of new emphasis areas, but since 2016 the agency did not release any new emphasis areas, and are just saying to continue to use the latest released emphasis areas, so that is what this document is doing.

Haugen stated that this has been a brief overview of the work program, the major activities that are taking place during it, the financial components on it; the local match has been fairly consistent, around $60,000 from both communities, so that should remain the same, but there should be a little bit more state match coming in for those specific studies discussed.

Grasser commented that he is trying to understand; when he looks at the document there is a lot of work products in it, many of which have not gone through City Council; and he understands where a lot are probably more of a routine type thing, but he is trying to understand what are things that aren't approved by City Council ahead of time, he thinks ultimately, one way shape or form this document will get approved back to the Executive Policy Board, correct; but he is just trying to understand what things actually need a specific council action, and maybe which don't, which are considered routine or operational, is there a way of clarifying that for the future; which ones actually need specific City Council approval on. Haugen responded that for us to put them in the work program that would be specific corridor studies that the City wants initiated. He added that we do also have State Agencies that can make requests, those probably wouldn't; like MnDOT seeking East Grand Forks' concurrence on the Downtown, he doesn't know if they are required to, so a State Agency can ask for us to do a study.

Haugen stated that the components like ITS Regional Architecture, that is a routine thing that the MPO is required to have so we wouldn't seek City Council approval to do something like that; the T.I.P. is the same thing. He added that the counting program was approved many years ago and it is a continuing program, so similar things to this program would not be approved by the City Council; nor would the Bike/Ped or Transit plans, they are required elements.

Haugen said that the Land Use Plans are an example of what we would ask each City whether or not they would like our assistance in updating, so they would go through their City Councils. He added that special studies for Cities Area Transit would go through the council for approval, which is what we have done for the UND Shuttle project. He said that after 2020, if we do take over UNDs shuttle program we would look at the route structure as well.

Haugen asked if there were any other questionable documents or projects that Mr. Grasser would like verification on. Grasser responded that he would just like to have something, again maybe there is a list or something that we could produce showing those that are routine type things, or where they might come from that otherwise don't need council action. He stated that he is looking at this and there are a lot of work and studies in here and he is just trying to differentiate which ones need council action and which ones don't and where they come from. He said that, again, he doesn't have a big problem with most of them, all of them make sense, but he is, again, just confused as to which ones; sometimes you articulate it verbally, but he needs a piece of paper or something at some point to show which ones need council action and which don't just so he has clarity and they can talk to staff if something is on the list that they hadn't talked about before, or if it is considered a routine type item.

Ellis asked if Mr. Grasser has issue with the studies that are in the work program currently. Grasser responded that he has a concern on the Downtown Transportation Plan study, that is probably the only one that he really; again there are a lot of studies on here that haven't gone

through City Council, so he is just kind of asking the question, where did they come from. He added that it sounds like there are a couple of different categories; kind of routine or other agency requests, and sometimes it is hard to tell when you look at this just where they came from to see if they are just work products that don't have an apparent source that goes through their city council, so that is what he is looking at. Ellis asked if Mr. Grasser would like to have this item suspended and brought back in December, or to give it preliminary approval provided that you get the list that you are asking for, because she is just wondering what type of a motion he would prefer so that we can move this forward. Grasser responded that he doesn't need a motion on it necessarily, he is just looking for clarity and maybe a follow-up, again, just kind of listing how these things end up in the work program, not necessarily even a line-by-line, but what instigates work products that show up in here that didn't go through city council. Ellis responded that she understands that, but she is just saying that in order to move this matter along because Mr. Haugen is looking for approval of the work program, so do you want it suspended to the next meeting. Haugen commented that the ramifications of suspending this and moving it to December is that it impacts our cash flow in January because the Feds still have up to 30-days to comment on it, so if we don't submit anything to them until December 19th when the MPO Executive Policy Board would next meet, if the Feds wait the 30-days allowed, from January 1st through the 15th we would have no federal funding ability to off-set those costs, so that is why we are seeking approval today, to allow that 30-day review and if there need to be adjustments made in December there is time to do so and hopefully there are just small things to tidy-up. Grasser responded that it isn't so much about this one, but he is looking to understand this better for the future so instead of being at the 11th hour like we are, and having questions about where things come up and not having time to really go into them like we are just articulating right now he is trying to get ahead of that curve, and so he just thinks some clarity about how that works because they are going to have some new staff members on the Grand Forks side, and if we can clarify some of these things for our staff in the future; he isn't suggesting that we should not move forward with this, but, again he is just trying to clarify in his mind, the downtown one is the one that he is kind of concerned with because he knows there were a lot of e-mails ahead of time about getting council approval, and council didn't approve it, so that is the one that he is a little bit concerned about and he thinks that probably the reason for that is some of the terms are a bit ambiguous, but if we can work through that in more detail through the scoping process then he thinks we are probably okay.

MOVED BY ELLIS, SECONDED BY BERGMAN, TO APPROVE FORWARDING A RECOMMENDATION TO THE MPO EXECUTIVE POLICY BOARD THAT THEY APPROVE THE 2019-2020 UPWP, SUBJECT TO THE DEVELOPMENT OF A LIST EXPLAINING WHAT DOES AND DOESN'T NEED CITY COUNCIL APPROVAL TO BE INCLUDED IN THE WORK PROGRAM.

Voting Aye: ***Kadrmas, Gengler, Johnson, Ellis, Riesinger, and Bergman.***
Voting Nay: ***None.***
Absent: ***Lang, Bail, Brooks, Riesinger, Laesch, Hanson, Yavarow, Rood, Williams Magnuson, Sanders, Emery, Audette, Konickson, West, and Christianson.***

PROCEEDINGS OF THE
TECHNICAL ADVISORY COMMITTEE
Wednesday, November 14th, 2018

MATTER OF SOLICITATION OF 2020-2023 T.I.P. CANDIDATE PROJECTS

Haugen reported that this is the next round of project solicitation for our 2020-2023 T.I.P. He stated that they announced pretty much all of the North Dakota programs, and this month is when we will initiate the Minnesota side. He added that there are a lot fewer programs on the Minnesota side so it is really impacting MnDOT State Trunk Highway and also if Polk County would ever want to use federal funds in our study area, which they never have yet to-date, they are on notice of those candidate project solicitation timelines.

Haugen stated that there was a deadline on the Transportation Alternatives on the Minnesota side, there were none submitted from our MPO area so we are off the hook on having to review them any time soon.

Haugen commented that on the North Dakota side there are two programs that are being announced; one is brand new and it is another round of FTA funding toward transit, and yes it does seem like we are doing a lot of FTA solicitation for transit, and it is unusual that we are doing this much as this will be our third solicitation when we normally have just one solicitation per year. He added that the other solicitation going on is the Recreational Trails program. He stated that it isn't formally announced by the North Dakota Park and Rec yet, but it officially starts December 1st, and the Technical Advisory Committee doesn't meet again until December so we are announcing that solicitation of the rec trails on the North Dakota side, and the applications are due the first of January.

Haugen reported that yesterday the MPO Minnesota Directors met with MnDOT and he thinks there is a solicitation that MnDOT Transit will be doing as well, so it seems like Transit is getting its share of funding.

Grasser asked, on the regional side, are they not taking applications for a particular year, or are they just not taking regional projects period. Haugen responded that they are not taking regional applications because of the four-year period ending in 2023, but they do like, and they still want that plus-one sense of what the 2024 project would be, it isn't formally being submitted for consideration, it is just kind of a heads up kind of what we are thinking might be our 2024 project a year from now; but otherwise they are not accepting applications for the Regional Program.

Grasser stated that they are actually are planning on getting a regional list approved at the local level, at the Grand Forks City level with the idea that we can then present something, perhaps, in the outyears, and/or if a decision comes later to request a project they won't miss the City Council's approvals, so they are kind of doing that just on a come, more or less. Haugen asked if this would be leu of, or in place of the traffic signals, because those are on the illustrative list. Grasser responded that they are still on the list, this would be a list for the regional and a list for the urban projects just like they would normally do, and so whenever we need to provide information of council approval of a document, it can't be submitted, but at least he wants to make sure they have the city council requirement covered, and so just to be proactive on that they are just going to create a list that their City Council has looked at and approve it makes

sense. Haugen asked if they were including the signals on this list because they aren't technically programmed. Grasser said they would be on the list, he just wants to be in the position that they have a list that all the other things that they have previously programmed are basically on the list, they are just adding to it.

Information only.

MATTER OF UPDATE ON THE 2045 STREET/HIGHWAY ELEMENT

Haugen reported that Scott and Brad are here today to give a brief presentation but first, in your staff report they have had some preliminary approval occur already at various agency levels; both planning commissions have given preliminary approval, Polk County Board of Commissioners have given preliminary approval, and it was presented at the East Grand Forks Working Session and the Grand Forks COW. He stated that they are moving things forward on to both City Councils on Monday and Tuesday evenings, so it is progressing through the month of November on schedule.

Haugen commented that they do have some new information for some Technical Advisory Committee members that haven't been able to attend or participate in those presentations, and that is what Mr. Mareck will go over now. He added that it has to do with the investment end of things; if you will recall at the last Technical Advisory Committee meeting there was action taken, and this is sort of cleaning up what resulted from that action.

Mareck referred to a power point presentation (a copy of which is included in the file and available upon request) and went over it briefly.

Presentation ensued.

Mareck commented that there is a federal rule that says the following projects are included in the transportation plan so the MPO must be financially constrained. He said that that means that we have to do a projection of all reasonable revenues at the federal level; both DOTs, North Dakota and Minnesota; both Cities, which have a variety of different revenue sources, Grand Forks obviously has the new sales tax and also at the county level where there is property taxes and other revenue sources; so doing kind of a baseline of what is currently being brought in from those sources and then projecting that out with some collaboration from those various agencies to make sure that the projections are reasonable. He referred to the "What Is Our Financial Plan" slide and explained that when they did all this they come up with an overall pie-chart showing those different sources in terms of what is available for the MPO plan.

Mareck referred to the Revenue Forecast slide and explained that this is a summary of the result of the process they went through. He stated that there are different funding sources that are tied to different programs; for instance for Safety there is a projection of about $18 million in funding; for North Dakota Main Street, which is kind of the Downtown Urban Program that includes streetscaping, multi-modal, transit, bike/ped types of projects there is a projection of about $19 million; for Interstate there is a projection of about $10 million; for Other Federal

there is a projection of about $210 million; for State there is a projection of about $20 million; for Local there is a project of about $140 million; which gives us a total of about $417 million in Highway Revenue funding.

Grasser asked if, and he knows it is late and it has been shown and articulated a number of times, but could they get the background of how the $139.9 for local was arrived at. Haugen responded that Chapter 6 of the draft document details all of that. He added that that chapter isn't in the TAC packet but has been available on the website for the last month. Mareck added that there is a pretty detailed accounting of how all of those numbers were arrived at, so if there is something that isn't in the report that your interested in he is sure they could probably drill down further and get more information.

Mareck stated that we have that overall revenue projection that all of you were a part of developing, and they appreciate that participation; and the investment direction really kind of ties back to the goals, objectives and performance measures and targets that were established earlier in the process so a lot of that is detailed through federal law on certain things that the MPO has to invest in, and then we have specific measures and targets that are established for project areas, bridges, pavements, etc., where we have to meet certain performance targets for the overall system.

Mareck said that part of the investment direction also is obviously driven through public input; what elected officials, staff such as yourself, and citizens and what they want to see the MPO invest in. He stated that they did have a number of public meetings, website input, and other opportunities where people could provide input through this process.

Mareck commented that also looking back as State and Local plans, they've had comprehensive plans, State plans, County plans that set investment direction vision that the MPO is integrating into its overall process.

Mareck gave a little bit of an executive summary of what some of the emphasis areas are; again, at the federal level and also both DOTs, there is a real strong emphasis on preserving the exiting system, and a lot of that is just simply tied to the fact that there isn't enough revenue to do a lot of the fun expansion things that we would like to do and so maintain our bridges and our pavements in good condition so they are safe and are what our citizens expect is number one. He continued that we are also looking at maintaining the actual facilities themselves, on a national and regional system, which would be the Interstate System and the State Highway System; and then your high level County and City roadways. He stated that all of this is set forth federally by the FAST-ACT, which sets the federal framework and federal law that the MPO's follow.

Mareck referred to the Financial Planning Activity slide and explained that this is an example of some of the input they received for the investment direction at one of the public meetings. He went over the information briefly, and explained that they also had a methodology that kind of got into a little more detail tying our goal areas to the actual projects; and they attempted to assign scores to the projects and grading them.

Mareck stated that another big consideration is inflation, so a dollar today will buy a lot more than a dollar will in the Year 2045, so there is a very significant decrease in the buying power of what we have today moving forward and that reduced, unfortunately the amount of project that we can include in the plan.

Mareck referred to the Current Revenue Scenario slide and explained that it is a screen shot of what ultimately came out of our planning process; the investment direction; the scoring of projects; the input from citizens, the TAC, and the MPO Board; and it shows that we have $266 million of documented projects that are in the current revenue scenario which is what we also call a constrained plan, projects that we can afford to build. He added that, as you will recall he said earlier that we have a revenue of $417 million, and he will explain in a minute why there is that discrepancy. He pointed out that there is $5 million in Safety projects; $39 million for the North Dakota Main Street program; $29 million for the State of Good Repair – Interstate Program; and almost $200 million for the State of Good Repair – Non-Interstate, which is your minor arterials and your State Highway System.

Mareck referred to the Current Revenue Scenario-Fiscal Constraint slide and explained that this is a pie chart that shows the discrepancy between the revenues on the left of $417 million and what he just described on the previous slide of what is currently documented as far as actual projects for investment. He stated that there are two reasons for the discrepancy: first there are $55 million of unallocated City of Grand Forks' local dollars that will be programmed through the City's CIP process; and second a big chunk of the discrepancy is tied to the Safety Projects, so on the North Dakota side there is a five-year safety program and this is a plan that goes out to the year 2045 so you have a discrepancy of what is committed on the safety program versus the horizon of the plan, so the MPO will be working with NDDOT and the communities on the west side of the river to, in the future, identify what safety projects there are that will utilize those revenues. He said that similarly, on the Minnesota side, we do have a State Safety program and a Polk County Safety program, however there has not been enough discussion to get to the point of actually documenting what the safety projects are for the East Grand Forks/Polk County MPO area, so those two factors are the reason for the gap in the investment versus the actual revenue.

Mareck commented that another big thing that we need to include in the plan, and this is intuitive, but we need to make sure that we are integrating the existing projects that are funded and programmed in the MPO T.I.P. into the plan; it is a requirement at the federal level that your existing T.I.P. program be consistent with the Long Range Transportation Plan, that is the reason we put the plan together, to build the projects. He referred to a slide that lists some of the projects that have recently been constructed that were part of the T.I.P. in 2017 and 2018, and some of the bigger projects that are coming up and moving forward in 2019 and 2020 and explained that all of the MPO's T.I.P. projects will be integrated into the new Long Range Plan.

Mareck referred to the Key Projects in MPO 2022 T.I.P. slide and explained that these are just a couple of projects that are coming up in the out-year of the T.I.P.; the US 2 and US Bus 2 Intersection Improvements project in Minnesota; and the Washington Street Underpass Reconstruction and the North Columbia Road Reconstruction in North Dakota.

Mareck stated that they also include in the plan kind of an executive summary of some of your larger investment projects, those that are $5 million and greater, just to get a feel for where those larger investments are taking place. He referred to the next few slides and pointed out that they indicate where these projects are located in both Minnesota and North Dakota, and went over the information briefly.

Mareck explained that, drilling down just a little bit further into the actual program itself; at a very super high level the way that the investments were allocated again was; first allocating to basically the Interstate and the State Highway System, which would be the red roads on the following maps. He pointed out that on the Minnesota side those major improvements were on US #2, Bygland Road, Sorlie and Kennedy Bridges. He stated that on the North Dakota side, again focusing on the red roads, which would be I-29, DeMers, Washington, 32nd Avenue, Gateway Drive and the bridges on DeMers and Gateway Drive.

Mareck commented that there are a couple of projects that they wanted to bring to your attention that did not make it into the constrained or current revenue scenario; 32nd Avenue and also a State of Good Repair project on I-29 north of Gateway Drive. He stated that they do have some improvements on 32nd Avenue in the plan but there was a major reconstruction along 32nd Avenue in the Year 2045 that was scheduled but was not able to be included. Haugen added that the reconstruction of 32nd Avenue is in the mid-term in the plan. He said that there was a follow-up maintenance project that was identified in 2045 that didn't make the fiscal constraint, and it was at the last horizon year. He added that that is the same thing that is going on on Interstate, north of Gateway Drive, there is a project to maintain the interstate in the plan, it was that second project that was identified in 2045 that just got pushed down to the fiscal constraint, and that is what the two black lines are saying; that otherwise we were able to fund all of the requested State of Good Repair on the NHS system on the North Dakota side, except for these two 2045 identified follow-up projects that we just couldn't fiscally constrain.

Mareck said that, to that point, one thing to keep in mind is that the plan is required to be updated every five years, so that doesn't mean that these projects will never be able to be funded, federally, it is just that for this snapshot in time, at this point, there wasn't enough revenue to allocate funding to them.

Mareck commented that the other element of the plan that they would like to talk about are the local roads; the North Dakota Urban Local Roads Program got $130 million dollars that was included in the investment of the current revenue scenario; so there is a variety of projects sprinkled around Grand Forks. He referred to a map showing where these projects are located and stated that he would like to thank the City of Grand Forks for providing a lot of the investment direction on those projects.

Mareck stated that, as we discussed earlier, the $55 million on the local side that we will get from sales tax, is currently unallocated in the MPO plan, so those projects will be identified through the City's CIP process moving forward; and again we have documented about $300 million dollars of potential projects where those monies could be utilized, so there is a large pool

of need out there, it is just a matter of working through them locally to determine how the community wants to invest their funds.

Grasser said that they are having a meeting on Monday to try to decipher some of the language that needs to be in this plan; but he is wondering if they can't also, on that slide, recognize that plus the unidentified, all of their local streets, are also unidentified need, correct. Haugen responded that they are trying to do it with the statement "additional dollars on the City Local System". He said that they have documented on the federal aid, but they haven't done anything on the local side, there aren't any dollar amounts, so that is why it just states "additional dollars". He asked if that was sufficient or do you want more language added. Grasser responded that maybe they can talk about some language options on Monday. He added that he would like that statement beefed up somehow, but he doesn't have the exact word right not, but he wants to really make sure that they emphasis that the shortage that they have in there, it isn't just on the State system, but it is also on the local system, and he doesn't know if we are talking about strictly project money or if there is maintenance money mixed up in some of that discussion too. Haugen referred to the slides and pointed out what each one is showing.

Grasser commented that he kind of understands all of this, but he isn't sure how firmly that comes across; like if they gave a number on the local streets, if you could just plug in a number or do you have to go through some complicated process. He said that a number of years ago we identified that we thought we needed a budget in the nature of about $10 or $12 million dollars a year on the local side to eventually bring the whole system up; and that would be like at least a twenty or thirty year cycle to do that, so if you start looking at that $10 or $12 million dollar need that they identified locally over the planning lifetime, you start getting a really really big number relative to emphasizing the short-fall. He added that his concern is that people may look at the unallocated dollars as being more freely available than probably what they are, and that is why he is looking at language change. He said that he understands what you're saying, he isn't disagreeing with that, but he wants to do as much as he can to emphasize that we are still very very short of dollars.

Mareck stated that he thinks that lateral, we have the $700 million that we talked about earlier, the needs for the region that have been documented for a variety of different programs; so the $700 million versus $400 million of revenue; that would give you roughly $300 million dollars of unmet need, but yet there are a lot of other local system needs that are not complete contemplated as part of the MPO plan, and how do we tell that story without getting into the gory details of trying to develop that number.

Mareck explained that in addition to the overall capital program, there is also an ongoing need to document operation and maintenance needs of the system, and this is a federal requirement that this be done to make sure that we are being comprehensive in our view of the overall needs. He added that we have documented some of the operation revenue and needs on both the North Dakota and Minnesota side. He referred to slides discussing these issues for both North Dakota and Minnesota and explained that they aren't probably as comprehensive and complete as we would like, but it is a work in progress and so over time they hope to make it a more robust element of the MPO plan.

Mareck referred to the Potential Discretionary Projects slide and commented that we also do want to recognize, as part of the plan, though there is $300 million of unmet needs; that this plan is really kind of a marketing tool that can be used by the MPO and all of the communities to talk to your legislators, your congressional delegations, Governor's, etc., to kind of champion some of those unmet needs that they have documented in your community. He went over the discretionary projects listed and stated that these are all very high profile, high impact projects for your region that have a very strong purpose and need that we would definitely like to get included in the plan, so if there are opportunities, some leverage or some special revenues through congressional earmarks, or state funding costs that aren't contemplated in the plan, those are things that can be worked on.

Haugen stated that this was really just the major modifications that they had from the last Technical Advisory Committee meeting, for this section of the plan. He said that they aren't going to go into the River Crossing portion, unless you want to, so, referring to the November and December calendars, he said that this is where they are going to end the presentation.

Haugen referred to the November calendar and pointed out that they will be attending the City Council meetings next week for preliminary approval, as well as the MPO Executive Policy Board. He added that they also have a presentation scheduled to give to North Dakota Upper Management the following Tuesday afternoon.

Haugen referred to the December calendar and pointed out that December 19th is when we hope to have action from the MPO Executive Policy Board; some clean-up work so that we can formally submit the document to our State and Federal partners on December 28th. He said that at that time they will have their 30-day review period, and that allows us to meet the January 31st drop-dead date of our current five year cycle.

Halford stated that she was not at the last meeting as she was on maternity leave, and preliminary approval was given to the Street and Highway Element, and she is wondering of that includes the Transit and Bike/Ped Plan under it as a whole, or are they separate. Haugen responded that they are separate. He added that there is a meeting scheduled for this evening on the Bike/Ped Plan.

Halford asked when the Bike/Ped Plan will be approved; is that going to screw with our funding since it is not going to be approved. Haugen responded that it is still coming. Halford asked if it needs to be done by January, or does it affect our funding. Haugen responded that they have had some discussions with the lead State Partner on this, and so they are working towards that. Halford said, then, that it is possible, but hopefully not. Haugen responded that they might be asking for a 30-day extension; just as they did with the TAM Plan, they asked for a 30-day extension. Halford said, then we will be asking for approval at the end of January. Haugen responded that that is correct.

Haugen said that they needed to show progression on this piece of the plan and this gets us to our 2050 cycle.

OTHER BUSINESS

a. 2018 Annual Work Program Project Update

Haugen reported that the monthly work program update is included for your review.

ADJOURNMENT

MOVED BY BERGMAN, SECONDED BY GENGLER, TO ADJOURN THE NOVEMBER 14TH, 2018, TECHNICAL ADVISORY COMMITTEE MEETING AT 2:50 P.M.

MOTION CARRIED UNANIMOUSLY.

Respectfully submitted by,

Peggy McNelis,
Office Manager

Overcoming Barriers **Strengthening Connections**

M.P.O. M.P.O. M.P.O.

Grand Forks - East Grand Forks Metropolitan Planning Organization

Ensuring Opportunities **Planning One Community**

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

MPO Staff Report
Technical Advisory Committee: December 12, 2018
MPO Executive Board: December 19, 2018

RECOMMENDED ACTION: Recommend Adoption of 2045 Street/Highway Element

Matter of the 2045 Street/Highway Element Approval.

Background: For the past 24 months, the MPO has been cooperatively working with its partners to develop an update to the 2040 Street/Highway Plan. The requirement is to have an updated planning document every 5 years. The end of December of this year ends the current five year cycle; we must adopt an update by then. We all have been working of a transit element and a bike and pedestrian element which together comprise the overall Metropolitan Transportation Plan.

As part of the MPO adoption, we request our respective local partners to consider amending their respective comprehensive plans to include the MPO Transportation Plan. The following action has been taken to date:

Grand Forks Planning and Zoning Commission gave final approval at its December 2018 meeting with removal of a second future bridge at 32nd Ave S.

Grand Forks City Council gave preliminary approval and is holding public hearing at its December 17th meeting.

East Grand Forks Planning and Zoning Commission gave approval at its November 2018 meeting.

East Grand Forks City Council gave preliminary approval and is holding a public meeting at its December 18th meeting.

Polk County Board of Commissioners adopted the Board to support the 2045 Plan which includes continuing the preservation of the 32nd Avenue South and Merrifield Road corridors for future bridges.

Grand Forks Board of Commissioners adopted motion to support the 2045 Plan which includes the continuing the preservation of the Merrifield Road corridor for future bridge. The County determined that it was not within their review to act on a possible future bridge location inside the city limits of Grand Forks.

A presentation of the draft Plan was done before MnDOT Planning Working Group on November 14th. MnDOT has provided comments on the draft. Their main concern was that the current draft does not completely include the current TIP document to ensure all of the projects in the current TIP remain consistent with the Plan. This was done.

A presentation of the draft Plan was done before NDDOT Upper Management on November 27th. No comments have been received.

Findings and Analysis:

- 2040 Street/Highway Plan needs to be updated.
- The deadline for adoption is end of December 2018.
- A Preliminary Approved Draft document was done in October and is being presented to the respective local agencies, and public, for their consideration and input.
- The draft document has been provided.

Support Materials:

- Draft Resolution

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 Street/Highway Plan 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 December 5, 2018, on the proposed Street/Highway element of the Metropolitan Transportation Plan; and

WHEREAS, the City Council for Grand Forks, North Dakota, held a public hearing on December 17, 2018, on the proposed Street/Highway element of the Metropolitan Transportation Plan; and

WHEREAS, the Planning Commission for East Grand Forks, Minnesota, held a public meeting on November 8, 2018, on the proposed Street/Highway element of the Metropolitan Transportation Plan; and

WHEREAS, the City Council for East Grand Forks, Minnesota, held a public meeting on December 18, 2018, on the proposed Street/Highway 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 Street and Highway Element as presented with the following amendments:

xx

_____	_____	_____
Date	Ken Veins Chairman	Earl Haugen Executive Director

Overcoming Barriers **Strengthening Connections**

M.P.O. M.P.O. M.P.O.

Grand Forks - East Grand Forks Metropolitan Planning Organization

Ensuring Opportunities **Planning One Community**

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

MPO Staff Report
Technical Advisory Committee: December 12, 2018 1:30 pm
MPO Executive Board: December 19, 2018 12: 00 Noon

RECOMMENDED ACTION	Recommends Technical Advisory Committee support application as projects are in accordance to the 2045 Bicycle and Pedestrian Element (Currently under consideration)

Matter of the Submission of Transportation Alternative Application, FY 2020, FY 2021

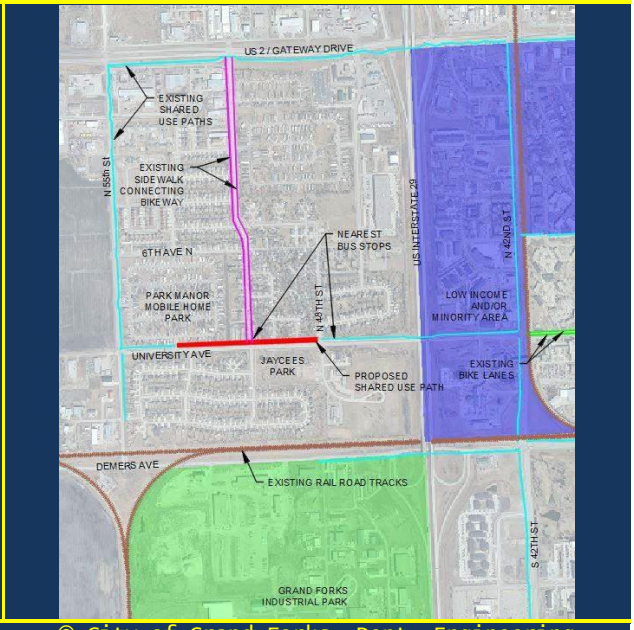
Shared Use Path

S Columbia Rd
(40th Ave S to 47th Ave S)

© City of Grand Forks, Dept. Engineering

Shared Use Path

University Ave
(Mobile Home Park to N 48th St)



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FY	Type of Facility	Segment	From	To	Length/Ft	Estimated Cost
2020	Shared Use Path	S Columbia Road	40th Ave. S	47th Ave. S	2,450 0.46 mile	$459,000
2021	Shared Use Path	University Avenue	Mobile Home Park Entrance	N 48th St.	1,850 0.35 mile	$412,000

BACKGROUND:

The City of Grand Forks Engineering Department is seeking funding from the Transportation Alternative Program to support the construction and maintenance of two Shared Use Path initiatives:

a) S Columbia Rd (40th Ave S to 47th Ave S, and
b) University Ave (Mobile Home Park to N 48th St)

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.

ANALYSIS AND FINDINGS OF FACT:

The *Bicycle and Pedestrian Element* of the 2045 Metropolitan Transportation Plan includes a number of "*Off-Road Bicycle & Pedestrian Projects*" scheduled for "short-term" implementation. These two initiatives are featured in the Element. A highlight of each project includes:

- *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:

- Demonstrates incorporation of appropriate traffic control devices
- Decreases fuel consumption
- Addresses last segment/link of corridor
- Enhances the public safety for non-motorized users

- *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 2045 Metropolitan 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

The Bicycle and Pedestrian Element supports the design, construction and maintenance of bicycle and pedestrian initiatives that:

- Improve user's safety and comfort
- Increase the existing pedestrian network and bicycle system
- Enhance pedestrian network's accessibility & connectivity

These two projects as submitted by the Grand Forks Department of Engineering support the objectives outlined previously. In addition, the projects contribute to closing of existing network gaps.

The Bicycle and Pedestrian Element (currently under consideration) states that "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." These projects are in accordance to the Bicycle and Pedestrian Element.

SUPPORT MATERIALS:

TA Application for FY 2020-FY 2021. Supporting letters received: Safe Kids Grand Forks, GF Public Schools, GF Parks District & The Bicycle, Pedestrian & Greenway Advisory Committee

Allen R. Grasser, PE
City Engineer

City of Grand Forks

255 North Fourth Street • P.O. Box 5200 • Grand Forks, ND 58206-5200
(701) 746-2640
Fax: (701) 787-3744

December 4, 2018

Mr. Earl Haugen
Grand Forks/East Grand Forks MPO
255 N 4th St
Grand Forks, ND 58206

RE: TA Applications

Dear Mr. Haugen:

Attached please find the City of Grand Forks' TA Project Application (2) for fiscal years 2020 and 2021. Please forward these applications to NDDOT. If you have any questions or comments, please contact David Kuharenko at 701-746-2649.

1. 2020 - Shared Use Path – S Columbia Rd (40th Ave S – 47th Ave S)
2. 2021 - Shared Use Path – University Ave (Mobile Home Park Entrance – N 48th St)

Sincerely,

Allen R. Grasser, P.E.
City Engineer

ARG/djk

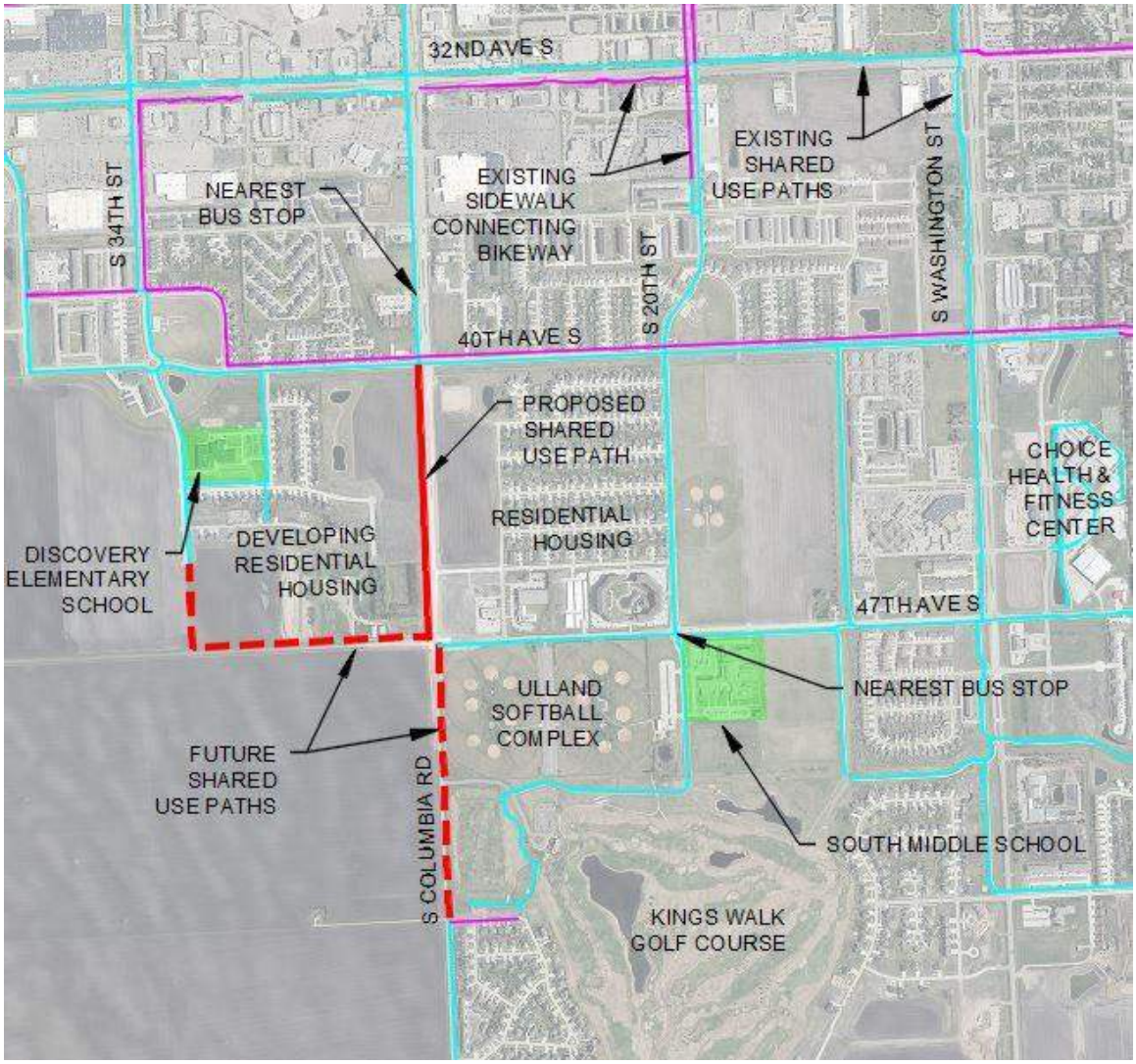
Cc: Mark Walker
David Kuharenko

2020 APPLICATION FOR PROPOSED PROJECT TRANSPORTATION ALTERNATIVES

North Dakota Department of Transportation, Local Government

S Columbia Rd (40th Ave S to 47th Ave S)

Figure #1



1. PROJECT NAME

S Columbia Rd Shared Use Path

2. PROJECT LOCATION

Grand Forks, ND {T151N R50W Sec. 20}; Beginning at the intersection of S Columbia Rd and 40th Ave S, South to 47th Ave S

3. REQUESTED BY

The City of Grand Forks

4. CONTACT PERSON

Allen R. Grasser, PE

255 N. 4th St., P.O. Box 5200
Grand Forks, ND 58206
(701)746-2640
agrasser@grandforksgov.com

5. PROJECT SPONSOR

The City of Grand Forks
A City over 5,000 population

6. SPONSORING OFFICIAL

Mayor Michael R. Brown
255 N. 4th St., Box 5200
Grand Forks, ND 58206
(701)746-2607

7. PROJECT DESCRIPTION

The proposed project would construct a shared-use path beginning at the existing shared use path at the intersection of S Columbia Rd and 40th Ave S and extending to the south to 47th Ave S connecting to the recently constructed shared-use path at the intersection of S Columbia Rd and 47th Ave S. The path would most likely be located on the west side of S Columbia Rd within the existing right-of-way and easements.

S Columbia Rd is classified as a principal arterial street, is on the National Highway System (NHS) and has a posted speed limit of 40mph. Based on the 2015 NDDOT counts, 47th Ave S sees between 5,650 vehicles per day. Based on the Metropolitan Planning Organization's 2040 Long Range Transportation Plan, this segment of S Columbia Rd is anticipated to have between 14,600 to 18,000 vehicles per day in 2040. Currently there are no sidewalks or paths on either side of S Columbia Rd in this segment of street.

The areas on either side of Columbia Rd between 40th Ave S and 47th Ave S are at some stage of development. The residential area surrounding Discovery Elementary School has grown continuously since the school's completion.

In meeting the transportation needs of this area in 2017 S Columbia Rd from 40th Ave S to 47th Ave S was reconstructed from a 2 lane rural section to a 4 lane urban section including a traffic signal at the intersection of Columbia and 47th Ave S. In 2018 47th Ave S from S 20th St to S Columbia Rd was reconstructed and as either side was already developed a shared use path was installed from S 20th St to S Columbia Rd. The construction of the shared use path along S Columbia Rd was postponed until after the area fronting S Columbia Rd was developed to prevent unnecessary realignments and removals for access onto S Columbia Rd.

As the residential areas continue to develop, bicyclists and pedestrians will desire a more direct route to reach their destinations. This will likely include bicycle and pedestrian accommodations along S Columbia Rd. The proposed path will act as one component for more direct access for students south east of the intersection of S Columbia Rd and 47th Ave S to access Discovery Elementary School as well as students who live north west of S Columbia Rd and 47th Ave S a more direct access to South Middle School. In addition to more direct school access for the developing community, the proposed path will also provide improved access to Ulland Softball Complex, Kings Walk Golf Course, and the Choice Health and Fitness Center. In addition to the nearby schools and recreational facilities, Cities Area Transit (CAT) has route 11 which has a bus stop located at S Columbia Rd and 38th Ave S and route 10 which has a bus stop at 47th Ave S and S 20th St. All buses operated by CAT have bike racks mounted on the front of the bus for individuals riding their bike and desiring to use the transit system.

Figure #1 gives an aerial look at the surrounding bicycle/pedestrian accommodations, Discovery Elementary School, South Middle School, Ulland Softball Complex, Kings Walk Golf Course, and Choice Health and Fitness Center. In addition to providing improved bicycle and pedestrian facilities, the proposed path would provide:

a. Provide the first phase of bicycle and pedestrian accommodations to the intersection of S Columbia Rd and 47th Ave S.
b. Creates a safer walking and bicycling environment for school children, commuters and recreational users.

c. Provides a direct trail facility to connect the developing residential areas to the existing recreational facilities.
d. Another segment of the overall bikepath network for the City.

Improvements included in this path would be the following:

a. 5-inch thick, 10-foot wide concrete path (will accommodate the occasional maintenance vehicle)
b. Centerline reinforcing on 5-foot spacing (to inhibit longitudinal joint deflection)
c. Sawed joints (as requested by local ADA advocacy groups for other projects, to provide a smoother ride for wheelchairs and in-line skaters)

8. PROJECT COST

Total Estimate	= $452,000
Ineligible costs (Easements, Testing, etc.)	= $7,000
Total-Project Federal-Aid Eligible Estimate	= $459,000
(see attached detailed estimate)	

9. WHAT ACTIVITIES ARE ELIGIBLE UNDER TAP?

A: Construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act of 1990.

B: Construction of infrastructure related projects that will substantially improve the ability of students to walk and bicycle to school.

C: Construction of infrastructure related projects and systems that will provide safe routes for non-drivers, including children, older adults, and individuals with disabilities to access daily needs.

H: Safe Routes to School projects including sidewalk improvements, traffic calming and speed reduction improvements, and pedestrian and bicycle crossing improvements.

10. SUPPORTING DATA

1. **Is this project part of an identified tourism, recreational or transportation plan and if so explain?**
   This location is identified in the Grand Forks – East Grand Forks MPO Existing and Planned Bikeway Network as a shared use path.

2. **Is your project tied to another project? If so, please explain.**
   No.

3. **How does your project fit with similar projects in your community and/or region?**
   This shared-use path is consistent with the type of path constructed and the method of installing shared-use path to new developments and areas to serve them through alternate transportation means.

4. **Provide documentation of support, if any, from the general public, other groups, and organizations.** ***Attach documentation from all those affirming this support.***
   The Bicycle, Pedestrian and Greenway User Advisory Group, Safe Kids Grand Forks, Grand Forks Park District, Grand Forks School District, City of Grand Forks City Council, and GF/EGF MPO

11. PUBLIC ACCESSIBILITY
City of Grand Forks

12. MATCHING FUNDS PROVIDED BY
City of Grand Forks

13. RIGHT OF WAY FOR THIS PROJECT WILL BE PROVIDED BY
City of Grand Forks

14. MAINTENANCE OF THIS PROJECT WILL BE PROVIDED BY
City of Grand Forks

15. ENVIRONMENTAL IMPACTS

a. Land Use – The proposed path is located adjacent in existing City right of way. It will provide access to the City's developing residential areas to existing nearby schools and recreational areas. There will be no negative impact. The construction of this project is expected to have an overall positive impact on the environmental and local economic setting.
b. Farmland – no farmland will be taken as a result of this project.
c. Social Impacts – This will have a positive impact by providing residents, with a path encouraging bicycling and walking to school, work and for recreation.
d. Economic – This path provides a direct connection from existing bike/ped infrastructure to the nearby schools and bus stops thereby creating easier access for anyone commuting into this area.
e. Relocation – none.
f. Wetlands –none.
g. Flood Plain – N/A
h. Threatened or endangered species – the proposed project is on previously disturbed land in a developed area. This area is regularly mowed and is not anticipated to provide a habitat for any threatened or endangered species.
i. Cultural Resources – N/A
j. Hazardous Waste – N/A

This project is expected to reduce motor vehicle traffic within the local area of the project. Therefore, the ultimate environmental impacts resulting from the project should be positive. With reduction of motor vehicle traffic we expect a decrease in noise, air, and dust pollution.

Other positive social/infrastructure benefits should also result from this project. As usage of the shared-use path increases, we expect local roadway traffic congestion to decrease.

16. SIGNATURES

Allen Grasser, City Engineer	11/28/18 DATE
Mayor Michael R. Brown	12/03/18 DATE
MPO OFFICIAL	DATE

2018 TA Application (Fiscal Year 2020)
S Columbia Rd (40th Ave S to 47th Ave S)
10' Wide Shared Use Path

SPEC NO.	CODE NO.	ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	ITEM TOTAL
103	100	CONTRACT BOND	1	LSUM	$ 3,000.00	$ 3,000.00
202	130	REMOVAL OF CURB & GUTTER	160	LF	$ 15.00	$ 2,400.00
203	113	COMMON EXCAVATION WASTE	980	CY	$ 15.00	$ 14,700.00
251	300	SEEDING CLASS III	0.6	ACRE	$ 10,000.00	$ 6,000.00
253	201	HYDRAULIC MULCH	0.6	ACRE	$ 10,000.00	$ 6,000.00
302	121	AGGREGATE BASE COURSE CL 5	530	CY	$ 45.00	$ 23,850.00
702	100	MOBILIZATION	1	LSUM	$ 29,000.00	$ 29,000.00
704	1100	TRAFFIC CONTROL	1	LSUM	$ 9,000.00	$ 9,000.00
722	6140	ADJUST GATE VALVE BOX	6	EA	$ 350.00	$ 2,100.00
722	6201	ADJUST MANHOLE SPECIAL	8	EA	$ 2,000.00	$ 16,000.00
748	140	CURB & GUTTER-TYPE 1	160	LF	$ 50.00	$ 8,000.00
750	125	SIDEWALK CONCRETE 5IN	2890	SY	$ 70.00	$ 202,300.00
750	2115	DETECTABLE WARNING PANELS	160	SF	$ 40.00	$ 6,400.00
		EROSION CONTROL	1	LSUM	$ 6,000.00	$ 6,000.00

Subtotal	$ 334,750.00
20% Contingencies	$ 67,250.00
Subtotal	$ 402,000.00
Construction Testing	$ 7,000.00
Project Total	**$ 409,000.00**

2020 Construction

		Subtotal	$ 362,065.60
Fed Share	MAX	20% Contingencies	$ 72,934.40
$290,000	66%	Subtotal	$ 435,000.00
Local share		Construction Testing	$ 7,000.00
$152,000.00	34%	**Project Total**	**$ 442,000.00**

2021 Construction

		Subtotal	$ 376,548.22
Fed Share	MAX	20% Contingencies	$ 75,451.78
$290,000	63%	Subtotal	$ 452,000.00
Local share		Construction Testing	$ 7,000.00
$169,000.00	37%	**Project Total**	**$ 459,000.00**

TIP SCORING SHEETS

Transportation Alternatives SCORING
MPO SCORING SHEET FOR EACH PROJECT

0=No
1=Yes

Project Number		**Project Name**	Shared Use Path S Columbia Rd 40th Ave S to 47th Ave S

Category 1 Accessibility and Mobility		
Increase the accessibility and mobility options to people and freight.		**Assign score 0 or 1**
A	Provides acceptable LOS for facility as recommended in LRTP	0
B	Enhances accessibility and mobility for non-motorized users	1
C	Implements recommendations in ADA ROW transition plans	0

Category 2 Environmental/Energy/QOL		
Protect and enhance the environment, promote energy conservation,and improve quality of life.		**Assign score 0 or 1**
A	Implements context sensitive solutions	0
B	Address EJ analysis process	0
C	Decreases fuel consumption	1
D	Advoids or minimize impacts to wetlands or other natural habitats	1
E	Seeks to control sun-off pollution	1

Category 3 Integration and Connectivity		
Enhance the integration and connectivity of the transportation system across and between modes for people and freight.		**Assign score 0 or 1**
A	Project includes signage techniques to help users travel	0
B	Maximize direct travel trips between major generators	0
C	Address last segment/link of corridor	1
D	Improves the integration/connectivity of whole transportation system	1

Category 4 Efficient System Management		
Promote efficient system management and operation.		**Assign score 0 or 1**
A	Project sponsor has specific budget for maintenance	1
B	Demonstrates commitment to year round maintenenace	1
C	Includes specific evaluation method to provide a measurement of effectiveness	0

TIP SCORING SHEETS

Transportation Alternatives SCORING
MPO SCORING SHEET FOR EACH PROJECT

0=No
1=Yes

Project Number		**Project Name**	Shared Use Path S Columbia Rd 40th Ave S to 47th Ave S

Category 5 System Preservation		
Emphasize the preservation of the existing transportation system.		**Assign score 0 or 1**
A	Uses existing infrastructure instead of building brand new infrastructure	0
B	Emphasizes system rehabilitation rather than expansion	0
C	Incorporates new technologies	0
D	Aquire/utilizes railroad ROW of other existing ROW	1

Category 6 Safety		
Increase safety of the transportation system for motorized and nonmotorized uses.		**Assign score 0 or 1**
A	Rprovide safety education components	0
B	Enhances safe route to school route	1
C	Demonstrates incorporation of appropriate traffic control devices	1
D	Reduces points of conflict	1
E	Enhances the public safety of non-motorized users	1

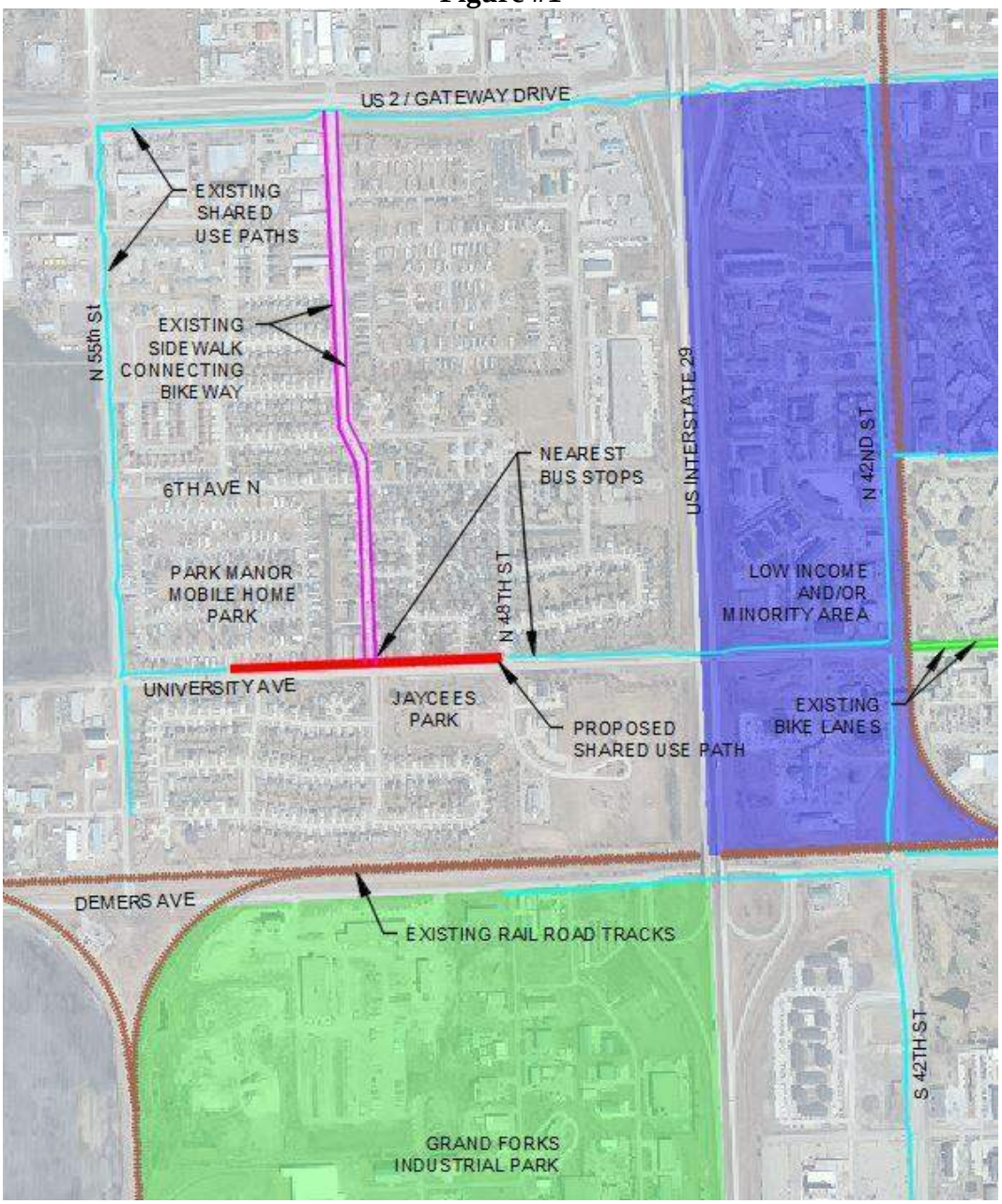
Category 7 Local/Regional Factors		
Factors of local or regional importance		**Assign score 0 or 1**
A	Conformance withLRTP, corridor studies, school safety studies of MPO docume	1
B	Demonstrates analysis of porject risk in implementation	1
C	Provides benefit for multiple jurisdictions	0
D	Advances smart growth objectives	1
E	Project provides landscaping/streetscaping or similar amenities	0
F	Aquire/enhances scenic/historic properties	0
G	Project provides a connection to transit facilities of transit stops	0

2021 APPLICATION FOR PROPOSED PROJECT TRANSPORTATION ALTERNATIVES

North Dakota Department of Transportation, Local Government

University Ave Shared Use Path (Mobile Home Park to N 48th St)

Figure #1



1. PROJECT NAME

University Ave Shared Use Path

2. PROJECT LOCATION

Grand Forks, ND {T151N R50W Sec. 6}; Beginning at the entrance to Park Manor Mobile Home Park, East to N 48th St along University Ave

3. REQUESTED BY

The City of Grand Forks

4. CONTACT PERSON

Allen R. Grasser, PE

255 N. 4th St., P.O. Box 5200
Grand Forks, ND 58206
(701)746-2640
agrasser@grandforksgov.com

5. PROJECT SPONSOR

The City of Grand Forks
A City over 5,000 population

6. SPONSORING OFFICIAL

Mayor Michael R. Brown
255 N. 4th St., Box 5200
Grand Forks, ND 58206
(701)746-2607

7. PROJECT DESCRIPTION

The proposed project would construct a shared-use path connecting two existing shared use paths together and completing a loop of shared use paths. The proposed path would begin at University Ave and the entrance to Park Manor Mobile Home Park and extending to the east to the existing shared use path at N 48th St. The path would most likely be located on the north side of University Ave within the existing right-of-way.

This section of University Ave is immediately adjacent to the Park Manor Mobile Home Park, and Jaycees Park. This segment of University Ave sees Cities Area Transit (CAT) Route 8 with bus stops at N 51st St and N 48th St. All buses operated by CAT have bike racks mounted on the front of the bus for individuals riding their bike and using the transit system.

University Ave has a posted speed limit of 25 mph. Based on the 2015 NDDOT counts, University Ave sees between 1,353 and 3,548 vehicles per day.

Individuals living in the surrounding area who are transportation disadvantaged 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 cross I-29. A shared use path allows for multiple modes of non-motorized transportation to coexist in the same space. This allows for individuals accessing the nearby schools, commuting to work, or using the paths for recreation have an equal opportunity to use the same resources whether it is for walking, bicycling, or using other non-motorized modes of transportation.

Existing bicycle and pedestrian facilities on University Ave between N 55th St and N 42nd St consists of a 5' wide sidewalk on the south side of the road from N 53rd St to N 48th St, the north side consists of a 10' wide shared use path from N 55th St to the entrance of Park Manor Mobile Home Park, a 5' wide sidewalk from the entrance to N 48th St, and a 8' wide shared use path from N 48th St to N 42nd St.

Figure #1 gives an aerial look at the surrounding bicycle/pedestrian accommodations, Park Manor Mobile Home Park, Jaycees Park, the high minority and/or low income areas identified by the MPO and a portion of the industrial park. In addition to providing improved bicycle and pedestrian facilities, the proposed path would provide:

a. The final connection between the shared use paths, and completion of a shared use path loop
b. Creates a safer walking and bicycling environment for school children, commuters and recreational users
c. Provides a direct trail facility to connect the surround trails for recreational purposes
d. Another segment of the overall bikepath network for the City

The path would start at the intersection of University Ave and the entrance to Park Manor Mobile Home Park and continue east to the existing shared use path at the N 48th St

Improvements included in this path would be the following:

a. 5-inch thick, 10-foot wide concrete path (will accommodate the occasional maintenance vehicle)
b. Centerline reinforcing on 5-foot spacing (to inhibit longitudinal joint deflection)
c. Sawed joints (as requested by local ADA advocacy groups for other projects, to provide a smoother ride for wheelchairs and in-line skaters)

8. PROJECT COST

Total Estimate	= $405,000
Ineligible costs (Easements, Testing, etc.)	= $7,000
Total-Project Federal-Aid Eligible Estimate	= $412,000
(see attached detailed estimate)	

9. WHAT ACTIVITIES ARE ELIGIBLE UNDER TAP?

A: Construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act of 1990.

B: Construction of infrastructure related projects that will substantially improve the ability of students to walk and bicycle to school.

C: Construction of infrastructure related projects and systems that will provide safe routes for non-drivers, including children, older adults, and individuals with disabilities to access daily needs.

10. SUPPORTING DATA

1. **Is this project part of an identified tourism, recreational or transportation plan and if so explain?**
   This location is identified in the Grand Forks – East Grand Forks MPO Existing and Planned Bikeway Network as a shared use path connection between the existing shared use paths on University Ave.

2. **Is your project tied to another project? If so, please explain.**
   No, this project is not tied to any other Federally funded project.

3. **How does your project fit with similar projects in your community and/or region?**
   This shared-use path is consistent with the type of path constructed and the method of installing shared-use path to new developments and areas to serve them through alternate transportation means.

4. **Provide documentation of support, if any, from the general public, other groups, and organizations. *Attach documentation from all those affirming this support.***
   The Bicycle, Pedestrian and Greenway User Advisory Group, Safe Kids Grand Forks, Grand Forks Park District, Grand Forks School District, City of Grand Forks City Council, and GF/EGF MPO

11. PUBLIC ACCESSIBILITY

City of Grand Forks

12. MATCHING FUNDS PROVIDED BY
City of Grand Forks

13. RIGHT OF WAY FOR THIS PROJECT WILL BE PROVIDED BY
City of Grand Forks

14. MAINTENANCE OF THIS PROJECT WILL BE PROVIDED BY
City of Grand Forks

15. ENVIRONMENTAL IMPACTS

a. Land Use - There will be no negative impact. It will provide improved access to the nearby schools by providing a wider path. The construction of this project is expected to have an overall positive impact on the environmental and local economic setting.
b. Farmland – no farmland will be taken as a result of this project.
c. Social Impacts – This will have a positive impact by providing residents, with a wider path encouraging bicycling and walking to school, work and for recreation.
d. Economic – This path provides a wider connection from existing bike/ped infrastructure to the nearby schools and bus stops thereby creating easier access for anyone commuting into this area.
e. Relocation – none.
f. Wetlands –none.
g. Flood Plain – N/A
h. Threatened or endangered species – the proposed project is on previously disturbed land in a developed area. This area is regularly mowed and is anticipated to not provide a habitat for any threatened or endangered species.
i. Cultural Resources – N/A
j. Hazardous Waste – N/A

This project is expected to reduce motor vehicle traffic within the local area of the project. Therefore, the ultimate environmental impacts resulting from the project should be positive. With reduction of motor vehicle traffic we expect a decrease in noise, air, and dust pollution.

Other positive social/infrastructure benefits should also result from this project. As usage of the shared-use path increases, we expect local roadway traffic congestion to decrease.

16. SIGNATURES

Allen Grasser, City Engineer	11/28/18 DATE
Mayor Michael R. Brown	12/03/18 DATE
MPO OFFICIAL	DATE

2018 TA Application (Fiscal Year 2021)
University Ave (Mobile Home Park Entrance to N 48th St)
10' Wide Shared Use Path

SPEC NO.	CODE NO.	ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	ITEM TOTAL
103	100	CONTRACT BOND	1	LSUM	$ 3,000.00	$ 3,000.00
201	370	REMOVAL OF TREE 10IN	33	EA	$ 600.00	$ 19,800.00
202	114	REMOVAL OF CONCRETE PAVEMEN	1140	SY	$ 15.00	$ 17,100.00
202	130	REMOVAL OF CURB & GUTTER	160	LF	$ 15.00	$ 2,400.00
203	113	COMMON EXCAVATION WASTE	700	CY	$ 15.00	$ 10,500.00
251	300	SEEDING CLASS III	0.43	ACRE	$ 10,000.00	$ 4,300.00
253	201	HYDRAULIC MULCH	0.43	ACRE	$ 10,000.00	$ 4,300.00
302	121	AGGREGATE BASE COURSE CL 5	380	CY	$ 45.00	$ 17,100.00
702	100	MOBILIZATION	1	LSUM	$ 26,000.00	$ 26,000.00
704	1100	TRAFFIC CONTROL	1	LSUM	$ 8,000.00	$ 8,000.00
722	6140	ADJUST GATE VALVE BOX	4	EA	$ 350.00	$ 1,400.00
724	425	HYDRANT-RELOCATE	4	EA	$ 3,000.00	$ 12,000.00
748	140	CURB & GUTTER-TYPE 1	160	LF	$ 50.00	$ 8,000.00
750	115	SIDEWALK CONCRETE 4IN	80	SY	$ 65.00	$ 5,200.00
750	125	SIDEWALK CONCRETE 5IN	2030	SY	$ 70.00	$ 142,100.00
750	140	SIDEWALK CONCRETE 6IN	30	SY	$ 75.00	$ 2,250.00
750	1000	DRIVEWAY CONCRETE	30	SY	$ 75.00	$ 2,250.00
750	2115	DETECTABLE WARNING PANELS	190	SF	$ 40.00	$ 7,600.00
		EROSION CONTROL	1	LSUM	$ 6,000.00	$ 6,000.00

Subtotal	$ 299,300.00
20% Contingencies	$ 60,700.00
Subtotal	$ 360,000.00
Construction Testing	$ 7,000.00
Project Total	**$ 367,000.00**

2021 Construction

		Subtotal	$ 323,722.88
Fed Share	MAX	20% Contingencies	$ 65,277.12
$290,000.00	73%	Subtotal	$ 389,000.00
Local share		Construction Testing	$ 7,000.00
$106,000.00	27%	**Project Total**	**$ 396,000.00**

2022 Construction

		Subtotal	$ 336,671.80
Fed Share	MAX	20% Contingencies	$ 68,328.20
$290,000.00	70%	Subtotal	$ 405,000.00
Local share		Construction Testing	$ 7,000.00
$122,000.00	30%	**Project Total**	**$ 412,000.00**

PLANNING AND COMMUNITY
DEVELOPMENT DEPARTMENT

A PLACE OF EXCELLENCE
CITY OF GRAND FORKS

City of Grand Forks

255 North 4th Street (Zip Code 58203) • P.O. Box 5200 (Zip Code 58206-5200)
Grand Forks, ND

(701) 746-2661
FAX (701) 787-3755

November 19, 2018

RE: University Ave (N 48th St to Entrance to Mobile Home Park)

To Whom It May Concern,

The Bicycle, Pedestrian and Greenway Advisory Committee (BPGAC) would like to express their support for a shared-use path along University Ave (N 48th St to Entrance to Mobile Home Park). The group supports this project to provide better access to a busy and growing area of our community.

Bicyclists and Pedestrians have long recognized the need for a shared-use path a long this section of University Ave. This recommendation is based on the goal of completing the gap between existing multi-use trail along University Ave. There is a growing need to provide a safe, reliable route of transportation along this road, a separate shared-use path would ease safety concerns and encourage all abilities to walk and bike in our community

The Bicycle, Pedestrian and Greenway Advisory Committee represents both recreational and commuter bicyclists. The group was formed in 2008 to gather input, ideas and assistance from citizens regarding the Greenway and the bicycle/pedestrian system in the community. Each month citizens meet to discuss how to improve the system and promote use.

System connection projects like these are one of many ways the city can encourage residents to use alternate modes of transportation. We appreciate your consideration of this request.

Sincerely,

Stephanie Halford, Planner
Planning & Community Development Department
(701)792-2897 / shalford@grandforksgov.com

November 9, 2017

Dear North Dakota Transportation Alternatives Grant Application Committee,

My name is Carma Hanson and, as the coordinator of Safe Kids Grand Forks, I am submitting a letter of the support for the city of Grand Forks Transportation Alternatives application. Safe Kids Grand Forks is an injury prevention coalition who has as their lead agency Altru Health System. Our mission is to prevent unintentional injury and death to children under age 19. We are a group made up of over 100 agencies, businesses and individuals and each year, our volunteers provide over 14,000 hours of work on injury prevention in the city of Grand Forks and communities throughout our region.

Safe Kids Grand Forks has been involved in many areas of injury prevention activities over the years. While we focus on over 25 injury prevention topics, we place a significant emphasis on pedestrian and wheeled sports safety in Grand Forks and the surrounding communities. We have coordinated and carried out our programs in partnership with Grand Forks Public Schools for over 20 years. We have also coordinated several non-infrastructure grants awarded to the school district over the last 9 years.

As your committee knows, a multifaceted approach to injury prevention is obviously the most effective it yields the best results in the long run. Well over ten years ago, Safe Kids Grand Forks convened a Pedestrian and Wheeled Sports Subcommittee to address children getting to and from school safely. This subcommittee has been made up of various entities from the Grand Forks community. Our group has worked diligently to address pedestrian and biking to school in a comprehensive and multi-faceted fashion. We have addressed the issue from these perspectives:

- **Engineering** – We have reviewed and assessed the environment in and around schools to assure that children have safe walking environments.
- **Education** – We have provided pedestrian safety/back-to-school safety presentations to all children in Grades K-5 in Grand Forks
- **Enforcement** – We partner with the Grand Forks Police Department to conduct routine traffic enforcement, speed monitoring and patrol duty around the neighborhood schools.
- **Encouragement** – Safe Kids Grand Forks and the Grand Forks School District have worked closely with the children to encourage them to walk and bike to school. This is done to promote physical fitness and activity but we also assure that they do it in a safe manner. The school principals, classroom and physical education teachers, and district administration are all involved in the process of promotion and encouragement.
- **Evaluation** – No program would be effective without evaluation of the process and careful planning. Safe Kids and our task force not only plan for events and action steps toward better pedestrian safety but we monitor and evaluate them via parental surveys and traffic assessments.

I have a staff member, Patty Olsen, who as co-chair of the subcommittee, has worked with city of Grand Forks to review the application for the Transportation Alternatives funding. The subcommittee fully supports the funding request for the projects and agrees with the ranking completed by the city engineering department.

As we continue to experience an increase in our K-12 enrollment, it will be imperative that we improve and enhance current infrastructure to provide safe routes to school for students throughout our community. The city of Grand Forks has invested the time to prioritize the community's needs and provide for this growth.

Please contact me if you have any questions.

Sincerely,

Carma Hanson, MS, RN
Coordinator – Safe Kids Grand Forks
Altru Health System
701-780-1489
chanson@altru.org

gfparks
GRAND FORKS PARK DISTRICT

November 19, 2018

David Kuharenko, PE
City of Grand Forks
P O Box 5200
Grand Forks, ND 58206-5200

Dear Mr. Kuharenko

Grand Forks Park District supports the City of Grand Forks and its application for the Transportation Alternatives projects. The two projects include a shared use paths that are used by kids and family riding bikes going to our park facilities at Ulland and Jaycess Parks.

This project will provide a safe walking and biking environment for many Grand Forks families.

Sincerely,

Bill Palmiscno
Executive Director
Grand Forks Park District

GRAND FORKS PUBLIC SCHOOLS
A great place to grow and learn!

Mission Statement
Grand Forks Public Schools will provide an environment of educational excellence that engages all learners to develop their maximum potential for community and global success.

Mark Sanford Education Center
PO Box 6000 (58206-6000)
2400 47th Avenue South (58201-3405)
Grand Forks, ND
www.gfschools.org

Jody Thompson
Associate Superintendent of Elementary Education
Department Phone: 701.787.4882
Direct Phone: 701.746.2205, Ext. 7121
Fax: 701.772.7739
jthompson270@mygfschools.org

November 26, 2018

To Whom it May Concern,

My name is Jody Thompson, Associate Superintendent of Elementary Education for Grand Forks Public School. I have worked very closely with the city on similar grant applications in the past. Grand Forks Public Schools fully supports the proposed projects along South Columbia Road and University Avenue.

Discovery Elementary School, South Middle School, Red River High School, Lake Agassiz Elementary School and Community High School se significant benefits for our students and families. The project will provide a safer walking and biking environment. We encourage our students to be active and make healthy choices, and walking/biking is a part of that. We also have several families that do not provide transportation to their students including a high number of English Learner students. Consequently, we have many students that walk, bike or ride the bus all year long.

For those reasons, we fully support the City's application for these projects.

Sincerely,

J Thompson

Jody Thompson
Associate Superintendent of Elementary Education

TIP SCORING SHEETS

Transportation Alternatives SCORING
MPO SCORING SHEET FOR EACH PROJECT

0=No
1=Yes

Project Number		**Project Name**	Shared Use Path University Ave Mobile Home Park Entrance to N 48th St

Category 1 Accessibility and Mobility		
Increase the accessibility and mobility options to people and freight.		**Assign score 0 or 1**
A	Provides acceptable LOS for facility as recommended in LRTP	0
B	Enhances accessibility and mobility for non-motorized users	1
C	Implements recommendations in ADA ROW transition plans	0

Category 2 Environmental/Energy/QOL		
Protect and enhance the environment, promote energy conservation,and improve quality of life.		**Assign score 0 or 1**
A	Implements context sensitive solutions	0
B	Address EJ analysis process	0
C	Decreases fuel consumption	1
D	Advoids or minimize impacts to wetlands or other natural habitats	1
E	Seeks to control sun-off pollution	1

Category 3 Integration and Connectivity		
Enhance the integration and connectivity of the transportation system across and between modes for people and freight.		**Assign score 0 or 1**
A	Project includes signage techniques to help users travel	0
B	Maximize direct travel trips between major generators	0
C	Address last segment/link of corridor	1
D	Improves the integration/connectivity of whole transportation system	1

Category 4 Efficient System Management		
Promote efficient system management and operation.		**Assign score 0 or 1**
A	Project sponsor has specific budget for maintenance	1
B	Demonstrates commitment to year round maintenenace	1
C	Includes specific evaluation method to provide a measurement of effectiveness	0

TIP SCORING SHEETS

Transportation Alternatives SCORING
MPO SCORING SHEET FOR EACH PROJECT

0=No
1=Yes

Project Number		**Project Name**	Shared Use Path University Ave Mobile Home Park Entrance to N 48th St

Category 5 System Preservation		
Emphasize the preservation of the existing transportation system.		**Assign score 0 or 1**
A	Uses existing infrastructure instead of building brand new infrastructure	0
B	Emphasizes system rehabilitation rather than expansion	0
C	Incorporates new technologies	0
D	Aquire/utilizes railroad ROW of other existing ROW	1

Category 6 Safety		
Increase safety of the transportation system for motorized and nonmotorized uses.		**Assign score 0 or 1**
A	Rprovide safety education components	0
B	Enhances safe route to school route	0
C	Demonstrates incorporation of appropriate traffic control devices	1
D	Reduces points of conflict	1
E	Enhances the public safety of non-motorized users	1

Category 7 Local/Regional Factors		
Factors of local or regional importance		**Assign score 0 or 1**
A	Conformance withLRTP, corridor studies, school safety studies of MPO docume	1
B	Demonstrates analysis of porject risk in implementation	1
C	Provides benefit for multiple jurisdictions	1
D	Advances smart growth objectives	1
E	Project provides landscaping/streetscaping or similar amenities	0
F	Aquire/enhances scenic/historic properties	0
G	Project provides a connection to transit facilities of transit stops	0

Grand Forks - East Grand Forks
Metropolitan Planning Organization

MPO Staff Report
MPO Technical Advisory Committee: December 12, 2018
MPO Executive Board: December 19, 2018

RECOMMENDED ACTION: Consider HSIP Candidate Projects for the FY2020-2023 TIP as Being Consistent with the Metropolitan Transportation Plan and Give Priority Ranking

Matter of HSIP Candidate Projects for 2020-2023 TIP.

Background: The MPO and NDDOT formally solicited candidate projects for the 2020-23 TIP/STIP. In order for the MPO to give both the local agencies as much time as possible yet still allow MPO staff to "vet" the candidate projects, the project submittal deadline to the MPO was December 4th.

One application was submitted by the City of Grand Forks. Red Light Confirmation Indicators for the Intersections of S Washington St & 40th Ave S and S Washington St & 47th Ave S (MATERIALS ONLY. The estimated total cost is $10,000 with a request of $9,000 in federal funds. These intersections have been identified in the LRSP for Red Light Confirmation Indicators. The red light confirmation indicators and signal heads will be installed by city forces.

Separate staff reports are released for the ND Transportation Alternative, ND Urban Grant (Main Street), Urban Local Roads, and Urban Regional Roads.

Findings and Analysis:

- The MPO must annually prepare a Transportation Improvement Program
- TIP eligible projects with the MPO Area must be submitted to the MPO for its consideration
- The projects submitted are being considered as being consistent with the Metropolitan Transportation Plan (via the LRSP) with the understanding that as FAST is implemented this determination is subject to change.
- One project should be given high priority ranking.

Support Materials:

- Pages from LRSP
- Applications

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)
PROJECT APPLICATION

North Dakota Department of Transportation, Programming
SFN 59959 (1-2016)

23 USC § 409 Documents
NDDOT Reserves All Objections

Please attach a location map(s). You may use additional sheets to further describe your project.

Agency Name	NDDOT District
City of Grand Forks	Grand Forks
Contact Name	**Telephone Number**
David Kuharenko	701-746-2649
Email Address	**Project Cost Estimate(attach detailed copy)**	**Current Date**
dkuharenko@grandforksgov.com	10,000	11/28/2018

Location Description
Intersections of S Washington St and 40th Ave S and S Washington St and 47th Ave S
Intersection ID in LRSP 810.01 and 810.02

Roadway Ownership
- ☐ State
- ☐ County
- ☒ City
- ☐ Tribe

Speed Limit	Ref. Point(s)
40	
AADT	
~10,000	

SHSP Emphasis Area(check all that apply)
- ☐ Younger Drivers
- ☐ Speeding or Aggressive Drivers
- ☐ Alcohol-Related
- ☐ Unbelted Vehicle Occupants
- ☐ Lane Departure
- ☒ Intersections

Functional Class
- ☐ Local Road or Street
- ☐ Minor Collector
- ☐ Major Collector
- ☐ Minor Arterial
- ☒ Principal Arterial

Improvement Category (check one)

☐ Access Management	☐ Intersection Geometry	☐ Parking	☐ Roadway Delineation
☐ Advanced Technology & ITS	☒ Intersection Traffic Control	☐ Pedestrians & Bicyclists	☐ Roadway Signs & Traffic Control
☐ Alignment	☐ Lighting	☐ Railroad Grade Crossings	☐ Shoulder Treatments
☐ Animal Related	☐ Miscellaneous	☐ Roadside	☐ Speed Management
☐ Interchange Design	☐ Non-infrastructure	☐ Roadway	☐ Work Zone

Describe Current Safety Issues

These intersections have been identified in the LRSP for Red Light Confirmation Indicators. These intersections include S Washington St & 40th Ave S (810.02) and S Washington St & 47th Ave S (810.01).

Describe Proposed Safety Improvements

The proposed project is FOR MATERIALS ONLY for the red light confirmation indicators and signal heads to be installed by city forces at the intersections of S Washington St & 40th Ave S and S Washington St and 47th Ave S.

For questions or comments contact:
Shawn Kuntz
701-328-2673
skuntz@nd.gov
Please email completed form to this address: hsip@nd.gov

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION
North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Right Angle Crashes @ Signals Intersection Improvements

Intersections on 10th St - S Washington St from S 48th Ave to S 32nd Ave

Agency Name: City of Grand Forks
Contact Name: Jane Williams
Email Address: JWilliams@grandforksgov.com
ND DOT District: 6
Telephone Number: 701-787-3720

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor 810.02
Street Name 10th St - S Washington St
Urban/Rural: Urban
County: Grand Forks
Length 1.1

SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☑ Improve Intersection Safety

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe Angle Crashes	Confirmation Lights	Notes
810.01	S Washington St	47th Ave S	X	Signal	9,298	Divided	0	0	1	Ped / bike projects suggested on other sheets.
810.02	S Washington St	40th Ave S	X	Thru-STOP	10,710	Divided	3	3	1	Ped / bike projects suggested on other sheets.
810.03	S Washington St	32nd Ave S	X	Signal	18,653	Divided	0	0	1	Ped / bike projects suggested on other sheets.

Describe Current Safety Issues & Systemic Ranking Review

	Intersection Criteria
Traffic Control Device	Signal
Entering ADT	> 18000
Road Geometry	Divided
Severe Crashes	> 1

North Dakota Crashes, 2008 - 2012 — 5 years

Description	Unit Cost	Quanity	Total Cost
Confirmation Lights	$1,200 per intersection	3	$3,600
Unsignalized and Divided Access Management	$360,000 per mile	0.0	$0
*Corridor includes miles of divided roadway.			$3,600

Project Cost Estimate (attach detailed copy)

Federal Funds	$3,240
Local Match (10% of Total project cost)	$360
*Total Project Cost	**$3,600**

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

23 USC 409
NDDOT Reserves All Objections

Project suggested for agency's consideration

Page: 11
Intersection ID: 810.02
Date: 6/13/2014

City of Grand Forks Right Angle Project Summary

Intersection Count	Segment #	Local Name	Cross Street	Projects		
				Access Management	Confirmation Lights	Intersection Project Cost
1	803.02	S 42nd St	24th Ave S	0	0	$0
2	803.02	S 42nd St	17th Ave S	0	1	$1,200
3	803.03	S 42nd St	11th Ave S	0	1	$1,200
4	803.03	S 42nd St	DeMers Ave/ND 297	0	1	$1,200
5	803.03	N 42nd St	University Ave	0	1	$1,200
6	803.03	N 42nd St	6th Ave N	0	1	$1,200
7	803.04	N 42nd St	US 2/Gateway Dr	0	1	$1,200
8	804.01	Stanford Rd	US 2/Gateway Dr	0	1	$1,200
9	805.01	S 34th St	DeMers Ave/ND 297	0	1	$1,200
10	807.02	Columbia Rd	24th Ave S	0	1	$1,200
11	807.02	Columbia Rd	20th Ave S	0	0	$0
12	807.02	Columbia Rd	17th Ave S	0	1	$1,200
13	807.02	14th Ave S	Columbia Rd	0	0	$0
14	807.02	Columbia Rd	13th Ave S	0	1	$1,200
15	807.03	Columbia Rd	University Ave	0	1	$1,200
16	807.04	Columbia Rd	6th Ave N	0	1	$1,200
17	807.04	Columbia Rd	8th Ave N	0	0	$0
18	807.04	Columbia Rd	US 2/Gateway Dr	0	1	$1,200
19	809.02	S 20th St	DeMers Ave/ND 297	0	1	$1,200
20	809.03	N 20th St	US 2/Gateway Dr	0	1	$1,200
21	810.02	S Washington St	47th Ave S	0	1	$1,200
22	810.02	S Washington St	40th Ave S	0	1	$1,200
23	810.02	S Washington St	32nd Ave S	0	1	$1,200
24	810.03	S Washington St	28th Ave S	0	1	$1,200
25	810.03	S Washington St	Frontage Road	0	0	$0
26	810.03	S Washington St	24th Ave S	0	1	$1,200
27	810.03	S Washington St	Campbell Dr	0	1	$1,200
28	810.03	S Washington St	17th Ave S	0	1	$1,200
29	810.03	S Washington St	Hammerling Ave & Frontage Road	0	0	$0
30	810.04	S Washington St	13th Ave S	0	1	$1,200
31	810.04	S Washington St	8th Ave S	0	0	$0
32	810.04	S Washington St	DeMers Ave/ND 297	0	1	$1,200
33	810.05	N Washington St	University Ave	0	1	$1,200
34	810.05	N Washington St	8th Ave N	0	0	$0
35	810.06	N Washington St	US 2/Gateway Dr	0	1	$1,200
36	811.02	Cherry St	4th Ave S	0	1	$1,200
37	812.02	Belmont Rd	32nd Ave S	0	0	$0
38	812.02	Belmont Rd	4th Ave S	0	1	$1,200
39	812.03	S 5th St	Kittson Ave	0	1	$1,200
40	812.04	S 5th St	DeMers Ave	0	1	$1,200
41	812.04	S 5th St	1st Ave N	0	1	$1,200
42	812.04	N 5th St	2nd Ave N	0	1	$1,200
43	812.04	N 5th St	5th Ave N	0	1	$1,200
44	812.05	N 5th St	US 2 / Gateway Dr	0	1	$1,200
45	816.01	N 3rd St	US 2/Gateway Dr	0	1	$1,200
46	822.01	32nd Ave S	I-29 South Ramp	0	1	$1,200
47	822.02	32nd Ave S	I-29 North Ramp	0	1	$1,200
48	822.02	32nd Ave S	S 31st St	0	1	$1,200
49	822.02	32nd Ave S	S 25th St	0	1	$1,200
50	822.02	S 38th St	32nd Ave S	0	1	$1,200
51	822.02	S 34th St	32nd Ave S	0	1	$1,200
52	822.02	Columbia Rd	32nd Ave S	0	1	$1,200
53	822.02	S 20th St	32nd Ave S	0	1	$1,200
54	830.01	DeMers Ave (ND 297)	Columbia Rd North Ramp	0	1	$1,200
55	838.01	Gateway Dr (US 2)	N 47th St	0	1	$1,200
56	838.01	Gateway Dr (US 2)	I-29 South Ramp	0	1	$1,200
57	838.01	Gateway Dr (US 2)	I-29 North Ramp	0	1	$1,200

23 USC 409
NDDOT Reserves All Objections

2018 HSIP APPLICATION (Construction 2023)
Project: Red Light Confirmation Indicators (MATERIALS ONLY)
S Washington St and 40th Ave S & S Washington St and 47th Ave S
11/28/2018

SPEC NO.	CODE NO.	ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	ITEM TOTAL
		Signal Heads with RLCI	8	EA	$850.00	$6,800.00
					2018 Subtotal	$6,800.00
					5 Years of Inflation at 4%	$1,473.24
					2023 Construction Subtotal	$8,273.24
					~20% Contingencies	$1,726.76
					Project Total	$10,000.00
					Federal Share 90%	$9,000.00
					Local Share 10%	$1,000.00

Grand Forks - East Grand Forks
Metropolitan Planning Organization

MPO Staff Report
MPO Technical Advisory Committee: December 12, 2018
MPO Executive Board: December 19, 2018

RECOMMENDED ACTION: Consider Urban Grant (Main Street) Candidate Project for the FY2020-2023 TIP as Being Consistent with the Metropolitan Transportation Plan and Give Priority Ranking

Matter of Urban Grant Candidate Projects for 2020-2023 TIP.

Background: The MPO and NDDOT formally solicited candidate projects for the 2020-23 TIP/STIP. In order for the MPO to give both the local agencies as much time as possible yet still allow MPO staff to "vet" the candidate projects, the project submittal deadline to the MPO was December 4th.

One application was submitted by the City of Grand Forks; reconstruct North 3rd Street (between DeMers Ave and University Ave) to incorporate bulb outs, ornamental street lights, decorative sidewalks, and additional streetscape amenities to achieve goals of the Mayor's Downtown Vibrancy Report and Grand Forks Downtown Action Plan. The total project cost is $3.46M, with a federal request of $2.45M.

Separate staff reports are released for the ND Transportation Alternative, ND Urban Grant (Main Street), HSIP, and Urban Regional Roads.

Findings and Analysis:

- The MPO must annually prepare a Transportation Improvement Program
- TIP eligible projects with the MPO Area must be submitted to the MPO for its consideration
- The projects submitted are being considered as being consistent with the Metropolitan Transportation Plan with the understanding that as FAST is implemented this determination is subject to change.
- One project should be given high priority ranking.

Support Materials:

- Application

Urban Grant Program Application

Coversheet

LPA
City of Grand Forks

Contact Person
Allen R. Grasser, PE

Title
City Engineer

Address
255 N 4th St. P.O. Box 5200 Grand Forks, ND 58206

Telephone
701-746-2640

Email
agrasser@grandforksgov.com

Project Name
North 3rd Street Reconstruction (University to Demers Ave)

LPA Applicant Signature (Highest Elected Official)

_____

NDDOT District Engineer Signature if project is located on/impacts a State Highway

_____

Date Submitted

Application Attachment Checklist (check all that have been attached)

☒Relevant excerpts from adopted plans ☒Map(s) depicting project location ☒Cross Section of Roadway/facility

☒Pictures, Graphics, and/or other visual aids ☒Relevant supporting data

☒Other Attachments (describe)
Letters of Support for Project

Information in this Box is for NDDOT to Complete

Date Received_____

Is this Project Title 23 Code of Federal Regulation Eligible including location on a federal aid route?
Yes☐ No☐

General Project Information

Project Description (including location and scope of work for which funding is requested)

Project Location: North 3rd Street (University Avenue to Demers Avenue) (0.2 mile)
Project Scope: Reconstruct North 3rd Street to incorporate bulb outs, ornamental street lights, decorative sidewalks, and additional streetscape amenities to achieve goals of the Mayor's Downtown Vibrancy Report and Grand Forks Downtown Action Plan. See Exhibit A for map of project location.

Total Project Cost

$3,458,000.00

Amount of Grant Funds Requested (cannot exceed 80% of total project cost)

$2,447,200.00

Competitive Criteria

1. **Community Need for Project:** Explain why the project is needed including appropriate detail. Include any 100% locally funded components of the project that are part of the overall project or other planned projects that may compliment this project. Documentation of information to support the need such as relevant data, existing and if appropriate projected conditions, and any related analysis through studies or reports would be appropriate to identify in this section. Attachments such as but not limited to: maps, pictures, other graphics; and supporting data demonstrating the need for the project is encouraged.

   North 3rd Street from University to Demers Avenue passes through the core of downtown Grand Forks. The continued vibrancy and future growth of downtown is a fundamental goal of the community, as shown by the creation of the Mayor's Vibrancy Initiative in early 2015. The Downtown Vibrancy Group was assembled with the goal of charting a path to the future of Downtown Grand Forks. Their efforts resulted in the release of the Downtown Vibrancy Report in 2016. The proposed reconstruction of North 3rd Street follows the general goals of the report and will allow the implementation of features identified in the report, such as bump outs and focused streetscape improvements to activate street life downtown.

   The City of Grand Forks has hired RDG Planning and Design to complete a Downtown Action Plan for Grand Forks. RDG is currently in the Plan Concepts and Refinement stage of their process, with final approval of the action plan scheduled for April of 2019. This proposed project for North 3rd Street is intended to be a continuation of the final approved action plan and a strategic opportunity to strengthen our community's downtown core. As part of the downtown action plan, streetscape elements are currently being selected. Some preliminary elements from the streetscape concept are shown in Exhibit F. The implementation of these elements into this proposed project will be based on the approved final action plan and designed to match similar elements to be installed on Demers Avenue.

   The reconstruction of Demers Avenue is an additional project geared towards the vibrancy and continued strengthening of the downtown core. The Demers project is currently in the design stage with construction set to begin in 2019. Coordination between the Downtown Action Plan, reconstruction of Demers Avenue, and the proposed reconstruction of North 3rd Street present a unique opportunity for growth and investment in downtown Grand Forks.

2. **Community Impact of Project:** Describe how the project will offer significant long term value to the community specifically in addressing the following program objectives (a-f):

   a) Preserve existing transportation assets
   The proposed project will reconstruct a deteriorating roadway, minimizing costly maintenance activities in the downtown corridor and strengthening the current multi-modal network so that it can continue to serve the community far into the future. The project will also strengthen walkability of the corridor and promote pedestrian safety.

   b) Ensure safety of all users of the transportation system
   The proposed project will improve the safety of the system for all users. Bump outs will be used to discourage high speeds through intersections for vehicular traffic. This is a safety benefit for both pedestrians and drivers. Pedestrians will see additional safety benefits from the bump outs through shortened crossing distances and street crossing times. Additionally, new street lighting will provide visibility for pedestrian traffic.

   c) Improve multi-modal transportation options such as walking, bicycling, and public transportation
   The proposed project is intended to maintain and strengthen the existing sidewalk network while improving pedestrian safety. Sidewalks will be updated to meet all ADA requirements and bump outs installed to promote safer street crossings. Additional streetscape amenities to match the Demers Ave project, such as benches, would be installed to strengthen the walkability of the corridor.

   d) Enhance the economic vitality of the area by providing transportation assets that support: revitalization efforts; development of vacant or underutilized parcels within existing urban areas; and/or redevelopment of established portions of communities
   As stated in the Downtown Vibrancy Report "The downtown experience reflects our personality and vitality for residents, visitors, and business. This makes downtown a key part of any community's economic future and talent development equation." The proposed investment in downtown Grand Forks through this project would provide longevity for existing transportation assets and support future revitalization and development of the area. The proposed project is also within the Grand Forks Renaissance Zone, in the Heart of Downtown as shown in the attached map (Exhibit G). The goals of the statewide Renaissance Zone Program focus on renewal, investment, and redevelopment. The proposed project would provide transportation assets to support those goals.

   e) Support economically sustainable growth, lessening the need for outward expansion of community transportation infrastructure and associated services
   By strengthening the walkability and vibrancy of North 3rd Street, more individuals will likely be encouraged to walk, bike, and visit the downtown corridor. This follows the Downtown Vibrancy Report's goals for the downtown's future. The investment and updated transportation system this project would bring would encourage additional redevelopment and revitalization of downtown properties.

3. **Consistency with an LPA Associated Plan:** Document linkage between the proposed project and a publicly accepted/adopted plan(s) and/or public involvement process. Clear linkage should be demonstrated between the proposed project and the associated public acceptance/support which would include documenting the reference(s) in the plan and/or public involvement process. Relevant excerpts from such documents are encouraged to attach with the application. Examples of publicly accepted/adopted plans might include but are not limited to: Community Comprehensive Plan; Downtown Master Plan; Neighborhood/Subarea/Corridor Plan; Bicycle/Pedestrian Plan; Housing Plan; Long Range Transportation Plan; Transit Development Plan; and/or Renaissance Zone Plan. A stand-alone public involvement process which demonstrates community support for the specific project is also acceptable and should be documented in the application.

The Third Street corridor was identified in the Downtown Vibrancy Report as "the best first opportunity to activate street life using focused streetscape improvement." This proposed project will strive to achieve this goal by implementing streetscape amenities as shown in the Downtown Action Plan after its approval in April of 2019, and by matching streetscape elements to be installed with the Demers Avenue reconstruction in the summer of 2019. Additionally reconstruction of North 3rd Street was identified in the draft Grand Forks-East Grand Forks MPO 2045 Street/Highway Plan as a potential "Main Street" program investment. See attached excerpts from the Downtown Vibrancy Report (Exhibit B) and draft 2045 Street/Highway Plan (Exhibit C).

4. **Project Support of Urban Core/Central Business District:** Projects which directly support the urban core/central business district (CBD) will be given preferential consideration. Identify the project location and how it will support the urban core/CBD. (Attach 8.5" x 11" or 11" x 17" color map depicting project location in relation to urban core/CBD if applicable to the project type)

   This proposed project is within the urban core and program focus area as identified on the attached Urban Roads System map for Grand Forks (Exhibit D).

5. **Projects that Maximize the Return on Investment from Public Funds:** Projects which can demonstrate a positive private return on investment of public funds will be given preferential consideration. Examples of this may include but not be limited to increased retail sales, new jobs, and/or new dwelling units anticipated as a direct result of the proposed project.

   The increased walkability and pedestrian improvements included in this project are anticipated to positively impact businesses adjacent to North 3rd Street. Reconstruction of the roadway is anticipated to encourage visiting and shopping downtown. Further, the updated pedestrian facilities and streetscape amenities are expected to encourage redevelopment of properties adjacent to the project, strengthening the core of Grand Fork's downtown.

Existing Conditions
(information requested in this section may not be appropriate for all project types)

Functional Classification of Roadway
Minor Arterial

Current AADT (including source)
2015 785-2,260 NDDOT Count (University Ave to Demers Ave)

Forecasted AADT (including source)
2040 1,500-1,700 MPO Long Range Transportation Plan

Posted or Statutory Speed Limit
25 MPH

Cross Section of Roadway (attach graphics depicting current dimensions and key roadway elements)
Two lane roadway with diagonal and parallel parking, see attachment for cross section (Exhibit E)

Pavement rating or condition
2016 Average PCI 72, Average IRI 429

Year of Last Federal Investment at this Location
1999 NDDOT Project number SER-6-986(050)053 Downtown City Street Mill and Overlay

When was the current section built?

1933 - North 3rd Street (Fourth Ave N to Divison Ave) resurfacing

Year last surfaced or received maintenance?

1999 Mill and Overlay

2007 Seal Coat

Lighting

Yes, however the lighting will be updated to match Downtown Action Plan streetscape and Demers reconstruction, see attachment for potential street light detail from streetscape concept (Exhibit F).

Crash Rate or Number of Crashes?

2015-2017: 18 vehicle: 1 incapacitating, I non-incapacitating, 16 property damage only
1 pedestrian: 1 incapacitating

Other Known Safety Concerns?

Diagonal parking reduces visibility of stop signs at intersections.

Intersections (how many, type, control, etc.)

4 Intersections are as follow:

-University Avenue – three way intersections, one way stop control (on University)
-2nd Avenue North – four way intersection, two way stop control (on 2nd Avenue)
-1st Avenue North – four way intersection, four way stop control
-Demers Avenue – four way signalized intersection

Is parking allowed and what type?

Yes, diagonal parking is allowed on the north side of 3rd Street and parallel parking is allowed on the south side from University to Demers Ave

Are there any bridges, box culverts, etc. within the project corridor?

No.

What is the condition of the existing sanitary sewer, storm sewer, and water lines?

Current sanitary sewer, storm sewer, and water lines are in acceptable condition.

-Sanitary sewer was installed in 1976
-Storm sewer was installed in 1979
-Water main was installed in 2000

Are there any Access points to adjoining property that present a special concern?

No

Bicycle/Pedestrian, and Public Transportation Accommodations (Sidewalk, shared use paths, bicycle lanes)?

Existing sidewalks on both sides of the roadway and crosswalks at each intersection

Is there an existing transit or other public transportation facility located within the project limits?

No.

Do any school buses, transit buses, other multi-modal vehicles, etc. use this route?

No.

Does a RRX or RR facility exist within the project limits?

No.

Other existing conditions that are not listed identified above?

Improvements to Demers Ave and at the intersections of Demers and North 3rd Street are currently in the design process with construction to begin in 2019. The Demers project will include installing curb extensions on 3rd street and streetscape amenities concurrent with the downtown Action Plan.

Proposed Improvements
(information requested in this section may not be appropriate for all project types)

What are the proposed Improvements (specific scope of work)?

Reconstruct North 3rd Street from University Avenue to Demers Avenue in order to improve pedestrian safety, corridor aesthetics, and animate street life downtown. The improvements proposed include modifying curbs to create bump-outs, installing decorative concrete sidewalk, replacing existing street lights to improve walkability downtown, and installing streetscapes amenities to match the Downtown Action Plan recommendations.

Proposed Length

1,050 Feet

Proposed Cross Section (attach graphics depicting current dimensions and key roadway elements)

Two lane roadway with diagonal and parallel parking with bump outs at intersections for reduced crosswalk gaps and increased pedestrian safety, see attachment for cross section (Exhibit E).

Proposed Surfacing Type

Standard and decorative concrete pavement

Proposed Lighting, if applicable

New street lights to match those installed in Demers Ave reconstruction project and Downtown Action Plan streetscape concept, see preliminary streetscape concept for potential street lights (Exhibit F).

Proposed Traffic Control changes

Encourage reduced speeds and pedestrian safety by reducing crossing distances and travel lanes using bump outs. Bump outs also provide locations where stop signs may be relocated for better visibility.

Proposed Safety Improvements

Pedestrian bump outs provide greater safety for non-motorized traffic by reducing crossing distances and encouraging utilization of the crosswalk. Additionally bump outs provide a visual delineation allowing vehicles on the roadway to better determine where non-motorized traffic will likely be crossing the road, and are anticipated to discourage motorized traffic from exceeding statutory speed limits. Crosswalks are anticipated to be replaced with a pigmented imprinted concrete or stripped for high visibility to provide additional indication to drivers of the potential presence of pedestrians.

Proposed Intersection Improvements

Encourage reduced speeds and pedestrian safety by reducing crossing distances and travel lanes using bump outs. See attachment for potential intersection layouts (Exhibit A).

Proposed Traffic Calming Measures

Encourage reduced speeds and pedestrian safety by reducing crossings distances and travel lanes using bump outs. See attachment for potential intersections layouts at cross walks (Exhibit A).

Will parking be allowed and type?

Yes, diagonal parking will be allowed on the north side of 3rd street and parallel parking will be allowed on the south from University to Demers Ave to match the existing parking layout.

Will any bridges, box culverts, etc. be built/replaced within the project corridor and how will they be modified?

No.

Will any private utilities, water lines, sanitary sewer, and/or storm sewer lines need to be replaced or worked on with this project or potentially in the recent future (identify year)? Have private utilities been coordinated with?

No.

Are there any access points along the project corridor that need to be addressed for mobility or safety concerns?

No.

Will a Sidewalk or shared use path be installed or replaced?

Yes, the existing sidewalk will be replaced to meet ADA requirements, improve aesthetics, and match sidewalk installed in Demers Ave reconstruction project and Downtown Action Plan streetscape.

What ADA improvements will need to be made on this project?

Curb ramps at intersections will be reconstructed to fully comply with ADA requirements.

Do any special accommodations need to be made for school buses, public transportation, other multi-modal vehicles, etc. on this route?

No.

Proposed Railroad Crossing Work

No.

Other Proposed Improvements

Click here to enter text.

Environmental/Cultural Issues on the proposed Projects

Identify *Yes*, *No*, or *Unknown* for each environmental/cultural issue. If *Yes*, provide a brief description of the issue in the *Comments* box.

Agricultural, Archeological sites, and/or Historical sites

Yes, there are a number of properties on the historic register adjacent to the proposed project on North 3rd Street. No impact to these properties is anticipated. These properties include:

Grand Forks Mercantile Building (112-118 N 3rd St), Grand Forks Mercantile Co. (124 N 3rd St), Grand Forks Woolen Mills (301 N 3rd St), Iddings Block (9 N 3rd St), Northern Pacific Depot and Freight House (202 N 3rd St), Roller Office Supply, (7 N 3rd St), and St John's Block Commercial Exchange (2 N 3rd St).

Lakes, waterways, floodplains Wetland

No.

Stormwater management

No.

Hazardous materials sites

No.

Hazardous materials on existing structure

No.

Upland habitat

No.

Endangered/threatened/migratory species

No.

Section 4(f) (Refers to the use of publicly owned park and recreational lands, wildlife and waterfowl refuges, and significant historical or archeological sites in transportation project development.)

No.

Section 6(f) (Refers to Land and Water Conservation Fund (LWCF) Act - the conversion to other use of lands or facilities acquired with LWCF Act funds and requires replacement of used land with lands of equal value and use.)

No.

Through/adjacent to tribal land

No.

Additional comments on Environmental/Cultural Issues section

The proposed project is will not exceed the existing footprint of the current roadway and sidewalk.

Miscellaneous Issues of Proposed Improvements

Construction Restrictions *(migratory bird, local events, etc.)*

None.

Right-of-Way Required (parcels, owners, relocations, etc.) (NOTE: It is recommended that local funds be used to acquire right-of-way on the LPA system.)

None.

Proposed Traffic Control during Construction

Traffic Control will follow MUTCD standards to divert traffic from N 3rd St onto adjacent streets following a scheduled detour plan.

Ineligible Project Items

None.

Additional comments on Miscellaneous Issues section

Click here to enter text.

Cost Estimate

Itemized Project Cost Estimate (For roadway projects this might include things like preliminary engineering, right-of-way, utilities, construction, construction engineering, bridges, and miscellaneous. For other types of projects include relevant items. Rows can be added as to the following table as necessary).

Item	Total	Federal	State	Local
Contract Bond	$18,415.00	$14,732.00		$3,683.00
Removals (Trees, concrete pavement, curb & gutter, storm pipe, inlets, street light foundations, street lights)	$220,189.00	$176,151.20		$44,037.80
Base Course (Common excavation, aggregate base course, geotextile fabric)	$125,426.00	$100,340.80		$25,082.20
Concrete Pavement (8 In non-reinforced, 8 In reinforced, curb & gutter)	$554,455.00	$443,564.00		$110,891.00
Mobilization	$184,146.00	$147,316.80		$36,829.20
Traffic Control	$55,244.00	$44,195.20		$11,048.80

Storm Sewer (12 In pipe, MH casting, inlet casting, catch basins)	$66,660.00	$53,328.00		$13,332.00
Sidewalk (Sidewalk-decorative, driveway concrete, detectable warning panels)	$442,955.00	$354,364.00		$88,591.00
Signing and Striping	$18,409.00	$14,727.20		$3,681.80
Street Lights (Screw in base foundation, 1.5 In conduit, ornamental light, ornamental light fixture, underground cable)	$143,220.00	$114,576.00		$28,644.00
Streetscape Amenities (Design elements, trees, benches, receptacles, seat wall planters, bike racks)	$124,566.00	$99,652.80		$24,913.20
Miscellaneous Items	$32,200.00	$25,760.00		$6,440.00
20% Contingencies	$378,264.00	$302,611.20		$75,652.80
Subtotal	$2,364,149.00	$1,891,319.20		$472,829.80
Subtotal Inflated to 2021 (4% Interest, rounded to nearest thousand)	$2,660,000.00	$2,128,000.00		$532,000.00
15% Design Engineering	$399,000.00			
15 % Construction Engineering	$399,000.00	$319,200.00		$79,800.00
Totals	$3,458,000.00	$2,447,200.00		$1,010,800.00

See Exhibit H for detailed project cost estimate and breakdown.

What is the source of the local funds?

In November 2017 citizens of Grand Forks passes a ½ cent sales tax for water and roads. A portion of the allocations from this tax is expected to be used for the local share of this project in addition to the City's Street/Infrastructure Fund.

DOWNTOWN
DEVELOPMENT ASSOCIATION

23 N 3rd Street, Suite 2
Grand Forks, ND 58203
701.757.4051

blue@gfdda.com
katie@gfdda.com
downtowngrandforks.org

November 9th, 2018

To Whom it May Concern;

RE: Proposal of 3rd St. Updates

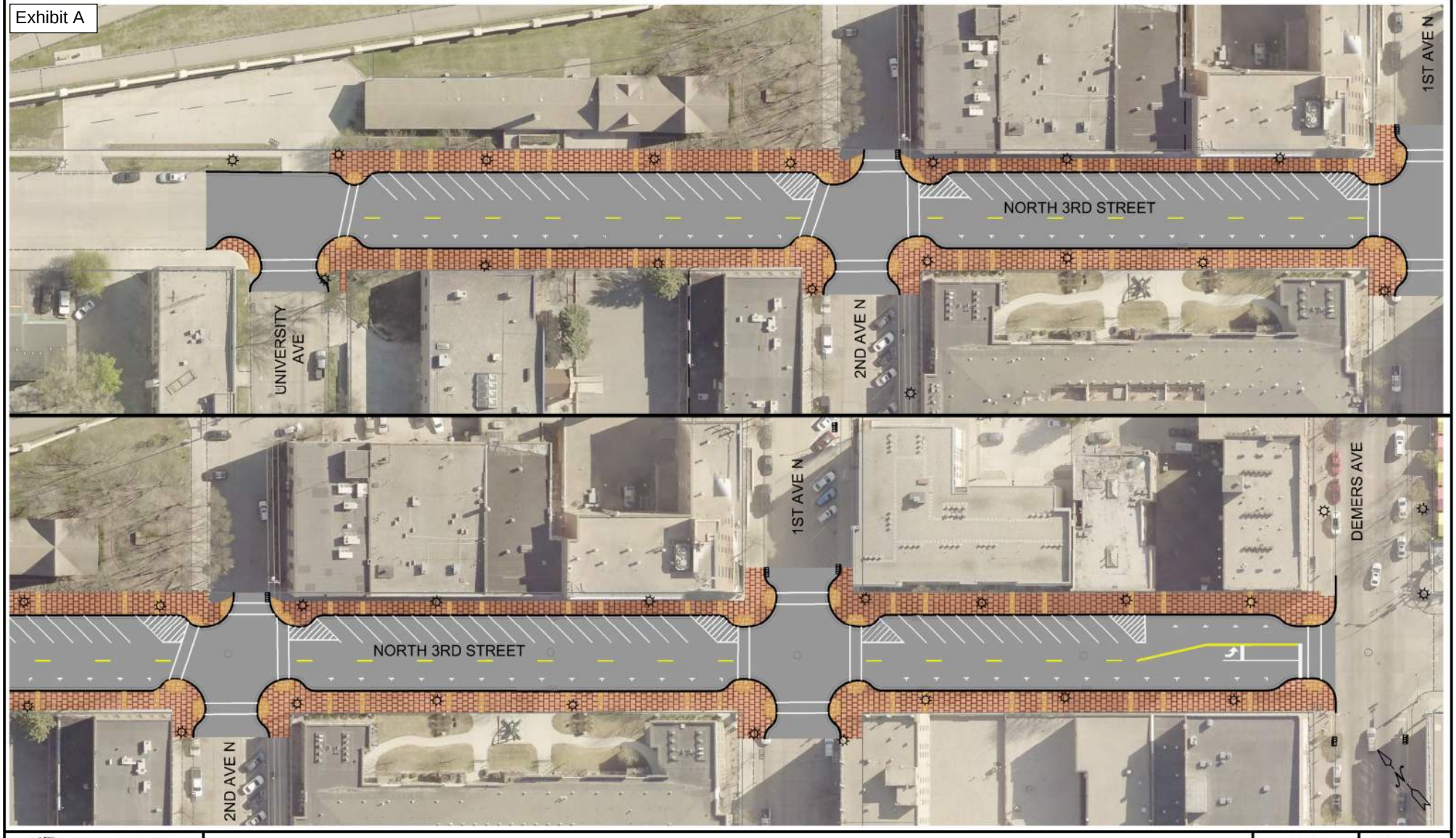
We support the proposal for N. 3rd St. update and the benefit that it would provide to the downtown area. The inclusion of the features shown in the documents provided by city staff and the lasting impact that they would provide for the downtown area are key to our growth and continued vibrancy. The Downtown Development Association recognizes that these are initial drawings and have interest in the ongoing discussion and creation of said plans. We both support the work already put forth and extend our services in further implementations.

Kind Regards,

Alexander Blue Weber
Executive Director | Downtown Development Association

The DDA's vision is a downtown that is stable and growing; encourages economic development and business diversity; is walkable and pedestrian friendly; and is safe and clean. This is a downtown in which business, residents and visitors can take pride, visit frequently, and use to its fullest potential.

Exhibit A



CITY OF GRAND FORKS ENGINEERING DEPARTMENT

URBAN GRANT PROGRAM
NORTH 3RD STREET RECONSTRUCTION
(UNIVERSITY TO DEMERS AVENUE)

DATE	CITY PROJECT
11/2/2018	7818
SCALE	PAGE
1"=60'	1 of 1

S:\7818 2019-2023 TIP-TAP-HSIP-SRF\Urban Grant Program\Potential\N 3rd St Demers to University\N 3rd St Demers to University Exhibits (ACTUAL).dwg

Exhibit B

DOWNTOWN'S FUTURE

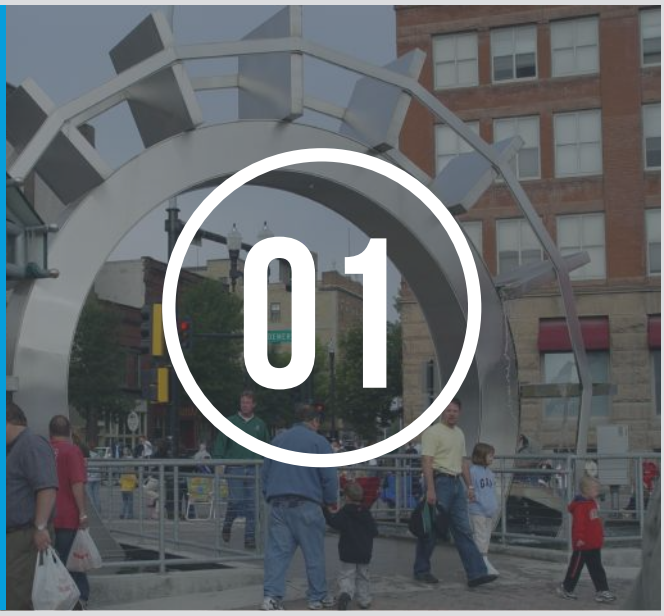
Here are several guidelines to shape future development in downtown Grand Forks (outlined further on pg 13):

- *Continue to place a high priority on places to live downtown.* Residential development is the foundation of development downtown because more residents will mean more businesses and amenities downtown.
- *New developments should be mixed use buildings with "retail ready" commercial space on the first floor*.
- *Support existing and create new community open streets events downtown.*
- *Protect the architectural history of existing buildings but allow for style evolution in new structures.*
- *Consider surface parking lots and other open spaces to be transitional land uses.*
- *Embrace winter with new community events and implementing winter design and planning practices.*

It's time to take the next step. There are several concrete actions we can take to help us make downtown Grand Forks the best it can be. A great downtown makes for a great Grand Forks. Here are ***five big ideas*** to form the foundation of the future of downtown Grand Forks.

Create bold public spaces.

Public gathering space and art is critical to downtown. Town Square should be improved to become a hub for events, daily civic life, and public art downtown. Town Square could become a highly-trafficked public sculpture garden, a daily hang out space, and a place for major community events all with a better integration with the Greenway. The area of town surrounding the Sorlie Bridge over the Red River offers perhaps the best opportunity to be a hub of local public life in Grand Forks. This unique confluence of assets should be the starting point for a future long-term technical plan for open space downtown.



Animate street life downtown.

Design matters. Downtown is unique in that it offers many different activities and amenities for all ages at different times of day. This makes it our manifestation of the "18-hour city," an active neighborhood for 18 hours each day. Because of its momentum, the Third Street corridor offers the best opportunity to activate street life using streetscape improvement efforts. Grand Forks should begin by making small aesthetic and streetscape investments and moving forward with a technical streetscape improvement plan.

Improve access to and around downtown.

Every form of transportation in Grand Forks has a role downtown. Downtown can be reached by car from nearly everywhere in the city in less than ten minutes. It is perhaps the most walkable area of town, it offers bike infrastructure, and it is home to the city's transit hub. Downtown could benefit from a bike share and rapid transit partnership with UND, improved transit, and streetscape improvements for walkers. There are 4,000 parking spaces downtown. In the final analysis, parking is a solvable issue in downtown Grand Forks improved by creating awareness and partnerships.

Spur development in key emerging areas downtown.

The former water treatment plant site could provide an anchor site with river views and a connection to Minnesota in future years. Several city-owned and private lots in the core area surrounding Demers on 3rd and 4th Streets present key opportunities for infill development while preserving displaced art. The Demers Avenue corridor from 5th Street towards the warehouse area near the overpass could present the next key corridor. Redevelopment at the corner of North 5th and University Avenue could provide the anchor for a resurgence along University Avenue in both directions.

Mobilize the right community policies, partners & resources to improve downtown.

We should forge the partnerships needed to invest existing economic development funds in space and infrastructure downtown to create a new type of industrial park catering to the knowledge-based companies we need. Downtown development is economic development; it supports the entire community. These multi-agency, multi-stakeholder partnerships will create the capacity we need to sustain the future of Grand Forks.

Exhibit B

PARKING AND DRIVING

Grand Forks is an extremely drivable city. Virtually any part of the city can be reached by car in a short drive, including downtown. The entire city – save the farthest southern developments south of 47th Avenue – can be reached from the corner of 5th St. and Demers Ave. in less than 10 minutes. The 10 minute drive time is an aggressive standard, considering that the average commute time in the two-county metropolitan area is roughly 12 minutes. This is the shortest commute time of all the nation's 381 metropolitan areas. This easy accessibility by car makes downtown a prime location for specialty retail, homes, restaurants, arts organizations, and other amenities.

There are 4,000 parking spaces downtown. Downtown is home to three large parking structures in addition to its many surface lots. These parking ramps are centrally located, providing access on either side of Demers Avenue. The parking ramp for the county office building provides excess capacity for community events in Town Square or on the Greenway.

Like many communities, complaints about the lack of parking are common in downtown Grand Forks; however recent parking studies have found there are enough physical spaces to fill the demand for parking at various points in a day. City staff and downtown stakeholders should continue to work together to best utilize the parking spaces already present downtown. For instance, there are businesses and institutions whose most intense parking needs occur at different times of the day, allowing these organizations to share parking spaces.

In the final analysis, parking is a solvable issue in downtown Grand Forks. The biggest parking problem is a misperception of a shortage. Significant local businesses are successful downtown without designated parking. Parking lots should be viewed as a temporary transitional land use with the idea that any could be developed in the future with the right opportunity.

Driving and Parking Recommendations

1. ***Continue strengthening institutional partnerships to share parking spaces at various times in the day.*** Parking requirements vary among downtown stakeholders according to the time of day. Many who need parking during daytime hours do not require it in the evenings or weekends and vice versa, making sharing possible.

DOWNTOWN PARKING DEPICTED IN BLUE. THERE ARE MORE THAN 4,000 PARKING SPACES DOWNTOWN.

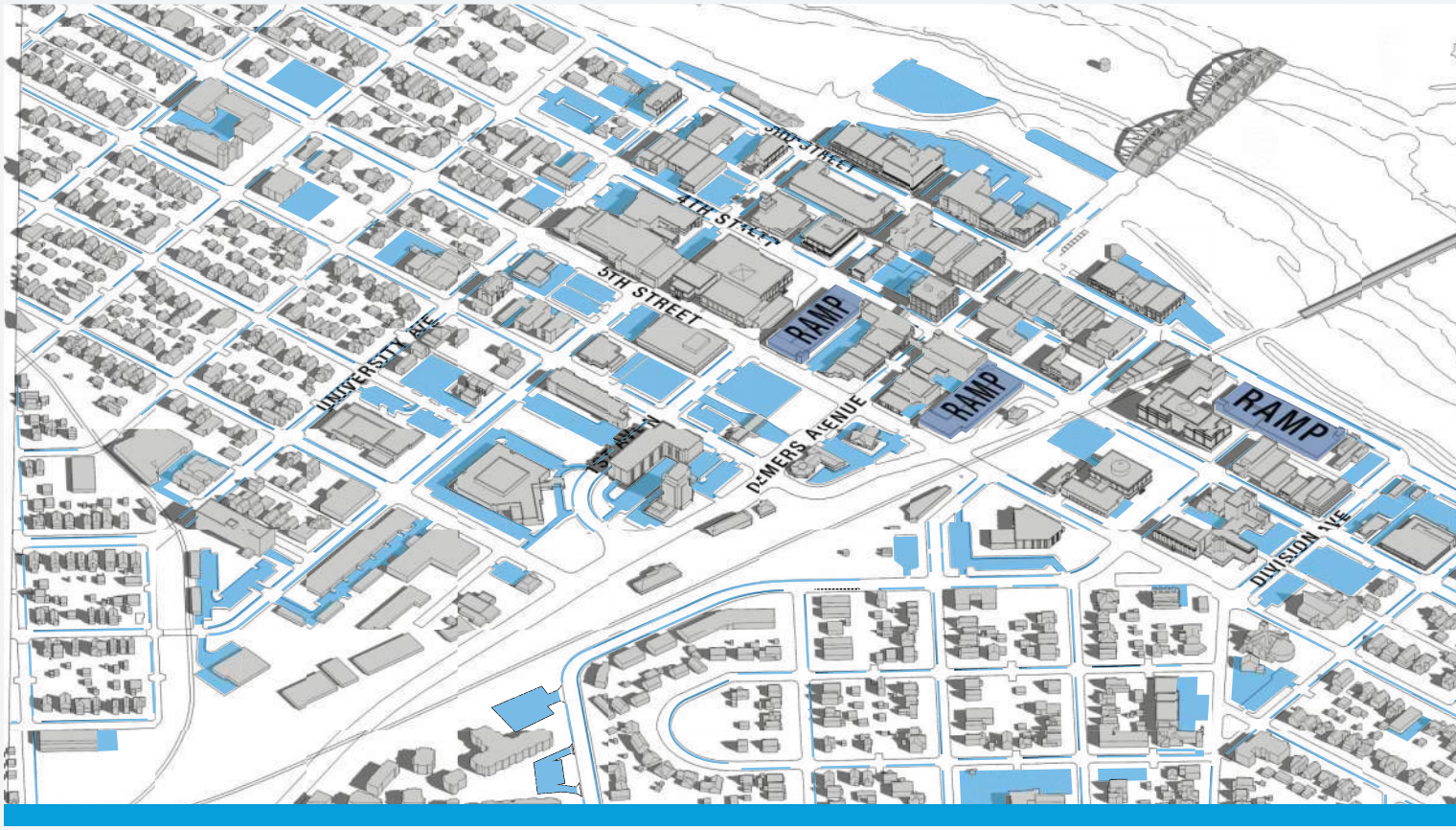
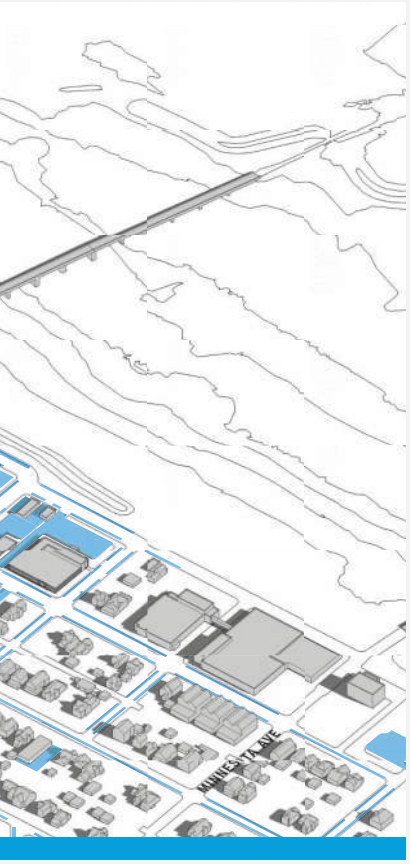


Exhibit B

2. ***Consider returning N 3rd St and N 4th St to two-way streets.*** This would improve traffic safety, pedestrian safety, bicycle access, and promote development of the area north of University Avenue. The high speeds and high traffic throughput offered by these one way pair streets are unnecessary.
3. ***Install a roundabout at 5th and Belmont intersection.*** This intersection is a critical gateway from south Grand Forks into downtown but the intersection is awkward and confusing for motorists. A roundabout at this location would improve safety and traffic flow.
4. ***Consider a reverse angle parking pilot project.*** Reverse angle parking is curbside parking where drivers back into the parking space instead of pull forward into a space. This improves safety because it eliminates the situation where drivers are backing up blind into the oncoming traffic when exiting the parking space. Instead drivers pull forward and back into the space with full visibility and exit of the space driving forward in the direction of traffic flow with a clear view of approaching cars. Children exit the vehicle and run toward the sidewalk instead of toward the street. Reverse angle parking should not be used in situations where vehicle exhaust impacts sidewalk activity.
5. ***Modify curbs at key corners to create bump-outs.*** These improvements can increase visibility at intersections, improve pedestrian safety, create safe havens for handicap parking, and create more usable sidewalk space for planters or other amenities.

THE BIGGEST PARKING PROBLEM IN DOWNTOWN IS A MISPERCEPTION OF A SHORTAGE.



A roundabout could improve the Belmont Road and 5th Street intersection. Entrance gateways to downtown are prime spots for public art.

Exhibit B

WALKING AND BIKING

Downtown Grand Forks developed as a walkable, human-scale environment. This is perhaps its most significant difference compared to newer areas of town, making it unique. The slower, more limited traffic on adjacent streets to downtown offers good access for cyclists. The city center is also connected to the city's burgeoning trail system via access to the west near the Demers overpass and to the north and south via the riverfront Greenway trails.

Two key factors influence walkability and bike-ability in a neighborhood: there must be a place to walk to and neighborhoods must be pedestrian friendly and safe. High levels of walkability have been shown to correlate with positive public health, higher home and commercial property values, and good economic performance .

One method of measuring this is the Walk Score, a numerical indicator of neighborhood walking routes to destinations such as grocery stores, schools, parks, restaurants, and retail . The Walk Score for downtown Grand Forks is 83 (at 500 Demers Ave.). This is the highest Walk Score value in town and places downtown in the "very walkable" category. The overall walk score for the entire city of Grand Forks is 40, placing it in the "car dependent" category.

Bike friendly infrastructure is important, but perhaps the most important method of increasing bicycle use is to improve access to bikes themselves. Many smaller communities are now operating bike share programs. Bike share programs offer bicycle rental check-out and return stations at key points in the community. This allows residents to use a bike for a small fee when they need it, and return it to any station in the system. Bike share programs also typically offer membership programs for unlimited bike use.

One of the most successful small bike share programs in a small winter city is already operating in Fargo. A bike share program in Grand Forks could provide easy bike access in downtown, the UND campus, and points in between. Downtown stations could provide easy bike rental for residents and travelers to access the greenway.

Walking and Biking Recommendations

1. *Initiate a Grand Forks bike share, starting with stations in downtown and at UND.* Connect with

2ND AVE & 5TH ST BIKEWAY CONCEPT CONNECTING UND, CENTRAL HIGH, TRANSIT HUB, AND DOWNTOWN DESITNATIONS

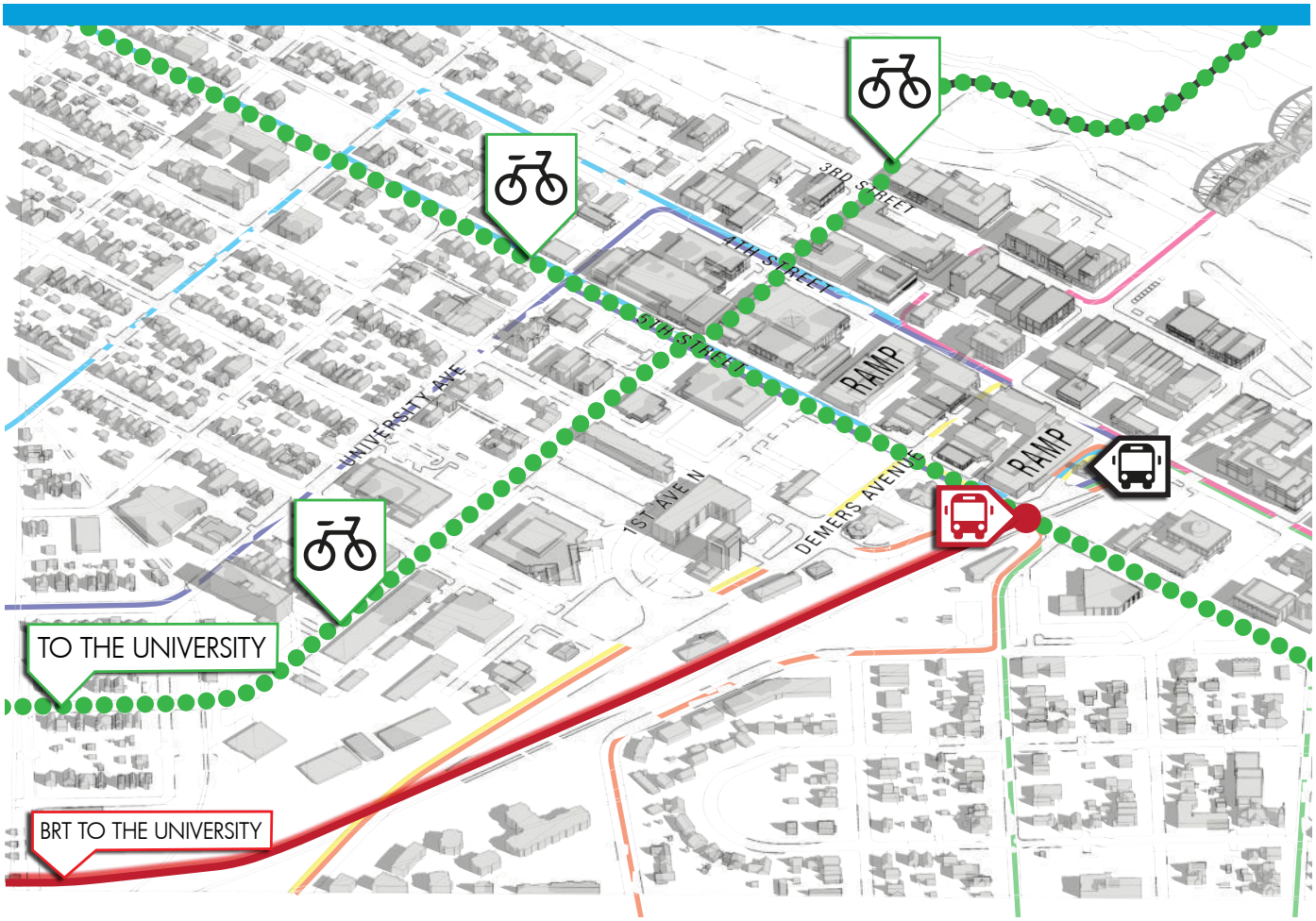
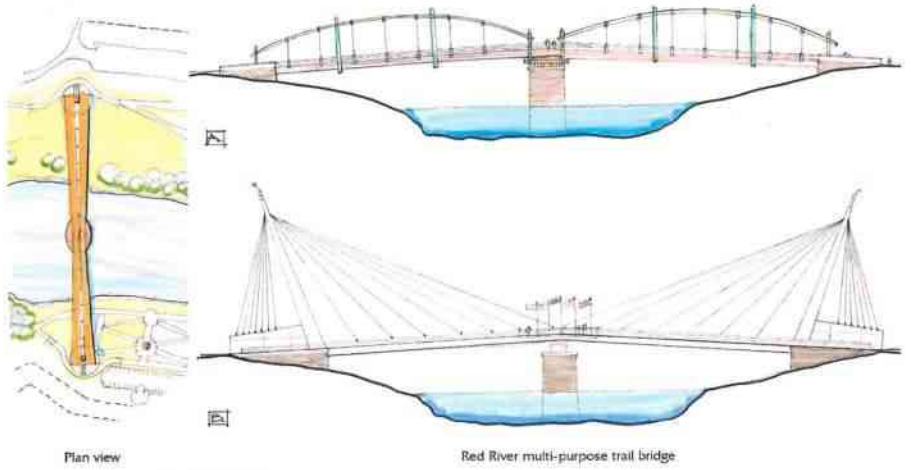


Exhibit B

bike share proprietors in Fargo to share their experience. Assemble a group of organizations or citizens to drive the process. Reach out to East Grand Forks to partner.

2. *Improve bicycle access to and within downtown*
   - Prioritize downtown in existing Grand Forks Bikeway Plan
   - Install dedicated lanes where appropriate with a focus on a 2nd Ave. North bikeway connection to the UND campus
   - Install bike share stations
   - Improve bike access into west downtown surrounding Demers overpass and trails and Cherry Street region
3. *Improve walkability within downtown*
   - Improve aesthetics in alley areas
   - Add benches in strategic locations
   - Assess the efficiency and pedestrian impact of signal crossings
   - Improve lighting downtown, particularly the area beneath the Central High School skyway. Install downward-facing streetlights to light the sidewalk and street areas more directly.
   - Assess lighting in alleys. Assess pedestrian access to emerging areas such as the new University Flats Developmen
4. *Connect to East Grand Forks with a pedestrian and bike crossing in downtown area*, developed in partnership with East Grand Forks.

BELOW: Pedestrian river crossing concepts using the existing historic railroad bridge pier, developed for the 2009 River Forks plan.



Central High School could become a connecting point for new bike infrastructure on 2nd Avenue N. This new bicycle corridor would support a UND-Downtown bike share pilot project, provide a connection to the river, and improve access to downtown in all directions.

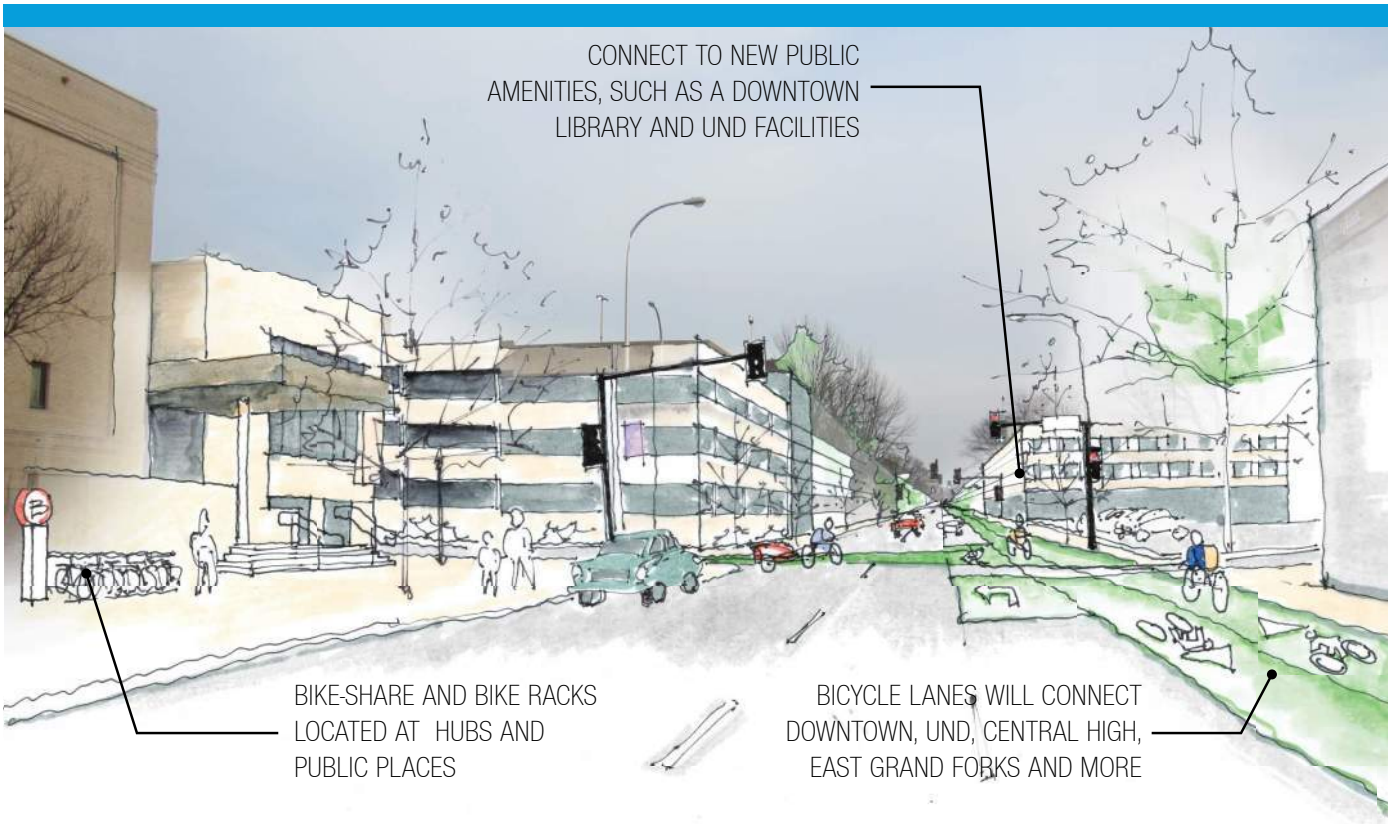


Exhibit B

ANIMATE STREET LIFE

Design matters. Downtown is unique in that it offers many different activities and amenities for all ages at different times of day, making it our manifestation of the "18-hour city." Downtown is our community's living room. Thinking about how we would design a living room in our own home. There are several guidelines we can use as we design our public spaces downtown:

1. ***Comfort***: Can it provide warmth when it's cold outside, and can it provide coolness when it's hot outside? Can I let the sun in when I want to and have an area to block the sun when I want to?
2. ***Multiplicity***: Are multiple activities available? In our living room, we can watch television, read a book, take a nap, or play with our kids. Single-use spaces are rarely used. Downtown should feature things to do for people of all ages and abilities at all parts of the day.
3. ***Aesthetics***: Is it aesthetically pleasing so that people want to stay? We don't spend much time in a living room painted with ugly colors. Do the space and art make me feel comfortable? Does the art have meaning and reflect our identity? Does the space tell a story about our community? These stories lead to connection and relationships in our community.
4. ***Flexibility***: Is it flexible? No one sets up their living room and keeps it that way for twenty years. It should be easy and inexpensive to change the layout, the art and colors, and the general setup to adapt as our needs change.
5. ***Synergy***: Are there amenities nearby? A living room located too far from the kitchen may include a small refrigerator. Is there a restroom close by? We want people to enjoy the space, and if they need something that the space does not provide, it should be available nearby.
6. ***Capacity***: Is the space comfortable for a lot of people? A living room is a space to host a group, while an office is designed primarily for solitary work, so spaces for groups and individuals are designed differently. Our public spaces should be designed to host large groups of community members.

Several anchors have emerged downtown. The southeast quadrant is a hub of social services; major residential redevelopment has occurred in the northwest. Third Street from Second Ave North to Kittson Ave is quickly becoming the most vital anchor of downtown. The Third Street area is home to several destination retail and eating establishments. "Alley Alive" events have occurred in the alleys between Third and Fourth Streets. Many citizens gather at events in Town Square and a redeveloped Town Square could increase daily activity and provide a gateway to the greenway, a new play space or an amphitheater.

Because of its momentum, the Third Street corridor offers the best first opportunity to activate street life using focused streetscape improvement. The seeds of activity have already been planted. Grand Forks should double down on Third's "Destination Street" status by creating a concrete vision and and by making small aesthetic and streetscape investments and then moving forward with a technical streetscape plan.

Small design improvements can also improve street and business activity downtown. These could include store owners cooperating to keep store fronts lit until a certain time at night, wayfinding signage, continuing use of taller trees instead of low-branched ornamental varieties, and minimizing dark tint in storefront windows. More residents downtown also create more active streets. Is the downtown coffee shop open and active on the weekend? If not, downtown needs more residents.

"YOU GUYS HAVE A BEAUTIFUL MAIN STREET—IT'S VERY CLEAR, IT RUNS PARALLEL TO THE RIVER," HE SAID, REFERRING TO NORTH THIRD STREET. "I LIKE THE RELATIONSHIP OF IT. I PARTICULARLY DON'T READ GRAND FORKS AS A CITY—IT'S MORE OF A TOWN, AND IT HAS A MAIN STREET."

Walter Hood, *renowned landscape architect, University of California, Berkeley. Grand Forks Herald, April 1, 2016.*

Exhibit B

Conceptual examples of streetscape improvements on North 3rd Street looking towards Demers Ave.

First Ave N near N 3rd St offers an opportunity for a new greenway entry, pedestrian bridge, and connection to a UND-to-downtown bikeway.

Exhibit B

CONCLUSION AND NEXT STEPS

Nearly 20 years ago, Grand Forks leaders made the conscious – and unpopular among some – decision to reinvest in downtown after the flood and fire disasters. That investment has paid off. Many businesses returned, it is now a hub of nightlife, cultural, and community events. It is a key connection point to our other major physical asset: the Greenway. Downtown is the most important connection to our neighbor and partner: East Grand Forks, MN. Community members are stepping forward to engage and support downtown. New private investments and developments are emerging.

It is time to expand our economic development investments to target industries that export professional services. These new locally-grown knowledge-based services companies often fit best downtown where the action is and where their employees live. A new co-working space downtown will be a place where these individual professional services entrepreneurs can collaborate. Focusing more economic development efforts downtown could create a 21st century version of the industrial park that caters to the new primary sector: knowledge-based companies that export their services all over the world.

This progress is real. A neighborhood for all ages, downtown Grand Forks is uniquely ours. It is a cornerstone of life in Grand Forks, and it is a critical part of recruiting new talent to our community. The following page lists the recommendations in this report, outlined as an action plan. Implementing our incremental improvements and our big ideas downtown should use authentic citizen engagement to move things forward, “for people, by people.”

Exhibit B

DOWNTOWN GRAND FORKS
Action Plan

Immediate Improvements
Continue Work Already Underway

1. Invest economic development funds downtown.
2. Support existing and create new community open streets events downtown.
3. Seek opportunities to redevelop downtown properties while planning for permanent public art and open spaces.
4. Implement incremental improvements to transit connections between UND and Downtown
5. Continue strengthening institutional partnerships to share parking spaces at various times in the day.
6. Initiate a Grand Forks bike share, starting with stations in downtown and at UND.
7. Expand partnership efforts with East Grand Forks.
8. Support community policing efforts.
9. Improve market information about residential and commercial vacancies downtown.

Catalytic Physical Projects
Begin Planning Discussions

1. Invest accumulated City Beautification funds in a Town Square facelift.
2. Implement small streetscape improvements.
3. Improve lighting, aesthetics, and benches for walkability within downtown.
4. Modify curbs at key corners to create bump-outs.
5. Return N 3rd St and N 4th St to two-way streets.
6. Improve bicycle access to and within downtown.
7. Consider a reverse angle parking pilot project.
8. Improve transit connections between downtown and the Alerus Center Corridor.

Plans and Big Investments
Assess Demand and Feasibility

1. Create a dedicated, frequent transit connection between UND and downtown.
2. Continue discussions about UND's presence downtown.
3. Install a roundabout at 5th and Belmont intersection.
4. Connect to East Grand Forks with a pedestrian and bike crossing downtown.
5. Commit to a comprehensive downtown planning process, including a plan for downtown public art and open space that connects to the Greenway on both sides of the river; a pedestrian-friendly streetscape plan with wayfinding and parking elements; a transportation/transit component; updated downtown design guidelines that reflect current conditions rather than a disaster-recovery mindset.

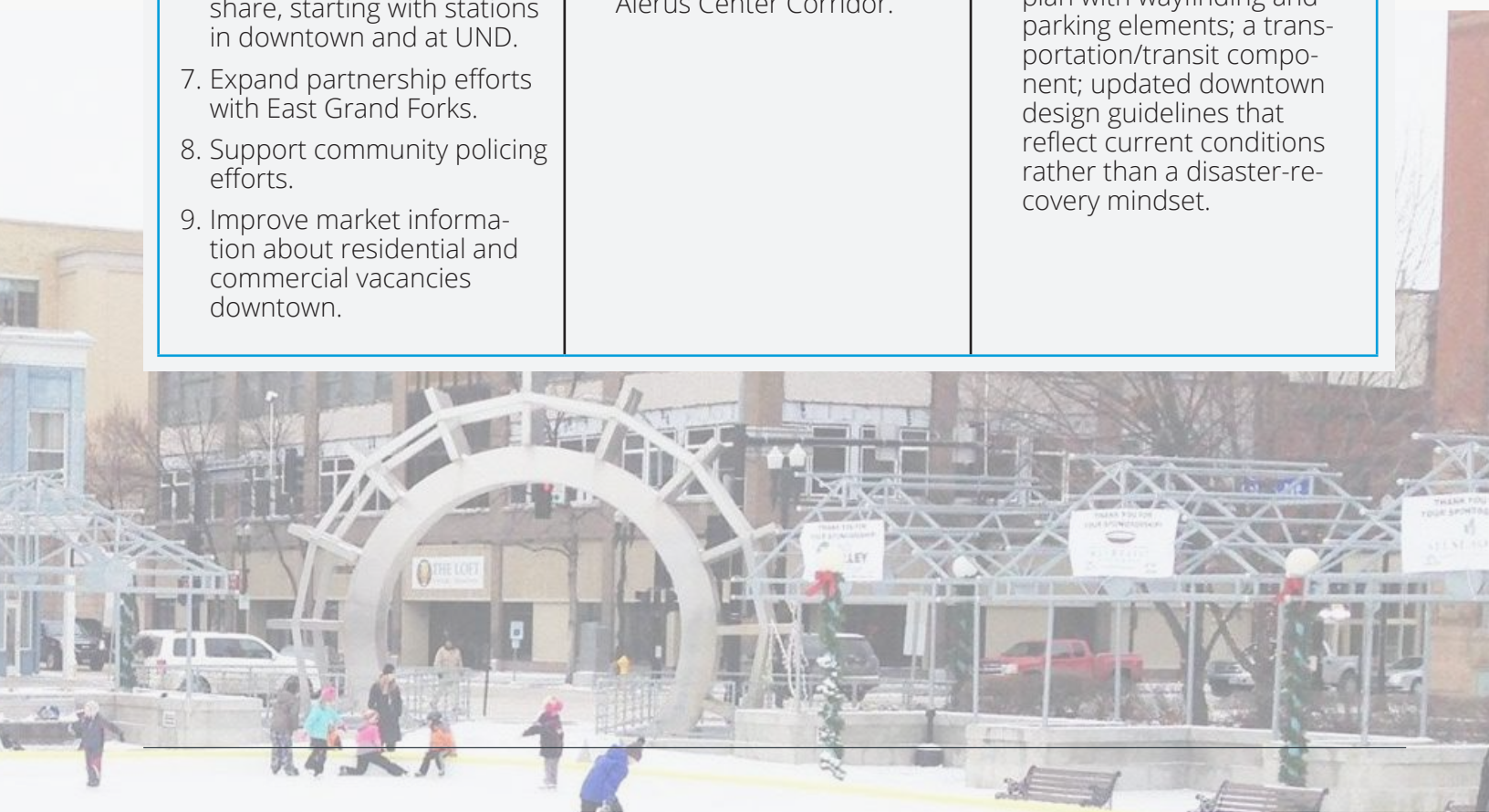


Exhibit C

Table 7-5: City of Grand Forks State of Good Repair Planned Investments (Federally Funded)

Time Period	Federal/City Match	Additional City Funds	YOE Total
Short-Range	$18,568,000	$4,744,000	$23,312,000
Mid-Range	$42,138,000	$13,906,000	$56,044,000
Long-Range	$40,117,000	$13,238,000	$53,355,000
Total	**$100,823,000**	**$31,888,000**	**$132,711,000**

Source: GF/EGF MPO, 2018

The City of Grand Forks identified additional locally funded projects to bring segments of the federal aid system into state of good repair. A prioritized list of Illustrative projects by agency, identifying relative importance to one another, is available in Appendix G.

City of Grand Forks Planned Main Street

The City of Grand Forks has identified a series of streetscape, bicycle/pedestrian, transit and downtown revitalization projects as potential "Main Street" program investments to compete for this recently established federal set-a-side available through NDDOT. The focus of these projects is to improve multimodal transportation options in the urban core of Grand Forks while also investing in decorative streetlighting, benches, planters, street signs and other streetscape amenities. Revitalization projects have been identified for east, west, north and south quadrants of the downtown, as well as reconstruction along North and South sections of 3rd Street and 4th Street. Table 7-6 provides a summary of City of Grand Forks Main Street projects by time period.

Table 7-6: City of Grand Forks Main Street Planned Investments

Time Period	YOE Total Federal/City Match
Short-Range	$6,330,000*
Mid-Range	$8,293,000
Long-Range	$24,488,000
Total	**$39,111,000**

*One or more of the short-range Main Street projects may be completed in 2021-2022.

Source: GF/EGF MPO, 2018

Grand Forks County Planned State of Good Repair

Grand Forks County has identified State of Good Repair mill and overlay projects along their federal-aid eligible roadway network in the MPO planning area along County Road 6, CR 5, CR 17 and 32nd Avenue west of Interstate 29. The County has also identified various chip seal projects throughout the County roadway network. Table 7-7 summarizes these projects by time period.

Table 7-7: Grand Forks County State of Good Repair Planned Investments

Time Period	Federal/County Match	County Only Funds	YOE Total
Short-Range	$1,316,000	$618,000	$1,934,000
Mid-Range	$2,702,000	$1,162,000	$3,864,000
Long-Range	$3,845,000	$1,459,000	$5,304,000
Total	**$7,863,000**	**$3,239,000**	**$11,102,000**

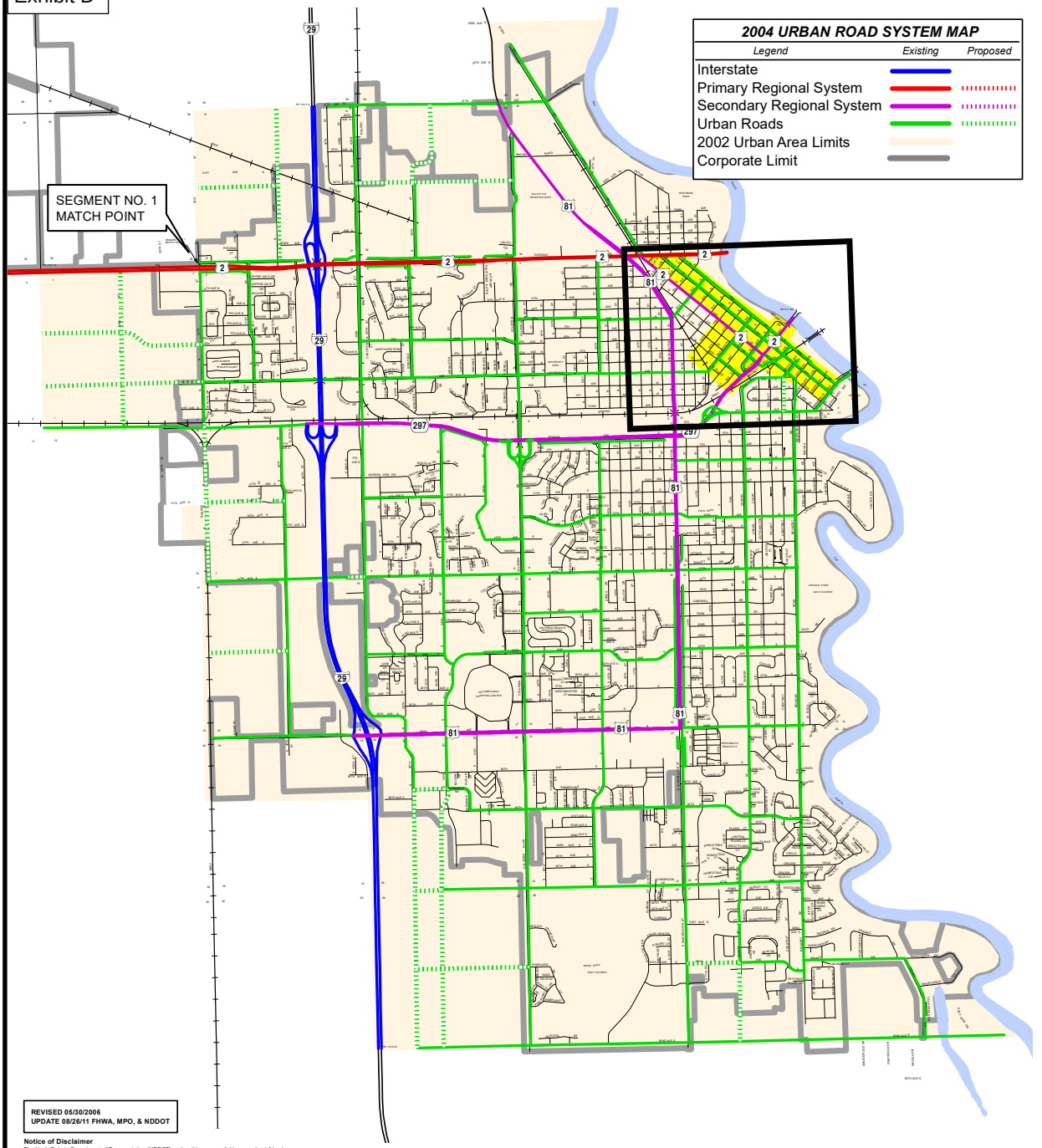
Source: GF/EGF MPO, 2018

Exhibit C

City of Grand Forks Main Street Financially Constrained (2023-2045)

Ref#	Roadway	Termini	Project Type	Agency	Time Frame	YOE Total Federal/City Match
MUL-006	Eastern Downtown Area	Eastern Downtown Area	Revitalization	City of Grand Forks	Short-Range	**$1,000,000**
MUL-018	N 3rd Street	DeMers Avenue to 1st Avenue North	Reconstruct	City of Grand Forks	Short-Range	**$1,776,385**
MUL-019	N 3rd Street	1st Avenue North to 2nd Avenue North	Reconstruct	City of Grand Forks	Short-Range	**$1,776,385**
MUL-020	N 3rd Street	2nd Avenue North to University Avenue	Reconstruct	City of Grand Forks	Short-Range	**$1,776,385**
MUL-005	Northern Downtown Area	Northern Downtown Area	Revitalization	City of Grand Forks	Mid-Range	**$1,000,000**
MUL-023	N 4th Street	DeMers Avenue to 1st Avenue North	Reconstruct	City of Grand Forks	Mid-Range	**$2,431,056**
MUL-024	N 4th Street	1st Avenue North to 2nd Avenue North	Reconstruct	City of Grand Forks	Mid-Range	**$2,431,056**
MUL-025	N 4th Street	2nd Avenue North to University Avenue	Reconstruct	City of Grand Forks	Mid-Range	**$2,431,056**
MUL-007	Southern Downtown Area	Southern Downtown Area	Revitalization	City of Grand Forks	Long-Range	**$1,000,000**
MUL-004	Western Downtown Area	Western Downtown Area	Revitalization	City of Grand Forks	Long-Range	**$1,000,000**
MUL-021	S 3rd Street	DeMers Avenue to Kittson Avenue	Reconstruct	City of Grand Forks	Long-Range	**$4,324,540**
MUL-022	S 3rd Street	Kittson Avenue to Division Avenue	Reconstruct	City of Grand Forks	Long-Range	**$6,919,263**
MUL-026	S 4th Street	DeMers Avenue to Kittson Avenue	Reconstruct	City of Grand Forks	Long-Range	**$4,324,539**
MUL-027	S 4th Street	Kittson Avenue to Division Avenue	Reconstruct	City of Grand Forks	Long-Range	**$6,919,263**
					Total	**$39,109,928**

Exhibit D



REVISED 05/30/2006
UPDATE 08/26/11 FHWA, MPO, & NDDOT

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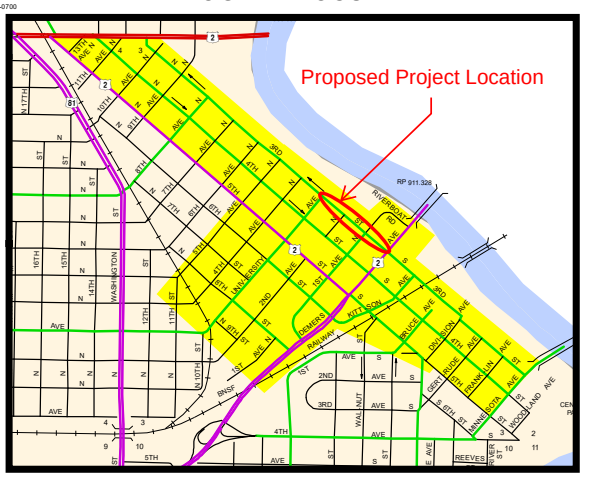
PROGRAM FOCUS AREA



2004
URBAN ROADS SYSTEM
2010 POPULATION 52,838

GRAND FORKS

GRAND FORKS COUNTY
NORTH DAKOTA

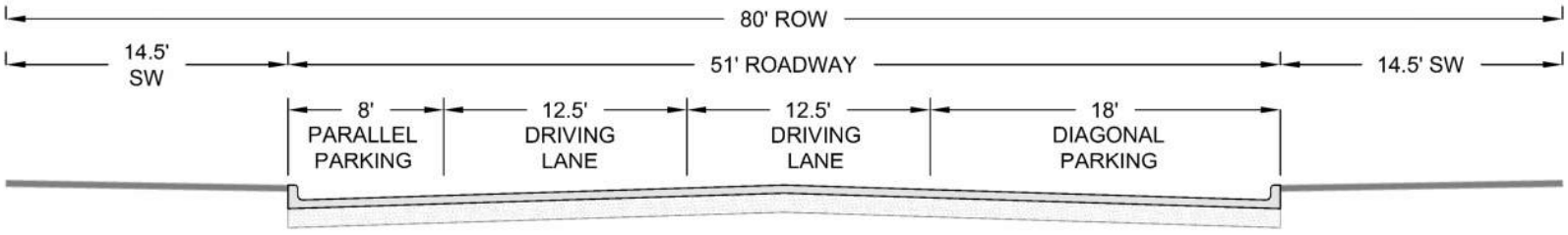
PREPARED BY
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
PLANNING AND PROGRAMMING DIVISION
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

SCALE
0 1,750 3,500 7,000
Feet

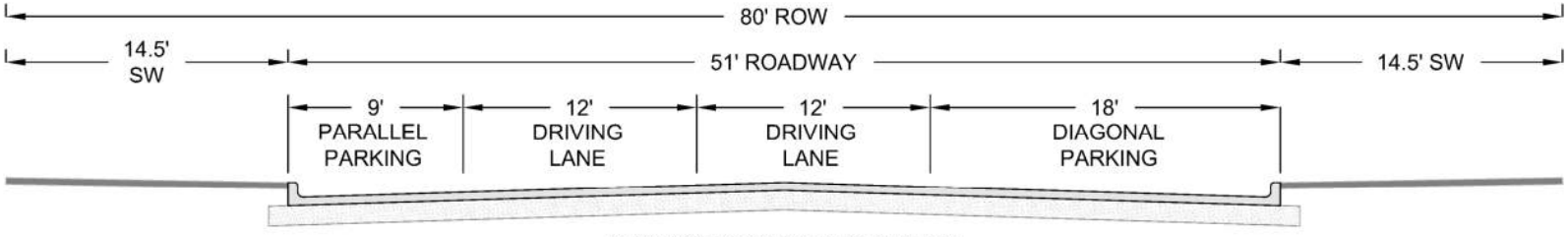
F:\PLANNING\Steve_Nelson\MXDS\2018\Likely\DowntownArea_Urban_Grand Forks.mxd

GRAND FORKS, NORTH DAKOTA

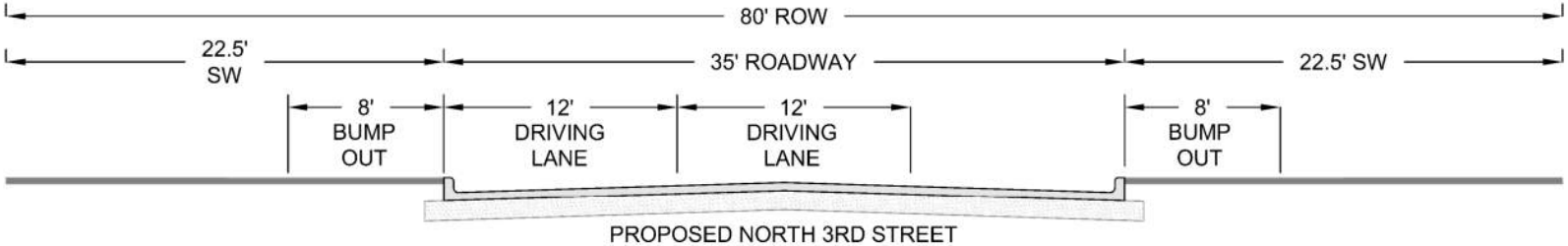
Exhibit E



EXISTING NORTH 3RD STREET
(UNIVERSITY TO DEMERS AVE)



PROPOSED NORTH 3RD STREET
(UNIVERSITY TO DEMERS AVE)



PROPOSED NORTH 3RD STREET
BUMP OUT LOCATIONS
(UNIVERSITY TO DEMERS AVE)

CITY OF GRAND FORKS ENGINEERING DEPARTMENT	URBAN GRANT PROGRAM NORTH 3RD STREET RECONSTRUCTION TYPICAL SECTIONS	DATE 11/2/2018	CITY PROJECT 7818
		SCALE 1"=60'	PAGE 1 of 1

S:\7818 2019-2023 TIP-TAP-HSIP-SRF\Urban Grant Program\Potential\N 3rd St Demers to University\N 3rd St Demers to University Exhibits (ACTUAL).dwg

Exhibit F

RDg PLANNING ● DESIGN

Streetscape Concept

Interim Compendium Draft

August 31, 2018

Demers Streetscape – Bridge- 3rd

Exhibit F

Streetscape Elements > Library of Elements

Exhibit F

Design elements | Bench | Receptacle | Seat wall planter | Bike rack | Street light

Streetscape Amenities > Street lighting

Exhibit F

1 Tear-drop Fixture

- Historic reference, yet contemporary shape.
- Downward light for dark skies and forward light distribution.
- Avoids light into upper-story windows

2 Mast (Arm)

- Sloped curve with simple connection to pole.

3 Pole

- Strength to support banners and planters
- Possible “slide locks” to adjust for different sized banners 3-5 feet.
- Includes electrical receptacle

4 Base

- Standard base (no customization)

Streetscape Amenities > Benches, Trash Receptacles, Bike Racks - Preferred

Exhibit F

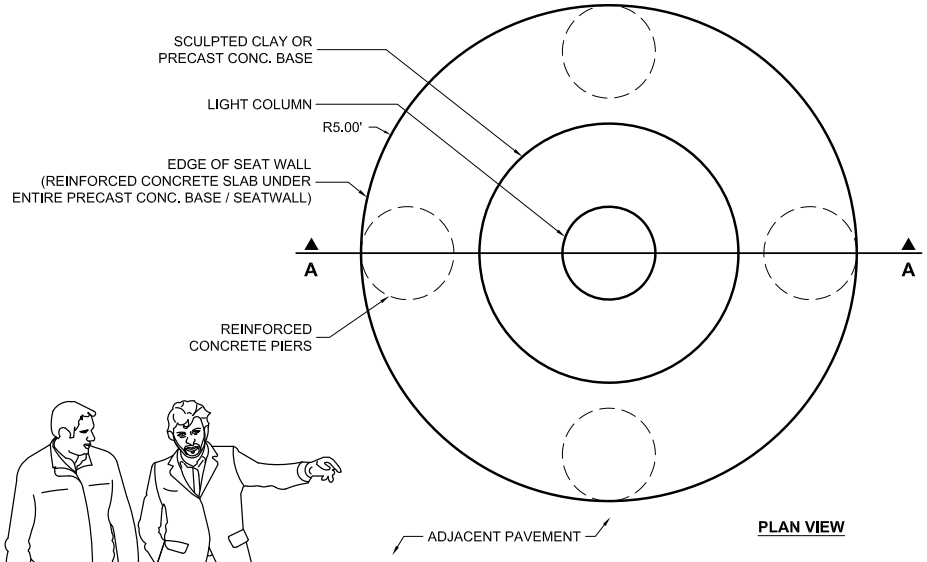
Modern style ties with newer buildings downtown

Emerging streetscape amenity ideas. Decision by October.

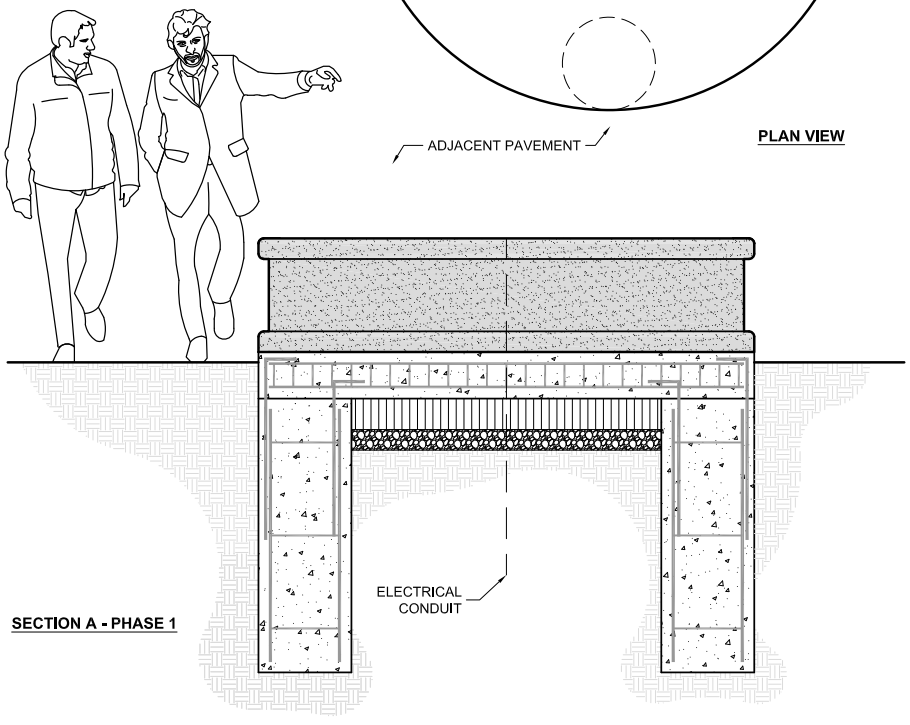
Exhibit F

PRELIMINARY SEAT WALL WITH LIGHT PILLAR DETAIL

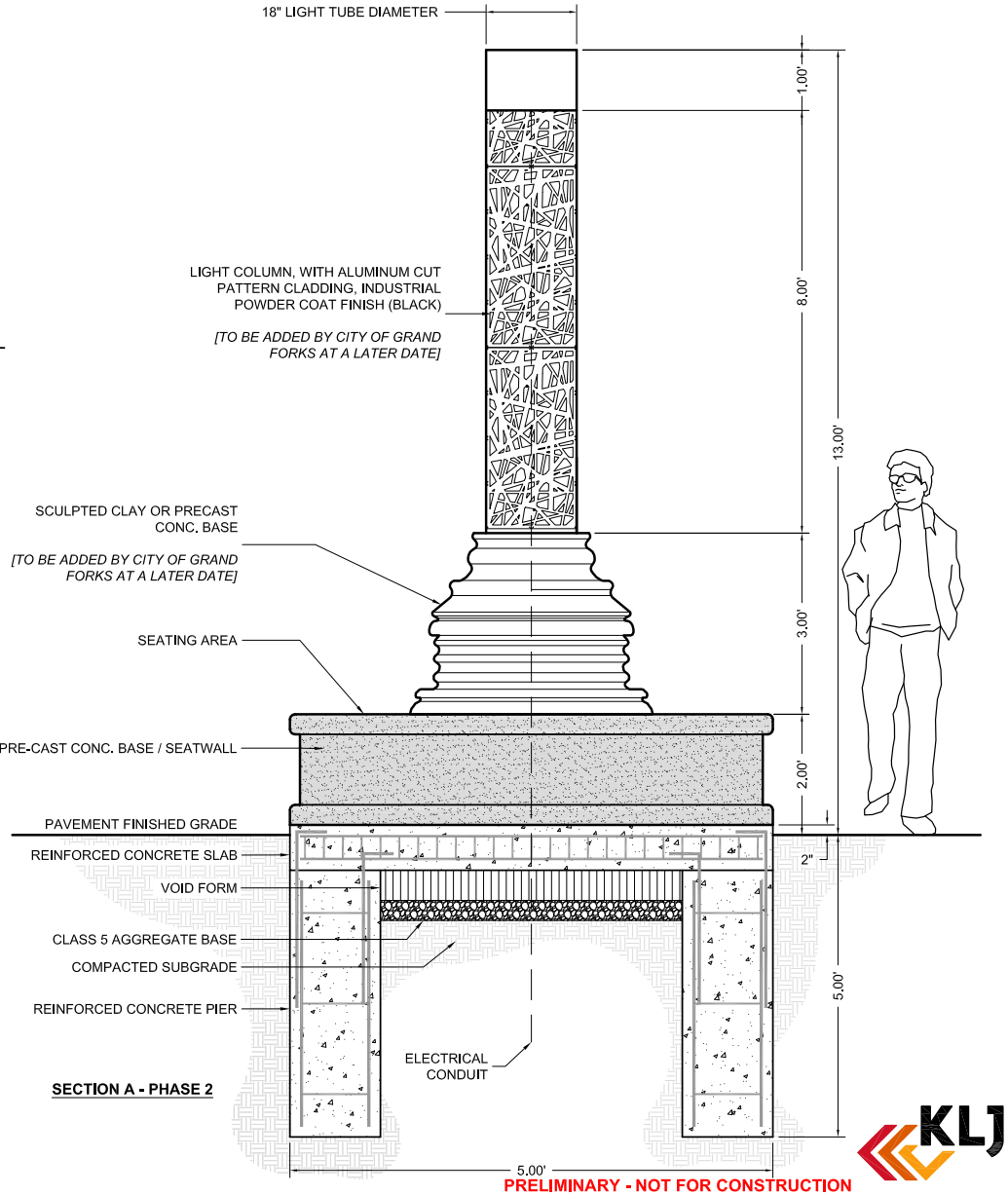
NO SCALE



PLAN VIEW



SECTION A - PHASE 1



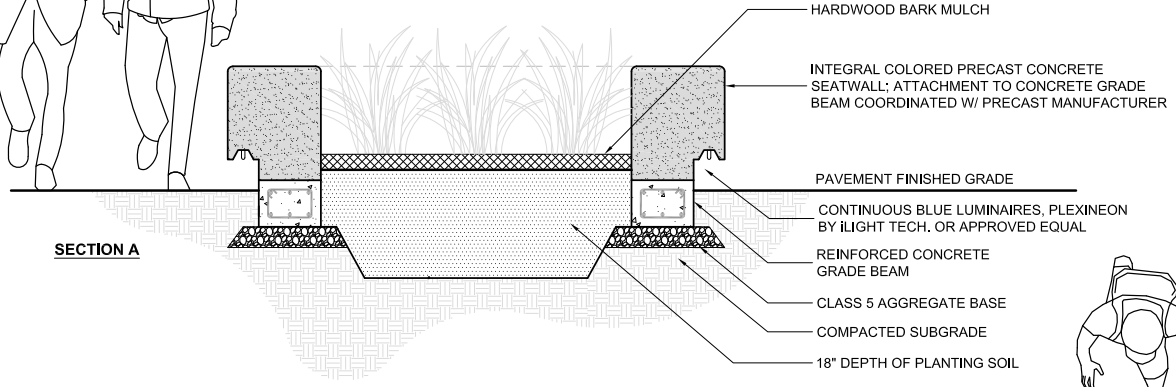
SECTION A - PHASE 2

PRELIMINARY - NOT FOR CONSTRUCTION

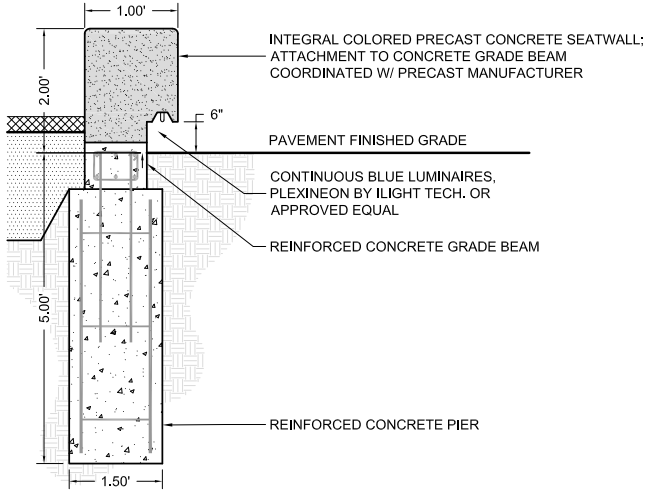
Exhibit F

PRELIMINARY SEAT WALL PLANTER DETAIL

NO SCALE



SECTION A

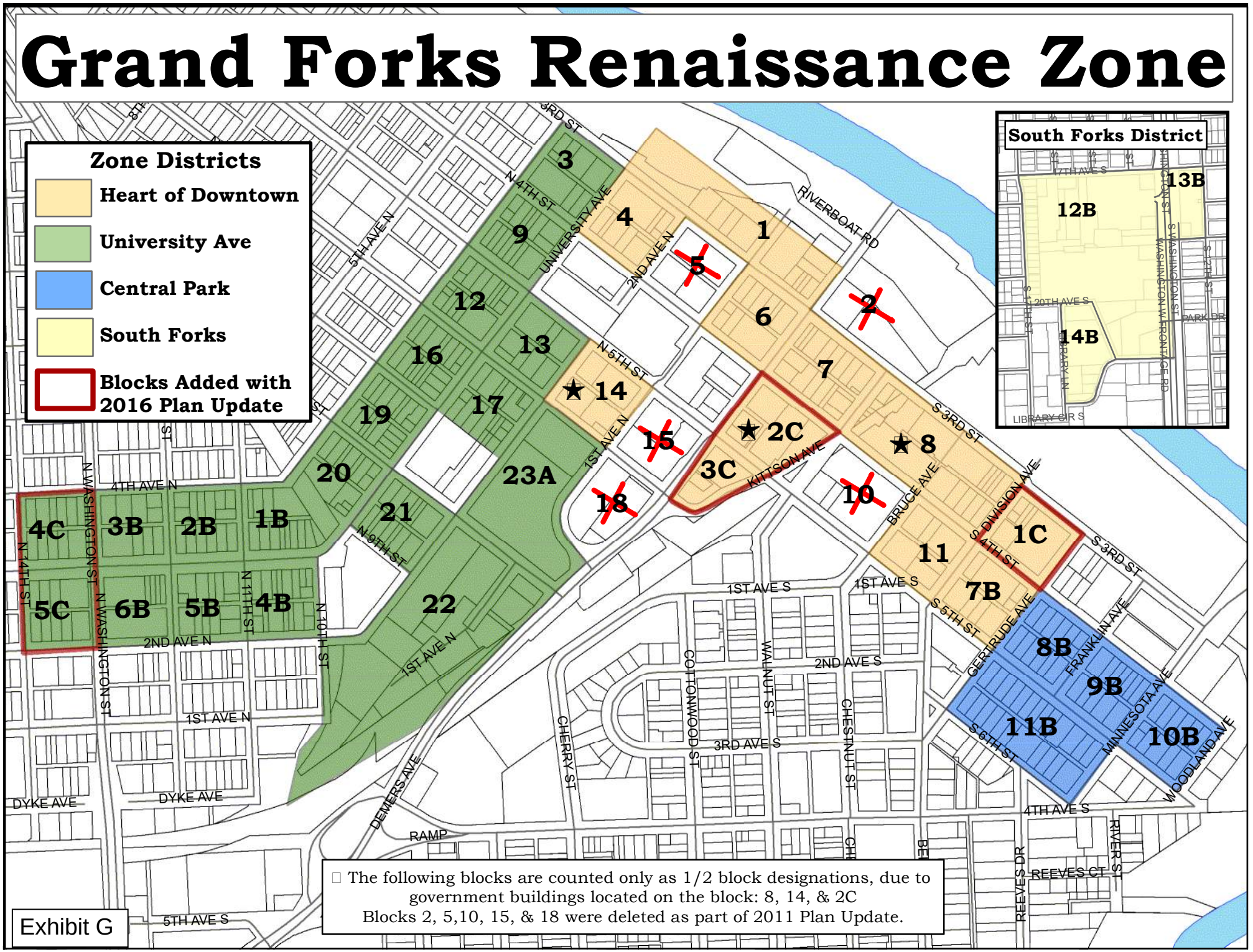


SECTION B

PLAN VIEW

PRELIMINARY - NOT FOR CONSTRUCTION

Grand Forks Renaissance Zone



The following blocks are counted only as 1/2 block designations, due to government buildings located on the block: 8, 14, & 2C
Blocks 2, 5,10, 15, & 18 were deleted as part of 2011 Plan Update.

Exhibit G

Exhibit H

2018 Urban Grant Program

Updated 11/5/2018
North 3rd Street Reconstruct (University to Demers)

Spec No.	Code No.	Description	University Ave to 2nd Ave N EST QUANTITY	2nd Ave N to 1st Ave N EST QUANTITY2	1st Ave N to Demers Ave EST QUANTITY3	UNIT	UNIT PRICE	TOTAL QUANTITY	TOTAL
103	0100	CONTRACT BOND	0.333	0.333	0.333	L SUM	$ 18,415.00	1	$ 18,415.00
201	0380	REMOVAL OF TREES 18IN	8	10	12	EA	$ 400.00	30	$ 12,000.00
202	0114	REMOVAL OF CONCRETE PAVEMENT	3195	3102	2602	SY	$ 16.00	8899	$ 142,384.00
202	0130	REMOVAL OF CURB AND GUTTER	727	721	569	LF	$ 10.00	2017	$ 20,170.00
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	0	77	48	LF	$ 21.00	125	$ 2,625.00
202	0231	REMOVE & RESET INLETS	2	4	5	EA	$ 2,250.00	11	$ 24,750.00
202	0285	REMOVAL OF FOUNDATIONS-ALL SIZES	7	7	8	EA	$ 500.00	22	$ 11,000.00
203	0113	COMMON-EXCAVATION-WASTE	516	527	441	CY	$ 10.00	1484	$ 14,840.00
302	0121	AGGREGATE BASE COURSE CL 5	638	791	590	CY	$ 45.00	2019	$ 90,855.00
550	0112	8IN NON-REINF CONCRETE PAVEMENT CL AE	1772	1947	1448	SY	$ 80.00	5167	$ 413,360.00
550	0113	8IN REINF CONCRETE PAVEMENT CL AE	183	113	227	SY	$ 100.00	523	$ 52,300.00
702	0100	MOBILIZATION	0.333	0.333	0.333	L SUM	$ 184,146.00	1	$ 184,146.00
704	1100	TRAFFIC CONTROL	0.333	0.333	0.333	L SUM	$ 55,244.00	1	$ 55,244.00
708	1540	INLET PROTECTION SPECIAL	8	7	6	EA	$ 200.00	21	$ 4,200.00
709	0701	GEOTEXTILE FABRIC-TYPE R1	2105	2552	1920	SY	$ 3.00	6577	$ 19,731.00
714	0110	PIPE CONC REINF 12IN CL III	0	37	54	LF	$ 60.00	91	$ 5,460.00
722	0315	MANHOLE CASTING	5	3	4	EA	$ 1,700.00	12	$ 20,400.00
722	3455	CASTING INLET-TYPE 1	1	2	3	EA	$ 1,300.00	6	$ 7,800.00
722	3500	INLET -TYPE 1	1	2	3	EA	$ 3,500.00	6	$ 21,000.00
722	4000	INLET CATCH BASIN -TYPE A	0	1	2	EA	$ 4,000.00	3	$ 12,000.00
722	6144	ADJUST GATE VALVE BOX	4	4	4	EA	$ 500.00	12	$ 6,000.00
722	6200	ADJUST MANHOLE	3	1	0	EA	$ 1,000.00	4	$ 4,000.00
722	6201	ADJUST MANHOLE SPECIAL	5	3	4	EA	$ 1,500.00	12	$ 18,000.00
748	0100	CURB & GUTTER	941	805	791	LF	$ 35.00	2537	$ 88,795.00
750	0107	SIDEWALK-DECORATIVE	1236	1040	1019	SY	$ 125.00	3295	$ 411,875.00
750	1016	DRIVEWAY CONCRETE	181	47	0	SY	$ 70.00	228	$ 15,960.00
750	2115	DETECTABLE WARNING PANELS	128	112	96	SF	$ 45.00	336	$ 15,120.00
754	9095	SIGNING	0.333	0.333	0.333	LSUM	$ 10,000.00	1	$ 10,000.00
762	0112	EPOXY PVMT MK MESSAGE	0	0	17	SF	$ 10.00	17	$ 170.00
762	0113	EPOXY PVMT MK 4 IN LINE	1086.5	653	491.5	LF	$ 0.55	2231	$ 1,227.05
762	0114	EPOXY PVMT MK 6 IN LINE	443	572	441	LF	$ 4.50	1456	$ 6,552.00
762	0117	EPOXY PVMT MK 24IN LINE	0	0	23	LF	$ 20.00	23	$ 460.00
770	0025	SCREW IN BASE FOUNDATION	9	7	8	EA	$ 1,000.00	24	$ 24,000.00
770	0320	1.5IN DIAMETER RIGID CONDUIT	770	750	540	LF	$ 6.00	2060	$ 12,360.00
770	4560	REMOVE LIGHT STANDARD	7	7	8	EA	$ 330.00	22	$ 7,260.00
770	****	ORNAMENTAL LT STD 16FT MT HT	9	7	8	EA	$ 2,500.00	24	$ 60,000.00
770	****	ORNAMENTAL LIGHT FIXTURE-100WATT	9	7	7	EA	$ 1,500.00	23	$ 34,500.00
770	****	MULTIPLE UNERGROUND CABLE 4NO6 STYL	770	750	540	LF	$ 6.00	2060	$ 12,360.00
970	1000	TREES	8	10	12	EA	$ 1,000.00	30	$ 30,000.00
		Subtotal	$ 659,509.41	$ 635,376.48	$ 596,433.16				$ 1,891,319.05
		20% contingencies	$ 131,901.88	$ 127,075.30	$ 119,286.63				$ 378,263.81
		Additional Streetscape Amenities (5%)	$ 32,975.47	$ 31,768.82	$ 29,821.66				$ 94,565.95
		Rounded 2018 Construction Subtotal	$ 824,386.76	$ 794,220.60	$ 745,541.45				$ 2,364,148.81
		Rounded Subtotal inflated to 2021 (4% Interest)	$ 928,000.00	$ 894,000.00	$ 839,000.00				$ 2,660,000.00
		15% Design Engineering	$ 139,200.00	$ 134,100.00	$ 125,850.00				$ 399,000.00
		15% Construction Engineering	$ 139,200.00	$ 134,100.00	$ 125,850.00				$ 399,000.00
		Project Total	$ 1,206,400.00	$ 1,162,200.00	$ 1,090,700.00				$ 3,458,000.00
		Federal Share (80%)	$ 853,760.00	$ 822,480.00	$ 771,880.00				$ 2,447,200.00
		City Share (20%+ Construction Engineering)	$ 352,640.00	$ 339,720.00	$ 318,820.00				$ 1,010,800.00

Grand Forks - East Grand Forks
Metropolitan Planning Organization

MPO Staff Report
MPO Technical Advisory Committee: December 12, 2018
MPO Executive Board: December 19, 2018

RECOMMENDED ACTION: Consider Urban Regional Program Candidate Project for the FY2020-2023 TIP as Being Consistent with the Metropolitan Transportation Plan and Give Priority Ranking

Matter of Urban Regional Candidate Projects for 2020-2023 TIP.

Background: The MPO and NDDOT formally solicited candidate projects for the 2020-23 TIP/STIP. In order for the MPO to give both the local agencies as much time as possible yet still allow MPO staff to "vet" the candidate projects, the project submittal deadline to the MPO was December 4th.

NEW TIP YEAR 2023

While all other funding programs were "open" for submittal of candidate projects, the Urban Regional Program was "closed". Due to bid prices, scope changes, and emergent needs, the programmed Urban Regional projects require funding beyond what is predicted through 2022. However, this solicitation may give consideration to Urban Regional projects addressing an urgent issue or completing a phased construction project.

For FY2020, the City and NDDOT District again submitted a scoping worksheet for the NEPA document to resolve congestion on 32nd Ave S. The request was not funded nor identified as an "illustrative" project in the current TIP/STIP. It is not identified within the MTP fiscal plan.

For FY2022, a chip seal project on N. 5th St between DeMers and Gateway was submitted. The estimated amount was $45,000 with a federal request of $36,000. The MTP identified this as happening during the short term timeframe of the Plan instead of during the current TIP year of FY2022.

Although a scoping worksheet was not submitted, the summary listing identifies in FY2022 the updating of the traffic signals on the Regional Roads network. Just as the similar request in the Urban Local Roads, the project is shown as an "illustrative" project in the current TIP/STIP. Given the "closed" nature of the Urban Regional Program, it's likely that just continuing listing the project as "illustrative" is the only action we can do. The MTP does have this within the fiscally constrained short-term timeframe.

TIP Plus 1 Year

We still solicited candidate projects for the FY2024, which is the typical process to obtain an idea of what the next Regional project may be. The City and NDDOT GF District submitted two candidate projects. One was for an interchange that addresses the congestion on 32nd Ave S. This project is not consistent with our MTP as it is beyond our fiscal constraint.

The other project was the reconstruction of S. Washington St between Hamerling and 8th Ave S. The project would also address access management along this segment. The estimated cost is $5.7M with a federal request of $4.7M. This project is identified as a short-term project in the MTP.

OTHER

The US2 (between N. 55th St and N. 69th St) mill/overlay project and the High Tension Median Guardrail projects will be treated as amendments to the current TIP.

Separate staff reports are released for the ND Transportation Alternative, ND Urban Grant (Main Street), HSIP, and Urban Regional Roads.

Findings and Analysis:

- The MPO must annually prepare a Transportation Improvement Program
- TIP eligible projects with the MPO Area must be submitted to the MPO for its consideration
- The projects submitted are being considered as being consistent with the Metropolitan Transportation Plan with the understanding that as FAST is implemented this determination is subject to change.

Support Materials:

- Applications

PROJECT SUBMITTAL LIST

Entity: Grand Forks ***Contact Person:*** Allen Grasser ***Revision: October 2013***

Date: December 3, 2018 ***Phone Number:*** 701-746-2640 ***If you have questions with filling out the list, please contact Stacey Hanson at 701-328-4469***

FISCAL YEAR	FUNDING CATEGORY[1]	FUNCTIONAL CLASSIFICATION[2]	INVESTMENT STRATEGY[3]	TYPE OF WORK[4]	PROJECT LOCATION	PROJECT COST				
						TOTAL	FEDERAL	STATE	LOCAL	NON-PARTICIPATING
2019	SecR	Principal Arterial	N/R	Reconstruction	SH 297/Demers Ave (Red River to 5th St)	$ 5,406,000	$ 4,375,000	$ 490,000	$ 541,000	
2019	SecR	Principal Arterial	N/R	Reconstruction	SH 297/Demers Ave (5th St to 6th St)	$ 1,744,000	$ 1,411,000	$ 158,000	$ 175,000	
2019	PriR	Principal Arterial	MaR	Signals/Turn Lanes	US 2 & N 55th St Intersection	$ 600,000	$ 480,000	$ 120,000	$ -	
2019	SecR	Principal Arterial	PM	CPR, Grinding, Dowelbar Retrofit	Bus US 81/N Washington St 8th Ave N to 0.4 miles north of US 2	$ 1,323,000	$ 1,071,000	$ 120,000	$ 132,000	
2019	SecR	Principal Arterial	MiR	ADA Ramps	Bus US 81/N Washington St Hammerling Ave to 8th Ave N	$ 476,000	$ 385,000	$ 43,000	$ 48,000	
2019	SecR	Principal Arterial	MaR	Signals/Turn Lanes	SH 297/Demeras Ave at Columbia Rd West Ramp	$ 660,000	$ 485,000	$ 115,000	$ 60,000	
2019	SecR	Principal Arterial	MiR	Mill and Overlay	N 5th St (Bus US 2) (US 2/Gateway Dr to SH 297/Demers Ave)	$ 1,045,000	$ 846,000	$ 95,000	$ 104,000	
2019	**INT**	**Interstate**		**High Tension Median Cable Guardrail**	**N 5th St (Bus US 2) (US 2/Gateway Dr to SH 297/Demers Ave)**	**$ 840,000**	**$ -**	**$ 840,000**	**$ -**	
2020	**INT**	**Interstate/Minor Arterial**		**NEPA Documentation**	**I-29 NEPA Document Addressing Congestion at Bus US 81/32nd Ave S**	**$ 2,000,000**	**$ 900,000**	**$ 100,000**	**$ 1,000,000**	
2021	**PriR**	**Principal Arterial**	**PM**	**3" Mill & Overlay and Chipseal**	**US 2/Gateway Dr (N 55th St to N 69th St)**	**$ 567,000**	**$ 454,000**	**$ 113,000**	**$ -**	
2022	SecR	Minor Arterial	N/R	Reconstruction RR Bridge and Roadway	Bus US 81/N Washington St (5th Ave N to 1st Ave S)	$ 17,600,000	$ 14,244,000	$ 1,596,000	$ 1,760,000	
2022	**SecR**	**Principal Arterial**	**PM**	**Chip Seal**	**N 5th St (Bus US 2) (US 2/Gateway Dr to SH 297/Demers Ave)**	**$ 45,000**	**$ 36,000**	**$ 4,500**	**$ 4,500**	
2022	**SecR**	**Principal Arterial**	**PM**	**Signal Maintenance**	**Traffic Signal Rehabilitation on the Regional Roads System**	**$ 6,200,000**	**$ 4,960,000**	**$ 620,000**	**$ 620,000**	
2024	**INT**	**Interstate/Minor Arterial**	**N/R**	**Interchange**	**I-29 NEPA Construction Project Addressing Congestion at Bus US 81/32nd Ave S**	**$ 37,500,000**	**$ 30,000,000**	**$ 3,750,000**	**$ 3,750,000**	
2024	**SecR**	**Principal Arterial**	**N/R**	**Reconstruction**	**Bus US 81/S Washington St (Hammerling Ave to 8th Ave S)**	**$ 5,700,000**	**$ 4,560,000**	**$ 570,000**	**$ 570,000**	

Notes **Description**

(1) *PriR = Primary Regional, SecR = Secondary Regional, URP = Urban Roads Program, TA = Transportation Alternatives, INT = Interstate, BRI = Bridge*

(2) *Interstate, Principal Arterial, Minor Arterial, Collector*

(3) *PM = Preventive Maintenance, MiR = Minor Rehabilitation, SI = Structural Improvement, MaR = Major Rehabilitation, N/R = New/Reconstruction*

(4) *Brief description of the project (Exs: Thin Lift Overlay, Mill and Overlay, Concrete Pavement Repair, etc.)*

PROJECT SCOPING WORKSHEET

DATE: 11/15/2018

PRIORITY: Interstate system I-29 NEPA Document in 2020

City: Grand Forks Street: I-29 near 47th Ave S

County: Grand Forks Length: ~1 mile

Proposed Improvement: Completion of NEPA Documentation to address congestion and level of service on Bus US 81/32nd Ave S.

Cost Estimates Breakdown (in $1,000)							
Alternate	PE	R/W	Utility	Constr.	Bridges	Misc.	Total
						2,000	2,000

Present Road: Surface Width? 4 lane divided Surface Type? Concrete

On Street Parking Allowed? Present: No Proposed: No

Proposed Improvements

ADT Present: I-29 12,515 - 47th Ave S 2,830 -32nd Ave S 15,325 Yr: 2015
ADT Design: I-29 23,735 - 47th Ave S 17,975 - 32nd Ave S 25,890 Yr: 2040
Travel Way Width : No. of Lanes: 4 & 2
Design Speed: 40 MPH (urban) & 70MPH Interstate Roadway Width: 12 foot lanes
Maximum Curve: Min. R/W Width:
Maximum Grade:

Right of Way

Will Additional ROW or easement be acquired? Yes ROW acquisition by: NDDOT
Has any ROW easements been acquired since 7-1-72: Unknown ROW Condemnation by:
Est. No. of occupied family dwelling to be displaced? None
Est. No. business to be displaced? None

Impacts

Will there be any additional Impacts (Cultural and Environmental Resources): No
Will there be any taking of any right-of-way from any public parkland (4F) or schools (6F): No
Airports: No Public Hearings: Maybe
Environmental Classification (Cat-Ex, EA, EIS): Cat-Ex or EA
Transportation Enhancements: Decreased traffic volume and congestion at 32nd Ave S, improved Level of Service for intersections on Bus US 81/32nd Ave S. This also significantly reduced the number of vehicle miles traveled and vehicle hours traveled compared to a no build
Intermodal: Shared use path on overpass bridge

Railroads Crossings						
RR Name	No. Xings	No. Tracks and Type of Crossing	Daily Train Movements	Train Speed	Present Protection	Proposed Protection
None						

Purpose and Need Statement For Regional Projects

I-29 was originally constructed around 1968, at the time of its construction four interchanges were constructed in or around the city of Grand Forks. These interchanges included: N Washington St, Gateway Dr/US 2, Demers Ave (ND SH 297), and 32nd Ave S/Bus US 81. These interchanges have been in place for nearly 50 years, with no additional interchanges being built within the city limits. There are also two overpasses located at University Ave and at Merrifield Rd/County Rd 6. Over that time the City of Grand Forks has grown from a population of approximately 39,000 to approximately 57,000. Though the city of Grand Forks has grown, the city's growth has been dense with a population density of 2,723/sq mi. Grand Forks' population density exceeds other similar cities within North Dakota:, Fargo – 2,318/sq mi, Bismarck - 2,034/sq mi, West Fargo - 1,924/sq mi, Minot – 1,719/sq mi, Williston – 1,083/sq mi[1].

With the increased population of Grand Forks, comes increase transportation needs, and associated traffic congestion on the existing infrastructure. In the summer of 2017 an I-29 Traffic Operations Report was completed looking at the I-29 corridor around the city. This report noted numerous times that the projected traffic volumes at the most southern existing interchange located at US Bus 81/32nd Ave S would have extreme levels of congestion, traffic cuing onto the interstate, and nearby intersections operating at a level of service F by 2025. This study looked at multiple aspects to prevent these issues from occurring in the future. This included, looking at non interstate improvements to encourage local traffic to use existing arterial roadways, improvements to the existing interchanges, and construction of new interchanges.

The study first looked at non-interstate improvements to encourage local traffic to use the existing arterial roadway system and reduce the traffic using the interstate. This included widening existing north-south arterial roadways such as 42nd St and Columbia Rd, improving some intersections including a continuous flow intersection, as well as adding dual left turn lanes, and realigning roadways to have better accessibility. The results of this scenario showed that these projects did not reduce demand onto I-29, and in some cases actually increased the volume of traffic onto I-29.

1. http://www.towncharts.com/North-Dakota/Top-25-Cities-in-North-Dakota-ranked-by-Population-Density.html

Another aspect which was explored was improvements to the interchange at 32nd Ave S/Bus US 81. Some of these alternatives included widening 32nd Ave S/Bus US 81, consolidating the east ramp, adding a northwest loop ramp, adding a southwest loop ramp, reconstructing the interchange to a diverging diamond interchange, and a diverging diamond with a partial cloverleaf. Of the available alternatives, only in two scenarios could 95% of the PM peak volumes in 2040 could be processed. In the summary of these alternatives the study states "**None of the alternatives studied under the Existing Interstate Access Scenario, without a 47th Avenue interchange, meet the established [Purpose and Needs] because they cannot improve operations to an acceptable level.**"

This report also evaluated the 32nd Ave S/Bus US 81 interchange with a new interchange constructed at 47th Ave S. By constructing a new interchange at 47th Ave S, traffic volumes on 32nd Ave S/Bus US 81 are forecasted to be reduced by approximately 40%. Evaluating available alternatives under this scenario 32nd Ave S/Bus US 81 could utilize the least expensive option of "Spot Improvements" and would be able to support anticipated traffic volumes and intersections are forecasted to operate at LOS D or better.

Remarks:

City Engineer: _____ Date: 11/28/18

District Engineer: _____ Date: 12/3/18

1. http://www.towncharts.com/North-Dakota/Top-25-Cities-in-North-Dakota-ranked-by-Population-Density.html

32nd Avenue/US 81B

32nd Avenue/US 81B serves a large majority of commercial activity in Grand Forks. Daily traffic volumes from 2015 along this corridor range from approximately 11,300 vehicles per day west of I-29 to 16,300 vehicles per day east of I-29. The areas surrounding I-29 at 32nd Avenue/US 81B and heading south to 47th Avenue are forecasted to be the largest population and employment growth centers in the city. Specifically, 58 percent of new employment opportunities are expected to occur within one-mile of either the 32nd Avenue/US 81B interchange or the 47th Avenue corridor. By 2040, this amount of growth is expected to result in traffic volumes around 43,000 vehicles per day east of I-29 and 23,000 vehicles per day west of I-29. This results in oversaturated interchange operations, producing long delays and queues by 2040.

Analysis completed for the Macro Level Alternatives Analysis found that the construction of a 47th Avenue interchange would have significant tangible benefits to the 32nd Avenue/US 81B interchange, potentially mitigating the need for costly widening at I-29 east to Columbia Road. The 32nd Avenue/US 81B intersection would experience more than 40 percent traffic reduction under this scenario, where other interchanges experienced far less. This necessitated a need to evaluate different interchange scenarios with and without the 47th Avenue interchange. Alternatives were analyzed under the Existing Interstate Access Scenario (no 47th Avenue interchange), which assumes a six-lane section on 32nd Avenue/US 81B, and the 47th Avenue Interchange Scenario, which assumes a four-lane section on 32nd Avenue/US 81B.

The Merrifield Road/CR 6 Interchange Infrastructure will also be considered later in this chapter but had minimal impacts to the overall operations of 32nd Avenue/US 81B. The combination of the 47th Avenue Interchange and the Merrifield Road/CR 6 Interchange provided similar benefits to 32nd Avenue/US 81B as the 47th Avenue interchange in isolation.

ANALYSIS METHODOLOGY

Analysis for this interchange location used the Value Planning approach detailed previously in this report.

INTERCHANGE ALTERNATIVES

EXISTING INTERSTATE ACCESS SCENARIO

As described above, this scenario does not include any additional interchange infrastructure. This means the future development expected in the southwest metro will be funneled to the 32nd Avenue/US 81B corridor for access onto and across the interstate.

Widen Only Alternative

The Widen Only Alternative (WO) would add one through lane in each direction on 32nd Avenue/US 81B from the 42nd Street west frontage road to east of 38th Street, as well as traffic control at the 42nd Street west frontage road and turn lanes at all four study intersections which would require bridge widening. The WO alternative is treated as the baseline for comparisons against other alternative designs; the true do nothing alternative model broke down and could not accurately replicate queues and delay.

Even with the additional capacity, this alternative was unable to be properly calibrated during the 2040 P.M. peak, with 15.2 percent latent demand. This means more than 1,500 vehicles did not enter the model so their delay has not been incorporated into the overall network delay and is not acceptable for analysis.

Based on the traffic the model could process, long queues, in excess of 1,000 feet are expected at all four study intersections. Levels of service are deficient at all study intersections, excluding the East Ramp intersection. It is important to note that the queues extending onto I-29 are likely not being incorporated into the East Ramp delay.

The estimated cost for this alternative was $7.7 million which only included widening the bridge and the difference between reconstructing 32nd Avenue/US 81B as a four-lane section and reconstructing and widening as a six-lane section. This planning level cost should be further refined but was used as a baseline cost. Value planning scores for this alternative can be seen in Table 7-17.

Table 7-17: 32nd Avenue/US 81B Widen Only Interchange Alternative (Existing Interstate Access Scenario)

	Results (2040 Conditions)	Score
Local Operations	▪ A.M. Peak Average: 57.1, LOS "E" ▪ P.M. Peak Average: 92.2, LOS "F"	0*
Mainline Operations	▪ Average A.M. Peak: 12.8, LOS "B" ▪ Average P.M. Peak: 94.4 LOS "F"	0*
Environmental Impacts	▪ No additional environmental impacts expected.	8
Safety	▪ Baseline crash potential distribution for alternative comparison: » 6.5% Crossing Crash Potential » 62.5% Rear End Crash Potential » 31.0% Sideswipe Crash Potential	9
Cost	▪ $7.7 Million**	10
Total		27

*Score of zero assigned because model could not be calibrated. Not all delay considered.
**Includes planning level costs on a per mile basis.

Consolidated East Ramp

The Consolidated East Ramp (CER) Alternative would add a through lane in each direction as well as realign 42nd Street east of I-29 with the East Ramp. This helps split southbound traffic at 38th Street, a major bottleneck along the corridor. This alternative also incorporates double left turn lanes at 38th Street, a northbound right turn lane, westbound left and a traffic control signal at the 42nd Street west frontage road. It requires bridge widening. This alternative also incorporates two loops in the southeast and southwest quadrants, which helps eliminate crossing conflicts and improves operational efficiency by allowing a two-phase signal controller.

This alternative had 4.7 percent latent demand during the 2040 P.M. peak, which is acceptable for calibration according to FHWA standards. During the 2040 P.M. peak, operations at 42nd Street frontage road and 38th Street are deficient at LOS "E", while the two ramp intersections operate at LOS "D"; delays at the ramp intersections produce long queues onto the interstate. There are no operational concerns during the 2040 A.M. peak hour.

This alternative reduces crossing crash potential by 24.1 percent and rear-end potential by 49.0 percent when compared against the WO alternative. Sideswipe crash potential is increased by 188.6 percent when compared against the Widen Only alternative.

Value planning scores for this alternative can be seen in Table 7-18 with planning level design layout in Figure 7-26.

Table 7-18: 32nd Avenue/US 81B Consolidated East Ramp Interchange Alternative (Existing Interstate Access Scenario)

	Results (2040 Conditions)	Score
Local Operations	» A.M. Peak Average: 18.1, LOS "A" » P.M. Peak Average: 62.0, LOS "E "	5
Mainline Operations	» Average A.M. Peak: 11.92, LOS "B" » Average P.M. Peak: 55.1 LOS "F"	4
Environmental Impacts	» No significant new environmental impacts. 3.5 acres of ROW required.	6
Safety	26.2% increase in crash potential when compared against Widen Only Alternative » 24.1% Reduction in Crossing Crash Potential » 49.0% Reduction in Rear End Crash Potential » 188.6% Increase in Sideswipe Crash Potential	0
Cost	» $30.9 Million	0
Total		15

Northwest Loop Ramp

The Northwest Loop Ramp (NWL) Alternative incorporates a northwest loop on-ramp for westbound to southbound movements, turn lanes at adjacent intersections and traffic control at the 42nd Street west frontage road. This alternative requires widening the 32nd Avenue/US 82B bridge to accommodate additional through lanes. Due to the posted speeds and the ROW constraints, only a small radius could be constructed. This requires parallel merge lanes to ensure safe and efficient merging.

This alternative had 10.0 percent latent demand during the 2040 P.M. peak, which is not acceptable for calibration according to FHWA standards. Nearly 1,000 vehicles were unable to enter the network during the 2040 P.M. peak. However, based on the vehicles processed, the 42nd Street west frontage roads and 38th Street intersections were deficient at LOS "F" with the ramp intersections operating at LOS "E". Queues at the ramp intersection extend onto the interstate, completely blocking all through lanes.

During the 2040 A.M. peak, only the 38th Street intersection is deficient at LOS "E". There are no queueing concerns.

Value planning scores for this alternative can be seen in Table 7-19 with planning level design layout in Figure 7-27.

Table 7-19: 32nd Avenue/US 81B Northwest Loop Ramp Interchange Alternative (Existing Interstate Access Scenario)

	Results (2040 Conditions)	Score
Local Operations	» A.M. Peak Average: 39.1, LOS "D" » P.M. Peak Average: 99.4, LOS "F"	0*
Mainline Operations	» Average A.M. Peak: 13.3, LOS "B" » Average P.M. Peak: 54.4, LOS "F"	0*
Environmental Impacts	» No significant environmental impacts. Two acres of ROW required and some access revisions.	6
Safety	14.8% increase in crash potential when compared against Widen Only Alternative » 128.2% Increase in Crossing Crash Potential » 16.4% Reduction in Rear End Crash Potential » 53.6% Increase in Sideswipe Crash Potential	4
Cost	» $27.8 Million	1
Total		11

*Score of zero assigned because model not calibrated. Not all delay considered.

Southwest Loop Ramp

The Southwest Loop Ramp (SWL) Alternative incorporates a southwest loop off-ramp for southbound to eastbound movements, turn lanes at adjacent intersections and traffic control at 44th Street. This alternative requires widening the 32nd Avenue/US 81B bridge to accommodate additional through lanes and access revisions to the 42nd Street west frontage road which allowed for a RIRO access on the northside of 32nd Avenue/US 81B but closed the access on the southside.

This alternative had 3.1 percent latent demand during the 2040 P.M. peak, which is acceptable for calibration according to FHWA standards. During the 2040 P.M. peak, operations at the East Ramp are deficient at LOS "E" with queues that extend onto the interstate. The 38th Street and 44th Street intersections are deficient at LOS "F" and LOS "E" respectively. The 44th Street intersection would be improved with a double left-turn lane. However, that would require two receiving lanes which would have building impacts. At this time, a single left-turn lane was analyzed.

During the 2040 A.M. peak, all intersections operate at LOS "C" or better except the 38th Street intersection which operates at LOS "E". There are no queueing concerns at the ramp intersections.

The SWL Alternative reduces crossing crash potential by 42.1 percent and rear-end crash potential by 40.2 percent. Sideswipe crash potential is increased 88.3 percent.

Value planning scores for this alternative can be seen in Table 7-20 with planning level design layout in Figure 7-28.

Table 7-20: 32nd Avenue/US 81B Southwest Loop Interchange Alternative (Existing Interstate Access Scenario)

	Results (2040 Conditions)	Score
Local Operations	» A.M. Peak Average: 27.9, LOS "C" » P.M. Peak Average: 57.6, LOS "E"	5
Mainline Operations	» Average A.M. Peak: 13.2, LOS "B" » Average P.M. Peak: 23.9, LOS "D"	7
Environmental Impacts	» No significant environmental impacts. Two acres of ROW required and some access revisions.	6
Safety	0.5% decrease in crash potential when compared against Widen Only Alternative » 42.1% Reduction in Crossing Crash Potential » 40.2% Reduction in Rear End Crash Potential » 88.3% Increase in Sideswipe Crash Potential	10
Cost	» $23.5 Million	5
Total		33

Diverging Diamond Interchange

The Diverging Diamond Interchange (DDI) Alternative requires the two directions of traffic on 32nd Avenue/US 81B to cross to the opposite side of the road under the I-29 bridge. This allows left-turning and right-turning traffic to perform a free flow movement onto the interstate on-ramp. The free-flowing movements reduce the signal phases to two at each intersection, significantly reducing delays. The right-turn slip ramp on the southbound I-29 on-ramp requires access management at the 42nd Street west frontage road. This alternative requires widening the 32nd Avenue/US 81B bridge to accommodate additional through lanes. A backage road was configured with a signal incorporated at 44th Street.

This alternative had 6.0 percent latent demand during the 2040 P.M. peak, which is not acceptable for calibration according to FHWA standards. More than 600 vehicles were unable to enter the network during the 2040 P.M. peak. However, based on the vehicles processed, the West Ramp intersection and 38th Street intersection were deficient with LOS "E" during the 2040 P.M. peak. Queues at the West Ramp and East Ramp extend back onto the interstate. During the 2040 A.M. peak all intersections operate at LOS "D" or better with no queuing concerns. The DDI alternative increases crossing crash potential by 23.7 percent and sideswipe crash potential by 18.0 percent but decreases rear end crash potential by 9.4 percent.

Value planning scores for this alternative can be seen in Table 7-21: 32nd Avenue/US 81B Diverging Diamond Interchange Alternative (Existing Interstate Access Scenario)with planning level design layout in Figure 7-29.

Table 7-21: 32nd Avenue/US 81B Diverging Diamond Interchange Alternative (Existing Interstate Access Scenario)

	Results (2040 Conditions)	Score
Local Operations	» A.M. Peak Average: 23.2, LOS "C" » P.M. Peak Average: 50.8, LOS "D"	0*
Mainline Operations	» Average A.M. Peak: 13.3, LOS "B" » Average P.M. Peak: 77.0, LOS "F"	0*
Environmental Impacts	» No significant environmental impacts. Two acres of ROW required and some access revisions.	6
Safety	1.3% increase in crash potential when compared against Widen Only Alternative » 23.7% Increase in Crossing Crash Potential » 9.4% Reduction in Rear End Crash Potential » 18.0% Increase in Sideswipe Crash Potential	9
Cost	» $22.1 Million	6
Total		21

*Score of zero assigned because model not calibrated. Not all delay considered.

Diverging Diamond Partial Cloverleaf

Additional analysis was completed for the 2040 P.M. peak hour using a diverging diamond partial cloverleaf design, shown in Figure 7-23. This uses a diverging diamond interchange concept with bypass lanes to a northwest loop ramp and southeast loop ramp. It would require access control at the 42nd Street west frontage road, double left-turn lanes on all approaches at 38th Street and would require significant bridge widening. This design has similar free flow movements and signal phase efficiency as the DDI alternative.

This alternative was only analyzed under the 2040 P.M. peak hour to determine if further analysis should be completed. With 4.7 percent latent demand it was technically calibrated. However, the 44th Street and 38th Street intersections were still deficient and queueing onto I-29 still occurred. Since this alternative did not have acceptable operations, no further analysis was completed.

Figure 7-23: Diverging Diamond Partial Cloverleaf Alternative (Existing Interstate Access Scenario)

Summary of Alternatives Under Existing Interstate Access Scenario

The growth areas planned for the southwest metro result in more than 160 percent growth on 32nd Avenue/US 81B as this corridor is the only access across and onto I-29. This growth results in extreme congestion, to an extent where three of the five alternatives (WO, NWL, DDI) analyzed cannot process at least 95 percent or more of projected 2040 P.M. peak hour traffic, resulting in the inability to properly calibrate the alternatives. The remaining two alternatives that meet calibration standards do not meet local or mainline operations standards, with deficient intersection operations and queues onto the interstate. **None of the alternatives studied under the Existing Interstate Access Scenario, without a 47th Avenue interchange, meet the established PNS because they cannot improve operations to an acceptable level.**

The SWL Alternative scored highest based on the value planning criteria. It was able to accept 97 percent of the forecasted volumes for 2040 P.M. peak but provides deficient local operations. It improves crash potential but does require access management at the 42nd Street west frontage road. The summary of value planning scores is shown in Table 7-22.

Table 7-22: Summary of 32nd Avenue/US 81B Interchange Alternatives Under Existing Interstate Access Scenario

Alternative	Local Operations	Mainline Operations	Environmental Impacts	Safety	Cost	Technical Total	Technical Rank
WO	0	0	8	9	10	27	2
CER	5	4	6	0	0	15	4
NWL	0	0	6	4	2	12	5
SWL	5	7	6	10	5	33	1
DDI	0	0	6	9	6	21	3

47TH AVENUE INTERCHANGE SCENARIO

The 47th Avenue interchange would likely have significant impacts on 32nd Avenue/US 81B, expected to reduce traffic on 32nd Avenue/US 81B by more than 40 percent. The Spot Improvement Alternative was analyzed specifically for the 47th Avenue Interchange Scenario. This alternative includes

- At 38th Street, extend the eastbound right-turn lane (435 feet, full width) and install double left-turn lanes on the eastbound, westbound and southbound approaches.
- At the East Ramp, a double right-turn lane on the northbound off-ramp.
- Traffic control signal and access modification at the 42nd Street west frontage road intersection.
- Queue flushing on the off-ramps
- Pedestrian crossing enhancements at the ramp intersections that includes pedestrian actuation and prohibits right-turns.
- Reconstruct or major rehabilitation of pavement from the East Ramp to Columbia Road.

Under this alternative, all study intersection are LOS "D" or better; the ramp intersections operate at LOS "C" or better during both peak hours through 2040. This alternative would minimize queueing onto the interstate and improve traffic flow, which should mitigate some of the most prevalent crash trends. The signal at the 42nd Street west frontage road and improvements to the existing signal timing should improve pedestrian crossing safety. This analysis suggests constructing a 47th Avenue interchange would mitigate almost all improvements necessary on 32nd Avenue/US 81B.

Value planning scores for this alternative can be seen in Table 7-23 with planning level design layout in Figure 7-30.

Table 7-23: 32nd Avenue/US 81B Spot Improvement Interchange Alternative Under 47th Avenue Interchange Scenario

	Results (2040 Conditions)	Score
Local Operations	▪ A.M. Peak Average: 16.7, LOS "B" ▪ P.M. Peak Average: 31.9, LOS "C"	7
Mainline Operations	▪ Average A.M. Peak: 9.6, LOS "A" ▪ Average P.M. Peak: 18.6, LOS "C"	8
Environmental Impacts	▪ No additional environmental impacts expected.	8
Safety	▪ No change in crash potential expected. » 15.0% Crossing Crash Potential » 33.2% Rear End Crash Potential » 51.8% Sideswipe Crash Potential	6
Cost	▪ $700,000 plus the cost of interchange at 47th Avenue (discussed in next chapter)	10
Total		39

Other Alternatives

Other interchange alternatives were studied under the 47th Avenue Interchange Scenario, which reduces traffic on 32nd Avenue/US 81B by more than 40 percent. These alternatives do provide some benefits to local and mainline operations and safety. Brief descriptions are provided below with a summary table and layouts at the end of this chapter.

Consolidated East Ramp

The Consolidated East Ramp Alternative (CER) was identified in the 2040 LRTP but could not be cost constrained. It would realign 42nd Street east of I-29 with the East Ramp. This helps split southbound traffic at 38th Street, which is a major bottleneck along the corridor. A signal was included for 42nd Street west frontage road. During the 2040 P.M. peak the 38th Street intersection operates deficiently at LOS "E" with long queues on the minor approaches. No queueing or delay concerns during the 2040 A.M. peak.

This alternative comes at a cost of $15.7 million, plus the cost of the interchange at 47th Avenue, estimated between $23.2 and $28.5 million, discussed in the next section.

Value planning scores for this alternative can be seen in Table 7-24 with planning level design layout in Figure 7-31.

Northwest Loop Ramp

The Northwest Loop Ramp Alternative (NWL) adds a loop ramp for the westbound to southbound movements onto I-29 in the northwest quadrant. Due to the posted speeds and the ROW constraints, only a small radius could be constructed. This requires parallel merge lanes to ensure safe and efficient merging, which would likely be incompatible with a 47th Avenue interchange. The addition of the northwest loop helps eliminate crossing conflicts by converting a left-turn to a free right. The right-turn slip ramp on the southbound I-29 on-ramp requires access management at the 42nd Street west frontage road. A backage road was configured with a signal incorporated at 44th Street. During the 2040 P.M. peak all intersections operate efficiently, including 38th Street. However, there are long queues anticipated on the minor approaches at 38th Street. No queuing or delay concerns during the 2040 A.M. peak.

This alternative comes at a cost of $14.2 million, plus the cost of the interchange at 47th Avenue, estimated between $23.2 and $28.5 million, discussed in the next section.

Value planning scores for this alternative can be seen in Table 7-24 with planning level design layout in Figure 7-32.

Southwest Loop Ramp

The Southwest Loop Ramp Alternative (SWL) adds a loop ramp for the southbound to eastbound movements off of I-29 in the southwest quadrant. This configuration supports more than 400 vehicles during the 2040 P.M. peak hour, eliminating one signal phase and permitting right-turn-on-reds to improve through-put. No queueing is expected on the interstate ramps, but large queues build up at 38th Street and the 42nd Street west frontage road. A signal was included for 42nd Street west frontage road. There are some queueing concerns on the minor approaches at 38th Street. All other intersections operate effectively at LOS "D" or better. No queueing or delay concerns during the 2040 A.M. peak.

This alternative comes at a cost of $11.0 million, plus the cost of the interchange at 47th Avenue, estimated between $23.2 and $28.5 million, discussed in the next section.

Value planning scores for this alternative can be seen in Table 7-24 with planning level design layout in Figure 7-33.

Diverging Diamond Interchange

The Diverging Diamond Interchange Alternative (DDI) requires the two directions of traffic on 32nd Avenue/US 81B to cross to the opposite side of the road over I-29. This allows left-turning and right-turning traffic to perform a free flow movement onto the interstate on-ramp. The free-flowing movements reduce the signal phases to two at each intersection, significantly reducing delays. The right-turn slip ramp on the southbound I-29 on-ramp requires access management at the 42nd Street west frontage road. A backage road was configured with a signal incorporated at 44th Street. All intersections operate efficiently during the 2040 A.M. and P.M. peak. There are some queuing issues on the minor approaches at 38th Street during the 2040 P.M. peak.

This alternative comes at a cost of $8.5 million, plus the cost of the interchange at 47th Avenue, estimated between $23.2 and $28.5 million, discussed in the next section.

Value planning scores for this alternative can be seen in Table 7-24 with planning level design layout in Figure 7-34.

Table 7-24: 32nd Avenue/US 81B Alternatives Under 47th Avenue Interchange Scenario

	SI		CER		NWL		SWL		DDI	
	Results	Score	Results	Score	Results	Score	Results	Score	Results	Score
Local Operations	» A.M. Peak: 16.7, LOS "B" » P.M. Peak Average: 31.9, LOS "C"	7	» A.M. Peak: 18.2, LOS "B" » P.M. Peak Average: 37.0, LOS "D"	7	» A.M. Peak: 16.1, LOS "B" » P.M. Peak Average: 24.1, LOS "C"	7	» A.M. Peak: 16.1, LOS "B" » P.M. Peak Average: 33.4, LOS "C"	7	» A.M. Peak: 13.9, LOS "B" » P.M. Peak Average: 23.5, LOS "C"	8
Mainline Operations*	» A.M. Peak: 9.6, LOS "A" » P.M. Peak: 18.6, LOS "C"	8	» A.M. Peak: 14.5, LOS "B" » P.M. Peak: 19.2, LOS "C"	8	» A.M. Peak: 13.3, LOS "B" » P.M. Peak: 18.4, LOS "C"	8	» A.M. Peak: 13.5, LOS "B" » P.M. Peak: 18.0, LOS "C"	8	» A.M. Peak: 13.0, LOS "B" » P.M. Peak: 18.1, LOS "C"	8
Environmental Impacts	» No additional environmental impacts expected.	8	» 3.5 Acres of ROW required. No access changes.	6	» 2 Acres of ROW required. Access management at 42nd Street west frontage road.	6	» 2 Acres of ROW required. No access changes.	6	» 2 Acres of ROW required. Access management at 42nd Street west frontage road.	6
Safety	Baseline Crash Potential Distribution for Comparison » 15.0% Crossing » 33.2% Rear End » 51.8% Sideswipe	6	43.2% Increase in Crash Potential Compared to SI » 140.9% Increase in Crossing Crash Potential » 40.5% Decrease in Rear End Crash Potential » 82.2% Increase in Sideswipe Crash Potential	0	4.1% Decrease in Crash Potential Compared to SI » 0.9% Decrease in Crossing Crash Potential » 10.5% Decrease in Rear End Crash Potential » 0.3% Decrease in Sideswipe Crash Potential	9	5.0% Decrease in Crash Potential Compared to SI » 42.2% Increase in Crossing Crash Potential » 32.0% Decrease in Rear End Crash Potential » 4.9% Increase in Sideswipe Crash Potential	10	20.0% Increase in Crash Potential Compared to SI » 130.9% Increase in Crossing Crash Potential » 7.6% Increase in Rear End Crash Potential » 9.5% Increase in Sideswipe Crash Potential	5
Cost	» $700,000	10	» $15.7 Million	0	» $14.2 Million	1	» $11.0 Million	3	» $8.5 Million	5
Total	39		21		31		34		32	
Rank	1		5		4		2		3	

*Mainline operations does not incorporate friction between 32nd Avenue and 47th Avenue. This is discussed in greater detail in the next section.

47TH AVENUE

During the Macro Level Analysis completed for this study, the 47th Avenue interchange was studied to address future long-term development in southern Grand Forks. This analysis found an interchange at this location would reduce vehicle hours traveled by 4.4 million hours from 2025 to 2040 and vehicle miles traveled by 53.3 million miles from 2025 to 2040. This interchange is also estimated to reduce traffic on 32nd Avenue/US 81B by 40.3 percent, which is likely significant enough to prevent widening on 32nd Avenue/US 81B. However, the analysis also estimated a 21 percent increase in traffic on I-29. This increase in traffic on mainline I-29 may present merging, weaving and diverging challenges. Unlike analysis completed for other interchanges in this report, impacts between 32nd Avenue/US 81B and the 47th Avenue interchange alternatives were analyzed using the existing 32nd Avenue/US 81B on- and off-ramp configurations. Four alternatives were feasible based on the criteria established in this report.

- Traditional Diamond Interchange: A standard diamond interchange on the 47th Avenue alignment was considered the base alternative.
- Diamond with South Loops Interchange: A standard diamond interchange with a southeast loop ramp and southwest loop ramp on the 47th Avenue alignment. This alternative split the diverging movements to minimize the congestion between the 32nd Avenue/US 81B on-ramp and the 47th Avenue off-ramp. This provided improved operations at the ramp intersections by reducing the number of signal phases.
- Shifted Diamond with South Loops Interchange: A standard diamond interchange with a southeast loop on-ramp and southwest loop off-ramp shifted 0.25 miles south. This alternative also splits the diverging movements to minimize congestion but increases the spacing to allow more time for drivers to make the lane changes necessary.
- Shifted Diamond with No Business Impacts Interchange: This alternative is shifted 0.25 miles south and includes a southwest loop ramp for the on- and off-ramps and southeast loop on-ramp. This alternative avoids impacting the campground south of 47th Avenue and increases spacing between the 32nd Avenue/US 81B on-ramp and the 47th Avenue off-ramp.

ANALYSIS METHODOLOGY

These four alternatives were analyzed and presented below using the Value Planning approach detailed at the beginning of this report. The 47th Avenue interchange analysis is slightly different than the baseline methodology because it is a new interchange, with no existing conditions to compare.

MAINLINE OPERATIONS

Because of concerns regarding the I-29 mainline due to spacing and higher volumes, an alternative mainline analysis approach was used. Mainline operations for the 47th Avenue interchange analysis refers to the operations of I-29 between the merge and diverge points of 32nd Avenue/US 81B and 47th Avenue, including the 500-foot sections upstream and downstream of the 32nd Avenue/US 81B and 47th Avenue intersections. This change was made for two reasons: first, none of the alternatives analyzed on 47th Avenue found unique or deficient lane densities on the 500-foot section upstream of off-ramp and downstream of on-ramps; second, the nearly 14,000 ADT increase on I-29 associated with the 47th Avenue interchange could have capacity impacts outside of the interchange influence areas. Similar to the baseline methodology for mainline operations, the northbound and southbound densities were averaged to provide one score.

COST

Typically, the interchange alternatives would be scored using a distribution between highest cost alternative and lowest cost alternative. The Southwest Loop Alternative (SWL) for the 32nd Avenue/US 81B alternative under the Existing Interstate Access Scenario was the prioritized alternative based on technical criteria. The SWL was included in the range of costs to provide valuable context related to the true impacts of a 47th Avenue interchange; it has a cost of $23.5 million. The range of costs was scored using the Cost scoring criteria table established in the methodology section above.

INTERCHANGE ALTERNATIVES

Analysis presented below was completed using ADT forecasts from the 47th Avenue Interchange Scenario.

TRADITIONAL DIAMOND ALTERNATIVE

The Traditional Diamond Alternative (TD) is a standard diamond interchange with signals at the East Ramp, West Ramp and 38th Street intersections. It operates at LOS "D" or better for both 2040 A.M. and P.M. peak hours. There are no queueing concerns that would impact I-29. This alternative provides spacing challenges between the 32nd Avenue/US 81B southbound on-ramp and the 47th Avenue off-ramp, which results in some lane densities that fall to LOS "D" during the 2040 P.M. peak. This alternative will require relocation to the campground in the southwest quadrant but the least amount of right-of-way at 61 acres. Value planning scores for this alternative can be seen in Table 7-25 with planning level design layout in Figure 7-36.

Table 7-25: 47th Avenue Traditional Diamond Alternative

	Results (2040 Conditions – 47th Avenue Interchange Scenario)	Score
Local Operations	▪ A.M. Peak Average: 14.9, LOS "B" ▪ P.M. Peak Average: 32.6, LOS "C"	7
Mainline Operations	▪ A.M. Peak Average: 14.4, LOS "B" ▪ P.M. Peak Average: 29.3, LOS "D"	7
Environmental Impacts	▪ Limited ecological impacts with mitigation possible. Business impacts and relocation necessary. 63 acres of ROW needed.	6
Safety	▪ Baseline crash potential distribution for alternative comparison: » Crossing: 9.4% of total estimated crash potential » Rear End: 81.2% of total estimated crash potential » Lane Change: 9.4% of total estimated crash potential	0
Cost	▪ $24.6 Million	5
Total		25

DIAMOND WITH SOUTH LOOPS ALTERNATIVE

The Diamond with South Loops Alternative (DL) is a diamond interchange with a southeast loop ramp for eastbound to northbound on-ramp movements and a southwest loop ramp for southbound to eastbound off-ramp movements. By removing left-turns, some crossing conflicts are eliminated, as well as enabling the traffic control signal to operate with reduced phases, improving efficiency. This alternative operates effectively during both 2040 A.M. and P.M. peak hours and does not have queueing concerns. This alternative has the lowest estimated crash potential, as well as providing acceptable levels of service for local operations, but does require business impacts and 87 acres of ROW needed, the most of all four build alternatives. As for mainline operations, this alternative does result in some lane densities between 32nd Avenue/US 81B and 47th Avenue falling to LOS "D" during the 2040 P.M. peak. Value planning scores for this alternative can be seen in Table 7-26 with planning level design layout in Figure 7-37.

Table 7-26: 47th Avenue Diamond with South Loops Alternative

	Results (2040 Conditions – 47th Avenue Interchange Scenario)	Score
Local Operations	▪ A.M. Peak Average: 12.0, LOS "B" ▪ P.M. Peak Average: 15.3, LOS "B"	9
Mainline Operations	▪ A.M. Peak Average: 14.8, LOS "B" ▪ P.M. Peak Average: 29.3, LOS "D"	6
Environmental Impacts	▪ Limited ecological impacts with mitigation possible. Business impacts and relocation necessary. 63 acres of ROW needed.	6
Safety	▪ 59.4% Reduction in Crash Potential when Compared Against Diamond » 29.1% reduction in crossing crash potential » 68.1% reduction in rear end crash potential » 15.0% reduction in sideswipe crash potential	10
Cost	▪ $27.2 Million	1
Total		32

DIAMOND WITH SOUTH LOOPS AND MIXING LANES ALTERNATIVE

The Diamond with South Loops and Mixing Lanes Alternative (DLM) is the same interchange configuration as above but includes mixing lanes (also referred to as auxiliary lanes, speed-change lane or acceleration lane) between 32nd Avenue/US 81B and 47th Avenue to improve lane density during the peak hours. This requires about 1,000 feet of extra lane length for each direction of traffic on I-29. These mixing lanes would keep lane densities at LOS "A" during the 2040 A.M. peak and LOS "C" during the 2040 P.M. peak. Local operations, environmental impacts and safety remain unchanged. Value planning scores for this alternative can be seen in Table 7-27. Planning level designs at the interchange are similar to Figure 7-37.

Table 7-27: 47th Avenue Diamond with South Loops and Mixing Lanes Alternative

	Results (2040 Conditions – 47th Avenue Interchange Scenario)	Score
Local Operations	▪ A.M. Peak Average: 12.0, LOS "B" ▪ P.M. Peak Average: 15.3, LOS "B"	9
Mainline Operations	▪ A.M. Peak Average: 10.9, LOS "A" ▪ P.M. Peak Average: 18.8, LOS "C"	8
Environmental Impacts	▪ Limited ecological impacts with mitigation possible. Business impacts and relocation necessary. 63 acres of ROW needed.	6
Safety	▪ 59.4% Reduction in Crash Potential when Compared Against Diamond » 29.1% reduction in crossing crash potential » 68.1% reduction in rear end crash potential » 15.0% reduction in sideswipe crash potential	10
Cost	▪ $28.5 Million	0
Total		33

SHIFTED DIAMOND WITH SOUTH LOOPS ALTERNATIVE

The Shifted Diamond with South Loops Alternative (SDL) is the same geometric design as the South Loops Interchange Alternative, just shifted 0.25 miles south. This improves spacing between the 32nd Avenue/US 81B interchange. This alternative operates effectively both on local and mainline operations. However, during the 2040 P.M. peak, some lane densities fall to LOS "D". This alternative improves estimated crash potential, when compared against the Diamond Interchange. It also impacts the campground and will require a buyout and 78 acres of ROW needed. Value planning scores for this alternative can be seen in Table 7-28 with planning level design layout in Figure 7-38.

Table 7-28: 47th Avenue Shifted Diamond with South Loops Alternative

	Results (2040 Conditions – 47th Avenue Interchange Scenario)	Score
Local Operations	▪ A.M. Peak Average: 11.7, LOS "B" ▪ P.M. Peak Average: 14.5, LOS "B"	9
Mainline Operations	▪ A.M. Peak Average: 14.2, LOS "B" ▪ P.M. Peak Average: 26.8, LOS "D"	7
Environmental Impacts	▪ Limited ecological impacts with mitigation possible. Business impacts and relocation necessary. 78 acres of ROW needed.	5
Safety	▪ 57.5% Reduction in Crash Potential when Compared Against Diamond » 34.8% reduction in crossing crash potential » 66.7% reduction in rear end crash potential » 1.4% reduction in sideswipe crash potential	» 9
Cost	▪ $27.6 Million	1
Total		31

SHIFTED DIAMOND WITH NO BUSINESS IMPACTS

The Shifted Diamond with No Business Impacts Alternative (SNI) shifts the interchange alignment 0.25 miles south and folds the southbound off-ramp to eliminate the business impacts. This alternative operates effectively during both 2040

A.M. and P.M. peak hours with no queueing concerns that would impact I-29. It improves crash potential when compared against the Diamond Interchange alternative with effective local and mainline operations. Eliminating the business impacts and low ROW needed helps this alternative score high in the Environmental Impacts category and Cost. Value planning scores for this alternative can be seen in Table 7-29 with planning level design layout in Figure 7-39.

Table 7-29: 47th Avenue Shifted Diamond with No Business Impacts Alternative

	Results (2040 Conditions – 47th Avenue Interchange Scenario)	Score
Local Operations	▪ A.M. Peak Average: 11.4, LOS "B" ▪ P.M. Peak Average: 16.9, LOS "B"	9
Mainline Operations	▪ A.M. Peak Average: 14.3, LOS "B" ▪ P.M. Peak Average: 26.7, LOS "D"	7
Environmental Impacts	▪ Limited ecological impacts with mitigation possible. No business impacts. 59 acres of ROW needed.	6
Safety	▪ 56.9% Reduction in Crash Potential when Compared Against Diamond » 12.7% increase in crossing crash potential » 70.2% reduction in rear end crash potential » 11.4% reduction in sideswipe crash potential	9
Cost	▪ $23.2 Million	10
Total		41

SUMMARY OF ALTERNATIVES

The Shifted Folded Southbound Off-Ramp Interchange Alternative scored highest on the Value Planning analysis with strong scores in local and mainline operations, safety and low cost. It does not require impacts which improves its environmental impact score relative to other alternatives for 47th Avenue.

The value planning scores summary for 47th Avenue interchange alternatives is shown in Table 7-30.

Table 7-30: Summary of 47th Avenue Interchange Alternatives

Alternative	Local Operations	Mainline Operations	Environmental Impacts	Safety	Cost	Technical Total	Technical Rank
TD	7	7	6	0	5	25	5
DL	9	6	6	10	1	32	3
DLM	9	8	6	10	0	33	2
SDL	9	7	5	9	1	31	4
SNI	9	7	6	9	10	41	1

STEERING COMMITTEE RANKING

As part of the Value Planning workshop, the Steering Committee was asked to rank the alternatives; the Diamond with South Loops and Mixing Lanes and the Shifted Diamond with No Business Impacts were tied with 33.3 percent of the Steering Committee ranking each as their first choice.

those improvements included in the I-29 Corridor Study, none are currently cost constrained in the GF-EGF MPO Long Range Transportation Plan (LRTP).

Needs Comparison

Comparing needs for different improvements can be a very complicated process. For example, how do you compare a railroad grade separation improvement to a new interchange to a new loop? A railroad grade separation generates major delays but only occurs a few times per day, mostly during off-peak periods. A new interchange may provide massive relief for several hours of the day but may not be needed for several years.

The current Transportation Improvement Program (TIP) process utilizes a project scoring and ranking process. A more technically based project specific evaluation process was needed to support the I-29 Corridor Study Implementation Plan. To assess needs, a five point needs index was developed to show relative need. This starts with the technical information compiled in this study and other studies as necessary to compare quantified benefits. Quantified benefits incorporate vehicle hours of delay, vehicle miles travelled and crash reduction factors. For example, the 2040 yearly quantified benefits for an interchange at 47th Avenue is $3.2 million and for a railroad grade separation at 42nd Street and DeMers Avenue is $0.6 million. Where quantified benefits were not readily available, level of service and railroad crossing exposure were compared.

This information was used to provide an educated estimate of need for every improvement over $1 million for existing, 2025 and 2040 time periods. This information will be refined by the Steering Committee. The results are illustrated in Table 8-2.

Table 8-2: Needs by Year

Location	Improvement	Need			
		Existing	2025	2040	Notes
North Washington Street/CR 11/US 81	Interchange and Access Improvements	0	0.5	1	The Washington Street improvements are preventive in nature and not based on quantified deficiencies.
Gateway Drive/US 2	Interchange Improvements	1	2	5	The Gateway Drive interchange operates at LOS "F" by 2040.
	Railroad Grade Separation	2	2.5	3	Queuing onto the interstate when train events and peak hours coincide. The railroad grade separation has a crossing exposure of 245,000 by 2040.*
DeMers Avenue/ND 297	Interchange Improvements	2	4	5	The DeMers Avenue interchange operates at LOS "E" by 2025 and LOS "F" by 2040.
	42nd Street Railroad Grade Separation	3	3.5	4	The grade separation has a yearly quantified benefit of $0.6 million dollars by 2040 and crossing exposure of 749,700 by 2040.*
32nd Avenue/US 81B	New Interchange at 47th Avenue	2	5	5	32nd Avenue Operates at LOS "F" by 2025, has a yearly quantified benefit of $3.2 M by 2040.
Merrifield Road/CR 6	New Interchange	2.5	3	3.5	The Merrifield Interchange has a yearly quantified benefit of 2.4 million dollars by 2040.

0 = No need, 5 = Greatest Need

* Based on previous study, may require updating

LONG RANGE: 2031-2040+

This stage represents year 11 and beyond the current TIP and extends to the life of the current 2040 Long Range Transportation Plan (LRTP). Figure 8-6 demonstrates the long-range phase of project development efforts required to implement the I-29 Corridor Study.

Costs shown demonstrate a year of expenditure estimate to the mid-range of the phase for which construction is anticipated per the I-29 Corridor Study. Projects in the mid-range are adjusted to YOE of 2036. Table 8-3 demonstrates a more descriptive dialogue of the implementation efforts needed at each phase of implementation for the most significant projects. Table 8-3 should be treated as a tentative set of actions needed to address needs identified by the I-29 Corridor Study. As additional planning and programming efforts unfold beyond the completion of the I-29 Corridor Study, these assumptions may change.

Stages of Project Development & Delivery

The I-29 Implementation Plan assists with stratifying the stage of planning and project development required to deliver each of the above mentioned projects. This is specifically important for more of the complex projects and for those projects which will require additional scoping to move out of the planning phase and deeper into advanced project development. The Implementation Plan has been developed around the following generalized Stages of Project Delivery:

- **Planning & Environmental (Preliminary Engineering/Scoping)**: Reflects additional planning or project level scoping to continue to define and delineate alternatives and project feasibility. This phase also includes the transition into the development of relevant environmental documentation. In many cases, the alternatives developed as part of the I-29 Corridor Study are assumed to be ready to move further into project development (i.e. environmental/NEPA). In the case of interchanges at 47th Avenue and Merrifield Road/CR 6, this phase includes completion of an IJR. However, some of these actions may not result in a signed environmental document until such time as Federal funds are programmed, or FHWA fiscal constraint requirements can be met.
- **Right-of-Way, Design and Construction (Advanced Project Development):** Reflects efforts following completion of a signed environmental document. These are stages of advanced project development involving actual final design and right of way. Included in this phase would also be efforts to secure final programming (or project selection). Advanced project development includes the construction phase.

The implementation plan will assign one of these two general categories to identified improvements listed in the I- 29 Corridor Study. Smaller less significant projects which will likely fit more easily into the GF-EGF TIP or move quickly in the first phase or two are not noted. For more complex projects, the transition through these stages is more gradual, and more thoughtfulness is needed on how these projects continue to transition out of planning and further into project development.

32ND AVENUE/US 81B NEEDS

Due to the major investment needed at 32nd Avenue/US 81B, and the coordinated needs between 32nd Avenue/US 81B and 47th Avenue, additional analysis was completed to determine the approximate thresholds where 32nd Avenue/US 81B begins to breakdown. This analysis increased the modeled traffic volumes based on linear growth between the existing and approved 2025 ADT projections and then between the approved 2025 ADT and 2040 ADT projections.

- According to the 2025 P.M. peak hour analysis, deficiencies along the corridor emerged. However, there are key issues that emerge before 2025.
  - » At around 40 percent (2019) of the growth between 2015 and 2025, deficient operations are expected at 38th Street.
  - » By 70 percent (2022) of the growth between 2015 and 2025, the northbound off-ramp begins to queue onto the interstate.
  - » By 2025, deficient operations are expected at the West Ramp, East Ramp and 38th Street intersections during the P.M. peak hour.

- With the Spot Improvements on 32nd Avenue/US 81B, 2025 operations are improved to LOS "D" across the corridor. However, as growth continues capacity constraints on the overpass bridge begin to emerge around 2030, or 30 percent of growth expected between 2025 and 2040. The capacity constraints result in deficient operations at the West Ramp intersection and queues onto the interstate.

Figure 8-2: 2015 to 2025 Growth Thresholds with Existing Configuration on 32nd Avenue/US 81B

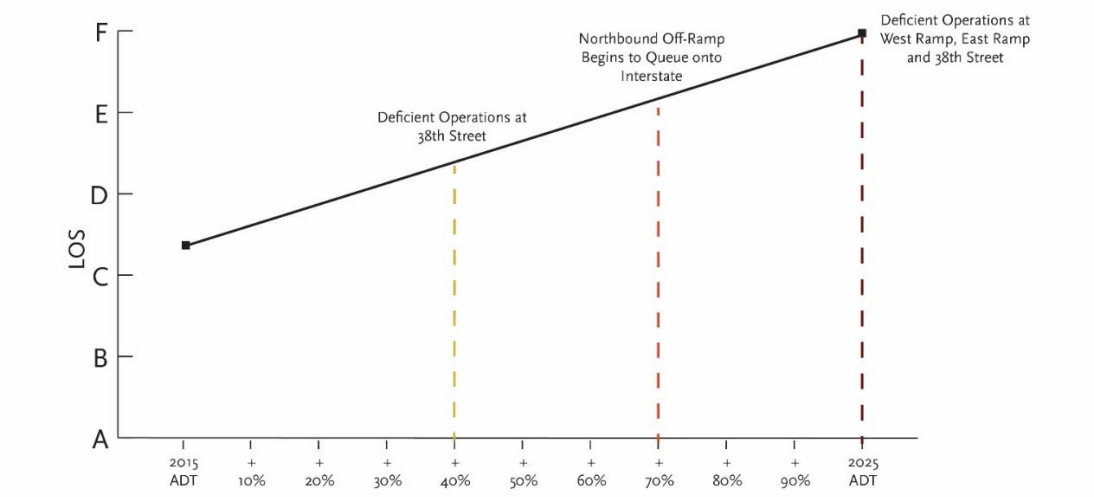
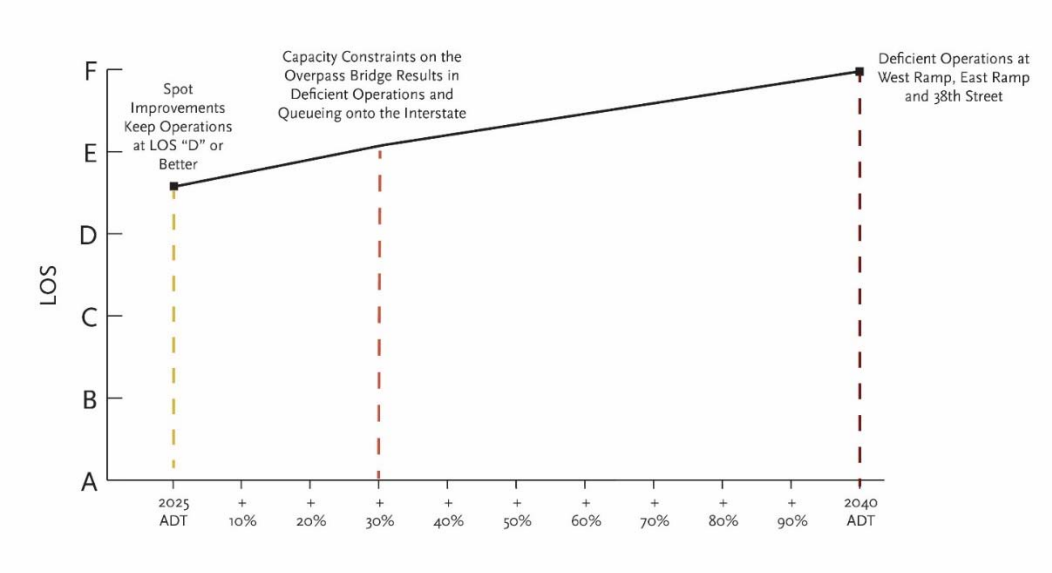


Figure 8-3: 2025 to 2040 Growth Thresholds with Spot Improvements on 32nd Avenue/US 81B



ANCILLARY INVESTMENTS TO SUPPORT 47TH AVENUE INTERCHANGE

As noted, the Implementation Plan for the I-29 Corridor Study is not cost constrained. Further, it is a demonstration of needed improvements more narrowly focused on the I-29 Corridor and adjacent systems. To that end, development of a future interchange at 47th Avenue will require substantial additional investment in local roadways. In current year dollars, total needs to provide local roadway system to support 47th Avenue is estimated at nearly $17.0 million. This system of roadways is shown as part of Figure 8-1 and Figure 8-4, and includes extension and/or completion of 34th Street, 38th Street,

Grade Separation) are shown with a potential for Regional funding. Urban funds are shown on both Regional and or Interstate projects. This is done to indicate that broad partnerships may be needed to fully program these investments on a more accelerated time frame.

Programming Splits

Table 8-5 demonstrates a tentative set of programming and cost splits for the most significant project improvements identified through the I-29 Corridor Study. These cost splits are based upon current local, state and federal funding guidance. More specific guidance regarding local, state and federal funding splits is available in the *NDDOT Local Government Manual*. These splits generally follow that guidance, however Table 8-5 represents a best-case scenario. It is likely many of these improvements will require more local resources to construct improvements in the phases identified by the I-29 Corridor Study.

Table 8-5: Funding Matrix

Project	Total Cost (2017 $)	Total Cost (YOE $)	Funding Split (YOE $)			
			Federal	State	City	County
North Washington/CR 11/US 81						
Access Modification + Ramp Modification	**$5.700**	**$12.489**	$9.99	$1.25	$0.000	$1.25
Gateway Drive/US 2						
Northeast Loop Modification	**$6.600**	**$14.461**	$11.57	$1.45	$1.45	$0.000
Gateway Drive Grade Separation	**$28.300**	**$62.009**	$49.61	$6.20	$6.20	$0.000
DeMers Avenue/ND 297						
42nd Street Grade Separation*	**$40.000**	**$61.578**	$21.55	$0.000	$40.026	$0.000
Capacity Enhancements (No Bridge Widening)	**$7.400**	**$9.003**	$7.20	$0.90	$0.90	$0.000
32nd Avenue/US 81B						
Reconstruct 38th Street to Columbia Road	**$12.000**	**$18.473**	$14.78	$1.85	$1.85	$0.000
47th Avenue						
Construct New Interchange	**$28.500**	**$43.874**	$39.49	$4.39	$0.000	$0.000
Merrifield Road/CR 6						
Modify Overpass to Full Interchange	**$16.480**	**$36.110**	$32.50	$3.61	$0.000	$0.000

** 25% Urban Roads + 10% Regional; Balance of cost Local*
***YOE costs were estimated using the midpoint of the implementation phase for which they are anticipated to be constructed.*

URBAN REGIONAL & URBAN ROADS
PROJECT SCOPING WORKSHEET

DATE: 11/15/2015

PRIORITY# US Highway 2/Gateway Drive Mill and Overlay - 2021

City: Grand Forks Street: US Highway 2/Gateway Dr

County: Grand Forks Length: ~1 mile

Proposed Improvement: 3" Asphalt Mill & Overlay and Chipseal of US Highway 2/Gateway Dr (N 55th St to N 69th St)

Cost Estimates Breakdown (in $1,000)							
Alternate	PE	R/W	Utility	Constr.	Bridges	Misc.	Total
				567			567

Present Road: Surface Width? 4 lane divided Surface Type? Asphalt

On Street Parking Allowed? _____ Present: (No) One Side Both Sides Angle Parallel
Proposed: (No) One Side Both Sides Angle Parallel

Proposed Improvements

ADT Present: _____ Yr: _____ Travel Way Width : _____
ADT Design: _____ Design year _____ No. of Lanes: 4
Design Speed: 40 MPH Roadway Width: 41 x 2
Maximum Curve: _____ Min. R/W Width:_____
Maximum Grade: _____

Right of Way

Will Additional ROW or easement be acquired? no ROW acquisition by: City (DOT)
Has any ROW easements been acquired since 7-1-72: No ROW Condemnation by: City (DOT)
Est. No. of occupied family dwelling to be displaced? 0
Est. No. business to be displaced? 0

Impacts

Will there be any additional Impacts (Cultural and Environmental Resources): None Anticipated

Will there be any impacts to 4(f) or 6(f) properties: None anticipated
Airports: _None Anticipated Public Hearings: Maybe
Environmental Classification (Cat-Ex, EA, EIS): Cat-Ex of DCE
Transportation Enhancements: _____
Intermodal: _____
Pedestrian Needs: _____

Railroads Crossings						
RR Name	No. Xings	No. Tracks and Type of Crossing	Daily Train Movements	Train Speed	Present Protection	Proposed Protection
	NA					

Purpose and Need Statement

The Purpose and Need Statement should address the following issues:

1. When was the current street section built. Has there been any additional maintenance to the street section.

2. How many driving lanes and turning lanes does the street section currently have and what is the widths of the driving and turning lanes.
   Four 12’ wide driving lanes

3. What is the condition of the pavement section.

   A. If the pavement section is asphalt, is there any alligator cracking, longitudinal cracking, transverse cracking, raveling, bituminous patching or rutting.
   B. If the pavement section is concrete, is there any broken slabs, faulting, bituminous patching, joint spalling, transverse cracking, or longitudinal cracking.

4. How are the existing geometrics of the roadway?
   Existing Geometrics appear to be satisfactory

5. Are there any access points to adjoining properties that present a special concern?
   There are no known special concerns

6. Are there any existing sidewalks or shared use path in place?
   No

7. What is the condition of the existing storm sewer? Will any additional storm sewer work need to be done along with this project?
Existing storm sewer consists of a network of culverts. No storm sewer work is anticipated at this time

8. What is the condition of the city's water and sewer line? Will any work have to be done to the city's water and sewer lines along with this project?
No work on the city's water or sewer lines are anticipated with this project

9. Describe the existing lighting system currently in place? What type of standards and luminaires are currently being used?
There is no street lighting along this portion of US 2/Gateway Dr

10. What intersections currently have traffic signals? Are there any locations that have a high accident rate? Are additional turning lanes needed?
The intersection of N 55th St and US 2/ Gateway Dr is anticipated to have a traffic signal installed in 2019.

Remarks:

City Engineer: _____ Date: 11/28/18

District Engineer: _____ Date: 12/3/18

Note: Please attach a map showing location and extent of the project.

US 2/Gateway Dr (N 55th St to N 69th St) Mill and Overlay

Legend

- Intersections
- Boundary City Limit
- Boundary Gray Area
- EGF Streets
- Road Labels

Notes

1,600.0 0 800.00 1,600.0 Feet

NAD_1983_StatePlane_North_Dakota_North_FIPS_3301_Feet
City of Grand Forks GIS

URBAN REGIONAL & URBAN ROADS
PROJECT SCOPING WORKSHEET

DATE: 11/27/2018

PRIORITY# Minor Arterial Bus US 2/N 5th St Chip Seal in 2022

City: Grand Forks Street: Bus US 2/N 5th St (SH 297/Demers Ave to US 2/Gateway Dr)

County: Grand Forks Length: 1 mile

Proposed Improvement: Chip seal

Cost Estimates Breakdown (in $1,000)							
Alternate	PE	R/W	Utility	Constr.	Bridges	Misc.	Total
				45			45

Present Road: Surface Width? 47' Surface Type?Asphalt

On Street Parking Allowed? Yes Present: No One Side (Both Sides) Angle (Parallel)
Proposed: No One Side (Both Sides) Angle (Parallel)

Proposed Improvements

ADT Present:5,710 Yr: 2017 Travel Way Width : 47'
ADT Design: 7,370 Design year 2037 No. of Lanes: 2
Design Speed: 25mph/30mph Roadway Width: 47'
Maximum Curve: _____ Min. R/W Width:_____
Maximum Grade: _____

Right of Way

Will Additional ROW or easement be acquired? No ROW acquisition by: City DOT
Has any ROW easements been acquired since 7-1-72: No ROW Condemnation by: City DOT
Est. No. of occupied family dwelling to be displaced? _0
Est. No. business to be displaced? 0

Impacts

Will there be any additional Impacts (Cultural and Environmental Resources): No impacts are anticipated
Will there be any impacts to 4(f) or 6(f) properties: No impacts are anticipated
Airports: No impacts are anticipated Public Hearings: Maybe
Environmental Classification (Cat-Ex, EA, EIS): CED or PCE
Transportation Enhancements: No enhancements are anticipated
Intermodal: No enhancements are anticipated
Pedestrian Needs: No enhancements are anticipated

Railroads Crossings						
RR Name	No. Xings	No. Tracks and Type of Crossing	Daily Train Movements	Train Speed	Present Protection	Proposed Protection
	NA					

Purpose and Need Statement

The Purpose and Need Statement should address the following issues:

1. When was the current street section built. Has there been any additional maintenance to the street section.
   This section is anticipated to be milled and overlaid with asphalt in 2020

2. How many driving lanes and turning lanes does the street section currently have and what is the widths of the driving and turning lanes.
   Typically there are two driving lanes, with the occasional left turn lane located near traffic signals

3. What is the condition of the pavement section.
   The pavement section is anticipated to be milled and overlaid with asphalt in 2020, it is anticipated that at the time of this project the pavement condition should be in good to excellent condition

4. How are the existing geometrics of the roadway?
   Existing geometrics of the roadway appear to be satisfactory

5. Are there any access points to adjoining properties that present a special concern?
   There are no access points of concern

6. Are there any existing sidewalks or shared use path in place?
   There are sidewalks located on both sides of the road

7. What is the condition of the existing storm sewer? Will any additional storm sewer work need to be done along with this project?
There is no storm sewer work anticipated with this project

8. What is the condition of the city's water and sewer line? Will any work have to be done to the city's water and sewer lines along with this project?
There is no sewer or water main work anticipated with this project

9. Describe the existing lighting system currently in place? What type of standards and luminaires are currently being used?
40' Steel davit arm style poles with staggered spacing and 250W HPS fixtures

10. What intersections currently have traffic signals? Are there any locations that have a high accident rate? Are additional turning lanes needed?
Traffic Signals are located along Bus US 2/N 5th St at the following intersections: SH 297/Demers Ave, 1st Ave N, 2nd Ave N, University Ave 5th Ave N, and US Hwy 2/Gateway Dr

Remarks:

City Engineer: _____ Date: 11/28/18

District Engineer: _____ Date: 12/3/18

Note: Please attach a map showing location and extent of the project.

Bus US 2/N 5th St (SH 297/Demers Ave to US 2/Gateway Dr) Chip Seal

Legend

- Intersections
- Boundary City Limit
- Boundary Gray Area
- EGF Streets
- Road Labels

Notes

1,600.0 0 800.00 1,600.0 Feet

NAD_1983_StatePlane_North_Dakota_North_FIPS_3301_Feet
City of Grand Forks GIS

PROJECT SCOPING WORKSHEET

DATE: 11/28/2018

PRIORITY: Interstate system I-29 for construction in 2024

City: Grand Forks Street: I-29 near 47th Ave S

County: Grand Forks Length: ~1 mile

Proposed Improvement: Address congestion and level of service on Bus US 81/32nd Ave S construction project.

Cost Estimates Breakdown (in $1,000)							
Alternate	PE	R/W	Utility	Constr.	Bridges	Misc.	Total
				37,500			37,500

Present Road: Surface Width? 4 lane divided Surface Type? Concrete

On Street Parking Allowed? Present: No Proposed: No

Proposed Improvements

ADT Present: I-29 12,515 - 47th Ave S 2,830 -32nd Ave S 15,325 Yr: 2015
ADT Design: I-29 23,735 - 47th Ave S 17,975 - 32nd Ave S 25,890 Yr: 2040
Travel Way Width : No. of Lanes: 4 & 2
Design Speed: 40 MPH (urban) & 70MPH Interstate Roadway Width: 12 foot lanes
Maximum Curve: Min. R/W Width:
Maximum Grade:

Right of Way

Will Additional ROW or easement be acquired? Yes ROW acquisition by: NDDOT
Has any ROW easements been acquired since 7-1-72: Unknown ROW Condemnation by:
Est. No. of occupied family dwelling to be displaced? None
Est. No. business to be displaced? None

Impacts

Will there be any additional Impacts (Cultural and Environmental Resources): No
Will there be any taking of any right-of-way from any public parkland (4F) or schools (6F): No
Airports: No Public Hearings: Maybe
Environmental Classification (Cat-Ex, EA, EIS): Cat-Ex or EA
Transportation Enhancements: Decreased traffic volume and congestion at 32nd Ave S, improved Level of Service for intersections on Bus US 81/32nd Ave S. This also anticipated to significantly reduced the number of vehicle miles traveled and vehicle hours traveled compared to a no build scenario.
Intermodal: Shared use path on overpass bridge

Railroads Crossings						
RR Name	No. Xings	No. Tracks and Type of Crossing	Daily Train Movements	Train Speed	Present Protection	Proposed Protection
None						

Purpose and Need Statement For Regional Projects

I-29 was originally constructed around 1968, at the time of its construction four interchanges were constructed in or around the city of Grand Forks. These interchanges included: N Washington St, Gateway Dr/US 2, Demers Ave (ND SH 297), and 32nd Ave S/Bus US 81. These interchanges have been in place for nearly 50 years, with no additional interchanges being built within the city limits. There are also two overpasses located at University Ave and at Merrifield Rd/County Rd 6. Over that time the City of Grand Forks has grown from a population of approximately 39,000 to approximately 57,000. Though the city of Grand Forks has grown, the city's growth has been dense with a population density of 2,723people/sq mi. Grand Forks' population density exceeds other similar cities within North Dakota:, Fargo – 2,318people/sq mi, Bismarck - 2,034people/sq mi, West Fargo - 1,924people/sq mi, Minot – 1,719people/sq mi, Williston – 1,083people/sq mi[1].

With the increased population of Grand Forks, comes increased transportation needs, and associated traffic congestion on the existing infrastructure. In the summer of 2017 an I-29 Traffic Operations Report was completed looking at the I-29 corridor around the city. This report noted numerous times that the projected traffic volumes at the most southern existing interchange located at US Bus 81/32nd Ave S would have extreme levels of congestion, traffic cuing onto the interstate, and nearby intersections operating at a level of service F by 2025. This study looked at multiple aspects to prevent these issues from occurring in the future. This included, looking at non interstate improvements to encourage local traffic to use existing arterial roadways, improvements to the existing interchanges, and construction of new interchanges. The Highway Safety Improvement Project on 32nd Ave S/Bus US 81 programmed for 2019, includes installing a video camera and traffic signal programming to flush off ramp traffic if there is substantial backup on the ramp, to prevent traffic from backing up onto the interstate in the short term.

The study first looked at non-interstate improvements to encourage local traffic to use the existing arterial roadway system and reduce the traffic using the interstate. This included widening existing north-south arterial roadways such as 42nd St and Columbia Rd, improving some intersections including a continuous flow intersection, as well as adding dual left turn lanes, and realigning roadways to have better accessibility. The results of this scenario showed that these projects did not reduce demand onto I-29, and in some cases actually increased the volume of traffic onto I-29.

1. http://www.towncharts.com/North-Dakota/Top-25-Cities-in-North-Dakota-ranked-by-Population-Density.html

Another aspect which was explored was improvements to the interchange at 32nd Ave S/Bus US 81. Some of these alternatives included widening 32nd Ave S/Bus US 81, consolidating the east ramp, adding a northwest loop ramp, adding a southwest loop ramp, reconstructing the interchange to a diverging diamond interchange, and a diverging diamond with a partial cloverleaf. Of the available alternatives, only in two scenarios could 95% of the PM peak volumes in 2040 could be processed. In the summary of these alternatives the study states "**None of the alternatives studied under the Existing Interstate Access Scenario, without a 47th Avenue interchange, meet the established [Purpose and Needs] because they cannot improve operations to an acceptable level.**"

This report also evaluated the 32nd Ave S/Bus US 81 interchange with a new interchange constructed at 47th Ave S. By constructing a new interchange at 47th Ave S, traffic volumes on 32nd Ave S/Bus US 81 are forecasted to be reduced by approximately 40%. Evaluating available alternatives under this scenario 32nd Ave S/Bus US 81 could utilize the least expensive option of "Spot Improvements" and would be able to support anticipated traffic volumes and intersections are forecasted to operate at LOS D or better.

The report identified a number of alternatives for consideration for this interchange. Though the proposed project will develop a selected alternative from the NEPA process proposed in 2020, the cost estimate included in this scoping report is based on the alternative with the highest score in the valuing planning analysis. This alternative identified in the report was for the 47th Ave Shifted Diamond with No Business Impacts.

Remarks:

City Engineer: _____ Date: 11/28/18

District Engineer: _____ Date: 12/3/18

1. http://www.towncharts.com/North-Dakota/Top-25-Cities-in-North-Dakota-ranked-by-Population-Density.html

32nd Avenue/US 81B

32nd Avenue/US 81B serves a large majority of commercial activity in Grand Forks. Daily traffic volumes from 2015 along this corridor range from approximately 11,300 vehicles per day west of I-29 to 16,300 vehicles per day east of I-29. The areas surrounding I-29 at 32nd Avenue/US 81B and heading south to 47th Avenue are forecasted to be the largest population and employment growth centers in the city. Specifically, 58 percent of new employment opportunities are expected to occur within one-mile of either the 32nd Avenue/US 81B interchange or the 47th Avenue corridor. By 2040, this amount of growth is expected to result in traffic volumes around 43,000 vehicles per day east of I-29 and 23,000 vehicles per day west of I-29. This results in oversaturated interchange operations, producing long delays and queues by 2040.

Analysis completed for the Macro Level Alternatives Analysis found that the construction of a 47th Avenue interchange would have significant tangible benefits to the 32nd Avenue/US 81B interchange, potentially mitigating the need for costly widening at I-29 east to Columbia Road. The 32nd Avenue/US 81B intersection would experience more than 40 percent traffic reduction under this scenario, where other interchanges experienced far less. This necessitated a need to evaluate different interchange scenarios with and without the 47th Avenue interchange. Alternatives were analyzed under the Existing Interstate Access Scenario (no 47th Avenue interchange), which assumes a six-lane section on 32nd Avenue/US 81B, and the 47th Avenue Interchange Scenario, which assumes a four-lane section on 32nd Avenue/US 81B.

The Merrifield Road/CR 6 Interchange Infrastructure will also be considered later in this chapter but had minimal impacts to the overall operations of 32nd Avenue/US 81B. The combination of the 47th Avenue Interchange and the Merrifield Road/CR 6 Interchange provided similar benefits to 32nd Avenue/US 81B as the 47th Avenue interchange in isolation.

ANALYSIS METHODOLOGY

Analysis for this interchange location used the Value Planning approach detailed previously in this report.

INTERCHANGE ALTERNATIVES

EXISTING INTERSTATE ACCESS SCENARIO

As described above, this scenario does not include any additional interchange infrastructure. This means the future development expected in the southwest metro will be funneled to the 32nd Avenue/US 81B corridor for access onto and across the interstate.

Widen Only Alternative

The Widen Only Alternative (WO) would add one through lane in each direction on 32nd Avenue/US 81B from the 42nd Street west frontage road to east of 38th Street, as well as traffic control at the 42nd Street west frontage road and turn lanes at all four study intersections which would require bridge widening. The WO alternative is treated as the baseline for comparisons against other alternative designs; the true do nothing alternative model broke down and could not accurately replicate queues and delay.

Even with the additional capacity, this alternative was unable to be properly calibrated during the 2040 P.M. peak, with 15.2 percent latent demand. This means more than 1,500 vehicles did not enter the model so their delay has not been incorporated into the overall network delay and is not acceptable for analysis.

Based on the traffic the model could process, long queues, in excess of 1,000 feet are expected at all four study intersections. Levels of service are deficient at all study intersections, excluding the East Ramp intersection. It is important to note that the queues extending onto I-29 are likely not being incorporated into the East Ramp delay.

The estimated cost for this alternative was $7.7 million which only included widening the bridge and the difference between reconstructing 32nd Avenue/US 81B as a four-lane section and reconstructing and widening as a six-lane section. This planning level cost should be further refined but was used as a baseline cost. Value planning scores for this alternative can be seen in Table 7-17.

Table 7-17: 32nd Avenue/US 81B Widen Only Interchange Alternative (Existing Interstate Access Scenario)

	Results (2040 Conditions)	Score
Local Operations	▪ A.M. Peak Average: 57.1, LOS "E" ▪ P.M. Peak Average: 92.2, LOS "F"	0*
Mainline Operations	▪ Average A.M. Peak: 12.8, LOS "B" ▪ Average P.M. Peak: 94.4 LOS "F"	0*
Environmental Impacts	▪ No additional environmental impacts expected.	8
Safety	▪ Baseline crash potential distribution for alternative comparison: » 6.5% Crossing Crash Potential » 62.5% Rear End Crash Potential » 31.0% Sideswipe Crash Potential	9
Cost	▪ $7.7 Million**	10
Total		27

*Score of zero assigned because model could not be calibrated. Not all delay considered.
**Includes planning level costs on a per mile basis.

Consolidated East Ramp

The Consolidated East Ramp (CER) Alternative would add a through lane in each direction as well as realign 42nd Street east of I-29 with the East Ramp. This helps split southbound traffic at 38th Street, a major bottleneck along the corridor. This alternative also incorporates double left turn lanes at 38th Street, a northbound right turn lane, westbound left and a traffic control signal at the 42nd Street west frontage road. It requires bridge widening. This alternative also incorporates two loops in the southeast and southwest quadrants, which helps eliminate crossing conflicts and improves operational efficiency by allowing a two-phase signal controller.

This alternative had 4.7 percent latent demand during the 2040 P.M. peak, which is acceptable for calibration according to FHWA standards. During the 2040 P.M. peak, operations at 42nd Street frontage road and 38th Street are deficient at LOS "E", while the two ramp intersections operate at LOS "D"; delays at the ramp intersections produce long queues onto the interstate. There are no operational concerns during the 2040 A.M. peak hour.

This alternative reduces crossing crash potential by 24.1 percent and rear-end potential by 49.0 percent when compared against the WO alternative. Sideswipe crash potential is increased by 188.6 percent when compared against the Widen Only alternative.

Value planning scores for this alternative can be seen in Table 7-18 with planning level design layout in Figure 7-26.

Table 7-18: 32nd Avenue/US 81B Consolidated East Ramp Interchange Alternative (Existing Interstate Access Scenario)

	Results (2040 Conditions)	Score
Local Operations	» A.M. Peak Average: 18.1, LOS "A" » P.M. Peak Average: 62.0, LOS "E "	5
Mainline Operations	» Average A.M. Peak: 11.92, LOS "B" » Average P.M. Peak: 55.1 LOS "F"	4
Environmental Impacts	» No significant new environmental impacts. 3.5 acres of ROW required.	6
Safety	26.2% increase in crash potential when compared against Widen Only Alternative » 24.1% Reduction in Crossing Crash Potential » 49.0% Reduction in Rear End Crash Potential » 188.6% Increase in Sideswipe Crash Potential	0
Cost	» $30.9 Million	0
Total		15

Northwest Loop Ramp

The Northwest Loop Ramp (NWL) Alternative incorporates a northwest loop on-ramp for westbound to southbound movements, turn lanes at adjacent intersections and traffic control at the 42nd Street west frontage road. This alternative requires widening the 32nd Avenue/US 82B bridge to accommodate additional through lanes. Due to the posted speeds and the ROW constraints, only a small radius could be constructed. This requires parallel merge lanes to ensure safe and efficient merging.

This alternative had 10.0 percent latent demand during the 2040 P.M. peak, which is not acceptable for calibration according to FHWA standards. Nearly 1,000 vehicles were unable to enter the network during the 2040 P.M. peak. However, based on the vehicles processed, the 42nd Street west frontage roads and 38th Street intersections were deficient at LOS "F" with the ramp intersections operating at LOS "E". Queues at the ramp intersection extend onto the interstate, completely blocking all through lanes.

During the 2040 A.M. peak, only the 38th Street intersection is deficient at LOS "E". There are no queueing concerns.

Value planning scores for this alternative can be seen in Table 7-19 with planning level design layout in Figure 7-27.

Table 7-19: 32nd Avenue/US 81B Northwest Loop Ramp Interchange Alternative (Existing Interstate Access Scenario)

	Results (2040 Conditions)	Score
Local Operations	» A.M. Peak Average: 39.1, LOS "D" » P.M. Peak Average: 99.4, LOS "F"	0*
Mainline Operations	» Average A.M. Peak: 13.3, LOS "B" » Average P.M. Peak: 54.4, LOS "F"	0*
Environmental Impacts	» No significant environmental impacts. Two acres of ROW required and some access revisions.	6
Safety	14.8% increase in crash potential when compared against Widen Only Alternative » 128.2% Increase in Crossing Crash Potential » 16.4% Reduction in Rear End Crash Potential » 53.6% Increase in Sideswipe Crash Potential	4
Cost	» $27.8 Million	1
Total		11

*Score of zero assigned because model not calibrated. Not all delay considered.

Southwest Loop Ramp

The Southwest Loop Ramp (SWL) Alternative incorporates a southwest loop off-ramp for southbound to eastbound movements, turn lanes at adjacent intersections and traffic control at 44th Street. This alternative requires widening the 32nd Avenue/US 81B bridge to accommodate additional through lanes and access revisions to the 42nd Street west frontage road which allowed for a RIRO access on the northside of 32nd Avenue/US 81B but closed the access on the southside.

This alternative had 3.1 percent latent demand during the 2040 P.M. peak, which is acceptable for calibration according to FHWA standards. During the 2040 P.M. peak, operations at the East Ramp are deficient at LOS "E" with queues that extend onto the interstate. The 38th Street and 44th Street intersections are deficient at LOS "F" and LOS "E" respectively. The 44th Street intersection would be improved with a double left-turn lane. However, that would require two receiving lanes which would have building impacts. At this time, a single left-turn lane was analyzed.

During the 2040 A.M. peak, all intersections operate at LOS "C" or better except the 38th Street intersection which operates at LOS "E". There are no queueing concerns at the ramp intersections.

The SWL Alternative reduces crossing crash potential by 42.1 percent and rear-end crash potential by 40.2 percent. Sideswipe crash potential is increased 88.3 percent.

Value planning scores for this alternative can be seen in Table 7-20 with planning level design layout in Figure 7-28.

Table 7-20: 32nd Avenue/US 81B Southwest Loop Interchange Alternative (Existing Interstate Access Scenario)

	Results (2040 Conditions)	Score
Local Operations	» A.M. Peak Average: 27.9, LOS "C" » P.M. Peak Average: 57.6, LOS "E"	5
Mainline Operations	» Average A.M. Peak: 13.2, LOS "B" » Average P.M. Peak: 23.9, LOS "D"	7
Environmental Impacts	» No significant environmental impacts. Two acres of ROW required and some access revisions.	6
Safety	0.5% decrease in crash potential when compared against Widen Only Alternative » 42.1% Reduction in Crossing Crash Potential » 40.2% Reduction in Rear End Crash Potential » 88.3% Increase in Sideswipe Crash Potential	10
Cost	» $23.5 Million	5
Total		33

Diverging Diamond Interchange

The Diverging Diamond Interchange (DDI) Alternative requires the two directions of traffic on 32nd Avenue/US 81B to cross to the opposite side of the road under the I-29 bridge. This allows left-turning and right-turning traffic to perform a free flow movement onto the interstate on-ramp. The free-flowing movements reduce the signal phases to two at each intersection, significantly reducing delays. The right-turn slip ramp on the southbound I-29 on-ramp requires access management at the 42nd Street west frontage road. This alternative requires widening the 32nd Avenue/US 81B bridge to accommodate additional through lanes. A backage road was configured with a signal incorporated at 44th Street.

This alternative had 6.0 percent latent demand during the 2040 P.M. peak, which is not acceptable for calibration according to FHWA standards. More than 600 vehicles were unable to enter the network during the 2040 P.M. peak. However, based on the vehicles processed, the West Ramp intersection and 38th Street intersection were deficient with LOS "E" during the 2040 P.M. peak. Queues at the West Ramp and East Ramp extend back onto the interstate. During the 2040 A.M. peak all intersections operate at LOS "D" or better with no queuing concerns. The DDI alternative increases crossing crash potential by 23.7 percent and sideswipe crash potential by 18.0 percent but decreases rear end crash potential by 9.4 percent.

Value planning scores for this alternative can be seen in Table 7-21: 32nd Avenue/US 81B Diverging Diamond Interchange Alternative (Existing Interstate Access Scenario)with planning level design layout in Figure 7-29.

Table 7-21: 32nd Avenue/US 81B Diverging Diamond Interchange Alternative (Existing Interstate Access Scenario)

	Results (2040 Conditions)	Score
Local Operations	» A.M. Peak Average: 23.2, LOS "C" » P.M. Peak Average: 50.8, LOS "D"	0*
Mainline Operations	» Average A.M. Peak: 13.3, LOS "B" » Average P.M. Peak: 77.0, LOS "F"	0*
Environmental Impacts	» No significant environmental impacts. Two acres of ROW required and some access revisions.	6
Safety	1.3% increase in crash potential when compared against Widen Only Alternative » 23.7% Increase in Crossing Crash Potential » 9.4% Reduction in Rear End Crash Potential » 18.0% Increase in Sideswipe Crash Potential	9
Cost	» $22.1 Million	6
Total		21

*Score of zero assigned because model not calibrated. Not all delay considered.

Diverging Diamond Partial Cloverleaf

Additional analysis was completed for the 2040 P.M. peak hour using a diverging diamond partial cloverleaf design, shown in Figure 7-23. This uses a diverging diamond interchange concept with bypass lanes to a northwest loop ramp and southeast loop ramp. It would require access control at the 42nd Street west frontage road, double left-turn lanes on all approaches at 38th Street and would require significant bridge widening. This design has similar free flow movements and signal phase efficiency as the DDI alternative.

This alternative was only analyzed under the 2040 P.M. peak hour to determine if further analysis should be completed. With 4.7 percent latent demand it was technically calibrated. However, the 44th Street and 38th Street intersections were still deficient and queueing onto I-29 still occurred. Since this alternative did not have acceptable operations, no further analysis was completed.

Figure 7-23: Diverging Diamond Partial Cloverleaf Alternative (Existing Interstate Access Scenario)

Summary of Alternatives Under Existing Interstate Access Scenario

The growth areas planned for the southwest metro result in more than 160 percent growth on 32nd Avenue/US 81B as this corridor is the only access across and onto I-29. This growth results in extreme congestion, to an extent where three of the five alternatives (WO, NWL, DDI) analyzed cannot process at least 95 percent or more of projected 2040 P.M. peak hour traffic, resulting in the inability to properly calibrate the alternatives. The remaining two alternatives that meet calibration standards do not meet local or mainline operations standards, with deficient intersection operations and queues onto the interstate. **None of the alternatives studied under the Existing Interstate Access Scenario, without a 47th Avenue interchange, meet the established PNS because they cannot improve operations to an acceptable level.**

The SWL Alternative scored highest based on the value planning criteria. It was able to accept 97 percent of the forecasted volumes for 2040 P.M. peak but provides deficient local operations. It improves crash potential but does require access management at the 42nd Street west frontage road. The summary of value planning scores is shown in Table 7-22.

Table 7-22: Summary of 32nd Avenue/US 81B Interchange Alternatives Under Existing Interstate Access Scenario

Alternative	Local Operations	Mainline Operations	Environmental Impacts	Safety	Cost	Technical Total	Technical Rank
WO	0	0	8	9	10	27	2
CER	5	4	6	0	0	15	4
NWL	0	0	6	4	2	12	5
SWL	5	7	6	10	5	33	1
DDI	0	0	6	9	6	21	3

47TH AVENUE INTERCHANGE SCENARIO

The 47th Avenue interchange would likely have significant impacts on 32nd Avenue/US 81B, expected to reduce traffic on 32nd Avenue/US 81B by more than 40 percent. The Spot Improvement Alternative was analyzed specifically for the 47th Avenue Interchange Scenario. This alternative includes

- At 38th Street, extend the eastbound right-turn lane (435 feet, full width) and install double left-turn lanes on the eastbound, westbound and southbound approaches.
- At the East Ramp, a double right-turn lane on the northbound off-ramp.
- Traffic control signal and access modification at the 42nd Street west frontage road intersection.
- Queue flushing on the off-ramps
- Pedestrian crossing enhancements at the ramp intersections that includes pedestrian actuation and prohibits right-turns.
- Reconstruct or major rehabilitation of pavement from the East Ramp to Columbia Road.

Under this alternative, all study intersection are LOS "D" or better; the ramp intersections operate at LOS "C" or better during both peak hours through 2040. This alternative would minimize queueing onto the interstate and improve traffic flow, which should mitigate some of the most prevalent crash trends. The signal at the 42nd Street west frontage road and improvements to the existing signal timing should improve pedestrian crossing safety. This analysis suggests constructing a 47th Avenue interchange would mitigate almost all improvements necessary on 32nd Avenue/US 81B.

Value planning scores for this alternative can be seen in Table 7-23 with planning level design layout in Figure 7-30.

Table 7-23: 32nd Avenue/US 81B Spot Improvement Interchange Alternative Under 47th Avenue Interchange Scenario

	Results (2040 Conditions)	Score
Local Operations	▪ A.M. Peak Average: 16.7, LOS "B" ▪ P.M. Peak Average: 31.9, LOS "C"	7
Mainline Operations	▪ Average A.M. Peak: 9.6, LOS "A" ▪ Average P.M. Peak: 18.6, LOS "C"	8
Environmental Impacts	▪ No additional environmental impacts expected.	8
Safety	▪ No change in crash potential expected. » 15.0% Crossing Crash Potential » 33.2% Rear End Crash Potential » 51.8% Sideswipe Crash Potential	6
Cost	▪ $700,000 plus the cost of interchange at 47th Avenue (discussed in next chapter)	10
Total		39

Other Alternatives

Other interchange alternatives were studied under the 47th Avenue Interchange Scenario, which reduces traffic on 32nd Avenue/US 81B by more than 40 percent. These alternatives do provide some benefits to local and mainline operations and safety. Brief descriptions are provided below with a summary table and layouts at the end of this chapter.

Consolidated East Ramp

The Consolidated East Ramp Alternative (CER) was identified in the 2040 LRTP but could not be cost constrained. It would realign 42nd Street east of I-29 with the East Ramp. This helps split southbound traffic at 38th Street, which is a major bottleneck along the corridor. A signal was included for 42nd Street west frontage road. During the 2040 P.M. peak the 38th Street intersection operates deficiently at LOS "E" with long queues on the minor approaches. No queueing or delay concerns during the 2040 A.M. peak.

This alternative comes at a cost of $15.7 million, plus the cost of the interchange at 47th Avenue, estimated between $23.2 and $28.5 million, discussed in the next section.

Value planning scores for this alternative can be seen in Table 7-24 with planning level design layout in Figure 7-31.

Northwest Loop Ramp

The Northwest Loop Ramp Alternative (NWL) adds a loop ramp for the westbound to southbound movements onto I-29 in the northwest quadrant. Due to the posted speeds and the ROW constraints, only a small radius could be constructed. This requires parallel merge lanes to ensure safe and efficient merging, which would likely be incompatible with a 47th Avenue interchange. The addition of the northwest loop helps eliminate crossing conflicts by converting a left-turn to a free right. The right-turn slip ramp on the southbound I-29 on-ramp requires access management at the 42nd Street west frontage road. A backage road was configured with a signal incorporated at 44th Street. During the 2040 P.M. peak all intersections operate efficiently, including 38th Street. However, there are long queues anticipated on the minor approaches at 38th Street. No queuing or delay concerns during the 2040 A.M. peak.

This alternative comes at a cost of $14.2 million, plus the cost of the interchange at 47th Avenue, estimated between $23.2 and $28.5 million, discussed in the next section.

Value planning scores for this alternative can be seen in Table 7-24 with planning level design layout in Figure 7-32.

Southwest Loop Ramp

The Southwest Loop Ramp Alternative (SWL) adds a loop ramp for the southbound to eastbound movements off of I-29 in the southwest quadrant. This configuration supports more than 400 vehicles during the 2040 P.M. peak hour, eliminating one signal phase and permitting right-turn-on-reds to improve through-put. No queueing is expected on the interstate ramps, but large queues build up at 38th Street and the 42nd Street west frontage road. A signal was included for 42nd Street west frontage road. There are some queueing concerns on the minor approaches at 38th Street. All other intersections operate effectively at LOS "D" or better. No queueing or delay concerns during the 2040 A.M. peak.

This alternative comes at a cost of $11.0 million, plus the cost of the interchange at 47th Avenue, estimated between $23.2 and $28.5 million, discussed in the next section.

Value planning scores for this alternative can be seen in Table 7-24 with planning level design layout in Figure 7-33.

Diverging Diamond Interchange

The Diverging Diamond Interchange Alternative (DDI) requires the two directions of traffic on 32nd Avenue/US 81B to cross to the opposite side of the road over I-29. This allows left-turning and right-turning traffic to perform a free flow movement onto the interstate on-ramp. The free-flowing movements reduce the signal phases to two at each intersection, significantly reducing delays. The right-turn slip ramp on the southbound I-29 on-ramp requires access management at the 42nd Street west frontage road. A backage road was configured with a signal incorporated at 44th Street. All intersections operate efficiently during the 2040 A.M. and P.M. peak. There are some queuing issues on the minor approaches at 38th Street during the 2040 P.M. peak.

This alternative comes at a cost of $8.5 million, plus the cost of the interchange at 47th Avenue, estimated between $23.2 and $28.5 million, discussed in the next section.

Value planning scores for this alternative can be seen in Table 7-24 with planning level design layout in Figure 7-34.

Table 7-24: 32nd Avenue/US 81B Alternatives Under 47th Avenue Interchange Scenario

	SI		CER		NWL		SWL		DDI	
	Results	Score	Results	Score	Results	Score	Results	Score	Results	Score
Local Operations	» A.M. Peak: 16.7, LOS "B" » P.M. Peak Average: 31.9, LOS "C"	7	» A.M. Peak: 18.2, LOS "B" » P.M. Peak Average: 37.0, LOS "D"	7	» A.M. Peak: 16.1, LOS "B" » P.M. Peak Average: 24.1, LOS "C"	7	» A.M. Peak: 16.1, LOS "B" » P.M. Peak Average: 33.4, LOS "C"	7	» A.M. Peak: 13.9, LOS "B" » P.M. Peak Average: 23.5, LOS "C"	8
Mainline Operations*	» A.M. Peak: 9.6, LOS "A" » P.M. Peak: 18.6, LOS "C"	8	» A.M. Peak: 14.5, LOS "B" » P.M. Peak: 19.2, LOS "C"	8	» A.M. Peak: 13.3, LOS "B" » P.M. Peak: 18.4, LOS "C"	8	» A.M. Peak: 13.5, LOS "B" » P.M. Peak: 18.0, LOS "C"	8	» A.M. Peak: 13.0, LOS "B" » P.M. Peak: 18.1, LOS "C"	8
Environmental Impacts	» No additional environmental impacts expected.	8	» 3.5 Acres of ROW required. No access changes.	6	» 2 Acres of ROW required. Access management at 42nd Street west frontage road.	6	» 2 Acres of ROW required. No access changes.	6	» 2 Acres of ROW required. Access management at 42nd Street west frontage road.	6
Safety	Baseline Crash Potential Distribution for Comparison » 15.0% Crossing » 33.2% Rear End » 51.8% Sideswipe	6	43.2% Increase in Crash Potential Compared to SI » 140.9% Increase in Crossing Crash Potential » 40.5% Decrease in Rear End Crash Potential » 82.2% Increase in Sideswipe Crash Potential	0	4.1% Decrease in Crash Potential Compared to SI » 0.9% Decrease in Crossing Crash Potential » 10.5% Decrease in Rear End Crash Potential » 0.3% Decrease in Sideswipe Crash Potential	9	5.0% Decrease in Crash Potential Compared to SI » 42.2% Increase in Crossing Crash Potential » 32.0% Decrease in Rear End Crash Potential » 4.9% Increase in Sideswipe Crash Potential	10	20.0% Increase in Crash Potential Compared to SI » 130.9% Increase in Crossing Crash Potential » 7.6% Increase in Rear End Crash Potential » 9.5% Increase in Sideswipe Crash Potential	5
Cost	» $700,000	10	» $15.7 Million	0	» $14.2 Million	1	» $11.0 Million	3	» $8.5 Million	5
Total	39		21		31		34		32	
Rank	1		5		4		2		3	

*Mainline operations does not incorporate friction between 32nd Avenue and 47th Avenue. This is discussed in greater detail in the next section.

47TH AVENUE

During the Macro Level Analysis completed for this study, the 47th Avenue interchange was studied to address future long-term development in southern Grand Forks. This analysis found an interchange at this location would reduce vehicle hours traveled by 4.4 million hours from 2025 to 2040 and vehicle miles traveled by 53.3 million miles from 2025 to 2040. This interchange is also estimated to reduce traffic on 32nd Avenue/US 81B by 40.3 percent, which is likely significant enough to prevent widening on 32nd Avenue/US 81B. However, the analysis also estimated a 21 percent increase in traffic on I-29. This increase in traffic on mainline I-29 may present merging, weaving and diverging challenges. Unlike analysis completed for other interchanges in this report, impacts between 32nd Avenue/US 81B and the 47th Avenue interchange alternatives were analyzed using the existing 32nd Avenue/US 81B on- and off-ramp configurations. Four alternatives were feasible based on the criteria established in this report.

- Traditional Diamond Interchange: A standard diamond interchange on the 47th Avenue alignment was considered the base alternative.
- Diamond with South Loops Interchange: A standard diamond interchange with a southeast loop ramp and southwest loop ramp on the 47th Avenue alignment. This alternative split the diverging movements to minimize the congestion between the 32nd Avenue/US 81B on-ramp and the 47th Avenue off-ramp. This provided improved operations at the ramp intersections by reducing the number of signal phases.
- Shifted Diamond with South Loops Interchange: A standard diamond interchange with a southeast loop on-ramp and southwest loop off-ramp shifted 0.25 miles south. This alternative also splits the diverging movements to minimize congestion but increases the spacing to allow more time for drivers to make the lane changes necessary.
- Shifted Diamond with No Business Impacts Interchange: This alternative is shifted 0.25 miles south and includes a southwest loop ramp for the on- and off-ramps and southeast loop on-ramp. This alternative avoids impacting the campground south of 47th Avenue and increases spacing between the 32nd Avenue/US 81B on-ramp and the 47th Avenue off-ramp.

ANALYSIS METHODOLOGY

These four alternatives were analyzed and presented below using the Value Planning approach detailed at the beginning of this report. The 47th Avenue interchange analysis is slightly different than the baseline methodology because it is a new interchange, with no existing conditions to compare.

MAINLINE OPERATIONS

Because of concerns regarding the I-29 mainline due to spacing and higher volumes, an alternative mainline analysis approach was used. Mainline operations for the 47th Avenue interchange analysis refers to the operations of I-29 between the merge and diverge points of 32nd Avenue/US 81B and 47th Avenue, including the 500-foot sections upstream and downstream of the 32nd Avenue/US 81B and 47th Avenue intersections. This change was made for two reasons: first, none of the alternatives analyzed on 47th Avenue found unique or deficient lane densities on the 500-foot section upstream of off-ramp and downstream of on-ramps; second, the nearly 14,000 ADT increase on I-29 associated with the 47th Avenue interchange could have capacity impacts outside of the interchange influence areas. Similar to the baseline methodology for mainline operations, the northbound and southbound densities were averaged to provide one score.

COST

Typically, the interchange alternatives would be scored using a distribution between highest cost alternative and lowest cost alternative. The Southwest Loop Alternative (SWL) for the 32nd Avenue/US 81B alternative under the Existing Interstate Access Scenario was the prioritized alternative based on technical criteria. The SWL was included in the range of costs to provide valuable context related to the true impacts of a 47th Avenue interchange; it has a cost of $23.5 million. The range of costs was scored using the Cost scoring criteria table established in the methodology section above.

INTERCHANGE ALTERNATIVES

Analysis presented below was completed using ADT forecasts from the 47th Avenue Interchange Scenario.

TRADITIONAL DIAMOND ALTERNATIVE

The Traditional Diamond Alternative (TD) is a standard diamond interchange with signals at the East Ramp, West Ramp and 38th Street intersections. It operates at LOS "D" or better for both 2040 A.M. and P.M. peak hours. There are no queueing concerns that would impact I-29. This alternative provides spacing challenges between the 32nd Avenue/US 81B southbound on-ramp and the 47th Avenue off-ramp, which results in some lane densities that fall to LOS "D" during the 2040 P.M. peak. This alternative will require relocation to the campground in the southwest quadrant but the least amount of right-of-way at 61 acres. Value planning scores for this alternative can be seen in Table 7-25 with planning level design layout in Figure 7-36.

Table 7-25: 47th Avenue Traditional Diamond Alternative

	Results (2040 Conditions – 47th Avenue Interchange Scenario)	Score
Local Operations	▪ A.M. Peak Average: 14.9, LOS "B" ▪ P.M. Peak Average: 32.6, LOS "C"	7
Mainline Operations	▪ A.M. Peak Average: 14.4, LOS "B" ▪ P.M. Peak Average: 29.3, LOS "D"	7
Environmental Impacts	▪ Limited ecological impacts with mitigation possible. Business impacts and relocation necessary. 63 acres of ROW needed.	6
Safety	▪ Baseline crash potential distribution for alternative comparison: » Crossing: 9.4% of total estimated crash potential » Rear End: 81.2% of total estimated crash potential » Lane Change: 9.4% of total estimated crash potential	0
Cost	▪ $24.6 Million	5
Total		25

DIAMOND WITH SOUTH LOOPS ALTERNATIVE

The Diamond with South Loops Alternative (DL) is a diamond interchange with a southeast loop ramp for eastbound to northbound on-ramp movements and a southwest loop ramp for southbound to eastbound off-ramp movements. By removing left-turns, some crossing conflicts are eliminated, as well as enabling the traffic control signal to operate with reduced phases, improving efficiency. This alternative operates effectively during both 2040 A.M. and P.M. peak hours and does not have queueing concerns. This alternative has the lowest estimated crash potential, as well as providing acceptable levels of service for local operations, but does require business impacts and 87 acres of ROW needed, the most of all four build alternatives. As for mainline operations, this alternative does result in some lane densities between 32nd Avenue/US 81B and 47th Avenue falling to LOS "D" during the 2040 P.M. peak. Value planning scores for this alternative can be seen in Table 7-26 with planning level design layout in Figure 7-37.

Table 7-26: 47th Avenue Diamond with South Loops Alternative

	Results (2040 Conditions – 47th Avenue Interchange Scenario)	Score
Local Operations	▪ A.M. Peak Average: 12.0, LOS "B" ▪ P.M. Peak Average: 15.3, LOS "B"	9
Mainline Operations	▪ A.M. Peak Average: 14.8, LOS "B" ▪ P.M. Peak Average: 29.3, LOS "D"	6
Environmental Impacts	▪ Limited ecological impacts with mitigation possible. Business impacts and relocation necessary. 63 acres of ROW needed.	6
Safety	▪ 59.4% Reduction in Crash Potential when Compared Against Diamond » 29.1% reduction in crossing crash potential » 68.1% reduction in rear end crash potential » 15.0% reduction in sideswipe crash potential	10
Cost	▪ $27.2 Million	1
Total		32

DIAMOND WITH SOUTH LOOPS AND MIXING LANES ALTERNATIVE

The Diamond with South Loops and Mixing Lanes Alternative (DLM) is the same interchange configuration as above but includes mixing lanes (also referred to as auxiliary lanes, speed-change lane or acceleration lane) between 32nd Avenue/US 81B and 47th Avenue to improve lane density during the peak hours. This requires about 1,000 feet of extra lane length for each direction of traffic on I-29. These mixing lanes would keep lane densities at LOS "A" during the 2040 A.M. peak and LOS "C" during the 2040 P.M. peak. Local operations, environmental impacts and safety remain unchanged. Value planning scores for this alternative can be seen in Table 7-27. Planning level designs at the interchange are similar to Figure 7-37.

Table 7-27: 47th Avenue Diamond with South Loops and Mixing Lanes Alternative

	Results (2040 Conditions – 47th Avenue Interchange Scenario)	Score
Local Operations	▪ A.M. Peak Average: 12.0, LOS "B" ▪ P.M. Peak Average: 15.3, LOS "B"	9
Mainline Operations	▪ A.M. Peak Average: 10.9, LOS "A" ▪ P.M. Peak Average: 18.8, LOS "C"	8
Environmental Impacts	▪ Limited ecological impacts with mitigation possible. Business impacts and relocation necessary. 63 acres of ROW needed.	6
Safety	▪ 59.4% Reduction in Crash Potential when Compared Against Diamond » 29.1% reduction in crossing crash potential » 68.1% reduction in rear end crash potential » 15.0% reduction in sideswipe crash potential	10
Cost	▪ $28.5 Million	0
Total		33

SHIFTED DIAMOND WITH SOUTH LOOPS ALTERNATIVE

The Shifted Diamond with South Loops Alternative (SDL) is the same geometric design as the South Loops Interchange Alternative, just shifted 0.25 miles south. This improves spacing between the 32nd Avenue/US 81B interchange. This alternative operates effectively both on local and mainline operations. However, during the 2040 P.M. peak, some lane densities fall to LOS "D". This alternative improves estimated crash potential, when compared against the Diamond Interchange. It also impacts the campground and will require a buyout and 78 acres of ROW needed. Value planning scores for this alternative can be seen in Table 7-28 with planning level design layout in Figure 7-38.

Table 7-28: 47th Avenue Shifted Diamond with South Loops Alternative

	Results (2040 Conditions – 47th Avenue Interchange Scenario)	Score
Local Operations	▪ A.M. Peak Average: 11.7, LOS "B" ▪ P.M. Peak Average: 14.5, LOS "B"	9
Mainline Operations	▪ A.M. Peak Average: 14.2, LOS "B" ▪ P.M. Peak Average: 26.8, LOS "D"	7
Environmental Impacts	▪ Limited ecological impacts with mitigation possible. Business impacts and relocation necessary. 78 acres of ROW needed.	5
Safety	▪ 57.5% Reduction in Crash Potential when Compared Against Diamond » 34.8% reduction in crossing crash potential » 66.7% reduction in rear end crash potential » 1.4% reduction in sideswipe crash potential	» 9
Cost	▪ $27.6 Million	1
Total		31

SHIFTED DIAMOND WITH NO BUSINESS IMPACTS

The Shifted Diamond with No Business Impacts Alternative (SNI) shifts the interchange alignment 0.25 miles south and folds the southbound off-ramp to eliminate the business impacts. This alternative operates effectively during both 2040

A.M. and P.M. peak hours with no queueing concerns that would impact I-29. It improves crash potential when compared against the Diamond Interchange alternative with effective local and mainline operations. Eliminating the business impacts and low ROW needed helps this alternative score high in the Environmental Impacts category and Cost. Value planning scores for this alternative can be seen in Table 7-29 with planning level design layout in Figure 7-39.

Table 7-29: 47th Avenue Shifted Diamond with No Business Impacts Alternative

	Results (2040 Conditions – 47th Avenue Interchange Scenario)	Score
Local Operations	▪ A.M. Peak Average: 11.4, LOS "B" ▪ P.M. Peak Average: 16.9, LOS "B"	9
Mainline Operations	▪ A.M. Peak Average: 14.3, LOS "B" ▪ P.M. Peak Average: 26.7, LOS "D"	7
Environmental Impacts	▪ Limited ecological impacts with mitigation possible. No business impacts. 59 acres of ROW needed.	6
Safety	▪ 56.9% Reduction in Crash Potential when Compared Against Diamond » 12.7% increase in crossing crash potential » 70.2% reduction in rear end crash potential » 11.4% reduction in sideswipe crash potential	9
Cost	▪ $23.2 Million	10
Total		41

SUMMARY OF ALTERNATIVES

The Shifted Folded Southbound Off-Ramp Interchange Alternative scored highest on the Value Planning analysis with strong scores in local and mainline operations, safety and low cost. It does not require impacts which improves its environmental impact score relative to other alternatives for 47th Avenue.

The value planning scores summary for 47th Avenue interchange alternatives is shown in Table 7-30.

Table 7-30: Summary of 47th Avenue Interchange Alternatives

Alternative	Local Operations	Mainline Operations	Environmental Impacts	Safety	Cost	Technical Total	Technical Rank
TD	7	7	6	0	5	25	5
DL	9	6	6	10	1	32	3
DLM	9	8	6	10	0	33	2
SDL	9	7	5	9	1	31	4
SNI	9	7	6	9	10	41	1

STEERING COMMITTEE RANKING

As part of the Value Planning workshop, the Steering Committee was asked to rank the alternatives; the Diamond with South Loops and Mixing Lanes and the Shifted Diamond with No Business Impacts were tied with 33.3 percent of the Steering Committee ranking each as their first choice.

those improvements included in the I-29 Corridor Study, none are currently cost constrained in the GF-EGF MPO Long Range Transportation Plan (LRTP).

Needs Comparison

Comparing needs for different improvements can be a very complicated process. For example, how do you compare a railroad grade separation improvement to a new interchange to a new loop? A railroad grade separation generates major delays but only occurs a few times per day, mostly during off-peak periods. A new interchange may provide massive relief for several hours of the day but may not be needed for several years.

The current Transportation Improvement Program (TIP) process utilizes a project scoring and ranking process. A more technically based project specific evaluation process was needed to support the I-29 Corridor Study Implementation Plan. To assess needs, a five point needs index was developed to show relative need. This starts with the technical information compiled in this study and other studies as necessary to compare quantified benefits. Quantified benefits incorporate vehicle hours of delay, vehicle miles travelled and crash reduction factors. For example, the 2040 yearly quantified benefits for an interchange at 47th Avenue is $3.2 million and for a railroad grade separation at 42nd Street and DeMers Avenue is $0.6 million. Where quantified benefits were not readily available, level of service and railroad crossing exposure were compared.

This information was used to provide an educated estimate of need for every improvement over $1 million for existing, 2025 and 2040 time periods. This information will be refined by the Steering Committee. The results are illustrated in Table 8-2.

Table 8-2: Needs by Year

Location	Improvement	Need			
		Existing	2025	2040	Notes
North Washington Street/CR 11/US 81	Interchange and Access Improvements	0	0.5	1	The Washington Street improvements are preventive in nature and not based on quantified deficiencies.
Gateway Drive/US 2	Interchange Improvements	1	2	5	The Gateway Drive interchange operates at LOS "F" by 2040.
	Railroad Grade Separation	2	2.5	3	Queuing onto the interstate when train events and peak hours coincide. The railroad grade separation has a crossing exposure of 245,000 by 2040.*
DeMers Avenue/ND 297	Interchange Improvements	2	4	5	The DeMers Avenue interchange operates at LOS "E" by 2025 and LOS "F" by 2040.
	42nd Street Railroad Grade Separation	3	3.5	4	The grade separation has a yearly quantified benefit of $0.6 million dollars by 2040 and crossing exposure of 749,700 by 2040.*
32nd Avenue/US 81B	New Interchange at 47th Avenue	2	5	5	32nd Avenue Operates at LOS "F" by 2025, has a yearly quantified benefit of $3.2 M by 2040.
Merrifield Road/CR 6	New Interchange	2.5	3	3.5	The Merrifield Interchange has a yearly quantified benefit of 2.4 million dollars by 2040.

0 = No need, 5 = Greatest Need

* Based on previous study, may require updating

LONG RANGE: 2031-2040+

This stage represents year 11 and beyond the current TIP and extends to the life of the current 2040 Long Range Transportation Plan (LRTP). Figure 8-6 demonstrates the long-range phase of project development efforts required to implement the I-29 Corridor Study.

Costs shown demonstrate a year of expenditure estimate to the mid-range of the phase for which construction is anticipated per the I-29 Corridor Study. Projects in the mid-range are adjusted to YOE of 2036. Table 8-3 demonstrates a more descriptive dialogue of the implementation efforts needed at each phase of implementation for the most significant projects. Table 8-3 should be treated as a tentative set of actions needed to address needs identified by the I-29 Corridor Study. As additional planning and programming efforts unfold beyond the completion of the I-29 Corridor Study, these assumptions may change.

Stages of Project Development & Delivery

The I-29 Implementation Plan assists with stratifying the stage of planning and project development required to deliver each of the above mentioned projects. This is specifically important for more of the complex projects and for those projects which will require additional scoping to move out of the planning phase and deeper into advanced project development. The Implementation Plan has been developed around the following generalized Stages of Project Delivery:

- **Planning & Environmental (Preliminary Engineering/Scoping)**: Reflects additional planning or project level scoping to continue to define and delineate alternatives and project feasibility. This phase also includes the transition into the development of relevant environmental documentation. In many cases, the alternatives developed as part of the I-29 Corridor Study are assumed to be ready to move further into project development (i.e. environmental/NEPA). In the case of interchanges at 47th Avenue and Merrifield Road/CR 6, this phase includes completion of an IJR. However, some of these actions may not result in a signed environmental document until such time as Federal funds are programmed, or FHWA fiscal constraint requirements can be met.
- **Right-of-Way, Design and Construction (Advanced Project Development):** Reflects efforts following completion of a signed environmental document. These are stages of advanced project development involving actual final design and right of way. Included in this phase would also be efforts to secure final programming (or project selection). Advanced project development includes the construction phase.

The implementation plan will assign one of these two general categories to identified improvements listed in the I- 29 Corridor Study. Smaller less significant projects which will likely fit more easily into the GF-EGF TIP or move quickly in the first phase or two are not noted. For more complex projects, the transition through these stages is more gradual, and more thoughtfulness is needed on how these projects continue to transition out of planning and further into project development.

32ND AVENUE/US 81B NEEDS

Due to the major investment needed at 32nd Avenue/US 81B, and the coordinated needs between 32nd Avenue/US 81B and 47th Avenue, additional analysis was completed to determine the approximate thresholds where 32nd Avenue/US 81B begins to breakdown. This analysis increased the modeled traffic volumes based on linear growth between the existing and approved 2025 ADT projections and then between the approved 2025 ADT and 2040 ADT projections.

- According to the 2025 P.M. peak hour analysis, deficiencies along the corridor emerged. However, there are key issues that emerge before 2025.
  - » At around 40 percent (2019) of the growth between 2015 and 2025, deficient operations are expected at 38th Street.
  - » By 70 percent (2022) of the growth between 2015 and 2025, the northbound off-ramp begins to queue onto the interstate.
  - » By 2025, deficient operations are expected at the West Ramp, East Ramp and 38th Street intersections during the P.M. peak hour.

- With the Spot Improvements on 32nd Avenue/US 81B, 2025 operations are improved to LOS "D" across the corridor. However, as growth continues capacity constraints on the overpass bridge begin to emerge around 2030, or 30 percent of growth expected between 2025 and 2040. The capacity constraints result in deficient operations at the West Ramp intersection and queues onto the interstate.

Figure 8-2: 2015 to 2025 Growth Thresholds with Existing Configuration on 32nd Avenue/US 81B

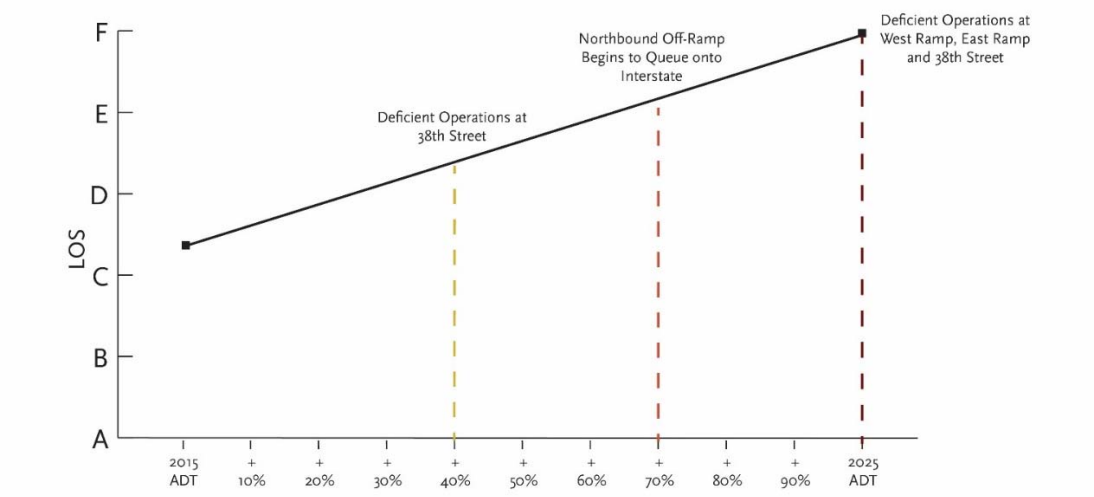
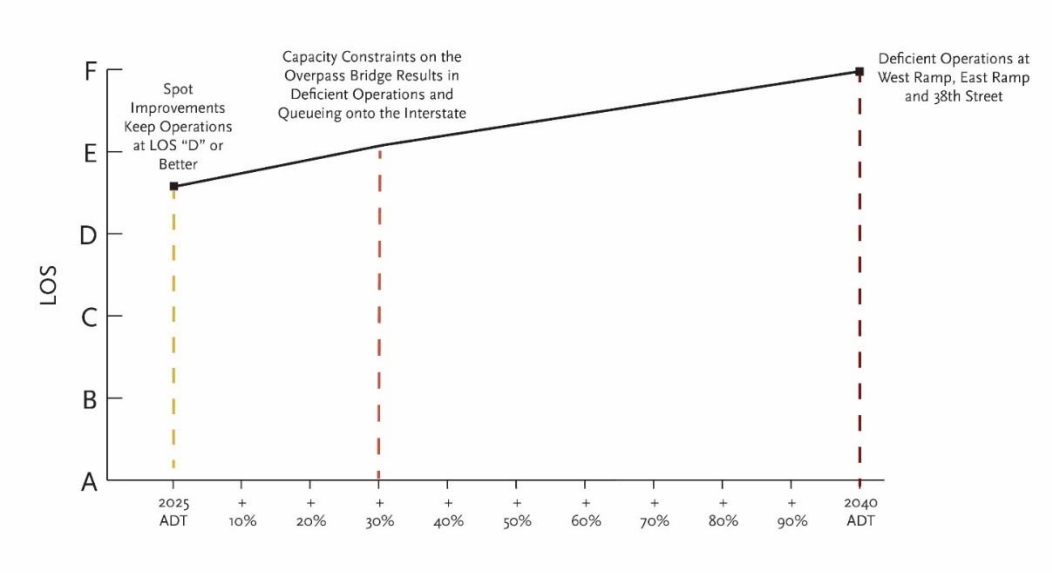


Figure 8-3: 2025 to 2040 Growth Thresholds with Spot Improvements on 32nd Avenue/US 81B



ANCILLARY INVESTMENTS TO SUPPORT 47TH AVENUE INTERCHANGE

As noted, the Implementation Plan for the I-29 Corridor Study is not cost constrained. Further, it is a demonstration of needed improvements more narrowly focused on the I-29 Corridor and adjacent systems. To that end, development of a future interchange at 47th Avenue will require substantial additional investment in local roadways. In current year dollars, total needs to provide local roadway system to support 47th Avenue is estimated at nearly $17.0 million. This system of roadways is shown as part of Figure 8-1 and Figure 8-4, and includes extension and/or completion of 34th Street, 38th Street,

Grade Separation) are shown with a potential for Regional funding. Urban funds are shown on both Regional and or Interstate projects. This is done to indicate that broad partnerships may be needed to fully program these investments on a more accelerated time frame.

Programming Splits

Table 8-5 demonstrates a tentative set of programming and cost splits for the most significant project improvements identified through the I-29 Corridor Study. These cost splits are based upon current local, state and federal funding guidance. More specific guidance regarding local, state and federal funding splits is available in the *NDDOT Local Government Manual*. These splits generally follow that guidance, however Table 8-5 represents a best-case scenario. It is likely many of these improvements will require more local resources to construct improvements in the phases identified by the I-29 Corridor Study.

Table 8-5: Funding Matrix

Project	Total Cost (2017 $)	Total Cost (YOE $)	Funding Split (YOE $)			
			Federal	State	City	County
North Washington/CR 11/US 81						
Access Modification + Ramp Modification	**$5.700**	**$12.489**	$9.99	$1.25	$0.000	$1.25
Gateway Drive/US 2						
Northeast Loop Modification	**$6.600**	**$14.461**	$11.57	$1.45	$1.45	$0.000
Gateway Drive Grade Separation	**$28.300**	**$62.009**	$49.61	$6.20	$6.20	$0.000
DeMers Avenue/ND 297						
42nd Street Grade Separation*	**$40.000**	**$61.578**	$21.55	$0.000	$40.026	$0.000
Capacity Enhancements (No Bridge Widening)	**$7.400**	**$9.003**	$7.20	$0.90	$0.90	$0.000
32nd Avenue/US 81B						
Reconstruct 38th Street to Columbia Road	**$12.000**	**$18.473**	$14.78	$1.85	$1.85	$0.000
47th Avenue						
Construct New Interchange	**$28.500**	**$43.874**	$39.49	$4.39	$0.000	$0.000
Merrifield Road/CR 6						
Modify Overpass to Full Interchange	**$16.480**	**$36.110**	$32.50	$3.61	$0.000	$0.000

** 25% Urban Roads + 10% Regional; Balance of cost Local*
***YOE costs were estimated using the midpoint of the implementation phase for which they are anticipated to be constructed.*

URBAN REGIONAL & URBAN ROADS
PROJECT SCOPING WORKSHEET

DATE:11/28/2018

PRIORITY# Principal Arterial Bus US 81/S Washington St Reconstruction in 2024

City: Grand Forks Street: Bus US 81/S Washington St (Hammerling Ave to 8th Ave S)

County: Grand Forks Length: ~0.5 miles

Proposed Improvement: Reconstruction of Bus US 81/ S Washington St from Hammerling Ave to 8th Ave S.

Cost Estimates Breakdown (in $1,000)							
Alternate	PE	R/W	Utility	Constr.	Bridges	Misc.	Total
				5,700			

Present Road: Surface Width? 60' Surface Type? 9" Concrete with asphalt overlay

On Street Parking Allowed? _____ Present: (No) One Side Both Sides Angle Parallel
Proposed: (No) One Side Both Sides Angle Parallel

Proposed Improvements

ADT Present: _____ Yr: _____
ADT Design: _____ Design year _____
Design Speed: 35 MPH
Maximum Curve: _____
Maximum Grade: _____

Travel Way Width :60'
No. of Lanes: 5
Roadway Width:60'
Min. R/W Width:_____

Right of Way

Will Additional ROW or easement be acquired? Likely ROW acquisition by: City (DOT)
Has any ROW easements been acquired since 7-1-72: Likely ROW Condemnation by: City DOT
Est. No. of occupied family dwelling to be displaced? 0
Est. No. business to be displaced? 0

Impacts

Will there be any additional Impacts (Cultural and Environmental Resources): None anticipated
Will there be any impacts to 4(f) or 6(f) properties: None Anticipated
Airports: None Anticipated Public Hearings: Maybe
Environmental Classification (Cat-Ex, EA, EIS): PCE or DCE
Transportation Enhancements: Will be determined during NEPA phase
Intermodal: Will be determined during NEPA phase
Pedestrian Needs: Will be determined during NEPA phase

Railroads Crossings

RR Name	No. Xings	No. Tracks and Type of Crossing	Daily Train Movements	Train Speed	Present Protection	Proposed Protection
	None					

Purpose and Need Statement

1. When was the current street section built. Has there been any additional maintenance to the street section.
   Original Construction was in 1952, with overlays in 1974, 1985, 2002, and 2018. At the time of the proposed construction the existing asphalt overlay will be 6 years old and the underlying concrete will be 72 years old.

2. How many driving lanes and turning lanes does the street section currently have and what are the widths of the driving and turning lanes.
   There are currently five lanes, two through lanes in each direction with s shared left turn lane. The through lanes and turn lanes are approximately 12’ wide.

3. What is the condition of the pavement section.
   The pavement was recently overlaid and the surface is in good condition.

4. How are the existing geometrics of the roadway?
   The existing roadway alignment is relatively straight and level.

5. Are there any access points to adjoining properties that present a special concern?
   There are a number of existing access point for businesses along this corridor. Past studies have indicated that some effort should be made in reducing the number of access points in the future.

6. Are there any existing sidewalks or shared use path in place?
   There are existing sidewalks on both sides of the road. These sidewalks span from the back of the curb to the edge of the existing right of way line. Numerous street lights and signs can be found in the sidewalk.

7. What is the condition of the existing storm sewer? Will any additional storm sewer work need to be done along with this project?
Existing storm sewer had surface repair work completed by the city prior to the mill and overlay project in 2018. This did not address any subsurface issues. Further investigation will be required to determine the extent of any storm sewer repairs or replacement.

8. What is the condition of the city's water and sewer line? Will any work have to be done to the city's water and sewer lines along with this project?
The majority of city sanitary sewer and watermain do not parallel Bus US 81 and instead cross at the sidestreet locations. Additional investigations will need to be done to determine any additional work which may be requested with the project.

9. Describe the existing lighting system currently in place? What type of standards and luminaires are currently being used?
The existing street lighting is 40' steel davit arm style poles, with a 250W High Pressure Sodium (HPS) fixture with staggered spacing placed on both sides of the road.

10. What intersections currently have traffic signals? Are there any locations that have a high accident rate? Are additional turning lanes needed?
There is a traffic signal located at the intersection of Bus US 81/S Washington St and 13th Ave S.

Remarks:

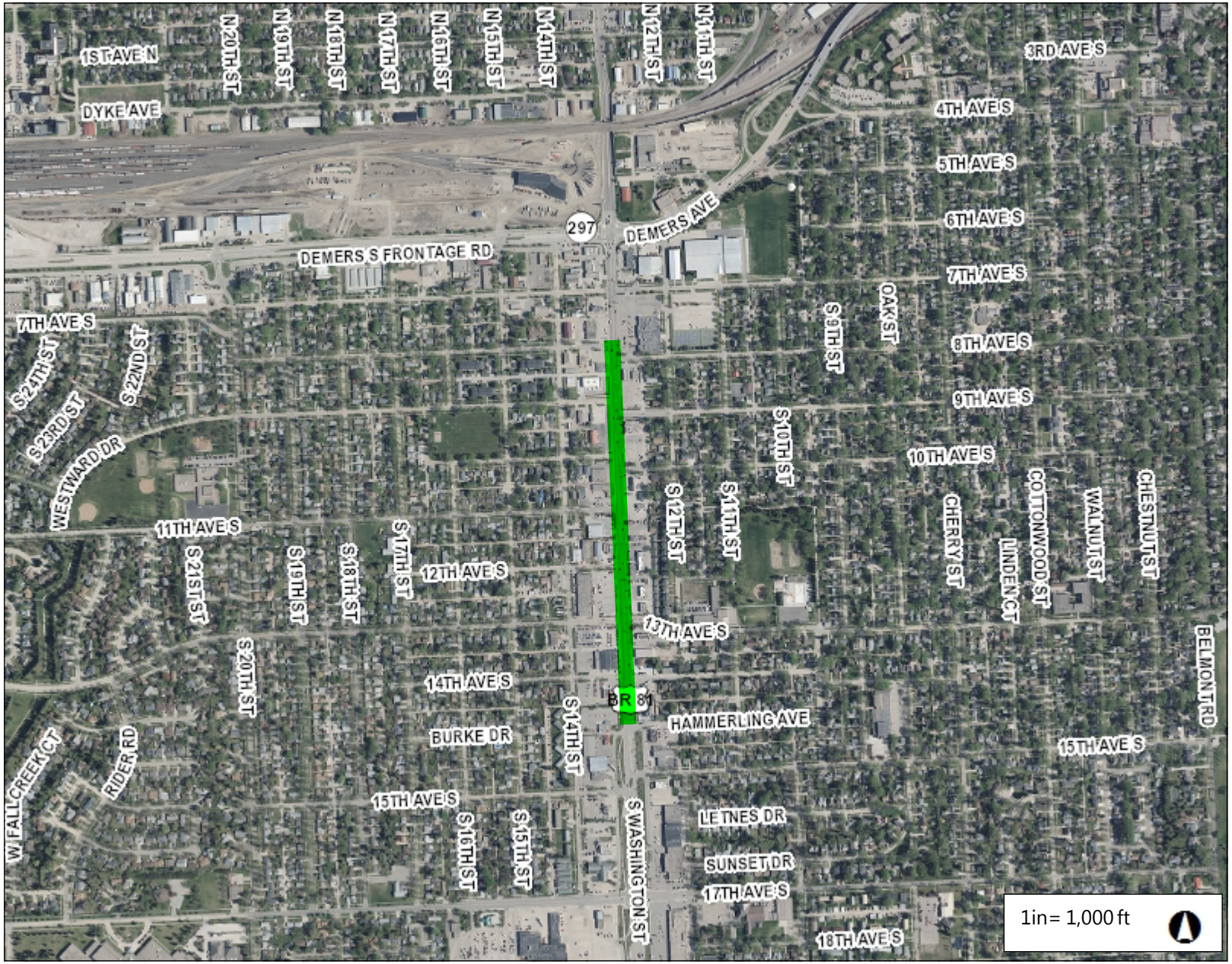
Access control to reduce crashes is a priority

City Engineer: _____ Date: 11/28/18

District Engineer: _____ Date: 12/3/18

Note: Please attach a map showing location and extent of the project.

Bus US 81/S Washington St Reconstruction 8th Ave S to Hammerling Ave



Legend

- Intersections
- Boundary City Limit
- Boundary Gray Area
- EGF Streets
- Road Labels

Notes

2,000.0 0 1,000.00 2,000.0 Feet

NAD_1983_StatePlane_North_Dakota_North_FIPS_3301_Feet
City of Grand Forks GIS

Grand Forks - East Grand Forks
Metropolitan Planning Organization

MPO Staff Report
MPO Technical Advisory Committee: December 12, 2018
MPO Executive Board: December 19, 2018

RECOMMENDED ACTION: Consider Urban Local Roads Candidate Projects for the FY2020-2023 TIP as Being Consistent with the Metropolitan Transportation Plan and Give Priority Ranking

Matter of Urban Local Roads Candidate Projects for 2020-2023 TIP.

Background: The MPO and NDDOT formally solicited candidate projects for the 2020-23 TIP/STIP. In order for the MPO to give both the local agencies as much time as possible yet still allow MPO staff to "vet" the candidate projects, the project submittal deadline to the MPO was December 4th.

One application was submitted by the City of Grand Forks; project submitted was rehab work on the Columbia Road Overpass. The rehabilitation work on the Columbia Rd Overpass will likely include replacement of the pot bearings at the north abutment, replace pier bearings, as well as sand blasting and painting of the bridge girders. They hired Houston Engineering to assist in identifying the items of the structure that need work and assist in identifying the timing or priority of the found issues. Pages from the draft report as included. The cost estimate is $8.1M with a federal request of $6.5M. This cost estimate is 45% higher than the cost estimate in the MTP.

The City is also resubmitting its request for updating the City's traffic signal systems; a project scoping worksheet was not submitted but the project is shown in the Summary List. The worksheet was submitted last year. The request was not programmed into the current TIP/STIP as having funds attached. The projects are listed as "illustrative" as being desired to be programmed if funding can be found. Due to this status, the 2045 MTP had to identify that during the short-term period, the financial plan set-aside funds to bring this project as being consistent and within the fiscal constraint of the 2045 MTP.

Separate staff reports are released for the ND Transportation Alternative, ND Urban Grant (Main Street), HSIP, and Urban Regional Roads.

Findings and Analysis:

- The MPO must annually prepare a Transportation Improvement Program
- TIP eligible projects with the MPO Area must be submitted to the MPO for its consideration
- The projects submitted are being considered as being consistent with the Metropolitan Transportation Plan with the understanding that as FAST is implemented this determination

is subject to change.
- One project should be given high priority ranking.

Support Materials:

- Pages from MTP
- Applications

City of Grand Forks Financially Constrained State of Good Repair (2023-2045)

Ref#	Roadway	Termini	Project Type	Agency	Time Frame	Federal Funds and Local Match	Additional City Funds	YOE Total
REP-043	Columbia Road	Columbia Road Railroad Overpass North of DeMers Ave.	Overpass	City of Grand Forks	Short-Range	**$5,625,000**	**$1,856,000**	**$7,481,000**
REP-045	Point Bridge	Bridge	Rehabilitation	City of Grand Forks	Short-Range	**$1,048,000**	**$0**	**$1,048,000**
REP-301	Various	Various	Traffic Signal Upgrade	City of Grand Forks	Short-Range	**$3,901,000**	**$250,000**	**$4,151,000**
REP-044	North Columbia Road	8th Avenue North to US 2 (Gateway Drive)	Reconstruct	City of Grand Forks	Short-Range	**$7,994,000**	**$2,638,000**	**$10,632,000**
REP-046	North Columbia Road	University Avenue to 8th Avenue North	Reconstruct	City of Grand Forks	Mid-Range	**$9,724,000**	**$3,209,000**	**$12,933,000**
REP-049	South Washington Street	32nd Avenue South to 47th Avenue South	Concrete Pavement Rehabilitation (CPR)	City of Grand Forks	Mid-Range	**$8,428,000**	**$2,781,000**	**$11,209,000**
REP-050	South Columbia Road	17th Avenue South to 32nd Avenue South	Concrete Pavement Rehabilitation (CPR)	City of Grand Forks	Mid-Range	**$8,590,000**	**$2,835,000**	**$11,425,000**
REP-051	South Columbia Road	DeMers Avenue to 17th Avenue South	Concrete Pavement Rehabilitation (CPR)	City of Grand Forks	Mid-Range	**$7,131,000**	**$2,353,000**	**$9,484,000**
REP-060	S 48th Street	DeMers Avenue to 10th Avenue South	Reconstruct	City of Grand Forks	Mid-Range	**$3,241,000**	**$1,070,000**	**$4,311,000**
REP-061	S 48th Street	10th Avenue South to 15th Avenue South	Reconstruct	City of Grand Forks	Mid-Range	**$3,241,000**	**$1,070,000**	**$4,311,000**
REP-041	32nd Avenue South	South 10th Street to Cherry Street	Reconstruct	City of Grand Forks	Mid-Range	**$1,783,000**	**$588,000**	**$2,371,000**
REP-052	Columbia Road**	47th - 62nd and Washington SED - 62nd	Maintenance and Operations	City of Grand Forks	Long-Range	**$6,847,000**	**$2,260,000**	**$9,107,000**
REP-053B	Columbia Road	32nd Avenue South to 47th Avenue South	Concrete Pavement Rehabilitation (CPR)	City of Grand Forks	Long-Range	**$11,763,000**	**$3,882,000**	**$15,645,000**
REP-302	Various	Various	New Traffic Signal or Roundabout	City of Grand Forks	Long-Range	**$2,883,000**	**$951,000**	**$3,834,000**
REP-303	Various	Various	New Traffic Signal or Roundabout	City of Grand Forks	Long-Range	**$2,883,000**	**$951,000**	**$3,834,000**
REP-304	Various	Various	New Traffic Signal or Roundabout	City of Grand Forks	Long-Range	**$2,883,000**	**$951,000**	**$3,834,000**
REP-307	Various	Various	Traffic Signal Upgrade	City of Grand Forks	Long-Range	**$8,937,000**	**$2,949,000**	**$11,886,000**
REP-042	32nd Avenue South	Cherry Street to Belmont Road	Reconstruct	City of Grand Forks	Long-Range	**$3,921,000**	**$1,294,000**	**$5,215,000**
					Totals	**$100,823,000**	**$31,888,000**	**$132,711,000**

** Columbia Road project includes two separate termini. These projects are being packaged together by the City of Grand Forks for a future NDDOT Urban Roads Program grant funding request.

PROJECT SUBMITTAL LIST

Entity: City of Grand Forks ***Contact Person:*** Allen Grasser ***Revision: October 2013***

Date: November 27, 2018 ***Phone Number:*** 701-746-2640 ***If you have questions with filling out the list, please contact Stacey Hanson at 701-328-4469***

FISCAL YEAR	FUNDING CATEGORY[1]	FUNCTIONAL CLASSIFICATION[2]	INVESTMENT STRATEGY[3]	TYPE OF WORK[4]	PROJECT LOCATION	PROJECT COST				
						TOTAL	FEDERAL	STATE	LOCAL	NON-PARTICIPATING
2019					No 2019 Urban Projects					
2020	URP	Minor Arterial	PM	Mill & Overlay	University Ave (State St to N 3rd St)	$ 3,073,000	$ 2,459,000		$ 614,000	$ 388,000
2021	URP	Principal Arterial	N/R	Reconstruction	N Columbia Rd (Columbia Rd Overpass to Unviersity Ave)	$ 5,470,000	$ 4,376,000		$ 1,094,000	$ 830,000
2022	**URP**	**Principal Arterial / Minor Arterial / Collector**	**PM**	**Signal Maintenance**	**Traffic Signal Maintenance Citywide Non-Regional**	**$ 2,850,000**	**$ 2,280,000**		**$ 570,000**	**$ 250,000**
2023	**URP**	**Principal Arterial**	**PM**	**Bridge Maintenance**	**Columbia Rd Overpass**	**$ 8,103,000**	**$ 6,482,000**		**$ 1,621,000**	**$ 500,000**

Notes **Description**

(1) *PriR = Primary Regional, SecR = Secondary Regional, URP = Urban Roads Program, TA = Transportation Alternatives, INT = Interstate, BRI = Bridge*

(2) *Interstate, Principal Arterial, Minor Arterial, Collector*

(3) *PM = Preventive Maintenance, MiR = Minor Rehabilitation, SI = Structural Improvement, MaR = Major Rehabilitation, N/R = New/Reconstruction*

(4) *Brief description of the project (Exs: Thin Lift Overlay, Mill and Overlay, Concrete Pavement Repair, etc.)*

URBAN REGIONAL & URBAN ROADS
PROJECT SCOPING WORKSHEET

DATE: 11/27/2018

PRIORITY# 2023-URP

City: Grand Forks Street: Columbia Rd Overpass

County: Grand Forks Length:~1,420 ft

Proposed Improvement: The rehabilitation work on the Columbia Rd Overpass will likely include replacement of the pot bearings at the north abutment, replace pier bearings, as well as sand blasting and painting of the bridge girders.

Cost Estimates Breakdown (in $1,000)							
Alternate	PE	R/W	Utility	Constr.	Bridges	Misc.	Total
				8,103			

Present Road: Surface Width? 54’ Surface Type? Concrete

On Street Parking Allowed? No Present: (No) One Side Both Sides Angle Parallel
Proposed: (No) One Side Both Sides Angle Parallel

Proposed Improvements

ADT Present: _18,000_____ Yr: __2015_____ Travel Way Width : 65’
ADT Design: _____ Design year _____ No. of Lanes: 4
Design Speed: 35mph Roadway Width: 54’
Maximum Curve: _____ Min. R/W Width:_____
Maximum Grade: _____

Right of Way

Will Additional ROW or easement be acquired? No_ ROW acquisition by: City DOT
Has any ROW easements been acquired since 7-1-72: _____ ROW Condemnation by: City DOT
Est. No. of occupied family dwelling to be displaced? 0
Est. No. business to be displaced? 0

Impacts

Will there be any additional Impacts (Cultural and Environmental Resources): There is a potential for impacts that could be found of a typical bridge rehabilitation project. These potential impacts will be further evaluated through the NEPA process.
Will there be any impacts to 4(f) or 6(f) properties: No
Airports: No Public Hearings: No
Environmental Classification (Cat-Ex, EA, EIS): Cat-Ex
Transportation Enhancements: None
Intermodal: None
Pedestrian Needs: None

Railroads Crossings						
RR Name	No. Xings	No. Tracks and Type of Crossing	Daily Train Movements	Train Speed	Present Protection	Proposed Protection
BNSF		22 Railyard	Unknown		Grade Separation	Grade Separation

Purpose and Need Statement

1. When was the current street section built. Has there been any additional maintenance to the street section.
   Structure originally constructed in 1984
   Structure widened in 1989
   Finger joint and approach panel replacement in 2007
   Bridge deck slab repair 2012
   Bridge bearing replacement and deck slab repair in 2014

2. How many driving lanes and turning lanes does the street section currently have and what are the widths of the driving and turning lanes.
   Four approximately 12’ wide driving lanes, no turn lanes are present

3. What is the condition of the pavement section.
   The Upper Great Plains Transportation Institute completed data collection for both Pavement Condition Index (PCI) and International Roughness Index (IR) in 2015. This overpass had seven data points which can be found in the Geographic Roadway Infrastructure Tool. All seven of the data points had PCI scores of 100 and IRI ranging between 80 and 134 with an average of 97. In 2018 the City of Grand Forks hired Interstate Engineering to assemble a maintenance and repair planning document for the Columbia Rd Overpass. This document provides a list of maintenance and repair recommendations for the next ten years.

4. How are the existing geometrics of the roadway?
The geometrics of the overpass appear to be sufficient.

5. Are there any access points to adjoining properties that present a special concern?
There is a pedestrian walkway from the Boden Apartments on the west side which allows pedestrians to go from the Boden to the Columbia Rd overpass enclosed walkway system.

6. Are there any existing sidewalks or shared use path in place? Yes there is an enclosed walkway on the west side of the structure

7. What is the condition of the existing storm sewer? Will any additional storm sewer work need to be done along with this project?
There are no storm sewer concerns.

8. What is the condition of the city's water and sewer line? Will any work have to be done to the city's water and sewer lines along with this project?
There are no water or sewer concerns.

9. Describe the existing lighting system currently in place? What type of standards and luminaires are currently being used?
400W High Pressure Sodium street light fixtures are installed on the west side of the structure

10. What intersections currently have traffic signals? Are there any locations that have a high accident rate? Are additional turning lanes needed?
No traffic signals are present on the overpass. No additional turn lanes are being requested at this time.

Remarks:

_____

_____

_____

_____

City Engineer: _____ Date: 11/20/18

Note: Please attach a map showing location and extent of the project.

Columbia Rd Overpass Bridge Maintenance

Legend

- Intersections
- Boundary City Limit
- Boundary Gray Area
- EGF Streets
- Road Labels

Notes

800.0 0 400.00 800.0 Feet

NAD_1983_StatePlane_North_Dakota_North_FIPS_3301_Feet
City of Grand Forks GIS

B. Recommended Actions

1. Monitoring Program

   a. Piers

   In addition to the bi-annual inspections it is recommended that the plumbness of the piers be monitored. This involves using a carpenter's level to measure the plumbness or degree of out of plumb at each column of each pier. The piers should be marked so that plumbness is checked at the same place on each column. In order to determine if temperatures affect the pier movements the plumbness should be checked at the coldest period of the winter and hottest part of the summer. After this data has been collected for several years it may become evident if there's continued movement (tilting) of the piers or if checking plumbness during the bi-annual inspections will provide sufficient information to detect if unusual movements are occurring.

   b. Pot Bearings

   The bi-annual inspections performed by the NDDOT should include reviewing the condition of each pot bearing especially those on the piers. The observations in 2018 indicate that a large majority of the pier bearings are leaking lubricant. The bi-annual inspections should include visual review of each bearing with special attention for the appearance of small, black "shavings" which signifies deterioration of the elastomeric pad at the base of the pot.

   At the abutments the state of corrosion should be noted along with any debris that can trap moisture against the bearing components on the girders themselves.

2. Maintenance Program

   Once weather conditions permit each spring the abutments should be flushed off to remove sediments that have built up on the pedestals. Preferably this would be performed after the deck is swept.

   Flushing of the abutment seats should also be performed late in the fall, prior to when freezing of the runoff could cause problems under the bridge.

3. Repair Items

   The following repair items, listed in order of priority, will be required to maintain the integrity of the Columbia Road Overpass.

a. Replace Pot Bearings at North Abutment

The pot bearings under girders 3 and 4 on the north abutment are heavily corroded due to historical soil impaction.

Figure 6 - Bearing at North Abutment under Girder No. 3

Figure 7 - Bearing at North Abutment. Girder No. 4 Note notch cut into top of pedestal because pedestal was cast too tall. Also note failed paint coating in vicinity of welds between sole plate and girder flange.

This corrosion has remove the protective coatings and allowing the corrosion to continue. These bearings, in the present condition are allowing the girders to move longitudinally and laterally. It is not known if the elastoremic pads that allow for bearing rotation are intact as these are located at the base of the pot and not exposed to view. There was no evidence of the fine black “filings” which indicate failure of the elastomeric pads. Lack of this finding is inconclusive since the amount of runoff that falls from the finger joint to the bearing areas could have flushed away such evidence away.

As with the replacement of the bearing under girder 4 at the south abutment, the concrete pedestals will need to be removed and reconstructed.

The bearing under girder 4 is in more critical condition because of the manner in which the sole plate is welded to the girder. There are small welds on the south edge of the sole plate. The other edges of the sole plate are inaccessible so these are the only welds. The failure of the paint coating isolated to areas of the welds suggests that the welds are undergoing excessive movements or are beginning to crack (Figure No. 7).

As shown in **FIGURES 8** and **9**, respectively the the North Abutment bearings under girders 1 and 2 have not correded as severely. Their condition at the time of this report does not warrant replacement. However, it may be prudent to replace these bearings when the bearings under Girders 3 and 4 are replaced due to the relative costs of mobilization and traffic control required for bearing replacements.

Figure 8 – Bearing at North Abutment under Girder No. 1 (West Fascia Girder)

Figure 9 – Bearing at North Abutment under Girder No. 2. Note bars on sides of sole plate that provide lateral restraint.

Although not directly related to the replacement of bearings the concrete overlay should be replaced where the patches around the floor drains have failed along the west gutter line (**FIGURE No. 10** and **FIGURE No.11**).

Figure 10 - Failed patch over abandoned deck drain along west barrier (south drain)

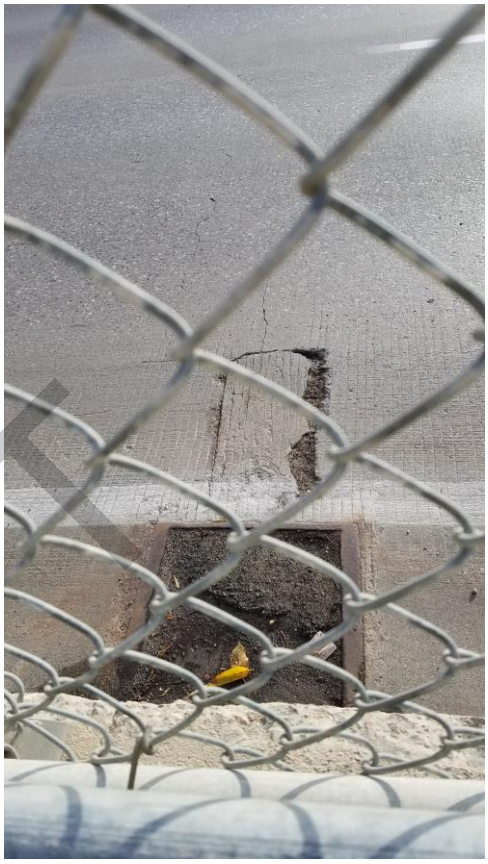


Figure 11 - Failed patch over abandoned deck drain west barrier (north drain)

b. Deck Surface Restoration

The driving surface has become worn to the point that the original tining of the low slump concrete overlay is, for the most part, obliterated in the wheel tracks of each lane. The roughness and thereby the friction and traction can be restored by grinding. Although the grinding will improve friction, the dynamic action of grinding may weaken the bond between the low slump overlay concrete and the structural concrete deck. The grinding should be limited in depth to reduce the dynamic forces impacted onto the overlay. Once the grinding is completed a penetrating surface treatment should be applied to the newly exposed surface. Diamond grinding can restore the friction of a concrete surface for 5 to 10 years, depending on depth of grinding, aggregate hardness in overlay and traffic characteristics (eg., percent of trucks).

c. Blast Clean and Repaint Girders

The paint coating system on the west (3) girders dates back to 1984 and the coating system on the west girder dates back to 1989. With the

exception of areas where the coating system was damaged by physical impacts (accidental) or jacking without adequate projection the coating system is intact. The main exceptions are at the girder ends where water and debris falls through the finger joints. Sand blasting and repainting this bridge will require restrictions on vehicle height on Demers Avenue, coordination with the BNSF Railroad and closing of the parking areas below and adjacent to the north (3) spans where the work is being performed over these areas.

In general, the useful life of paint coatings is difficult to predict since it is affected by environmental factors as well as maintenance.

Based on the present condition of the coating system it seems reasonable to expect the present coating to have a useful age of 40 years or more if areas where the coating has failed or become damaged are spot repaired.

Of importance during the sand blasting phase is the protection of the bearings to prevent damage to the stainless steel surface on the bottom of the sole plate, damage to the teflon pad or damage to the brass bearing seals in the pot. It would be prudent to have the bearing and weldment areas on the bottoms of the girders blast cleaned and painted as a part of the bearing replacement so that when the girders are painted each bearing can be masked off in its entirety.

d. Replace Pier Bearings

Although the pot bearings on the piers are showing signs of age they overall, still have useful life remaining. As noted in the recommendations for monitoring the need to replace the pier bearings will become apparent as the visual inspections start to detect isolated failures such as the elastomeric bearing pads failing.

Because of the relative cost of the traffic control necessary for replacement of pier bearings it is assumed that all of the pier bearings will be replaced at once. As bearing failures start to occur the decision to replace bearings on a piecemeal or all at once can be revisited.

e. Replace Low Slump Concrete Overlay

It is inevitable that, during the useful life of this bridge, the wearing surface will need to be replaced. The wearing surface consists of a 1.5 inch low slump concrete overlay. At present the repairs to the overlay made in 2014 are standing up to traffic and there is no visual evidence that delamination is occurring elsewhere.

There are (2) situations which could create the need to remove and replace the concrete overlay:

i. Rutting of the wheel tracks due to wear is so deep that deck grinding will not correct the rutting.

ii. Wide spread delamination that renders spot removal and replacement impractical.

Removal of the existing overlay can be performed in (2) lanes while traffic is allowed in the other (2) lanes. Placement of the new low slump concrete overlay will require closure of the entire structure to traffic. Traffic induced vibrations and movement can cause the bond between the overlay concrete and structural concrete to weaken or fail leading to delamination of the new overlay.

Since the placement of a new overlay and the replacement of the bearings will require closure of the bridge there may be some consideration in coordinating the replacement of this overlay is that one of these components may have remaining useful life when it is replaced just so the work coincides with replacement of the critical components.

A bituminous overlay should not be considered for this bridge. Bituminous pavements crack and allow the intrusion of salt laden runoff to collect between the bituminous and concrete layers. This leads to deterioration of the deck concrete and reinforcing steel that goes undetected until the bituminous material is removed. Furthermore, a darker deck surface will exacerbate the thermal expansion this structure experiences in the summer weather. Whereas a bituminous overlay may seem a lower cost, more convenient alternative, the use of bituminous surfacing will lead to premature deterioration of the structural concrete deck and in the long term, lead to more costly repairs.

f. Replace Approach Panels

Although the approach panels are not an integral part of the bridge the smoothness of the ride as traffic crosses from the approach panel to the bridge has a significant affect on the useful life of the bridge or approach components should the transition between the surfaces be rough. Planing of the approach panels may help the ride however the correction afforded by planing is limited by the elevation of the finger joints. Approach panels can be removed and replaced piecemeal and therefore will not require closure of the bridge to traffic but can be accomplished with lane closures.

The approach panels are in fair to good condition and may not require replacement for ten or more years. It is recommended that City Staff monitor the condition of the approaches since they are not subject to the bi-annual inspections of the bridge performed by the NDDOT.

IV. PROBABLE COSTS FOR CONSTRUCTION

A. General

As noted earlier the probable costs presented here include a contingency of 25% added to cover the cost of construction work items that may become apparent and necessary as the planning phases of the work evolve into detail design.

The probable costs also include an allowance of 25% of the construction cost to cover the cost of non-construction costs such as project administration, engineering, legal and interest.

Finally, the probable costs are based on 2018 cost data and no attempt is made to adjust these costs to reflect construction market trends and inflation for work performed in the future.

B. Recommended Actions, Schedules and Probable Costs for Repair Items

1. Replace (4) Bearings at North Abutment

   a. Major Tasks

      i. Construct traffic control to reduce traffic to 2-lane, 2-way traffic in the east lanes and close off UND parking area below bridge.

      ii. Remove and replace concrete patches in the low slump concrete overlay at the (2) abandoned floor drains along the west gutter.

      iii. Remove and replace pot bearings and concrete pedestals under Girders 4 and 3.

      iv. Reconfigure traffic control to shift traffic to the (2) west lanes once the patches at the floor drains have had sufficient time to cure.

      v. Remove and replace concrete pedestals and pot bearings under Girders 2 and 1.

      vi. Remove traffic control and open bridge to 4-lane, 2-way traffic.

      vii. Blast clean and paint north ends of all (4) girders including new bearings and their weldments to the beam flanges.

      viii. Remove traffic control to reopen UND parking lot under bridge.

   b. Schedule

      i. Design for bid letting in late 2019

         - Bearing delivery occurs approximately (4) months after approval of shop drawings.
         - Starting no sooner than late 2019 or early 2020 allows the City to budget for the costs of their work and possibly procure state or federal funding.

      ii. Construction can begin during freezing weather but must be completed (painting) before cold weather sets in late in 2020.

   c. Probable Cost for Construction

      i. $490,000.00

2. Deck Surface Restoration

   a. Major Tasks

      i. Construct traffic control to reduce traffic to 2-lanes and restrict traffic to 2-way traffic in the remaining (2) lanes.

      ii. Diamond grind closed lanes tapering grinding to feather in along barrier and finger joints at ends.

      iii. Construct traffic markings on refinished surface.

      iv. Apply penetrating surface treatment to refinished surface.

      v. Reposition traffic control to open resurfaced lands to traffic and close other (2) lanes.

      vi. Diamond grind closed lanes, construct traffic markings penetrating surface treatment on refinished lanes.

      vii. Remove traffic control to open all (4) lanes to traffic.

   b. Schedule

      Although deck surface treatment is a lower priority than the abutment bearing replacement in terms of structural preservation this work could be scheduled as soon as 2019. The availability of funds to perform this work could delay when this work can be performed. If postponed to 2020 it is imperative that the contracts for bearing replacement and deck grinding are coordinated since grinding cannot be performed over girders where they are temporarily supported by jacks.

   c. Probable Cost for Construction

      i. $293,000.00

3. Blast Clean and Paint Girders

   a. Major Tasks

      i. Construct work canopies over Demers Avenue and BNSF Tracks.

      ii. Blast clean and paint exposed surfaces of girders and bearings.

   b. Schedule

      i. The coating system on the original (3) girders will be 40 years old in the year 2024 so this is the tentative schedule based on present conditions.

      ii. Design should be completed so bids can be awarded in late 2023 or early 2024.

   c. Probable Cost for Construction

      i. $2,910,000.00

4. Replace Pier Bearings

a. Major Tasks

i. Construct traffic control to close bridge to traffic and establish detour.

ii. Jack and support beams

- This can be done at (1) pier at a time or multiple piers at once.

iii. Remove existing bearings including sole plate, masonry plate and pad.

iv. Install new bearings and secure to pier.

v. Construct temporary timber rail crossings at railroad tracks to provide access to piers nested between tracks.

vi. Construct temporary timber rail crossings at railroad tracks, in areas adjacent to piers to provide necessary work areas without having to remove tracks.

vii. Jack and support beams and remove and replace bearings similar to manner used at other piers.

viii. Paint bearings and portions of girders where weldment around sole plate was removed for welding or jacking damaged coating.

ix. Remove traffic control and reopen bridge to traffic.

b. Schedule

While the bearings are showing deterioration they are not showing any more deterioration than would be expected at their age. These bearings will continue to deteriorate overtime but it should be reasonable to assume that they have a remaining useful life of ten years (2028). The piers should be monitored as part of the bridges regular biannual inspection and the actual replacement date determined by their condition.

c. Probable Cost for Construction

i. $3,260,000.00

5. Replace Low Slump Concrete Overlay

a. Major Tasks

i. Construct traffic control to close bridge to traffic and establish detour.

ii. Mill off or otherwise remove existing concrete overlay.

iii. Sand blast and prep structural concrete deck to receive new concrete overlay.

iv. Cast low slump concrete overlay in (3) or (4) passes.

v. Re-establish traffic markings.

vi. Apply penetrating surface treatment on new overlay.

vii. Remove traffic control and re-open bridge to traffic.

b. Schedule

At present it seems reasonable to expect the existing low slump concrete overlay surface to have a remaining useful life of ten years (2028). This also coincides with the end of the useful life of diamond grinding to restore traction. Patch repairs may be required during this period. The actual replacement date should be determined by the condition of the surface such as rutting in the wheel tracks or areas needing patching becoming considerably larger and more frequent. Monitoring of the driving surface condition will provide a means to determine when replacing the concrete overlay is becoming necessary.

c. Probable Cost for Construction

i. $3,230,000.00

6. Replace Approach Panels

a. Major Tasks

i. Construct traffic control to close (2) lanes and limit traffic to single lane 2-way traffic across bridge and approaches.

ii. Remove and replace concrete approach pavements on 1/2 of each approach.

iii. Construct traffic markings on reconstructed approach panels.

iv. Shift traffic to lanes where new approaches have been completed.

v. Repeat process to replace remaining 1/2 of both approach panels including traffic markings.

vi. Remove traffic control and open bridge to 4-lane traffic.

b. Schedule

Because of the conditions of the approach panels is subject to soil movements and frost actions predicting the remaining useful life of the approach panels is far more difficult and no attempt is made here to predict when this work may become necessary.

c. Probable Cost for Construction

i. $632,000

V. EXECUTIVE SUMMARY

The Columbia Road Overpass is a public asset with a probable replacement cost of $18 million to $22 million. This Planning Document indicates (6) major actions for the repair and maintenance of this structure. The following table summarizes these tasks, probable costs and tentative schedules for these actions.

TABLE
PROBABLE COSTS

ACTION	TENTATIVE YEAR	PROBABLE COST
Replace Pot Bearings at North Abutment	2020	$490,000.00
Deck Surface Restoration	2019	$293,000.00
Blast Clean and Repaint Girders	2024	$2,910,000.00
Replace Pier Bearings	2028	$3,260,000.00
Replace Low Slump Concrete Overlay	2028	$3,230,000.00
Replace Approach Panels	Not Scheduled	$632,000.
	Total Probable Cost	$10,815,000.00

These actions, with continued maintenance and monitoring will serve to preserve the Columbia Road Overpass as an asset that will continue to provide safe and efficient traffic movements along Columbia Road in Grand Forks.

The worked noted above is scheduled over a number of years so that components of the structure are not replaced much before the end of their useful life. Combining any of the actions recommended here into a single project can be possible but should take into consideration available funding resources as well as public acceptance to the traffic delays that could be more significant with combined repair projects.

Finally, it should be noted that the total probable cost of construction based on the methodology used here is 80% of the total probable cost shown. The total construction cost for the repair items identified herein represents about 49% to 60% of the probable cost for replacement. This is below the recommended maximum ratio rehabilitation vs replacement cost of 70%. Also, the bridge, at an age of 34 years is at the average midlife age for bridge structures.

MAINTENANCE AND REPAIR PLANNING DOCUMENT

REPLACE POT BEARINGS AT NORTH ABUTMENT

COLUMBIA ROAD OVERPASS
BRIDGE No. 297-001-276
GRAND FORKS, NORTH DAKOTA
OCTOBER 2018

ITEM No.	REMARKS	DESCRIPTION	UNITS	EST. QUAN.	PROBABLE UNIT COST	EXTENDED PROBABLE COST
1	1	Mobilization	Lump Sum	1	$ 40,194.00	$ 40,194.00
2	2	Temporary Traffic Control (Detour)	Lump Sum	1	$ 20,000.00	$ 20,000.00
3	3	Jack and Support Beam	Each	4	$ 35,000.00	$ 140,000.00
4	4	Remove Existing Pot Bearing	Each	4	$ 10,000.00	$ 40,000.00
5		Furnish Pot Bearing	Each	4	$ 4,600.00	$ 18,400.00
6	5	Install Pot Bearing	Each	4	$ 12,000.00	$ 48,000.00
7	6	Remove Overlay Concrete	Sq. Ft.	12	$ 50.00	$ 600.00
8	6	Class Special Concrete (Deck Repair)	Sq. Ft.	12	$ 80.00	$ 960.00
					SUBTOTAL	$ 308,154.00
					CONTINGENCY (~25%)	$ 77,846.00
					SUBTOTAL	$ 386,000.00
					ADMINISTRATION, ENGINEERING, LEGAL, INTEREST (~25%)	$ 104,000.00
					ENGINEER'S PRELIMINARY OPINION OF PROBABLE COST FOR CONSTRUCTION	**$ 490,000.00**

REMARKS

1 Approximately 15% of sum of other items.

2 Includes sequential lane closures and closing of UND parking area below bridge at north end.

3 Includes jacking and supporting adjacent beam(s) as needed to prevent over-flexing deck to replace bearing under girder being lifted.

4 Includes removal of existing concrete pedestal. Approximately (2) Cu. Yd. per pedestal.

5 Includes reinforcing steel of approximately 250 Lbs and Class AE3 concrete of approximately (2) Cu. Yd. per pedestal.

6 For replacing failed patches over (2) abandoned deck drains along west barrier.

$490,000 with a 4% inflation calculating a 2023 year of expenditure compared to a 2018 estimate

$490,000 x 1.04^(2023-2018) = ~596,000
80% Federal Share = $477,000
20% Local Match = $119,000

MAINTENANCE AND REPAIR PLANNING DOCUMENT

BLAST CLEAN AND REPAINT GIRDERS

COLUMBIA ROAD OVERPASS
BRIDGE No. 297-001-276
GRAND FORKS, NORTH DAKOTA
OCTOBER 2018

ITEM No.	REMARKS	DESCRIPTION	UNITS	EST. QUAN.	PROBABLE UNIT COST	EXTENDED PROBABLE COST
1	1	Mobilization	Lump Sum	1	$ 242,610.00	$ 242,610.00
2		Railroad Protective Insurance	Lump Sum	1	$ 10,000.00	$ 10,000.00
3	2	Railroad Flagging	Days	50	$ 1,000.00	$ 50,000.00
4		Temporary Traffic Control (Detour)	Lump Sum	1	$ 35,000.00	$ 35,000.00
5		Blast Clean and Paint Structural Steel	Sq. Ft.	90,240	$ 10.00	$ 902,400.00
6	3	Waste Collection and Disposal	Lump Sum	1	$ 542,000.00	$ 542,000.00
7	4	Railroad Crossing	Each	13	$ 6,000.00	$ 78,000.00
					SUBTOTAL	$ 1,860,010.00
					CONTINGENCY (~25%)	$ 465,990.00
					SUBTOTAL	$ 2,326,000.00
					ADMINISTRATION, ENGINEERING, LEGAL, INTEREST (~25%)	$ 584,000.00
					ENGINEER'S PRELIMINARY OPINION OF PROBABLE COST FOR CONSTRUCTION	**$ 2,910,000.00**

REMARKS

1 Approximately 15% of sum of other items.

2 To be paid for as an allowance wherein Contractor gets reimbursed for actual cost from Railroad. Number of Days shown allows (5) weeks to blast clean and paint the three spans over Railroad Property.

3 Taken as ~60% of the total cost for Blast Clean and Paint Structural Steel.

4 Materials to be furnished by Contractor and installed by BNSF personnel to provide access over tracks as needed to work on piers on Railroad Property. Width of crossings TBD by Contractor. Probable Unit Cost includes installation so that Probable Cost for Construction includes work to be performed by BNSF Forces

$2,910,000 with a 4% inflation calculating a 2023 year of expenditure compared to a 2018 estimate

$2,910,000 x 1.04^(2023-2018) = ~3,540,000
80% Federal Share = $2,832,000
20% Local Match = $708,000

MAINTENANCE AND REPAIR PLANNING DOCUMENT

REPLACE PIER BEARINGS

COLUMBIA ROAD OVERPASS
BRIDGE No. 297-001-276
GRAND FORKS, NORTH DAKOTA
OCTOBER 2018

ITEM No.	REMARKS	DESCRIPTION	UNITS	EST. QUAN.	PROBABLE UNIT COST	EXTENDED PROBABLE COST
1	1	Mobilization	Lump Sum	1	$ 272,055.00	$ 272,055.00
2		Railroad Protective Insurance	Lump Sum	1	$ 10,000.00	$ 10,000.00
3	2	Railroad Flagging	Days	50	$ 1,000.00	$ 50,000.00
4		Temporary Traffic Control (Detour)	Lump Sum	1	$ 35,000.00	$ 35,000.00
5		Jack and Support Beam	Each	39	$ 20,000.00	$ 780,000.00
6		Remove Existing Pot Bearing	Each	39	$ 5,000.00	$ 195,000.00
7		Furnish Pot Bearing	Each	39	$ 4,300.00	$ 167,700.00
8		Install Pot Bearing	Each	39	$ 10,000.00	$ 390,000.00
9	3	Railroad Crossing	Each	13	$ 6,000.00	$ 78,000.00
10	4	Railroad Work Area	Each	6	$ 18,000.00	$ 108,000.00
					SUBTOTAL	$ 2,085,755.00
					CONTINGENCY (~25%)	$ 522,245.00
					SUBTOTAL	$ 2,608,000.00
					ADMINISTRATION, ENGINEERING, LEGAL, INTEREST (~25%)	$ 652,000.00
					ENGINEER'S PRELIMINARY OPINION OF PROBABLE COST FOR CONSTRUCTION	**$ 3,260,000.00**

REMARKS

1 Approximately 15% of sum of other items.

2 To be paid for as an allowance wherein Contractor gets reimbursed for actual cost from Railroad. Number of Days shown allows (10) days for each pier on Railroad Property.

3 Materials to be furnished by Contractor and installed by BNSF personnel to provide access over tracks as needed to work on piers on Railroad Property. Width of crossings TBD by Contractor. Probable Unit Cost includes installation so that Probable Cost for Construction includes work to be performed by BNSF Forces

4 Materials to be furnished by Contractor and installed by BNSF personnel to providework area over tracks adjacent to piers on Railroad Property. Width of work areas TBD by Contractor. Probable Unit Cost includes installation so that Probable Cost for Construction includes work to be performed by BNSF Forces.

$3,260,000 with a 4% inflation calculating a 2023 year of expenditure compared to a 2018 estimate

$3,260,000 x 1.04^(2023-2018) = ~3,967,000
80% Federal Share = $3,173,000
20% Local Match = $794,000

Summary Total
Total Project Cost = $596,000 + $3,540,000 + $3,967,000 = $8,103,000
80% Federal Share = $477,000 + $2,832,000 + $3,173,000 = $6,482,000
20% Local Match = $119,000 + $708,000 + $794,000 = $1,621,000

Overcoming Barriers **Strengthening Connections**

M.P.O. M.P.O. M.P.O.

Grand Forks - East Grand Forks Metropolitan Planning Organization

Ensuring Opportunities **Planning One Community**

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

MPO Staff Report
Technical Advisory Committee: December 12, 2018 1:30 pm
MPO Executive Board: December 19, 2018 12: 00 Noon

RECOMMENDED ACTION	Soliciting Comments & Preliminary Approval Bicycle and Pedestrian Element Draft Report

Matter of Request for comments and preliminary approval of the Bicycle and Pedestrian Element Draft Report. The element is a component of the Grand Forks-East Grand Forks 2045 Metropolitan Transportation Plan. Thus far, comments and preliminary approval has been received from the Grand Forks Planning & Zoning Commission. Technical Advisory Committee members will be informed on the comments and preliminary decisions recommended at East Grand Forks City Council Work Session – Tuesday, December 11, 2018 5:00 p.m. Council Ch. City Hall. Please see attached proposed meeting Schedule for soliciting comments, preliminary and final approval.

BACKGROUND:

The Bicycle and Pedestrian Element is an element of the 2045 Metropolitan Transportation Plan. The Plan is updated every five years. The Bicycle and Pedestrian Element was last updated in 2013. This element is being developed under the newly Congressional adoption of the new transportation bill "*Fixing America's Surface Transportation*" FAST.

FAST continued the requirement for performance measures and targets to be set for all modes of transportation. The Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) have put out regulations on how these performance measures and targets need to be presented. FAST also changed the way funding is made available and how much is available.

To be in compliance with the regulations and FAST the MPO has updated the goals and objectives to give more prominence to the performance measures the MPO already collects data on. The MPO has also updated financial information to reflect the changes in funding that FAST outlines. Staff from both Federal Highway Divisions, both State Departments of Transportation, both Counties and both Cities have been involved and concur with the update for the Bicycle and Pedestrian Element.

The Bicycle and Pedestrian Element is a full update that includes maps, data, and information about the pedestrian network and bicycle system throughout the Grand Forks-East Grand Forks Metro area. The proposed recommendations focus on: Improving user's safety and comfort; increasing the existing pedestrian network and bicycle system and Enhancing pedestrian network's accessibility & connectivity. This update promotes bicycle and pedestrian access to key local activity centers and destinations; and recommends improving existing on-road facilities, sidewalks, crosswalks, shared use paths and bicycle parking facilities.

With the adoption of this Bicycle and Pedestrian Element, the Multi-modal Metropolitan Transportation Plan out to the horizon year of 2045. The Plan identifies the goals, performance, and recommended projects for the total transportation system. This approach assists local stakeholders, agencies and decision makers in envisioning a transportation system that provides a fiscally constrained variety of complementary transportation choices for people, goods, services and activities.

Supporting different forms of transportation modes gives users the choice whether it is to make trips entirely by walking and biking or catching a ride on the public transit or in a vehicle transporting on the street highway network.

ANALYSIS AND FINDINGS OF FACT:

- The current MPO Bicycle and Pedestrian Element of the MPO's Transportation Plan has a request to consider an amendment.
- The City of Grand Forks City Comprehensive Plan does contain the MPO's Plan and needs to also consider the amendment.
- The recommended amendment does maintain a financial plan that is fiscally constrained.
- The City of Grand Forks City Comprehensive Plan needs to be amended to contain the updated Bicycle and Pedestrian Element.

SUPPORT MATERIALS:

- Summary of the Bicycle and Pedestrian Element
- More Information Available: https://theforksmpo.files.wordpress.com/2018/11/bicyclepedestriandraftreport.pdf

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 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.

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

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:

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

- 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.

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*** accidents involving pedestrians in Grand Forks from 2010 to 2016. The data suggested a decrease in the number of reported accidents based on their level of severity. Possible injury and incapacitating injury reported accidents 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 accidents 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 accidents. These involved two Non-Incapacitating and one possible injury accidents.

According to the information provided, there were no ***fatal*** accidents involving bicyclists in Grand Forks from 2010 to 2016. However, there were 68 bicycle related accidents. Although not shown in the table included in the report, the data suggest there is a perceived "*concentration*" of bicycle accidents 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 accidents. 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 accidents 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* accidents 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 Accidents 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 accidents ranged from 17 to 59 years old. The age of those impacted by the accidents ranged from 7-14 and 15 & over. Those involved in the traffic accidents included 10 males and 6 females. Data available indicates four bicycle and pedestrian accidents in East Grand Forks in same period.

There were neither bicyclists nor any reported pedestrian's accidents 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.

- 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.

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

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:

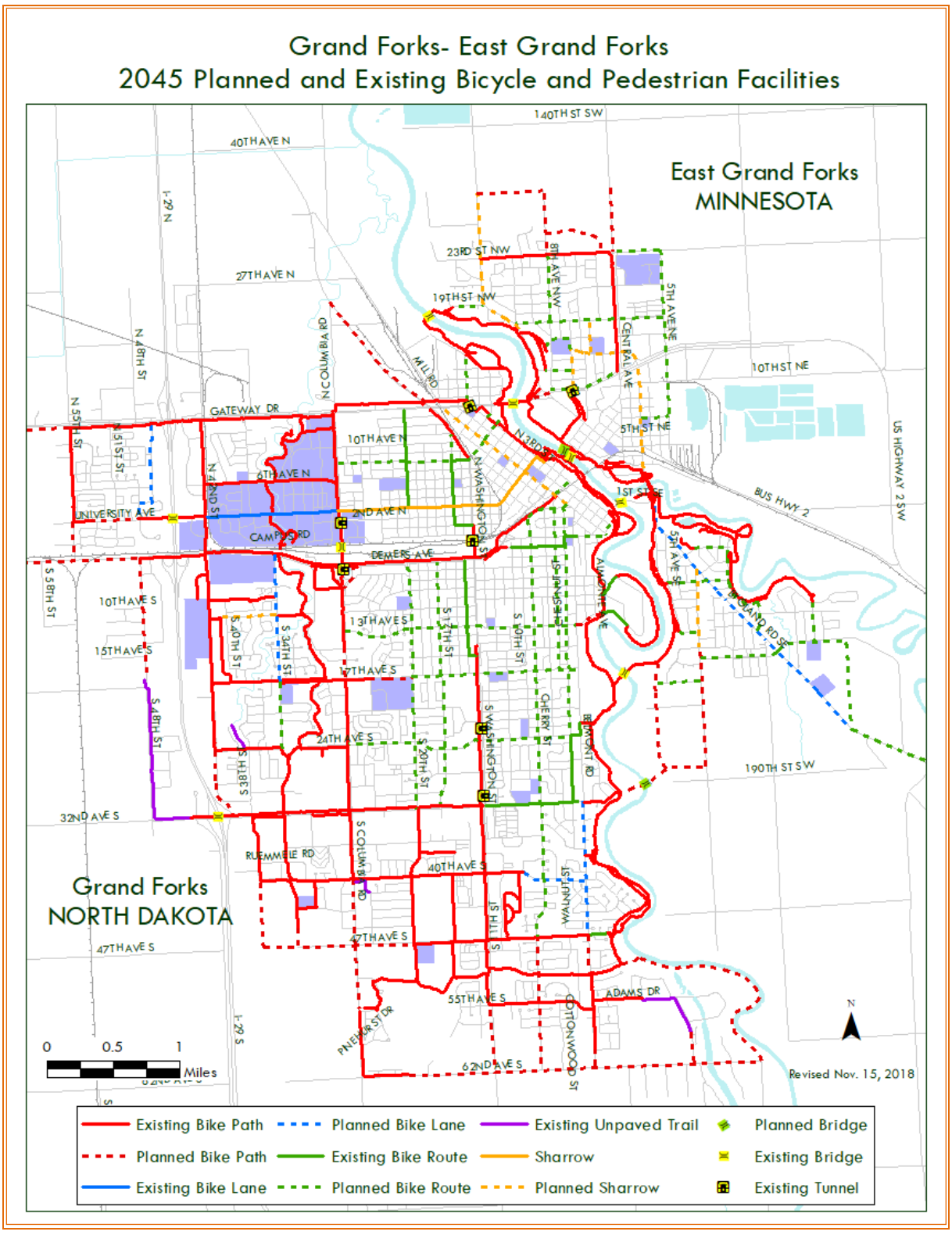
- Existing roadway characteristics, on the proposed corridors, facilitate accommodating the proposed designated bicycle facilities

- 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. Implementation & 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.

Overcoming Barriers Strengthening Connections

M.P.O. M.P.O. M.P.O. Grand Forks - East Grand Forks Metropolitan Planning Organization

Ensuring Opportunities Planning One Community

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

Soliciting Comments on Bicycle & Pedestrian Element Draft Report	December, 2018	See corresponding Locations

Comments on Draft Report:

1. Grand Forks Planning and Zoning Commission – Wednesday, December 5, 2018 5:30 p.m.
2. MPO Technical Advisory Committee – Wednesday, December 12, 2018 1:30 p.m. East Grand Forks Tr. Room
3. East Grand Forks City Council Work Session –Tuesday, December 11, 2018 5:00 p.m. Council Ch. City Hall
4. Grand Forks Council – Monday, December 17, 2018 5:30 p.m. Council Chambers City Hall
5. East Grand Forks City Council –Tuesday, December 18, 2018 5:00 p.m. Council Chamber City Hall—**CONSENT**
6. MPO Executive Policy Board – Wednesday, December 19, 2018 12:00 Noon East Grand Forks Tr. Room

Requesting Approval of Final Bicycle & Pedestrian Element Report	January, 2019	See corresponding Locations

Final Report -Adoption:

1. Grand Forks Planning and Zoning Commission –Wednesday, January 2, 2019 5:30 p.m. Council Ch. City Hall
2. MPO Technical Advisory Committee –Wednesday, January 9, 2019 1:30 p.m. East Grand Forks Tr. Room
3. East Grand Forks Planning and Zoning Commission –Thursday, January 10, 2019 12:00 Noon Tr. Room
4. East Grand Forks City Council Work Session– Tuesday, January 15, 5:00 p.m. Council Chambers City Hall--
5. Grand Forks City Council –Tuesday, January 22, 2019 5:00 p.m. Council Chambers City Hall
6. MPO Executive Policy Committee – Wednesday, January 23, 2019 12:00 Noon EGF Tr. Room

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Metropolitan Planning Organization

BICYCLE AND PEDESTRIAN ELEMENT
(2045 METROPOLITAN TRANSPORTATION PLAN)

JAIRO VIAFARA, AICP SENIOR TRANSPORTATION PLANNER

Grand Forks - East Grand Forks
Metropolitan Planning Organization

PURPOSE

- Review Draft Document
- Create awareness of plan recommendations
- Adopt policies
- Involve stakeholders
- Secure dedicated funding
- Develop program initiatives
- Coordinate infrastructure improvements

MPO STAFF IS:

Seeking your comments & endorsement to proposed Element

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Metropolitan Planning Organization

WHO HAS BEEN WORKING ON THIS ELEMENT?

- Bicycle & Pedestrian Advisory Committee
- Bicycle, Pedestrian and Greenway Advisory Committee
- Pedestrian and Wheeled Sports Safety Subcommittee of Safe Kids

- Public Involvement Activities: NEXT

Advisory Committee
Bicycle & Pedestrian Plan

Ms. Jane Williams, GF Dept. Eng.	Mr. Jesse Kardmas, North Dakota DOT
Mr. Dave Kuharenko, GF Dept. Eng.	Mr. Corey Birkholz, Options
Ms. Stephanie Halford , GF Dept. Plan	Ms. Ali Rood, Mobility Manager, CAT
Dr. Aaron Kennedy, UND	Ms. Nancy Ellis, EGF Planning Dept.
Mr. Jason Stordahl, EGF Eng. Dept.	Mr. Allen Grasser, GF Dept. Engineering
Mr. Bruce Kienfenheim	Mr. Darren Laesch, MNDOT
Ms. Jane Croeker, UND	Mr. Allen Anderson, GF Public Health

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PUBLIC INVOLVEMENT PARTICIPATION:

IDENTIFY PEDESTRIAN & BICYCLE ISSUES & NEED
PROVIDE INPUT ON POLICY RECOMMENDATIONS
EVALUATE FINANCIAL CONTRAINTS CRITERIA

Community & Users Survey
Bicycle & Pedestrian Training Semina
Complete Streets Seminar (Feb/April
Printed Newspaper Articles
Display Boards
Bicycle Audit
Pedal for a Purpose
EGF " Ice Cream Cone"
EGF "Healthy & Fit Fair"

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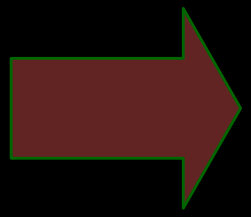
M.P.O. M.P.O. M.P.O.

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

- Street & Highways
- Transit Development
- Bicycle & Pedestrian



Long Range Transportation Plan

MPOs are legally required to :
Develop, update, and implement fiscally constrained 20 years horizon Long-Range Transportation Plan (LRTP).

Plans are updated every five years
Element update, strives to meet the ten planning factors outlined by the “Fixing America’s Surface Transportation Act” (2015) (FAST).

PART I: VISION, GOALS, OBJECTIVES & STANDARDS

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

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PART II: BARRIERS, IMPEDIMENTS, AND OBSTACLES TO PEDESTRIAN AND BICYCLING ACTIVITIES

Illustration of Absolute Barriers - Grand Forks

		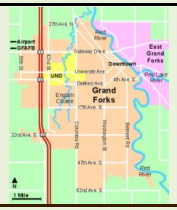			
Red River of the North	English Coulee	U.S Interstate (I-29)	South End Drain way (At Belmont)	BNSF GF Downtown	Levee/Flood Control

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 Forks - East Grand Forks Metropolitan Planning Organization

PART II: BARRIERS, IMPEDIMENTS, AND OBSTACLES TO PEDESTRIAN AND BICYCLING ACTIVITIES

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

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

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Metropolitan Planning Organization

PART III --IDENTIFY ISSUES/BARRIERS THAT MAY IMPACT LOCAL BICYCLE & PEDESTRIAN MOBILITY

LAND USE PATERNS, ZONING

STATE & LOCAL LAWS

PEDESTRIAN & BICYCLIST NEEDS

M.P.O. M.P.O. M.P.O.

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PART III --IDENTIFY ISSUES/BARRIERS THAT MAY IMPACT LOCAL BICYCLE & PEDESTRIAN MOBILITY

PARENTS/GUARDIANS SURVEYS PUBLIC ATTITUDE SURVEY

BICYCLE & PEDESTRIAN CRASH ANALYSIS

BICYCLE & PEDESTRIAN ACCIDENTS NEARBY SCHOOLS

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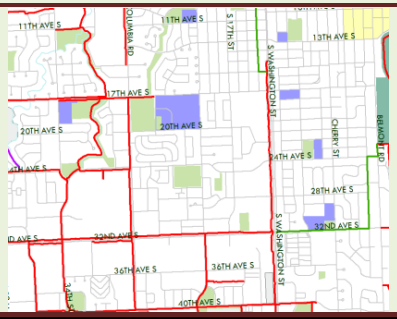
PART IV: LAND USE TRIP ATTRACTORS & GENERATORS

Grand Cities Mall	Most Direct Access to Existing Generators, 2018	Facility Type	Observations
	S Washington Street	Multi-use Path Gap Gap	17th Ave S: Gap 20th Ave S: Gap

Commercial
Industrial
Educational
Institutional
School, College & University
Parks & Recreation

IMPROVE ACCESS & MOBILITY
IMPROVE CONNECTIVITY

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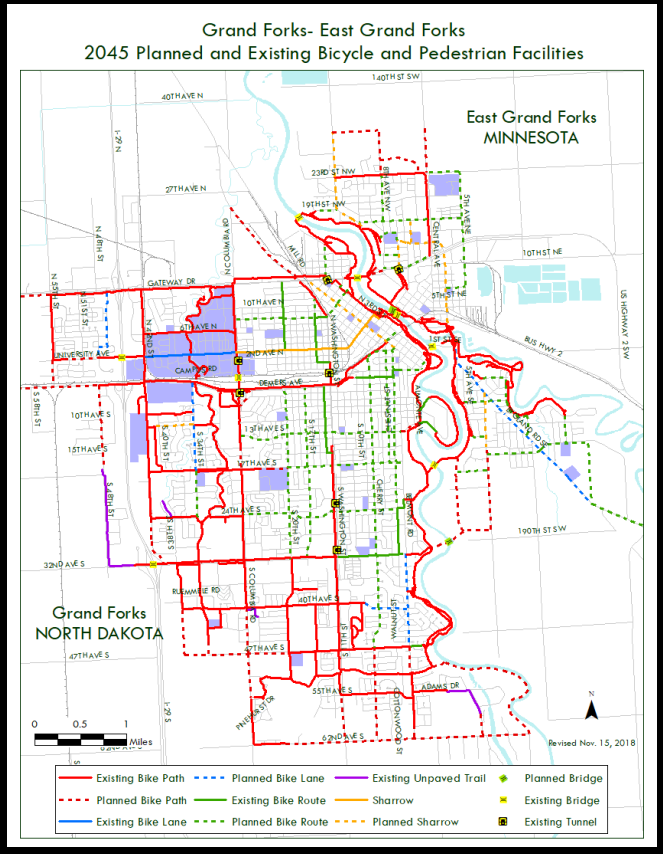
PART V: PROJECT PRIORITAZATION & FINANCIAL FACTORS

1. Short Term
2. Carried Over/Planned Facilities (2040-2045)
3. Proposed Facilities (2045)
4. Illustrative Projects
5. Roadway's Characteristics Analyzed
6. Understanding Gaps in the Pedestrian & Bicycle Network



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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

Local Streets, East Grand Forks

13th St. SE

23rd St. NW

Bygland Rd

Rhinehart Dr

M.P.O. M.P.O. M.P.O.

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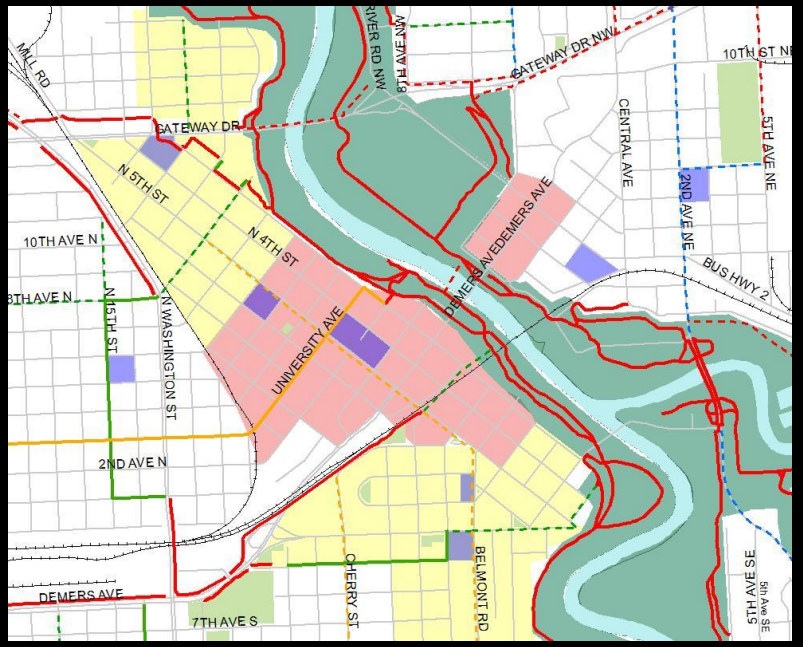
QUESTIONS?



THANK YOU!

Grand Forks - East Grand Forks
Metropolitan Planning Organization

MPO Staff Report
Technical Advisory Committee: December 12, 2018
MPO Executive Board: December 19, 2018

RECOMMENDED ACTION: Update on the GF Downtown Parkinig Study.

Matter of the GF Downtown Parking Study

Background: KLJ, with sub-consultant RDg, were retained to assist the City of Grand Forks and the MPO update the parking demand study completed in 2011. The City is drafting a Downtown Action Plan, which is focusing on redevelopment of key sites. These redevelopments may create different parking demand than previously anticipated. Therefore, the study is to review the demand for parking for the next 5 to 10 years as these potential redevelopments come online.

The scope is to also analyze the existing parking supply, how it is managed, and how improvements recommended in the 2011 report be implemented or modified.

Attached is the draft report on the existing parking supply and its occupancy.

Findings and Analysis:

- The Work Program identified an activity to update the 2011 Parking Report for Downtown Grand Forks.
- KLJ was retained to assist in the completion of the update.
- A sub-committee of the Downtown Action Plan Committee has been formed to assist us in the update; this sub-committee has been augmented by key staff from the City Departments, County and the School District.

Support Materials:

- Draft Existing Conditions Report
- Powerpoint

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Metropolitan Planning Organization

KLJ

ENGINEERING, REIMAGINED

DOWNTOWN PARKING PLAN

Grand Forks, ND

November 2018

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INTRODUCTION

For more than a decade, parking in downtown Grand Forks has been polarizing. While there are nearly 4,000 parking stalls across downtown, there are areas of high demand, like around Central High School and City Hall. As downtown becomes more active and redevelopment continues, the balance between demand and supply will change. Alternatively, changes in traffic patterns and technology (Uber and Lyft, bike share, etc.), increased mixed-use development (promoting more walking, biking, and transit), and changes in travel behavior (reduced car ownership) are changing the parking landscape expected in to the future. The purpose of this parking study is to find harmony between existing needs and future possibilities.

In 2011, the Downtown Grand Forks Parking Study cataloged and analyzed parking conditions across downtown and developed parking strategies and policies to help manage parking and improve the experience for those who live, work, and visit downtown. This study will update that plan and incorporate the exciting new changes happening in downtown. This Downtown Parking Plan will:

- Review existing parking supply and demand to develop occupancy and turnover rates.
- Analyze future parking conditions based on four scenarios that incorporate increased density as well as consider the impacts from ride-hailing (Uber, Lyft, etc.), increased bicycle, pedestrian, and transit trips, and the introduction of autonomous vehicles.
- Develop parking alternatives.
- Evaluate ride hailing policy, smart parking applications, and event management.
- Create an implementation plan for preferred alternatives.

This plan will not evaluate the existing parking assessment district but will consider the cost of any alternatives and recommendations developed.

Study Area

The study area includes 21 blocks from University Avenue to Gertrude Avenue, north and south, from the Red River to 5th Street and 8th Street, east and west. The study area is shown in Figure 1.

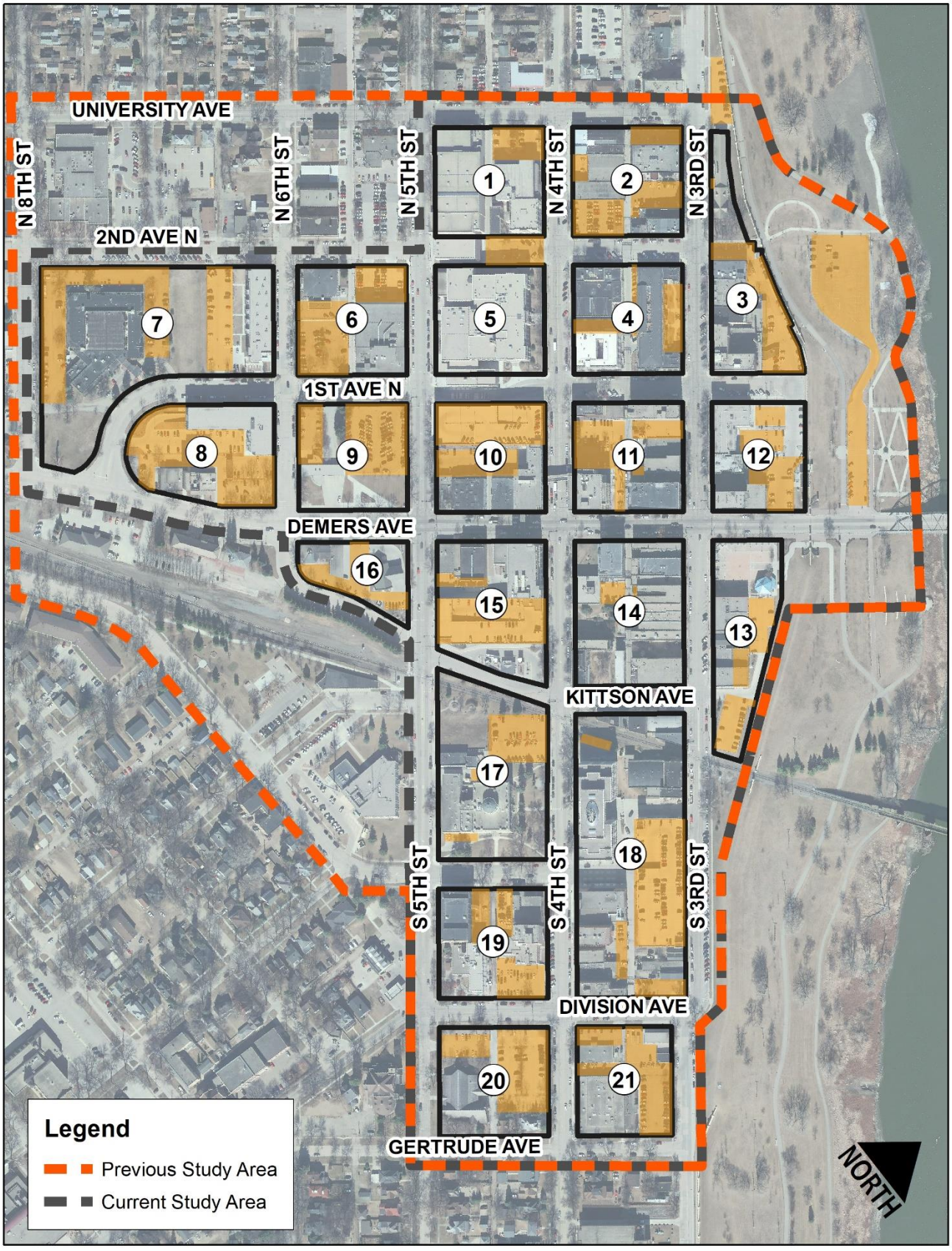
This study area is slightly different than the 2011 parking study. That study included the three blocks between University Avenue and 2nd Avenue N and 5th Street and 8th Street, as well as three blocks south of DeMers Avenue, including the Depot block south of DeMers Avenue and west of 5th Street, the Grand Forks Police Department/Sheriffs Department block at 5th Street and Bruce Avenue, and the LaGrave on First Supportive Housing block at Walnut Street and 1st Avenue. Due to the study area changes, no direct comparisons should be made to actual numbers included in the 2011 study. However, overall trends and patterns are still applicable.

Previous Planning Efforts

Downtown Grand Forks Parking Study (2011)

In 2011, the Grand Forks – East Grand Forks Metropolitan Planning Organization (MPO) contracted Rich and Associates to complete a parking study in downtown Grand Forks. This study included a turnover and occupancy study, demand analysis, and the development of 17 recommendations. In 2011, the peak occupancy occurred between 10 AM and 12 PM, and was just 56 percent occupied (1,989 stalls), leaving more than 1,500 stalls available. The demand analysis showed there was a more than 700 parking stall surplus under 2011 conditions.

Figure 1: Study Area



The 2011 study completed a demand analysis based on the square footage and land use of each building. This demand analysis was combined with expected redevelopment in the study area. Future parking demand assumed vacant space was reoccupied at a rate of 40 percent in five years and 80 percent in 10 years. Event with this activity, the parking surplus remained at 470 stalls through 2020. Many of these recommendations focused on improving bicycle and transit ridership, signing, lighting, and pedestrian amenities. In 2015, the City of Grand Forks' Planning and Community Development Department reviewed the recommendations to reaffirm the validity and provide progress updates. The City has made progress in multiple recommendation areas, including improved lighting in ramps, new signage, and parking ordinances.

Downtown Action Plan (2018)

In 2018, the City of Grand Forks initiated the Downtown Action Plan study to develop a vision for the future of downtown Grand Forks and provide recommendations for public investment. The plan is scheduled to conclude in early 2019 and will include parks, open spaces, branding, wayfinding, and development strategies. This plan's development strategies will have significant impacts to parking demand and supply in downtown.

EXISTING CONDITIONS

Parking management is a balance between not providing enough parking, which deters people from patronizing existing and future businesses, and providing too much parking, which has negative environmental impacts through increased impervious surface, financial impacts by using space for parking instead of taxable developments, and perceptions that correlate empty parking lots with low activity centers.

Parking Supply

The parking supply in Downtown Grand Forks is a mix between on-street, off-street public, and off-street private parking. Between on-street and public off-street parking, the City of Grand Forks controls 63.8 percent of all parking in downtown. This provides the City with flexibility in the maintenance and regulation of a significant portion of downtown. Table 1 summarizes the parking supply in Downtown Grand Forks. Table 2 and Figure 2 provide a more detailed look at parking supply in Downtown.

Table 1: Parking Supply Summary

Parking Type	Number of Stalls	Percent of Total Stalls
On-Street	960	26.8%
Public Off-Street	1,325	37.0%
Private Off-Street	1,296	36.2%
Total Parking	3,581	100%

Public Parking

On-Street Parking

Public on-street parking in Downtown Grand Forks is often time-limited including 15-minute, 30-minute, 1-hour, 2-hour restrictions. These restrictions are shown in Figure 2.

Off-Street Parking

City of Grand Forks Structures

The City of Grand Forks owns and operates two parking ramps: the Central Ramp and the Corporate Ramp.

The Central Ramp, at 415 1st Avenue North, is a four-story parking ramp with 351 parking stalls, including 6 handicap. Its operations are primarily based on permitting:

- Central High School permits apply to levels 1 and 4 from 8 AM to 4 PM
- Standard permits apply to levels 2 and 3 from 6 AM to 6 PM, Monday through Friday
- Reserved permits apply to 38 numbered stalls on Levels 1 and 4 24 hours a day, 7 days a week

The Central Ramp is open to the public after 4 PM on levels 1 and 4, and after 6 PM on levels 2 and 3. There are seven handicap stalls.

The Corporate Ramp, at 55 South 5th Street, is a four-story parking ramp with 373 parking stalls, including 8 handicap. Its operations are primarily based on permitting between 6 AM and 6 PM:

- The Corporate Center reserves 60 stalls across all levels for customer use only.
- There are 257 standard permits that guarantee a parking stall from 6 AM to 6 PM.
- There are 40 reserve permits that reserve parking stalls 24 hours a day, 7 days a week.

Parking is free and open to the public after 6 PM and all day on weekends in any space not marked as reserved.

The 2011 Parking Plan identified multiple maintenance issues for both the Central and Corporate parking ramps that have since been addressed.

City of Grand Forks Surface Lots

The City of Grand Forks also owns and operates five surface lots. City Hall Lots A, B, and C are permitted from 6 AM to 6 PM for City Hall Employee Use only. These lots are available to the public for free on nights and weekends.

The Division Avenue lot located at Division Avenue and 4th Street and the Riverboat Road lot located within the Greenway, along DeMers Avenue are free and open to the public daily, with no time restrictions.

Grand Forks County

Grand Forks County owns and operates the three-story 338-stall County Parking Ramp, including 11 handicap stalls. The county provides reserved parking stalls for private residents and businesses, county departments, and county employees, however most stalls are open to the public with 2-Hour time limits between 7 AM and 5 PM, Monday through Friday. The County is currently evaluating its parking management strategies.

In the 2011 Parking Plan, drainage and joint issues were identified. Currently, the County Ramp has 18 stalls blocked off due to leakage issues. These structural issues will need to be re-evaluated.

Private Parking

There are nearly 1,300 private parking stalls in downtown Grand Forks. These lots are primarily managed through permitting or restricted signage. Private underground parking occupancy was not collected as part of this study due to access restrictions, but is noted in the parking supply map.

Figure 2: Parking Supply

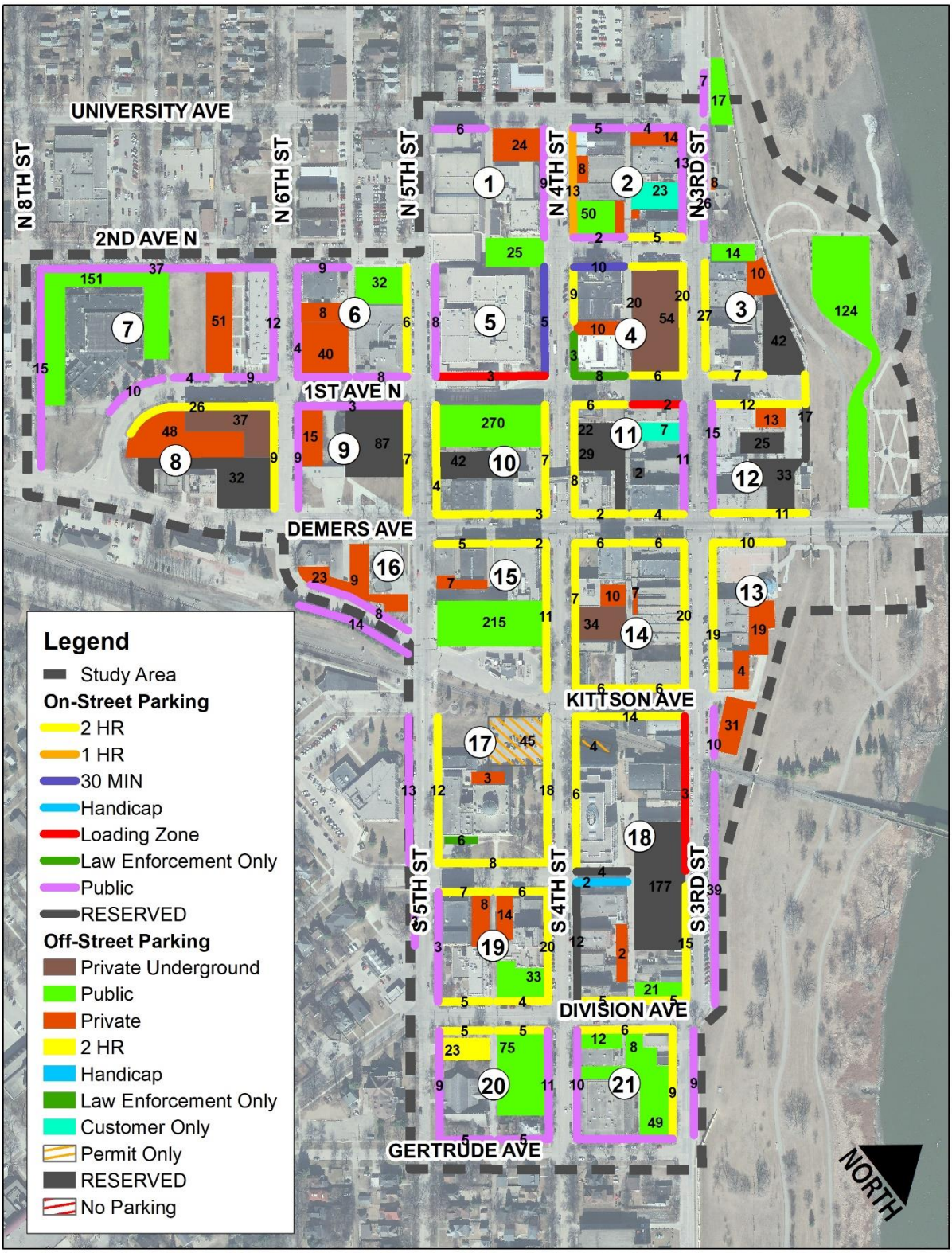


Table 2: Parking Supply Matrix

	On-Street									Public Off-Street						Private Off-Street						
Block	**Loading Zone**	**15 Minutes**	**30 Minutes**	**1 Hour**	**2 Hour**	**Reserved**	**Handicap**	**Law Enforcement Only**	**Open**	**2 Hour**	**Reserved**	**Compact**	**Customer Only**	**Handicap**	**Open**	**2 Hour**	**Reserved**	**Customer Only**	**Handicap**	**Law Enforcement Only**	**Open**	Totals
1							2		15					2	49							68
2				13	5		2		24									23			72	139
3					51		1		33								52		1		49	187
4			10		55		2	11									35		1			114
5	3		5						8													16
6					6		3	2	25										3		80	119
7							1		87										10		202	300
8					35		3										32		4		81	155
9					7		8		12								87		3		15	132
10					18		2				75			6	270		42		1			414
11	2				20				11								53	7	2			95
12					23	17			15								58		2		13	128
13					29				10												54	93
14					51																17	68
15					11		2		5		48	7	95	8	215						7	398
16									24										2		32	58
17					38											5	45		3	9	5	105
18	3	2	9		45	16	8		39	42	177			11	111		4		2		28	497
19					42				6										1		55	104
20					10				30					4	75	23			2			144
21					15				28										5		69	117
22														6	124							130
Total	8	2	24	13	461	33	34	13	372	42	300	7	95	37	844	28	408	30	42	9	779	3,581
	On-Street Total: 960									Public Off-Street Total: 1,325						Private Off-Street Total: 1,296						

Turnover and Occupancy

A turnover and occupancy study was completed on Tuesday, October 9th from 8 AM to 8 PM and Saturday, October 13th from 11 AM to 8 PM. The turnover and occupancy study was an observation of on-street and off-street parking that included both the public and private off-street parking within the study area. The study included six circuits on Tuesday and four circuits on Saturday. Each circuit took approximately two hours to complete.

Total Occupancy

Parking occupancy is reflective of the activity in an area and how that activity changes throughout the course of the day. Throughout the day, shifts occur from school and office to lunch to residents. Industry standard has identified 85 percent utilization as full capacity.

Weekday Occupancy

Downtown Grand Forks experiences much higher parking occupancy on weekdays than weekends due to school and office parking activity. The highest occupancy occurs in the 10 AM circuit with 50.5 percent of spaces occupied; this means there are more than 1,600 spaces available, even during the peak. Throughout a typical weekday, parking occupancy averages just 44.4 percent.

There are many locations that experience capacity at or above 85 percent, particularly on-street locations in front of major activity centers (City Hall, Central High School, County buildings, 3rd Street). There were 30 parking locations with occupancy rates at 85 percent or higher. These constraints may reinforce perceptions that downtown parking is challenging.

The distribution between public on-street, public off-street, and private off-street is much more consistent than on weekend days. This is likely due to permitted parking for office workers.

Weekday occupancy is shown in Figure 3 through Figure 8.

Table 3: Weekday Parking Occupancy

	Public On-Street	Public Off-Street	Private Off-Street	Total
8 AM to 10 AM	42.1%	23.2%	45.4%	36.6%
10 AM to 12 PM	54.9%	48.1%	49.4%	50.5%
12 PM to 2 PM	47.7%	39.3%	36.0%	40.5%
2 PM to 4 PM	45.6%	34.4%	48.1%	42.3%
4 PM to 6 PM	50.2%	33.1%	40.7%	41.5%
6 PM to 8 PM	35.0%	16.%	26.6%	25.7%

Weekend Occupancy

Downtown Grand Forks is very different on the weekends than the weekdays. Office and school parking activity changes to shopping, dining, and entertainment activity. During the Saturday this parking data was collected, the peak occupancy was 18.3 percent during the 8 PM circuit. This means there are more than 2,900 parking stalls available throughout Downtown.

The areas of high demand shift from the Central High School/City Hall area on the weekday to the shopping and restaurant area south of DeMers Avenue. During the 5 PM and 8 PM circuits, there were 19 and 15 parking locations with occupancy rates at 85 percent or higher.

Most people visiting Downtown on weekends prefer on-street parking. On-street parking occupancy ranges for 22.6 to 34.6 percent on weekends, compared to 0.8 percent to 6.6 percent for public off-street parking and 8.9 percent to 20.5 percent for private off-street parking.

Weekend occupancy is shown in Figure 9 through Figure 12.

Table 4: Weekend Parking Occupancy

	Public On-Street	Public Off-Street	Private Off-Street	Total
11 AM to 1 PM	22.6%	6.6%	8.9%	12.1%
2 PM to 4 PM	24.2%	0.8%	13.3%	12.3%
5 PM to 7 PM	34.6%	5.7%	12.8%	16.8%
8 PM to 10 PM	32.8%	3.0%	20.5%	18.3%

Parking Availability Index

The ease of parking is highly location specific. While most people prefer to park directly in front of their destination, most will walk a short distance. For outdoor and uncovered conditions, as typical throughout Downtown Grand Forks, research has found 800 to 1,200 feet is considered acceptable, depending on the purpose of the trip, time available for the trip, the specific individual, and the environment in which the trip takes place. Given the typical small block sizes in Downtown Grand Forks, most businesses can be reached within one block in any direction. For example, the city-owned Division Avenue parking lot could reasonably be expected to serve the County buildings but could not reasonably be expected to serve City Hall or Central High School.

The parking availability index was developed for four different scenarios: weekday availability for all parking, weekday availability for public parking, weekend availability for all parking, and weekend availability for public parking. Under all scenarios there are ample parking spaces available throughout downtown. For most blocks, parking availability is at 50 percent or higher.

Figure 3: Weekday Parking Occupancy: 8 AM

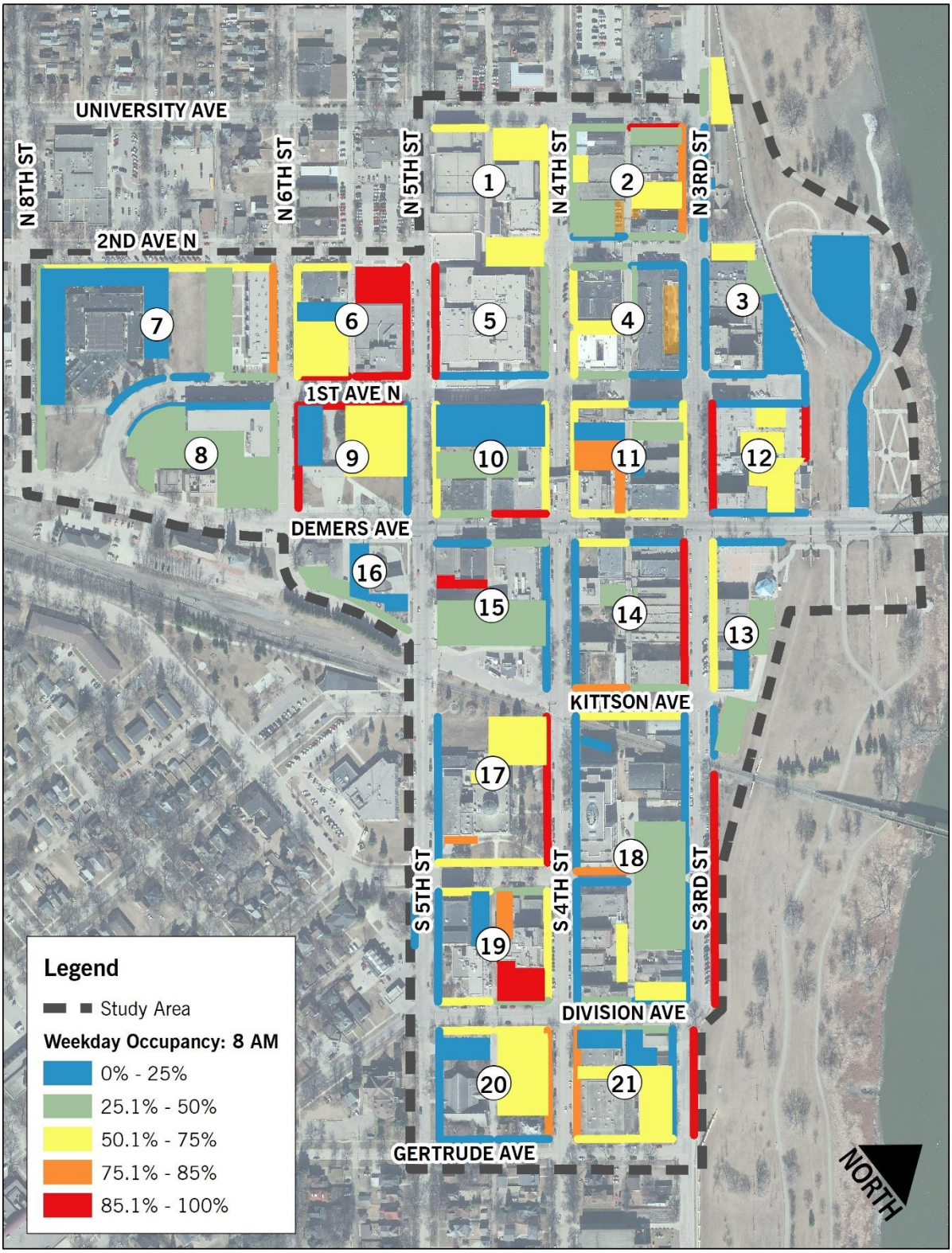


Figure 4: Weekday Parking Occupancy: 10 AM

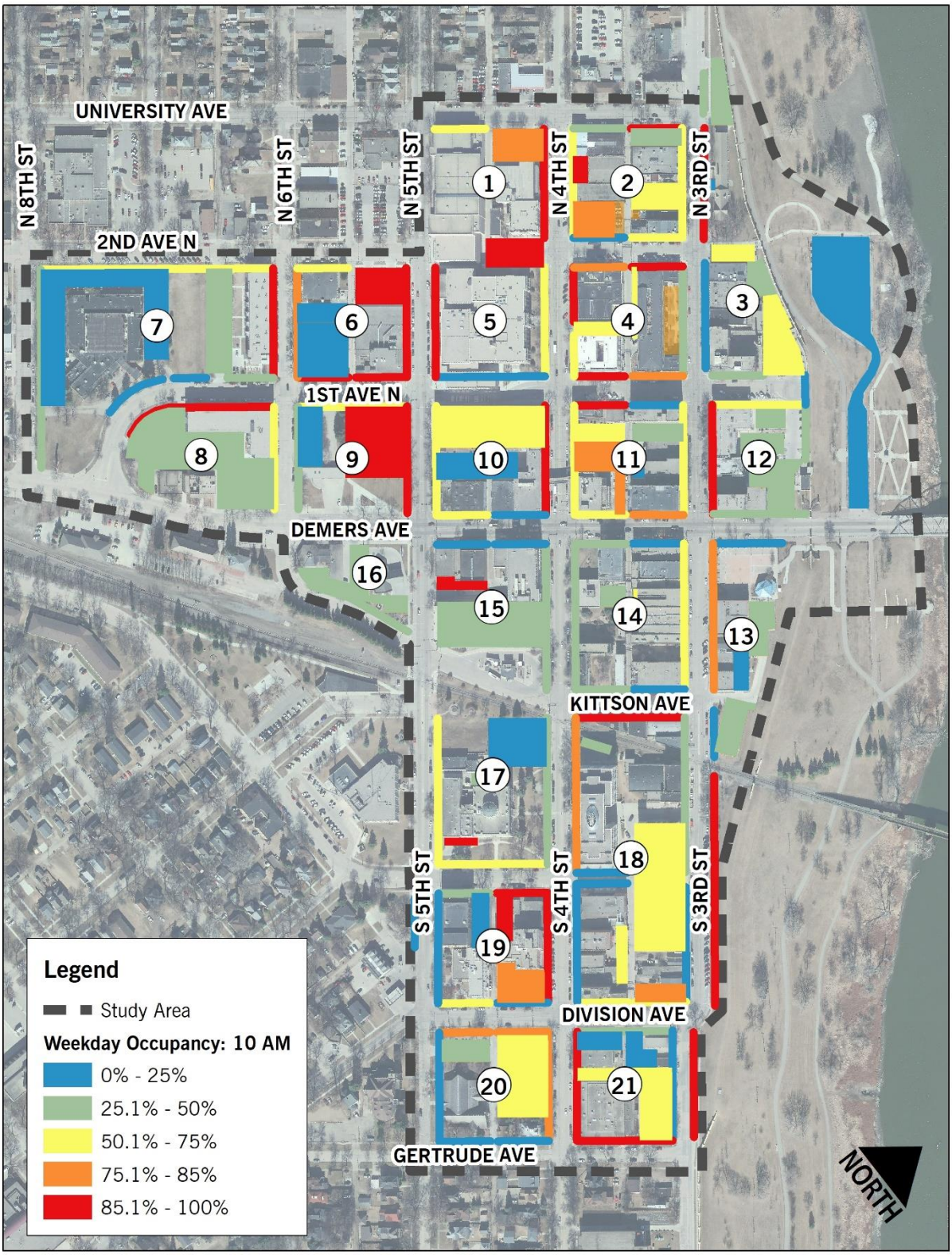


Figure 5: Weekday Parking Occupancy: 12 PM

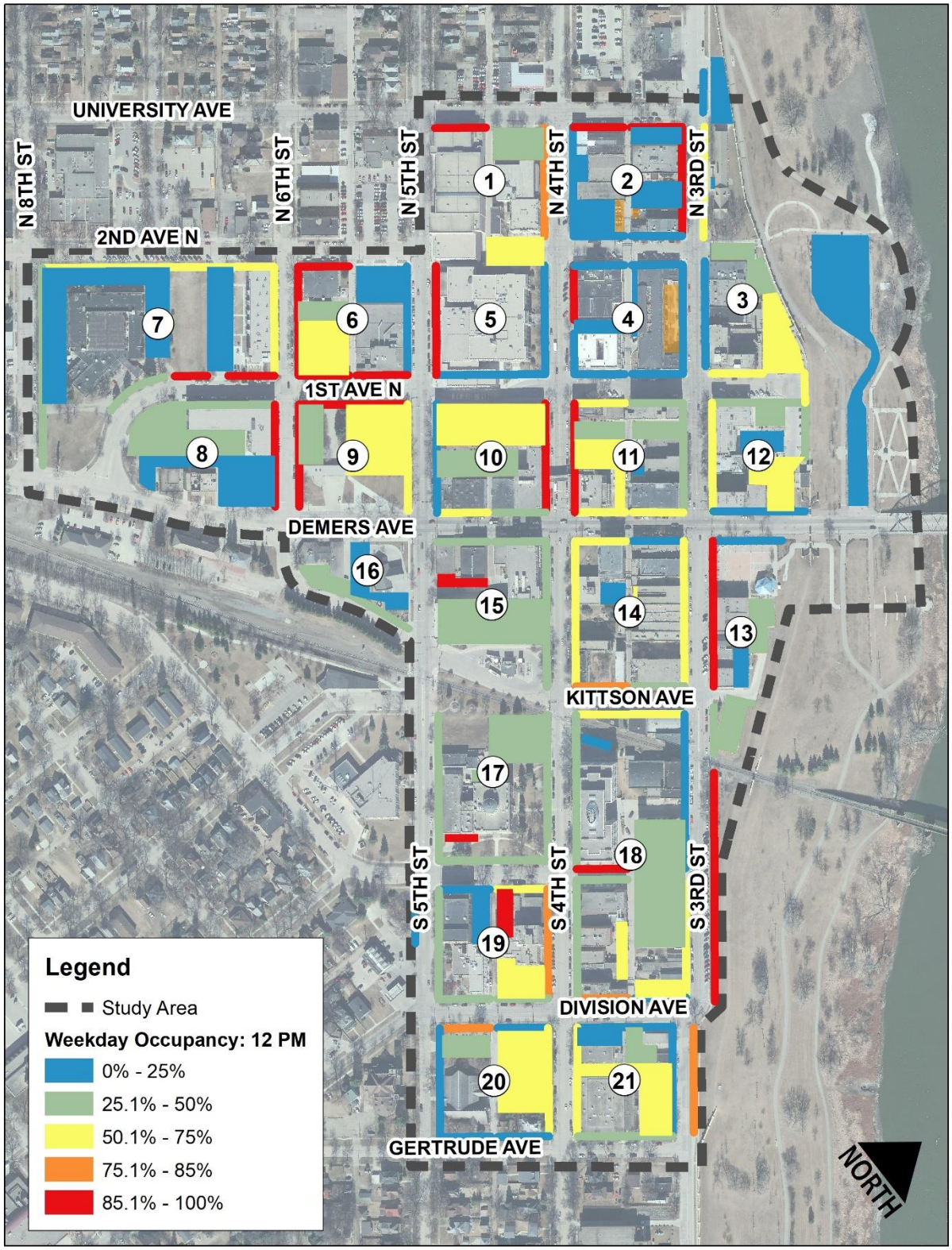


Figure 6: Weekday Parking Occupancy: 2 PM

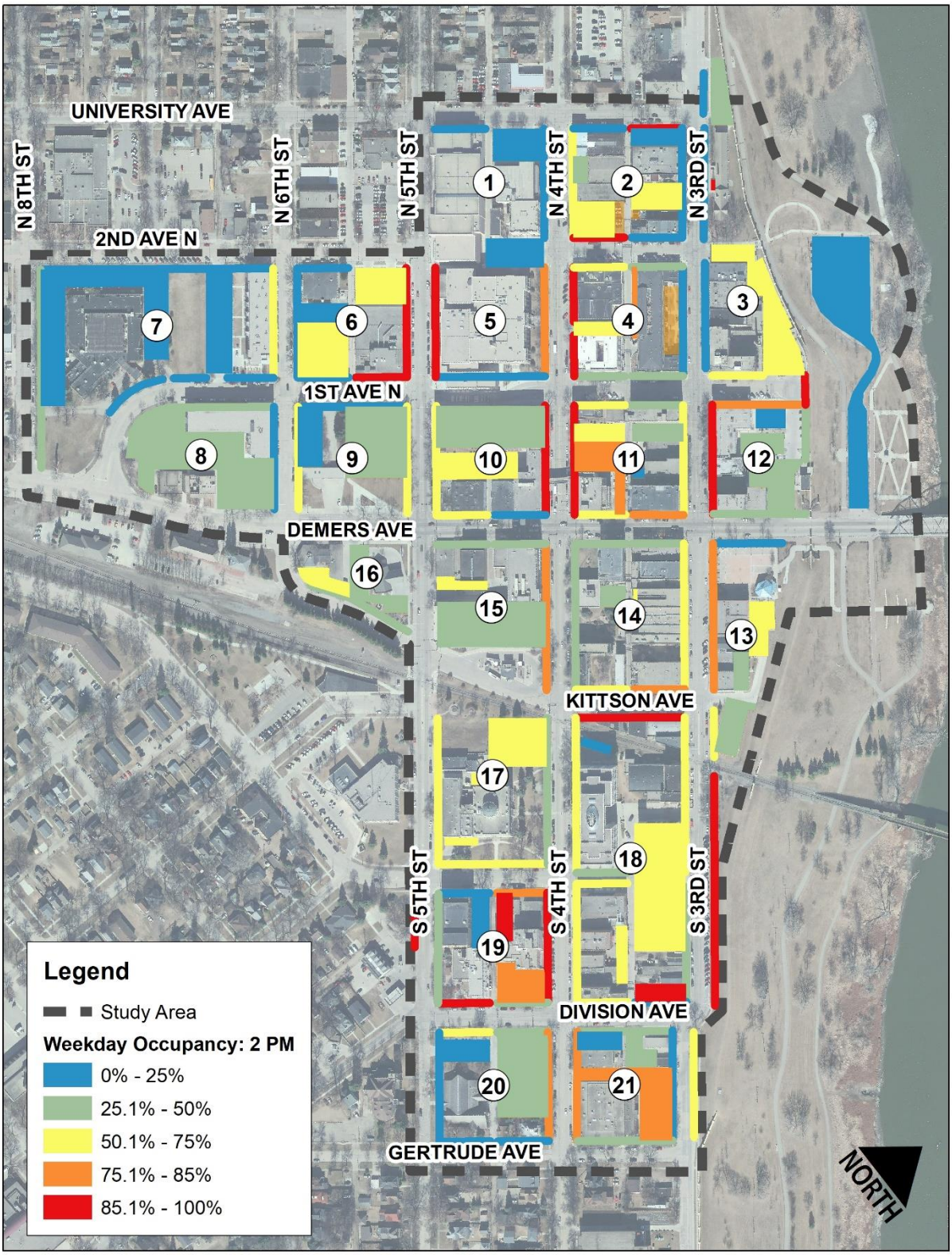


Figure 7: Weekday Parking Occupancy: 4 PM

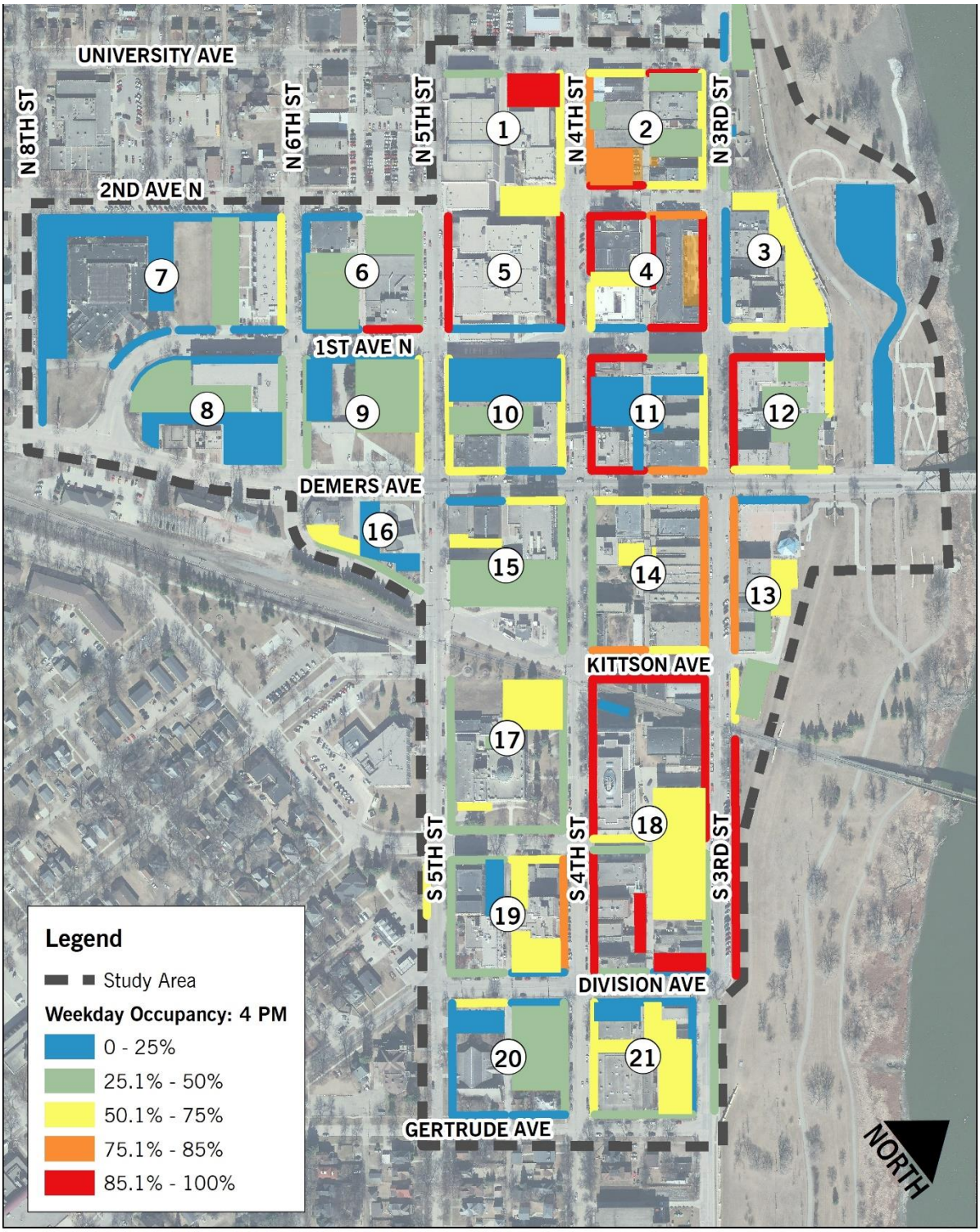


Figure 8: Weekday Parking Occupancy: 6 PM

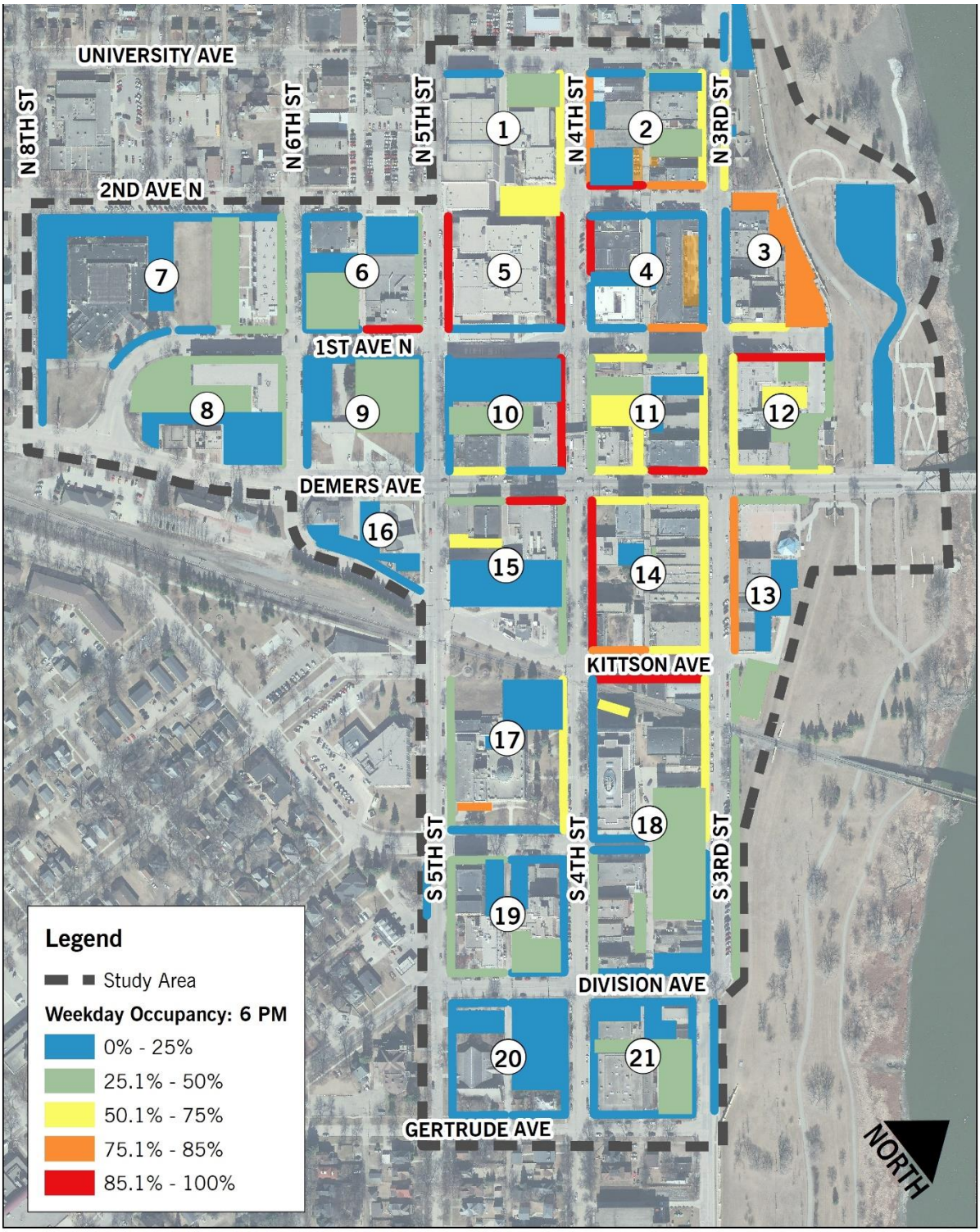


Figure 9: Weekend Parking Occupancy: 11 AM

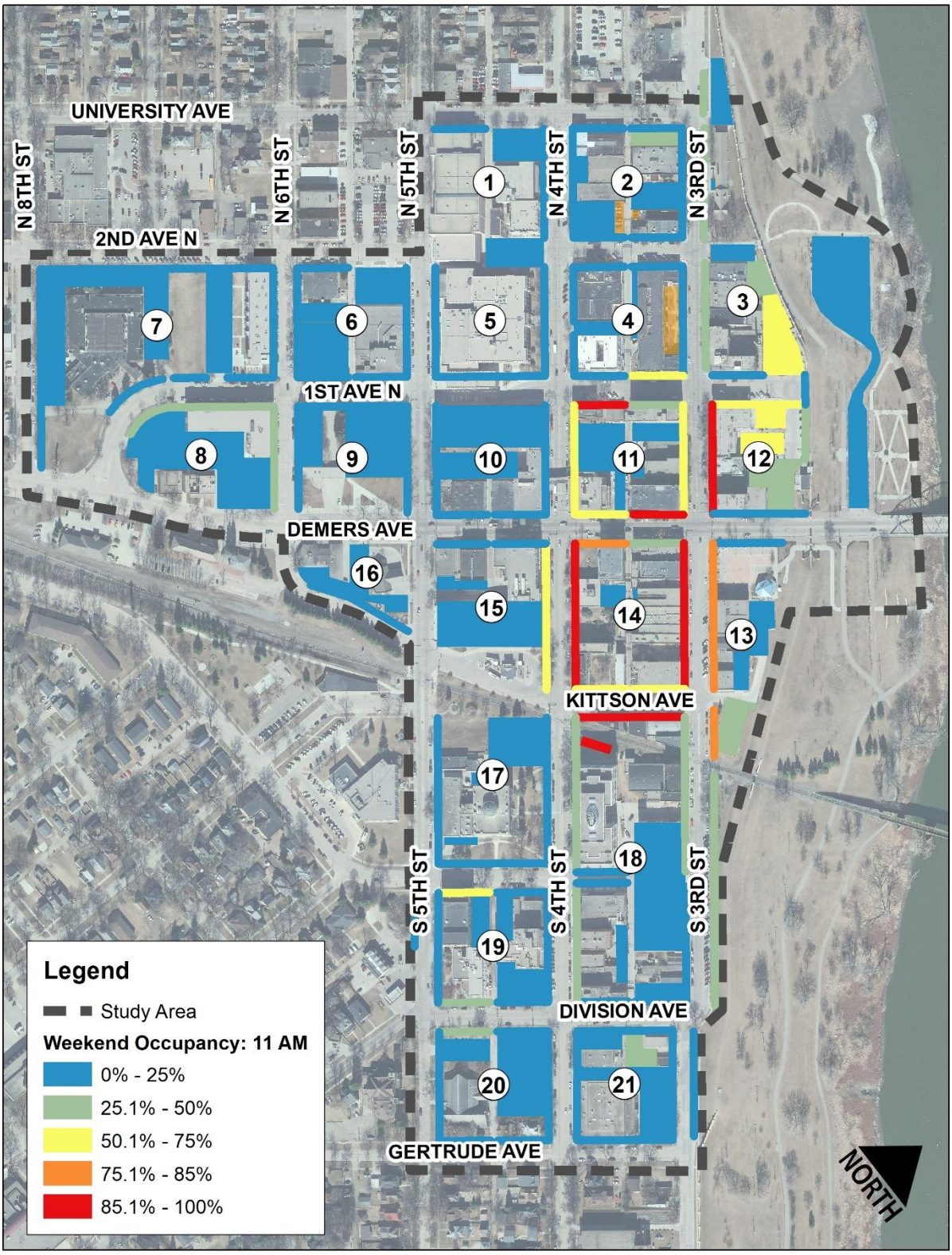


Figure 10: Weekend Parking Occupancy: 2 PM

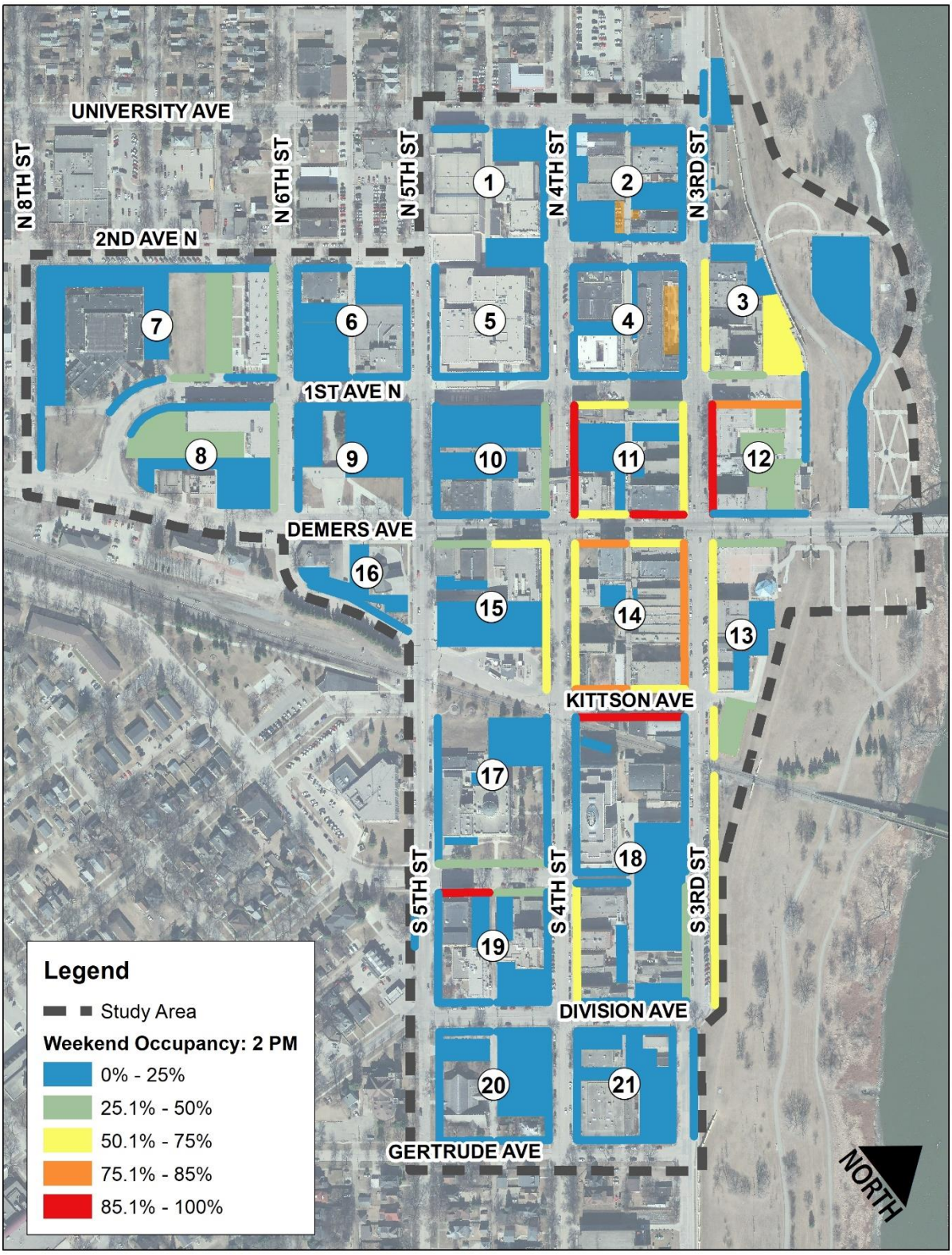


Figure 11: Weekend Parking Occupancy: 5 PM

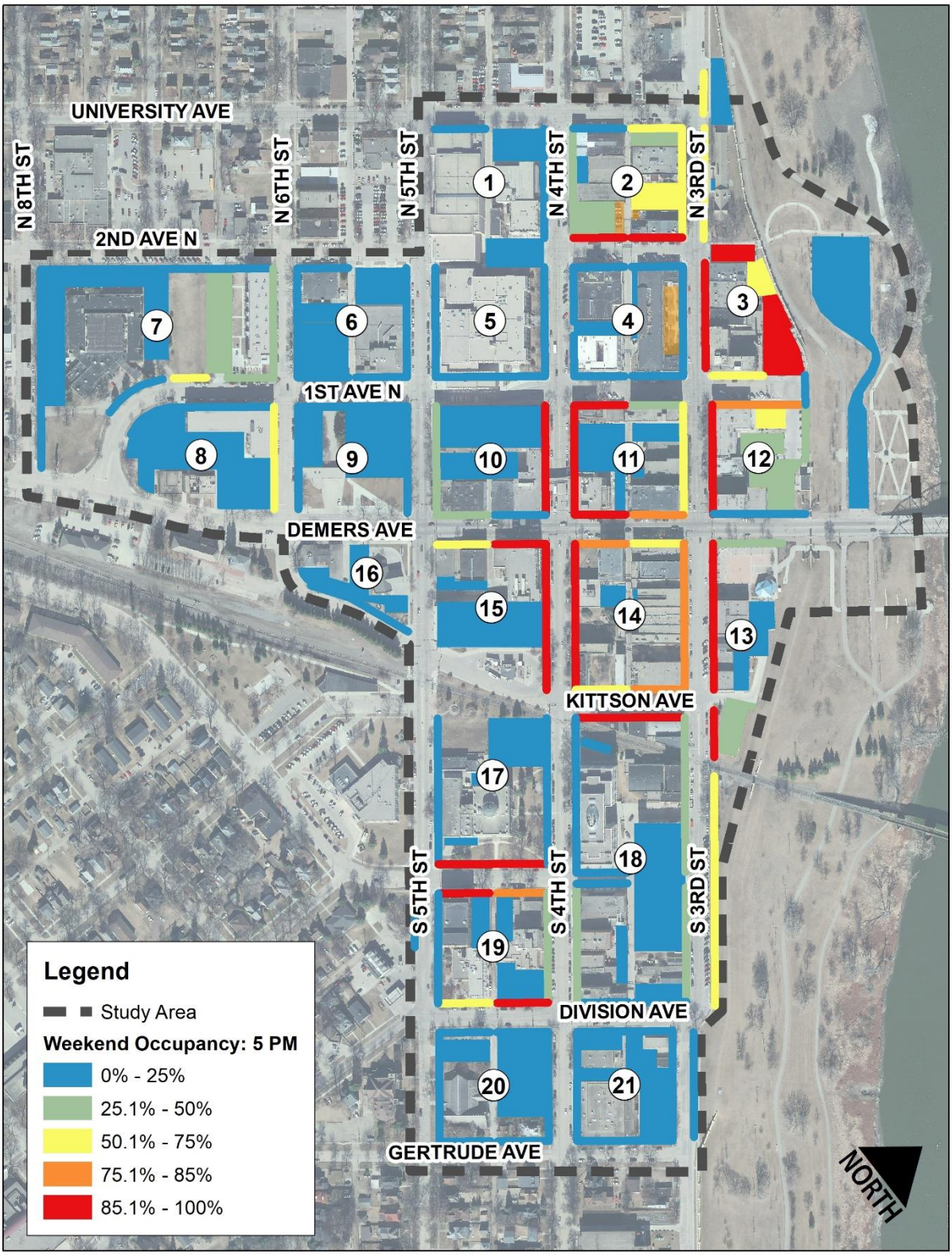


Figure 12: Weekend Parking Occupancy: 8 PM

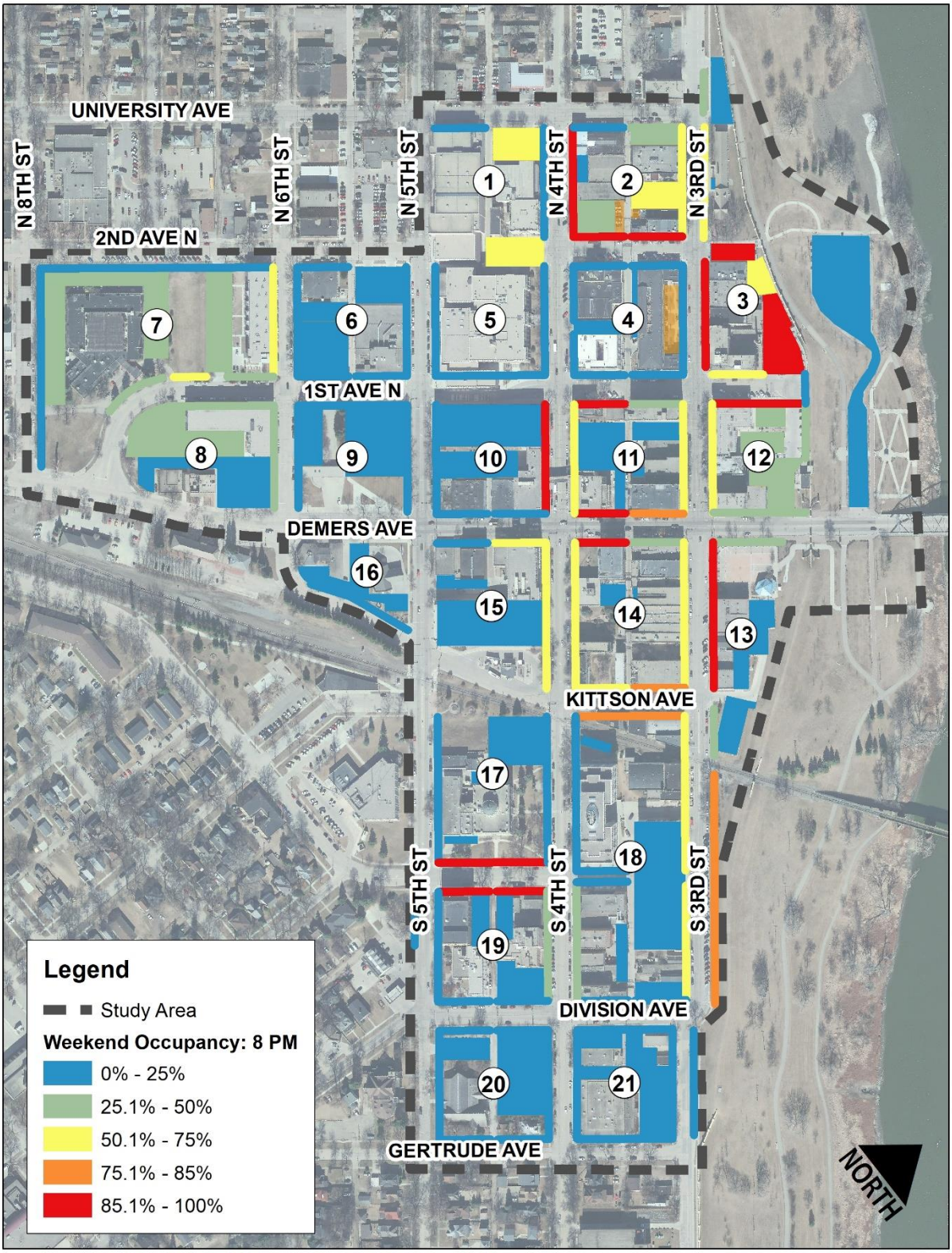


Figure 13: Weekday Total Parking Availability

Figure 14: Weekday Public Parking Availability

Figure 15: Weekend Total Parking Availability

Figure 16: Weekend Public Parking Availability

Turnover

Parking turnover is an indicator of how a specific parking space or lot is utilized throughout the day. Parking locations that experience high turnover often see a significant influx of vehicles throughout the day, like a restaurant or shopping center, whereas parking locations that experience low turnover often see generally lower parking activity, like apartments.

Turnover and time limitations are important to control parking utilization. No time limits, and employees and residents will use valuable commercial spaces with negative impacts to businesses. Too short a time limit and patrons do not have enough time to visit multiple businesses, which may put additional stress on the transportation network as they drive from place to place or avoid visiting secondary businesses all together.

Weekday Turnover

The weekday parking turnover study was conducted by utilizing a license plate survey, which records each individual license plate in a timed parking location during each circuit. A time comparison analysis is then conducted to determine the proportion of new and existing vehicles between each circuit. A weekend parking turnover study was not completed because there are not short duration parking restrictions applicable on Saturdays.

During the weekday turnover study, 601 parking violations were observed in the timed parking zones, as shown in Table 5. The following parking violation trends were observed. On average, there are more than 120 parking violations occurring in downtown Grand Forks at any given time. The turnover study found between 21.7 percent and 27.3 percent of vehicles parking in on-street locations with time restrictions were staying longer than the posted time limit; the target for over time violations should be five to six percent based on best practices. This data may indicate the time limits are perceived to be unenforced.

Table 5: Weekday Parking Turnover

	Number of Vehicles Counted	Number of Violations	% Violations
10 AM to 12 PM*	513	118	23.0%
12 PM to 2 PM	491	134	27.3%
2 PM to 4 PM	453	108	23.8%
4 PM to 6 PM	637	138	21.7%
6 PM to 8 PM	401	103	25.7%
Total	**2,495**	**601**	**24.1%**

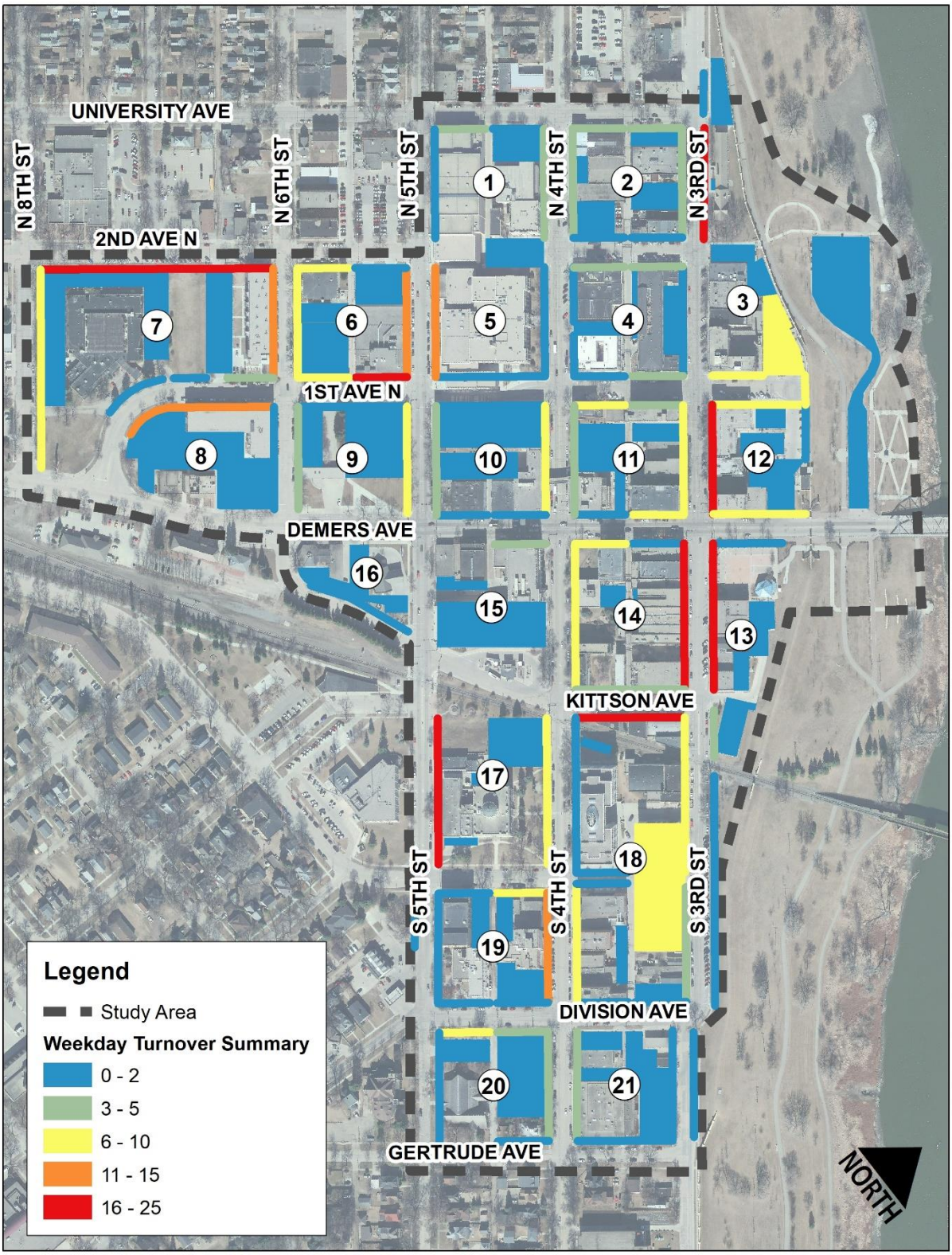
**10 AM to 12 PM is the first circuit to have turnover data.*

The 2011 Parking Plan analyzed parking turnover and violations for just on-street parking. They found a total of 243 violations, or 17 percent of total vehicles in 2-hour stalls.

Grand Forks Police Department Enforcement Efforts

Information was requested from the Grand Forks Police Department regarding their parking enforcement efforts. This section will be populated with information once received.

Figure 17: Over Time Violation Locations



2011 to 2018 Comparison

The study area for this 2018 parking study is slightly different than the study area for the 2011 parking study. However, there are some high-level comparisons that can still be made.

- The 10 AM weekday circuit is still the highest occupancy period for Downtown Grand Forks, however occupancy rates have declined overall. In 2011, the occupancy rates ranged from 32 percent during the 7PM circuit to 57 percent during the 10 AM circuit. In 2018, the occupancy rates ranged from 26 percent during the 6 PM circuit to 51 percent during the 10 AM circuit.
- The ownership of parking remains relatively unchanged: the City of Grand Forks still owns and manages 64 percent of total parking in Downtown.
- The number of over time parking violations has increased. In 2011, 17 percent of vehicles stayed beyond the posted time limits. In 2018, more than 24 percent of vehicles stayed beyond the posted time limits.

Parking Ordinances and Policy

Parking Provision

The City of Grand Forks' ordinance requires all buildings and land uses to provide parking, except those in a district which have paid an assessment for the provision of off-street city parking lots. In simplest terms, buildings and developers are not required to provide off-street parking within downtown if they pay into the city's parking assessment district. The total assessment is reduced if the developer provides some or all of the required parking for their development type. City staff feels this district allows the market to determine how many stalls developers will provide onsite for their development projects. Staff does not review or advise on on-site parking stalls but does track the number of stalls provided, which is used to establish the assessment fee.

Since the last parking study in 2011, there have been three major redevelopments: Selkirk Lofts at 15 S. 4th Street; Aurora at Griggs Square at 600 1st Avenue N, and Northern Heights at Griggs Square at 615 1st Avenue N. The Aurora and Northern Heights developments were required to provide 99 stalls total or be assessed for them; they provided 142 stalls on-site and were not assessed.

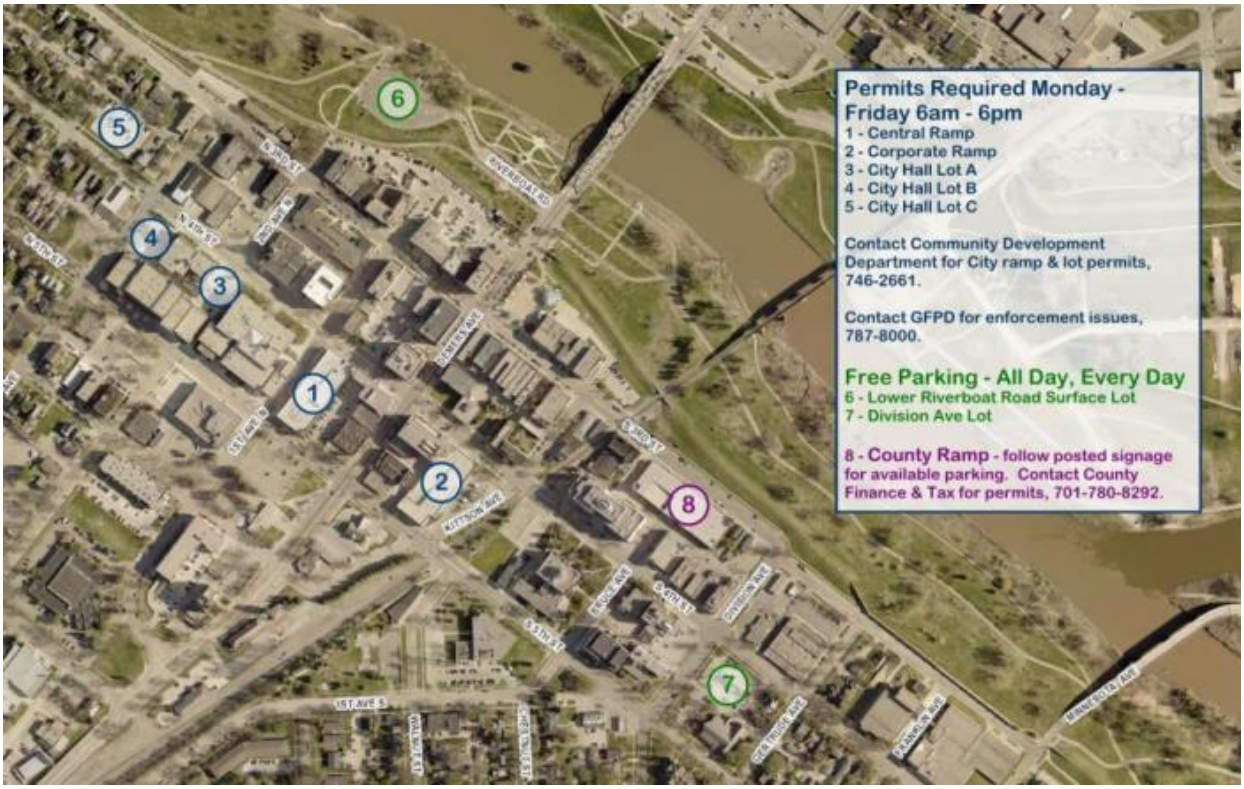
Permitting

The Grand Forks Community Development Department issues parking permits. Someone requiring a permit must go, in-person to the department Monday through Friday from 8 to 5. Permits are billed quarterly, and a permit holder must return, in person, to cancel future payments. The City accepts cash or check for payment.

Marketing/Wayfinding

The City maintains a webpage that describes available public parking in ramps, surface lots, and the County ramp. There is no on-street parking information available online.

Figure 18: Map on City's Webpage for Managed Parking



Grand Forks - East Grand Forks
Metropolitan Planning Organization

KLJ

ENGINEERING, REIMAGINED

Downtown Parking Study

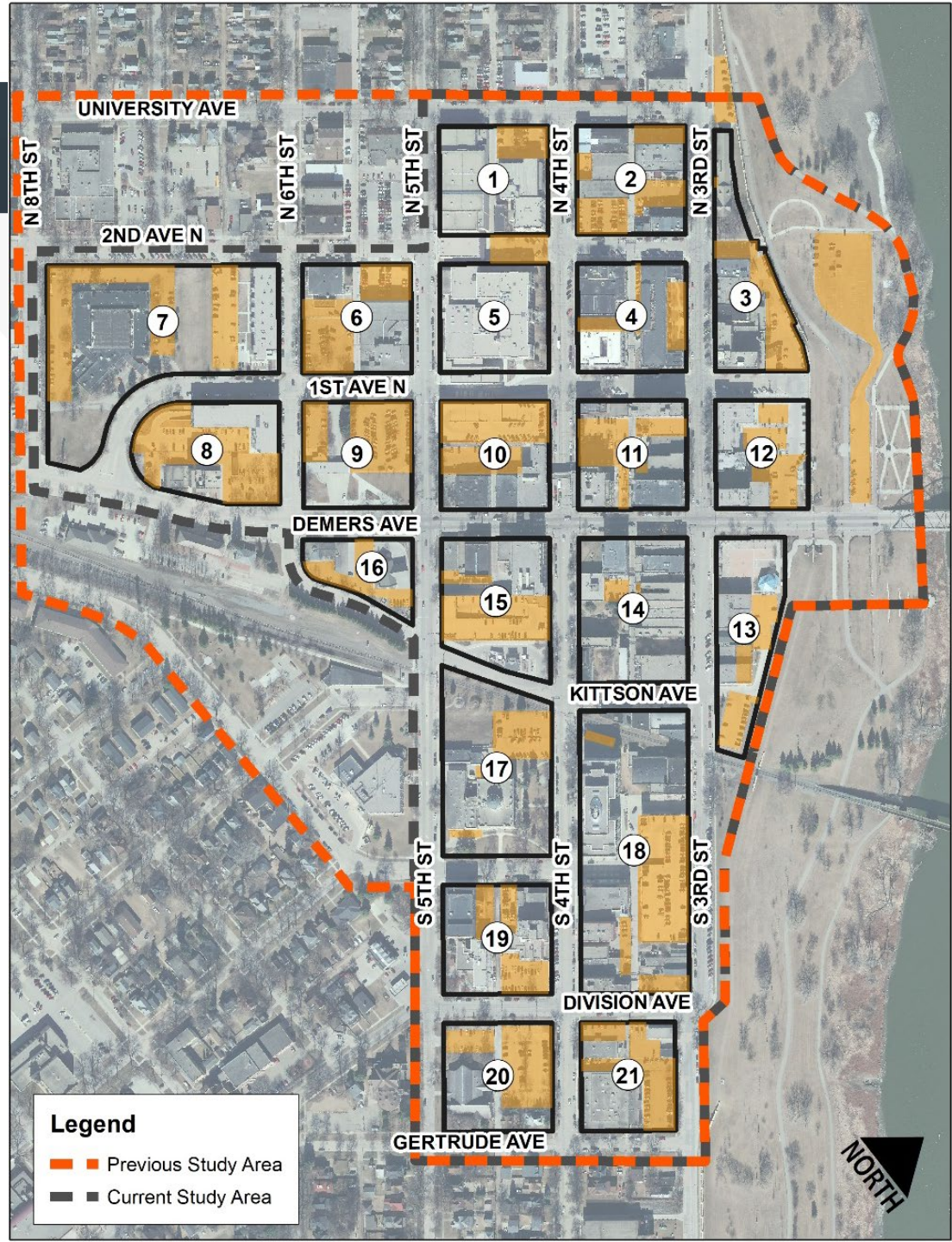
GRAND FORKS, ND

DECEMBER 2018

Existing Conditions

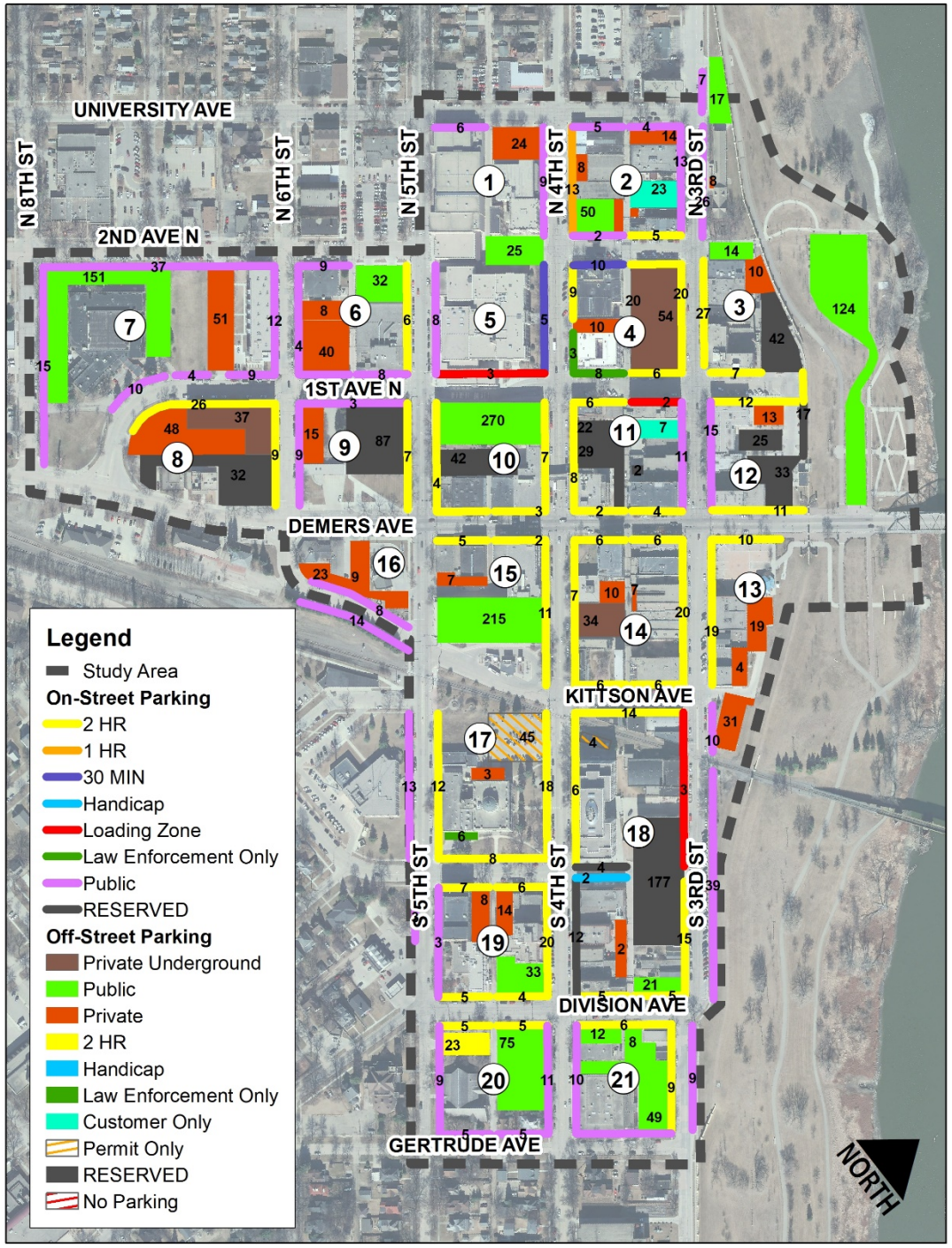
Review ECR

- Slightly different than 2011 Study



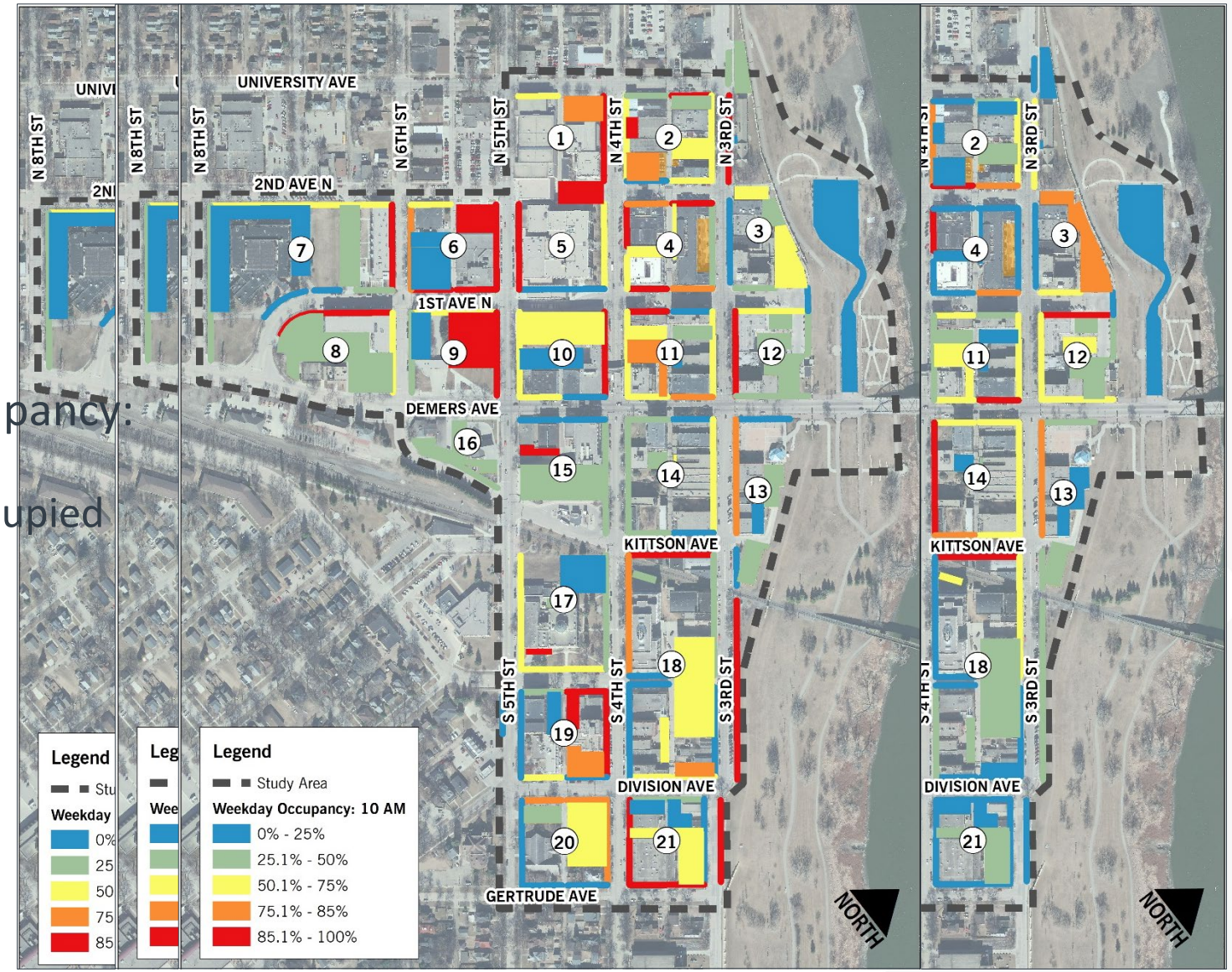
Existing Parking Supply

Parking Type	# of Stalls	% of Total
On-Street	960	26.8%
Public Off-Street	1,325	37.0%
Private Off-Street	1,296	36.2%
Total Parking	3,581	100%



Weekday Parking Occupancy

- Highest Occupancy: 10 AM
  - 50.5% Occupied



Weekday Parking Availability

Weekday Changes from 2011

- 10 AM still the highest occupancy
- City still owns and manages 64% of Downtown Parking
- Overtime parking increased from 17% in 2011 to 24% in 2018

Time	2011 Occupancy	2018 Occupancy
8 AM	54.5%	36.6%
10 AM	**56.2%**	**50.5%**
12 PM	52.9%	40.5%
2 PM	53.2%	42.3%
4 PM	41.7%	41.5%
6 PM	33.7%	25.7%
Average	48.7%	39.5%

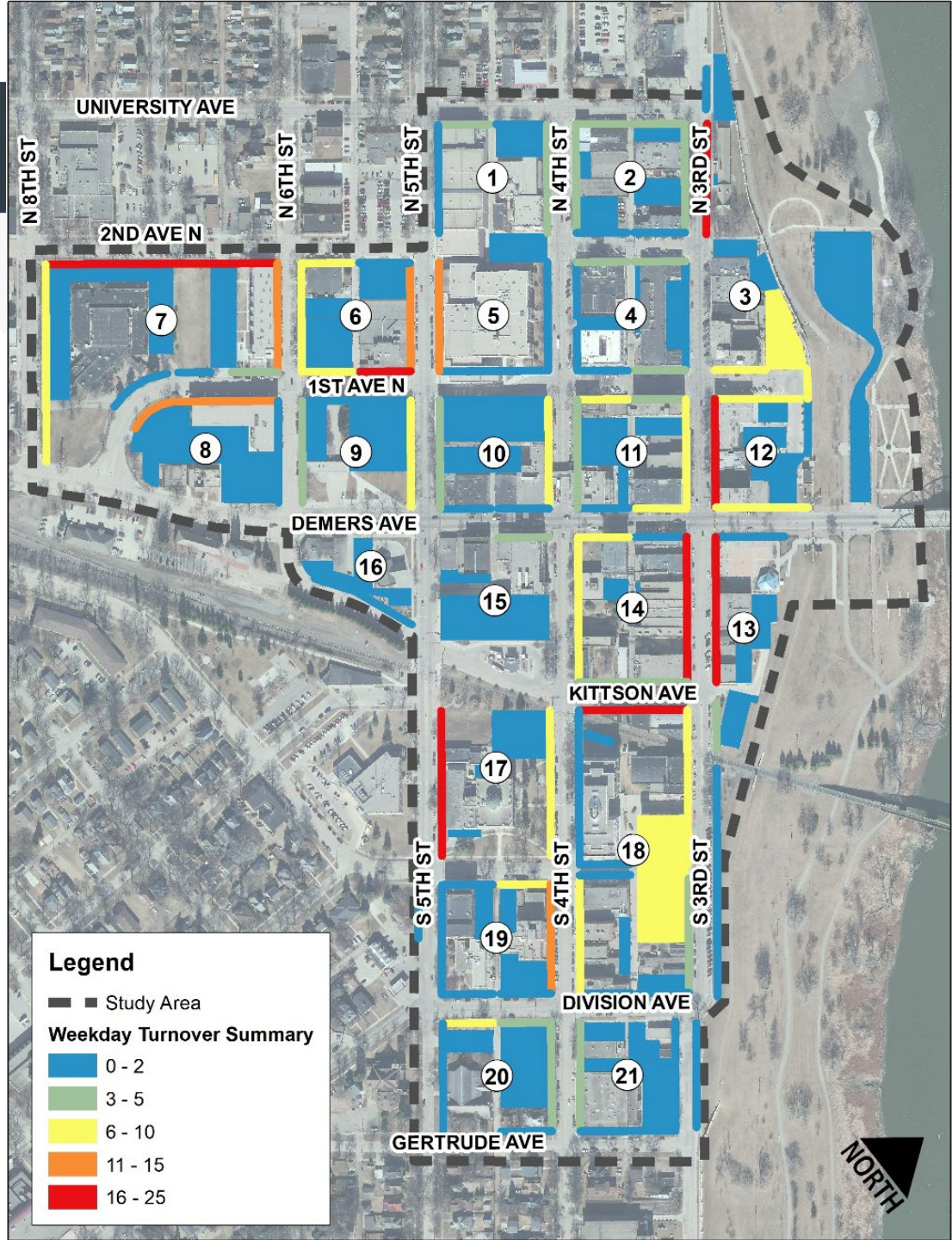
Weekend Parking Occupancy

- Highest Occupancy: 8 PM
  - 18.3% Occupied

Weekend Parking Availability

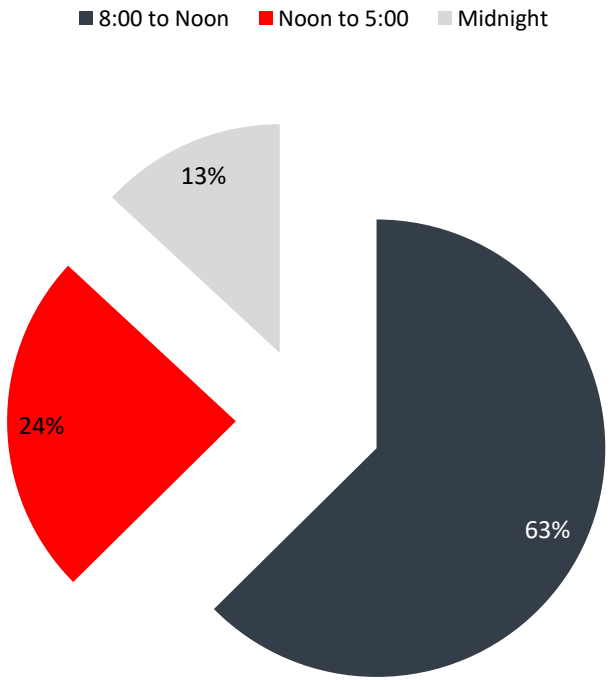
Overtime Violation Locations

Circuit	Vehicles Counted	Violations	% Violations
10 AM	513	118	23.0%
12 PM	491	134	27.3%
2 PM	453	108	23.8%
4 PM	637	138	21.7%
6 PM	401	103	25.7%
Total	2,495	601	24.1%

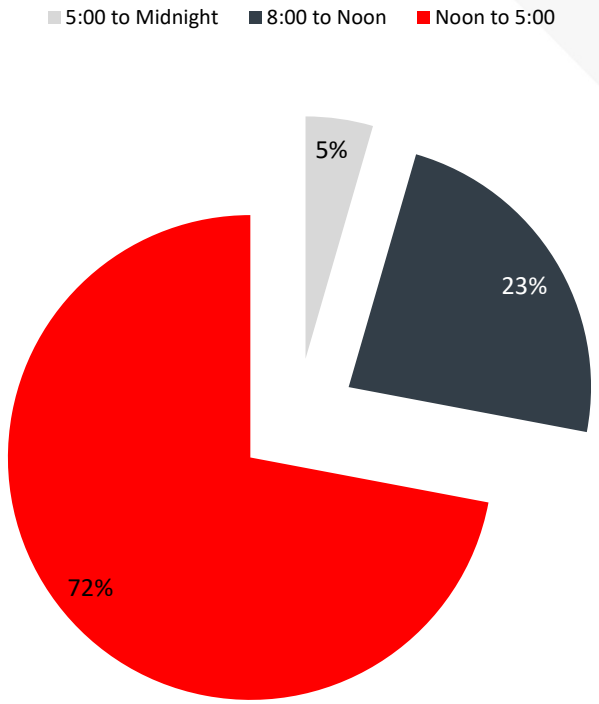


Current Parking Enforcement Trends

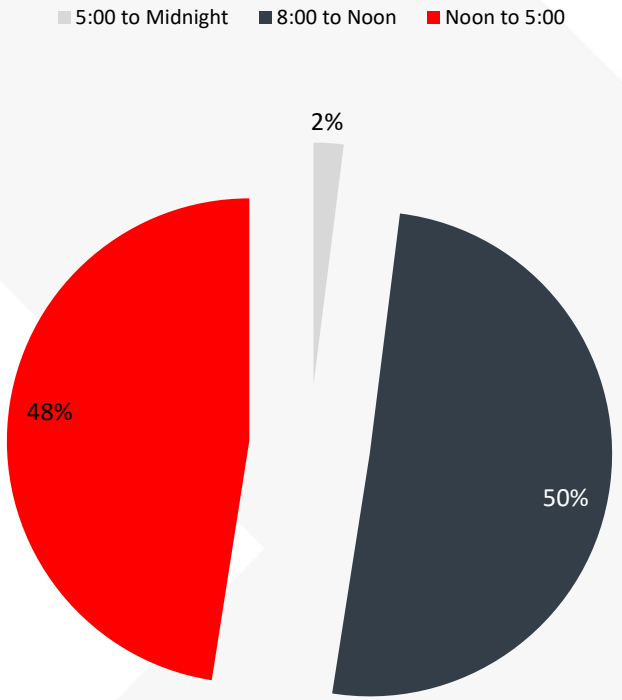
Downtown Overtime Parking Tickets By Time of Day 2010



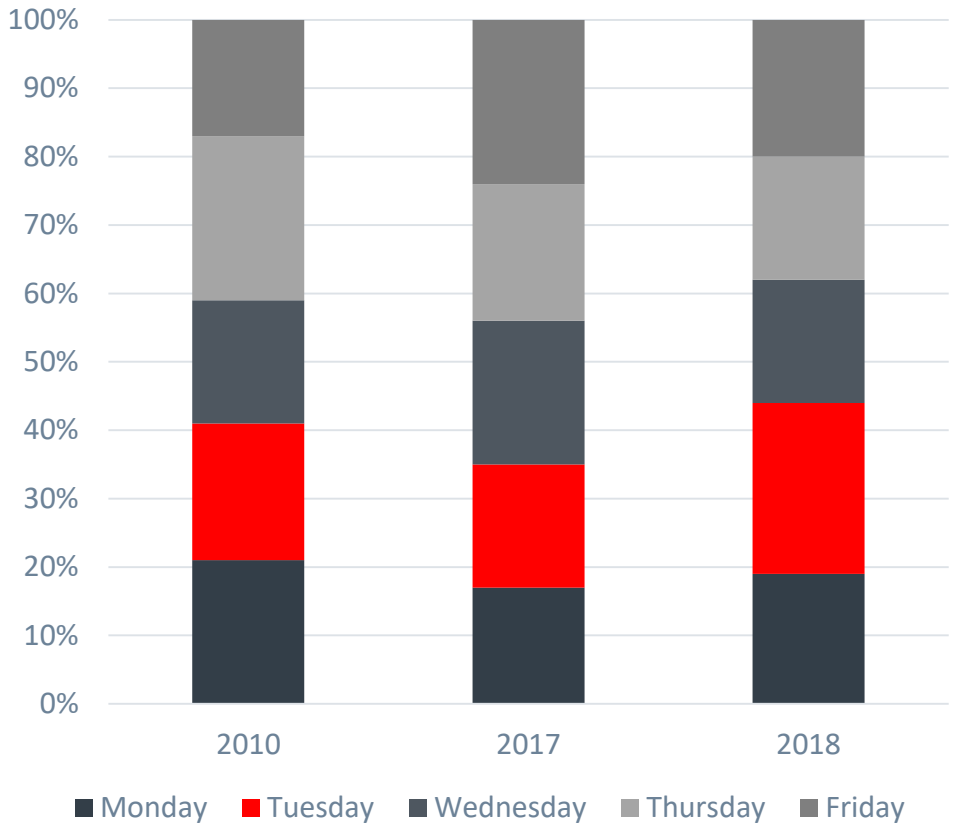
Downtown Overtime Parking Tickets By Time of Day 2017

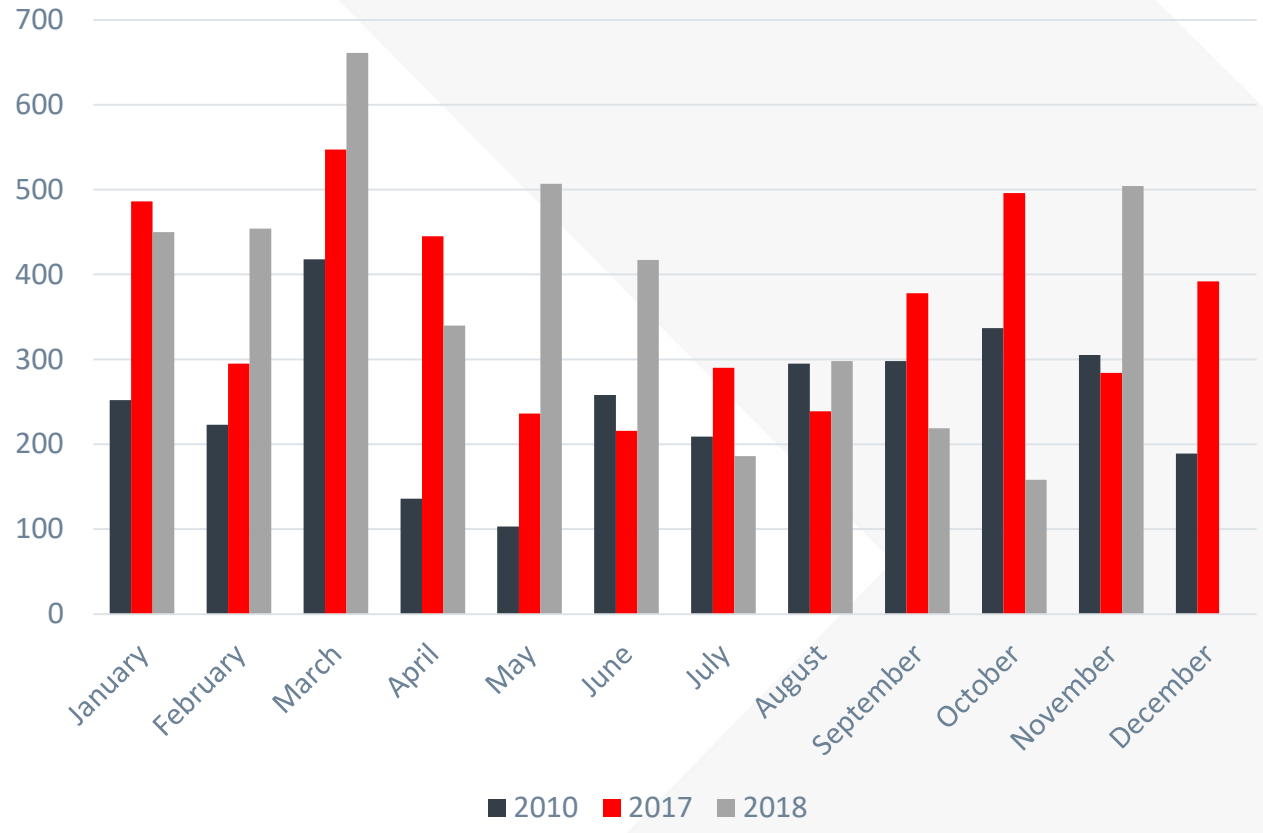


Downtown Overtime Parking Tickets By Time of Day 2018



Current Parking Enforcement Trends





Future Conditions

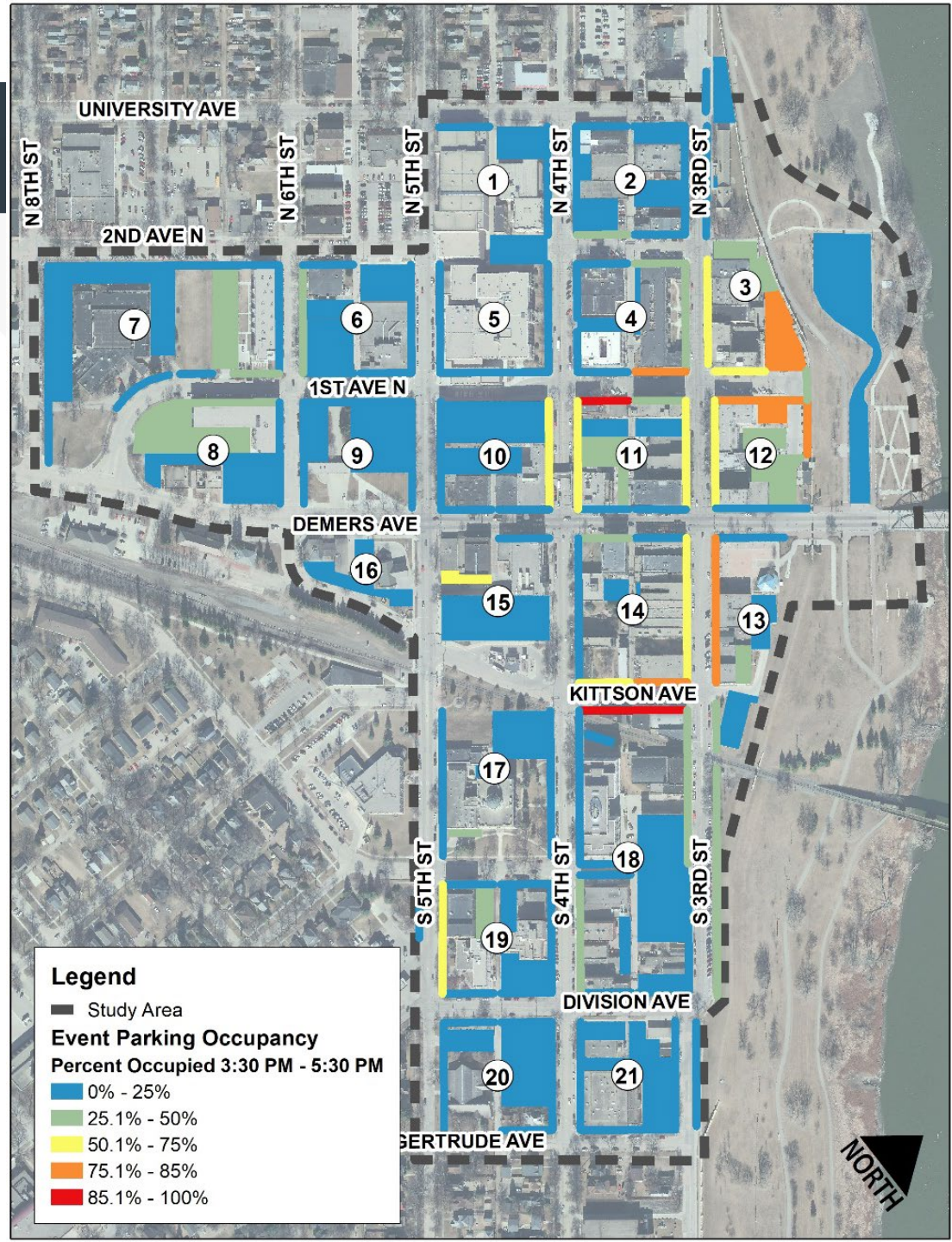
Future Conditions Methodology

- RDG will estimate location specific parking demand associated with expected redevelopment
- Will estimate existing demand based on best practices and current parking demand
- Net parking will be loaded into the network first on the block of the actual destination, then across adjacent blocks in public parking
- Develop parking level of service

Event Management

Event Management

- Collected data during Hollydazzle
- Reviewed some other event concerns with the DDA
- What are your Event Management Concerns?



MPO UNIFIED PLANNING WORK PROGRAM -UPDATE , 2018

TABLE OF CONTENTS- UPDATE DECEMBER, 2018

CODE	AREA	TASK	%	COMPLETION DATE
300.1	TRANSPORTATION PLAN UPDATE AND IMPLEMENTATION	ACTIVITIES		
	2045 Street & Highway Plan	During month of November, preliminary approval was given by the local cities' as an amendment into their respective City Comprehensive Plans. Presentations were made to both MnDOT and NDDOT staff. Comments received have been addressed and a revised draft will be released in early December.	95%	Dec, 2018
300.1	Transit Development Plan	COMPLETED	100%	July, 2017
300.1	Bicycle and Pedestrian Planning Element (Update)	MPO staff completed preparation of Part IV & Part V. Submitted draft report to Advisory Committee for review & comments. Currently MPO prepared a Staf Report to update members of Planning and Zoning Commissions, Technical Advisory, MPO Executive Committee, and City Councils seeking comments and preliminary approval on draft report. MPO staff is preparing meeting of Advisory Committee to receive comments and input.	95%	Dec, 2018
300	Plan Update (Travel Demand Model)	COMPLETED	100%	Dec, 2018
300.2 CORRIDOR PLANNING	US 2/US 81 Skewed Intersection Study	The contract for Consulting Services was just approved by NDDOT. KLJ was selected as the leading Consultant. KLJ will be starting work soon.	5%	
	Grand Forks Downtown Transportation Plan	The consultant did complete a parking inventory during October. It is scheduled to meet in November with the Steering Committee to discuss observing a special event and hear about possible future development proposals.	15%	22-Aug-18
	MN 220 N Corridor Study	Consultant submitted Technical Memo #2 & # 3. MPO staff assisted in draft review and provided comments to address # 2 Roadway Safety and Traffic Operations Analysis and #3 Purpose and Need Reports. MPO staff organized 2nd Steering Committee Meeting and 1st Open House to discuss Existing and Future Transportation System's Need on December 18, 2018 at EFG City Hall Conference Room.	25%	31-May-19
	Update Arial Photo	COMPLETED	85%	Dec, 2018
	Downtown Parking Study	The initial Committee meeting was held to introduce the study scope. KLJ did conduct an inventory of parking stalls and use. An event was observed to examine the event parking situation.		May, 2020
	Traffic Count Program	Vision Camera Data Collection & Traffic Analysis Enhancements. ONGOING	10%	
300.5	SPECIAL STUDIES EGF ADA Transition Plan	The Draft Plan is being presented at an Open House on Dec 6th. Comments are due Dec. 21st.	85%	Dec. 2018
300.6	PLAN MONITORING, REVIEW AND EVALUATION			
300.7	GIS Development			